

Electronic Communications Committee (ECC) within the European Conference of Postal and Telecommunications Administrations (CEPT)

**THE EUROPEAN TABLE OF FREQUENCY ALLOCATIONS AND APPLICATIONS  
IN THE FREQUENCY RANGE 8.3 kHz to 3000 GHz (ECA TABLE)**

**Approved May 2014**

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# ECA

## 1 INTRODUCTION

Key objectives of the ECC, as defined in its Terms of Reference, are, among others, to develop European common positions and proposals for use in the framework of international and regional bodies, and to forward plan and harmonise within Europe the efficient use of the radio spectrum and satellite orbits so as to satisfy the requirements of users and industry.

In order to achieve these objectives CEPT endorsed in 2002 the principle of adopting a harmonised European Table of Frequency Allocations and Applications to establish a strategic framework for the utilisation of the radio spectrum in Europe. After a detailed review in 2010 of the key principles defining the ECA Table, WG FM concluded at its meeting in February 2011 that the Table should essentially deliver information on the current situation, although some future oriented information could still be maintained for some specific frequency bands (e.g. if a cut-off date needs to be defined).

The task of developing and maintaining this Table is the responsibility of the Working Group Frequency Management (WG FM). Much of this work is carried out by the European Communications Office (ECO) on behalf of WG FM and a fully searchable electronic version of the ECA can be found at: <http://www.efis.dk>.

The factual information of the ECA Table (Attachment of this Report) will typically be updated by the ECO three times a year, e. g. after every ECC meeting or after the publication of harmonised standards in the Official Journal of the European Union (OJEU). These amendments will not require a public consultation. A fundamental update on the ERC Report 25 and its Attachment will be carried out at least after every WRC and will undergo a CEPT wide public consultation. The conclusions on the update process were drawn by WG FM in February 2011 (71st meeting).

## 2 EUROPEAN TABLE OF FREQUENCY ALLOCATIONS AND APPLICATIONS

A European Table of Frequency Allocations and Applications for the frequency range 8.3 kHz to 3000 GHz (ECA Table) is provided in the Attachment of this Report. CEPT member countries are expected to implement as many parts of the ECA Table as they are able. The Table should be used as a source document by CEPT member countries for the development of Decisions, Recommendations, and European Common Proposals (ECPs) for future Radiocommunication Conferences of the ITU and as a reference document

when developing national frequency allocation tables and national frequency usage plans.

### 3 ITU RADIOCOMMUNICATION CONFERENCES

Due account has been taken of the relevant decisions of the ITU World Radiocommunication Conferences WARC-92, WRC-95, WRC-97, WRC-2000, WRC-03, WRC-07, and WRC-12 as well as the Regional Radiocommunication Conference Geneva-06 and of strategies developed by other international fora concerning, in particular, the introduction and development of mobile and mobile-satellite services.

### 4 ECC/ERC DECISIONS AND RECOMMENDATIONS

During the preparation of the ECA Table account was taken of work already completed by CEPT in respect of systems expected to operate in this frequency range. The ECC/ERC Decisions and ECC/ERC Recommendations, which are relevant to frequency management issues and which have been incorporated into the Table are listed in Annex 3 of the Attachment.

#### **Understanding of the term "to designate"**

ECC/ERC Decisions that "designate" a frequency band for a harmonised application are intended to foster the deployment of an application to meet a market demand in a harmonised manner throughout CEPT. Members signing the Decision commit themselves to make spectrum available for this harmonised application which includes assessing when and where there is a demand for the harmonised service/application and deciding whether that demand is great enough to exclude other services and applications from the harmonised band.

Thus, such Decisions do not necessarily preclude authorising other uses and applications in the same band, or part(s) thereof on the following conditions:

1. an underlay application (i.e., able to share co-frequency, co-coverage with the application for which the band was designated) may be implemented, preferably subject to prior harmonisation at CEPT level, without affecting the application for which the band is designated, i.e., this underlay system is designed in such a way that they are not causing interference to the application for which the band is designated nor request protection against interference;
2. the deployment of the application for which a band is designated may be constrained geographically in a reasonable extent in order to protect stations of another service/application using the same band;

3. there may be a lack of market demand for the application for which the band is designated in some cases:
  - a. absence of demand for deployment in certain geographical areas, thus enabling geographical sharing with other applications;
  - b. transition period until equipment are available for the deployment of the harmonised application, so that other applications may be introduced or retained for this temporary period;
  - c. in cases where market demand does not fully materialise for the harmonised application, all or parts of the band could be used for alternative applications, having due regard to spectrum use consideration (channelling, guard bands, protection of the harmonised application).

In all these cases, Members retain the commitment to make their best efforts to make the frequency band available for the application for which the band is designated in due time where the market demand materialises.

### **Underlay regulations**

Underlay regulations by contrast do not "designate" a specific frequency band for a certain usage but rather define conditions of use of the radio spectrum across a relatively wide frequency range. The intentional emissions of underlay applications are not always limited to the boundaries of a specific frequency band, which implies that in some cases underlay regulations cannot be referenced conveniently in a frequency allocation table.

Regulations developed within CEPT for applications using Ultra-Wideband (UWB) technology typically fit within this regulatory approach.

For example, the following regulations available at the date of publication of this Report can be described as "underlay regulations":

1. ECC/DEC/(06)04 on generic UWB, latest amendment of 9 December 2011;
2. ECC/DEC/(06)08 on GPR/WPR imaging systems;
3. ECC/DEC/(07)01 on specific Material Sensing -devices amendment of 26 June 2009;
4. ECC/DEC/(12)03 on the harmonised conditions for UWB applications onboard aircraft.

Detailed references to these regulations can be found in Annex 3 of the Attachment (ECA Table).

## 5 MILITARY REQUIREMENTS

Liaison with military authorities from CEPT countries has also been necessary in view of their use of, and requirements in, this frequency range. Although no single representative military body exists for all CEPT member countries, the North Atlantic Treaty Organisation (NATO) has a Joint Civil/Military Frequency Agreement (NJFA) which was felt to be a useful basis from which to develop a view of military frequency requirements. A forum that allows both civil and military frequency managers from all CEPT countries to meet has also been established by CEPT. This forum, the civil military meeting, considers requirements for harmonised military usage of spectrum to meet the needs of both NATO and non-NATO CEPT countries and makes proposals to WGFM.

Military requirements vary both between activities and countries. In some countries national requirements may be more than the harmonised band, in other countries for the time being there may be no national requirements in a band specifically harmonised for military use.

In general, the harmonised military bands should provide a common military frequency resource in order to allow systems to operate in common border areas, facilitate common exercises and Peace Keeping Operations (PKO), include the core frequency assets for day-to-day training, exercise, combat readiness and deployment and support Electronic Countermeasures (ECM) training.

Any reorganisation of spectrum utilisation should aim at a provision of a common military frequency resource in accordance with the ECA Table.

## 6 THE EUROPEAN TABLE OF FREQUENCY ALLOCATIONS AND APPLICATIONS IN THE FREQUENCY RANGE 8.3 kHz to 3000 GHz (ECA TABLE)

The ECA Table and its five Annexes are provided in the Attachment.

Annex 1: European footnotes included in the ECA Table / Annex 2: ITU Radio Regulations footnotes for Region 1 / Annex 3: Relevant ECC/ERC Decisions and Recommendations / Annex 4: European Standards included in the ECA Table / Annex 5: List of abbreviations used in the ECA Table

### Explanatory notes to the ECA Table

The heading of the ECA Table in the Attachment includes a number of columns, with the following contents:

**Column 1: RR Region 1 Allocation and RR footnotes applicable to CEPT**

Indicates the frequency band referred to in that row of the ECA Table and current ITU RR Article 5 allocations and footnotes which correspond to ITU Region 1.

See Annex 2 for description of the RR Article 5 footnotes included in the ECA Table.

**Column 2: European Common Allocation**

Contains in each frequency band:

1. Allocations of major use or major interest in CEPT member countries.
2. RR Article 5 footnotes affecting a major number of CEPT countries. RR Article 5 footnotes with general provisions applicable to CEPT countries are only included in the European Table if 10 or more CEPT countries are included in the footnote.
3. EU footnotes relevant to the European allocation, see Annex 1 of the Attachment.

**Column 3: ECC/ERC harmonisation measure**

This column contains information about ECC/ERC Decisions and Recommendations relevant to the particular radio application. The ECC/ERC documents are described in Annex 3 of the Attachment.

**Column 4: Application**

A radio application will be added to the ECA Table as an "Application" if:

- a. An ECC/ERC Decision, EC Decision or ECC/ERC Recommendation exists which harmonises or designates frequency bands, or
- b. At least 10 CEPT administrations have made available the relevant frequency band for a radio application according to EFIS, or
- c. WG FM has decided to do so (based on other aspects).

A future reduction of the number of administrations (below 10) will not automatically generate a withdrawal of a radio application from the ECA Table.

There is no priority implied by the order in which the radio applications are listed.

**Column 5: European footnotes**

This column contains European footnotes (EU) relevant to the particular radio application.

**Column 6: Standard**

This column contains information about the relevant Harmonised European standards - see Annex 4.

**Column 7: Notes**

This column may be used in order to reflect any other relevant information, such as the nature of use of a radio application or decisions which might affect the future use of the band.

In respect of defence systems two terms are used with the associated definitions:

1. Common military tuning range: - A common military tuning range is normally a recommended tuning range for radio equipment operating across harmonised military bands. Such a tuning range forms the basis for planning of future military equipment procurement.
2. Harmonised military band: - A frequency band which is in general military use in Europe and identified for military utilisation in the European Common Allocation Table (ECA Table). Such a frequency band forms a basis for military use and planning. The band can be shared between civil and military users according to national requirements and legislation.

**Attachment (ECA Table) with 5 Annexes**



<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>0 Hz - 8300 Hz</b>						
Not allocated 5.53 5.54	Not allocated 5.53 5.54					
<b>8300 Hz - 9 kHz</b>						
METEOROLOGICAL AIDS 5.54A 5.54A 5.54B	METEOROLOGICAL AIDS 5.54A 5.54A		Lightning detection systems			
<b>9 kHz - 11.3 kHz</b>						
METEOROLOGICAL AIDS 5.54A RADIONAVIGATION	METEOROLOGICAL AIDS 5.54A RADIONAVIGATION EU2	ERC/REC 70-03	Active medical implants ISM		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications Lightning detection systems		EN 300 330	Within the band 9-148.5 kHz
<b>11.3 kHz - 14 kHz</b>						
RADIONAVIGATION	RADIONAVIGATION EU2	ERC/REC 70-03	Active medical implants ISM		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>14 kHz - 19.95 kHz</b>						
FIXED MARITIME MOBILE 5.57 5.55 5.56	FIXED MARITIME MOBILE 5.57 5.56 EU2	ERC/REC 70-03	Active medical implants Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>19.95 kHz - 20.05 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL (20 KHZ)	STANDARD FREQUENCY AND TIME SIGNAL (20 KHZ)		-			

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>20.05 kHz - 70 kHz</b>						
FIXED MARITIME MOBILE 5.57 5.56 5.58	FIXED MARITIME MOBILE 5.57 5.56 EU2	ERC/REC 70-03	Active medical implants  Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>70 kHz - 72 kHz</b>						
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60 EU2	ERC/REC 70-03	Active medical implants		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>72 kHz - 84 kHz</b>						
FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56 EU2	ERC/REC 70-03	Active medical implants  Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications  Standard frequency and time signal		EN 300 330	Within the band 9-148.5 kHz  77.5 kHz DCF time signal
<b>84 kHz - 86 kHz</b>						
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60 EU2	ERC/REC 70-03	Active medical implants  Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>86 kHz - 90 kHz</b>						
FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56 EU2	ERC/REC 70-03	Active medical implants  Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>90 kHz - 110 kHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
RADIONAVIGATION 5.62 Fixed 5.64	RADIONAVIGATION 5.62 Fixed 5.64 EU2	ERC/REC 70-03	Active medical implants Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>110 kHz - 112 kHz</b>						
FIXED MARITIME MOBILE RADIONAVIGATION 5.64	FIXED MARITIME MOBILE RADIONAVIGATION 5.64 EU2	ERC/REC 70-03	Active medical implants Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>112 kHz - 115 kHz</b>						
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60 EU2	ERC/REC 70-03	Active medical implants Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>115 kHz - 117.6 kHz</b>						
RADIONAVIGATION 5.60 Fixed Maritime Mobile 5.64 5.66	RADIONAVIGATION 5.60 Fixed Maritime Mobile 5.64 EU2	ERC/REC 70-03	Active medical implants Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>117.6 kHz - 126 kHz</b>						
FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64 EU2	ERC/REC 70-03	Active medical implants Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>126 kHz - 129 kHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60 EU2	ERC/REC 70-03	Active medical implants Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>129 kHz - 130 kHz</b>						
FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64 EU2	ERC/REC 70-03	Active medical implants Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>130 kHz - 135.7 kHz</b>						
FIXED MARITIME MOBILE 5.64 5.67	FIXED MARITIME MOBILE 5.64 EU2	ERC/REC 70-03	Active medical implants Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>135.7 kHz - 137.8 kHz</b>						
FIXED MARITIME MOBILE Amateur 5.67A 5.67B	FIXED MARITIME MOBILE Amateur 5.67A 5.67B	ERC/REC 70-03	Active medical implants Amateur		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Defence systems Inductive applications		EN 301 783	Within the band 135.7-137.8 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>137.8 kHz - 148.5 kHz</b>						
FIXED MARITIME MOBILE 5.64 5.67	FIXED MARITIME MOBILE 5.64 EU2	ERC/REC 70-03	Active medical implants Defence systems		EN 302 195	Within the band 9-315 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 9-148.5 kHz
<b>148.5 kHz - 255 kHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
BROADCASTING 5.68 5.69 5.70	BROADCASTING	ERC/REC 70-03	Active medical implants		EN 302 195	Within the band 9-315 kHz
			Broadcasting		EN 302 017 EN 302 245	Frequency Assignment plan GE75. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>255 kHz - 283.5 kHz</b>						
AERONAUTICAL RADIONAVIGATION BROADCASTING 5.70 5.71	AERONAUTICAL RADIONAVIGATION BROADCASTING	ERC/REC 70-03	Active medical implants		EN 302 195	Within the band 9-315 kHz
			Beacons (aeronautical)			Frequency Assignment plan GE85
			Broadcasting		EN 302 017 EN 302 245	Frequency Assignment plan GE75. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>283.5 kHz - 315 kHz</b>						
AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (RADIOBEACONS) 5.73 5.74	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (RADIOBEACONS) 5.73 5.74 EU2	ERC/REC 70-03	Active medical implants		EN 302 195	Within the band 9-315 kHz
			Beacons (aeronautical)			Frequency Assignment plan GE85
			Beacons (maritime)			Frequency Assignment plan GE85
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>315 kHz - 325 kHz</b>						
AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) 5.73 5.75	AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) 5.73 EU2	ERC/REC 70-03	Active medical implants		EN 302 536	Within the band 315-600 kHz
			Beacons (aeronautical)			Frequency Assignment plan GE85
			Beacons (maritime)			Frequency Assignment plan GE85. IALA - plan to allow differential GPS
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>325 kHz - 405 kHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION EU2	ERC/REC 70-03	Active medical implants		EN 302 536	Within the band 315-600 kHz
			Beacons (aeronautical)			Frequency Assignment plan GE85
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz. For RFID only within the band 400-600 kHz
<b>405 kHz - 415 kHz</b>						
RADIONAVIGATION 5.76	RADIONAVIGATION 5.76 EU2	ERC/REC 70-03	Active medical implants		EN 302 536	Within the band 315-600 kHz
			Beacons (aeronautical)			Frequency Assignment plan GE85
			Beacons (maritime)			Frequency Assignment plan GE85. IALA - plan to allow differential GPS
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz. For RFID only within the band 400-600 kHz
<b>415 kHz - 435 kHz</b>						
AERONAUTICAL RADIONAVIGATION MARITIME MOBILE 5.79	MARITIME MOBILE 5.79 Aeronautical Radionavigation EU2	ERC/REC 70-03	Active medical implants		EN 302 536	Within the band 315-600 kHz
			Beacons (aeronautical)			Frequency Assignment plan GE85
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz. For RFID only within the band 400-600 kHz
			Maritime communications		EN 300 373	Frequency Assignment plan GE85
<b>435 kHz - 472 kHz</b>						
MARITIME MOBILE 5.79 Aeronautical Radionavigation 5.77 5.82	MARITIME MOBILE 5.79 Aeronautical Radionavigation 5.82 EU2	ERC/REC 70-03	Active medical implants		EN 302 536	Within the band 315-600 kHz
		ERC/REC 70-03	Emergency detection		EN 300 718	456.9-457.1 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz. For RFID only within the band 400-600 kHz
			Maritime communications		EN 300 373	Frequency Assignment plan GE85
<b>472 kHz - 479 kHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
MARITIME MOBILE 5.79 Aeronautical Radionavigation 5.77 5.80 Amateur 5.80A 5.80B 5.82	MARITIME MOBILE 5.79 Aeronautical Radionavigation Amateur 5.80A 5.80B EU2 5.82	ERC/REC 70-03  ERC/REC 70-03	Active medical implants  Inductive applications  Maritime communications		EN 302 536  EN 300 330  EN 300 373	Within the band 315-600 kHz  Within the band 148.5 kHz - 30 MHz. For RFID only within the band 400-600 kHz  Frequency Assignment plan GE85

#### **479 kHz - 495 kHz**

MARITIME MOBILE 5.79 5.79A Aeronautical Radionavigation 5.77 5.82	MARITIME MOBILE 5.79 5.79A Aeronautical Radionavigation 5.82 EU2	ERC/REC 70-03  ERC/REC 70-03	Active medical implants  Inductive applications  Maritime communications  NAVTEX		EN 302 536  EN 300 330  EN 300 373  EN 300 065	Within the band 315-600 kHz  Within the band 148.5 kHz - 30 MHz. For RFID only within the band 400-600 kHz  Frequency Assignment plan GE85  Navtex transmission national language. 490 kHz
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#### **495 kHz - 505 kHz**

MARITIME MOBILE	MOBILE	ERC/REC 70-03  ERC/REC 70-03	Active medical implants  Inductive applications		EN 302 536  EN 300 330	Within the band 315-600 kHz  Within the band 148.5 kHz - 30 MHz. For RFID only within the band 400-600 kHz
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#### **505 kHz - 526.5 kHz**

AERONAUTICAL RADIONAVIGATION MARITIME MOBILE 5.79 5.79A 5.84	AERONAUTICAL RADIONAVIGATION MARITIME MOBILE 5.79 5.79A 5.84  EU2	ERC/REC 70-03  ERC/REC 70-03	Active medical implants  Beacons (aeronautical)  Inductive applications  Maritime communications  NAVTEX		EN 302 536   EN 300 330  EN 300 373  EN 300 065	Within the band 315-600 kHz  Frequency Assignment plan GE85  Within the band 148.5 kHz - 30 MHz. For RFID only within the band 400-600 kHz  Frequency Assignment plan GE85  518 kHz (transmission international language)
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#### **526.5 kHz - 1606.5 kHz**

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
BROADCASTING 5.87 5.87A	BROADCASTING	ERC/REC 70-03	Active medical implants		EN 302 536	Within the band 315-600 kHz
			Broadcasting		EN 302 017 EN 302 245	Frequency Assignment plan GE75. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz. For RFID only within the band 400-600 kHz

### 1606.5 kHz - 1625 kHz

FIXED LAND MOBILE MARITIME MOBILE 5.90 5.92	FIXED LAND MOBILE MARITIME MOBILE 5.90 Radiolocation	ERC/REC 70-03	Defence systems			
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Maritime communications		EN 300 373	Frequency Assignment plan GE85
			Radiodetermination applications			

### 1625 kHz - 1635 kHz

RADIOLOCATION 5.93	RADIOLOCATION 5.93	ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Radiodetermination applications			

### 1635 kHz - 1800 kHz

FIXED LAND MOBILE MARITIME MOBILE 5.90 5.92 5.96	FIXED LAND MOBILE MARITIME MOBILE 5.90 5.96	ERC/REC 70-03	Defence systems			
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Maritime communications		EN 300 373	Frequency Assignment plan GE85
			Radiodetermination applications			

### 1800 kHz - 1810 kHz

RADIOLOCATION 5.93	RADIOLOCATION 5.93	ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Radiodetermination applications			



<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>1810 kHz - 1850 kHz</b>						
AMATEUR 5.98 5.99 5.100	AMATEUR 5.98 5.100	EU2				
		ERC/REC 70-03	Amateur		EN 301 783	
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>1850 kHz - 2000 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.92 5.96 5.103	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.96 5.103					
		ERC/REC 70-03	Amateur		EN 301 783	
			Defence systems			
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Maritime communications		EN 300 373	
			Radiodetermination applications			
<b>2000 kHz - 2025 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.92 5.103	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.103					
		ERC/REC 70-03	Defence systems			
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Maritime communications		EN 300 373	
			Radiodetermination applications			
<b>2025 kHz - 2045 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) Meteorological Aids 5.104 5.92 5.103	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.103 5.104					
		ERC/REC 70-03	Defence systems			
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Maritime communications		EN 300 373	
			Oceanographic buoys			Meteorological
			Radiodetermination applications			
<b>2045 kHz - 2160 kHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED LAND MOBILE MARITIME MOBILE 5.92	FIXED LAND MOBILE MARITIME MOBILE 5.92	ERC/REC 70-03	Defence systems Inductive applications Maritime communications		EN 300 330 EN 300 373	Within the band 148.5 kHz - 30 MHz Frequency Assignment plan GE85
<b>2160 kHz - 2170 kHz</b>						
RADIOLOCATION 5.93 5.107	RADIOLOCATION 5.93	ERC/REC 70-03	Inductive applications Radiodetermination applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>2170 kHz - 2173.5 kHz</b>						
MARITIME MOBILE	MARITIME MOBILE EU2	ERC/REC 70-03	Inductive applications Maritime communications		EN 300 330 EN 300 373	Within the band 148.5 kHz - 30 MHz Frequency Assignment plan GE85
<b>2173.5 kHz - 2190.5 kHz</b>						
MOBILE (DISTRESS AND CALLING) 5.108 5.109 5.110 5.111	MOBILE (DISTRESS AND CALLING) 5.108 5.109 5.110 5.111 EU2	ERC/REC 70-03	DSC Inductive applications Maritime communications		EN 300 373 EN 300 330 EN 300 373	2187.5 kHz (DSC for distress and calling) Within the band 148.5 kHz - 30 MHz 2182 kHz (Radiotelephony distress and calling). 2174.5 kHz (Telex distress traffic)
<b>2190.5 kHz - 2194 kHz</b>						
MARITIME MOBILE	MARITIME MOBILE EU2	ERC/REC 70-03	Inductive applications Maritime communications		EN 300 330 EN 300 373	Within the band 148.5 kHz - 30 MHz
<b>2194 kHz - 2300 kHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.92 5.103 5.112	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.103	ERC/REC 70-03	Defence systems Inductive applications Maritime communications Radiodetermination applications		EN 300 330 EN 300 373	Within the band 148.5 kHz - 30 MHz
<b>2300 kHz - 2498 kHz</b>						
BROADCASTING 5.113 FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.103	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.103 EU2	ERC/REC 70-03	Defence systems Inductive applications Maritime communications		EN 300 330 EN 300 373	Within the band 148.5 kHz - 30 MHz
<b>2498 kHz - 2501 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL (2 500 KHZ)	STANDARD FREQUENCY AND TIME SIGNAL (2 500 KHZ)	ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>2501 kHz - 2502 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>2502 kHz - 2625 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.92 5.103 5.114	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.92 EU2 5.103	ERC/REC 70-03	Defence systems Inductive applications Radiodetermination applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>2625 kHz - 2650 kHz</b>						
MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	MARITIME MOBILE MARITIME RADIONAVIGATION 5.92 EU2	ERC/REC 70-03	Defence systems Inductive applications Maritime communications		EN 300 330 EN 300 373	Within the band 148.5 kHz - 30 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>2650 kHz - 2850 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.92 5.103	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.92 5.103	ERC/REC 70-03	Defence systems Inductive applications Radiodetermination applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>2850 kHz - 3025 kHz</b>						
AERONAUTICAL MOBILE (R) 5.111 5.115	AERONAUTICAL MOBILE-SATELLITE (R) 5.111 5.115	ERC/REC 70-03	Aeronautical communications Inductive applications SAR (communications)		EN 300 330 EN 300 373	Appendix 27 Allotment Plan Within the band 148.5 kHz - 30 MHz 3023 kHz (Aeronautical/Maritime radiotelephony SAR coordination)
<b>3025 kHz - 3155 kHz</b>						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	ERC/REC 70-03	Aeronautical communications Inductive applications		EN 300 330	Appendix 26 Allotment Plan Within the band 148.5 kHz - 30 MHz
<b>3155 kHz - 3200 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.116 5.117	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.116 EU2	ERC/REC 70-03	Defence systems Inductive applications Maritime communications		EN 300 330 EN 300 373	Within the band 3155-3400 kHz; and within the band 148.5 kHz - 30 MHz
<b>3200 kHz - 3230 kHz</b>						
BROADCASTING 5.113 FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.116	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.116 EU2	ERC/REC 70-03	Defence systems Inductive applications Maritime communications		EN 300 330 EN 300 373	Within the band 3155-3400 kHz; and within the band 148.5 kHz - 30 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>3230 kHz - 3400 kHz</b>						
BROADCASTING 5.113 FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.116 5.118	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.116 EU2	ERC/REC 70-03	Defence systems  Inductive applications  Maritime communications		EN 300 330  EN 300 373	Within the band 3155-3400 kHz; and within the band 148.5 kHz - 30 MHz
<b>3400 kHz - 3500 kHz</b>						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	ERC/REC 70-03	Aeronautical communications  Inductive applications		EN 300 330	Appendix 27 Allotment Plan. Including HF Data Links  Within the band 148.5 kHz - 30 MHz
<b>3500 kHz - 3800 kHz</b>						
AMATEUR FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.92	AMATEUR FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.92 EU2	ERC/REC 70-03	Amateur  Defence systems  Inductive applications  Maritime communications		EN 301 783  EN 300 330 EN 300 373	Within the band 148.5 kHz - 30 MHz
<b>3800 kHz - 3900 kHz</b>						
AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE	AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE EU2	ERC/REC 70-03	Aeronautical communications  Inductive applications		EN 300 330	Appendix 26 Allotment Plan  Within the band 148.5 kHz - 30 MHz
<b>3900 kHz - 3950 kHz</b>						
AERONAUTICAL MOBILE (OR) 5.123	AERONAUTICAL MOBILE (OR)	ERC/REC 70-03	Aeronautical communications  Inductive applications		EN 300 330	Appendix 26 Allotment Plan  Within the band 148.5 kHz - 30 MHz
<b>3950 kHz - 4000 kHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
BROADCASTING FIXED	BROADCASTING FIXED EU2		Broadcasting		EN 302 017 EN 302 245	Digital systems to be introduced
		ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>4000 kHz - 4063 kHz</b>						
FIXED MARITIME MOBILE 5.127 5.126	FIXED MARITIME MOBILE 5.127 EU2	ERC/REC 70-03	Inductive applications Maritime communications		EN 300 330 EN 300 373	Within the band 148.5 kHz - 30 MHz Appendix 17 channeling plan. Appendix 25 allotment plan
<b>4063 kHz - 4438 kHz</b>						
MARITIME MOBILE 5.79A 5.109 5.110 5.128 5.130 5.131 5.132	MARITIME MOBILE 5.109 5.110 5.79A 5.130 EU2 5.131 5.132	ERC/REC 70-03	DSC Inductive applications Maritime communications		EN 300 373 EN 300 330 EN 300 373	4207.5 kHz (DSC distress traffic). Ship stations 4208, 4208.5, 4209 kHz. Coast stations 4219.5, 4220, 4220.5 kHz (DSC calling) Within the band 148.5 kHz - 30 MHz Appendix 17 channelling plan. Appendix 25 allotment plan. 4125 kHz (Radiotelephony distress and safety traffic). 4177.5 kHz (Telex distress traffic). 4209.5 kHz (Meteorological and navigational warnings. 4210 kHz (Safety Information)
		ERC/REC 70-03	NAVTEX Railway applications		EN 300 065 EN 302 608	4209.5 kHz 4234 kHz
<b>4438 kHz - 4488 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) Radiolocation 5.132A 5.132B	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) Radiolocation 5.132A EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>4488 kHz - 4650 kHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R)	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>4650 kHz - 4700 kHz</b>						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)		Aeronautical communications			Appendix 27 Allotment Plan. Including HF Data Links
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>4700 kHz - 4750 kHz</b>						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)		Aeronautical communications			Appendix 26 Allotment Plan
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>4750 kHz - 4850 kHz</b>						
AERONAUTICAL MOBILE (OR) BROADCASTING 5.113 FIXED LAND MOBILE	AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE		Aeronautical communications			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>4850 kHz - 4995 kHz</b>						
BROADCASTING 5.113 FIXED LAND MOBILE	FIXED LAND MOBILE EU2		Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>4995 kHz - 5003 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL (5 000 KHZ)	STANDARD FREQUENCY AND TIME SIGNAL (5 000 KHZ)					
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>5003 kHz - 5005 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research					
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>5005 kHz - 5060 kHz</b>						
BROADCASTING 5.113 FIXED	FIXED EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>5060 kHz - 5250 kHz</b>						
FIXED Mobile except aeronautical mobile 5.133	FIXED Mobile except aeronautical mobile EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>5250 kHz - 5275 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE Radiolocation 5.132A 5.133A	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE Radiolocation 5.132A EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>5275 kHz - 5450 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>5450 kHz - 5480 kHz</b>						
AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE	AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE EU2	ERC/REC 70-03	Aeronautical communications Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>5480 kHz - 5680 kHz</b>						



<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
AERONAUTICAL MOBILE (R) 5.111 5.115	AERONAUTICAL MOBILE-SATELLITE (R) 5.111 5.115	ERC/REC 70-03	Aeronautical communications			Appendix 27 Allotment Plan. Including HF Data Links
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			SAR (communications)			5680 kHz (Aeronautical/Maritime radiotelephony SAR coordination)

### 5680 kHz - 5730 kHz

AERONAUTICAL MOBILE (OR) 5.111 5.115	AERONAUTICAL MOBILE (OR) 5.111 5.115	ERC/REC 70-03	Aeronautical communications			Appendix 26 Allotment Plan
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			SAR (communications)		EN 300 373	5680 kHz (Aeronautical/Maritime radiotelephony SAR coordination)

### 5730 kHz - 5900 kHz

FIXED LAND MOBILE	FIXED LAND MOBILE EU2	ERC/REC 70-03	Defence systems			
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

### 5900 kHz - 5950 kHz

BROADCASTING 5.134 5.136	BROADCASTING 5.134 5.136	ERC/REC 70-03	Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

### 5950 kHz - 6200 kHz

BROADCASTING	BROADCASTING	ERC/REC 70-03	Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

### 6200 kHz - 6525 kHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137	MARITIME MOBILE 5.109 5.110 5.130 5.132 EU2 5.137	ERC/REC 70-03	DSC  Inductive applications  Maritime communications		EN 300 373  EN 300 330  EN 300 373	6312 kHz (DSC distress traffic). 6312.5, 6313, 6313.5, 6331, 6331.5, 6332 kHz (DSC calling)  Within the band 148.5 kHz - 30 MHz  Appendix 17 channeling plan. Appendix 25 allotment plan. 6215 kHz. (Radiotelephony distress and safety traffic).6268 kHz (Telex distress traffic). 6314 kHz (Maritime Safety Information)
<b>6525 kHz - 6685 kHz</b>						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	ERC/REC 70-03	Aeronautical communications  Inductive applications			Appendix 27 Allotment Plan. Including HF Data Links  Within the band 148.5 kHz - 30 MHz
<b>6685 kHz - 6765 kHz</b>						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	ERC/REC 70-03	Aeronautical communications  Inductive applications			Appendix 26 Allotment Plan  Within the band 148.5 kHz - 30 MHz
<b>6765 kHz - 7000 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.138	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.138 EU2	ERC/REC 70-03  ERC/REC 70-03	Defence systems  ISM  Inductive applications  Non-specific SRDs			Within the band 6765-6795 kHz  Within the band 6765-6795 kHz; and within the band 148.5 kHz - 30 MHz  Within the band 6765-6795 kHz
<b>7000 kHz - 7100 kHz</b>						
AMATEUR AMATEUR-SATELLITE 5.140 5.141 5.141A	AMATEUR AMATEUR-SATELLITE	ERC/REC 70-03	Amateur  Inductive applications		EN 301 783  EN 300 330	Within the band 148.5 kHz - 30 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>7100 kHz - 7200 kHz</b>						
AMATEUR 5.141A 5.141B	AMATEUR		Amateur		EN 301 783	
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>7200 kHz - 7300 kHz</b>						
BROADCASTING	BROADCASTING		Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>7300 kHz - 7400 kHz</b>						
BROADCASTING 5.134 5.143 5.143A 5.143B 5.143C 5.143D	BROADCASTING 5.134 5.143 5.143B		Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>7400 kHz - 7450 kHz</b>						
BROADCASTING 5.143B 5.143C	BROADCASTING 5.143B		Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 7400-8800 kHz; and within the band 148.5 kHz - 30 MHz
<b>7450 kHz - 8100 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.144	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) EU2		Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 7400-8800 kHz; and within the band 148.5 kHz - 30 MHz
<b>8100 kHz - 8195 kHz</b>						
FIXED MARITIME MOBILE	FIXED MARITIME MOBILE EU2		Inductive applications		EN 300 330	Within the band 7400-8800 kHz; and within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Maritime communications		EN 300 373	Appendix 17 channeling plan

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>8195 kHz - 8815 kHz</b>						
MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111	MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111 EU2	ERC/REC 70-03	DSC		EN 300 373	8414.5 kHz (DSC distress traffic). 8415, 8415.5, 8416, 8436.5, 8437, 8437.5 kHz (DSC calling)
			Inductive applications		EN 300 330	Within the band 7400-8800 kHz; and within the band 148.5 kHz - 30 MHz
			Maritime communications		EN 300 373	Appendix 17 channeling plan. Appendix 25 allotment plan. 8291 kHz (Radiotelephony distress and safety traffic).8376.5 kHz (Telex distress traffic). 8416.5 kHz (Maritime Safety Information)
<b>8815 kHz - 8965 kHz</b>						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	ERC/REC 70-03	Aeronautical communications			Appendix 27 Allotment Plan. Including HF Data Links
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>8965 kHz - 9040 kHz</b>						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	ERC/REC 70-03	Aeronautical communications			Appendix 26 Allotment Plan
			Defence systems			
		Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz	
<b>9040 kHz - 9305 kHz</b>						
FIXED	FIXED EU2	ERC/REC 70-03	Defence systems			
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>9305 kHz - 9355 kHz</b>						
FIXED Radiolocation 5.145A 5.145B	FIXED Radiolocation 5.145A EU2	ERC/REC 70-03	Defence systems			
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>9355 kHz - 9400 kHz</b>						
FIXED	FIXED EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>9400 kHz - 9500 kHz</b>						
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	ERC/REC 70-03	Broadcasting Inductive applications		EN 302 017 EN 302 245 EN 300 330	Article 12 planning procedure. Digital systems to be introduced Within the band 148.5 kHz - 30 MHz
<b>9500 kHz - 9900 kHz</b>						
BROADCASTING 5.147	BROADCASTING 5.147	ERC/REC 70-03	Broadcasting Inductive applications		EN 302 017 EN 302 245 EN 300 330	Article 12 planning procedure. Digital systems to be introduced Within the band 148.5 kHz - 30 MHz
<b>9900 kHz - 9995 kHz</b>						
FIXED	FIXED EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>9995 kHz - 10003 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL (10 000 KHZ) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (10 000 KHZ) 5.111	ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>10003 kHz - 10005 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	ERC/REC 70-03	Inductive applications SAR (communications)		EN 300 330	Within the band 148.5 kHz - 30 MHz 10003 kHz (+/-3 kHz) concerning manned space vehicles
<b>10005 kHz - 10100 kHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
AERONAUTICAL MOBILE (R) 5.111	AERONAUTICAL MOBILE-SATELLITE (R) 5.111	ERC/REC 70-03	Aeronautical communications Inductive applications		EN 300 330	Appendix 27 Allotment Plan. Including HF Data Links Within the band 148.5 kHz - 30 MHz
<b>10100 kHz - 10150 kHz</b>						
FIXED Amateur	FIXED Amateur EU2	ERC/REC 70-03	Amateur Defence systems Inductive applications		EN 301 783 EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>10150 kHz - 11175 kHz</b>						
FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R) EU2	ERC/REC 70-03 ERC/REC 70-03	Defence systems Inductive applications Railway applications		EN 300 330 EN 302 609	Within the band 10200-11000 kHz; and within the band 148.5 kHz - 30 MHz Within the band 11100-16000 kHz
<b>11175 kHz - 11275 kHz</b>						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	ERC/REC 70-03 ERC/REC 70-03	Aeronautical communications Inductive applications Railway applications			Appendix 26 Allotment Plan Within the band 148.5 kHz - 30 MHz Mainly within the band 11100-16000 kHz
<b>11275 kHz - 11400 kHz</b>						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	ERC/REC 70-03 ERC/REC 70-03	Aeronautical communications Inductive applications Railway applications			Appendix 27 Allotment Plan. Including HF Data Links Within the band 148.5 kHz - 30 MHz Mainly within the band 11100-16000 kHz
<b>11400 kHz - 11600 kHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED	FIXED EU2		Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz
<b>11600 kHz - 11650 kHz</b>						
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146		Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Within the band 11100-16000 kHz
<b>11650 kHz - 12050 kHz</b>						
BROADCASTING 5.147	BROADCASTING 5.147		Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz
<b>12050 kHz - 12100 kHz</b>						
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146		Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz
<b>12100 kHz - 12230 kHz</b>						
FIXED	FIXED EU2		Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz
<b>12230 kHz - 13200 kHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132 5.145 EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			DSC		EN 300 373	12577 kHz (DSC distress traffic). 12577.5, 12578, 12578.5, 12657, 12657.5, 12658 kHz (DSC calling)
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Maritime communications		EN 300 373	Appendix 17 channeling plan. Appendix 25 allotment plan. 12290 kHz (Radiotelephony distress and safety traffic). 12520 kHz (Telex distress traffic). 12579 kHz (Maritime Safety Information)
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 13200 kHz - 13260 kHz

AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Aeronautical communications			Appendix 26 Allotment Plan
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 13260 kHz - 13360 kHz

AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Aeronautical communications			Appendix 27 Allotment Plan. Including HF Data Links
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 13360 kHz - 13410 kHz



<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED RADIO ASTRONOMY 5.149	FIXED RADIO ASTRONOMY 5.149 EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Radio astronomy			Continuum observations
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 13410 kHz - 13450 kHz

FIXED Mobile except aeronautical mobile (R) 5.149A	FIXED Mobile except aeronautical mobile (R) EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 13450 kHz - 13550 kHz

FIXED Mobile except aeronautical mobile (R) Radiolocation 5.132A 5.149A	FIXED Mobile except aeronautical mobile (R) Radiolocation 5.132A EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Defence systems			Within the band 13553-13567 kHz; and within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 13550 kHz - 13570 kHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED Mobile except aeronautical mobile (R) 5.150	FIXED Mobile except aeronautical mobile (R) 5.150 EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Defence systems			
			ISM			Within the band 13553-13567 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 13553-13567 kHz; and within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Non-specific SRDs		EN 300 330	Within the band 13553-13567 kHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### **13570 kHz - 13600 kHz**

BROADCASTING 5.134 5.151	BROADCASTING 5.134 5.151	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Broadcasting		EN 302 017 EN 302 245	
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### **13600 kHz - 13800 kHz**

BROADCASTING	BROADCASTING	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Broadcasting		EN 302 017 EN 302 245	
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### **13800 kHz - 13870 kHz**

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
BROADCASTING 5.134 5.151	BROADCASTING 5.134 5.151	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 13870 kHz - 14000 kHz

FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R) EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 14000 kHz - 14250 kHz

AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Amateur		EN 301 783	
			Amateur-satellite			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 14250 kHz - 14350 kHz

AMATEUR 5.152	AMATEUR	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Amateur		EN 301 783	
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 14350 kHz - 14990 kHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R) EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11 100-16000 kHz
<b>14990 kHz - 15005 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL (15 000 KHZ) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (15 000 KHZ) 5.111	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11 100-16000 kHz
			SAR (communications)			14993 kHz (+/-3 kHz) concerning manned space vehicles
<b>15005 kHz - 15010 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11 100-16000 kHz
<b>15010 kHz - 15100 kHz</b>						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Aeronautical communications			Appendix 26 Allotment Plan
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11 100-16000 kHz

### 15100 kHz - 15600 kHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
BROADCASTING	BROADCASTING	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 15600 kHz - 15800 kHz

BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 15800 kHz - 16100 kHz

FIXED	FIXED EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Railway applications		EN 302 609	Mainly within the band 11100-16000 kHz

### 16100 kHz - 16200 kHz

FIXED Radiolocation 5.145A 5.145B	FIXED Radiolocation 5.145A EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

### 16200 kHz - 16360 kHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>		<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED	FIXED	EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
				Defence systems			
			ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>16360 kHz - 17410 kHz</b>							
MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132 5.145	EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
				DSC		EN 300 373	16804.5 kHz (DSC distress traffic).16805, 16805.5, 16806, 16903, 16903.5, 16904 kHz (DSC calling)
			ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
				Maritime communications		EN 300 373	Appendix 17 channeling plan.Appendix 25 allotment plan.16420 kHz (Radiotelephony distress and safety traffic).16695 kHz (Telex distress traffic).16806.5 kHz (Maritime Safety Information)
<b>17410 kHz - 17480 kHz</b>							
FIXED	FIXED	EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
				Defence systems			
			ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>17480 kHz - 17550 kHz</b>							
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146		ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
				Broadcasting		EN 302 017 EN 302 245	Digital systems to be introduced
			ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>17550 kHz - 17900 kHz</b>							

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
BROADCASTING	BROADCASTING	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>17900 kHz - 17970 kHz</b>						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Aeronautical communications			Appendix 27 Allotment Plan. Including HF Data Links
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>17970 kHz - 18030 kHz</b>						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Aeronautical communications			Appendix 26 Allotment Plan
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>18030 kHz - 18052 kHz</b>						
FIXED	FIXED EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>18052 kHz - 18068 kHz</b>						
FIXED Space Research	FIXED Space Research EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>18068 kHz - 18168 kHz</b>						
AMATEUR AMATEUR-SATELLITE 5.154	AMATEUR AMATEUR-SATELLITE	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Amateur Amateur-satellite		EN 301 783	
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>18168 kHz - 18780 kHz</b>						
FIXED Mobile except aeronautical mobile	FIXED Mobile except aeronautical mobile	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			DSC Defence systems		EN 300 373	
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>18780 kHz - 18900 kHz</b>						
MARITIME MOBILE	MARITIME MOBILE EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			ERC/REC 70-03	Inductive applications		
			Maritime communications		EN 300 373	Appendix 17 channeling plan
<b>18900 kHz - 19020 kHz</b>						
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Broadcasting		EN 302 017 EN 302 245	
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>19020 kHz - 19680 kHz</b>						



<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED	FIXED EU2	ERC/REC 70-03	Active medical implants  Defence systems		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>19680 kHz - 19800 kHz</b>						
MARITIME MOBILE 5.132	MARITIME MOBILE 5.132 EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			DSC		EN 300 373	19703.5, 19704, 19704.5 kHz (DSC calling)
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Maritime communications		EN 300 373	Appendix 17 channeling plan. Appendix 25 allotment plan. 19680.5 kHz (Maritime Safety Information)
<b>19800 kHz - 19990 kHz</b>						
FIXED	FIXED EU2	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
			Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>19990 kHz - 19995 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			SAR (communications)			19993 kHz (+/-3 kHz) concerning manned space vehicles
<b>19995 kHz - 20010 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL (20 000 KHZ) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (20 000 KHZ) 5.111	ERC/REC 70-03	Active medical implants		EN 300 330	Active animal implantable devices within the band 12500-20000 kHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>20010 kHz - 21000 kHz</b>						
FIXED Mobile	FIXED Mobile	EU2	Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>21000 kHz - 21450 kHz</b>						
AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE		Amateur		EN 301 783	
		ERC/REC 70-03	Amateur-satellite Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>21450 kHz - 21850 kHz</b>						
BROADCASTING	BROADCASTING		Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>21850 kHz - 21870 kHz</b>						
FIXED 5.155A 5.155	FIXED	EU2	Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>21870 kHz - 21924 kHz</b>						
FIXED 5.155B	FIXED 5.155B	EU2	Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>21924 kHz - 22000 kHz</b>						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)		Aeronautical communications			Appendix 27 Allotment Plan. Including HF Data Links
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>22000 kHz - 22855 kHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
MARITIME MOBILE 5.132 5.156	MARITIME MOBILE 5.132 EU2		DSC		EN 300 373	22374.5, 22375, 22375.5, 22444, 22444.5, 22445 kHz (DSC calling)
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Maritime communications		EN 300 373	Appendix 17 channeling plan. Appendix 25 allotment plan. 22376 kHz safety information

### 22855 kHz - 23000 kHz

FIXED 5.156	FIXED EU2		Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

### 23000 kHz - 23200 kHz

FIXED Mobile except aeronautical mobile (R) 5.156	FIXED Mobile except aeronautical mobile (R) EU2		Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

### 23200 kHz - 23350 kHz

AERONAUTICAL MOBILE (OR) FIXED 5.156A	AERONAUTICAL MOBILE (OR) FIXED 5.156A		Aeronautical communications			
			Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

### 23350 kHz - 24000 kHz

FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.157	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.157 EU2		Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

### 24000 kHz - 24450 kHz

FIXED LAND MOBILE	FIXED LAND MOBILE EU2		Defence systems			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

### 24450 kHz - 24600 kHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED LAND MOBILE Radiolocation 5.132A 5.158	FIXED LAND MOBILE Radiolocation 5.132A EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>24600 kHz - 24890 kHz</b>						
FIXED LAND MOBILE	FIXED LAND MOBILE EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>24890 kHz - 24990 kHz</b>						
AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE		Amateur Amateur-satellite		EN 301 783	
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>24990 kHz - 25005 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL (25 000 KHZ)	STANDARD FREQUENCY AND TIME SIGNAL (25 000 KHZ)	ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>25005 kHz - 25010 kHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	ERC/REC 70-03	Inductive applications Space research		EN 300 330	Within the band 148.5 kHz - 30 MHz Scientific and medical space research
<b>25010 kHz - 25070 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>25070 kHz - 25210 kHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
MARITIME MOBILE	MARITIME MOBILE EU2	ERC/REC 70-03	DSC		EN 300 373	25208.5, 25209, 25209.5 kHz (DSC calling)
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Maritime communications		EN 300 373	Appendix 17 channeling plan
<b>25210 kHz - 25550 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE EU2	ERC/REC 70-03	Defence systems			
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>25550 kHz - 25670 kHz</b>						
RADIO ASTRONOMY 5.149	RADIO ASTRONOMY 5.149	ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Radio astronomy			Continuum observations
<b>25670 kHz - 26100 kHz</b>						
BROADCASTING	BROADCASTING		Broadcasting		EN 302 017 EN 302 245	Article 12 planning procedure. Digital systems to be introduced
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>26100 kHz - 26175 kHz</b>						
MARITIME MOBILE 5.132	MARITIME MOBILE 5.132 EU2	ERC/REC 70-03	DSC		EN 300 373	26121, 26121.5, 26122 kHz (DSC calling)
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			Maritime communications		EN 300 373	Appendix 17 channeling plan. Appendix 25 allotment plan. 26100.5 kHz Maritime Safety Information
<b>26175 kHz - 26200 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE EU2	ERC/REC 70-03	Defence systems			
			Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>26200 kHz - 26350 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE Radiolocation 5.132A 5.133A	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE Radiolocation 5.132A EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>26350 kHz - 27500 kHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.150	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.150 EU2	ECC/DEC/(11)03	CB radio		EN 300 135 EN 300 433	(CEPT PR 27). Within the band 26.960-27.410 MHz
			Defence systems			Within the band 26.957-27.283 MHz
			ISM			Within the band 26.957-27.283 MHz
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 26.957-27.283 MHz; and within the band 148.5 kHz - 30 MHz
		ERC/REC 70-03	Model control		EN 300 220	26.995, 27.045, 27.095, 27.145, 27.195 MHz
		ERC/REC 70-03	Non-specific SRDs		EN 300 220 EN 300 330	Within the band 26.957-27.283 MHz
		ERC/REC 70-03	Railway applications		EN 302 608	27.095 MHz Eurobalise system
<b>27500 kHz - 28 MHz</b>						
FIXED METEOROLOGICAL AIDS MOBILE	FIXED METEOROLOGICAL AIDS MOBILE EU2	ERC/REC 70-03	Defence systems Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>28 MHz - 29.7 MHz</b>						
AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE		Amateur		EN 301 783	
			Amateur-satellite			
		ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
<b>29.7 MHz - 30.005 MHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>		<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED MOBILE	MOBILE	EU2	ERC/REC 70-03	Active medical implants		EN 302 510	Within the band 30.0-37.5 MHz
				Defence systems	EU1		
			ERC/REC 70-03	Inductive applications		EN 300 330	Within the band 148.5 kHz - 30 MHz
			ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

### 30.005 MHz - 30.01 MHz

FIXED MOBILE SPACE OPERATION (SATELLITE IDENTIFICATION) SPACE RESEARCH	MOBILE	EU2	ERC/REC 70-03	Active medical implants		EN 302 510	Within the band 30.0-37.5 MHz
				Defence systems	EU1		
			ERC/REC 70-03	Radio microphones and ALD	EU1	EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

### 30.01 MHz - 37.5 MHz

FIXED MOBILE	MOBILE	EU2 EU27	ERC/REC 70-03	Active medical implants		EN 302 510	Within the band 30.0-37.5 MHz
				Defence systems	EU1		
			ERC/DEC/(01)11 ERC/REC 70-03	Model control		EN 300 220	Within the band 34.995-35.225 MHz only for flying models
			T/R 25-08	PMR		EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	
			ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 29.7-47.0 MHz. Within the band 30.01-34.90 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

### 37.5 MHz - 38.25 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED MOBILE Radio Astronomy 5.149	MOBILE Radio Astronomy 5.149 EU2	T/R 25-08	Defence systems  PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	
		ERC/REC 70-03	Radio astronomy  Radio microphones and ALD		EN 300 422	Continuum observations  Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis
<b>38.25 MHz - 39 MHz</b>						
FIXED MOBILE	MOBILE  EU2	T/R 25-08	Defence systems  PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 390 EN 300 471 EN 301 166 EN 302 561	
		ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

**39 MHz - 39.5 MHz**



<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE Radiolocation 5.132A 5.159	MOBILE Radiolocation 5.132A EU2	ERC/REC/(00)04	Defence systems	EU1		
		T/R 25-08	Meteor scatter communications			Within the band 39.0-39.2 MHz
			PMR		EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	
		ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

### **39.5 MHz - 39.986 MHz**

FIXED MOBILE	MOBILE EU2	ERC/REC/(00)04	Defence systems	EU1		
		T/R 25-08	Meteor scatter communications			Within the band 39.0-39.2 MHz
			PMR		EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	
		ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

### **39.986 MHz - 40.02 MHz**

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE Space Research	MOBILE Space Research EU2	T/R 25-08	Defence systems PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	
		ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis
<b>40.02 MHz - 40.66 MHz</b>						
FIXED MOBILE	MOBILE EU2	T/R 25-08	Defence systems PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	
		ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis
<b>40.66 MHz - 40.7 MHz</b>						
FIXED MOBILE 5.150	MOBILE 5.150 EU2		Defence systems ISM	EU1		
		ERC/DEC/(01)12 ERC/REC 70-03	Model control		EN 300 220	40.665, 40.675, 40.685, 40.695 MHz
		ERC/REC 70-03	Non-specific SRDs		EN 300 220	
		ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

**RR Region 1 Allocation and RR footnotes applicable to CEPT**

**European Common Allocation**

**ECC/ERC harmonisation measure**

**Applications**

**European footnotes**

**Standard**

**Notes**

**40.7 MHz - 40.98 MHz**

FIXED  
MOBILE

MOBILE

EU2

T/R 25-08

Defence systems

EU1

PMR

EN 300 086  
EN 300 113  
EN 300 219  
EN 300 296  
EN 300 341  
EN 300 390  
EN 300 471  
EN 301 166  
EN 302 561

ERC/REC 70-03

Radio microphones and  
ALD

EN 300 422

Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

**40.98 MHz - 41.015 MHz**

FIXED  
MOBILE  
Space Research  
5.160  
5.161

MOBILE  
Space Research

EU2

T/R 25-08

Defence systems

EU1

PMR

EN 300 086  
EN 300 113  
EN 300 219  
EN 300 296  
EN 300 341  
EN 300 390  
EN 300 471  
EN 301 166  
EN 302 561

ERC/REC 70-03

Radio microphones and  
ALD

EN 300 422

Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

**41.015 MHz - 42 MHz**

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>		<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED MOBILE 5.160 5.161 5.161A	MOBILE	EU27	T/R 25-08	Defence systems PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Harmonised military band
			ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

#### **42 MHz - 42.5 MHz**

FIXED MOBILE Radiolocation 5.132A 5.160 5.161B	FIXED MOBILE Radiolocation 5.132A 5.161B	EU27	T/R 25-08	Defence systems PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Harmonised military band
			ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

#### **42.5 MHz - 44 MHz**

**RR Region 1 Allocation and RR footnotes applicable to CEPT**

**European Common Allocation**

**ECC/ERC harmonisation measure**

**Applications**

**European footnotes**

**Standard**

**Notes**

FIXED  
MOBILE  
5.160  
5.161  
5.161A

MOBILE

EU27

T/R 25-08

Defence systems

EU1

Harmonised military band

PMR

EN 300 086  
EN 300 113  
EN 300 219  
EN 300 296  
EN 300 341  
EN 300 390  
EN 301 166  
EN 302 561

ERC/REC 70-03

Radio microphones and  
ALD

EN 300 422

Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

**44 MHz - 46.4 MHz**

FIXED  
MOBILE  
5.162A

MOBILE  
5.162A

EU27

T/R 25-08

Defence systems

EU1

Harmonised military band

PMR

EN 300 086  
EN 300 113  
EN 300 219  
EN 300 296  
EN 300 341  
EN 300 390  
EN 300 471  
EN 301 166  
EN 302 561

ERC/REC 70-03

Radio microphones and  
ALD

EN 300 422

Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis

Wind profilers

In the range 46-68 MHz, geographical sharing with other services

**46.4 MHz - 47 MHz**

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>		<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE 5.162A	MOBILE 5.162A	EU27	T/R 25-08	Defence systems PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Harmonised military band
			ERC/REC 70-03	Radio microphones and ALD  Wind profilers		EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis  In the range 46-68 MHz, geographical sharing with other services

#### 47 MHz - 48 MHz

BROADCASTING 5.162A 5.163 5.164 5.165	LAND MOBILE 5.162A 5.164	EU2 EU3	T/R 25-08	Defence systems On-site paging PMR  Wind profilers	EU1	EN 300 224  EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	On site paging in the band 47.0-47.25 MHz  Single frequency applications  In the range 46-68 MHz, geographical sharing with other services
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#### 48 MHz - 48.5 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>		<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
BROADCASTING 5.162A 5.163 5.164 5.165	LAND MOBILE 5.162A 5.164	EU2 EU3	T/R 25-08	Defence systems  PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Single frequency applications
				Wind profilers			In the range 46-68 MHz, geographical sharing with other services

### 48.5 MHz - 50 MHz

BROADCASTING 5.162A 5.164 5.165	LAND MOBILE 5.162A 5.164	EU2 EU3	T/R 25-08	Defence systems  Earth exploration-satellite  PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Space Research/EESS  Single frequency applications
				Wind profilers			In the range 46-68 MHz, geographical sharing with other services

### 50 MHz - 51 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
BROADCASTING 5.162A 5.164 5.165 5.166 5.169	LAND MOBILE Amateur  EU2 EU3	   T/R 25-08	Amateur  Defence systems  PMR        Wind profilers	   EU1	EN 301 783    EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Single frequency applications          In the range 46-68 MHz, geographical sharing with other services

### 51 MHz - 52 MHz

BROADCASTING 5.162A 5.164 5.165 5.169	LAND MOBILE Amateur 5.162A 5.164 EU2 EU3	   T/R 25-08	Amateur  Defence systems  PMR        Wind profilers	   EU1	EN 301 783    EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Single frequency applications          In the range 46-68 MHz, geographical sharing with other services
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### 52 MHz - 54 MHz



<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>		<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
BROADCASTING 5.162A 5.164 5.165 5.166 5.169	LAND MOBILE 5.162A 5.164	EU2 EU3	T/R 25-08	Defence systems  PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Single frequency applications
				Wind profilers			In the range 46-68 MHz, geographical sharing with other services
<b>54 MHz - 61 MHz</b>							
BROADCASTING 5.162A 5.163 5.164 5.165 5.171	LAND MOBILE 5.162A 5.163 5.164	EU2 EU3	T/R 25-08	Defence systems  PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	ML paired with 61-68 MHz
				Wind profilers			In the range 46-68 MHz, geographical sharing with other services
<b>61 MHz - 68 MHz</b>							
BROADCASTING 5.162A 5.164 5.165 5.171	LAND MOBILE 5.162A 5.164	EU2 EU3	T/R 25-08	Defence systems  PMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	FB paired with 54-61 MHz
				Wind profilers			In the range 46-68 MHz, geographical sharing with other services

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>		<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>68 MHz - 70.45 MHz</b>							
FIXED	MOBILE			Defence systems	EU1		
MOBILE EXCEPT AERONAUTICAL		EU2					
MOBILE		EU4	ECC/DEC/(06)06	PMR/PAMR		EN 300 086	ML paired with 77.8-80.25 MHz
5.175		EU9	T/R 25-08			EN 300 113	
						EN 300 219	
						EN 300 296	
						EN 300 341	
						EN 300 390	
						EN 300 471	
						EN 301 166	
						EN 302 561	
<b>70.45 MHz - 74.8 MHz</b>							
FIXED	MOBILE EXCEPT AERONAUTICAL			Defence systems	EU1		Harmonised military band 73.3-74.1 MHz
MOBILE EXCEPT AERONAUTICAL	MOBILE						
MOBILE	Radio Astronomy		ECC/DEC/(06)06	PMR/PAMR		EN 300 086	ML paired with 80.25-84.6 MHz
5.149	5.149	EU2	T/R 25-08			EN 300 113	
5.175		EU4				EN 300 219	
5.177		EU9				EN 300 296	
5.178		EU27				EN 300 341	
5.179						EN 300 390	
						EN 300 471	
						EN 301 166	
						EN 302 561	
				Radio astronomy			Continuum observations (inter alia solar wind monitoring in 73-74.6 MHz)
<b>74.8 MHz - 75.2 MHz</b>							
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION			ILS			Marker beacons
5.180	5.180						
5.181							
<b>75.2 MHz - 77.7 MHz</b>							

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>		<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.175 5.179	MOBILE	EU2	ECC/DEC/(06)06 T/R 25-08	Defence systems PMR/PAMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	ML paired with 85.0-87.5 MHz
<b>77.7 MHz - 77.8 MHz</b>							
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.175	MOBILE	EU2	ECC/DEC/(06)06 T/R 25-08	Defence systems PMR/PAMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Single frequency applications
<b>77.8 MHz - 84.6 MHz</b>							
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.175 5.187	MOBILE	EU2 EU27	ECC/DEC/(06)06 T/R 25-08	Defence systems PMR/PAMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Harmonised military band 79.0-79.7 MHz FB paired with 68-74.8 MHz
<b>84.6 MHz - 85 MHz</b>							

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>		<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.175 5.187	MOBILE	EU2	ECC/DEC/(06)06 T/R 25-08	Defence systems PMR/PAMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Single frequency applications
<b>85 MHz - 87.5 MHz</b>							
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.175 5.187	MOBILE	EU2	ECC/DEC/(06)06 T/R 25-08	Defence systems PMR/PAMR	EU1	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	FB paired with 75.2-77.7 MHz
<b>87.5 MHz - 100 MHz</b>							
BROADCASTING 5.190	BROADCASTING		ERC/REC 70-03	FM sound analogue Wireless audio/ multimedia		EN 302 018 EN 301 357	Geneva Agreement GE84 Within the band 87.5-108.0 MHz
<b>100 MHz - 108 MHz</b>							
BROADCASTING 5.192 5.194	BROADCASTING		ERC/REC 70-03	FM sound analogue Wireless audio/ multimedia		EN 302 018 EN 301 357	Geneva Agreement GE84 Within the band 87.5-108.0 MHz
<b>108 MHz - 117.975 MHz</b>							

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
AERONAUTICAL RADIONAVIGATION 5.197 5.197A	AERONAUTICAL MOBILE (R) AERONAUTICAL RADIONAVIGATION 5.197A		Aeronautical communications  GBAS  ILS  VOR		EN 303 084	Safety and regularity of flights, below 112 MHz limited to ground based data link transmitters  GBAS/VDB within 112-117.975 MHz  Localiser within the band 108-112 MHz  Within the band 108-117.975 MHz
<b>117.975 MHz - 121.45 MHz</b>						
AERONAUTICAL MOBILE (R) 5.200	AERONAUTICAL MOBILE (R) 5.200		Aeronautical communications	EU5	EN 300 676	Safety and regularity of flights
<b>121.45 MHz - 121.55 MHz</b>						
AERONAUTICAL MOBILE (R) 5.111 5.200	AERONAUTICAL MOBILE (R) 5.111 5.200		-  EPIRBs		EN 302 961  EN 300 152	Maritime Personal Homing Beacon for search and rescue purposes  Band only available for distress and safety
<b>121.55 MHz - 136 MHz</b>						
AERONAUTICAL MOBILE (R) 5.200 5.201	AERONAUTICAL MOBILE (R) 5.200 5.201		Aeronautical communications	EU5	EN 300 676	123.1 MHz Aeronautical mobile distress communication
<b>136 MHz - 137 MHz</b>						
AERONAUTICAL MOBILE (R) 5.202	AERONAUTICAL MOBILE (R) 5.202		Aeronautical communications	EU5	EN 300 676	
<b>137 MHz - 137.025 MHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	T/R 25-08	Land mobile			Mobile restricted to Aeronautical Mobile (OR), including air sport
MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208A 5.208B 5.209	MOBILE	ERC/DEC/(99)06	S-PCS	EU6	EN 301 721	Non-geostationary
SPACE OPERATION (SPACE-TO-EARTH)	MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208A 5.208B 5.209		Weather satellites			
SPACE RESEARCH (SPACE-TO-EARTH)	Space Operation (space-to-Earth)					
Fixed	Space Research (space-to-Earth)					
Mobile except aeronautical mobile (R)	5.206					
5.204	5.208					
5.205						
5.206						
5.207						
5.208						

### **137.025 MHz - 137.175 MHz**

METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	T/R 25-08	Land mobile			Mobile restricted to Aeronautical Mobile (OR), including air sport
SPACE OPERATION (SPACE-TO-EARTH)	MOBILE	ERC/DEC/(99)06	S-PCS	EU6	EN 301 721	Non-geostationary
SPACE RESEARCH (SPACE-TO-EARTH)	MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208A 5.208B 5.209		Weather satellites			
Fixed	Space Operation (space-to-Earth)					
Mobile except aeronautical mobile (R)	Space Research (space-to-Earth)					
Mobile-Satellite (space-to-Earth)	5.206					
5.208A 5.208B 5.209	5.208					
5.204						
5.205						
5.206						
5.207						
5.208						

### **137.175 MHz - 137.825 MHz**

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	T/R 25-08	Land mobile			Mobile restricted to Aeronautical Mobile (OR), including air sport
MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208A 5.208B 5.209	MOBILE	ERC/DEC/(99)06	S-PCS	EU6	EN 301 721	Non-geostationary
SPACE OPERATION (SPACE-TO-EARTH)	MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208A 5.208B 5.209		Weather satellites			
SPACE RESEARCH (SPACE-TO-EARTH)	Space Operation (space-to-Earth)					
Fixed	Space Research (space-to-Earth)					
Mobile except aeronautical mobile (R)	5.206					
5.204	5.208					
5.205						
5.206						
5.207						
5.208						
<b>137.825 MHz - 138 MHz</b>						
METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	T/R 25-08	Land mobile			Mobile restricted to Aeronautical Mobile (OR), including air sport
SPACE OPERATION (SPACE-TO-EARTH)	MOBILE	ERC/DEC/(99)06	S-PCS	EU6	EN 301 721	Non-geostationary
SPACE RESEARCH (SPACE-TO-EARTH)	Mobile-Satellite (space-to-Earth) 5.208A 5.208B 5.209		Weather satellites			
Fixed	Space Operation (space-to-Earth)					
Mobile except aeronautical mobile (R)	Space Research (space-to-Earth)					
Mobile-Satellite (space-to-Earth)	5.206					
5.208A 5.208B 5.209	5.208					
5.204						
5.205						
5.206						
5.207						
5.208						
<b>138 MHz - 143.6 MHz</b>						
AERONAUTICAL MOBILE (OR) 5.210	AERONAUTICAL MOBILE (OR)		Defence systems	EU5		Harmonised military band, including air operation control
5.211	LAND MOBILE					
5.212	Space Research (space-to-Earth)	T/R 25-08	Land mobile			The frequencies 138.625, 138.675 MHz and 138.650 MHz are used for existing tracking and asset tracing systems on a national basis
5.214	5.211 EU2 EU27					
		ERC/REC 70-03	Non-specific SRDs		EN 300 220	Within the band 138.20-138.45 MHz

**143.6 MHz - 143.65 MHz**

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
AERONAUTICAL MOBILE (OR) SPACE RESEARCH (SPACE-TO-EARTH) 5.211 5.212 5.214	AERONAUTICAL MOBILE (OR) LAND MOBILE SPACE RESEARCH (SPACE-TO-EARTH) 5.211 EU2 EU27	T/R 25-08	Defence systems  Land mobile	EU5		Harmonised military band, including air operation control
<b>143.65 MHz - 144 MHz</b>						
AERONAUTICAL MOBILE (OR) 5.210 5.211 5.212 5.214	AERONAUTICAL MOBILE (OR) LAND MOBILE 5.211 EU2 EU27	T/R 25-08	Defence systems  Land mobile	EU5		Harmonised military band, including air operation control
<b>144 MHz - 146 MHz</b>						
AMATEUR AMATEUR-SATELLITE 5.216	AMATEUR AMATEUR-SATELLITE		Amateur  Amateur-satellite		EN 301 783	
<b>146 MHz - 146.8 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R)	MOBILE	ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Single frequency applications
<b>146.8 MHz - 148 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R)	MOBILE	ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	ML-paired with 151.4-152.6 MHz



<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>148 MHz - 148.4 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) MOBILE-SATELLITE (EARTH-TO-SPACE) 5.209 5.218 5.219 5.221	MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) 5.209 5.218 5.219 5.221	ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	ML paired with 152.6-153.0 MHz
		ERC/DEC/(99)06	S-PCS	EU6	EN 301 721	Non-geostationary
<b>148.4 MHz - 149.9 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) MOBILE-SATELLITE (EARTH-TO-SPACE) 5.209 5.218 5.219 5.221	MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) 5.209 5.218 5.219 5.221	ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	ML paired with 153.0-154.5 MHz
		ERC/DEC/(99)06	S-PCS	EU6	EN 301 721	Non-geostationary
<b>149.9 MHz - 150.05 MHz</b>						
MOBILE-SATELLITE (EARTH-TO-SPACE) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.224B 5.220 5.222 5.223	MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.224B 5.220 5.222 5.223	ECC/DEC/(06)06 T/R 25-08	PMR/PAMR		EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Single frequency applications
		ERC/DEC/(99)06	S-PCS	EU6	EN 301 721	Non-geostationary
<b>150.05 MHz - 153 MHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY 5.149	MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY 5.149	ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	150.05-151.4 MHz ML paired with 154.65-156.0 MHz, 151.4-153 MHz, FB paired with 146.8-148.4 MHz
			Radio astronomy			Continuum observations (inter-alia solar research)

### 153 MHz - 154 MHz

FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) Meteorological Aids	MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.226	ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	FB paired with 148.4-149.4 MHz
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### 154 MHz - 156.4875 MHz

FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.225A 5.226	MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.226		Maritime communications	EU8	EN 300 162 EN 300 698 EN 301 025 EN 301 178 EN 301 929	RR Appendix 18
		ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	154-154.5 MHz FB paired with 149.4-149.9 MHz, 154.5-154.65 MHz single frequency appl. 154.65-156 MHz, FB paired with 150.05-151.4 MHz

### 156.4875 MHz - 156.5125 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
MARITIME MOBILE (DISTRESS AND CALLING VIA DSC) 5.226 5.227	MARITIME MOBILE (DISTRESS AND CALLING VIA DSC) 5.226 5.227		Maritime communications	EU7 EU8	EN 300 162 EN 300 698 EN 301 025 EN 301 178 EN 301 929	RR Appendix 18
<b>156.5125 MHz - 156.5375 MHz</b>						
MARITIME MOBILE (DISTRESS AND CALLING VIA DSC) 5.111 5.226	MARITIME MOBILE (DISTRESS AND CALLING VIA DSC) 5.111 5.226		DSC		EN 301 025 EN 301 929	RR Appendix 18. Distress, safety and calling 156.525 MHz
<b>156.5375 MHz - 156.5625 MHz</b>						
MARITIME MOBILE (DISTRESS AND CALLING VIA DSC) 5.226 5.227	MARITIME MOBILE (DISTRESS AND CALLING VIA DSC) MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.226 5.227		Maritime communications	EU7 EU8	EN 300 162 EN 300 698 EN 301 025 EN 301 178 EN 301 929	RR Appendix 18
<b>156.5625 MHz - 156.7625 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.226	MOBILE EXCEPT AERONAUTICAL MOBILE (R) 5.226		Maritime communications	EU7 EU8	EN 300 162 EN 300 698 EN 301 025 EN 301 178 EN 301 929	RR Appendix 18
<b>156.7625 MHz - 156.7875 MHz</b>						
MARITIME MOBILE Mobile-Satellite (Earth-to-space) 5.111 5.226 5.228	MARITIME MOBILE (DISTRESS AND CALLING) 5.111 5.226 5.228		Maritime communications		EN 301 929	RR Appendix 18. Satellite AIS Earth-to-space
<b>156.7875 MHz - 156.8125 MHz</b>						
MARITIME MOBILE (DISTRESS AND CALLING) 5.111 5.226	MARITIME MOBILE (DISTRESS AND CALLING) 5.111 5.226		Maritime communications		EN 300 162	RR Appendix 18. Distress, safety and calling 156.8 MHz for the maritime mobile VHF radiotelephone service

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>156.8125 MHz - 156.8375 MHz</b>						
MARITIME MOBILE Mobile-Satellite (Earth-to-space) 5.111 5.226 5.228	MARITIME MOBILE 5.111 5.226 5.228		Maritime communications		EN 301 929	RR Appendix 18. Satellite AIS Earth-to-space
<b>156.8375 MHz - 161.9625 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.226	MOBILE EXCEPT AERONAUTICAL MOBILE 5.226		Maritime communications	EU7 EU8	EN 300 162 EN 300 698 EN 301 025 EN 301 178 EN 301 929	RR Appendix 18
		ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	
<b>161.9625 MHz - 161.9875 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE Mobile-Satellite (Earth-to-space) 5.228F 5.226 5.228A 5.228B	MOBILE EXCEPT AERONAUTICAL MOBILE 5.226	ERC/DEC/(99)17	AIS		EN 303 098	161.975 MHz
			Maritime communications	EU7 EU8	EN 300 162 EN 300 698 EN 301 025 EN 301 178 EN 301 929	RR Appendix 18
<b>161.9875 MHz - 162.0125 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.226 5.229	MOBILE EXCEPT AERONAUTICAL MOBILE 5.226		Maritime communications	EU7 EU8	EN 300 162 EN 300 698 EN 301 025 EN 301 178 EN 301 929	RR Appendix 18
<b>162.0125 MHz - 162.0375 MHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE Mobile-Satellite (Earth-to-space) 5.228F 5.226 5.228A 5.228B 5.229	MOBILE EXCEPT AERONAUTICAL MOBILE 5.226	ERC/DEC/(99)17	AIS  Maritime communications	  EU7 EU8	EN 303 098  EN 300 162 EN 300 698 EN 301 025 EN 301 178 EN 301 929	162.025 MHz  RR Appendix 18
<b>162.0375 MHz - 174 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.226 5.229	MOBILE EXCEPT AERONAUTICAL MOBILE	ECC/DEC/(05)02 ERC/REC 70-03	Aids for hearing impaired		EN 300 422	The bands 169.400-169.475 MHz; and 169.4875-169.5875; and within the band 169.4-174.0 MHz on a tuning range basis
		ECC/DEC/(05)02 ERC/REC 70-03	Meter reading		EN 300 220	Within the band 169.400-169.475 MHz
		ECC/DEC/(05)02 ERC/REC 70-03	Non-specific SRDs		EN 300 220	Within the band 169.4-169.8125 MHz
		ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Single frequency applications 165.225-169.4 MHz ML paired with 169.825-174.0 MHz, 162.05-165.2 MHz: FB paired with 157.45-160.6 MHz. The frequency 164.175 MHz is used for existing tracking and asset tracing systems on a national basis. 169.825-174 MHz FB paired with 165.225-169.4 MHz
<b>174 MHz - 216 MHz</b>						
BROADCASTING 5.235 5.237	BROADCASTING LAND MOBILE 5.235	ECC/DEC/(05)02 ERC/REC 70-03	Aids for hearing impaired		EN 300 422	Within the band 173.965-174.015 MHz
			Broadcasting (terrestrial)		EN 302 077 EN 302 296 EN 302 297 EN 302 998	Geneva Agreement 2006. TV Broadcasting, T-DAB
		ERC/REC 70-03	Radio microphones and ALD		EN 300 422	On a tuning range basis

## 216 MHz - 223 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
BROADCASTING 5.235 5.237 5.243	BROADCASTING 5.235		Broadcasting (terrestrial)		EN 302 077 EN 302 296 EN 302 297 EN 302 998	Geneva Agreement 2006. TV Broadcasting, T-DAB
<b>223 MHz - 225 MHz</b>						
BROADCASTING Fixed Mobile 5.243 5.246 5.247	BROADCASTING		Broadcasting (terrestrial)		EN 302 077 EN 302 296 EN 302 297 EN 302 998	Geneva Agreement 2006. TV Broadcasting, T-DAB
<b>225 MHz - 230 MHz</b>						
BROADCASTING Fixed Mobile 5.246 5.247	BROADCASTING Land Mobile	EU10	Broadcasting (terrestrial)		EN 302 077 EN 302 296 EN 302 297 EN 302 998	Geneva Agreement 2006. This band is within the military tuning range 225-400 MHz. Sharing with defence on national basis. TV Broadcasting, T-DAB
<b>230 MHz - 235 MHz</b>						
FIXED MOBILE 5.247 5.251 5.252	MOBILE	EU10 EU27	Defence systems  T-DAB		EN 302 077	Harmonised military band  T-DAB sharing with defence on a national basis. Wiesbaden 1995 Special Arrangement, as revised in Constanta, 2007
<b>235 MHz - 240 MHz</b>						
FIXED MOBILE 5.252 5.254	MOBILE 5.254	EU10 EU27	Defence systems  T-DAB		EN 302 077	Harmonised military band  T-DAB sharing with defence on a national basis. Wiesbaden 1995 Special Arrangement, as revised in Constanta, 2007
<b>240 MHz - 242.95 MHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED MOBILE 5.111 5.254 5.256	MOBILE 5.254	EU10 EU27	Defence systems		EN 302 617	Harmonised military band. Air traffic control
<b>242.95 MHz - 243.05 MHz</b>						
FIXED MOBILE 5.111 5.254 5.256	AERONAUTICAL MOBILE 5.111 5.254 5.256		EPIRBs		EN 300 152	Band only available for distress and safety purposes 243.0 MHz
<b>243.05 MHz - 267 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.111 5.252 5.254 5.256 5.256A	MOBILE 5.254	EU10 EU27	Defence systems		EN 302 617	Harmonised military band. Air traffic control
<b>267 MHz - 272 MHz</b>						
FIXED MOBILE Space Operation (space-to-Earth) 5.254 5.257	MOBILE 5.254 5.257	EU10 EU27	Defence systems		EN 302 617	Harmonised military band. Air traffic control
<b>272 MHz - 273 MHz</b>						
FIXED MOBILE SPACE OPERATION (SPACE-TO-EARTH) 5.254	MOBILE 5.254	EU10 EU27	Defence systems		EN 302 617	Harmonised military band. Air traffic control
<b>273 MHz - 312 MHz</b>						
FIXED MOBILE 5.254	MOBILE 5.254	EU10 EU27	Defence systems		EN 302 617	Harmonised military band. Air traffic control

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>312 MHz - 315 MHz</b>						
FIXED	MOBILE					
MOBILE	5.254	EU10	Defence systems		EN 302 617	Harmonised military band. Air traffic control
Mobile-Satellite (Earth-to-space)	5.255	EU27				
5.254 5.255						
<b>315 MHz - 322 MHz</b>						
FIXED	MOBILE					
MOBILE	5.254	EU10	Defence systems		EN 302 617	Harmonised military band. Air traffic control
5.254		EU27				
<b>322 MHz - 328.6 MHz</b>						
FIXED	MOBILE					
MOBILE	RADIO ASTRONOMY		Defence systems			Harmonised military band
RADIO ASTRONOMY	5.149	EU10	Radio astronomy			Continuum and spectral line observations (e.g. deuterium), VLBI
5.149		EU27				
<b>328.6 MHz - 335.4 MHz</b>						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION					
5.258	5.258	EU2	ILS			Glide path
5.259						
<b>335.4 MHz - 380 MHz</b>						
FIXED	MOBILE					
MOBILE	5.254	EU10	Defence systems	EU7	EN 302 617	Harmonised military band. Air traffic control
5.254		EU27				
<b>380 MHz - 385 MHz</b>						



<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>		<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE 5.254	MOBILE 5.254	EU2 EU10 EU27	ECC/DEC/(06)05 ECC/DEC/(08)05 ERC/DEC/(01)19 T/R 25-08	Defence systems  PPDR		EN 300 113 EN 300 390 EN 302 561	Harmonised military band  Within the bands 384.8-385.0 and 394.8-395.0 MHz for AGA emergency 384.750-384.800 MHz and 394.750-394.800 MHz may be used as preferred extension bands. Within the bands 380-380.15 and 390-390.15 MHz for DMO emergency. ML paired with 390.0-395.0 MHz. PPDR (Emergency services) sharing with defence applications. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05
<b>385 MHz - 387 MHz</b>							
FIXED MOBILE 5.254	MOBILE 5.254	EU2 EU10 EU27	T/R 25-08	Defence systems  PMR/PAMR		EN 300 113 EN 300 390 EN 301 166 EN 302 561	Harmonised military band  Digital land mobile PMR/PAMR. ML paired with 395-397 MHz. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05
<b>387 MHz - 390 MHz</b>							
FIXED MOBILE Mobile-Satellite (space-to-Earth) 5.208A 5.254 5.255 5.208B	MOBILE	EU2 EU10 EU27	T/R 25-08	Defence systems  PMR/PAMR		EN 300 113 EN 300 390 EN 301 166 EN 302 561	Harmonised military band  Digital land mobile PMR/PAMR. ML paired with 397.0-399.9 MHz. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05
<b>390 MHz - 395 MHz</b>							
FIXED MOBILE 5.254	MOBILE 5.254	EU2 EU10 EU27	ECC/DEC/(06)05 ECC/DEC/(08)05 ERC/DEC/(01)19 T/R 25-08	Defence systems  PPDR		EN 300 113 EN 300 390 EN 302 561	Harmonised military band. PPDR (Emergency services) sharing with defence applications  Within the bands 384.8-385.0 and 394.8-395.0 MHz for AGA emergency 384.750-384.800 MHz and 394.750-394.800 MHz may be used as preferred extension bands. Within the bands 380-380.15 and 390-390.15 MHz for DMO emergency. FB paired with 380-385 MHz. PPDR (Emergency services) sharing with defence applications. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>395 MHz - 399.9 MHz</b>						
FIXED MOBILE 5.254	MOBILE 5.254 EU2 EU10 EU27	T/R 25-08	Defence systems PMR/PAMR		EN 300 113 EN 301 166 EN 302 561	Harmonised military band Digital land mobile PMR/PAMR. FB paired with 385.0-389.9 MHz.PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05
<b>399.9 MHz - 400.05 MHz</b>						
MOBILE-SATELLITE (EARTH-TO-SPACE) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.222 5.224B 5.260 5.220	MOBILE-SATELLITE (EARTH-TO-SPACE) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.222 5.224B 5.260 5.220	ECC/DEC/(08)05	PPDR			
<b>400.05 MHz - 400.15 MHz</b>						
STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz) 5.261 5.262	STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz) 5.261 5.262	ECC/DEC/(08)05	PPDR			
<b>400.15 MHz - 401 MHz</b>						
METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) 5.208A 5.208B 5.209 SPACE RESEARCH (SPACE-TO-EARTH) 5.263 Space Operation (space-to-Earth) 5.262 5.264	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) 5.208A 5.208B 5.209 SPACE OPERATION (SPACE-TO-EARTH) 5.263 SPACE RESEARCH (SPACE-TO-EARTH) 5.262 5.264	ECC/DEC/(08)05 ERC/DEC/(99)06	PPDR S-PCS Sondes Weather satellites		EN 301 721 EN 302 054	Non-geostationary
<b>401 MHz - 402 MHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
EARTH EXPLORATION-SATELLITE (EARTH-TO-SPACE) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (EARTH-TO-SPACE) SPACE OPERATION (SPACE-TO-EARTH) Fixed Mobile except aeronautical mobile	EARTH EXPLORATION-SATELLITE (EARTH-TO-SPACE) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (EARTH-TO-SPACE) EU2	ERC/DEC/(01)17	Active medical implants  Sondes  Weather satellites		EN 302 537  EN 302 054	ULP-AMI within the band 401-406 MHz   Data collection platform telemetry
<b>402 MHz - 403 MHz</b>						
EARTH EXPLORATION-SATELLITE (EARTH-TO-SPACE) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (EARTH-TO-SPACE) Fixed Mobile except aeronautical mobile	EARTH EXPLORATION-SATELLITE (EARTH-TO-SPACE) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (EARTH-TO-SPACE) EU2	ERC/DEC/(01)17	Active medical implants  Sondes  Weather satellites		EN 301 839  EN 302 054	ULP-AMI within the band 401-406 MHz   Data collection platform telemetry
<b>403 MHz - 405 MHz</b>						
METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile	METEOROLOGICAL AIDS EU2	ERC/DEC/(01)17	Active medical implants  Sondes		EN 301 839  EN 302 054	ULP-AMI within the band 401-406 MHz
<b>405 MHz - 406 MHz</b>						
METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile	METEOROLOGICAL AIDS EU2	ERC/DEC/(01)17	Active medical implants  Sondes		EN 302 537  EN 302 054	ULP-AMI within the band 401-406 MHz
<b>406 MHz - 406.1 MHz</b>						
MOBILE-SATELLITE (EARTH-TO-SPACE) 5.266 5.267	MOBILE-SATELLITE (EARTH-TO-SPACE) 5.266 5.267		EPIRBs		EN 300 066 EN 302 152	Band only available for distress and safety purposes

#### **406.1 MHz - 410 MHz**

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY 5.149	LAND MOBILE RADIO ASTRONOMY 5.149	ECC/DEC/(06)06 T/R 25-08	PMR/PAMR		EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Single frequency applications. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05
			Radio astronomy			Continuum observations, VLBI

### 410 MHz - 420 MHz

FIXED MOBILE EXCEPT AERONAUTICAL MOBILE SPACE RESEARCH (SPACE-TO-SPACE) 5.268	MOBILE EXCEPT AERONAUTICAL MOBILE	ECC/DEC/(04)06 ECC/DEC/(06)06 T/R 25-08	PMR/PAMR		EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 301 449 EN 301 526 EN 302 426 EN 302 561	ML paired with 420-430 MHz. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05
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### 420 MHz - 430 MHz

FIXED MOBILE EXCEPT AERONAUTICAL MOBILE Radiolocation 5.269 5.270 5.271	MOBILE EXCEPT AERONAUTICAL MOBILE Radiolocation	ECC/DEC/(04)06 ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 301 449 EN 301 526 EN 302 426 EN 302 561	FB paired with 410-420 MHz. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05
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### 430 MHz - 432 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
AMATEUR RADIOLOCATION 5.271 5.274 5.275 5.276 5.277	AMATEUR RADIOLOCATION 5.277 EU2 EU12		Amateur		EN 301 783	
<b>432 MHz - 433.05 MHz</b>						
AMATEUR RADIOLOCATION Earth Exploration-Satellite (active) 5.279A 5.138 5.271 5.276 5.277 5.280	AMATEUR RADIOLOCATION Earth Exploration-Satellite (active) 5.279A 5.277 EU2 EU12		Active sensors (satellite)			The use of this band by sensors in the EESS (active) shall be in accordance with Recommendation ITU-R SA 1260-1
			Amateur		EN 301 783	
<b>433.05 MHz - 434.79 MHz</b>						
AMATEUR RADIOLOCATION Earth Exploration-Satellite (active) 5.279A 5.138 5.271 5.276 5.277 5.280 5.281	AMATEUR RADIOLOCATION Earth Exploration-Satellite (active) 5.279A Land Mobile 5.138 EU2 5.277 EU12 5.280		Active sensors (satellite)			The use of this band by sensors in the EESS (active) shall be in accordance with Recommendation ITU-R SA 1260-1
			Amateur		EN 301 783	
			ISM			
		ERC/REC 70-03	Non-specific SRDs		EN 300 220	
<b>434.79 MHz - 438 MHz</b>						
AMATEUR RADIOLOCATION Earth Exploration-Satellite (active) 5.279A 5.138 5.271 5.276 5.277 5.280 5.282	AMATEUR AMATEUR-SATELLITE RADIOLOCATION Earth Exploration-Satellite (active) 5.279A 5.277 EU2 EU12		Active sensors (satellite)			The use of this band by sensors in the EESS (active) shall be in accordance with Recommendation ITU-R SA 1260-1
			Amateur		EN 301 783	Amateur Satellite Service restricted to 435-438 MHz
			Amateur-satellite			

#### **438 MHz - 440 MHz**

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
AMATEUR RADIOLOCATION 5.271 5.274 5.275 5.276 5.277 5.283	AMATEUR RADIOLOCATION 5.277	EU2 EU12	Amateur		EN 301 783	
<b>440 MHz - 450 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE Radiolocation 5.269 5.270 5.271 5.284 5.285 5.286	MOBILE EXCEPT AERONAUTICAL MOBILE Radiolocation	ECC/DEC/(05)12 ERC/DEC/(98)25	On-site paging  PMR 446		EN 300 224  EN 300 113 EN 300 296 EN 301 166	Call-out & answer-back  Analogue PMR-446 in 446-446.1 MHz. Digital PMR-446 in 446.1-446.2 MHz
		ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 302 561	Single frequency operation. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05. Wide area paging on a tuning range basis in 440-470 MHz such as NP2M
			Wind profilers			Geographical sharing with other services
<b>450 MHz - 455 MHz</b>						
FIXED MOBILE 5.286AA 5.209 5.271 5.286 5.286A 5.286B 5.286C 5.286D 5.286E	MOBILE	ECC/DEC/(04)06 ECC/DEC/(06)06 T/R 25-08	On-site paging  PMR/PAMR	EU34 EU7	EN 300 224  EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 301 449 EN 301 526 EN 302 426 EN 302 561	Call-out & answer-back  ML paired with 460-465 MHz. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05. Wide area paging on a tuning range basis in 440-470 MHz such as NP2M
<b>455 MHz - 456 MHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE 5.286AA 5.209 5.271 5.286A 5.286B 5.286C 5.286E	MOBILE	T/R 25-08	Land mobile			Existing public cellular networks
			On-site paging		EN 300 224	Call-out & answer-back
		ECC/DEC/(04)06 ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU34 EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 301 449 EN 301 526 EN 302 426 EN 302 561	ML paired with 465-466 MHz. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05. Wide area paging on a tuning range basis in 440-470 MHz such as NP2M

#### 456 MHz - 459 MHz

FIXED MOBILE 5.286AA 5.271 5.287 5.288	MOBILE 5.287	T/R 25-08	Land mobile			Existing public cellular networks
		T/R 32-02	On-board communications		EN 300 720	Within the band 457.525-467.575 MHz
			On-site paging		EN 300 224	Call-out & answer-back
		ECC/DEC/(04)06 ECC/DEC/(06)06 T/R 25-08	PMR/PAMR	EU34 EU7	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166 EN 301 449 EN 301 526 EN 302 426 EN 302 561	ML paired with 466-469 MHz. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05. Wide area paging on a tuning range basis in 440-470 MHz such as NP2M

#### 459 MHz - 460 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED	MOBILE	T/R 25-08	Land mobile			Existing public cellular networks
MOBILE 5.286AA						
5.209		T/R 32-02	On-board communications		EN 300 720	Within the band 457.525-467.575 MHz
5.271			On-site paging		EN 300 224	Call-out & answer-back
5.286A			PMR/PAMR	EU7	EN 300 086	ML paired with 469-470 MHz. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05. Wide area paging on a tuning range basis in 440-470 MHz such as NP2M
5.286B		ECC/DEC/(04)06			EN 300 113	
5.286C		ECC/DEC/(06)06			EN 300 219	
5.286E	T/R 25-08			EN 300 296		
				EN 300 341		
				EN 300 390		
				EN 300 471		
				EN 301 166		
				EN 301 449		
				EN 301 526		
				EN 302 426		
				EN 302 561		

#### 460 MHz - 470 MHz

FIXED	MOBILE	T/R 25-08	Land mobile			Existing public cellular networks
MOBILE			5.287			
Meteorological-Satellite (space-to-Earth)	5.289		Meteorological aids (military)			
5.287		T/R 32-02	On-board communications		EN 300 720	Within the band 457.525-467.575 MHz
5.288			On-site paging		EN 300 224	Call-out & answer-back
5.289			PMR/PAMR	EU34 EU7	EN 300 086	FB paired with 450-460 MHz. PPDR on a tuning range basis in 380-470 MHz range according to ECC/DEC/(08)05. Wide area paging on a tuning range basis in 440-470 MHz such as NP2M
5.290		ECC/DEC/(04)06			EN 300 113	
		ECC/DEC/(06)06			EN 300 219	
		T/R 25-08			EN 300 296	
					EN 300 341	
					EN 300 390	
					EN 300 471	
					EN 301 166	
					EN 301 449	
					EN 301 526	
					EN 302 426	
					EN 302 561	
			Space research			Allocation to EESS is via RR 5.289. Data collection platform telecommand. Geographical sharing with other services



<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>470 MHz - 790 MHz</b>						
BROADCASTING	BROADCASTING		Broadcasting (terrestrial)		EN 302 296 EN 302 297 EN 302 998	Geneva Agreement 2006. TV Broadcasting
5.149	5.149 EU13					
5.291A	5.291A					
5.294	5.296					
5.296	5.306		PMSE			Mobile applications restricted to SAB/SAP including radio microphones
5.300	5.311A					
5.304			Radio astronomy			Continuum observations, VLBI
5.306						
5.311A						
5.312		ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 470-789 MHz on a tuning range basis
5.312A			Wind profilers			Limited to the band 470-494 MHz. Geographical sharing with other services

### **790 MHz - 862 MHz**

BROADCASTING	BROADCASTING		-			This band is planned for future mobile applications, based on the RR provisions
FIXED	MOBILE EXCEPT AERONAUTICAL					
MOBILE EXCEPT AERONAUTICAL	MOBILE					
MOBILE 5.316B 5.317A	5.312 EU2		Broadcasting (terrestrial)		EN 302 296 EN 302 297 EN 302 998	Geneva Agreement 2006. TV Broadcasting
5.312	5.316 EU13					
5.314	5.316A					
5.315			Defence systems			Tactical links
5.316						
5.316A						
5.319		ECC/DEC/(09)03 ECC/DEC/(11)04	MFCN			
			PMSE			SAP/SAB Radio Microphones
		ERC/REC 70-03	Radio microphones and ALD		EN 300 422	Within the band 823-832 MHz

### **862 MHz - 890 MHz**

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>		<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
BROADCASTING 5.322 FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.317A 5.319 5.323	MOBILE 5.317A 5.323	EU2 EU13 EU29		-			This band is identified for IMT in the RRs, but within CEPT this band is not planned for the harmonised introduction of IMT
			ERC/REC 70-03	Aids for hearing impaired Alarms Defence systems		EN 300 220	Within the band 868.6-869.700 MHz  Within the bands 870-876 MHz paired with 915-921 MHz. Identified as preferred bands for TRR, in particular for cross-border operations. In countries where these bands are or will be in civil use according to ERC/ECC Decisions (e.g. digital PMR/PAMR), shared use of the bands should be considered on a national basis. Other sub-bands within the tuning range 610-960 MHz may also be used on a national basis according to the national requirements
			ECC/REC/(05)08 ECC/REC/(08)02 ERC/DEC/(97)02	GSM	EU32	EN 300 609 EN 301 502 EN 301 511	Within the band 880-890 MHz paired with 925.935 MHz
			ECC/DEC/(02)05 ECC/REC/(05)08	GSM-R		EN 301 502 EN 301 511	Within the band 876-880 MHz paired with 921-925 MHz. Railway systems
			ECC/DEC/(06)13 ECC/REC/(08)02	IMT		EN 301 908	
			ECC/DEC/(08)08	MCV			
			ERC/REC 70-03	Non-specific SRDs		EN 300 220	Within the band 863-876 MHz
			ECC/DEC/(02)05 ECC/DEC/(04)06 T/R 25-08	PMR/PAMR		EN 301 166 EN 301 449 EN 301 526 EN 302 426 EN 302 561	Within the band 870-876 MHz paired with 915-921 MHz
			ERC/REC 70-03	RFID		EN 302 208	Within the band 865-868 MHz
			ERC/REC 70-03	Radio microphones and ALD		EN 300 422 EN 301 357	Within the band 863-865 MHz
			ERC/REC 70-03	TTT		EN 300 220	Within the band 870-875.8 MHz
			ERC/REC 70-03	Tracking, tracing and data acquisition			Within the band 870-875.6 MHz for Metropolitan/ Rural Area Networks
			ERC/REC 70-03	Wireless audio/multimedia		EN 300 220 EN 301 357	Within the band 863-865 MHz. Narrow band analogue voice devices within the band 864.8-865.0 MHz

**890 MHz - 942 MHz**

BROADCASTING 5.322  
FIXED  
MOBILE EXCEPT AERONAUTICAL  
MOBILE 5.317A  
Radiolocation  
5.323

MOBILE  
Radiolocation  
5.317A EU2  
5.323 EU13  
EU14  
EU29

-

Defence systems

EU30

The band 915-925 MHz is identified for IMT in the RRs, but within CEPT this band is not planned for the harmonised introduction of IMT

The bands 870-876 MHz and 915-921 MHz are identified as preferred band for TRR, in particular for cross-border operations. In countries where these bands are or will be in civil use according to ERC/ECC Decisions (e.g. digital PMR/PAMR), shared use of the bands should be considered on a national basis. Other sub-bands within the tuning range 610-960 MHz may also be used on a national basis according to the national requirements

ECC/REC/(05)08  
ECC/REC/(08)02  
ERC/DEC/(94)01  
ERC/DEC/(97)02

GSM

EU30  
EU32

EN 300 609  
EN 301 502  
EN 301 511

Within the band 890-915 MHz paired with 935-960 MHz

ECC/DEC/(02)05  
ECC/REC/(05)08

GSM-R

EN 301 502  
EN 301 511

Within the bands 876-880 MHz paired with 921-925 MHz

ECC/DEC/(06)13  
ECC/REC/(05)08  
ECC/REC/(08)02

IMT

EU30

EN 301 908

ECC/DEC/(08)08

MCV

ERC/REC 70-03

Non-specific SRDs

EN 300 220

Within the band 915-921 MHz

ECC/DEC/(02)05  
ECC/DEC/(04)06  
T/R 25-08

PMR/PAMR

EN 301 449  
EN 301 526  
EN 302 426  
EN 302 561

Within the band 870-876 MHz paired with 915-921 MHz

ERC/REC 70-03

RFID

EN 302 208

Within the band 915-921 MHz

ERC/REC 70-03

Radio microphones and  
ALD

EN 300 422

Indoor Digital Assistive Listening Device Systems within the band 915-921 MHz

**942 MHz - 960 MHz**

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
BROADCASTING 5.322 FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.317A 5.323	MOBILE 5.317A EU13 5.323 EU29	ECC/REC/(05)08 ECC/REC/(08)02 ERC/DEC/(94)01  ECC/DEC/(06)13 ECC/REC/(05)08 ECC/REC/(08)02  ECC/DEC/(08)08	GSM   IMT  MCV	EU32	EN 300 609 EN 301 502 EN 301 511  EN 301 908	FB paired with 897-915 MHz

### 960 MHz - 1164 MHz

AERONAUTICAL MOBILE (R) 5.327A AERONAUTICAL RADIONAVIGATION 5.328	AERONAUTICAL MOBILE (R) 5.327A AERONAUTICAL RADIONAVIGATION 5.328		Aeronautical navigation			Including DME, JTIDS, MIDS, SSR, TACAN
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### 1164 MHz - 1215 MHz

AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO- SPACE) 5.328B 5.328A	AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO- SPACE) 5.328B 5.328A	ECC/REC/(10)02	Aeronautical navigation  GALILEO  GLONASS  GNSS Repeater			Including DME, JTIDS, MIDS, SSR, TACAN  Within the band 1164-1214 MHz  Within the band 1190.3-1213.8 MHz  Within the band 1164-1300 MHz
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### 1215 MHz - 1240 MHz

EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO- SPACE) 5.328B 5.329 5.329A SPACE RESEARCH (ACTIVE) 5.330 5.331 5.332	EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO- SPACE) 5.328B 5.329 5.329A SPACE RESEARCH (ACTIVE) 5.331 EU2 5.332	ECC/REC/(10)02	Active sensors (satellite)  Defence systems  GLONASS  GNSS Repeater  GPS  Radiolocation (civil)			Within the band 1237.8-1253.8 MHz  Within the band 1164-1300 MHz  Within the band 1215.6-1239.6 MHz  Radar and Navigation systems
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### 1240 MHz - 1260 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.328B 5.329 5.329A SPACE RESEARCH (ACTIVE) Amateur 5.282 5.330 5.331 5.332 5.335	EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.328B 5.329 5.329A SPACE RESEARCH (ACTIVE) Amateur 5.331 EU2 5.332	ECC/REC/(10)02	Active sensors (satellite) Amateur Defence systems GLONASS GNSS Repeater Radiolocation (civil)		EN 301 783 EN 302 645	Within the band 1237.8-1253.8 MHz Within the band 1164-1300 MHz Radar and Navigation systems

### 1260 MHz - 1270 MHz

EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.328B 5.329 5.329A SPACE RESEARCH (ACTIVE) Amateur 5.282 5.330 5.331 5.335 5.335A	EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.328B 5.329 5.329A SPACE RESEARCH (ACTIVE) Amateur Amateur-Satellite 5.282 EU2 5.331 5.335A	ECC/REC/(10)02	Active sensors (satellite) Amateur Amateur-satellite Defence systems GALILEO GNSS Repeater Radiolocation (civil)		EN 301 783 EN 302 645	Within the band 1260-1300 MHz Within the band 1164-1300 MHz Radar and Navigation systems
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### 1270 MHz - 1300 MHz

EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.328B 5.329 5.329A SPACE RESEARCH (ACTIVE) Amateur 5.330 5.331 5.335 5.335A	EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.328B 5.329 5.329A SPACE RESEARCH (ACTIVE) Amateur 5.331 EU2 5.335A	ECC/REC/(10)02	Active sensors (satellite) Amateur Defence systems GALILEO GNSS Repeater Radiolocation (civil) Wind profilers		EN 301 783 EN 302 645	Within the band 1260-1300 MHz Within the band 1164-1300 MHz Radar and Navigation systems Within the band 1270-1295 MHz
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### 1300 MHz - 1350 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
AERONAUTICAL RADIONAVIGATION 5.337	AERONAUTICAL RADIONAVIGATION 5.337		Defence systems			
RADIOLOCATION RADIONAVIGATION-SATELLITE (EARTH-TO-SPACE) 5.149 5.337A	RADIOLOCATION RADIONAVIGATION-SATELLITE (EARTH-TO-SPACE) 5.149 EU2 5.337A		Radio astronomy			Continuum and spectral line observations (e.g. neutral hydrogen line). VLBI
			Radiolocation (civil)			Radar and Navigation systems
			Satellite navigation systems			
<b>1350 MHz - 1400 MHz</b>						
FIXED MOBILE RADIOLOCATION 5.149 5.338 5.338A 5.339	FIXED MOBILE RADIOLOCATION 5.149 EU2 5.338A EU15 5.339	T/R 13-01	Defence systems	EU15A		
			Fixed		EN 302 217	Low capacity fixed links
			Radio astronomy			Continuum and spectral line observations (e.g. neutral hydrogen line). VLBI
<b>1400 MHz - 1427 MHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341	ECC/DEC/(11)01	Passive sensors (satellite)			Measurement of soil moisture, salinity, ocean surface temperature, vegetation index
			Radio astronomy			Continuum and spectral line observations (e.g. neutral hydrogen line). VLBI
<b>1427 MHz - 1429 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE SPACE OPERATION (EARTH-TO-SPACE) 5.338A 5.341	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE SPACE OPERATION (EARTH-TO-SPACE) 5.338A EU2 5.341 EU15	T/R 13-01	Defence systems	EU15A		
			Fixed		EN 302 217	Low capacity fixed links
<b>1429 MHz - 1452 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.338A 5.341 5.342	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.338A EU2 5.341 EU15	T/R 13-01	Defence systems	EU15A		
			Fixed		EN 302 217	Low capacity fixed links

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>1452 MHz - 1492 MHz</b>						
BROADCASTING BROADCASTING-SATELLITE 5.208B FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.341 5.342 5.345	BROADCASTING BROADCASTING-SATELLITE 5.208B MOBILE EXCEPT AERONAUTICAL MOBILE Fixed 5.341 5.342 5.345	ECC/DEC/(13)03	MFCN  T-DAB			Supplemental Downlink  Within the band 1452.0-1479.5 MHz. Maastricht 2002 Special Arrangement, as revised in Constanta, 2007
<b>1492 MHz - 1518 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.341 5.342	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.341 EU2 EU15	T/R 13-01  ERC/REC 70-03	Defence systems  Fixed  Radio microphones and ALD	EU15A		EN 302 217 Low capacity fixed links EN 300 422 On a tuning range basis
<b>1518 MHz - 1525 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH) 5.348 5.348A 5.348B 5.351A 5.341 5.342	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH) 5.348 5.348A 5.348B 5.351A 5.341 EU2 EU15	ECC/DEC/(04)09	Defence systems  Fixed  IMT-2000 satellite component  MSS Earth stations	EU15A		EN 302 217 Unidirectional fixed links   EN 301 444 EN 301 473 EN 301 681
<b>1525 MHz - 1530 MHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208B 5.351A SPACE OPERATION (SPACE-TO-EARTH) Earth Exploration-Satellite Mobile except aeronautical mobile 5.349 5.341 5.342 5.350 5.351 5.352A 5.354	FIXED MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208B 5.351A SPACE OPERATION (SPACE-TO-EARTH) 5.341 5.351 5.354		Fixed  IMT-2000 satellite component  MSS Earth stations		EN 302 217   EN 301 426 EN 301 444 EN 301 473 EN 301 681	Unidirectional fixed links
<b>1530 MHz - 1533 MHz</b>						
MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208B 5.351A 5.353A SPACE OPERATION (SPACE-TO-EARTH) Earth Exploration-Satellite Fixed Mobile except aeronautical mobile 5.341 5.342 5.351 5.354	MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208B 5.351A 5.353A SPACE OPERATION (SPACE-TO-EARTH) Earth Exploration-Satellite Fixed Mobile except aeronautical mobile 5.341 5.351 5.354		IMT-2000 satellite component  MSS Earth stations		EN 301 426 EN 301 444 EN 301 473 EN 301 681	Priority for GMDSS Distress, urgency and safety and for AMS(R)S categories 1 to 6 communications
<b>1533 MHz - 1535 MHz</b>						
MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208B 5.351A 5.353A SPACE OPERATION (SPACE-TO-EARTH) Earth Exploration-Satellite Fixed Mobile except aeronautical mobile 5.341 5.342 5.351 5.354	MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208B 5.351A 5.353A SPACE OPERATION (SPACE-TO-EARTH) Earth Exploration-Satellite Mobile except aeronautical mobile 5.341 5.351 5.354		IMT-2000 satellite component  MSS Earth stations		EN 301 426 EN 301 444 EN 301 473 EN 301 681	Priority for GMDSS Distress, urgency and safety and for AMS(R)S categories 1 to 6 communications
<b>1535 MHz - 1559 MHz</b>						



<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208B 5.351A	MOBILE-SATELLITE (SPACE-TO-EARTH) 5.208B 5.351A		IMT-2000 satellite component			
5.341	5.341					
5.351	5.351		MSS Earth stations		EN 301 426	Priority for GMDSS Distress, urgency and safety and for AMS(R)S categories 1 to 6 communications within the band 1544-1545 MHz
5.353A	5.353A				EN 301 444	
5.354	5.354				EN 301 473	
5.355	5.356				EN 301 681	
5.356	5.357					
5.357	5.357A					
5.357A	5.359					
5.359						
5.362A						

### 1559 MHz - 1610 MHz

AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.208B 5.328B 5.329A	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.208B 5.328B 5.329A		GALILEO			Within the band 1559.42-1591.42 MHz
5.341	5.341	ECC/REC/(11)08	GNSS Pseudolites			
5.362B	5.362B	ECC/REC/(10)02	GNSS Repeater		EN 302 645	
5.362C			GPS			Within the band 1563.42-1587.42 MHz

### 1610 MHz - 1610.6 MHz

AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A	AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A		GLONASS			Within the band 1592.9-1610.5 MHz
5.341	5.341		IMT-2000 satellite component			
5.355	5.359					
5.359	5.364	ECC/DEC/(09)02	MSS Earth stations		EN 301 441	
5.364	5.366				EN 301 473	
5.366	5.367					
5.367	5.368					
5.368	5.371					
5.369	5.372					
5.371						
5.372						

### 1610.6 MHz - 1613.8 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A	AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A		IMT-2000 satellite component			
RADIO ASTRONOMY	RADIO ASTRONOMY	ECC/DEC/(09)02	MSS Earth stations		EN 301 441 EN 301 473	
5.149	5.149					
5.341	5.341					
5.355	5.359		Radio astronomy			Spectral line observations (e.g. hydroxyl line).
5.359	5.364					VLBI
5.364	5.366					
5.366	5.367					
5.367	5.368					
5.368	5.371					
5.369	5.372					
5.371						
5.372						

### **1613.8 MHz - 1626.5 MHz**

AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A	AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A		IMT-2000 satellite component			
Mobile-Satellite (space-to-Earth)	Mobile-Satellite (space-to-Earth)	ECC/DEC/(09)02	MSS Earth stations		EN 301 426	
5.208B	5.208B	ECC/DEC/(09)04			EN 301 441 EN 301 473	
5.341	5.341					
5.355	5.359					
5.359	5.364					
5.364	5.365					
5.365	5.366					
5.366	5.367					
5.367	5.368					
5.368	5.371					
5.369	5.372					
5.371						
5.372						

### **1626.5 MHz - 1660 MHz**

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A 5.341 5.351 5.353A 5.354 5.355 5.357A 5.359 5.362A 5.374 5.375 5.376	MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A 5.341 5.351 5.353A 5.354 5.359		IMT-2000 satellite component  MSS Earth stations		EN 301 426 EN 301 473 EN 301 681	Priority for GMDSS Distress, urgency and safety and for AMS(R)S categories 1 to 6 communications within the band 1645.5-1646.5 MHz
<b>1660 MHz - 1660.5 MHz</b>						
MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A RADIO ASTRONOMY 5.149 5.341 5.351 5.354 5.362A 5.376A	MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A RADIO ASTRONOMY 5.149 EU15 5.341 5.351 5.354 5.376A		IMT-2000 satellite component  MSS Earth stations   Radio astronomy		EN 301 426 EN 301 444 EN 301 473 EN 301 681	Continuum and spectral line observations (e.g. hydroxyl line), VLBI
<b>1660.5 MHz - 1668 MHz</b>						
RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379 5.379A	RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) Fixed Mobile except aeronautical mobile 5.149 EU2 5.341 EU15 5.379A		Defence systems  Radio astronomy	EU15A		Continuum and spectral line observations (e.g. hydroxyl line), VLBI
<b>1668 MHz - 1668.4 MHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379 5.379A	MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) Fixed Mobile except aeronautical mobile 5.149 EU15 5.341 5.379A		Defence systems  IMT-2000 satellite component  Radio astronomy		EN 301 473	Continuum and spectral line observations (e.g. hydroxyl line), VLBI

### 1668.4 MHz - 1670 MHz

FIXED METEOROLOGICAL AIDS MOBILE EXCEPT AERONAUTICAL MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A 5.379B 5.379C RADIO ASTRONOMY 5.149 5.341 5.379D 5.379E	FIXED METEOROLOGICAL AIDS MOBILE EXCEPT AERONAUTICAL MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A 5.379B 5.379C RADIO ASTRONOMY 5.149 EU2 5.341 EU15 5.379D 5.379E		Defence systems  IMT-2000 satellite component  Meteorology  Radio astronomy	EU15A	EN 301 473	Continuum and spectral line observations (e.g. hydroxyl line), VLBI
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### 1670 MHz - 1675 MHz

FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A 5.379B 5.341 5.379D 5.379E 5.380A	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A 5.379B Fixed 5.341 5.379D 5.379E 5.380A	ECC/DEC/(04)09	IMT-2000 satellite component  MSS Earth stations  Weather satellites		EN 301 444 EN 301 473 EN 301 681	
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### 1675 MHz - 1690 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) MOBILE EXCEPT AERONAUTICAL MOBILE 5.341	FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) MOBILE EXCEPT AERONAUTICAL MOBILE 5.341 EU2 EU15		Defence systems  Sondes  Weather satellites	EU15A	EN 302 454	Meteorological radiosondes  Data collection platform
<b>1690 MHz - 1700 MHz</b>						
METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) Fixed Mobile except aeronautical mobile 5.289 5.341 5.382	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) Fixed Mobile except aeronautical mobile 5.289 5.341 5.382 EU2 EU15		Defence systems  Weather satellites	EU15A		Data collection platform. Allocation to EESS is via RR 5.289
<b>1700 MHz - 1710 MHz</b>						
FIXED METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) MOBILE EXCEPT AERONAUTICAL MOBILE 5.289 5.341	FIXED METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) Mobile except aeronautical mobile 5.289 5.341 EU2 EU15		Defence systems  Weather satellites	EU15A		Data collection platform. Allocation to EESS is via RR 5.289
<b>1710 MHz - 1785 MHz</b>						
FIXED MOBILE 5.384A 5.149 5.341 5.385 5.386 5.387	FIXED MOBILE 5.384A 5.149 5.341 5.385 EU29	ECC/REC/(05)08 ECC/REC/(08)02 ERC/DEC/(95)03  ECC/DEC/(06)13 ECC/REC/(05)08 ECC/REC/(08)02  ECC/DEC/(06)07  ECC/DEC/(08)08	GSM    IMT  MCA  MCV  Radio astronomy	EU33	EN 300 609 EN 301 502 EN 301 511  EN 301 908  EN 302 480	Spectral line observations (e.g. hydroxyl line), VLBI

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>1785 MHz - 1800 MHz</b>						
FIXED MOBILE 5.384A 5.386 5.387	FIXED MOBILE  EU2 EU15		-			This band is identified for IMT in the RRs, but within CEPT this band is not planned for the harmonised introduction of IMT
			Land mobile			Mobile applications
		ERC/REC 70-03	Radio microphones and ALD		EN 300 422	
		ERC/REC 70-03	Wireless audio/multimedia		EN 300 422	Within the band 1785-1804.8 MHz
<b>1800 MHz - 1805 MHz</b>						
FIXED MOBILE 5.384A 5.386	MOBILE Fixed		-			This band is identified for IMT in the RRs, but within CEPT this band is not planned for the harmonized introduction of IMT
		ERC/REC 70-03	Wireless audio/multimedia		EN 300 422	Within the band 1785-1804.8 MHz
<b>1805 MHz - 1880 MHz</b>						
FIXED MOBILE 5.384A 5.386	FIXED MOBILE 5.384A EU29	ECC/REC/(05)08 ECC/REC/(08)02 ERC/DEC/(95)03	GSM	EU33	EN 300 609 EN 301 502 EN 301 511	
		ECC/DEC/(06)13 ECC/REC/(05)08 ECC/REC/(08)02	IMT		EN 301 908	
		ECC/DEC/(06)07	MCA		EN 302 480	
		ECC/DEC/(08)08	MCV			
<b>1880 MHz - 1885 MHz</b>						
FIXED MOBILE 5.384A	MOBILE 5.384A Fixed EU33	ERC/DEC/(94)03	DECT	EU33	EN 301 406 EN 301 908	
<b>1885 MHz - 1900 MHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE 5.388A 5.388B 5.388	MOBILE 5.388A Fixed 5.388 EU33	ERC/DEC/(94)03	DECT	EU33	EN 301 406 EN 301 908	
<b>1900 MHz - 1930 MHz</b>						
FIXED MOBILE 5.388A 5.388B 5.388	MOBILE 5.388A Fixed 5.388 EU29		-			This band can also be used by fixed service on a national basis
		ECC/DEC/(06)01 ERC/REC/(01)01	IMT		EN 301 908	Within CEPT, the band 1920-1930 MHz is identified for IMT. This includes IMT-2000 and IMT-Advanced 1900-1920 MHz: Alternative usage under study
		ECC/DEC/(06)07	MCA			Within the band 1920-1980 MHz
<b>1930 MHz - 1970 MHz</b>						
FIXED MOBILE 5.388A 5.388B 5.388	MOBILE 5.388A Fixed 5.388 EU29		-			This band can also be used by fixed service on a national basis
		ECC/DEC/(06)01 ERC/REC/(01)01	IMT		EN 301 908	Within CEPT, this band is identified for IMT. This includes IMT-2000 and IMT-Advanced
		ECC/DEC/(06)07	MCA			
<b>1970 MHz - 1980 MHz</b>						
FIXED MOBILE 5.388A 5.388B 5.388	MOBILE 5.388A Fixed 5.388 EU29		-			This band can also be used by fixed service on a national basis
		ECC/DEC/(06)01 ERC/REC/(01)01	IMT		EN 301 908	Within CEPT, this band is identified for IMT. This includes IMT-2000 and IMT-Advanced
			MCA			
<b>1980 MHz - 2010 MHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A 5.388 5.389A 5.389B 5.389F	MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) 5.351A Fixed 5.388 5.389A	ECC/DEC/(06)09 ECC/DEC/(06)10	- IMT MSS Earth stations		EN 301 442 EN 301 473 EN 302 574	This band can also be used by fixed service on a national basis Within CEPT, this band is identified for IMT. This includes IMT-2000 and IMT-Advanced The mobile satellite systems using this band may incorporate a complementary Ground Component (CGC)

### 2010 MHz - 2025 MHz

FIXED MOBILE 5.388A 5.388B 5.388	MOBILE 5.388A Fixed 5.388	ECC/DEC/(06)01 ERC/REC/(01)01	- IMT		EN 301 908	This band can also be used by fixed service on a national basis Alternative usage under study
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### 2025 MHz - 2110 MHz

EARTH EXPLORATION-SATELLITE (EARTH-TO-SPACE) (SPACE-TO-SPACE) FIXED MOBILE 5.391 SPACE OPERATION (EARTH-TO-SPACE) (SPACE-TO-SPACE) SPACE RESEARCH (EARTH-TO-SPACE) (SPACE-TO-SPACE) 5.392 5.392	EARTH EXPLORATION-SATELLITE (EARTH-TO-SPACE) (SPACE-TO-SPACE) FIXED MOBILE 5.391 SPACE OPERATION (EARTH-TO-SPACE) (SPACE-TO-SPACE) SPACE RESEARCH (EARTH-TO-SPACE) (SPACE-TO-SPACE) 5.392 EU2 EU15 EU27	T/R 13-01 ERC/REC 25-10	Defence systems Fixed PMSE Space research	EU16A EU16A	EN 302 217 EN 302 064	Harmonised military band for Tactical Radio Relay links for near cross border operation within the band 2025-2070 MHz SAP/SAB on a tuning range Satellite payload and platform telecommand
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### 2110 MHz - 2120 MHz

FIXED MOBILE 5.388A 5.388B SPACE RESEARCH (DEEP SPACE) (EARTH-TO-SPACE) 5.388	MOBILE 5.388A SPACE RESEARCH (DEEP SPACE) (EARTH-TO-SPACE) Fixed 5.388 EU29	ECC/DEC/(06)01 ERC/REC/(01)01 ECC/DEC/(06)07	- IMT MCA		EN 301 908	Satellite payload and platform telecommand for space research (deep space). This band can also be used by fixed service on a national basis Within CEPT, this band is identified for IMT. This includes IMT-2000 and IMT-Advanced
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### 2120 MHz - 2170 MHz



<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE 5.388A 5.388B 5.388	MOBILE 5.388A Fixed 5.388 EU29		-			This band can also be used by fixed service on a national basis
		ECC/DEC/(06)01 ERC/REC/(01)01	IMT		EN 301 908	Within CEPT, this band is identified for IMT. This includes IMT-2000 and IMT-Advanced
		ECC/DEC/(06)07	MCA			

## 2170 MHz - 2200 MHz

FIXED MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH) 5.351A 5.388 5.389A 5.389F	MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH) 5.351A Fixed 5.388 5.389A		-			This band can also be used by fixed service on a national basis
		ECC/DEC/(06)09 ECC/DEC/(06)10 ECC/REC/(10)01	IMT-2000 satellite component MSS Earth stations		EN 301 442 EN 301 473 EN 302 574	Within CEPT, this band is identified for IMT. This includes IMT-2000 and IMT-Advanced The mobile satellite systems using this band may incorporate a Complementary Ground Component (CGC)

## 2200 MHz - 2290 MHz

EARTH EXPLORATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) FIXED MOBILE 5.391 SPACE OPERATION (SPACE-TO-EARTH) (SPACE-TO-SPACE) SPACE RESEARCH (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.392	EARTH EXPLORATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) FIXED MOBILE 5.391 SPACE OPERATION (SPACE-TO-EARTH) (SPACE-TO-SPACE) SPACE RESEARCH (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.392 EU15 EU27		Defence systems	EU16A		Harmonised military band for Tactical Radio Relay links for near cross border operation within the band 2200-2245 MHz
		T/R 13-01	Fixed		EN 302 217	
		ERC/REC 25-10	PMSE	EU16A	EN 302 064	SAP/SAB on a tuning range
		ECC/REC/(10)01	Radio astronomy Space research			Continuum observations, VLBI (used by SRS) EESS Satellite payload and platform telemetry

## 2290 MHz - 2300 MHz

FIXED MOBILE EXCEPT AERONAUTICAL MOBILE SPACE RESEARCH (DEEP SPACE) (SPACE-TO-EARTH)	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE SPACE RESEARCH (DEEP SPACE) (SPACE-TO-EARTH) EU2		Land mobile Space research			Mobile applications Satellite payload and platform telemetry for space research (deep space). Continuum observations, VLBI (used by SRS)
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## 2300 MHz - 2400 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE 5.384A Amateur Radiolocation 5.395	FIXED MOBILE 5.384A Amateur Radiolocation EU2	ERC/REC 62-02	Aeronautical telemetry			Parts of the band are used for aeronautical telemetry on a national basis
		ECC/DEC/(14)02 ECC/REC/(14)04	Amateur		EN 301 783	
			MFCN		EN 301 908	Shared use of spectrum envisaged
		ERC/REC 25-10	PMSE		EN 302 064	SAP/SAB

### 2400 MHz - 2450 MHz

FIXED MOBILE Amateur Radiolocation 5.150 5.282	FIXED MOBILE Amateur Amateur-Satellite Radiolocation 5.150 5.282 EU2		Amateur		EN 301 783	
			Amateur-satellite			
			ISM			
		ERC/REC 70-03	Non-specific SRDs		EN 300 440	Within the band 2400.0-2483.5 MHz
		ERC/REC 70-03	RFID		EN 300 440 EN 300 761	Within the band 2446-2454 MHz
		ERC/DEC/(01)08 ERC/REC 70-03	Radiodetermination applications		EN 300 440	Within the band 2400.0-2483.5 MHz
		ERC/REC 70-03	Wideband data transmission systems		EN 300 328	Within the band 2400-2483.5 MHz

### 2450 MHz - 2483.5 MHz

FIXED MOBILE Radiolocation 5.150	FIXED MOBILE 5.150 EU2		ISM			
		ERC/REC 70-03	Non-specific SRDs		EN 300 440	Within the band 2400.0-2483.5 MHz
		ERC/REC 70-03	RFID		EN 300 440 EN 300 761	Within the band 2446-2454 MHz
		ERC/DEC/(01)08 ERC/REC 70-03	Radiodetermination applications		EN 300 440	Within the band 2400.0-2483.5 MHz
		ERC/REC 70-03	Wideband data transmission systems		EN 300 328	Within the band 2400-2483.5 MHz

### 2483.5 MHz - 2500 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH) 5.351A RADIODETERMINATION-SATELLITE (SPACE-TO-EARTH) 5.398 Radiolocation 5.398A 5.150 5.399 5.401 5.402	FIXED MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH) 5.351A 5.150 5.399 5.402	ERC/REC 70-03	Active medical implants		EN 301 559	Low Power Active Medical Implants and associated peripherals
			IMT-2000 satellite component			
			ISM			
			Land mobile			Mobile applications
		ERC/REC 70-03	MBANS		EN 303 203	
		ECC/DEC/(09)02	MSS Earth stations		EN 301 441 EN 301 473	
		ERC/REC 25-10	PMSE		EN 302 064	SAP/SAB

### 2500 MHz - 2520 MHz

FIXED 5.410 MOBILE EXCEPT AERONAUTICAL MOBILE 5.384A 5.412	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.384A	ECC/DEC/(02)06 ECC/DEC/(05)05 ECC/REC/(11)05	IMT		EN 301 908 EN 302 544	
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### 2520 MHz - 2655 MHz

BROADCASTING-SATELLITE 5.413 5.416 FIXED 5.410 MOBILE EXCEPT AERONAUTICAL MOBILE 5.384A 5.339 5.403 5.412 5.417C 5.417D 5.418B 5.418C	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.384A 5.339 EU2 5.418B EU15 5.418C EU16	ECC/REC/(11)05	Defence systems			Within the band 2520-2575 MHz
			IMT		EN 301 908 EN 302 544	
		ERC/REC 25-10	PMSE		EN 302 064	SAP/SAB on a tuning range basis

### 2655 MHz - 2670 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
BROADCASTING-SATELLITE 5.208B 5.413 5.416 FIXED 5.410 MOBILE EXCEPT AERONAUTICAL MOBILE 5.384A Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149 5.412 5.420	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.384A Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149 EU2 5.208B EU15 EU16	ECC/REC/(11)05  ERC/REC 25-10	IMT  PMSE  Radio astronomy		EN 301 908 EN 302 544  EN 302 064	  SAP/SAB on a tuning range  Continuum observations, VLBI
<b>2670 MHz - 2690 MHz</b>						
FIXED 5.410 MOBILE EXCEPT AERONAUTICAL MOBILE 5.384A Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149 5.412 5.419	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.384A Radio Astronomy 5.149	ECC/REC/(11)05	IMT  Radio astronomy		EN 301 908 EN 302 544	  Continuum observations, VLBI
<b>2690 MHz - 2700 MHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.422	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340		Passive sensors (satellite)  Radio astronomy			  Continuum and spectral line observations, VLBI
<b>2700 MHz - 2900 MHz</b>						
AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423 5.424	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423	ECC/REC/(02)09	Aeronautical navigation  Radiolocation (civil)  Weather radar			Radar and navigation systems
<b>2900 MHz - 3100 MHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 5.427	RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 EU2 5.427 EU27		Defence systems Radiolocation (civil)		EN 302 248 EN 302 752	Radar and navigation systems
<b>3100 MHz - 3300 MHz</b>						
RADIOLOCATION Earth Exploration-Satellite (active) Space Research (active) 5.149 5.428	RADIOLOCATION Earth Exploration-Satellite (active) Space Research (active) 5.149 EU2 EU27		Active sensors (satellite) Defence systems Radio Astronomy Radiolocation (civil)			Spectral line observations (e.g. methine line) Radars
		ECC/DEC/(06)04 ECC/REC/(11)09 ECC/REC/(11)10	UWB applications		EN 302 065	Generic UWB. Location Tracking Type 2 (LT2). Location Application for Emergency Services (LAES)
<b>3300 MHz - 3400 MHz</b>						
RADIOLOCATION 5.149 5.429 5.430	RADIOLOCATION 5.149 EU2		Defence systems Radio Astronomy Radiolocation (civil)			Spectral line observations (e.g. methine line) Upper limit for airborne radars 3410 MHz
		ECC/DEC/(06)04 ECC/REC/(11)09 ECC/REC/(11)10	UWB applications		EN 302 065	Generic UWB. Location Tracking Type 2 (LT2). Location Application for Emergency Services (LAES)
<b>3400 MHz - 3500 MHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) Mobile 5.430A Radiolocation 5.431	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE 5.430A Amateur Radiolocation	ECC/DEC/(07)02 ECC/REC/(04)05 ERC/REC 14-03	Amateur	EU17	EN 301 783	Within the band 3400-3410 MHz
			BWA		EN 302 217 EN 302 326 EN 302 623 EN 302 774	Within the band 3400-3800 MHz
			FSS Earth stations		EN 301 443	
			ECC/DEC/(11)06	MFCN	EN 301 908	Within the band 3400-3800 MHz
				PMSE	EN 302 064	For coordinated SAB/SAP applications for occasional use. In some countries the mobile service may be on secondary basis
				Radiolocation (civil)		Upper limit for airborne radars is 3410 MHz
		ECC/DEC/(06)04 ECC/REC/(11)09 ECC/REC/(11)10	UWB applications		EN 302 065	Generic UWB. Location Tracking Type 2 (LT2). Location Application for Emergency Services (LAES)

### 3500 MHz - 3600 MHz

FIXED FIXED-SATELLITE (SPACE-TO-EARTH) Mobile 5.430A Radiolocation	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE 5.430A	ECC/DEC/(07)02 ECC/REC/(04)05 ERC/REC 14-03	BWA		EN 302 217 EN 302 326 EN 302 623 EN 302 774	Within the band 3400-3800 MHz
			FSS Earth stations		EN 301 443	
			ECC/DEC/(11)06	MFCN	EN 301 908	Within the band 3400-3800 MHz
				PMSE	EN 302 064	For coordinated SAB/SAP applications for occasional use. In some countries the mobile service may be on secondary basis
				UWB applications	EN 302 065	Generic UWB. Location Tracking Type 2 (LT2). Location Application for Emergency Services (LAES)
					ECC/DEC/(06)04 ECC/REC/(11)09 ECC/REC/(11)10	

### 3600 MHz - 3800 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) Mobile	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE		-			In some countries the mobile service may be on secondary basis
		ECC/DEC/(07)02 ECC/REC/(04)05	BWA		EN 302 217 EN 302 326 EN 302 623 EN 302 774	Within the band 3400-3800 MHz
		ECC/DEC/(05)09	ESV		EN 301 447	
			FSS Earth stations		EN 301 443 EN 301 447	Priority for civil networks
		ERC/REC 12-08	Fixed		EN 302 217	Medium/high capacity fixed
		ECC/DEC/(11)06	MFCN		EN 301 908	Within the band 3400-3800 MHz
		ECC/DEC/(06)04 ECC/REC/(11)09 ECC/REC/(11)10	UWB applications		EN 302 065	Generic UWB. Location Tracking Type 2 (LT2). Location Application for Emergency Services (LAES)

### 3800 MHz - 4200 MHz

FIXED FIXED-SATELLITE (SPACE-TO-EARTH) Mobile	FIXED FIXED-SATELLITE (SPACE-TO-EARTH)		FSS Earth stations		EN 301 443 EN 301 447	Priority for civil networks
		ERC/REC 12-08	Fixed		EN 302 217	Medium/high capacity fixed
		ECC/DEC/(06)04 ECC/REC/(11)09 ECC/REC/(11)10	UWB applications		EN 302 065	Generic UWB. Location Tracking Type 2 (LT2). Location Application for Emergency Services (LAES)

### 4200 MHz - 4400 MHz

AERONAUTICAL RADIONAVIGATION 5.438 5.439 5.440	AERONAUTICAL RADIONAVIGATION 5.438 5.440		Altimeters			
			Passive sensors (satellite)			For sea surface temperature measurements
		ECC/DEC/(06)04 ECC/REC/(11)09 ECC/REC/(11)10	UWB applications		EN 302 065	Generic UWB. Location Tracking Type 2 (LT2). Location Application for Emergency Services (LAES)

### 4400 MHz - 4500 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE	FIXED MOBILE		Defence systems	EU20		Harmonised military band for fixed and mobile systems
		EU2 EU27	PMSE		EN 302 064	Mobile applications for coordinated SAB/SAP applications for occasional use
			UWB applications		EN 302 065	Generic UWB. Location Tracking Type 2 (LT2). Location Application for Emergency Services (LAES)
						ECC/DEC/(06)04 ECC/REC/(11)09 ECC/REC/(11)10

### 4500 MHz - 4800 MHz

FIXED FIXED-SATELLITE (SPACE-TO-EARTH) 5.441 MOBILE	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) 5.441 MOBILE		Defence systems	EU20		Harmonised military band for fixed and mobile systems
		EU27	FSS Earth stations			FSS not to be implemented in NATO Europe. Fixed-Satellite frequency plan in 4500-4800 MHz
			PMSE		EN 302 064	Mobile applications for coordinated SAB/SAP applications for occasional use
			Radiodetermination applications		EN 302 372	Within the band 4500-7000 MHz for TLPR application
			UWB applications		EN 302 065	Generic UWB. Location Tracking Type 2 (LT2). Location Application for Emergency Services (LAES)
						ERC/REC 70-03 ECC/DEC/(06)04 ECC/REC/(11)09 ECC/REC/(11)10

### 4800 MHz - 4990 MHz

FIXED MOBILE 5.442 Radio Astronomy 5.149 5.339 5.443	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE Radio Astronomy 5.149 5.339		BBDR		EN 302 625	Within the band 4940-4990 MHz. Optimal band for BBDR within the PPDR uses
		EU27	Defence systems	EU20		Harmonised military band for fixed and mobile systems
			PMSE		EN 302 064	Mobile applications for coordinated SAB/SAP applications for occasional use
			Passive sensors (satellite)			Space Research and EESS (passive) above 4950 MHz in some countries
			Radio astronomy			Continuum and spectral line observations, (e.g. formaldehyde line), VLBI
			Radiodetermination applications		EN 302 372	Within the band 4500-7000 MHz for TLPR application
						ERC/REC 70-03



<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>4990 MHz - 5000 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY Space Research (passive) 5.149	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY 5.149 EU27	ERC/REC 70-03	Defence systems	EU20		Harmonised military band for fixed and mobile systems
			PMSE			Mobile applications for coordinated SAB/SAP applications for occasional use
			Radio astronomy			Continuum observations, VLBI
			Radiodetermination applications		EN 302 372	Within the band 4500-7000 MHz for TLPR application
<b>5000 MHz - 5010 MHz</b>						
AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (EARTH-TO-SPACE)	AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (EARTH-TO-SPACE) Radio Astronomy Space Research (passive)	ERC/REC 70-03	GALILEO			For future use by Galileo
			Radio astronomy			Continuum observation, VLBI
			Radiodetermination applications		EN 302 372	Within the band 4500-7000 MHz for TLPR application
			Satellite navigation systems			Aeronautical Radionavigation and FSS envisaged in some countries
<b>5010 MHz - 5030 MHz</b>						
AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.328B 5.443B	AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) 5.328B 5.443B Radio Astronomy Space Research (passive)	ERC/REC 70-03	GALILEO			C1
			Radio astronomy			Continuum observation, VLBI
			Radiodetermination applications		EN 302 372	Within the band 4500-7000 MHz for TLPR application
			Satellite navigation systems			Aeronautical Radionavigation and FSS envisaged in some countries
<b>5030 MHz - 5091 MHz</b>						
AERONAUTICAL MOBILE (R) 5.443C AERONAUTICAL MOBILE-SATELLITE (R) 5.443D AERONAUTICAL RADIONAVIGATION 5.444	AERONAUTICAL MOBILE (R) 5.443C AERONAUTICAL MOBILE-SATELLITE (R) 5.443D AERONAUTICAL RADIONAVIGATION 5.444	ERC/REC 70-03	MLS			Aeronautical Radionavigation envisaged in some countries. FSS in use in some countries
			Radiodetermination applications		EN 302 372	Within the band 4500-7000 MHz for TLPR application

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>5091 MHz - 5150 MHz</b>						
AERONAUTICAL MOBILE 5.444B AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION 5.444 5.444A	AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION 5.444 5.444A	ERC/REC 70-03	- Radiodetermination applications		EN 302 372	FSS in use in some countries Within the band 4500-7000 MHz for TLPR application
<b>5150 MHz - 5250 MHz</b>						
AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (EARTH-TO-SPACE) 5.447A MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.446B 5.446 5.446C 5.447 5.447B 5.447C	FIXED-SATELLITE (EARTH-TO-SPACE) 5.447A MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.446B 5.446 5.446C 5.447 5.447B 5.447C	ECC/REC/(08)04       ECC/DEC/(04)08  ERC/REC 70-03	Aeronautical telemetry BBDR Feeder links  Radio LANs  Radiodetermination applications		EN 302 625    EN 301 893  EN 302 372	Temporary use by PPDR users Feeder links for MSS. Aeronautical Radionavigation and FSS envisaged in some countries WAS/RLANs within the bands 5150-5350 MHz and 5470-5725 MHz Within the band 4500-7000 MHz for TLPR application
<b>5250 MHz - 5255 MHz</b>						
EARTH EXPLORATION-SATELLITE (ACTIVE) MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.447F RADIOLOCATION SPACE RESEARCH 5.447D 5.447E 5.448 5.448A	EARTH EXPLORATION-SATELLITE (ACTIVE) MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.447F RADIOLOCATION SPACE RESEARCH 5.447D 5.448A EU2 EU22	ECC/DEC/(04)08    ERC/REC 70-03	- Active sensors (satellite) Defence systems Maritime radar Radio LANs Radiodetermination applications Weather radar		EN 301 893    EN 302 372	Position fixing  Tactical and weapon system radars Shipborne and VTS radar WAS/RLANs within the bands 5150-5350 MHz and 5470-5725 MHz Within the band 4500-7000 MHz for TLPR application Ground based and airborne
<b>5255 MHz - 5350 MHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
EARTH EXPLORATION-SATELLITE (ACTIVE)	EARTH EXPLORATION-SATELLITE (ACTIVE)		-			Position fixing
MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.447F	MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.447F		Active sensors (satellite)			
RADIOLOCATION	RADIOLOCATION		Defence systems			Tactical and weapon system radars
SPACE RESEARCH (ACTIVE) 5.447E	SPACE RESEARCH (ACTIVE) 5.448A		Maritime radar			Shipborne and VTS radar
5.448	EU2	ECC/DEC/(04)08	Radio LANs		EN 301 893	WAS/RLANs within the bands 5150-5350 MHz and 5470-5725 MHz
5.448A	EU22	ERC/REC 70-03	Radiodetermination applications		EN 302 372	Within the band 4500-7000 MHz for TLPR application
			Weather radar			Ground based and airborne

### 5350 MHz - 5450 MHz

AERONAUTICAL RADIONAVIGATION 5.449	AERONAUTICAL RADIONAVIGATION 5.449		-			Position fixing
EARTH EXPLORATION-SATELLITE (ACTIVE) 5.448B	EARTH EXPLORATION-SATELLITE (ACTIVE) 5.448B		Active sensors (satellite)			
RADIOLOCATION 5.448D	RADIOLOCATION 5.448D		Defence systems			Tactical and weapon system radars
SPACE RESEARCH (ACTIVE) 5.448C	SPACE RESEARCH (ACTIVE) 5.448C		Maritime radar			Shipborne and VTS radar
	Fixed	ERC/REC 70-03	Radiodetermination applications		EN 302 372	Within the band 4500-7000 MHz for TLPR application
	EU2		Weather radar			Ground based and airborne
	EU22					

### 5450 MHz - 5460 MHz

AERONAUTICAL RADIONAVIGATION 5.449	AERONAUTICAL RADIONAVIGATION 5.449		-			Position fixing
EARTH EXPLORATION-SATELLITE (ACTIVE) 5.448B	EARTH EXPLORATION-SATELLITE (ACTIVE) 5.448B		Active sensors (satellite)			
RADIOLOCATION 5.448D	RADIOLOCATION 5.448D		Defence systems			Tactical and weapon system radars
SPACE RESEARCH (ACTIVE) 5.448C	SPACE RESEARCH (ACTIVE) 5.448C		Maritime radar			Shipborne and VTS radar
	Fixed	ERC/REC 70-03	Radiodetermination applications		EN 302 372	Within the band 4500-7000 MHz for TLPR application
	EU2		Weather radar			Ground based and airborne
	EU22					

### 5460 MHz - 5470 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION 5.448D RADIONAVIGATION 5.449 SPACE RESEARCH (ACTIVE) 5.448B	EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION 5.448D RADIONAVIGATION 5.449 SPACE RESEARCH (ACTIVE) 5.448B EU2 EU22	ERC/REC 70-03	- Active sensors (satellite) Defence systems Maritime radar Radiodetermination applications Weather radar		EN 302 372	Position fixing  Tactical and weapon system radars Shipborne and VTS radar Within the band 4500-7000 MHz for TLPR application Ground based and airborne

### 5470 MHz - 5570 MHz

EARTH EXPLORATION-SATELLITE (ACTIVE) MARITIME RADIONAVIGATION MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.450A RADIOLOCATION 5.450B SPACE RESEARCH (ACTIVE) 5.448B 5.450 5.451	EARTH EXPLORATION-SATELLITE (ACTIVE) MARITIME RADIONAVIGATION MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.450A RADIOLOCATION 5.450B SPACE RESEARCH (ACTIVE) 5.448B EU2 EU22	ECC/DEC/(04)08  ERC/REC 70-03	- Active sensors (satellite) Defence systems Maritime radar Radio LANs Radiodetermination applications Weather radar		EN 301 893 EN 302 372	Position fixing  Tactical and weapon system radars Shipborne and VTS radar WAS/RLANs within the bands 5150-5350 MHz and 5470-5725 MHz Within the band 4500-7000 MHz for TLPR application Ground based and airborne
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### 5570 MHz - 5650 MHz

MARITIME RADIONAVIGATION MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.450A RADIOLOCATION 5.450B 5.450 5.451 5.452	MARITIME RADIONAVIGATION MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.450A RADIOLOCATION 5.450B 5.452 EU2 EU22	ECC/DEC/(04)08  ERC/REC 70-03	- Defence systems Maritime radar Radio LANs Radiodetermination applications Weather radar		EN 301 893 EN 302 372	Position fixing  Tactical and weapon system radars Shipborne and VTS radar WAS/RLANs within the bands 5150-5350 MHz and 5470-5725 MHz Within the band 4500-7000 MHz for TLPR application Ground based
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### 5650 MHz - 5725 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.450A RADIOLOCATION Amateur Space Research (deep space) 5.282 5.451 5.453 5.454 5.455	MOBILE EXCEPT AERONAUTICAL MOBILE 5.446A 5.450A RADIOLOCATION Amateur Amateur-Satellite (Earth-to-space) 5.282 EU2 EU17 EU22		- Amateur Amateur-satellite Defence systems Maritime radar Radio LANs Radiodetermination applications Weather radar	EU17 EU23	EN 301 783 EN 301 893 EN 302 372	Position fixing Within the band 5660-5670 MHz Within the band 5660-5670 MHz Tactical and weapon system radars Shipborne and VTS radar WAS/RLANs within the bands 5150-5350 MHz and 5470-5725 MHz Within the band 4500-7000 MHz for TLPR application Ground based and airborne
<b>5725 MHz - 5830 MHz</b>						
FIXED-SATELLITE (EARTH-TO-SPACE) RADIOLOCATION Amateur 5.150 5.451 5.453 5.455 5.456	FIXED-SATELLITE (EARTH-TO-SPACE) RADIOLOCATION Amateur Fixed Mobile 5.150 EU2 EU22	ECC/REC/(06)04	Amateur BFWA Defence systems ISM Non-specific SRDs Radiodetermination applications TTT Weather radar		EN 301 783 EN 302 502 EN 300 440 EN 302 372 EN 300 674	Within the band 5725-5875 MHz Tactical and weapon system radars Within the band 5725-5875 MHz Within the band 5725-5875 MHz Within the band 4500-7000 MHz for TLPR application Within the band 5795-5805 MHz. TTT in the band 5805-5815 MHz on a national basis Ground based and airborne

### 5830 MHz - 5850 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED-SATELLITE (EARTH-TO-SPACE)	FIXED-SATELLITE (EARTH-TO-SPACE)		Amateur-satellite	EU23		Within the band 5830-5850 MHz
RADIOLOCATION	RADIOLOCATION	ECC/REC/(06)04	BFWA		EN 302 502	Within the band 5725-5875 MHz
Amateur	Amateur		Defence systems			Tactical and weapon system radars
Amateur-Satellite (space-to-Earth)	Amateur-Satellite (space-to-Earth)		ISM			Within the band 5725-5875 MHz
5.150	Fixed		Non-specific SRDs		EN 300 440	Within the band 5725-5875 MHz
5.451	Mobile	ERC/REC 70-03	Radiodetermination applications		EN 302 372	Within the band 4500-7000 MHz for TLPR application
5.453	5.150	ERC/REC 70-03	Weather radar			Ground based and airborne
5.455						
5.456						

### **5850 MHz - 5925 MHz**

FIXED	FIXED		BFWA		EN 302 502	Within the band 5725-5875 MHz
FIXED-SATELLITE (EARTH-TO-SPACE)	FIXED-SATELLITE (EARTH-TO-SPACE)	ECC/REC/(06)04	FSS Earth stations		EN 301 443	Priority for civil networks
MOBILE	MOBILE		ISM			Within the band 5725-5875 MHz
5.150	5.150		ITS		EN 302 571	Within the bands 5875-5925 MHz and 5855-5875 MHz
		ECC/DEC/(08)01 ECC/REC/(08)01	Non-specific SRDs		EN 300 440	Within the band 5725-5875 MHz
		ERC/REC 70-03	Radiodetermination applications		EN 302 372	Within the band 4500-7000 MHz for TLPR application
		ERC/REC 70-03				

### **5925 MHz - 6700 MHz**

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED 5.457 FIXED-SATELLITE (EARTH-TO-SPACE) 5.457A 5.457B MOBILE 5.457C 5.149 5.440 5.458	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) Earth Exploration-Satellite (passive) 5.149 5.440 5.458	ECC/DEC/(05)09  ECC/REC/(14)06 ERC/REC 14-01 ERC/REC 14-02	- ESV FSS Earth stations Fixed		EN 301 447 EN 301 443 EN 302 217	Within the band 5925-6425 MHz Priority for civil networks Point-to-point
			Passive sensors (satellite)			For sea surface temperature, sea surface wind speed and soil moisture measurements
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 4500-7000 MHz for TLPR application and 6000-8500 MHz for LPR applications
		ECC/DEC/(06)04 ECC/DEC/(12)03	UWB applications		EN 302 065	Generic UWB as well as UWB on-board aircraft regulation within the band 6.0- 8.5 GHz

### 6700 MHz - 7075 MHz

FIXED FIXED-SATELLITE (EARTH-TO-SPACE) (SPACE-TO-EARTH) 5.441 MOBILE 5.458 5.458A 5.458B 5.458C	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) (SPACE-TO-EARTH) 5.441 Earth Exploration-Satellite (passive) 5.458 5.458A 5.458B 5.458C	ECC/REC/(14)06 ERC/REC 14-02	FSS Earth stations Feeder links Fixed		EN 301 443 EN 302 217	Within the band 6725-7025 MHz. Priority for civil networks Feeder links for MSS. Within the band 6925-7075 MHz Point-to-point
			Passive sensors (satellite)			For sea surface temperature, sea surface wind speed and soil moisture measurements
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 4500-7000 MHz for TLPR application. Within the band 6000-8500 MHz for LPR applications
		ECC/DEC/(06)04 ECC/DEC/(12)03	UWB applications		EN 302 065	Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz

### 7075 MHz - 7145 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED MOBILE 5.458 5.459	FIXED Earth Exploration-Satellite (passive) 5.458	ECC/REC/(02)06 ECC/REC/(14)06 ERC/REC 14-02	Fixed		EN 302 217	Point-to-point
			Passive sensors (satellite)			For sea surface temperature, sea surface wind speed and soil moisture measurements
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 729	Within the band 6000-8500 MHz for LPR applications
		ECC/DEC/(06)04 ECC/DEC/(12)03	UWB applications		EN 302 065	Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz

### 7145 MHz - 7235 MHz

FIXED MOBILE SPACE RESEARCH (EARTH-TO-SPACE) 5.460 5.458 5.459	FIXED MOBILE SPACE RESEARCH (EARTH-TO-SPACE) 5.460 Earth Exploration-Satellite (Earth-to-space) Space Operation (Earth-to-space) 5.458	ECC/REC/(02)06	Fixed		EN 302 217	Point-to-point
			Passive sensors (satellite)			For sea surface temperature, sea surface wind speed and soil moisture measurements
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 729	Within the band 6000-8500 MHz for LPR applications
		ECC/DEC/(06)04 ECC/DEC/(12)03	UWB applications		EN 302 065	Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz

### 7235 MHz - 7250 MHz

FIXED MOBILE 5.458	FIXED Earth Exploration-Satellite (Earth-to-space) Space Research (Earth-to-space)	ECC/REC/(02)06	Fixed		EN 302 217	Point-to-point
			Passive sensors (satellite)			For sea surface temperature, sea surface wind speed and soil moisture measurements
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 729	Within the band 6000-8500 MHz for LPR applications
		ECC/DEC/(06)04 ECC/DEC/(12)03	UWB applications		EN 302 065	Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz

### 7250 MHz - 7300 MHz



<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE 5.461	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE 5.461	EU2 EU27	Defence systems			Harmonised military band for satellite operation
			Fixed		EN 302 217	Point-to-point. FIXED and MOBILE services not to be implemented in most NATO countries
			MSS Earth stations			Mobile satellite applications within the band 7250-7375 MHz
			Radiodetermination applications		EN 302 729	Within the band 6000-8500 MHz for LPR applications
			UWB applications		EN 302 065	Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz

### 7300 MHz - 7450 MHz

FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE EXCEPT AERONAUTICAL MOBILE 5.461	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE EXCEPT AERONAUTICAL MOBILE 5.461	EU2 EU27	Defence systems			Harmonised military band for satellite operation
			Fixed		EN 302 217	Point-to-point
			MSS Earth stations			Mobile satellite applications within the band 7250-7375 MHz
			Radiodetermination applications		EN 302 729	Within the band 6000-8500 MHz for LPR applications
			UWB applications		EN 302 065	Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz

### 7450 MHz - 7550 MHz

FIXED FIXED-SATELLITE (SPACE-TO-EARTH) METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) MOBILE EXCEPT AERONAUTICAL MOBILE 5.461A	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) MOBILE EXCEPT AERONAUTICAL MOBILE 5.461A	EU2 EU27	Defence systems			Harmonised military band for satellite operation
			Fixed		EN 302 217	Point-to-point
			Radiodetermination applications		EN 302 729	Within the band 6000-8500 MHz for LPR applications
			UWB applications		EN 302 065	Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz
			Weather satellites			Limited to geostationary systems

### 7550 MHz - 7750 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE EXCEPT AERONAUTICAL MOBILE	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE EXCEPT AERONAUTICAL MOBILE EU2 EU27	ECC/REC/(02)06 ECC/DEC/(11)02 ERC/REC 70-03 ECC/DEC/(06)04 ECC/DEC/(12)03	Defence systems Fixed Radiodetermination applications UWB applications		EN 302 217 EN 302 729 EN 302 065	Harmonised military band for satellite operation Point-to-point Within the band 6000-8500 MHz for LPR applications Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz

### 7750 MHz - 7900 MHz

FIXED METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) 5.461B MOBILE EXCEPT AERONAUTICAL MOBILE	FIXED METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) 5.461B MOBILE EXCEPT AERONAUTICAL MOBILE EU2	ECC/REC/(02)06 ECC/DEC/(11)02 ERC/REC 70-03 ECC/DEC/(06)04 ECC/DEC/(12)03	Defence systems Fixed Radiodetermination applications UWB applications Weather satellites		EN 302 217 EN 302 729 EN 302 065	Point-to-point Within the band 6000-8500 MHz for LPR applications Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz Limited to non-geostationary systems
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### 7900 MHz - 8025 MHz

FIXED FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE 5.461	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE 5.461 EU2 EU27	ECC/REC/(02)06 ECC/DEC/(11)02 ERC/REC 70-03 ECC/DEC/(06)04 ECC/DEC/(12)03	Defence systems Fixed MSS Earth stations Radiodetermination applications UWB applications		EN 302 217 EN 302 729 EN 302 065	Harmonised military band for satellite operation Point-to-point. FIXED and MOBILE services not to be implemented above 7975 MHz in NATO countries Mobile satellite applications Within the band 6000-8500 MHz for LPR applications Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz
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### 8025 MHz - 8175 MHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
EARTH EXPLORATION-SATELLITE (SPACE-TO-EARTH) FIXED FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE 5.463 5.462A	EARTH EXPLORATION-SATELLITE (SPACE-TO-EARTH) FIXED FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE 5.463 5.462A EU2 EU27	ECC/REC/(02)06	Defence systems Earth exploration-satellite Fixed Land mobile		EN 302 217	Harmonised military band for satellite operation Satellite payload telemetry Point-to-point Mobile applications within the band 8025-8200 MHz
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 729	Within the band 6000-8500 MHz for LPR applications
		ECC/DEC/(06)04 ECC/DEC/(12)03	UWB applications		EN 302 065	Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz

### 8175 MHz - 8215 MHz

EARTH EXPLORATION-SATELLITE (SPACE-TO-EARTH) FIXED FIXED-SATELLITE (EARTH-TO-SPACE) METEOROLOGICAL-SATELLITE (EARTH-TO-SPACE) MOBILE 5.463 5.462A	EARTH EXPLORATION-SATELLITE (SPACE-TO-EARTH) FIXED FIXED-SATELLITE (EARTH-TO-SPACE) METEOROLOGICAL-SATELLITE (EARTH-TO-SPACE) MOBILE 5.463 5.462A EU2 EU27	ECC/REC/(02)06	Defence systems Earth exploration-satellite Fixed Land mobile		EN 302 217	Harmonised military band for satellite operation Satellite payload telemetry Point-to-point Mobile applications within the band 8025-8200 MHz
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 729	Within the band 6000-8500 MHz for LPR applications
		ECC/DEC/(06)04 ECC/DEC/(12)03	UWB applications		EN 302 065	Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz

### 8215 MHz - 8400 MHz

EARTH EXPLORATION-SATELLITE (SPACE-TO-EARTH) FIXED FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE 5.463 5.462A	EARTH EXPLORATION-SATELLITE (SPACE-TO-EARTH) FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.462A EU2 5.463 EU27	ECC/REC/(02)06	Defence systems Earth exploration-satellite Fixed Radio astronomy		EN 302 217	Harmonised military band for satellite operation Satellite payload telemetry Point-to-point Continuum observations, VLBI (used by SRS)
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 729	Within the band 6000-8500 MHz for LPR applications
		ECC/DEC/(06)04 ECC/DEC/(12)03	UWB applications		EN 302 065	Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>8400 MHz - 8500 MHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE SPACE RESEARCH (SPACE-TO-EARTH) 5.465 5.466	FIXED SPACE RESEARCH (SPACE-TO-EARTH) 5.465 Radiolocation	ECC/REC/(02)06	Fixed		EN 302 217	Point-to-point
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications  Space research		EN 302 729	Within the band 6000-8500 MHz for LPR applications  Satellite payload telemetry. The band 8400-8450 MHz is limited to deep space applications. Continuum observations, VLBI (used by SRS)
		ECC/DEC/(06)04 ECC/DEC/(12)03	UWB applications		EN 302 065	Generic UWB as well as on-board aircraft regulation within the band 6.0-8.5 GHz
<b>8500 MHz - 8550 MHz</b>						
RADIOLOCATION 5.468 5.469	RADIOLOCATION 5.469 EU2 EU24		Aeronautical navigation			Civil and military e.g. airfield approach
			Defence systems			Shipborne, land and airborne surveillance and weapon
		ERC/REC 70-03	Radiodetermination applications		EN 302 372	Within the band 8.5-10.6 GHz for TLPR application
			Radiolocation (civil)		EN 303 135	Shipborne, land and airborne surveillance
	ECC/DEC/(06)04	UWB applications		EN 302 065	Generic UWB	
<b>8550 MHz - 8650 MHz</b>						
EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION SPACE RESEARCH (ACTIVE) 5.468 5.469 5.469A	EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION SPACE RESEARCH (ACTIVE) 5.469 EU2 5.469A EU24		Active sensors (satellite)			
			Aeronautical navigation			Civil and military e.g. airfield approach
			Defence systems			Shipborne, land and airborne surveillance and weapon
		ERC/REC 70-03	Radiodetermination applications		EN 302 372	Within the band 8.5-10.6 GHz for TLPR application
			Radiolocation (civil)		EN 303 135	Shipborne, land and airborne surveillance
	ECC/DEC/(06)04	UWB applications		EN 302 065	Generic UWB	
<b>8650 MHz - 8750 MHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
RADIOLOCATION 5.468 5.469	RADIOLOCATION 5.469	EU2 EU24	Aeronautical navigation  Defence systems			Civil and military e.g. airfield approach  Shipborne, land and airborne surveillance and weapon
				ERC/REC 70-03	EN 302 372	Within the band 8.5-10.6 GHz for TLPR application
					EN 303 135	Shipborne, land and airborne surveillance
				ECC/DEC/(06)04	EN 302 065	Generic UWB

### 8750 MHz - 8850 MHz

AERONAUTICAL RADIONAVIGATION 5.470 RADIOLOCATION 5.471	AERONAUTICAL RADIONAVIGATION 5.470 RADIOLOCATION Space Research	EU2 EU24	Aeronautical navigation  Defence systems			Civil and military e.g. airfield approach  Shipborne, land and airborne surveillance and weapon
				ERC/REC 70-03	EN 302 372	Within the band 8.5-10.6 GHz for TLPR application
					EN 303 135	Shipborne, land and airborne surveillance
				ECC/DEC/(06)04	EN 302 065	Generic UWB

### 8850 MHz - 9000 MHz

MARITIME RADIONAVIGATION 5.472 RADIOLOCATION 5.473	MARITIME RADIONAVIGATION 5.472 RADIOLOCATION Space Research	EU2 EU24	Aeronautical navigation  Defence systems			Civil and military e.g. airfield approach  Shipborne, land and airborne surveillance and weapon
				ERC/REC 70-03	EN 302 372	Within the band 8.5-10.6 GHz for TLPR application
					EN 303 135	Shipborne, land and airborne surveillance
				ECC/DEC/(06)04	EN 302 065	Generic UWB

### 9000 MHz - 9200 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
AERONAUTICAL RADIONAVIGATION 5.337	AERONAUTICAL RADIONAVIGATION 5.337		Aeronautical navigation			Civil and military e.g. airfield approach
Radiolocation 5.471	RADIOLOCATION 5.471		Defence systems		EN 303 213	Shipborne, land and airborne surveillance and weapon
5.473A	Space Research 5.473A	EU2 EU24	Radiodetermination applications		EN 302 372	Within the band 8.5-10.6 GHz for TLPR application
			Radiolocation (civil)		EN 303 135 EN 303 213	Shipborne, land and airborne surveillance

### 9200 MHz - 9300 MHz

MARITIME RADIONAVIGATION 5.472	MARITIME RADIONAVIGATION 5.472		Aeronautical navigation			Civil and military e.g. airfield approach
RADIOLOCATION 5.473	RADIOLOCATION 5.473		Defence systems			Shipborne, land and airborne surveillance and weapon
5.474	Space Research 5.473	EU2	Radiodetermination applications		EN 300 440 EN 302 372	Within the band 9200-9975 MHz; and within the band 8.5-10.6 GHz for TLPR application
	5.474	EU24	Radiolocation (civil)		EN 303 135	Shipborne, land and airborne surveillance

### 9300 MHz - 9500 MHz

EARTH EXPLORATION-SATELLITE (ACTIVE)	EARTH EXPLORATION-SATELLITE (ACTIVE)		Aeronautical navigation			Civil and military e.g. airfield approach
RADIOLOCATION 5.476A	RADIOLOCATION 5.476A		Defence systems		EN 300 440 EN 302 194 EN 302 248 EN 303 213	Shipborne, land and airborne surveillance and weapon
SPACE RESEARCH (ACTIVE) 5.427	SPACE RESEARCH (ACTIVE) 5.427	EU2	Radiodetermination applications		EN 300 440 EN 302 372	Within the band 9200-9975 MHz; and within the band 8.5-10.6 GHz for TLPR application
5.474	5.474	EU24	Radiolocation (civil)		EN 303 135 EN 302 194 EN 302 248 EN 302 752 EN 303 213	Shipborne, land and airborne surveillance
5.475	5.475		Weather radar			Ground based and airborne
5.475A	5.475A					
5.475B	5.475B					
5.476A	5.476A					

### 9500 MHz - 9800 MHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (ACTIVE) 5.476A	EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION SPACE RESEARCH (ACTIVE) 5.476A EU2 EU24		Active sensors (satellite) Aeronautical navigation Defence systems			Civil and military e.g. airfield approach Shipborne, land and airborne surveillance and weapon
		ERC/REC 70-03	Radiodetermination applications Radiolocation (civil)		EN 300 440 EN 302 372 EN 303 135	Within the band 9200-9975 MHz, and within the band 8.5-10.6 GHz for TLPR application Shipborne, land and airborne surveillance
<b>9800 MHz - 9900 MHz</b>						
RADIOLOCATION Earth Exploration-Satellite (active) Fixed Space Research (active) 5.477 5.478 5.478A 5.478B	RADIOLOCATION Earth Exploration-Satellite (active) Space Research (active) 5.478A EU2 5.478B EU24		Aeronautical navigation Defence systems			Civil and military e.g. airfield approach Shipborne, land and airborne surveillance and weapon
		ERC/REC 70-03	Radiodetermination applications Radiolocation (civil)		EN 300 440 EN 302 372 EN 303 135	Within the band 9200-9975 MHz; and within the band 8.5-10.6 GHz for TLPR application Shipborne, land and airborne surveillance
<b>9900 MHz - 10000 MHz</b>						
RADIOLOCATION Fixed 5.477 5.478 5.479	RADIOLOCATION Fixed 5.477 5.478 5.479		Aeronautical navigation Defence systems			Civil and military e.g. Airfield approach Shipborne, land and airborne surveillance and weapon
		ERC/REC 70-03	Radiodetermination applications Radiolocation (civil)		EN 300 440 EN 302 372 EN 303 135	Within the band 9200-9975 MHz, and within the band 8.5-10.6 GHz for TLPR application Shipborne, land and airborne surveillance
<b>10000 MHz - 10150 MHz</b>						
FIXED MOBILE RADIOLOCATION Amateur 5.479	FIXED MOBILE RADIOLOCATION Amateur 5.479 EU2		Amateur Defence systems		EN 301 783	Non civil radar
		ERC/REC 25-10	PMSE	EU17A		SAP/SAB
		ERC/REC 70-03	Radiodetermination applications		EN 302 372	Within the band 8.5-10.6 GHz for TLPR application

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>10150 MHz - 10300 MHz</b>						
FIXED MOBILE RADIOLOCATION Amateur	FIXED MOBILE RADIOLOCATION Amateur  EU2		Amateur		EN 301 783	
			BFWA		EN 302 326	Including Point-to-Multipoint
			Defence systems			Civil and military radars. Low power radars in certain subbands
		ERC/REC 12-05	Fixed		EN 302 217	
		ERC/REC 25-10	PMSE	EU17A		SAP/SAB
		ERC/REC 70-03	Radiodetermination applications		EN 302 372	Within the band 8.5-10.6 GHz for TLPR application
			Radiolocation (civil)			Low power radars in certain subbands
<b>10300 MHz - 10450 MHz</b>						
FIXED MOBILE RADIOLOCATION Amateur	FIXED RADIOLOCATION Amateur Mobile  EU2 EU17		Amateur		EN 301 783	
			Defence systems			Civil and military radars. Low power radars in certain subbands
		ERC/REC 25-10	PMSE	EU17A		SAP/SAB
		ERC/REC 70-03	Radiodetermination applications		EN 302 372	Within the band 8.5-10.6 GHz for TLPR application
			Radiolocation (civil)			Low power radars in certain subbands
<b>10450 MHz - 10.5 GHz</b>						
RADIOLOCATION Amateur Amateur-Satellite 5.481	FIXED MOBILE RADIOLOCATION Amateur Amateur-Satellite 5.481  EU2		Amateur	EU17	EN 301 783	
			Amateur-satellite	EU23		
			Defence systems			Civil and military radars
		ERC/REC 12-05	Fixed		EN 302 217	
		ERC/REC 25-10	PMSE	EU17A		SAP/SAB
		ERC/REC 70-03	Radiodetermination applications		EN 302 372	Within the band 10.5-10.6 GHz, and within the band 8.5-10.6 GHz for TLPR application
			Radiolocation (civil)			



<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>10.5 GHz - 10.55 GHz</b>						
FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation	ERC/REC 12-05	BFWA Fixed		EN 302 326 EN 302 217	Including Point-to-Multipoint
		ERC/REC 25-10	PMSE	EU17A		SAP/SAB
		ERC/REC 70-03	Radiodetermination applications		EN 300 440 EN 302 372	Within the band 10.5-10.6 GHz; and within the band 8.5-10.6 GHz for TLPR application
<b>10.55 GHz - 10.6 GHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE Radiolocation	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE Radiolocation	ERC/REC 12-05	BFWA Fixed		EN 302 326 EN 302 217	Including Point-to-Multipoint
		ERC/REC 25-10	PMSE	EU17A		SAP/SAB
		ERC/REC 70-03	Radiodetermination applications		EN 300 440 EN 302 372	Within the band 10.5-10.6 GHz, and within the band 8.5-10.6 GHz for TLPR application
<b>10.6 GHz - 10.65 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) Radiolocation 5.149 5.482 5.482A	EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) Radiolocation 5.149 5.482 5.482A	ECC/DEC/(10)01 ERC/REC 12-05	BFWA Fixed		EN 302 326 EN 302 217	Including Point-to-Multipoint
		ERC/REC 25-10	PMSE	EU17A		SAP/SAB
			Passive sensors (satellite)			Surface emissivity and precipitation measurements
			Radio astronomy			Continuum observations, VLBI
<b>10.65 GHz - 10.68 GHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED	EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED	ECC/DEC/(10)01 ERC/REC 12-05	Fixed		EN 302 217	
MOBILE EXCEPT AERONAUTICAL MOBILE	MOBILE EXCEPT AERONAUTICAL MOBILE	ERC/REC 25-10	PMSE	EU17A		SAP/SAB
RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) Radiolocation 5.149 5.482 5.482A	RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.149 5.482 5.482A		Passive sensors (satellite)  Radio astronomy			Surface emissivity and precipitation measurements  Continuum observations, VLBI
<b>10.68 GHz - 10.7 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.483	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340		Passive sensors (satellite)  Radio astronomy			Surface emissivity and precipitation measurement  Continuum observations, VLBI
<b>10.7 GHz - 11.7 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.484 FIXED-SATELLITE (SPACE-TO-EARTH) 5.441 5.484A MOBILE EXCEPT AERONAUTICAL MOBILE	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.484 FIXED-SATELLITE (SPACE-TO-EARTH) 5.441 5.484A MOBILE EXCEPT AERONAUTICAL MOBILE Mobile-Satellite (space-to-Earth)	ECC/DEC/(05)11  ECC/DEC/(05)10 ECC/DEC/(05)11 ERC/DEC/(00)08	- AES FSS Earth stations		EN 302 977 EN 302 186 EN 301 360 EN 301 427 EN 301 428 EN 301 430 EN 301 459 EN 302 340 EN 302 448	Vehicle-mounted Earth stations  Within the band 10.7-10.95/11.2-11.45 GHz in accordance with App 30B of RR SIT/SUT - EUTELTRACS - VSAT
		ERC/DEC/(00)08 ERC/REC 12-06	Fixed		EN 302 217	Limited to high capacity fixed links
		ECC/DEC/(06)03	HEST		EN 301 428 EN 301 459	
		ECC/DEC/(06)02	LEST		EN 301 428 EN 301 459	

### 11.7 GHz - 12.5 GHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
BROADCASTING BROADCASTING-SATELLITE 5.492 FIXED Mobile except aeronautical mobile 5.487 5.487A	BROADCASTING-SATELLITE 5.492 FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.487 EU28 5.487A	ERC/DEC/(00)08	- Broadcasting-satellite receivers		EN 302 977 EN 301 360 EN 301 459 EN 302 340 EN 302 448	Vehicle-mounted Earth stations In accordance with App 30 of RR.SIT within the band 12.4 - 12.5 GHz
		ECC/DEC/(06)03	HEST			
		ECC/DEC/(06)02	LEST			

### 12.5 GHz - 12.75 GHz

FIXED-SATELLITE (EARTH-TO-SPACE) FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A 5.494 5.495 5.496	FIXED-SATELLITE (EARTH-TO-SPACE) FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A 5.496	ECC/DEC/(05)11	- AES		EN 302 977 EN 302 186	Vehicle-mounted Earth stations
		ECC/DEC/(05)10 ECC/DEC/(05)11	FSS Earth stations		EN 301 360 EN 301 427 EN 301 428 EN 301 430 EN 301 459 EN 302 186 EN 302 340 EN 302 448	Priority for civil networks. Low density carriers, including VSATs and digital SNG are encouraged to use this band VSAT - SIT/SUT
		ECC/DEC/(06)03	HEST		EN 301 428 EN 301 459	
		ECC/DEC/(06)02	LEST		EN 301 428 EN 301 459	

### 12.75 GHz - 13.25 GHz

FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.441 MOBILE Space Research (deep space) (space-to-Earth)	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.441	ERC/REC 12-02	FSS Earth stations Fixed		EN 301 430 EN 302 217	
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### 13.25 GHz - 13.4 GHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
AERONAUTICAL RADIONAVIGATION 5.497	AERONAUTICAL RADIONAVIGATION 5.497		Active sensors (satellite)			Altimeters, scatterometers, precipitation radars
EARTH EXPLORATION-SATELLITE (ACTIVE)	EARTH EXPLORATION-SATELLITE (ACTIVE)		Airborne doppler navigation aids			
SPACE RESEARCH (ACTIVE) 5.498A	SPACE RESEARCH (ACTIVE) 5.498A		Maritime radar			Ship berthing radars
5.499	EU26					

### 13.4 GHz - 13.75 GHz

EARTH EXPLORATION-SATELLITE (ACTIVE)	EARTH EXPLORATION-SATELLITE (ACTIVE)		-			Data relay satellites
RADIOLOCATION	RADIOLOCATION		Active sensors (satellite)			Altimeters, scatterometers, precipitation radars
SPACE RESEARCH 5.501A	SPACE RESEARCH 5.501A		Airborne doppler navigation aids			
Standard Frequency and Time Signal-Satellite (Earth-to-space) 5.499	5.501B EU2		Defence systems			Military radars
5.500	EU26		Maritime radar			Ship berthing radars
5.501		ERC/REC 70-03	Radiodetermination applications		EN 300 440	Within the band 13.4-14.0 GHz
5.501B						

### 13.75 GHz - 14 GHz

FIXED-SATELLITE (EARTH-TO-SPACE) 5.484A	FIXED-SATELLITE (EARTH-TO-SPACE) 5.484A		-			Data relay satellites
RADIOLOCATION	RADIOLOCATION		Defence systems			Military radars
Earth Exploration-Satellite	Space Research		FSS Earth stations		EN 301 430	
Space Research	5.502 EU2		Maritime radar			Navigation radars, ship berthing radars
Standard Frequency and Time Signal-Satellite (Earth-to-space) 5.499	5.503 EU26		Passive sensors (satellite)			Future VLBI measurements
5.500		ERC/REC 70-03	Radiodetermination applications		EN 300 440	Within the band 13.4-14.0 GHz
5.501						
5.502						
5.503						

### 14 GHz - 14.25 GHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED-SATELLITE (EARTH-TO-SPACE) 5.457A 5.457B 5.484A 5.506 5.506B RADIONAVIGATION 5.504 Mobile-Satellite (Earth-to-space) 5.504B 5.504C 5.506A Space Research 5.504A	FIXED-SATELLITE (EARTH-TO-SPACE) 5.457A 5.457B 5.484A 5.506 5.506B Mobile-Satellite (Earth-to-space) 5.504B 5.504C 5.506A Space Research 5.504		-		EN 302 448	Tracking Earth stations on trains, vehicle-mounted Earth stations
		ECC/DEC/(05)11	AES		EN 302 186	
		ECC/DEC/(05)10	ESV		EN 302 340	
		ECC/DEC/(06)03	HEST		EN 301 428	
		ECC/DEC/(06)02	LEST		EN 301 428	
			MSS Earth stations		EN 301 427 EN 302 977	Priority for civil networks
		ERC/REC 13-03	VSAT		EN 301 428 EN 301 430	Low density carriers, including VSATs and digital SNG, are encouraged to use this band

### 14.25 GHz - 14.3 GHz

FIXED-SATELLITE (EARTH-TO-SPACE) 5.457A 5.457B 5.484A 5.506 5.506B RADIONAVIGATION 5.504 Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.508A Space Research 5.504A 5.508	FIXED-SATELLITE (EARTH-TO-SPACE) 5.457A 5.457B 5.484A 5.506 5.506B Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.508A Space Research 5.504		-			Vehicle-mounted Earth stations
		ECC/DEC/(05)11	AES		EN 302 186	
		ECC/DEC/(05)10	ESV		EN 302 340	
			MSS Earth stations		EN 301 427 EN 302 977	Priority for civil networks
		ERC/REC 13-03	VSAT		EN 301 428 EN 301 430	SNG

### 14.3 GHz - 14.4 GHz

FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.457A 5.457B 5.484A 5.506 5.506B MOBILE EXCEPT AERONAUTICAL MOBILE Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.509A Radionavigation-Satellite 5.504A	FIXED-SATELLITE (EARTH-TO-SPACE) 5.457A 5.457B 5.484A 5.506 5.506B Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.509A		-			Vehicle-mounted Earth stations
		ECC/DEC/(05)11	AES		EN 302 186	
		ECC/DEC/(05)10	ESV		EN 302 340	
			FSS Earth stations		EN 302 340	Fixed links to be coordinated with Fixed Satellite Services on a national basis
			Fixed			
			MSS Earth stations		EN 301 427 EN 302 977	Priority for civil networks
		ERC/REC 13-03	VSAT		EN 301 428 EN 301 430	SNG



<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE Space Research 5.339	FIXED MOBILE Radio Astronomy 5.339 EU27	ERC/REC 12-07	Defence systems  Fixed  Radio astronomy	EU20  EU20	EN 302 217	The band 14.62-15.23 GHz is a harmonised military band for fixed and mobile services  VLBI (when compatible with primary use)
<b>15.35 GHz - 15.4 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.511	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340		Passive sensors (satellite)  Radio astronomy			Continuum observations, VLBI
<b>15.4 GHz - 15.43 GHz</b>						
AERONAUTICAL RADIONAVIGATION RADIOLOCATION 5.511E 5.511F 5.511D	AERONAUTICAL RADIONAVIGATION RADIOLOCATION 5.511E 5.511F 5.511D		Airborne doppler navigation aids  Radiolocation (civil)			Doppler radar low power sensing  Ground movement radars
<b>15.43 GHz - 15.63 GHz</b>						
AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (EARTH-TO-SPACE) 5.511A RADIOLOCATION 5.511E 5.511F 5.511C	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (EARTH-TO-SPACE) RADIOLOCATION 5.511E 5.511F 5.511C		Airborne doppler navigation aids  FSS Earth stations  Radiolocation (civil)			Doppler radar low power sensing  MSS feeder links  Ground movement radars
<b>15.63 GHz - 15.7 GHz</b>						
AERONAUTICAL RADIONAVIGATION RADIOLOCATION 5.511E 5.511F 5.511D	AERONAUTICAL RADIONAVIGATION RADIOLOCATION 5.511E 5.511F 5.511D		Airborne doppler navigation aids  Radiolocation (civil)			Doppler radar low power sensing  Ground movement radars
<b>15.7 GHz - 16.6 GHz</b>						
RADIOLOCATION 5.512 5.513	RADIOLOCATION EU27		Defence systems			Harmonised military band for land, airborne and naval radars

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>16.6 GHz - 17.1 GHz</b>						
RADIOLOCATION Space Research (deep space) (Earth-to-space) 5.512 5.513	RADIOLOCATION Space Research (deep space) (Earth-to-space) EU27		Defence systems			Harmonised military band for land, airborne and naval radars
<b>17.1 GHz - 17.2 GHz</b>						
RADIOLOCATION 5.512 5.513	RADIOLOCATION Mobile EU2	ERC/REC 70-03	Defence systems GBSAR		EN 300 440	Military radar applications
<b>17.2 GHz - 17.3 GHz</b>						
EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION SPACE RESEARCH (ACTIVE) 5.512 5.513 5.513A	EARTH EXPLORATION-SATELLITE (ACTIVE) MOBILE RADIOLOCATION SPACE RESEARCH (ACTIVE) 5.513A EU2	ERC/REC 70-03	Defence systems GBSAR		EN 300 440	Military radar applications
<b>17.3 GHz - 17.7 GHz</b>						
FIXED-SATELLITE (EARTH-TO-SPACE) 5.516 FIXED-SATELLITE (SPACE-TO-EARTH) 5.516A 5.516B Radiolocation 5.514	FIXED-SATELLITE (EARTH-TO-SPACE) 5.516 FIXED-SATELLITE (SPACE-TO-EARTH) 5.516A 5.516B Radiolocation EU2	ECC/DEC/(13)01 ECC/DEC/(05)08	Defence systems ESOMPs FSS Earth stations Feeder links		EN 303 978	Military radar applications High Density FSS Feeder links for the BSS service. Appendix 30A of RR
<b>17.7 GHz - 18.1 GHz</b>						



<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>		
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.516 FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A MOBILE	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.516 FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A	ECC/DEC/(13)01	ESOMPs		EN 303 978			
			ERC/DEC/(00)07	FSS Earth stations		EN 301 360 EN 301 459	To coordinated Earth stations. Priority for civil networks	
					Feeder links			Feeder links for the BSS service. Appendix 30A of RR
		ERC/DEC/(00)07 ERC/REC 12-03	Fixed		EN 302 217			
<b>18.1 GHz - 18.3 GHz</b>								
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.520 FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A MOBILE 5.519 5.521	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) 5.519	ECC/DEC/(13)01	ESOMPs		EN 303 978			
			ERC/DEC/(00)07	FSS Earth stations		EN 301 459	To coordinated Earth stations. Priority for civil networks	
					Feeder links			Feeder links for the BSS service
		ERC/DEC/(00)07 ERC/REC 12-03	Fixed		EN 302 217			
			Weather satellites					
<b>18.3 GHz - 18.4 GHz</b>								
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.520 FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A MOBILE 5.519 5.521	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.520 FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH) 5.519	ECC/DEC/(13)01	ESOMPs		EN 303 978			
			ERC/DEC/(00)07	FSS Earth stations		EN 301 360 EN 301 459	To coordinated Earth stations. Priority for civil networks	
					Feeder links			Feeder links for the BSS service
		ERC/DEC/(00)07 ERC/REC 12-03	Fixed		EN 302 217			
<b>18.4 GHz - 18.6 GHz</b>								
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A MOBILE	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A	ECC/DEC/(13)01	ESOMPs		EN 303 978			
		ERC/DEC/(00)07	FSS Earth stations		EN 301 360 EN 301 459	To coordinated Earth stations. Priority for civil networks		
		ERC/DEC/(00)07 ERC/REC 12-03	Fixed		EN 302 217			

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>18.6 GHz - 18.8 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE)	EARTH EXPLORATION-SATELLITE (PASSIVE)	ECC/DEC/(13)01	ESOMPs		EN 303 978	
FIXED	FIXED	ERC/DEC/(00)07	FSS Earth stations		EN 301 360 EN 301 459	To coordinated Earth stations. Priority for civil networks
FIXED-SATELLITE (SPACE-TO-EARTH) 5.522B	FIXED-SATELLITE (SPACE-TO-EARTH) 5.522B					
MOBILE EXCEPT AERONAUTICAL MOBILE	5.522A	ERC/DEC/(00)07 ERC/REC 12-03	Fixed		EN 302 217	
Space Research (passive)			Passive sensors (satellite)			Surface emissivity, snow, sea, ice and precipitation
5.522A						
5.522C						
<b>18.8 GHz - 19.3 GHz</b>						
FIXED	FIXED	ECC/DEC/(13)01	ESOMPs		EN 303 978	
FIXED-SATELLITE (SPACE-TO-EARTH) 5.523A	FIXED-SATELLITE (SPACE-TO-EARTH) 5.523A	ERC/DEC/(00)07	FSS Earth stations		EN 301 360 EN 301 459	To coordinated Earth stations. Priority for civil networks
MOBILE		ERC/DEC/(00)07 ERC/REC 12-03	Fixed		EN 302 217	
<b>19.3 GHz - 19.7 GHz</b>						
FIXED	FIXED	ECC/DEC/(13)01	ESOMPs		EN 303 978	
FIXED-SATELLITE (SPACE-TO-EARTH) (EARTH-TO-SPACE) 5.523B	FIXED-SATELLITE (SPACE-TO-EARTH) (EARTH-TO-SPACE) 5.523B	ERC/DEC/(00)07	FSS Earth stations		EN 301 360 EN 301 459	To coordinated Earth stations. Priority for civil networks
5.523C 5.523D 5.523E	5.523C 5.523D 5.523E					
MOBILE		ERC/DEC/(00)07 ERC/REC 12-03	Fixed		EN 302 217	
<b>19.7 GHz - 20.1 GHz</b>						
FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A 5.516B	FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A 5.516B	ECC/DEC/(13)01	ESOMPs		EN 303 978	
Mobile-Satellite (space-to-Earth) 5.524	Mobile-Satellite (space-to-Earth)	ECC/DEC/(05)08	FSS Earth stations			High Density FSS
		ECC/DEC/(06)03	HEST		EN 301 360 EN 301 459	
		ECC/DEC/(06)02	LEST		EN 301 360 EN 301 459	
			MSS Earth stations		EN 301 360 EN 301 459	For uncoordinated Earth stations SUT

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>20.1 GHz - 20.2 GHz</b>						
FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A 5.516B	FIXED-SATELLITE (SPACE-TO-EARTH) 5.484A 5.516B	ECC/DEC/(13)01	ESOMPs		EN 303 978	
MOBILE-SATELLITE (SPACE-TO-EARTH)	MOBILE-SATELLITE (SPACE-TO-EARTH)	ECC/DEC/(05)08	FSS Earth stations			High Density FSS
5.524	5.525	ECC/DEC/(06)03	HEST		EN 301 360 EN 301 459	
5.525	5.526					
5.526	5.527					
5.527	5.528	ECC/DEC/(06)02	LEST		EN 301 360 EN 301 459	
5.528			MSS Earth stations		EN 301 360 EN 301 459	For uncoordinated Earth stations SUT
<b>20.2 GHz - 21.2 GHz</b>						
FIXED-SATELLITE (SPACE-TO-EARTH)	FIXED-SATELLITE (SPACE-TO-EARTH)		MSS Earth stations			For uncoordinated Earth stations. Harmonised military band for satellite downlinks
MOBILE-SATELLITE (SPACE-TO-EARTH)	MOBILE-SATELLITE (SPACE-TO-EARTH)					
STANDARD FREQUENCY AND TIME	EU2					
SIGNAL-SATELLITE (SPACE-TO-EARTH)	EU27					
5.524						
<b>21.2 GHz - 21.4 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE)	EARTH EXPLORATION-SATELLITE (PASSIVE)	ERC/REC 25-10	PMSE			Unidirectional temporary fixed or mobile links. Including SAP/SAB
FIXED	FIXED					
MOBILE	MOBILE		Passive sensors (satellite)			Passive systems will be phased out by 2015
SPACE RESEARCH (PASSIVE)	SPACE RESEARCH (PASSIVE)					
<b>21.4 GHz - 22 GHz</b>						
BROADCASTING-SATELLITE 5.208B	BROADCASTING-SATELLITE 5.208B		Broadcasting-satellite receivers		EN 301 360 EN 301 459	
FIXED	5.530A					
MOBILE	5.530B					
5.530A	5.530C	ERC/REC 25-10	PMSE			Wideband High Definition Television. Fixed service envisaged in some countries
5.530B	5.530D					
5.530C						
5.530D		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>22 GHz - 22.21 GHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE 5.149	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.149	T/R 13-02  ERC/REC 25-10	Fixed  PMSE  Radio astronomy	  EU17A	EN 302 217	SAP/SAB  Continuum and spectral line observations (e.g. water line), VLBI
		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013
<b>22.21 GHz - 22.5 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.149 5.532	FIXED MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) Earth Exploration-Satellite (passive) Mobile 5.149 5.532	T/R 13-02  ERC/REC 25-10	Fixed  PMSE  Passive sensors (satellite)  Radio astronomy	  EU17A	EN 302 217	SAP/SAB  EESS systems will be phased out by 2015  Continuum and spectral line observations (e.g. water line), VLBI
		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013
<b>22.5 GHz - 22.55 GHz</b>						
FIXED MOBILE	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE)	T/R 13-02  ERC/REC 25-10	Fixed  PMSE  Radio astronomy	  EU17A	EN 302 217	SAP/SAB  Continuum and spectral line observations (e.g. water line), VLBI
		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013

### **22.55 GHz - 23.15 GHz**

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED INTER-SATELLITE 5.338A MOBILE SPACE RESEARCH (EARTH-TO-SPACE) 5.532A 5.149	FIXED INTER-SATELLITE 5.338A MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE)	T/R 13-02  ERC/REC 25-10  ECC/DEC/(04)10 ERC/REC 70-03	Fixed  PMSE  Radio astronomy  SRR	  EU17A	EN 302 217    EN 302 288	  SAP/SAB  Continuum and spectral line observations (e.g. water line), VLBI  New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013

### 23.15 GHz - 23.55 GHz

FIXED INTER-SATELLITE 5.338A MOBILE	FIXED INTER-SATELLITE 5.338A MOBILE	T/R 13-02  ERC/REC 25-10  ECC/DEC/(04)10 ERC/REC 70-03	Fixed  PMSE  SRR		EN 302 217    EN 302 288	  SAP/SAB  New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013
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### 23.55 GHz - 23.6 GHz

FIXED MOBILE	FIXED INTER-SATELLITE MOBILE	T/R 13-02  ERC/REC 25-10  ECC/DEC/(04)10 ERC/REC 70-03	Fixed  PMSE  SRR		EN 302 217    EN 302 288	  SAP/SAB  New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013
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### 23.6 GHz - 24 GHz

EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340	    ECC/DEC/(04)10 ERC/REC 70-03	Passive sensors (satellite)  Radio astronomy  SRR		    EN 302 288	Measurement of water vapour, liquid water, clouds for atmospheric sounding  Continuum and spectral line observations (e.g. ammonia line). VLBI  New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013
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### 24 GHz - 24.05 GHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
AMATEUR AMATEUR-SATELLITE 5.150	AMATEUR AMATEUR-SATELLITE 5.150		Amateur Amateur-satellite ISM		EN 301 783	Within the band 24-24.25 GHz
		ERC/REC 70-03	Non-specific SRDs		EN 300 440	Within the band 24-24.25 GHz
		ERC/REC 25-10	PMSE			SAP/SAB
		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013

### 24.05 GHz - 24.25 GHz

RADIOLOCATION Amateur Earth Exploration-Satellite (active) 5.150	RADIOLOCATION Amateur Earth Exploration-Satellite (active) Fixed Mobile 5.150 EU2		Active sensors (satellite) Amateur Defence systems ISM			Rain radars from satellites
		ERC/REC 70-03	Non-specific SRDs		EN 300 440	Within the band 24-24.25 GHz
		ERC/REC 25-10	PMSE			SAP/SAB
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 24.05-27.00 GHz for TLPR application. Includes narrow band SRR. Within the band 24.05-26.50 GHz for LPR applications
		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013
		ERC/REC 70-03	TTT		EN 302 858	Automotive radars

### 24.25 GHz - 24.45 GHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED	FIXED MOBILE	T/R 13-02	Fixed			Unidirectional fixed links
		ERC/REC 25-10	PMSE	EU17A		SAP/SAB
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 24.05-27.00 GHz for TLPR application. Within the band 24.05-26.50 GHz for LPR applications
		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013. New SRR systems may only be introduced in CEPT countries in the frequency bands 24.25-26.65 GHz until 1 January 2018; this date is extended by 4 years for SRR equipment mounted on motor vehicles for which a type-approval application has been submitted and has been granted before 1 January 2018
		ERC/REC 70-03	TTT		EN 302 858	Automotive radars

### 24.45 GHz - 24.5 GHz

FIXED INTER-SATELLITE	FIXED MOBILE	T/R 13-02	Fixed			Unidirectional fixed links
		ERC/REC 25-10	PMSE	EU17A		SAP/SAB
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 24.05-27.00 GHz for TLPR application. Within the band 24.05-26.50 GHz for LPR applications
		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013. New SRR systems may only be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz until 1 January 2018; this date is extended by 4 years for SRR equipment mounted on motor vehicles for which a type-approval application has been submitted and has been granted before 1 January 2018
		ERC/REC 70-03	TTT		EN 302 858	Automotive radars

### 24.5 GHz - 24.65 GHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED INTER-SATELLITE	FIXED	ECC/REC/(11)01	BFWA		EN 302 326	CRS paired with 25.5-26.5 GHz for FDD systems
		T/R 13-02	Fixed		EN 302 217	
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 24.05-27.00 GHz for TLPR application. Within the band 24.05-26.50 GHz for LPR applications
		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013. New SRR systems may only be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz until 1 January 2018; this date is extended by 4 years for SRR equipment mounted on motor vehicles for which a type-approval application has been submitted and has been granted before 1 January 2018

#### **24.65 GHz - 24.75 GHz**

FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.532B INTER-SATELLITE	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.532B	ECC/REC/(11)01	BFWA		EN 302 326	CRS paired with 25.5-26.5 GHz for FDD systems
		T/R 13-02	Fixed		EN 302 217	
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 24.05-27.00 GHz for TLPR application. Within the band 24.05-26.50 GHz for LPR applications
		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013. New SRR systems may only be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz until 1 January 2018; this date is extended by 4 years for SRR equipment mounted on motor vehicles for which a type-approval application has been submitted and has been granted before 1 January 2018

#### **24.75 GHz - 25.25 GHz**



<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.532B	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.532B	ECC/REC/(11)01	BFWA		EN 302 326	CRS paired with 25.5-26.5 GHz for FDD systems
		T/R 13-02	Fixed		EN 302 217	
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 24.05-27.00 GHz for TLPR application. Within the band 24.05-26.50 GHz for LPR applications
		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013. New SRR systems may only be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz until 1 January 2018; this date is extended by 4 years for SRR equipment mounted on motor vehicles for which a type-approval application has been submitted and has been granted before 1 January 2018

## 25.25 GHz - 25.5 GHz

FIXED INTER-SATELLITE 5.536 MOBILE Standard Frequency and Time Signal-Satellite (Earth-to-space)	FIXED INTER-SATELLITE 5.536 MOBILE	ECC/REC/(11)01	BFWA		EN 302 326	CRS paired with 25.5-26.5 GHz for FDD systems
		T/R 13-02	Fixed		EN 302 217	
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 24.05-27.00 GHz for TLPR application. Within the band 24.05-26.50 GHz for LPR applications
		ECC/DEC/(04)10 ERC/REC 70-03	SRR		EN 302 288	New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013. New SRR systems may only be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz until 1 January 2018; this date is extended by 4 years for SRR equipment mounted on motor vehicles for which a type-approval application has been submitted and has been granted before 1 January 2018

## 25.5 GHz - 26.5 GHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
EARTH EXPLORATION-SATELLITE (SPACE-TO-EARTH) 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (SPACE-TO-EARTH) 5.536C Standard Frequency and Time Signal-Satellite (Earth-to-space) 5.536A	FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (SPACE-TO-EARTH) 5.536C Earth Exploration-Satellite (space-to-Earth) 5.536B 5.536A	ECC/REC/(11)01  T/R 13-02 ECC/DEC/(11)02 ERC/REC 70-03  ECC/DEC/(04)10 ERC/REC 70-03	BFWA  Fixed Radiodetermination applications  SRR		EN 302 326  EN 302 217 EN 302 372 EN 302 729  EN 302 288	TS should be paired with 24.5-25.5 GHz for FDD systems   Within the band 24.05-27.00 GHz for TLPR application. Within the band 24.05-26.50 GHz for LPR applications  New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013. New SRR systems may only be introduced in CEPT countries in the frequency bands 24.25-26.65 GHz until 1 January 2018; this date is extended by 4 years for SRR equipment mounted on motor vehicles for which a type-approval application has been submitted and has been granted before 1 January 2018
			Space research			Satellite payload telemetry

## 26.5 GHz - 27 GHz

EARTH EXPLORATION-SATELLITE (SPACE-TO-EARTH) 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (SPACE-TO-EARTH) 5.536C Standard Frequency and Time Signal-Satellite (Earth-to-space) 5.536A	FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (SPACE-TO-EARTH) 5.536C Earth Exploration-Satellite (space-to-Earth) 5.536B 5.536A EU27	ERC/REC 70-03  ECC/DEC/(04)10 ERC/REC 70-03	Defence systems  Radiodetermination applications  SRR		EN 302 372  EN 302 288	Harmonised military band for fixed and mobile systems  Within the band 24.05-27.00 GHz for TLPR application  New SRR systems shall not be introduced in CEPT countries in the frequency bands 21.65-26.65 GHz as of 1 July 2013. New SRR systems may only be introduced in CEPT countries in the frequency bands 24.25-26.65 GHz until 1 January 2018; this date is extended by 4 years for SRR equipment mounted on motor vehicles for which a type approval application has been submitted and has been granted before 1 January 2018
			Space research			Satellite payload telemetry

## 27 GHz - 27.5 GHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED INTER-SATELLITE 5.536 MOBILE	FIXED INTER-SATELLITE 5.536 MOBILE Earth Exploration-Satellite (space-to-Earth) EU27		Defence systems			Harmonised military band for fixed and mobile systems
<b>27.5 GHz - 28.5 GHz</b>						
FIXED 5.537A FIXED-SATELLITE (EARTH-TO-SPACE) 5.484A 5.516B 5.539 MOBILE 5.538 5.540	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.484A 5.516B 5.539 5.538 5.540	ECC/REC/(11)01	BFWA			CRS paired with 28.5-29.5 GHz for FDD systems. The Earth-to-Space direction for uncoordinated Earth stations within the band 27.5-27.8285 GHz. The Space-to-Earth direction is limited to beacons for uplink power control 27.5-27.501 GHz
		ECC/DEC/(13)01	ESOMPs		EN 303 978	
		ECC/DEC/(05)01	FSS Earth stations		EN 301 360	The Earth-to-Space direction for uncoordinated Earth stations within the band 27.5-27.8285 GHz. The Space-to-Earth direction is limited to beacons for uplink power control 27.5-27.501 GHz
			Feeder links			Feeder links to be used for Broadcasting satellites (HDTV) 27.5-29.5 GHz
		ECC/DEC/(05)01 T/R 13-02	Fixed		EN 302 217	For frequency arrangement between FS and FSS see ECC/DEC/(05)01
<b>28.5 GHz - 29.1 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.484A 5.516B 5.523A 5.539 MOBILE Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.484A 5.516B 5.523A 5.539 Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	ECC/REC/(11)01	BFWA			TS paired with 27.5-28.5 GHz for FDD systems. Uncoordinated Earth stations within the band 28.4445-28.8365 GHz
		ECC/DEC/(13)01	ESOMPs		EN 303 978	
		ECC/DEC/(05)01	FSS Earth stations		EN 301 360	Uncoordinated Earth stations within the band 28.4445-28.8365 GHz
			Feeder links			Feeder links to be used for Broadcasting satellites (HDTV) 27.5-29.5 GHz
		ECC/DEC/(05)01 T/R 13-02	Fixed		EN 302 217	For frequency arrangement between FS and FSS see ECC/DEC/(05)01

### 29.1 GHz - 29.5 GHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.516B 5.523C 5.523E 5.535A 5.539 5.541A MOBILE Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.516B 5.523C 5.523E 5.535A 5.539 5.541A Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	ECC/REC/(11)01	BFWA			TS paired with 27.5-28.5 GHz for FDD systems. Uncoordinated Earth stations within the band 29.4525-29.5 GHz
		ECC/DEC/(13)01	ESOMPs		EN 303 978	
		ECC/DEC/(05)01	FSS Earth stations		EN 301 360	Uncoordinated Earth stations within the band 29.4525-29.5 GHz
			Feeder links			Feeder links to be used for Broadcasting satellites (HDTV) 27.5-29.5 GHz
		ECC/DEC/(05)01 T/R 13-02	Fixed		EN 302 217	Within the band 29.0605-29.4525 GHz

### 29.5 GHz - 29.9 GHz

FIXED-SATELLITE (EARTH-TO-SPACE) 5.484A 5.516B 5.539 Earth Exploration-Satellite (Earth-to-space) 5.541 Mobile-Satellite (Earth-to-space) 5.540 5.542	FIXED-SATELLITE (EARTH-TO-SPACE) 5.484A 5.516B 5.539 Earth Exploration-Satellite (Earth-to-space) 5.541 Mobile-Satellite (Earth-to-space) 5.540	ECC/DEC/(13)01	ESOMPs		EN 303 978	
		ECC/DEC/(06)03	HEST		EN 301 459	
		ECC/DEC/(06)02	LEST		EN 301 459	
			MSS Earth stations		EN 301 459	
		ECC/DEC/(05)08	SIT/SUT		EN 301 459	High Density FSS

### 29.9 GHz - 30 GHz

FIXED-SATELLITE (EARTH-TO-SPACE) 5.484A 5.516B 5.539 MOBILE-SATELLITE (EARTH-TO-SPACE) Earth Exploration-Satellite (Earth-to-space) 5.541 5.543 5.525 5.526 5.527 5.538 5.540 5.542	EARTH EXPLORATION-SATELLITE (EARTH-TO-SPACE) 5.541 5.543 FIXED-SATELLITE (EARTH-TO-SPACE) 5.484A 5.516B 5.539 MOBILE-SATELLITE (EARTH-TO-SPACE) 5.525 5.526 5.527 5.538 5.540	ECC/DEC/(13)01	ESOMPs		EN 303 978	
			FSS Earth stations			Limited to beacons for uplink power control 29.999-30 GHz
		ECC/DEC/(06)03	HEST		EN 301 459	
		ECC/DEC/(06)02	LEST		EN 301 459	
			MSS Earth stations		EN 301 459	
		ECC/DEC/(05)08	SIT/SUT		EN 301 459	High Density FSS

### 30 GHz - 31 GHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED-SATELLITE (EARTH-TO-SPACE) 5.338A MOBILE-SATELLITE (EARTH-TO-SPACE) Standard Frequency and Time Signal-Satellite (space-to-Earth) 5.542	FIXED-SATELLITE (EARTH-TO-SPACE) 5.388A MOBILE-SATELLITE (EARTH-TO-SPACE)  EU2 EU27		FSS Earth stations  MSS Earth stations			For uncoordinated Earth stations. Harmonised military band for satellite uplinks
<b>31 GHz - 31.3 GHz</b>						
FIXED 5.338A 5.543A MOBILE Space Research 5.544 5.545 Standard Frequency and Time Signal-Satellite (space-to-Earth) 5.149	FIXED 5.338A MOBILE 5.149	ECC/REC/(02)02	Fixed  Radio astronomy		EN 302 217 EN 302 326	Continuum observations
<b>31.3 GHz - 31.5 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340	ECC/DEC/(10)02	Passive sensors (satellite)  Radio astronomy			Measurement of sea ice, water vapour, oil spills, liquid water, clouds, surface temperature, emissivity and atmospheric attenuation. Reference window for the 50-60 GHz range  Continuum observations
<b>31.5 GHz - 31.8 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) Fixed Mobile except aeronautical mobile 5.149 5.546	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) Fixed Mobile except aeronautical mobile 5.149 5.546		Fixed  Passive sensors (satellite)  Radio astronomy			Measurement of sea ice, water vapour, oil spills, liquid water, clouds, surface temperature. Emissivity and atmospheric attenuation. Reference window for the 50-60 GHz range  Continuum observations
<b>31.8 GHz - 32 GHz</b>						
FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (DEEP SPACE) (SPACE-TO-EARTH) 5.547 5.547B 5.548	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (DEEP SPACE) (SPACE-TO-EARTH) 5.547 5.548	ECC/REC/(11)01 ERC/REC/(01)02	Fixed		EN 302 217 EN 302 326	Point-to-Point and Point-to-Multipoint. High Density FS

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
<b>32 GHz - 32.3 GHz</b>						
FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (DEEP SPACE) (SPACE-TO-EARTH) 5.547 5.547C 5.548	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (DEEP SPACE) (SPACE-TO-EARTH) 5.547 5.548	ECC/REC/(11)01 ERC/REC/(01)02	Fixed		EN 302 217 EN 302 326	Point-to-Point and Point-to-Multipoint. High Density FS
<b>32.3 GHz - 33 GHz</b>						
FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.547D 5.548	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.548	ECC/REC/(11)01 ERC/REC/(01)02	Fixed		EN 302 217 EN 302 326	Point-to-Point and Point-to-Multipoint. High Density FS
<b>33 GHz - 33.4 GHz</b>						
FIXED 5.547A RADIONAVIGATION 5.547 5.547E	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547	ECC/REC/(11)01 ERC/REC/(01)02	Fixed		EN 302 217 EN 302 326	Point-to-Point and Point-to-Multipoint. High Density FS
<b>33.4 GHz - 34.2 GHz</b>						
RADIOLOCATION 5.549	RADIOLOCATION EU2 EU27		Defence systems  Radiodetermination applications			Harmonised military band for radiolocation systems  Surveying and measurement
<b>34.2 GHz - 34.7 GHz</b>						
RADIOLOCATION SPACE RESEARCH (DEEP SPACE) (EARTH-TO-SPACE) 5.549	RADIOLOCATION SPACE RESEARCH (DEEP SPACE) (EARTH-TO-SPACE) EU2 EU27		Defence systems  Radiodetermination applications			Harmonised military band for radiolocation systems  Surveying and measurement
<b>34.7 GHz - 35.2 GHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
RADIOLOCATION Space Research 5.549	RADIOLOCATION Space Research EU2 EU27		Defence systems  Radiodetermination applications			Harmonised military band for radiolocation systems  Surveying and measurement
<b>35.2 GHz - 35.5 GHz</b>						
METEOROLOGICAL AIDS RADIOLOCATION 5.549	METEOROLOGICAL AIDS RADIOLOCATION EU2 EU27		Active sensors (satellite)  Defence systems			Rain radar from satellites  Harmonised military band for radiolocation systems
<b>35.5 GHz - 36 GHz</b>						
EARTH EXPLORATION-SATELLITE (ACTIVE) METEOROLOGICAL AIDS RADIOLOCATION SPACE RESEARCH (ACTIVE) 5.549 5.549A	EARTH EXPLORATION-SATELLITE (ACTIVE) METEOROLOGICAL AIDS RADIOLOCATION SPACE RESEARCH (ACTIVE) 5.549A EU2 EU27		Active sensors (satellite)  Defence systems			Harmonised military band for Radiolocation systems
<b>36 GHz - 37 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED MOBILE SPACE RESEARCH (PASSIVE) 5.149 5.550A	EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED MOBILE SPACE RESEARCH (PASSIVE) Radio Astronomy 5.149 EU27 5.550A		Defence systems  Passive sensors (satellite)  Radio astronomy			Harmonised military band for fixed and mobile systems  EESS surface emissivity, snow, sea ice and precipitation  Spectral line observations (Hydrogen cyanide and Hydroxil lines) 36.43-36.50 GHz
<b>37 GHz - 37.5 GHz</b>						
FIXED MOBILE EXCEPT AERONAUTICAL MOBILE SPACE OPERATION (SPACE-TO-EARTH) 5.547	FIXED SPACE RESEARCH (SPACE-TO-EARTH) 5.547 EU2	T/R 12-01	Defence systems  Fixed		EN 302 217	Low and medium capacity fixed links  Major use by civil Fixed Service systems. High Density fixed links
<b>37.5 GHz - 38 GHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE EXCEPT AERONAUTICAL MOBILE SPACE RESEARCH (SPACE-TO-EARTH) Earth Exploration-Satellite (space-to-Earth) 5.547	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) SPACE RESEARCH (SPACE-TO-EARTH) Earth Exploration-Satellite (space-to-Earth) 5.547 EU2	ERC/DEC/(00)02  T/R 12-01	Defence systems FSS Earth stations Fixed		EN 302 217	Low and medium capacity fixed links Uncoordinated Earth stations shall not claim protection from the Fixed Service Major use by civil Fixed Service systems. High Density fixed links

### 38 GHz - 39.5 GHz

FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE Earth Exploration-Satellite (space-to-Earth) 5.547	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) Earth Exploration-Satellite (space-to-Earth) 5.547 EU2	ERC/DEC/(00)02  T/R 12-01	Defence systems FSS Earth stations Fixed		EN 302 217	Low and medium capacity fixed links Uncoordinated Earth stations shall not claim protection from the Fixed Service Major use by civil Fixed Service systems. High Density fixed links
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### 39.5 GHz - 40 GHz

FIXED FIXED-SATELLITE (SPACE-TO-EARTH) 5.516B MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH) Earth Exploration-Satellite (space-to-Earth) 5.547	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) 5.516B MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH) Earth Exploration-Satellite (space-to-Earth) 5.547 EU2	ERC/DEC/(00)02	FSS Earth stations			
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### 40 GHz - 40.5 GHz

EARTH EXPLORATION-SATELLITE (EARTH-TO-SPACE) FIXED FIXED-SATELLITE (SPACE-TO-EARTH) 5.516B MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH) SPACE RESEARCH (EARTH-TO-SPACE) Earth Exploration-Satellite (space-to-Earth)	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) 5.516B MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH) SPACE RESEARCH (EARTH-TO-SPACE) Earth Exploration-Satellite (space-to-Earth) EU2	ERC/DEC/(00)02	FSS Earth stations			
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<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>40.5 GHz - 41 GHz</b>						
BROADCASTING BROADCASTING-SATELLITE FIXED FIXED-SATELLITE (SPACE-TO-EARTH) Mobile 5.547	BROADCASTING BROADCASTING-SATELLITE FIXED 5.547	ECC/DEC/(02)04  ECC/REC/(01)04	FSS Earth stations  Fixed		EN 301 997 EN 302 217	Point-to-point and terrestrial multipoint systems
		ECC/REC/(01)04 ERC/DEC/(99)15	MWS		EN 301 997 EN 302 217	Point-to-point and terrestrial multipoint systems
<b>41 GHz - 42 GHz</b>						
BROADCASTING BROADCASTING-SATELLITE FIXED FIXED-SATELLITE (SPACE-TO-EARTH) Mobile 5.547 5.551F	BROADCASTING BROADCASTING-SATELLITE FIXED 5.547	ECC/DEC/(02)04  ECC/REC/(01)04	FSS Earth stations  Fixed		EN 301 997 EN 302 217	Point-to-point and terrestrial multipoint systems
		ECC/REC/(01)04 ERC/DEC/(99)15	MWS		EN 302 217	Point-to-point and terrestrial multipoint systems
<b>42 GHz - 42.5 GHz</b>						
BROADCASTING BROADCASTING-SATELLITE FIXED FIXED-SATELLITE (SPACE-TO-EARTH) Mobile 5.547 5.551F 5.551H 5.551I	BROADCASTING BROADCASTING-SATELLITE FIXED 5.551H 5.551I	ECC/DEC/(02)04  ECC/REC/(01)04	FSS Earth stations  Fixed		EN 301 997 EN 302 217	Point-to-point and terrestrial multipoint systems
		ECC/REC/(01)04 ERC/DEC/(99)15	MWS		EN 302 217	Point-to-point and terrestrial multipoint systems
<b>42.5 GHz - 43.5 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY 5.149 5.547	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 MOBILE EXCEPT AERONAUTICAL MOBILE RADIO ASTRONOMY 5.149 5.547	ECC/REC/(01)04	FSS Earth stations  Fixed		EN 301 997 EN 302 217	Priority for civil networks Point-to-point and terrestrial multipoint systems
		ECC/REC/(01)04 ERC/DEC/(99)15	MWS		EN 302 217	Point-to-point and terrestrial multipoint systems
			Radio astronomy			Continuum and spectral line observations (e.g. silicon monoxide line), VLBI

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>43.5 GHz - 45.5 GHz</b>						
MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	MOBILE 5.553 MOBILE-SATELLITE Fixed-Satellite 5.554 EU27		Defence systems			Harmonised military band for satellite uplinks and mobile systems
<b>45.5 GHz - 47 GHz</b>						
MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554		-			Not allocated
<b>47 GHz - 47.2 GHz</b>						
AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE		Amateur  Amateur-satellite		EN 301 783	
<b>47.2 GHz - 47.5 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 MOBILE 5.552A	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 MOBILE 5.552A		FSS Earth stations  Feeder links  HAPS			For fixed applications. Priority for civil networks  For 40 GHz Broadcasting satellites
		ERC/REC 25-10	PMSE			SAP/SAB
<b>47.5 GHz - 47.9 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 FIXED-SATELLITE (SPACE-TO-EARTH) 5.516B 5.554A MOBILE	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 FIXED-SATELLITE (SPACE-TO-EARTH) 5.516B 5.554A MOBILE	ECC/DEC/(05)08	FSS Earth stations  Feeder links			High Density FSS  For 40 GHz Broadcasting satellites
		ERC/REC 25-10	PMSE			SAP/SAB
<b>47.9 GHz - 48.2 GHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 MOBILE 5.552A	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 MOBILE 5.552A		FSS Earth stations Feeder links HAPS			For fixed applications. Priority for civil networks For 40 GHz Broadcasting satellites
		ERC/REC 25-10	PMSE			SAP/SAB
<b>48.2 GHz - 48.54 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 FIXED-SATELLITE (SPACE-TO-EARTH) 5.516B 5.554A 5.555B MOBILE	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 FIXED-SATELLITE (SPACE-TO-EARTH) 5.516B 5.554A 5.555B MOBILE	ECC/DEC/(05)08	FSS Earth stations Feeder links			High Density FSS For 40 GHz Broadcasting satellites
		ERC/REC 12-10	Fixed			Within the band 48.50-48.54 GHz
		ERC/REC 25-10	PMSE			SAP/SAB
<b>48.54 GHz - 49.44 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 MOBILE 5.149 5.340 5.555	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 MOBILE RADIO ASTRONOMY 5.149 5.340 5.555		FSS Earth stations Feeder links			For fixed applications. Priority for civil networks 48.5-49.2 GHz for 40 GHz Broadcasting satellites
		ERC/REC 12-10	Fixed		EN 302 217	
		ERC/REC 25-10	PMSE	EU17A		SAP/SAB
			Radio astronomy			Spectral line observations (e.g. carbon monosulphide line)
<b>49.44 GHz - 50.2 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.552 5.338A FIXED-SATELLITE (SPACE-TO-EARTH) 5.516B 5.554A 5.555B MOBILE	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.338A 5.552 FIXED-SATELLITE (SPACE-TO-EARTH) 5.516B 5.554A 5.555B MOBILE	ECC/DEC/(05)08	FSS Earth stations			High Density FSS
		ERC/REC 12-10	Fixed		EN 302 217	
		ERC/REC 25-10	PMSE	EU17A		SAP/SAB
<b>50.2 GHz - 50.4 GHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE) 5.340	EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE) 5.340		Passive sensors (satellite)  Radio astronomy			Atmospheric temperature sounding. Terrestrial passive radiometers. Reference window for the 52.6-59.3 GHz band  Continuum and spectral line observations
<b>50.4 GHz - 51.4 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.338A MOBILE Mobile-Satellite (Earth-to-space)	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) 5.338A Mobile-Satellite (Earth-to-space) EU2		-			Future satellite and terrestrial applications. Shared civil and non civil allocation
<b>51.4 GHz - 52.6 GHz</b>						
FIXED 5.338A MOBILE 5.547 5.556	FIXED 5.338A MOBILE RADIO ASTRONOMY 5.547 5.556	ERC/REC 12-11	Fixed  Radio astronomy		EN 302 217	High density fixed links  Continuum and spectral line observations
<b>52.6 GHz - 54.25 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE) 5.340 5.556	EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE) 5.340 5.556		Passive sensors (satellite)  Radio astronomy			Atmospheric temperature sounding. Terrestrial passive radiometers  Continuum and spectral line observations
<b>54.25 GHz - 55.78 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE 5.556A SPACE RESEARCH (PASSIVE) 5.556B	EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE)		Passive sensors (satellite)			Atmospheric temperature sounding. Terrestrial passive radiometers
<b>55.78 GHz - 56.9 GHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED 5.557A INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (PASSIVE) 5.547 5.557	EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED 5.557A INTER-SATELLITE 5.556A SPACE RESEARCH (PASSIVE) 5.547 5.558	ERC/REC 12-12	Fixed  Passive sensors (satellite)		EN 302 217	High density fixed links  Atmospheric temperature sounding
<b>56.9 GHz - 57 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED INTER-SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (PASSIVE) 5.547 5.557	EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED MOBILE 5.558 SPACE RESEARCH (PASSIVE) 5.547 5.558A	ERC/REC 12-12	Fixed  Passive sensors (satellite)		EN 302 217	High density fixed links  Atmospheric temperature sounding
<b>57 GHz - 58.2 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (PASSIVE) 5.547 5.557	EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (PASSIVE) 5.547	ECC/REC/(09)01  ERC/REC 70-03	Fixed  Non-specific SRDs  Passive sensors (satellite)		EN 302 217  EN 305 550	Un-coordinated deployment.. High density fixed links  Within the band 57-64 GHz  Atmospheric temperature sounding
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 57-64 GHz for TLPR and LPR applications
		ERC/REC 70-03	Wideband data transmission systems		EN 302 567	
<b>58.2 GHz - 59 GHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED	EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED	ECC/REC/(09)01	Fixed		EN 302 217	Un-coordinated deployment.. High density fixed links
MOBILE SPACE RESEARCH (PASSIVE) 5.547 5.556	RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.547 EU6 5.556 EU19	ERC/REC 70-03	Non-specific SRDs  Passive sensors (satellite)  Radio astronomy		EN 305 550	Within the band 57-64 GHz  Atmospheric temperature sounding. Terrestrial passive radiometers  Continuum and spectral line observations
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 57-64 GHz for TLPR and LPR applications
		ERC/REC 70-03	Wideband data transmission systems		EN 302 567	

### 59 GHz - 59.3 GHz

EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED	EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED		Defence systems			Frequency band 59-61 GHz is a harmonised military band for fixed, mobile and radiolocation systems
INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (PASSIVE)	INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (PASSIVE) EU2 EU27	ECC/REC/(09)01	Fixed		EN 302 217	High density fixed links
		ERC/REC 70-03	Non-specific SRDs  Passive sensors (satellite)		EN 305 550	Within the band 57-64 GHz  Atmospheric temperature sounding. Terrestrial passive radiometers
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 57-64 GHz for TLPR and LPR applications
		ERC/REC 70-03	Wideband data transmission systems		EN 302 567	

### 59.3 GHz - 62 GHz

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138 EU2 EU27	ECC/REC/(09)01	Defence systems			Frequency band 59-61 GHz is a harmonised military band for fixed, mobile and radiolocation systems
			Fixed		EN 302 217	High density fixed links
			ISM			Within the band 61.0-61.5 GHz
		ERC/REC 70-03	Non-specific SRDs		EN 305 550	Within the band 57-64 GHz
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 57-64 GHz for TLPR and LPR applications
		ERC/REC 70-03	Wideband data transmission systems		EN 302 567	

### 62 GHz - 63 GHz

FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 EU2	ECC/REC/(09)01	Defence systems			
			Fixed		EN 302 217	High density fixed links
			Land mobile			Broadband mobile systems for connection to IBCN paired with 65-66 GHz
		ERC/REC 70-03	Non-specific SRDs		EN 305 550	Within the band 57-64 GHz
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 57-64 GHz for TLPR and LPR applications
		ERC/REC 70-03	Wideband data transmission systems		EN 302 567	

### 63 GHz - 64 GHz

FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 EU2	ECC/REC/(09)01	Defence systems			
			Fixed		EN 302 217	High density fixed links
		ECC/DEC/(09)01	ITS		EN 302 686	
		ERC/REC 70-03	Non-specific SRDs		EN 305 550	Within the band 57-64 GHz
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 57-64 GHz for TLPR and LPR applications
		ERC/REC 70-03	Wideband data transmission systems		EN 302 567	

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
<b>64 GHz - 65 GHz</b>						
FIXED INTER-SATELLITE MOBILE EXCEPT AERONAUTICAL MOBILE 5.547 5.556	FIXED INTER-SATELLITE MOBILE EXCEPT AERONAUTICAL MOBILE 5.547 5.556	ECC/REC/(05)02  ERC/REC 70-03	Fixed  Radio astronomy  Wideband data transmission systems		EN 302 217  EN 302 567	High density fixed links  Continuum and spectral line observations
<b>65 GHz - 66 GHz</b>						
EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE EXCEPT AERONAUTICAL MOBILE SPACE RESEARCH 5.547	EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE EXCEPT AERONAUTICAL MOBILE SPACE RESEARCH 5.547	ECC/REC/(05)02  ERC/REC 70-03	Fixed  Land mobile  Wideband data transmission systems		EN 302 217  EN 302 567	High density fixed links  Broadband mobile systems for connection to IBCN paired with 62-63 GHz
<b>66 GHz - 71 GHz</b>						
INTER-SATELLITE MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	INTER-SATELLITE MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554		-			Future civil systems
<b>71 GHz - 74 GHz</b>						
FIXED FIXED-SATELLITE (SPACE-TO- EARTH) MOBILE MOBILE-SATELLITE (SPACE-TO- EARTH)	FIXED FIXED-SATELLITE (SPACE-TO- EARTH) MOBILE MOBILE-SATELLITE (SPACE-TO- EARTH)  EU27	ECC/REC/(05)07	Defence systems  Fixed		EN 302 217	Harmonised military band. Pairing with 81-84 GHz is envisaged
<b>74 GHz - 75.5 GHz</b>						



<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
BROADCASTING BROADCASTING-SATELLITE FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE SPACE RESEARCH (SPACE-TO-EARTH) 5.561	BROADCASTING BROADCASTING-SATELLITE FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE Space Research (space-to-Earth) 5.561	ECC/REC/(05)07  ECC/DEC/(11)02 ERC/REC 70-03	Fixed  Radiodetermination applications  Space research		EN 302 217  EN 302 372 EN 302 729	  Within the band 75-85 GHz for TLPR and LPR applications  VLBI measurements within the band 74-84 GHz

### 75.5 GHz - 76 GHz

BROADCASTING BROADCASTING-SATELLITE FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE Space Research (space-to-Earth) 5.561	BROADCASTING BROADCASTING-SATELLITE FIXED FIXED-SATELLITE (SPACE-TO-EARTH) Amateur Amateur-Satellite 5.561 EU2 EU35	   ECC/REC/(05)07  ECC/DEC/(11)02 ERC/REC 70-03	Amateur  Amateur-satellite  Fixed  Radiodetermination applications  Space research	EU35	EN 301 783   EN 302 217  EN 302 372 EN 302 729	     Within the band 75-85 GHz for TLPR and LPR applications  VLBI
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### 76 GHz - 77.5 GHz

RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite Space Research (space-to-Earth) 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite Space Research (space-to-Earth) 5.149 EU2	     ECC/DEC/(11)02 ERC/REC 70-03  ERC/REC 70-03  ECC/DEC/(04)03 ERC/REC 70-03  ERC/REC 70-03	Amateur  Amateur-satellite  Radio astronomy  Radiodetermination applications  Radiolocation (civil)  Railway applications  SRR  TTT		EN 301 783     EN 302 372 EN 302 729  EN 301 091  EN 302 264  EN 301 091	       Continuum and spectral line observations  Within the band 75-85 GHz for TLPR and LPR applications   Obstruction/vehicle detection at level crossings    Within the band 76-77 GHz Radar. Transport and Traffic Telematic
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### 77.5 GHz - 78 GHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
AMATEUR AMATEUR-SATELLITE Radio Astronomy Space Research (space-to-Earth) 5.149	AMATEUR AMATEUR-SATELLITE Space Research (space-to-Earth) 5.149	ECC/DEC/(11)02 ERC/REC 70-03	Radio astronomy			Continuum and spectral line observations
		ECC/DEC/(04)03 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 75-85 GHz for TLPR and LPR applications
			SRR		EN 302 264	

## 78 GHz - 79 GHz

RADIOLOCATION Amateur Amateur-Satellite Radio Astronomy Space Research (space-to-Earth) 5.149 5.560	RADIOLOCATION Amateur Amateur-Satellite Radio Astronomy Space Research (space-to-Earth) 5.149 EU2 5.560	ECC/DEC/(11)02 ERC/REC 70-03	Defence systems			
			Radio astronomy			Continuum and spectral line observations
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 75-85 GHz for TLPR and LPR applications
			Radiolocation (civil)			
		ECC/DEC/(04)03 ERC/REC 70-03	SRR		EN 302 264	

## 79 GHz - 81 GHz

RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite (space-to-Earth) Space Research (space-to-Earth) 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite (space-to-Earth) 5.149 EU2	ECC/DEC/(11)02 ERC/REC 70-03	Defence Systems			
			Radio astronomy			Continuum and spectral line observations
		ECC/DEC/(11)02 ERC/REC 70-03	Radiodetermination applications		EN 302 372 EN 302 729	Within the band 75-85 GHz for TLPR and LPR applications
			Radiolocation (civil)			
		ECC/DEC/(04)03 ERC/REC 70-03	SRR		EN 302 264	

## 81 GHz - 84 GHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED 5.338A FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) RADIO ASTRONOMY Space Research (space-to-Earth) 5.149 5.561A	FIXED 5.338A FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) RADIO ASTRONOMY Space Research (space-to-Earth) 5.149 EU27 5.561A	ECC/REC/(05)07           ECC/DEC/(11)02 ERC/REC 70-03	Amateur  Amateur-satellite  Defence systems  Fixed  Radio astronomy  Radiodetermination applications		EN 301 783           EN 302 217           EN 302 372 EN 302 729	Within the band 81-81.5 GHz  Within the band 81-81.5 GHz  Harmonised military band. Paring with 71-74 GHz is envisaged           Continuum and spectral line observations  Within the band 75-85 GHz for TLPR and LPR applications

### 84 GHz - 86 GHz

FIXED 5.338A FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE RADIO ASTRONOMY 5.149	FIXED 5.338A FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE RADIO ASTRONOMY 5.149	ECC/REC/(05)07           ECC/DEC/(11)02 ERC/REC 70-03	Fixed  Radio astronomy  Radiodetermination applications		EN 302 217           EN 302 372 EN 302 729	Continuum and spectral line observations  Within the band 75-85 GHz for TLPR and LPR applications
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### 86 GHz - 92 GHz

EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340		Passive sensors (satellite)  Radio astronomy			Measurement of clouds, oil spills, ice, snow, rain, reference window for the temperature sounding near 118 GHz  Continuum and spectral line observations. VLBI
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### 92 GHz - 94 GHz

FIXED 5.338A MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED 5.338A MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149 EU2	ECC/REC/(14)01	Fixed  Radio astronomy		EN 302 017	Continuum and spectral line observations
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### 94 GHz - 94.1 GHz

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION SPACE RESEARCH (ACTIVE) Radio Astronomy 5.562 5.562A	EARTH EXPLORATION-SATELLITE (ACTIVE) RADIOLOCATION SPACE RESEARCH (ACTIVE) Radio Astronomy 5.562 EU2 5.562A	ECC/REC/(14)01	Active sensors (satellite) Fixed Radio astronomy Space research		EN 302 017	Cloud radars Continuum and spectral line observations
<b>94.1 GHz - 95 GHz</b>						
FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149 EU2	ECC/REC/(14)01	Fixed Radio astronomy		EN 302 017	Continuum and spectral line observations
<b>95 GHz - 100 GHz</b>						
FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 EU2 5.554		Radio astronomy			Continuum and spectral line observations
<b>100 GHz - 102 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341		Passive sensors (satellite) Radio astronomy			Limb sounding of atmospheric constituents Continuum and spectral line observations
<b>102 GHz - 105 GHz</b>						
FIXED MOBILE RADIO ASTRONOMY 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY 5.149 5.341		Radio astronomy			Continuum and spectral line observations
<b>105 GHz - 109.5 GHz</b>						

<i>RR Region 1 Allocation and RR footnotes applicable to CEPT</i>	<i>European Common Allocation</i>	<i>ECC/ERC harmonisation measure</i>	<i>Applications</i>	<i>European footnotes</i>	<i>Standard</i>	<i>Notes</i>
FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.562B 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.562B 5.149 5.341		Radio astronomy			Continuum and spectral line observations
<b>109.5 GHz - 111.8 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341		Radio astronomy			Continuum and spectral line observations
<b>111.8 GHz - 114.25 GHz</b>						
FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.562B 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.562B 5.149 5.341		Radio astronomy			Continuum and spectral line observations
<b>114.25 GHz - 116 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341		Radio astronomy			Continuum and spectral line observations
<b>116 GHz - 119.98 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE 5.562C SPACE RESEARCH (PASSIVE) 5.341	EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE 5.562C 5.341		Passive sensors (satellite)			Passive sensing as part of the oxygen absorption band with peak at 118.75 GHz
<b>119.98 GHz - 120.02 GHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE 5.562C SPACE RESEARCH (PASSIVE) 5.341	EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE 5.562C 5.341		Passive sensors (satellite)			Passive sensing as part of the oxygen absorption band with peak at 118.75 GHz
<b>120.02 GHz - 122.25 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE 5.562C SPACE RESEARCH (PASSIVE) 5.138	EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE 5.562C SPACE RESEARCH (PASSIVE) 5.138	ERC/REC 70-03	Non-specific SRDs  Passive sensors (satellite)		EN 305 550	Within the band 122-123 GHz  Passive sensing as part of the oxygen absorption band with peak at 118.75 GHz
<b>122.25 GHz - 123 GHz</b>						
FIXED INTER-SATELLITE MOBILE 5.558 Amateur 5.138	FIXED INTER-SATELLITE MOBILE 5.558 Amateur Amateur-Satellite 5.138		Amateur  Amateur-satellite		EN 301 783	
		ERC/REC 70-03	Non-specific SRDs		EN 305 550	Within the band 122-123 GHz
<b>123 GHz - 126 GHz</b>						
FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE-SATELLITE (SPACE-TO-EARTH) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio Astronomy 5.554	FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE-SATELLITE (SPACE-TO-EARTH) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio Astronomy 5.554		Radio astronomy			Continuum and spectral line observations
<b>126 GHz - 130 GHz</b>						
FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE-SATELLITE (SPACE-TO-EARTH) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio Astronomy 5.562D 5.149 5.554	FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE-SATELLITE (SPACE-TO-EARTH) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio Astronomy 5.149 5.554		Radio astronomy			Continuum and spectral line observations

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
<b>130 GHz - 134 GHz</b>						
EARTH EXPLORATION-SATELLITE (ACTIVE) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149 5.562A	EARTH EXPLORATION-SATELLITE (ACTIVE) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149 5.562A		Radio astronomy			Continuum and spectral line observations
<b>134 GHz - 136 GHz</b>						
AMATEUR AMATEUR-SATELLITE Radio Astronomy	AMATEUR AMATEUR-SATELLITE Radio Astronomy		Amateur  Amateur-satellite  Radio astronomy		EN 301 783	  Continuum and spectral line observations
<b>136 GHz - 141 GHz</b>						
RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite 5.149		Amateur  Amateur-satellite  Radio astronomy		EN 301 783	  Continuum and spectral line observations
<b>141 GHz - 148.5 GHz</b>						
FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149		Radio astronomy			Continuum and spectral line observations
<b>148.5 GHz - 151.5 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340		Passive sensors (satellite)  Radio astronomy			Harmonised reference window for passive sensor observations  Continuum and spectral line observations
<b>151.5 GHz - 155.5 GHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149		Radio astronomy			Continuum and spectral line observations
<b>155.5 GHz - 158.5 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.562B 5.149 5.562F 5.562G	EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.562B 5.149 5.562F 5.562G		Passive sensors (satellite)  Radio astronomy			Protection until 1.1.2018  Spectral line and wide band continuum observations
<b>158.5 GHz - 164 GHz</b>						
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH)	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE MOBILE-SATELLITE (SPACE-TO-EARTH)		-			Not allocated
<b>164 GHz - 167 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340		Passive sensors (satellite)  Radio astronomy			Passive sensing of the water vapour absorption line whose peak is at 183.31 GHz. Atmospheric limb sounding of the 164.38 GHz CO line  Continuum and spectral line observations
<b>167 GHz - 168 GHz</b>						
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) INTER-SATELLITE MOBILE 5.558	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) INTER-SATELLITE MOBILE 5.558		-			Not allocated
<b>168 GHz - 170 GHz</b>						



<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) INTER-SATELLITE MOBILE 5.558 5.149	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) INTER-SATELLITE MOBILE 5.558 5.149		Radio astronomy			Continuum and spectral line observations
<b>170 GHz - 174.5 GHz</b>						
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) INTER-SATELLITE MOBILE 5.558 5.149 5.562D	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) INTER-SATELLITE MOBILE 5.558 5.149		Radio astronomy			Continuum and spectral line observations
<b>174.5 GHz - 174.8 GHz</b>						
FIXED INTER-SATELLITE MOBILE 5.558	FIXED INTER-SATELLITE MOBILE 5.558		-			Not allocated
<b>174.8 GHz - 182 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE 5.562H SPACE RESEARCH (PASSIVE)	EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE 5.562H SPACE RESEARCH (PASSIVE)		Passive sensors (satellite)			Passive sensing of the water vapour absorption line whose peak is at 183.31 GHz
<b>182 GHz - 185 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340		Passive sensors (satellite)  Radio astronomy			Passive sensing of the water vapour absorption line whose peak is at 183.31 GHz  Continuum and spectral line observations
<b>185 GHz - 190 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE 5.562H SPACE RESEARCH (PASSIVE)	EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE 5.562H SPACE RESEARCH (PASSIVE)		Passive sensors (satellite)			Passive sensing of the water vapour absorption line whose peak is at 183.31 GHz
<b>190 GHz - 191.8 GHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE) 5.340	EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE) 5.340		Passive sensors (satellite)  Radio astronomy			Passive sensing of the water vapour absorption line whose peak is at 183.31 GHz  Continuum and spectral line observations
<b>191.8 GHz - 200 GHz</b>						
FIXED INTER-SATELLITE MOBILE 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.341 5.554	FIXED INTER-SATELLITE MOBILE 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.341 5.554		Radio astronomy			Continuum and spectral line observations
<b>200 GHz - 202 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341 5.563A	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341 5.563A		Earth exploration-satellite  Radio astronomy			(EESS) Atmospheric limb sounding and atmospheric remote sensing of nitrous oxide at 201 GHz  Continuum and spectral line observations
<b>202 GHz - 209 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341 5.563A	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.341 5.563A		Earth exploration-satellite  Radio astronomy			(EESS) Atmospheric limb sounding and atmospheric remote sensing of water vapour at 203.4 GHz and ozone at 208.5 GHz  Continuum and spectral line observations
<b>209 GHz - 217 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE RADIO ASTRONOMY 5.149 5.341	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE RADIO ASTRONOMY 5.149 5.341		Radio astronomy			Continuum and spectral line observations

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
<b>217 GHz - 226 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.562B 5.149 5.341	FIXED FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.562B 5.149 5.341		Radio astronomy			Continuum and spectral line observations
<b>226 GHz - 231.5 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340		Passive sensors (satellite)  Radio astronomy			Atmospheric limb sounding. Reference window for higher frequency water vapour measurements  Continuum and spectral line observations (e.g. CO line), VLBI
<b>231.5 GHz - 232 GHz</b>						
FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation		-			Not allocated
<b>232 GHz - 235 GHz</b>						
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE Radiolocation	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE Radiolocation		-			Not allocated
<b>235 GHz - 238 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED-SATELLITE (SPACE-TO-EARTH) SPACE RESEARCH (PASSIVE) 5.563A 5.563B	EARTH EXPLORATION-SATELLITE (PASSIVE) FIXED-SATELLITE (SPACE-TO-EARTH) SPACE RESEARCH (PASSIVE) 5.563A 5.563B		Passive sensors (satellite)  Radio astronomy			Passive sensing limited to microwave sounding  Continuum and spectral line observations
<b>238 GHz - 240 GHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE	FIXED FIXED-SATELLITE (SPACE-TO-EARTH) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE		-			Not allocated
<b>240 GHz - 241 GHz</b>						
FIXED MOBILE RADIOLOCATION	FIXED MOBILE RADIOLOCATION		-			Not allocated
<b>241 GHz - 248 GHz</b>						
RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite 5.138 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite 5.138 5.149	ERC/REC 70-03	Amateur Amateur-satellite Non-specific SRDs Radio astronomy		EN 301 783 EN 305 550	Within the band 244-246 GHz Continuum and spectral line observations
<b>248 GHz - 250 GHz</b>						
AMATEUR AMATEUR-SATELLITE Radio Astronomy 5.149	AMATEUR AMATEUR-SATELLITE Radio Astronomy 5.149		Amateur Amateur-satellite Radio astronomy		EN 301 783	Continuum and spectral line observations
<b>250 GHz - 252 GHz</b>						
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.563A	EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY SPACE RESEARCH (PASSIVE) 5.340 5.563A		Earth exploration-satellite Radio astronomy			(EESS) Limb sounding of nitrous oxide near 251 GHz Continuum and spectral line observations
<b>252 GHz - 265 GHz</b>						

<b>RR Region 1 Allocation and RR footnotes applicable to CEPT</b>	<b>European Common Allocation</b>	<b>ECC/ERC harmonisation measure</b>	<b>Applications</b>	<b>European footnotes</b>	<b>Standard</b>	<b>Notes</b>
FIXED MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	FIXED MOBILE MOBILE-SATELLITE (EARTH-TO-SPACE) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554		Radio astronomy			Continuum and spectral line observations
<b>265 GHz - 275 GHz</b>						
FIXED FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE RADIO ASTRONOMY 5.149 5.563A	FIXED FIXED-SATELLITE FIXED-SATELLITE (EARTH-TO-SPACE) MOBILE RADIO ASTRONOMY 5.149 5.563A		Radio astronomy			Continuum and spectral line observations
<b>275 GHz - 3000 GHz</b>						
5.565	NOT ALLOCATED 5.565		-			May be used by both active and passive service

## Annex 1 - European-footnotes included in ECA Table

- EU1 Within the frequency band 20-108 MHz the common military tuning range is 30-87.5 MHz, however, some equipment types use the lower (20 MHz) and upper (108 MHz) limits, regulated on a national basis. The harmonised military bands are: -30.30-30.50 MHz; 32.15-32.45 MHz; 41.00-47.00 MHz; 73.30-74.10 MHz; 79.0-79.70 MHz. When providing for additional requirements, further blocks of frequencies should be spread out over the whole common military tuning range in order to supply frequencies for frequency hopping equipment and to support a larger force (corps size, three divisions). This should be done by the national frequency management organisation(s) concerned.
- EU2 Civil-military sharing
- EU3 CEPT administrations are urged to take all practical steps to clear the band 47-68 MHz of assignments to the broadcasting service. The broadcasting assignments according to Stockholm Agreement 1961 shall be protected.
- EU4 CEPT administrations are urged to take all practical steps to clear the band 68-73 MHz of assignments to the broadcasting service. The broadcasting assignments according to the Final Acts of the Special Regional Conference, Geneva, 1961 shall be protected.
- EU5 In parts of this band aeronautical stations and aircraft stations may utilise 8.33 kHz channel spacing for non secure communications requirements.
- EU6 The mobile-satellite service is limited to low earth orbiting satellites.
- EU7 This band can also be used by low capacity fixed links in rural areas on a national basis. These links need to be coordinated with mobile service and require full protection.
- EU8 Any use of low capacity fixed links shall be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service.
- EU9 In a growing number of CEPT countries, parts of the band 70.0-70.5 MHz are also allocated to the Amateur service on a secondary basis.
- EU10 The mobile service in the harmonised military band 225-400 MHz generally comprises land, air maritime and satellite mobile applications.
- EU11 Not used
- EU12 The applicable RR 5 footnotes remain in force. Administrations are however urged to aim for the fullest possible harmonisation with the ITU Table of Allocations and ECA.
- EU13 CEPT administrations are urged to take all practical steps to clear the band 645-960 MHz of the assignments to the aeronautical radionavigation service.
- EU14 Radiolocation limited to military requirements for naval ship borne radars

## Annex 1 - European-footnotes included in ECA Table

EU15	In the frequency band 1350-2690 MHz tactical radio relay systems should be capable of tuning over the full range of this band. Requirements for tactical radio relay should be met from the following sub-bands: 1350-1400 MHz; 1427-1452 MHz; 1492-1525 MHz; 1660-1670 MHz; 1675-1710 MHz; 1785-1800 MHz; 2025-2110 MHz; 2200-2290 MHz; 2520-2575 MHz; 2615-2670 MHz. Tactical radio relay systems may operate in the bands 2520-2575 MHz and 2615-2670 MHz provided that they shall not cause harmful interference to terrestrial IMT and do not claim protection from them. The common requirement of 2 x 45 MHz for tactical radio relay for cross/near border operations and exercises should be met from 2025-2110 MHz and 2200-2290 MHz and in particular the bands 2025-2070 / 2200-2245 MHz.
EU15A	Use of the band by the mobile service is limited to tactical radio relay applications.
EU16	On the introduction of IMT, the fixed service will become secondary in appropriate parts of the band.
EU16A	Use of the band by the mobile service is limited to tactical radio relay and SAP/SAB applications.
EU17	In the sub-bands 3400-3410 MHz, 5660-5670 MHz, 10.36-10.37 GHz, 10.45-10.46 GHz the amateur service operates on a secondary basis. In making assignments to other services, CEPT administrations are requested wherever possible to maintain these sub-bands in such a way as to facilitate the reception of amateur emissions with minimal power flux densities.
EU17A	Use of the band by the mobile service is limited to SAP/SAB applications.
EU18	Not used.
EU19	This band is allocated to the radio astronomy service. CEPT administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations in this and adjacent bands can cause serious harmful interference.
EU20	This fixed service band is designated for common use by civil and non civil users. Any user priorities in respect of preferred channels or sub-bands are to be determined after discussions between interested parties.
EU21	Not used.
EU22	The band 5250-5850 MHz is utilised for a variety of radiodetermination applications falling within the radionavigation and radiolocation services. This band will be subject to further detailed consideration.
EU23	In the sub-bands 5660-5670 MHz (earth to space), 5830-5850 MHz (space to earth) and 10.45-10.50 GHz the amateur-satellite additionally operates on a secondary and non interference basis to other services. In making assignments to other services, CEPT administrations are requested wherever possible to maintain these allocations in such a way as to facilitate the reception of amateur emissions with minimal power flux densities.
EU24	The band 8500-10000 MHz is utilised for a variety of radiodetermination applications falling within the radionavigation and radiolocation services. This band will be subject to further detailed consideration in conjunction with the band 5250-5850 MHz (see EU22).

## Annex 1 - European-footnotes included in ECA Table

EU25	Not used.
EU26	The band 13.25-14.0 GHz is utilised for a variety of radiodetermination applications falling within the radionavigation and radiolocation services. This band will be subject to further detailed consideration.
EU27	A frequency band that is in general military use in Europe and identified for major military utilisation in the ECA. Such a frequency band forms a basis for military use and planning. The band can be shared between civil and military users according to national requirements and legislation.
EU28	CEPT administrations shall not deploy new fixed service systems in the band 11.7-12.5 GHz (ERC/DEC(00)08).
EU29	The frequency bands 890-915 / 935-960 MHz, 880-890 / 925-935 MHz, 1710-1785 / 1805-1880 MHz, 1920-1980 MHz and 2110-2170 MHz are reserved for public cellular mobile use only. Other services such as the fixed service should only be allowed in the above bands where coexistence with public mobile systems is possible i.e. in sparsely populated or rural areas where the frequency band is not needed for mobile cellular systems.
EU30	National administrations should consider co-ordination zones around the EISCAT sites when using the band 925-935 MHz for mobile services including international planning for military services. Short Range Devices should not use this band.
EU31	Not used
EU32	The bands 880-915 MHz and 925-960 MHz are currently used for GSM (2nd generation terrestrial mobile system) in most CEPT member countries and by IMT, depending on the market demands and national licensing schemes.
EU33	The band 1880-1900 MHz is generally expected to be used by IMT/DECT.
EU34	Parts of the bands 450-457.5/460-467.5 MHz may also be used for existing and evolving public cellular networks on a national basis.
EU35	In Europe the band 75.5-76 GHz is also allocated to the Amateur and Amateur Satellite services.



## Annex 2 - ITU Radio Regulations Footnotes for Region 1

- 5.53 Administrations authorizing the use of frequencies below 8.3 kHz shall ensure that no harmful interference is caused to the services to which the bands above 8.3 kHz are allocated. (WRC-12)
- 5.54 Administrations conducting scientific research using frequencies below 8.3 kHz are urged to advise other administrations that may be concerned in order that such research may be afforded all practicable protection from harmful interference. (WRC-12)
- 5.54A Use of the 8.3-11.3 kHz frequency band by stations in the meteorological aids service is limited to passive use only. In the band 9-11.3 kHz, meteorological aids stations shall not claim protection from stations of the radionavigation service submitted for notification to the Bureau prior to 1 January 2013. For sharing between stations of the meteorological aids service and stations in the radionavigation service submitted for notification after this date, the most recent version of Recommendation ITU-R RS.1881 should be applied. (WRC-12)
- 5.54B Additional allocation: in Algeria, Saudi Arabia, Egypt, the United Arab Emirates, the Russian Federation, Iraq, Lebanon, Morocco, Qatar, the Syrian Arab Republic, Sudan and Tunisia, the frequency band 8.3-9 kHz is also allocated to the radionavigation, fixed and mobile services on a primary basis. (WRC-12)
- 5.54C Additional allocation: in China, the frequency band 8.3-9 kHz is also allocated to the maritime radionavigation and maritime mobile services on a primary basis.
- 5.55 Additional allocation: in Armenia, Azerbaijan, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the band 14-17 kHz is also allocated to the radionavigation service on a primary basis. (WRC-07)
- 5.56 The stations of services to which the bands 14-19.95 kHz and 20.05-70 kHz and in Region 1 also the bands 72-84 kHz and 86-90 kHz are allocated may transmit standard frequency and time signals. Such stations shall be afforded protection from harmful interference. In Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-12)
- 5.57 The use of the bands 14-19.95 kHz, 20.05-70 kHz and 70-90 kHz (72-84 kHz and 86-90 kHz in Region 1) by the maritime mobile service is limited to coast radiotelegraph stations (A1A and F1B only). Exceptionally, the use of class J2B or J7B emissions is authorized subject to the necessary bandwidth not exceeding that normally used for class A1A or F1B emissions in the band concerned.
- 5.58 Additional allocation: in Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, the band 67-70 kHz is also allocated to the radionavigation service on a primary basis. (WRC-2000)
- 5.60 In the bands 70-90 kHz (70-86 kHz in Region 1) and 110-130 kHz (112-130 kHz in Region 1), pulsed radionavigation systems may be used on condition that they do not cause harmful interference to other services to which these bands are allocated

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- 5.62 Administrations which operate stations in the radionavigation service in the band 90-110 kHz are urged to coordinate technical and operating characteristics in such a way as to avoid harmful interference to the services provided by these stations.
- 5.64 Only classes A1A or F1B, A2C, A3C, F1C or F3C emissions are authorized for stations of the fixed service in the bands allocated to this service between 90 kHz and 160 kHz (148.5 kHz in Region 1) and for stations of the maritime mobile service in the bands allocated to this service between 110 kHz and 160 kHz (148.5 kHz in Region 1). Exceptionally, class J2B or J7B emissions are also authorized in the bands between 110 kHz and 160 kHz (148.5 kHz in Region 1) for stations of the maritime mobile service.
- 5.66 Different category of service: in Germany, the allocation of the band 115-117.6 kHz to the fixed and maritime mobile services is on a primary basis (see No. 5.33) and to the radionavigation service on a secondary basis (see No. 5.32).
- 5.67 Additional allocation: in Mongolia, Kyrgyzstan and Turkmenistan, the band 130-148.5 kHz is also allocated to the radionavigation service on a secondary basis. Within and between these countries this service shall have an equal right to operate. (WRC-07)
- 5.67A Stations in the amateur service using frequencies in the band 135.7-137.8 kHz shall not exceed a maximum radiated power of 1 W (e.i.r.p.) and shall not cause harmful interference to stations of the radionavigation service operating in countries listed in No. 5.67. WRC-07)
- 5.67B The use of the band 135.7-137.8 kHz in Algeria, Egypt, Iran (Islamic Republic of), Iraq, Lebanon, Syrian Arab Republic, Sudan, South Sudan and Tunisia is limited to the fixed and maritime mobile services. The amateur service shall not be used in the above-mentioned countries in the band 135.7-137.8 kHz, and this should be taken into account by the countries authorizing such use. (WRC-12)
- 5.68 Alternative allocation: in Angola, the Dem. Rep. of the Congo, Malawi, Rwanda and South Africa, the band 160-200 kHz is allocated to the fixed service on a primary basis. (WRC-12)
- 5.69 Additional allocation: in Somalia, the band 200-255 kHz is also allocated to the aeronautical radionavigation service on a primary basis.
- 5.70 Alternative allocation: in Angola, Botswana, Burundi, the Central African Rep., Congo (Rep. of the), Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, the Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Tanzania, Chad, Zambia and Zimbabwe, the band 200-283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)
- 5.71 Alternative allocation: in Tunisia, the band 255-283.5 kHz is allocated to the broadcasting service on a primary basis.
- 5.73 The band 285-325 kHz (283.5-325 kHz in Region 1) in the maritime radionavigation service may be used to transmit supplementary navigational information using narrow-band techniques, on condition that no harmful interference is caused to radiobeacon stations operating in the radionavigation service. (WRC-97)

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- 5.74 Additional allocation: in Region 1, the frequency band 285.3-285.7 kHz is also allocated to the maritime radionavigation service (other than radiobeacons) on a primary basis.
- 5.75 Different category of service: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Moldova, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine and the Black Sea areas of Romania, the allocation of the band 315-325 kHz to the maritime radionavigation service is on a primary basis under the condition that in the Baltic Sea area, the assignment of frequencies in this band to new stations in the maritime or aeronautical radionavigation services shall be subject to prior consultation between the administrations concerned. (WRC-07)
- 5.76 The frequency 410 kHz is designated for radio direction-finding in the maritime radionavigation service. The other radionavigation services to which the band 405-415 kHz is allocated shall not cause harmful interference to radio direction-finding in the band 406.5-413.5 kHz
- 5.77 Different category of service: in Australia, China, the French overseas communities of Region 3, Korea (Rep. of), India, Iran (Islamic Republic of), Japan, Pakistan, Papua New Guinea and Sri Lanka, the allocation of the frequency band 415-495 kHz to the aeronautical radionavigation service is on a primary basis. In Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Latvia, Uzbekistan and Kyrgyzstan, the allocation of the frequency band 435-495 kHz to the aeronautical radionavigation service is on a primary basis. Administrations in all the aforementioned countries shall take all practical steps necessary to ensure that aeronautical radionavigation stations in the frequency band 435-495 kHz do not cause interference to reception by coast stations of transmissions from ship stations on frequencies designated for ship stations on a worldwide basis.(WRC-12)
- 5.79 The use of the band 415-495 kHz and 505-526.5 kHz (505-510 kHz in Region 2) by the maritime mobile service is limited to radiotelegraphy.
- 5.79A When establishing coast stations in the NAVTEX service on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organization (IMO) (see Resolution 339 (Rev.WRC-07)). (WRC-07)
- 5.80 In Region 2, the use of the band 435-495 kHz by the aeronautical radionavigation service is limited to non-directional beacons not employing voice transmission
- 5.80A The maximum equivalent isotropically radiated power (e.i.r.p.) of stations in the amateur service using frequencies in the band 472-479 kHz shall not exceed 1 W. Administrations may increase this limit of e.i.r.p. to 5 W in portions of their territory which are at a distance of over 800 km from the borders of Algeria, Saudi Arabia, Azerbaijan, Bahrain, Belarus, China, Comoros, Djibouti, Egypt, United Arab Emirates, the Russian Federation, Iran (Islamic Republic of), Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Morocco, Mauritania, Oman, Uzbekistan, Qatar, Syrian Arab Republic, Kyrgyzstan, Somalia, Sudan, Tunisia, Ukraine and Yemen. In this frequency band, stations in the amateur service shall not cause harmful interference to, or claim protection from, stations of the aeronautical radionavigation service. (WRC-12)

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- 5.80B The use of the frequency band 472-479 kHz in Algeria, Saudi Arabia, Azerbaijan, Bahrain, Belarus, China, Comoros, Djibouti, Egypt, United Arab Emirates, the Russian Federation, Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Mauritania, Oman, Uzbekistan, Qatar, Syrian Arab Republic, Kyrgyzstan, Somalia, Sudan, Tunisia and Yemen is limited to the maritime mobile and aeronautical radionavigation services. The amateur service shall not be used in the above-mentioned countries in this frequency band, and this should be taken into account by the countries authorizing such use. (WRC-12)
- 5.82 In the maritime mobile service, the frequency 490 kHz is to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles 31 and 52. In using the band 415-495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz. (WRC-12)
- 5.82B To be deleted
- 5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles 31 and 52. (WRC-07)
- 5.87 Additional allocation: in Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Niger and Swaziland, the band 526.5-535 kHz is also allocated to the mobile service on a secondary basis. (WRC-12)
- 5.87A Additional allocation: in Uzbekistan, the band 526.5-1606.5 kHz is also allocated to the radionavigation service on a primary basis. Such use is subject to agreement obtained under No. 9.21 with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-97)
- 5.90 In the band 1605-1705 kHz, in cases where a broadcasting station of Region 2 is concerned, the service area of the maritime mobile stations in Region 1 shall be limited to that provided by ground-wave propagation
- 5.92 Some countries of Region 1 use radiodetermination systems in the bands 1606.5-1625 kHz, 1635-1800 kHz, 1850-2160 kHz, 2194-2300 kHz, 2502-2850 kHz and 3500-3800 kHz, subject to agreement obtained under No. 9.21. The radiated mean power of these stations shall not exceed 50 W.
- 5.93 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, Tajikistan, Chad, Turkmenistan and Ukraine, the bands 1 625-1 635 kHz, 1 800-1 810 kHz and 2 160-2 170 kHz are also allocated to the fixed and land mobile services on a primary basis, subject to agreement obtained under No. 9.21. (WRC-12)

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- 5.96 In Germany, Armenia, Austria, Azerbaijan, Belarus, Denmark, Estonia, Finland, Georgia, Hungary, Iceland, Ireland, Israel, Kazakhstan, Latvia, Liechtenstein, Lithuania, Malta, Moldova, Norway, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., the United Kingdom, the Russian Federation, Sweden, Switzerland, Tajikistan, Turkmenistan and Ukraine, administrations may allocate up to 200 kHz to their amateur service in the bands 1 715-1 800 kHz and 1 850-2 000 kHz. However, when allocating the bands within this range to their amateur service, administrations shall, after prior consultation with administrations of neighbouring countries, take such steps as may be necessary to prevent harmful interference from their amateur service to the fixed and mobile services of other countries. The mean power of any amateur station shall not exceed 10 W. (WRC-03)
- 5.98 Alternative allocation: in Angola, Armenia, Azerbaijan, Belarus, Belgium, Cameroon, the Dem. Rep. of the Congo, Denmark, Egypt, Eritrea, Spain, Ethiopia, the Russian Federation, Georgia, Greece, Italy, Kazakhstan, Lebanon, Lithuania, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Tunisia, Turkmenistan, Turkey and Ukraine, the band 1 810-1 830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 5.99 Additional allocation: in Saudi Arabia, Austria, Iraq, Libya, Uzbekistan, Slovakia, Romania, Slovenia, Chad, and Togo, the band 1 810-1 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 5.100 In Region 1, the authorization to use the band 1 810-1 830 kHz by the amateur service in countries situated totally or partially north of 40° N shall be given only after consultation with the countries mentioned in Nos. 5.98 and 5.99 to define the necessary steps to be taken to prevent harmful interference between amateur stations and stations of other services operating in accordance with Nos. 5.98 and 5.99.
- 5.103 In Region 1, in making assignments to stations in the fixed and mobile services in the bands 1850-2045 kHz, 2194-2498 kHz, 2502-2625 kHz and 2650-2850 kHz, administrations should bear in mind the special requirements of the maritime mobile service.
- 5.104 In Region 1, the use of the band 2025-2045 kHz by the meteorological aids service is limited to oceanographic buoy stations.
- 5.107 Additional allocation: in Saudi Arabia, Eritrea, Ethiopia, Iraq, Libya, Somalia and Swaziland, the band 2160-2170 kHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. The mean power of stations in these services shall not exceed 50W. (WRC-12)
- 5.108 The carrier frequency 2182 kHz is an international distress and calling frequency for radiotelephony. The conditions for the use of the band 2173.5-2190.5 kHz are prescribed in Articles 31 and 52. (WRC-07)
- 5.109 The frequencies 2187.5 kHz, 4207.5 kHz, 6312 kHz, 8414.5 kHz, 12577 kHz and 16804.5 kHz are international distress frequencies for digital selective calling. The conditions for the use of these frequencies are prescribed in Article 31

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- 5.110 The frequencies 2174.5 kHz, 4177.5 kHz, 6268 kHz, 8376.5 kHz, 12520 kHz and 16695 kHz are international distress frequencies for narrow-band direct-printing telegraphy. The conditions for the use of these frequencies are prescribed in Article 31
- 5.111 The carrier frequencies 2182 kHz, 3023 kHz, 5680 kHz, 8364 kHz and the frequencies 121.5 MHz, 156.525 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles. The conditions for the use of the frequencies are prescribed in Article 31. The same applies to the frequencies 10003 kHz, 14993 kHz and 19993 kHz, but in each of these cases emissions must be confined in a band of  $\pm 3$  kHz about the frequency. (WRC-07)
- 5.112 Alternative allocation:in Denmark and Sri Lanka, the band 2194-2300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 5.113 For the conditions for the use of the bands 2300-2495 kHz (2498 kHz in Region 1), 3200-3400 kHz, 4750-4995 kHz and 5005-5060 kHz by the broadcasting service, see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10.
- 5.114 Alternative allocation:in Denmark and Iraq,the band 2502-2625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 5.115 The carrier (reference) frequencies 3023 kHz and 5680 kHz may also be used, in accordance with Article 31 by stations of the maritime mobile service engaged in coordinated search and rescue operations. (WRC-07)
- 5.116 Administrations are urged to authorize the use of the band 3155-3195 kHz to provide a common worldwide channel for low power wireless hearing aids. Additional channels for these devices may be assigned by administrations in the bands between 3155 kHz and 3400 kHz to suit local needs. It should be noted that frequencies in the range 3000 kHz to 4000 kHz are suitable for hearing aid devices which are designed to operate over short distances within the induction field.
- 5.117 Alternative allocation:in Côte d'Ivoire, Denmark, Egypt, Liberia, Sri Lanka and Togo, the band 3155-3200 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 5.123 Additional allocation: in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the band 3900-3950 kHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21.
- 5.125 Additional allocation: in Greenland, the band 3950-4000 kHz is also allocated to the broadcasting service on a primary basis. The power of the broadcasting stations operating in this band shall not exceed that necessary for a national service and shall in no case exceed 5 kW
- 5.127 The use of the band 4000-4063 kHz by the maritime mobile service is limited to ship stations using radiotelephony (see No. 52.220 and Appendix 17).

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- 5.128 Frequencies in the bands 4063-4123 kHz and 4130-4438 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W, on condition that harmful interference is not caused to the maritime mobile service. In addition, in Afghanistan, Argentina, Armenia, Azerbaijan, Belarus, Botswana, Burkina Faso, the Central African Rep., China, the Russian Federation, Georgia, India, Kazakhstan, Mali, Niger, Pakistan, Kyrgyzstan, Tajikistan, Chad, Turkmenistan and Ukraine, in the bands 4063-4123 kHz, 4130-4133 kHz and 4408-4438 kHz, stations in the fixed service, with a mean power not exceeding 1 kW, can be operated on condition that they are situated at least 600 km from the coast and that harmful interference is not caused to the maritime mobile service. (WRC-12)
- 5.130 The conditions for the use of the carrier frequencies 4125 kHz and 6215 kHz are prescribed in Articles 31 and 52. (WRC-07)
- 5.131 The frequency 4209.5 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques. (WRC-97)
- 5.132 The frequencies 4210 kHz, 6314 kHz, 8416.5 kHz, 12579 kHz, 16806.5 kHz, 19680.5 kHz, 22376 kHz and 26100.5 kHz are the international frequencies for the transmission of maritime safety information (MSI) (see Appendix 17).
- 5.132A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed or mobile services. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution 612 (Rev.WRC 12) (WRC-12)
- 5.132B Alternative allocation: in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 4438-4488 kHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis.
- 5.133 Different category of service: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Niger, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 5 130-5 250 kHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33).(WRC-12)
- 5.133A Alternative allocation: in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency bands 5250-5275 kHz and 26200-26350 kHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 5.134 The use of the bands 5900-5950 kHz, 7300-7350 kHz, 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz and 18900-19020 kHz by the broadcasting service is subject to the application of the procedure of Article 12. Administrations are encouraged to use these bands to facilitate the introduction of digitally modulated emissions in accordance with the provisions of Resolution 517 (Rev.WRC 07).(WRC-07)

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- 5.136 Additional allocation: Frequencies in the band 5900-5950 kHz may be used by stations in the following services, communicating only within the boundary of the country in which they are located: fixed service (in all three Regions), land mobile service (in Region 1), mobile except aeronautical mobile (R) service (in Regions 2 and 3), on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.(WRC-07)
- 5.137 On condition that harmful interference is not caused to the maritime mobile service, the bands 6200-6213.5 kHz and 6220.5-6525 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W. At the time of notification of these frequencies, the attention of the Bureau will be drawn to the above conditions.
- 5.138 The following bands: 6765-6795 kHz (centre frequency 6780 kHz), 433.05-434.79 MHz (centre frequency 433.92 MHz) in Region 1 except in the countries mentioned in No. 5.280, 61-61.5 GHz (centre frequency 61.25 GHz), 122-123 GHz (centre frequency 122.5 GHz), and 244-246 GHz (centre frequency 245 GHz) are designated for industrial, scientific and medical (ISM) applications. The use of these frequency bands for ISM applications shall be subject to special authorisation by the administration concerned, in agreement with other administrations whose radiocommunication services might be affected. In applying this provision, administrations shall have due regard to the latest relevant ITU-R Recommendations.
- 5.140 Additional allocation: in Angola, Iraq, Kenya, Somalia and Togo, the band 7000-7050 kHz is also allocated to the fixed service on a primary basis. (WRC-12)
- 5.141 Alternative allocation: in Egypt, Eritrea, Ethiopia, Guinea, Libya, Madagascar and Niger, the band 7000-7050 kHz is allocated to the fixed service on a primary basis. (WRC-12)
- 5.141A Additional allocation: in Uzbekistan and Kyrgyzstan, the bands 7000-7100 kHz and 7100-7200 kHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-03)
- 5.141B Additional allocation: after 29 March 2009, in Algeria, Saudi Arabia, Australia, Bahrain, Botswana, Brunei Darussalam, China, Comoros, Korea (Rep. of), Diego Garcia, Djibouti, Egypt, United Arab Emirates, Eritrea, Indonesia, Iran (Islamic Republic of), Japan, Jordan, Kuwait, Libya, Morocco, Mauritania, Niger, New Zealand, Oman, Papua New Guinea, Qatar, the Syrian Arab Republic, Singapore, Sudan, South Sudan, Tunisia, Viet Nam and Yemen, the band 7 100-7 200 kHz is also allocated to the fixed and the mobile, except aeronautical mobile(R), services on a primary basis. (WRC-12)



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- 5.142 Until 29 March 2009, the use of the band 7100-7300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. After 29 March 2009 the use of the band 7200-7300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3.(WRC-03)
- 5.143 Additional allocation: frequencies in the band 7300-7350 kHz may be used by stations in the fixed service and in the land mobile service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)
- 5.143B In Region 1, frequencies in the band 7350-7450 kHz may be used by stations in the fixed and land mobile services communicating only within the boundary of the country in which they are located on condition that harmful interference is not caused to the broadcasting service. The total radiated power of each station shall not exceed 24 dBW. (WRC-12)
- 5.143C Additional allocation: in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Iran (Islamic Republic of), Jordan, Kuwait, Libya, Morocco, Mauritania, Niger, Oman, Qatar, the Syrian Arab Republic, Sudan, South Sudan, Tunisia and Yemen, the bands 7 350-7 400 kHz and 7 400-7 450 kHz are also allocated to the fixed service on a primary basis.(WRC-12)
- 5.145 The conditions for the use of the carrier frequencies 8291 kHz, 12290 kHz and 16420 kHz are prescribed in Articles 31 and 52. (WRC-07)
- 5.145A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed service. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution 612 (Rev.WRC-12) (WRC-12)
- 5.145B Alternative allocation:in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency bands 9305-9355 kHz and 16100-16200 kHz are allocated to the fixed service on a primary basis. (WRC-12)
- 5.146 Additional allocation: Frequencies in the bands 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 15600-15800 kHz, 17480-17550 kHz and 18900-19020 kHz may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)
- 5.147 On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9775-9900 kHz, 11650-11700 kHz and 11975-12050 kHz may be used by stations in the fixed service communicating only within the boundary of the country in which they are located, each station using a total radiated power not exceeding 24 dBW.

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- 5.149 In making assignments to stations of other services to which the bands: 13360-13410 kHz, 25550-25670 kHz, 37.5-38.25 MHz, 73-74.6 MHz in Regions 1 and 3, 150.05-153 MHz in Region 1, 322-328.6 MHz, 406.1-410 MHz, 608-614 MHz in Regions 1 and 3, 1330-1400 MHz, 1610.6-1613.8 MHz, 1660-1670 MHz, 1718.8-1722.2 MHz, 2655-2690 MHz, 3260-3267 MHz, 3332-3339 MHz, 3345.8-3352.5 MHz, 4825-4835 MHz, 4950-4990 MHz, 4990-5000 MHz, 6650-6675.2 MHz, 10.6-10.68 GHz, 14.47-14.5 GHz, 22.01-22.21 GHz, 22.21-22.5 GHz, 22.81-22.86 GHz, 23.07-23.12 GHz, 31.2-31.3 GHz, 31.5-31.8 GHz in Regions 1 and 3, 36.43-36.5 GHz, 42.5-43.5 GHz, 48.94-49.04 GHz, 76-86 GHz, 92-94 GHz, 94.1-100 GHz, 102-109.5 GHz, 111.8-114.25 GHz, 128.33-128.59 GHz, 129.23-129.49 GHz, 130-134 GHz, 136-148.5 GHz, 151.5-158.5 GHz, 168.59-168.93 GHz, 171.11-171.45 GHz, 172.31-172.65 GHz, 173.52-173.85 GHz, 195.75-196.15 GHz, 209-226 GHz, 241-250 GHz, 252-275 GHz are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from spaceborne or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 4.5 and 4.6 and Article 29). (WRC-07)
- 5.149A Alternative allocation: in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 13450-13550 kHz is allocated to the fixed service on a primary basis and to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-12)
- 5.150 The following bands: 13553-13567 kHz (centre frequency 13560 kHz), 26957-27283 kHz (centre frequency 27120 kHz), 40.66-40.70 MHz (centre frequency 40.68 MHz), 902-928 MHz in Region 2 (centre frequency 915 MHz), 2400-2500 MHz (centre frequency 2450 MHz), 5725-5875 MHz (centre frequency 5800 MHz), and 24-24.25 GHz (centre frequency 24.125 GHz) are also designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within these bands must accept harmful interference which may be caused by these applications. ISM equipment operating in these bands is subject to the provisions of No. 15.13.
- 5.151 Additional allocation: Frequencies in the bands 13570-13600 kHz and 13800-13870 kHz may be used by stations in the fixed service and in the mobile except aeronautical mobile (R) service, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies in these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.(WRC-07)
- 5.152 Additional allocation: in Armenia, Azerbaijan, China, Côte d'Ivoire, Georgia, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 14 250-14 350 kHz is also allocated to the fixed service on a primary basis. Stations of the fixed service shall not use a radiated power exceeding 24 dBW. (WRC-03)
- 5.154 Additional allocation: in Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 18068-18168 kHz is also allocated to the fixed service on a primary basis for use within their boundaries, with a peak envelope power not exceeding 1 kW. (WRC-03)

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- 5.155 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the band 21 850-21 870 kHz is also allocated to the aeronautical mobile (R) service on a primary basis. (WRC-07)
- 5.155A In Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the use of the band 21850-21870 kHz by the fixed service is limited to provision of services related to aircraft flight safety.(WRC 07)
- 5.155B The band 21870-21924 kHz is used by the fixed service for provision of services related to aircraft flight safety.
- 5.156 Additional allocation: in Nigeria, the band 22720-23200 kHz is also allocated to the meteorological aids service (radiosondes) on a primary basis.
- 5.156A The use of the band 23200-23350 kHz by the fixed service is limited to provision of services related to aircraft flight safety.
- 5.157 The use of the band 23350-24000 kHz by the maritime mobile service is limited to inter-ship radiotelegraphy.
- 5.158 Alternative allocation: in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 24450-24600 kHz is allocated to the fixed and land mobile services on a primary basis. (WRC-12)
- 5.159 Alternative allocation: in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 39-39.5 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 5.160 Additional allocation: in Botswana, Burundi, the Dem. Rep. of the Congo and Rwanda, the band 41-44 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)
- 5.161A Additional allocation: in Korea (Rep. of) and the United States, the frequency bands 41.015-41.665 MHz and 43.35-44 MHz are also allocated to the radiolocation service on a primary basis. Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed or mobile services. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution 612 (Rev.WRC-12) (WRC-12)
- 5.161B Alternative allocation: in Albania, Germany, Armenia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Cyprus, Vatican, Croatia, Denmark, Spain, Estonia, Finland, France, Greece, Hungary, Ireland, Iceland, Italy, Latvia, The Former Yugoslav Rep. of Macedonia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, Norway, Uzbekistan, Netherlands, Poland, Portugal, Kyrgyzstan, Slovakia, Czech Rep., Romania, United Kingdom, San Marino, Slovenia, Sweden, Switzerland, Turkey and Ukraine, the frequency band 42-42.5 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-12)

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- 5.162A Additional allocation: in Germany, Austria, Belgium, Bosnia and Herzegovina, China, Vatican, Denmark, Spain, Estonia, the Russian Federation, Finland, France, Ireland, Iceland, Italy, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Luxembourg, Monaco, Montenegro, Norway, the Netherlands, Poland, Portugal, the Czech Rep., the United Kingdom, Serbia, Slovenia, Sweden and Switzerland the band 46-68 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution 217 (WRC-97). (WRC-12)
- 5.163 Additional allocation: in Armenia, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 47-48.5 MHz and 56.5-58 MHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-12)
- 5.164 Additional allocation: in Albania, Algeria, Germany, Austria, Belgium, Bosnia and Herzegovina, Botswana, Bulgaria, Côte d'Ivoire, Denmark, Spain, Estonia, Finland, France, Gabon, Greece, Ireland, Israel, Italy, Jordan, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Montenegro, Nigeria, Norway, the Netherlands, Poland, Syrian Arab Republic, Slovakia, Czech Rep., Romania, the United Kingdom, Serbia, Slovenia, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 47-68 MHz, in South Africa the band 47-50 MHz, and in Latvia the band 48.5-56.5 MHz, are also allocated to the land mobile service on a primary basis. However, stations of the land mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations of countries other than those mentioned in connection with the band.(WRC-12)
- 5.165 Additional allocation: in Angola, Cameroon, the Dem. Rep. of the Congo, Madagascar, Mozambique, Niger, Somalia, Sudan, South Sudan, Tanzania and Chad, the band 47-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.(WRC-12)
- 5.166 Alternative allocation: in New Zealand, the band 50-51 MHz is allocated to the fixed and mobile services on a primary basis; the band 53-54 MHz is allocated to the fixed and mobile services on a primary basis. (WRC 12)
- 5.169 Alternative allocation: in Botswana, Lesotho, Malawi, Namibia, the Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 50-54 MHz is allocated to the amateur service on a primary basis. In Senegal, the band 50-51 MHz is allocated to the amateur service on a primary basis.(WRC 12).
- 5.171 Additional allocation: in Botswana, Lesotho, Malawi, Mali, Namibia, the Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 54-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

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- 5.175 Alternative allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 68-73 MHz and 76-87.5 MHz are allocated to the broadcasting service on a primary basis. In Latvia and Lithuania, the bands 68-73 MHz and 76 87.5 MHz are allocated to the broadcasting and mobile, except aeronautical mobile, services on a primary basis. The services to which these bands are allocated in other countries and the broadcasting service in the countries listed above are subject to agreements with the neighbouring countries concerned. (WRC 07)
- 5.177 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 73-74 MHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-07)
- 5.179 Additional allocation: in Armenia, Azerbaijan, Belarus, China, the Russian Federation, Georgia, Kazakhstan, Lithuania, Mongolia, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 74.6-74.8 MHz and 75.2-75.4 MHz are also allocated to the aeronautical radionavigation service, on a primary basis, for ground-based transmitters only. (WRC-12)
- 5.180 The frequency 75 MHz is assigned to marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services which, because of their power or geographical position, might cause harmful interference or otherwise place a constraint on marker beacons. Every effort should be made to improve further the characteristics of airborne receivers and to limit the power of transmitting stations close to the limits 74.8 MHz and 75.2 MHz.
- 5.181 Additional allocation: in Egypt, Israel and the Syrian Arab Republic, the band 74.8-75.2 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. 9.21. (WRC-03)
- 5.187 Alternative allocation: in Albania, the band 81-87.5 MHz is allocated to the broadcasting service on a primary basis and used in accordance with the decisions contained in the Final Acts of the Special Regional Conference (Geneva, 1960).
- 5.190 Additional allocation: in Monaco, the band 87.5-88 MHz is also allocated to the land mobile service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-97)
- 5.194 Additional allocation: in Azerbaijan, Kyrgyzstan, Somalia and Turkmenistan, the band 104-108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-07)

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- 5.197 Additional allocation: in the Syrian Arab Republic, the band 108-111.975 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedures invoked under No. 9.21 (WRC-12)
- 5.197A Additional allocation: the band 108-117.975 MHz is also allocated on a primary basis to the aeronautical mobile (R) service, limited to systems operating in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution 413 (Rev.WRC 07). The use of the band 108-112 MHz by the aeronautical mobile (R) service shall be limited to systems composed of ground-based transmitters and associated receivers that provide navigational information in support of air navigation functions in accordance with recognized international aeronautical standards. (WRC-07)
- 5.200 In the band 117.975-137 MHz, the frequency 121.5 MHz is the aeronautical emergency frequency and, where required, the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz. Mobile stations of the maritime mobile service may communicate on these frequencies under the conditions laid down in Article 31 for distress and safety purposes with stations of the aeronautical mobile service. (WRC 07)
- 5.201 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Latvia, Moldova, Mongolia, Mozambique, Uzbekistan, Papua New Guinea, Poland, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the band 132-136 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service. (WRC-12)
- 5.202 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Belarus, Bulgaria, the United Arab Emirates, the Russian Federation, Georgia, Iran (Islamic Republic of), Jordan, Latvia, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the band 136-137 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile(R) service. (WRC-12)
- 5.204 Different category of service: in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, Cuba, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Kuwait, Montenegro, Oman, Pakistan, the Philippines, Qatar, Serbia, Singapore, Thailand and Yemen, the band 137-138 MHz is allocated to the fixed and mobile, except aeronautical mobile(R), services on a primary basis (see No. 5.33). (WRC-07)
- 5.205 Different category of service: in Israel and Jordan, the allocation of the band 137-138 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33).

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- 5.206 Different category of service: in Armenia, Azerbaijan, Belarus, Bulgaria, Egypt, the Russian Federation, Finland, France, Georgia, Greece, Kazakhstan, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Syrian Arab Republic, Slovakia, the Czech Republic, Romania, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 137-138 MHz to the aeronautical mobile (OR) service is on a primary basis (see No. 5.33). (WRC-2000)
- 5.208 The use of the band 137-138 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. (WRC-97)
- 5.208A In making assignments to space stations in the mobile-satellite service in the bands 137-138 MHz, 387-390 MHz and 400.15-401 MHz, administrations shall take all practicable steps to protect the radio astronomy service in the bands 150.05-153 MHz, 322-328.6 MHz, 406.1-410 MHz and 608-614 MHz from harmful interference from unwanted emissions. The threshold levels of interference detrimental to the radio astronomy service are shown in the relevant ITU R Recommendation.(WRC-07)
- 5.208B In the bands: 137-138 MHz 387-390 MHz 400.15-401 MHz 1452-1492 MHz 1525-1559 MHz 1559-1610 MHz 1613.8-1626.5 MHz 2655-2670 MHz 2670-2690 MHz 21.4-22 GHz. Resolution 739 (Rev.WRC-07) applies. (WRC-07). \*This provision was previously numbered as No. 5.347A. It was renumbered to preserve the sequential order
- 5.209 The use of the bands 137-138 MHz, 148-150.05 MHz, 399.9-400.05 MHz, 400.15-401 MHz, 454-456 MHz and 459-460 MHz by the mobile-satellite service is limited to non-geostationary-satellite systems. (WRC-97)
- 5.210 Additional allocation: in Italy, the Czech Rep. and the United Kingdom, the bands 138-143.6 MHz and 143.65-144 MHz are also allocated to the space research service (space to-Earth) on a secondary basis. (WRC-07)
- 5.211 Additional allocation: in Germany, Saudi Arabia, Austria, Bahrain, Belgium, Denmark, the United Arab Emirates, Spain, Finland, Greece, Ireland, Israel, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Liechtenstein, Luxembourg, Mali, Malta, Montenegro, Norway, the Netherlands, Qatar, the United Kingdom, Serbia, Slovakia, Slovenia, Somalia, Sweden, Switzerland, Tanzania, Tunisia and Turkey, the band 138-144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis. (WRC-12)
- 5.212 Alternative allocation: in Angola, Botswana, Cameroon, the Central African Rep., Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Lesotho, Liberia, Malawi, Mozambique, Namibia, Niger, Oman, Uganda, Syrian Arab Republic, the Dem. Rep. of the Congo, Rwanda, Sierra Leone, South Africa, Swaziland, Chad, Togo, Zambia and Zimbabwe, the band 138 144 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 5.214 Additional allocation: in Eritrea, Ethiopia, Kenya, The Former Yugoslav Republic of Macedonia, Malta, Montenegro, Serbia, Somalia, Sudan and Tanzania, the band 138-144 MHz is also allocated to the fixed service on a primary basis. (WRC-12)

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- 5.218 Additional allocation: the band 148-149.9 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. 9.21. The bandwidth of any individual transmission shall not exceed  $\pm 25$  kHz.
- 5.219 The use of the band 148-149.9 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The mobile-satellite service shall not constrain the development and use of the fixed, mobile and space operation services in the band 148-149.9 MHz.
- 5.220 The use of the bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The mobile-satellite service shall not constrain the development and use of the radionavigation-satellite service in the bands 149.9-150.05 MHz and 399.9-400.05 MHz. (WRC-97)
- 5.221 Stations of the mobile-satellite service in the band 148-149.9 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations in the following countries: Albania, Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bosnia and Herzegovina, Botswana, Brunei Darussalam, Bulgaria, Cameroon, China, Cyprus, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Croatia, Cuba, Denmark, Djibouti, Egypt, the United Arab Emirates, Eritrea, Spain, Estonia, Ethiopia, the Russian Federation, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, Iran (Islamic Republic of), Ireland, Iceland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Montenegro, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, the Philippines, Poland, Portugal, Qatar, the Syrian Arab Republic, Kyrgyzstan, Dem. People's Rep. of Korea, Slovakia, Romania, the United Kingdom, Senegal, Serbia, Sierra Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia, and Zimbabwe. (WRC-12)
- 5.222 Emissions of the radionavigation-satellite service in the bands 149.9-150.05 MHz and 399.9-400.05 MHz may also be used by receiving earth stations of the space research service.
- 5.223 Recognising that the use of the band 149.9-150.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigation-satellite service, administrations are urged not to authorise such use in application of No. 4.4.
- 5.224A The use of the bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service (Earth-to-space) is limited to the land mobile-satellite service (Earth-to-space) until 1 January 2015. (WRC-97)
- 5.224B The allocation of the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz to the radionavigation-satellite service shall be effective until 1 January 2015. (WRC-97)



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5.225A

Additional allocation: in Algeria, Armenia, Azerbaijan, Belarus, China, France, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine and Viet Nam, the frequency band 154-156 MHz is also allocated to the radiolocation service on a primary basis. The usage of the frequency band 154-156 MHz by the radiolocation service shall be limited to space-object detection systems operating from terrestrial locations. The operation of stations in the radiolocation service in the frequency band 154-156 MHz shall be subject to agreement obtained under No. 9.21. For the identification of potentially affected administrations in Region 1, the instantaneous field-strength value of 12 dB( $\mu$ V/m) for 10% of the time produced at 10 m above ground level in the 25 kHz reference frequency band at the border of the territory of any other administration shall be used. For the identification of potentially affected administrations in Region 3, the interference-to-noise ratio (I/N) value of -6 dB ( $N = -161$  dBW/4 kHz), or -10 dB for applications with greater protection requirements, such as public protection and disaster relief (PPDR ( $N = -161$  dBW/4 kHz)), for 1% of the time produced at 60 m above ground level at the border of the territory of any other administration shall be used. In the frequency bands 156.7625-156.8375 MHz, 156.5125-156.5375 MHz, 161.9625-161.9875 MHz, 162.0125-162.0375 MHz, out-of-band e.i.r.p. of space surveillance radars shall not exceed -16 dBW. Frequency assignments to the radiolocation service under this allocation in Ukraine shall not be used without the agreement of Moldova. (WRC-12)

5.226

The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service. The conditions for the use of this frequency and the band 156.7625-156.8375 MHz are contained in Article 31 and Appendix 18. The frequency 156.525 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service using digital selective calling (DSC). The conditions for the use of this frequency and the band 156.4875-156.5625 MHz are contained in Articles 31 and 52, and in Appendix 18. In the bands 156-156.4875 MHz, 156.5625-156.7625 MHz, 156.8375-157.45 MHz, 160.6-160.975 MHz and 161.475-162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by the administration (see Articles 31 and 52, and Appendix 18). Any use of frequencies in these bands by stations of other services to which they are allocated should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service. However, the frequencies 156.8 MHz and 156.525 MHz and the frequency bands in which priority is given to the maritime mobile service may be used for radiocommunications on inland waterways subject to agreement between interested and affected administrations and taking into account current frequency usage and existing agreements. (WRC-07)

5.227

Additional allocation: the bands 156.4875-156.5125 MHz and 156.5375-156.5625 MHz are also allocated to the fixed and land mobile services on a primary basis. The use of these bands by the fixed and land mobile services shall not cause harmful interference to nor claim protection from the maritime mobile VHF radiocommunication service. (WRC-07)

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- 5.228 The use of the frequency bands 156.7625-156.7875 MHz and 156.8125-156.8375 MHz by the mobile-satellite service (Earth-to-space) is limited to the reception of automatic identification system (AIS) emissions of long-range AIS broadcast messages (Message 27, see the most recent version of Recommendation ITU R M.1371). With the exception of AIS emissions, emissions in these frequency bands by systems operating in the maritime mobile service for communications shall not exceed 1 W. (WRC-12)
- 5.228A The frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz may be used by aircraft stations for the purpose of search and rescue operations and other safety-related communications. (WRC-12)
- 5.228B The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the fixed and land mobile services shall not cause harmful interference to, or claim protection from, the maritime mobile service. (WRC-12)
- 5.228C The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the maritime mobile service and the mobile-satellite (Earth-to-space) service is limited to the automatic identification system (AIS). The use of these frequency bands by the aeronautical mobile(OR) service is limited to AIS emissions from search and rescue aircraft operations. The AIS operations in these frequency bands shall not constrain the development and use of the fixed and mobile services operating in the adjacent frequency bands.
- 5.228D The frequency bands 161.9625-161.9875 MHz (AIS 1) and 162.0125-162.0375 MHz (AIS 2) may continue to be used by the fixed and mobile services on a primary basis until 1 January 2025, at which time this allocation shall no longer be valid. Administrations are encouraged to make all practicable efforts to discontinue the use of these bands by the fixed and mobile services prior to the transition date. During this transition period, the maritime mobile service in these frequency bands has priority over the fixed, land mobile and aeronautical mobile services.
- 5.228E The use of the automatic identification system in the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the aeronautical mobile (OR) service is limited to aircraft stations for the purpose of search and rescue operations and other safety-related communications.
- 5.228F The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the mobile-satellite service (Earth-to-space) is limited to the reception of automatic identification system emissions from stations operating in the maritime mobile service. (WRC-12)
- 5.229 Alternative allocation: in Morocco, the band 162-174 MHz is allocated to the broadcasting service on a primary basis. The use of this band shall be subject to agreement with administrations having services, operating or planned, in accordance with the Table which are likely to be affected. Stations in existence on 1 January 1981, with their technical characteristics as of that date, are not affected by such agreement.

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- 5.231 Additional allocation: in Afghanistan and China, the band 167-174 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service into this band shall be subject to agreement with the neighbouring countries in Region 3 whose services are likely to be affected. (WRC-12)
- 5.235 Additional allocation: in Germany, Austria, Belgium, Denmark, Spain, Finland, France, Israel, Italy, Liechtenstein, Malta, Monaco, Norway, the Netherlands, the United Kingdom, Sweden and Switzerland, the band 174 - 223 MHz is also allocated to the land mobile service on a primary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, broadcasting stations, existing or planned, in countries other than those listed in this footnote.
- 5.237 Additional allocation: in the Dem. Rep. of the Congo, Egypt, Eritrea, Ethiopia, Gambia, Guinea, Libya, Mali, Sierra Leone, Somalia and Chad, the band 174-223 MHz is also allocated to the fixed and mobile services on a secondary basis.(WRC-12)
- 5.246 Alternative allocation: in Spain, France, Israel and Monaco, the band 223-230 MHz is allocated to the broadcasting and land mobile services on a primary basis (see No. 5.33) on the basis that, in the preparation of frequency plans, the broadcasting service shall have prior choice of frequencies; and allocated to the fixed and mobile, except land mobile, services on a secondary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations in Morocco and Algeria.
- 5.247 Additional allocation: in Saudi Arabia, Bahrain, the United Arab Emirates, Jordan, Oman, Qatar and Syrian Arab Republic, the band 223-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis.
- 5.251 Additional allocation: in Nigeria, the band 230-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis, subject to agreement obtained under No. 9.21.
- 5.252 Alternative allocation: in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the bands 230-238 MHz and 246-254 MHz are allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21.
- 5.254 The bands 235-322 MHz and 335.4-399.9 MHz may be used by the mobile-satellite service, subject to agreement obtained under No. 9.21, on condition that stations in this service do not cause harmful interference to those of other services operating or planned to be operated in accordance with the Table of Frequency Allocations except for the additional allocation made in footnote No. 5.256A. (WRC-03)
- 5.255 The bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) in the mobile-satellite service may also be used by non-geostationary-satellite systems. Such use is subject to coordination under No. 9.11A.
- 5.256 The frequency 243 MHz is the frequency in this band for use by survival craft stations and equipment used for survival purposes. (WRC-07)

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- 5.256A Additional allocation: in China, the Russian Federation, Kazakhstan and Ukraine, the band 258-261 MHz is also allocated to the space research service (Earth-to-space) and space operation service (Earth-to-space) on a primary basis. Stations in the space research service (Earth-to-space) and space operation service (Earth-to-space) shall not cause harmful interference to, nor claim protection from, nor constrain the use and development of the mobile service systems and mobile-satellite service systems operating in the band. Stations in space research service (Earth-to-space) and space operation service (Earth-to-space) shall not constrain the future development of fixed service systems of other countries. (WRC 03)
- 5.257 The band 267-272 MHz may be used by administrations for space telemetry in their countries on a primary basis, subject to agreement obtained under No. 9.21.
- 5.258 The use of the band 328.6-335.4 MHz by the aeronautical radionavigation service is limited to Instrument Landing Systems (glide path).
- 5.259 Additional allocation: in Egypt and the Syrian Arab Republic, the band 328.6-335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. 9.21. (WRC-12)
- 5.260 Recognising that the use of the band 399.9-400.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigation satellite service, administrations are urged not to authorise such use in application of No. 4.4.
- 5.261 Emissions shall be confined in a band of  $\pm 25$  kHz about the standard frequency 400.1 MHz.
- 5.262 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Botswana, Colombia, Cuba, Egypt, the United Arab Emirates, Ecuador, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Liberia, Malaysia, Moldova, Oman, Uzbekistan, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Kyrgyzstan, Singapore, Somalia, Tajikistan, Chad, Turkmenistan and Ukraine, the band 400.05-401 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 5.263 The band 400.15-401 MHz is also allocated to the space research service in the space-to-space direction for communications with manned space vehicles. In this application, the space research service will not be regarded as a safety service.
- 5.264 The use of the band 400.15-401 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The power flux-density limit indicated in Annex 1 of Appendix 5 shall apply until such time as a competent world radiocommunication conference revises it.

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- 5.266 The use of the band 406-406.1 MHz by the mobile-satellite service is limited to low power satellite emergency position-indicating radiobeacons (see also Article 31). (WRC-07)
- 5.267 Any emission capable of causing harmful interference to the authorised uses of the band 406-406.1 MHz is prohibited.
- 5.268 Use of the band 410-420 MHz by the space research service is limited to communications within 5 km of an orbiting, manned space vehicle. The power flux-density at the surface of the Earth produced by emissions from extra-vehicular activities shall not exceed  $-153 \text{ dB(W/m}^2\text{)}$  for  $0^\circ = d = 5^\circ$ ,  $-153 + 0.077 (d - 5) \text{ dB(W/m}^2\text{)}$  for  $5^\circ = d = 70^\circ$  and  $-148 \text{ dB(W/m}^2\text{)}$  for  $70^\circ = d = 90^\circ$ , where  $d$  is the angle of arrival of the radio-frequency wave and the reference bandwidth is 4 kHz. No. 4.10 does not apply to extra-vehicular activities. In this frequency band the space research (space-to-space) service shall not claim protection from, nor constrain the use and development of, stations of the fixed and mobile services. (WRC-97)
- 5.269 Different category of service: in Australia, the United States, India, Japan and the United Kingdom, the allocation of the bands 420-430 MHz and 440-450 MHz to the radiolocation service is on a primary basis (see No. 5.33).
- 5.271 Additional allocation: in Belarus, China, India, Kyrgyzstan and Turkmenistan, the band 420-460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis. (WRC-07)
- 5.274 Alternative allocation: in Denmark, Norway, Sweden and Chad, the bands 430-432 MHz and 438-440 MHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 5.275 Additional allocation: in Croatia, Estonia, Finland, Libyan Arab Jamahiriya, The Former Yugoslav Republic of Macedonia, Montenegro, Serbia and Slovenia, the bands 430-432 MHz and 438-440 MHz are also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-07)
- 5.276 Additional allocation: in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burkina Faso, Djibouti, Egypt, the United Arab Emirates, Ecuador, Eritrea, Ethiopia, Greece, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, Jordan, Kenya, Kuwait, Libya, Malaysia, Niger, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Switzerland, Tanzania, Thailand, Togo, Turkey and Yemen, the band 430-440 MHz is also allocated to the fixed service on a primary basis and the bands 430-435 MHz and 438-440 MHz are also allocated to the mobile, except aeronautical mobile, service on a primary basis. (WRC-12)
- 5.277 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, Cameroon, the Dem. Rep. of the Congo, Djibouti, the Russian Federation, Georgia, Hungary, Israel, Kazakhstan, Mali, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, Romania, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the band 430-440 MHz is also allocated to the fixed service on a primary basis. (WRC-12)

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- 5.279A The use of this band by sensors in the Earth exploration-satellite service (active) shall be in accordance with Recommendation ITU-R RS.1260 1. Additionally, the Earth exploration-satellite service (active) in the band 432-438 MHz shall not cause harmful interference to the aeronautical radionavigation service in China. The provisions of this footnote in no way diminish the obligation of the Earth exploration-satellite service (active) to operate as a secondary service in accordance with Nos. 5.29 and 5.30. (WRC-03)
- 5.280 In Germany, Austria, Bosnia and Herzegovina, Croatia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Montenegro, Portugal, Serbia, Slovenia and Switzerland, the band 433.05-434.79 MHz (centre frequency 433.92 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services of these countries operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 15.13. (WRC-07)
- 5.281 Additional allocation: in the French Overseas Departments in Region 2 and India, the band 433.75-434.25 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis. In France and in Brazil, the band is allocated to the same service on a secondary basis.
- 5.282 In the bands 435-438 MHz, 1260-1270 MHz, 2400-2450 MHz, 3400-3410 MHz (in Regions 2 and 3 only) and 5650-5670 MHz, the amateur-satellite service may operate subject to not causing harmful interference to other services operating in accordance with the Table (see No. 5.43). Administrations authorising such use shall ensure that any harmful interference caused by emissions from a station in the amateur-satellite service is immediately eliminated in accordance with the provisions of No. 25.11. The use of the bands 1260-1270 MHz and 5650-5670 MHz by the amateur-satellite service is limited to the Earth-to-space direction.
- 5.283 Additional allocation: in Austria, the band 438-440 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.
- 5.286 The band 449.75-450.25 MHz may be used for the space operation service (Earth-to-space) and the space research service (Earth-to-space), subject to agreement obtained under No. 9.21.
- 5.286A The use of the bands 454-456 MHz and 459-460 MHz by the mobile-satellite service is subject to coordination under 9.11A. (WRC-97)
- 5.286AA The band 450-470 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). See Resolution 224 (Rev.WRC-07)\*. This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-07) \*Note by the Secretariat: This Resolution was revised by WRC-12
- 5.286B The use of the band 454-455 MHz in the countries listed in No. 5.286D, 455-456 MHz and 459-460 MHz in Region 2, and 454-456 MHz and 459-460 MHz in the countries listed in No. 5.286E, by stations in the mobile-satellite service, shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations. (WRC-97)

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- 5.287 In the maritime mobile service, the frequencies 457.525 MHz, 457.550 MHz, 457.575 MHz, 467.525 MHz, 467.550 MHz and 467.575 MHz may be used by on-board communication stations. Where needed, equipment designed for 12.5 kHz channel spacing using also the additional frequencies 457.5375 MHz, 457.5625 MHz, 467.5375 MHz and 467.5625 MHz may be introduced for on-board communications. The use of these frequencies in territorial waters may be subject to the national regulations of the administration concerned. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174 2.(WRC-07)
- 5.289 Earth exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands 460-470 MHz and 1690-1710 MHz for space-to-Earth transmissions subject to not causing harmful interference to stations operating in accordance with the Table.
- 5.290 Different category of service: in Afghanistan, Azerbaijan, Belarus, China, the Russian Federation, Kyrgyzstan, Tajikistan, and Turkmenistan, the allocation of the band 460-470 MHz to the meteorological-satellite service (space-to Earth) is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21. (WRC-12)
- 5.291A Additional allocation: in Germany, Austria, Denmark, Estonia, Finland, Liechtenstein, Norway, Netherlands, the Czech Republic and Switzerland, the band 470-494 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution 217 (WRC-97). (WRC-97)
- 5.294 Additional allocation: in Saudi Arabia, Cameroon, Côte d'Ivoire, Egypt, Ethiopia, Israel, Kenya, Libya, the Syrian Arab Republic, South Sudan, Chad and Yemen, the band 470-582 MHz is also allocated to the fixed service on a secondary basis. (WRC-12)
- 5.296 Additional allocation: in Albania, Germany, Saudi Arabia, Austria, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Burkina Faso, Cameroon, the Dem. Rep. of the Congo, Côte d'Ivoire, Croatia, Denmark, Djibouti, Egypt, United Arab Emirates, Estonia, Finland, France, Gabon, Ghana, Iraq, Ireland, Iceland, Israel, Italy, Jordan, Kuwait, Latvia, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, Lithuania, Luxembourg, Mali, Malta, Morocco, Moldova, Monaco, Niger, Norway, Oman, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Slovakia, Spain, the Czech Republic, the United Kingdom, Sudan, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 470-790 MHz, and in Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Nigeria, South Africa, Tanzania, Zambia and Zimbabwe, the band 470-698 MHz are also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting. Stations of the land mobile service in the countries listed in this footnote shall not cause harmful interference to existing or planned stations operating in accordance with the Table in countries other than those listed in this footnote. (WRC-12)
- 5.300 Additional allocation: in Saudi Arabia, Cameroon, Egypt, United Arab Emirates, Israel, Jordan, Libya, Oman, Qatar, the Syrian Arab Republic, Sudan and South Sudan, the band 582-790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.(WRC-12)

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- 5.304 Additional allocation: in the African Broadcasting Area (see Nos. 5.10 to 5.13), the band 606-614 MHz is also allocated to the radio astronomy service on a primary basis.
- 5.306 Additional allocation: in Region 1, except in the African Broadcasting Area (see Nos. 5.10 to 5.13), and in Region 3, the band 608-614 MHz is also allocated to the radio astronomy service on a secondary basis.
- 5.311A For the frequency band 620-790 MHz, see also Resolution 549 (WRC-07).
- 5.312 Additional allocation: in Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 645-862 MHz, in Bulgaria the bands 646-686 MHz, 726-758 MHz, 766-814 MHz and 822-862 MHz, in Romania the band 830-862 MHz, and in Poland, the band 830-860 MHz until 31 December 2012 and the band 860-862 MHz until 31 December 2017, are also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)
- 5.312A In Region 1, the use of the band 694-790 MHz by the mobile, except aeronautical mobile, service is subject to the provisions of Resolution 232 (WRC-12). See also Resolution 224 (Rev.WRC-12)
- 5.314 Additional allocation: in Austria, Italy, Moldova, Uzbekistan, Kyrgyzstan, and the United Kingdom, the band 790-862 MHz is also allocated to the land mobile service on a secondary basis. (WRC-12)
- 5.315 Alternative allocation: in Greece, the band 790-838 MHz is allocated to the broadcasting service on a primary basis. (WRC-12)
- 5.316 Additional allocation: in Germany, Saudi Arabia, Bosnia and Herzegovina, Burkina Faso, Cameroon, Côte d'Ivoire, Croatia, Denmark, Egypt, Finland, Greece, Israel, the Libyan Arab Jamahiriya, Jordan, Kenya, The Former Yugoslav Republic of Macedonia, Liechtenstein, Mali, Monaco, Montenegro, Norway, the Netherlands, Portugal, the United Kingdom, Syrian Arab Republic, Serbia, Sweden and Switzerland, the band 790-830 MHz, and in these same countries and in Spain, France, Gabon and Malta, the band 830-862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band. This allocation is effective until 16 June 2015. (WRC-07)



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- 5.316A Additional allocation: in Spain, France, Gabon and Malta, the band 790-830 MHz, in Albania, Angola, Bahrain, Benin, Botswana, the Dem. Rep. of the Congo, Egypt, United Arab Emirates, Estonia, Gambia, Ghana, Guinea, Guinea-Bissau, Hungary, Iraq, Kuwait, Lesotho, Latvia, Lebanon, Lithuania, Luxembourg, Malawi, Morocco, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Poland, Qatar, Slovakia, Czech Rep., Romania, Rwanda, Senegal, Sudan, South Sudan, South Africa, Swaziland, Tanzania, Chad, Togo, Yemen, Zambia, Zimbabwe and French Overseas Departments and Communities in Region 1, the band 790-862 MHz and in Georgia, the band 806-862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis subject to the agreement by the administrations concerned obtained under No. 9.21 and under the GE06 Agreement, as appropriate, including those administrations mentioned in No. 5.312 where appropriate. See Resolutions 224 (Rev.WRC-12) and 749 (Rev.WRC-12). This allocation is effective until 16 June 2015. (WRC-12)
- 5.316B In Region 1, the allocation to the mobile, except aeronautical mobile, service on a primary basis in the frequency band 790-862 MHz shall come into effect from 17 June 2015 and shall be subject to agreement obtained under No. 9.21 with respect to the aeronautical radionavigation service in countries mentioned in No. 5.312. For countries party to the GE06 Agreement, the use of stations of the mobile service is also subject to the successful application of the procedures of that Agreement. Resolution 224 (Rev.WRC-12) and Resolution 749 (Rev.WRC-07) shall apply as appropriate. (WRC-12)
- 5.317A Those parts of the band 698-960 MHz in Region 2 and the band 790-960 MHz in Regions 1 and 3 which are allocated to the mobile service on a primary basis are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) See Resolution 224 (Rev.WRC-12) and Resolution 749 (Rev.WRC-12), as appropriate. This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-12)
- 5.319 Additional Allocation: In Belarus, the Russian Federation and Ukraine, the bands 806-840 MHz (Earth-to-space) and 856-890 MHz (space-to-Earth) are also allocated to the mobile-satellite, except aeronautical mobile satellite (R), service. The use of these bands by this service shall not cause harmful interference to, or claim protection from, services in other countries operating in accordance with the Table of Frequency Allocations and is subject to special agreements between the administrations concerned.
- 5.322 In Region 1, in the band 862-960 MHz, stations of the broadcasting service shall be operated only in the African Broadcasting Area (See Nos 5.10 to 5.13) excluding Algeria, Burundi, Egypt, Spain, Lesotho, Libya, Morocco, Malawi, Namibia, Nigeria, South Africa, Tanzania, Zimbabwe and Zambia, subject to agreement obtained under No 9.21. (WRC-12)

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- 5.323 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 862-960 MHz, in Bulgaria the bands 862-890.2 MHz and 900-935.2 MHz, in Poland the band 862-876 MHz until 31 December 2017, and in Romania the bands 862-880 MHz and 915-925 MHz, are also allocated to the aeronautical radionavigation service on a primary basis. Such use is subject to agreement obtained under No. 9.21 with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-12)
- 5.327A The use of the band 960-1164 MHz by the aeronautical mobile (R) service is limited to systems that operate in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution 417 (Rev. WRC-12). (WRC-12)
- 5.328 The use of the band 960-1215 MHz by the aeronautical radionavigation service is reserved on a worldwide basis for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities. (WRC-2000)
- 5.328A Stations in the radionavigation-satellite service in the band 1164-1215 MHz shall operate in accordance with the provisions of Resolution 609 (Rev.WRC-07) and shall not claim protection from stations in the aeronautical radionavigation service in the band 960-1215 MHz. No. 5.43A does not apply. The provisions of No. 21.18 shall apply. (WRC-07)
- 5.328B The use of the bands 1164-1300 MHz, 1559-1610 MHz and 5010-5030 MHz by systems and networks in the radionavigation-satellite service for which complete coordination or notification information, as appropriate, is received by the Radiocommunication Bureau after 1 January 2005 is subject to the application of the provisions of Nos. 9.12, 9.12A and 9.13. Resolution 610 (WRC 03) shall also apply; however, in the case of radionavigation-satellite service (space-to-space) networks and systems, Resolution 610 (WRC-03) shall only apply to transmitting space stations. In accordance with No. 5.329A, for systems and networks in the radionavigation-satellite service (space-to-space) in the bands 1215 1300 MHz and 1559-1610 MHz, the provisions of Nos. 9.7, 9.12, 9.12A and 9.13 shall only apply with respect to other systems and networks in the radionavigation-satellite service (space-to-space). (WRC-07)
- 5.329 Use of the radionavigation-satellite service in the band 1 215-1 300 MHz shall be subject to the condition that no harmful interference is caused to, and no protection is claimed from, the radionavigation service authorized under No. 5.331. Furthermore, the use of the radionavigation-satellite service in the band 1 215-1 300 MHz shall be subject to the condition that no harmful interference is caused to the radiolocation service. No. 5.43 shall not apply in respect of the radiolocation service. Resolution 608 (WRC 03) shall apply. (WRC-03)
- 5.329A Use of systems in the radionavigation-satellite service (space-to-space) operating in the bands 1 215-1 300 MHz and 1 559-1 610 MHz is not intended to provide safety service applications, and shall not impose any additional constraints on radionavigation-satellite service (space-to-Earth) systems or on other services operating in accordance with the Table of Frequency Allocations. (WRC 07)

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- 5.330 Additional allocation: in Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, China, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Nepal, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the band 1 215-1 300 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 5.331 Additional allocation: in Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Belarus, Belgium, Benin, Bosnia and Herzegovina, Brazil, Burkina Faso, Burundi, Cameroon, China, Korea (Rep. of), Croatia, Denmark, Egypt, the United Arab Emirates, Estonia, the Russian Federation, Finland, France, Ghana, Greece, Guinea, Equatorial Guinea, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Israel, Jordan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Mauritania, Montenegro, Nigeria, Norway, Oman, Pakistan, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sudan, South Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Thailand, Togo, Turkey, Venezuela and Viet Nam, the band 1215-1300 MHz is also allocated to the radionavigation service on a primary basis. In Canada and the United States, the band 1240-1300 MHz is also allocated to the radionavigation service, and use of the radionavigation service shall be limited to the aeronautical radionavigation service. (WRC-12)
- 5.332 In the band 1215-1260 MHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, the radionavigation-satellite service and other services allocated on a primary basis. (WRC-2000)
- 5.335A In the band 1260-1300 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service and other services allocated by footnotes on a primary basis. (WRC-2000)
- 5.337 The use of the bands 1300-1350 MHz, 2700-2900 MHz and 9000-9200 MHz by the aeronautical radionavigation service is restricted to ground-based radars and to associated airborne transponders which transmit only on frequencies in these bands and only when actuated by radars operating in the same band.
- 5.337A The use of the band 1 300-1 350 MHz by earth stations in the radionavigation-satellite service and by stations in the radiolocation service shall not cause harmful interference to, nor constrain the operation and development of, the aeronautical-radionavigation service. (WRC-2000)
- 5.338 In Kyrgyzstan, Slovakia and Turkmenistan, existing installations of the radionavigation service may continue to operate in the band 1350-1400 MHz. (WRC-12)
- 5.338A In the bands 1350-1400 MHz, 1427-1452 MHz, 22.55-23.55 GHz, 30-31.3 GHz, 49.7-50.2 GHz, 50.4-50.9 GHz, 51.4-52.6 GHz, 81-86 GHz and 92-94 GHz, Resolution 750 (Rev. WRC-12) applies. (WRC-12)

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- 5.339 The bands 1370-1400 MHz, 2640-2655 MHz, 4950-4990 MHz and 15.20-15.35 GHz are also allocated to the space research (passive) and earth exploration-satellite (passive) services on a secondary basis.
- 5.340 All emissions are prohibited in the following bands: 1400-1427 MHz 2690-2700 MHz, except those provided for by No. 5.422 10.68-10.7 GHz, except those provided for by No. 5.483 15.35-15.4 GHz, except those provided for by No. 5.511 23.6-24 GHz 31.3-31.5 GHz 31.5-31.8 GHz, in Region 2 48.94-49.04 GHz, from airborne stations 50.2-50.4 GHz (1) 52.6-54.25 GHz 86-92 GHz 100-102 GHz 109.5-111.8 GHz 114.25-116 GHz 148.5-151.5 GHz 164-167 GHz 182-185 GHz 190-191.8 GHz 200-209 GHz, 226-231.5 GHz 250-252 GHz. (WRC-03) / (1) 5.340 The allocation to the Earth exploration-satellite service (passive) and the space research service (passive) in the band 50.2-50.4 GHz should not impose undue constraints on the use of the adjacent bands by the primary allocated services in those bands. (WRC-97)
- 5.341 In the bands 1400-1727 MHz, 101-120 GHz and 197-220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extraterrestrial origin.
- 5.342 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Uzbekistan, Kyrgyzstan and Ukraine, the band 1429-1535 MHz and in Bulgaria the band 1525-1535 MHz are also allocated to the aeronautical mobile service on a primary basis exclusively for the purposes of aeronautical telemetry within the national territory. As of 1 April 2007, the use of the band 1452-1492 MHz is subject to agreement between the administrations concerned. (WRC-12)
- 5.345 Use of the band 1452-1492 MHz by the broadcasting-satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (WARC-92).\* \*Note by the Secretariat: This Resolution was revised by WRC-03
- 5.348 The use of the band 1518-1525 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. In the band 1518-1525 MHz stations in the mobile-satellite service shall not claim protection from the stations in the fixed service. No. 5.43A does not apply. (WRC-03)
- 5.348A In the band 1518-1525 MHz, the coordination threshold in terms of the power flux-density levels at the surface of the Earth in application of No. 9.11A for space stations in the mobile-satellite (space-to-Earth) service, with respect to the land mobile service use for specialized mobile radios or used in conjunction with public switched telecommunication networks (PSTN) operating within the territory of Japan, shall be -150 dB(W/m<sup>2</sup>) in any 4 kHz band for all angles of arrival, instead of those given in Table 52 of Appendix 5. In the band 1518-1525 MHz stations in the mobile-satellite service shall not claim protection from stations in the mobile service in the territory of Japan. No. 5.43A does not apply. (WRC-03)
- 5.348B In the band 1518-1525 MHz, stations in the mobile-satellite service shall not claim protection from aeronautical mobile telemetry stations in the mobile service in the territory of the United States (see Nos. 5.343 and 5.344) and in the countries listed in No. 5.342. No. 5.43A does not apply. (WRC-03)

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- 5.349 Different category of service: in Saudi Arabia, Azerbaijan, Bahrain, Cameroon, Egypt, France, Iran (Islamic Republic of), Iraq, Israel, Kazakhstan, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Morocco, Qatar, Syrian Arab Republic, Kyrgyzstan, Turkmenistan and Yemen, the allocation of the band 1 525-1 530 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33). (WRC-07)
- 5.350 Additional allocation: in Azerbaijan, Kyrgyzstan and Turkmenistan, the band 1525-1530 MHz is also allocated to the aeronautical mobile service on a primary basis. (WRC-2000)
- 5.351 The bands 1525-1544 MHz, 1545-1559 MHz, 1626.5-1645.5 MHz and 1646.5-1660.5 MHz shall not be used for feeder links of any service. In exceptional circumstances, however, an earth station at a specified fixed point in any of the mobile-satellite services may be authorised by an administration to communicate via space stations using these bands.
- 5.351A For the use of the bands 1518-1544 MHz, 1545-1559 MHz, 1610-1626.5 MHz, 1626.5-1645.5 MHz, 1646.5-1660.5 MHz, 1668-1675 MHz, 1980-2010 MHz, 2170-2200 MHz, 2483.5-2500 MHz, 2500-2520 MHz and 2670-2690 MHz by the mobile-satellite service, see Resolutions 212 (Rev.WRC-07) and 225 (Rev.WRC-07). (WRC-07)
- 5.352A In the band 1525-1530 MHz, stations in the mobile-satellite service, except stations in the maritime mobile-satellite service, shall not cause harmful interference to, or claim protection from, stations of the fixed service in France and French overseas communities of Region 3, Algeria, Saudi Arabia, Egypt, Guinea, India, Israel, Italy, Jordan, Kuwait, Mali, Morocco, Mauritania, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Tanzania, Viet Nam and Yemen notified prior to 1 April 1998. (WRC-12)
- 5.353A In applying the procedures of Section II of Article 9 to the mobile-satellite service in the bands 1530-1544 MHz and 1626.5-1645.5 MHz, priority shall be given to accommodating the spectrum requirements for distress, urgency and safety communications of the Global Maritime Distress and Safety System (GMDSS). Maritime mobile-satellite distress, urgency and safety communications shall have priority access and immediate availability over all other mobile satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, distress, urgency and safety communications of the GMDSS. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution 222 (WRC-2000)\* shall apply.) (WRC-2000) \*Note by the Secretariat: This Resolution was revised by WRC-07
- 5.354 The use of the bands 1525-1559 MHz and 1626.5-1660.5 MHz by the mobile-satellite services is subject to coordination under No. 9.11A.
- 5.355 Additional allocation: in Bahrain, Bangladesh, the Dem. Rep. of the Congo, Djibouti, Egypt, Eritrea, Iraq, Israel, Kuwait, Qatar, Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the bands 1 540-1 559 MHz, 1 610-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a secondary basis. (WRC-12)

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- 5.356 The use of the band 1544-1545 MHz by the mobile-satellite service (space-to-Earth) is limited to distress and safety communications (see Article 31).
- 5.357 Transmissions in the band 1545-1555 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorised when such transmissions are used to extend or supplement the satellite-to-aircraft links.
- 5.357A In applying the procedures of Section II of Article 9 to the mobile-satellite service in the bands 1545-1555 MHz and 1646.5-1656.5 MHz, priority shall be given to accommodating the spectrum requirements of the aeronautical mobile-satellite(R)service providing transmission of messages with priority 1 to 6 in Article 44. Aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44 shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite(R)service communications with priority 1 to 6 in Article 44. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution 222 (Rev. WRC-12) shall apply.) (WRC-12)
- 5.359 Additional allocation: in Germany, Saudi Arabia, Armenia, Austria, Azerbaijan, Belarus, Benin, Cameroon, the Russian Federation, France, Georgia, Greece, Guinea, Guinea-Bissau, Jordan, Kazakhstan, Kuwait, Lithuania, Mauritania, Uganda, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Tajikistan, Tanzania, Tunisia, Turkmenistan and Ukraine, the bands 1550-1559 MHz, 1610-1645.5 MHz and 1646.5-1660 MHz are also allocated to the fixed service on a primary basis. Administrations are urged to make all practicable efforts to avoid the implementation of new fixed-service stations in these bands. (WRC-12)
- 5.362B Additional allocation: The band 1559-1610 MHz is also allocated to the fixed service on a primary basis until 1 January 2010 in Algeria, Saudi Arabia, Cameroon, Jordan, Mali, Mauritania, Syrian Arab Republic and Tunisia. After this date, the fixed service may continue to operate on a secondary basis until 1 January 2015, at which time this allocation shall no longer be valid. The band 1559-1610 MHz is also allocated to the fixed service on a secondary basis in Algeria, Armenia, Azerbaijan, Belarus, Benin, Russian Federation, Gabon, Georgia, Guinea, Guinea-Bissau, Kazakhstan, Lithuania, Nigeria, Uzbekistan, Pakistan, Poland, Kyrgyzstan, Dem. People's Rep. of Korea, Romania, Senegal, Tajikistan, Tanzania, Turkmenistan and Ukraine until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and the aeronautical radionavigation service and not authorize new frequency assignments to fixed-service systems in this band. (WRC-12)
- 5.362C Additional allocation: in the Dem. Rep. of the Congo, Eritrea, Iraq, Israel, Jordan, Qatar, the Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the band 1 559-1 610 MHz is also allocated to the fixed service on a secondary basis until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and not authorize new frequency assignments to fixed-service systems in this band. (WRC-12)

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- 5.364 The use of the band 1610-1626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to coordination under No. 9.11A. A mobile earth station operating in either of the services in this band shall not produce a peak e.i.r.p. density in excess of -15 dB(W/4 kHz) in the part of the band used by systems operating in accordance with the provisions of No. 5.366 (to which No. 4.10 applies), unless otherwise agreed by the affected administrations. In the part of the band where such systems are not operating, the mean e.i.r.p. density of a mobile earth station shall not exceed -3 dB(W/4 kHz). Stations of the mobile-satellite service shall not claim protection from stations in the aeronautical radionavigation service, stations operating in accordance with the provisions of No. 5.366 and stations in the fixed service operating in accordance with the provisions of No. 5.359. Administrations responsible for the coordination of mobile-satellite networks shall make all practicable efforts to ensure protection of stations operating in accordance with the provisions of No. 5.366.
- 5.365 The use of the band 1613.8-1626.5 MHz by the mobile-satellite service (space-to-Earth) is subject to coordination under No. 9.11A.
- 5.366 The band 1610-1626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under No. 9.21.
- 5.367 Additional allocation: the bands 1 610-1 626.5 MHz is also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. 9.21.
- 5.368 With respect to the radiodetermination-satellite and mobile-satellite services the provisions of No. 4.10 do not apply in the band 1 610-1 626.5 MHz, with the exception of the aeronautical radionavigation-satellite service.
- 5.369 Different category of service: in Angola, Australia, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Israel, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, the Dem. Rep. of the Congo, Sudan, South Sudan, Togo and Zambia, the allocation of the band 1 610-1 626.5 MHz to the radiodetermination-satellite service (Earth-to-space) is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21 from countries not listed in this provision. (WRC-12)
- 5.371 Additional allocation: in Region 1, the bands 1 610-1 626.5 MHz (Earth-to-space) is also allocated to the radiodetermination-satellite service on a secondary basis, subject to agreement obtained under No. 9.21. (WRC-12)
- 5.372 Harmful interference shall not be caused to stations of the radio astronomy service using the band 1 610.6-1 613.8 MHz by stations of the radiodetermination-satellite and mobile-satellite services (No. 29.13 applies).
- 5.374 Mobile earth stations in the mobile-satellite service operating in the bands 1631.5-1634.5 MHz and 1656.5-1660 MHz shall not cause harmful interference to the stations in the fixed service operating in the countries listed in No. 5.359. (WRC-97)

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- 5.375 The use of the band 1 645.5-1 646.5 MHz by the mobile-satellite service (Earth-to-space) and for inter-satellite links is limited to distress and safety communications (see Article 31).
- 5.376 Transmissions in the band 1646.5-1656.5 MHz from aircraft stations in the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorised when such transmissions are used to extend or supplement the aircraft-to-satellite links.
- 5.376A Mobile earth stations operating in the band 1660-1660.5 MHz shall not cause harmful interference to stations in the radio astronomy service. (WRC-97)
- 5.379A Administrations are urged to give all practicable protection in the band 1660.5-1668.4 MHz for future research in radio astronomy, particularly by eliminating air-to-ground transmissions in the meteorological aids service in the band 1664.4-1668.4 MHz as soon as practicable.
- 5.379B The use of the band 1668-1675 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. In the band 1 668-1 668.4 MHz, Resolution 904 (WRC-07) shall apply. (WRC-07)
- 5.379C In order to protect the radio astronomy service in the band 1668-1670 MHz, the aggregate power flux-density values produced by mobile earth stations in a network of the mobile-satellite service operating in this band shall not exceed -181 dB(W/m<sup>2</sup>) in 10 MHz and -194 dB(W/m<sup>2</sup>) in any 20 kHz at any radio astronomy station recorded in the Master International Frequency Register, for more than 2% of integration periods of 2 000 s. (WRC-03)
- 5.379D For sharing of the band 1668.4-1675 MHz between the mobile-satellite service and the fixed and mobile services, Resolution 744 (Rev.WRC-07) shall apply. (WRC-07)
- 5.379E In the band 1668.4-1675 MHz, stations in the mobile-satellite service shall not cause harmful interference to stations in the meteorological aids service in China, Iran (Islamic Republic of), Japan and Uzbekistan. In the band 1668.4-1675 MHz, administrations are urged not to implement new systems in the meteorological aids service and are encouraged to migrate existing meteorological aids service operations to other bands as soon as practicable. (WRC-03)
- 5.380A In the band 1670-1675 MHz, stations in the mobile-satellite service shall not cause harmful interference to, nor constrain the development of, existing earth stations in the meteorological-satellite service notified before 1 January 2004. Any new assignment to these earth stations in this band shall also be protected from harmful interference from stations in the mobile-satellite service. (WRC-07)
- 5.381 Additional allocation: in Afghanistan, Cuba, India, Iran (Islamic Republic of) and Pakistan, the band 1690-1700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)



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- 5.382 Different category of service: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, the Dem. Rep. of the Congo, Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Guinea, Iraq, Israel, Jordan, Kazakhstan, Kuwait, the Former Yugoslav Republic of Macedonia, Lebanon, Mauritania, Moldova, Mongolia, Oman, Uzbekistan, Poland, Qatar, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Tanzania, Turkmenistan, Ukraine and Yemen, the allocation of the band 1690-1700 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33), and in the Dem. People's Rep. of Korea, the allocation of the band 1690-1700 MHz to the fixed service is on a primary basis (see No. 5.33) and to the mobile, except aeronautical mobile, service on a secondary basis. (WRC-12)
- 5.384A The bands, or portions of the bands, 1710-1885 MHz, 2300-2400 MHz and 2500-2690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev.WRC-07). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-07)
- 5.385 Additional allocation: the band 1718.8-1722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. (WRC-2000)
- 5.386 Additional allocation: the band 1750-1850 MHz is also allocated to the space operation (Earth-to-space) and space research (Earth-to-space) services in Region 2, in Australia, Guam, India, Indonesia and Japan on a primary basis, subject to agreement obtained under No. 9.21, having particular regard to troposcatter systems. (WRC-03)
- 5.387 Additional allocation: in Belarus, Georgia, Kazakhstan, Kyrgyzstan, Romania, Tajikistan and Turkmenistan, the band 1770-1790 MHz is also allocated to the meteorological-satellite service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-12)
- 5.388 The bands 1885-2025 MHz and 2110-2200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications (IMT). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT in accordance with Resolution 212 (Rev.WRC-97). (See also Resolution 223 (WRC-07)\*). (WRC-12). / \*Note by the Secretariat: This Resolution was revised by WRC-12
- 5.388A In Regions 1 and 3, the bands 1885-1980 MHz, 2010-2025 MHz and 2110-2170 MHz and, in Region 2, the bands 1885-1980 MHz and 2110-2160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications (IMT), in accordance with Resolution 221 (Rev.WRC 07). Their use by IMT applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-12)

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- 5.388B In Algeria, Saudi Arabia, Bahrain, Benin, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, China, Cuba Djibouti, Egypt, United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, India, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Libya, Mali, Morocco, Mauritania, Nigeria, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, Senegal, Singapore, Sudan, South Sudan, Tanzania, Chad, Togo, Tunisia, Yemen, Zambia and Zimbabwe, for the purpose of protecting fixed and mobile services, including IMT-2000 mobile stations, in their territories from co-channel interference, a high altitude platform station (HAPS) operating as an IMT-2000 base station in neighbouring countries, in the bands referred to in No. 5.388A, shall not exceed a co-channel power flux-density of  $-127 \text{ dB(W)/(m}^2\text{-MHz)}$  at the Earth's surface outside a country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS. (WRC-12)
- 5.389A The use of the bands 1980-2010 MHz and 2170-2200 MHz by the mobile-satellite service is subject to coordination under No. 9.11A and to the provisions of Resolution 716 (Rev.WRC-2000). (WRC-07)
- 5.389E The use of the bands 2010-2025 MHz and 2160-2170 MHz by the mobile-satellite service in Region 2 shall not cause harmful interference to or constrain the development of the fixed and mobile services in Regions 1 and 3.
- 5.389F In Algeria, Benin, Cape Verde, Egypt, Iran (Islamic Republic of), Mali, Syrian Arab Republic and Tunisia, the use of the bands 1980-2010 MHz and 2170-2200 MHz by the mobile-satellite service shall neither cause harmful interference to the fixed and mobile services, nor hamper the development of those services prior to 1 January 2005, nor shall the former service request protection from the latter services. (WRC-2000)
- 5.391 In making assignments to the mobile service in the bands 2025-2110 MHz and 2200-2290 MHz, administrations shall not introduce high-density mobile systems, as described in Recommendation ITU-R SA.1154, and shall take that Recommendation into account for the introduction of any other type of mobile system. (WRC-97)
- 5.392 Administrations are urged to take all practicable measures to ensure that space-to-space transmissions between two or more non-geostationary satellites, in the space research, space operations and Earth exploration-satellite services in the bands 2 025 - 2 110 MHz and 2 200 - 2 290 MHz, shall not impose any constraints on Earth-to-space, space-to-Earth and other space-to-space transmissions of those services and in those bands between geostationary and non-geostationary satellites.
- 5.395 In France and Turkey, the use of the band 2310-2360 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service. (WRC-03)
- 5.396 Space stations of the broadcasting-satellite service in the band 2310-2360 MHz operating in accordance with No. 5.393 that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution 33 (Rev.WRC-97)\*. Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use. \* Note by the Secretariat: This Resolution was revised by WRC-03

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- 5.398 In respect of the radiodetermination-satellite service in the band 2483.5-2500 MHz, the provisions of No. 4.10 do not apply.
- 5.398A Different category of service: In Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine, the band 2483.5-2500 MHz is allocated on a primary basis to the radiolocation service. The radiolocation stations in these countries shall not cause harmful interference to, or claim protection from, stations of the fixed, mobile and mobile-satellite services operating in accordance with the Radio Regulations in the frequency band 2483.5-2500 MHz. (WRC-12)
- 5.399 Except for cases referred to in No. 5.401, stations of the radiodetermination-satellite service operating in the frequency band 2483.5-2500 MHz for which notification information is received by the Bureau after 17 February 2012, and the service area of which includes Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine, shall not cause harmful interference to, and shall not claim protection from stations of the radiolocation service operating in these countries in accordance with No.5.398. (WRC-12)
- 5.401 In Angola, Australia, Bangladesh, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, Dem. Rep. of the Congo, Sudan, Swaziland, Togo and Zambia, the band 2 483.5-2 500 MHz was already allocated on a primary basis to the radiodetermination-satellite service before WRC-12, subject to agreement obtained under No. 9.21 from countries not listed in this provision. Systems in the radiodetermination-satellite service for which complete coordination information has been received by the Radiocommunication Bureau before 18 February 2012 will retain their regulatory status, as of the date of receipt of the coordination request information. WRC-12)
- 5.402 The use of the band 2483.5-2500 MHz by the mobile-satellite and the radiodetermination-satellite services is subject to the coordination under No. 9.11A. Administrations are urged to take all practicable steps to prevent harmful interference to the radio astronomy service from emissions in the 2483.5-2500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4990-5000 MHz band allocated to the radio astronomy service worldwide.
- 5.403 Subject to agreement obtained under No. 9.21, the band 2520-2535 MHz may also be used for the mobile-satellite (space-to-Earth), except aeronautical mobile-satellite, service for operation limited to within national boundaries. The provisions No. 9.11A apply. (WRC-07)
- 5.410 The band 2500-2690 MHz may be used for tropospheric scatter systems in Region 1, subject to agreement obtained under No. 9.21. No. 9.21 does not apply to tropospheric scatter links situated entirely outside Region 1. Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in this band. When planning new tropospheric scatter radio-relay links in this band, all possible measures shall be taken to avoid directing the antennas of these links towards the geostationary-satellite orbit.(WRC-12)

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- 5.412 Alternative allocation:in Kyrgyzstan and Turkmenistan, the band 2 500-2 690 MHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 5.413 In the design of systems in the broadcasting-satellite service in the bands between 2500 MHz and 2690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2690-2700 MHz.
- 5.414 The allocation of the frequency band 2500-2520 MHz to the mobile-satellite service (space-to-Earth) is subject to coordination under No. 9.11A. (WRC-07)
- 5.416 The use of the band 2520-2670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under No. 9.21. The provisions of No. 9.19 shall be applied by administrations in this band in their bilateral and multilateral negotiations. (WRC-07)
- 5.417A In applying provision No. 5.418, in Korea (Rep. of) and Japan, resolves 3 of Resolution 528 (Rev.WRC-03) is relaxed to allow the broadcasting-satellite service (sound) and the complementary terrestrial broadcasting service to additionally operate on a primary basis in the band 2605-2630 MHz. This use is limited to systems intended for national coverage. An administration listed in this provision shall not have simultaneously two overlapping frequency assignments, one under this provision and the other under No. 5.416. The provisions of No. 5.416 and Table 21-4 of Article 21 do not apply. Use of non-geostationary-satellite systems in the broadcasting-satellite service (sound) in the band 2605-2630 MHz is subject to the provisions of Resolution 539 (Rev.WRC-03). The power flux-density at the Earth's surface produced by emissions from a geostationary broadcasting-satellite service (sound) space station operating in the band 2 605-2 630 MHz for which complete Appendix 4 coordination information, or notification information, has been received after 4 July 2003, for all conditions and for all methods of modulation, shall not exceed the following limits:  $-130 \text{ dB(W/(m}^2\cdot\text{MHz))}$  for  $0^\circ \leq \theta \leq 5^\circ$ ,  $-130+0.4(\theta-5)\text{dB(W/(m}^2\cdot\text{MHz))}$  for  $5^\circ < \theta \leq 25^\circ$ ,  $-122 \text{ dB(W/(m}^2\cdot\text{MHz))}$  for  $25^\circ < \theta \leq 90^\circ$  where  $\theta$  is the angle of arrival of the incident wave above the horizontal plane, in degrees. These limits may be exceeded on the territory of any country whose administration has so agreed. In the case of the broadcasting-satellite service (sound) networks of Korea (Rep. of), as an exception to the limits above, the power flux-density value of  $122 \text{ dB(W/(m}^2\cdot\text{MHz))}$  shall be used as a threshold for coordination under No. 9.11 in an area of 1000 km around the territory of the administration notifying the broadcasting-satellite service (sound) system, for angles of arrival greater than  $35^\circ$ . (WRC-03)
- 5.417C Use of the band 2605-2630 MHz by non geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.417A is, for which complete Appendix 4 coordination information, or notification information, has been received after 4 July 2003, is subject to the application of the provisions of No. 9.12. (WRC-03)

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- 5.417D Use of the band 2605-2630 MHz by geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, has been received after 4 July 2003 is subject to the application of the provisions of No. 9.13 with respect to non geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.417A, and No. 22.2 does not apply. (WRC-03)
- 5.418B Use of the band 2630-2655 MHz by non geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.418, for which complete Appendix 4 coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. 9.12. (WRC-03)
- 5.418C Use of the band 2630-2655 MHz by geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, has been received after 2 June 2000 is subject to the application of the provisions of No. 9.13 with respect to non geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.418 and No. 22.2 does not apply. (WRC-03)
- 5.419 When introducing systems of the mobile-satellite service in the band 2670-2690 MHz, administrations shall take all necessary steps to protect the satellite systems operating in this band prior to 3 March 1992. The coordination of mobile-satellite systems in the band shall be in accordance with No. 9.11A. (WRC-07)
- 5.420 The band 2655-2670 MHz may also be used for the mobile-satellite (Earth-to-space), except aeronautical mobile-satellite, service for operation limited to within national boundaries, subject to agreement obtained under No. 9.21. The coordination under No. 9.11A applies. (WRC-07)
- 5.422 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Brunei Darussalam, the Dem. Rep. of the Congo, Côte d'Ivoire, Cuba, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Georgia, Guinea, Guinea-Bissau, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Mauritania, Mongolia, Montenegro, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, the Dem. Rep. of the Congo, Romania, Somalia, Tajikistan, Tunisia, Turkmenistan, Ukraine and Yemen, the band 2690-2700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-12)
- 5.423 In the band 2700-2900 MHz, ground-based radars used for meteorological purposes are authorised to operate on a basis of equality with stations of the aeronautical radionavigation service.
- 5.424A In the band 2900-3100 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the radionavigation service. (WRC-03)
- 5.425 In the band 2900-3100 MHz, the use of the shipborne interrogator-transponder system (SIT) shall be confined to the sub-band 2930-2950 MHz.
- 5.426 The use of the band 2900-3100 MHz by the aeronautical radionavigation service is limited to ground-based radars.

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- 5.427 In the bands 2900-3100 MHz and 9300-9500 MHz, the response from radar transponders shall not be capable of being confused with the response from radar beacons (racons) and shall not cause interference to ship or aeronautical radars in the radionavigation service, having regard, however, to No. 4.9.
- 5.428 Additional allocation: in Azerbaijan, Mongolia, Kyrgyzstan and Turkmenistan, the band 3100-3300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-12)
- 5.429 Additional allocation: in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea and Yemen, the band 3300-3400 MHz is also allocated to the fixed and mobile services on a primary basis. The countries bordering the Mediterranean shall not claim protection for their fixed and mobile services from the radiolocation service. (WRC-12)
- 5.430 Additional allocation: in Azerbaijan, Mongolia, Kyrgyzstan and Turkmenistan, the band 3300-3400 MHz is also allocated to the radionavigation service on a primary basis. (WRC-12)

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- 5.430A Different category of service: in Albania, Algeria, Germany, Andorra, Saudi Arabia, Austria, Azerbaijan, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Cameroon, Cyprus, Vatican, Côte d'Ivoire, Croatia, Denmark, Egypt, Spain, Estonia, Finland, France and French Overseas Departments and Communities in Region 1, Gabon, Georgia, Greece, Guinea, Hungary, Ireland, Iceland, Israel, Italy, Jordan, Kuwait, Lesotho, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Malawi, Mali, Malta, Morocco, Mauritania, Moldova, Monaco, Mongolia, Montenegro, Mozambique, Namibia, Niger, Norway, Oman, Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, the Dem. Rep of the Congo, Slovakia, Czech Rep., Romania, United Kingdom, San Marino, Senegal, Serbia, Sierra Leone, Slovenia, South Africa, Sweden, Switzerland, Swaziland, Togo, Chad, Tunisia, Turkey, Ukraine, Zambia and Zimbabwe, the band 3 400 3 600 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis subject to agreement obtained under No. 9.21 with other administrations and is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. 9.17 and 9.18 also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed  $-154.5 \text{ dBW}/(\text{m}^2 \cdot 4 \text{ kHz})$  for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the band 3 400-3 600 MHz shall not claim more protection from space stations than that provided in Table 21-4 of the Radio Regulations (Edition of 2004). This allocation is effective from 17 November 2010. (WRC-12)
- 5.431 Additional allocation: in Germany, Israel and the United Kingdom, the band 3400-3475 MHz is also allocated to the amateur service on a secondary basis. (WRC-03)
- 5.438 Use of the band 4200-4400 MHz by the aeronautical radionavigation service is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground. However, passive sensing in the earth exploration-satellite and space research services may be authorised in this band on a secondary basis (no protection is provided by the radio altimeters).
- 5.439 Additional allocation: in Iran (Islamic Republic of), the band 4200-4400 MHz is also allocated to the fixed service on a secondary basis. (WRC-12)

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- 5.440 The standard frequency and time signal-satellite service may be authorised to use the frequency 4202 MHz for space-to-Earth transmissions and the frequency 6427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of  $\pm 2$  MHz of these frequencies, subject to agreement obtained under No. 9.21.
- 5.441 The use of the bands 4500-4800 MHz (space-to-Earth), 6725-7025 MHz (Earth-to-space) by the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite system in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite system in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-2000)
- 5.442 In the bands 4825-4835 MHz and 4950-4990 MHz, the allocation to the mobile service is restricted to the mobile, except aeronautical mobile, service. In Region 2 (except Brazil, Cuba, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4825-4835 MHz is also allocated to the aeronautical mobile service, limited to aeronautical mobile telemetry for flight testing by aircraft stations. Such use shall be in accordance with Resolution 416 (WRC-07) and shall not cause harmful interference to the fixed service. (WRC-07)
- 5.443AA In the frequency bands 5000-5030 MHz and 5091-5150 MHz, the aeronautical mobile-satellite (R) service is subject to agreement obtained under No. 9.21. The use of these bands by the aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems. (WRC-12)
- 5.443B In order not to cause harmful interference to the microwave landing system operating above 5030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5030-5150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the band 5010-5030 MHz shall not exceed  $-124.5$  dB(W/m<sup>2</sup>) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4990-5000 MHz, radionavigation-satellite service systems operating in the band 5010-5030 MHz shall comply with the limits in the band 4990-5000 MHz defined in Resolution 741 (Rev. WRC-12). (WRC-12)



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- 5.443C The use of the frequency band 5030-5091 MHz by the aeronautical mobile (R) service is limited to internationally standardized aeronautical systems. Unwanted emissions from the aeronautical mobile (R) service in the frequency band 5030-5091 MHz shall be limited to protect RNSS system downlinks in the adjacent 5010-5030 MHz band. Until such time that an appropriate value is established in a relevant ITU-R Recommendation, the e.i.r.p. density limit of  $-75$  dBW/MHz in the frequency band 5010-5030 MHz for any AM(R)S station unwanted emission should be used. (WRC-12)
- 5.443D In the frequency band 5030-5091 MHz, the aeronautical mobile-satellite (R) service is subject to coordination under No. 9.11A. The use of this frequency band by the aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems.
- 5.444 The frequency band 5030-5150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. In the band 5030-5091 MHz, the requirements of this system shall take precedence over other uses of this band. For the use of the band 5091-5150 MHz, No. 5.444A and Resolution 114 (Rev.WRC-12) apply. (WRC-12)
- 5.444A Additional allocation: the band 5091-5150 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis. This allocation is limited to feeder links of non geostationary mobile-satellite systems in the mobile-satellite service and is subject to coordination under No. 9.11A. In the band 5091-5150 MHz, the following conditions also apply: 1) prior to 1 January 2018, the use of the band 5091-5150 MHz by feeder links of non-geostationary-satellite systems in the mobile-satellite service shall be made in accordance with Resolution 114 (Rev.WRC-03); 2) after 1 January 2016, no new assignments shall be made to earth stations providing feeder links of non-geostationary mobile-satellite systems; 3) after 1 January 2018, the fixed-satellite service will become secondary to the aeronautical radionavigation service. (WRC-07)
- 5.444B The use of the band 5091-5150 MHz by the aeronautical mobile service is limited to: - systems operating in the aeronautical mobile (R) service and in accordance with international aeronautical standards, limited to surface applications at airports. Such use shall be in accordance with Resolution 748 (Rev. WRC-12); - aeronautical telemetry transmissions from aircraft stations (see No. 1.83) in accordance with Resolution 418(Rev.WRC-12). (WRC-12)
- 5.446 Additional allocation: in the countries listed in No. 5.369, the band 5150-5216 MHz is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis, subject to agreement obtained under No. 9.21. In Region 2, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis. In Regions 1 and 3, except those countries listed in Nos. 5.369 and Bangladesh, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a secondary basis. The use by the radiodetermination-satellite service is limited to feeder links in conjunction with the radiodetermination-satellite service operating in the bands 1610-1626.5 MHz and/or 2483.5-2500 MHz. The total power flux-density at the Earth's surface shall in no case exceed  $-159$  dB(W/m<sup>2</sup>) in any 4 kHz band for all angles of arrival. (WRC-12)

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- 5.446A The use of the bands 5150-5350 MHz and 5470-5725 MHz by the stations in the mobile, except aeronautical mobile, service shall be in accordance with Resolution 229 (Rev. WRC-12). (WRC-12)
- 5.446B In the band 5150-5250 MHz, stations in the mobile service shall not claim protection from earth stations in the fixed-satellite service. No. 5.43A does not apply to the mobile service with respect to fixed-satellite service earth stations. (WRC-03)
- 5.446C Additional allocation: in Region 1 (except in Algeria, Saudi Arabia, Bahrain, Egypt, United Arab Emirates, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Syrian Arab Republic, Sudan, South Sudan and Tunisia) and in Brazil, the band 5 150-5 250 MHz is also allocated to the aeronautical mobile service on a primary basis, limited to aeronautical telemetry transmissions from aircraft stations (see No. 1.83), in accordance with Resolution 418 (WRC-07). These stations shall not claim protection from other stations operating in accordance with Article 5. No. 5.43A does not apply. (WRC-12)
- 5.447 Additional allocation: in Côte d'Ivoire, Egypt, Israel, Lebanon, Pakistan, the Syrian Arab Republic and Tunisia, the band 5150-5250 MHz is also allocated to the mobile service, on a primary basis, subject to agreement obtained under No. 9.21. In this case, the provisions of Resolution 229 (Rev.WRC-12) do not apply. (WRC-12)
- 5.447A The allocation to the fixed-satellite service (Earth-to-space) is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to coordination under No. 9.11A.
- 5.447B Additional allocation: the band 5150-5216 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. This allocation is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to provisions of No. 9.11A. The power flux-density at the Earth's surface produced by space stations of the fixed-satellite service operating in the space-to-Earth direction in the band 5150-5216 MHz shall in no case exceed  $-164$  dB(W/m<sup>2</sup>) in any 4 kHz band for all angles of arrival.
- 5.447C Administrations responsible for fixed-satellite service networks in the band 5150-5250 MHz operated under Nos. 5.447A and 5.447B shall coordinate on an equal basis in accordance with No. 9.11A with administrations responsible for non-geostationary-satellite networks operated under No. 5.446 and brought into use prior to 17 November 1995. Satellite networks operated under No. 5.446 brought into use after 17 November 1995 shall not claim protection from, and shall not cause harmful interference to, stations of the fixed-satellite service operated under Nos. 5.447A and 5.447B.
- 5.447D The allocation of the band 5250-5255 MHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)
- 5.447F In the band 5250-5350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth exploration-satellite service (active) and the space research service (active). These services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendations ITU R M.1638 and ITU R SA.1632. (WRC-03)

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- 5.448 Additional allocation: in Azerbaijan, Kyrgyzstan, Romania and Turkmenistan, the band 5250-5350 MHz is also allocated to the radionavigation service on a primary basis. (WRC-12)
- 5.448A The Earth exploration-satellite (active) and space research (active) services in the frequency band 5 250-5 350 MHz shall not claim protection from the radiolocation service. No. 5.43A does not apply. (WRC-03)
- 5.448B The Earth exploration-satellite service (active) operating in the band 5350-5570 MHz and space research service (active) operating in the band 5460-5570 MHz shall not cause harmful interference to the aeronautical radionavigation service in the band 5350-5460 MHz, the radionavigation service in the band 5460-5470 MHz and the maritime radionavigation service in the band 5470-5570 MHz. (WRC-03)
- 5.448C The space research service (active) operating in the band 5350-5460 MHz shall not cause harmful interference to nor claim protection from other services to which this band is allocated. (WRC-03)
- 5.448D In the frequency band 5350-5470 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the aeronautical radionavigation service operating in accordance with No. 5.449. (WRC-03)
- 5.449 The use of the band 5350-5470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.
- 5.450 Additional allocation: in Austria, Azerbaijan, Iran (Islamic Republic of), Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 5470-5650 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)
- 5.450A In the band 5470-5725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. Radiodetermination services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITU R M.1638. (WRC-03)
- 5.450B In the frequency band 5470-5650 MHz, stations in the radiolocation service, except ground-based radars used for meteorological purposes in the band 5 600-5 650 MHz, shall not cause harmful interference to, nor claim protection from, radar systems in the maritime radionavigation service. (WRC-03)
- 5.451 Additional allocation: in the United Kingdom, the band 5470-5850 MHz is also allocated to the land mobile service on a secondary basis. The power limits specified in Nos. 21.2, 21.3, 21.4 and 21.5 shall apply in the band 5 725-5 850 MHz.
- 5.452 Between 5600 MHz and 5650 MHz, ground-based radars used for meteorological purposes are authorised to operate on a basis of equality with stations of the maritime radionavigation service.

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- 5.453 Additional allocation: in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, the Dem. Rep. of the Congo, Korea (Rep. of), Côte d'Ivoire, Djibouti, Egypt, the United Arab Emirates, Gabon, Guinea, Equatorial Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya, Madagascar, Malaysia, Niger, Nigeria, Oman, Uganda, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Sri Lanka, Swaziland, Tanzania, Chad, Thailand, Togo, Viet Nam and Yemen, the band 5650-5850 MHz is also allocated to the fixed and mobile services on a primary basis. In this case, the provisions of Resolution 229 (Rev.WRC-12) do not apply. (WRC-12)
- 5.454 Different category of service: in Azerbaijan, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 5670 5725 MHz to the space research service is on a primary basis (see No. 5.33). (WRC-12)
- 5.455 Additional allocation: in Armenia, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 5 670-5 850 MHz is also allocated to the fixed service on a primary basis. (WRC-07)
- 5.457 In Australia, Burkina Faso, Cote d'Ivoire, Mali and Nigeria, the allocation to the fixed service in the bands 6440-6520 MHz (HAPS-to-ground direction) and 6560-6640 MHz (ground-to-HAPS direction) may also be used by gateway links for high-altitude platform stations (HAPS) within the territory of these countries. Such use is limited to operation in HAPS gateway links and shall not cause harmful interference to, and shall not claim protection from, existing services, and shall be in compliance with Resolution 150 (WRC-12). Existing services shall not be constrained in future development by HAPS gateway links. The use of HAPS gateway links in these bands requires explicit agreement with other administrations whose territories are located within 1000 kilometres from the border of an administration intending to use the HAPS gateway links. (WRC-12)
- 5.457A In the bands 5925-6425 MHz and 14-14.5 GHz, earth stations located on board vessels may communicate with space stations of the fixed-satellite service. Such use shall be in accordance with Resolution 902 (WRC-03). (WRC-03)
- 5.457B In the bands 5925-6425 MHz and 14-14.5 GHz, earth stations located on board vessels may operate with the characteristics and under the conditions contained in Resolution 902 (WRC-03) in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Kuwait, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, South Sudan, Tunisia and Yemen, in the maritime mobile-satellite service on a secondary basis. Such use shall be in accordance with Resolution 902 (WRC 03). (WRC-12)

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- 5.457C In Region 2 (except Brazil, Cuba, French Overseas Departments and Communities, Guatemala, Paraguay, Uruguay and Venezuela), the band 5925-6700 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. 1.83). Such use shall be in accordance with Resolution 416 (WRC-07) and shall not cause harmful interference to, nor claim protection from, the fixed-satellite and fixed services. Any such use does not preclude the use of these bands by other mobile service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)
- 5.458 In the band 6425-7075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7075-7250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration-satellite (passive) and space research (passive) services in their future planning of the bands 6425-7025 MHz and 7075-7250 MHz.
- 5.458A In making assignments in the band 6700-7075 MHz to space stations of the fixed-satellite service, administrations are urged to take all practicable steps to protect spectral line observations of the radio astronomy service in the band 6650-6675.2 MHz from harmful interference from unwanted emissions.
- 5.458B The space-to-Earth allocation to the fixed-satellite service in the band 6700-7075 MHz is limited to feeder links for non-geostationary satellite systems of the mobile-satellite service and is subject to coordination under No. 9.11A. The use of the band 6700-7075 MHz (space-to-Earth) by feeder links for non-geostationary satellite systems in the mobile-satellite service is not subject to No. 22.2.
- 5.458C Administrations making submissions in the band 7025-7075 MHz (Earth-to-space) for geostationary-satellite systems in the fixed-satellite service after 17 November 1995 shall consult on the basis of relevant ITU-R Recommendations with the administrations that have notified and brought into use non-geostationary-satellite systems in this frequency band before 18 November 1995 upon request of the latter administrations. This consultation shall be with a view to facilitating shared operation of both geostationary-satellite systems in the fixed-satellite service and non-geostationary-satellite systems in this band.
- 5.459 Additional allocation: in Russian Federation, the frequency bands 7100-7155 MHz and 7190-7235 MHz are also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. 9.21. (WRC-97)
- 5.460 The use of the band 7145-7190 MHz by the space research service (Earth-to-space) is restricted to deep space; no emissions to deep space shall be effected in the band 7190-7235 MHz. Geostationary satellites in the space research service operating in the band 7190-7235 MHz shall not claim protection from existing and future stations of the fixed and mobile services and No. 5.43A does not apply. (WRC-03)
- 5.461 Additional allocation: the bands 7250-7375 MHz (space-to-Earth) and 7900-8025 MHz (Earth-to-space) are also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. 9.21.

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- 5.461A The use of the band 7450-7550 MHz by the meteorological-satellite service (space-to-Earth) is limited to geostationary-satellite systems. Non-geostationary meteorological-satellite systems in this band notified before 30 November 1997 may continue to operate on a primary basis until the end of their lifetime. (WRC-97)
- 5.461B The use of the band 7750-7900 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems. (WRC-12)
- 5.462A In Regions 1 and 3 (except for Japan), in the band 8025-8400 MHz, the Earth exploration-satellite service using geostationary satellites shall not produce a power flux-density in excess of the following provisional values for angles of arrival ( $\theta$ ), without the consent of the affected administration: - 135 dB(W/m<sup>2</sup>) in a 1 MHz band for  $0^\circ \leq \theta < 5^\circ$  -  $135 + 0.5 (\theta - 5)$  dB(W/m<sup>2</sup>) in a 1 MHz band for  $5^\circ \leq \theta < 25^\circ$  - 125 dB(W/m<sup>2</sup>) in a 1 MHz band for  $25^\circ \leq \theta < 90^\circ$  (WRC-12)
- 5.463 Aircraft stations are not permitted to transmit in the band 8025-8400 MHz. (WRC-97)
- 5.465 In the space research service, the use of the band 8400-8450 MHz is limited to deep space.
- 5.466 Different category of service: in Singapore and Sri Lanka, the allocation of the band 8 400-8 500 MHz to the space research service is on a secondary basis (see No. 5.32). (WRC-12)
- 5.468 Additional allocation: in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burundi, Cameroon, China, the Dem. Rep. of the Congo, Costa Rica, Egypt, the United Arab Emirates, Gabon, Guyana, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Uganda, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Senegal, Singapore, Somalia, Sudan, Swaziland, Tanzania, Chad, Togo, Tunisia and Yemen, the band 8500-8750 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 5.469 Additional allocation: in Armenia, Azerbaijan, Belarus, Georgia, Hungary, Lithuania, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Czech Rep., Romania, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 8 500 - 8 750 MHz is also allocated to the land mobile and radionavigation services on a primary basis. (WRC-12)
- 5.469A In the band 8550-8650 MHz, stations in the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radiolocation service. (WRC-97)
- 5.470 The use of the band 8750-8850 MHz by the aeronautical radionavigation service is limited to airborne Doppler navigation aids on a centre frequency of 8800 MHz.
- 5.471 Additional allocation: in Algeria, Germany, Bahrain, Belgium, China, Egypt, the United Arab Emirates, France, Greece, Indonesia, Iran (Islamic Republic of), Libya, the Netherlands, Qatar, Sudan and South Sudan, the bands 8825-8850 MHz and 9000-9200 MHz are also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars only. (WRC-12)

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- 5.472 In the bands 8850-9000 MHz and 9200-9225 MHz, the maritime radionavigation service is limited to shore-based radars.
- 5.473 Additional allocation: in Armenia, Austria, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the bands 8850-9000 MHz and 9200-9300 MHz are also allocated to the radionavigation service on a primary basis. (WRC-07)
- 5.473A In the band 9000-9200 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, systems identified in No. 5.337 operating in the aeronautical radionavigation service, or radar systems in the maritime radionavigation service operating in this band on a primary basis in the countries listed in No. 5.471. (WRC-07)
- 5.474 In the band 9200-9500 MHz, search and rescue transponders (SART) may be used, having due regard to the appropriate ITU-R Recommendation (see also Article 31).
- 5.475 The use of the band 9300-9500 MHz by the aeronautical radionavigation service is limited to airborne weather radars and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band 9300-9320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. (WRC-07)
- 5.475A The use of the band 9300-9500 MHz by the Earth exploration-satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 300 MHz that cannot be fully accommodated within the 9500-9800 MHz band. (WRC-07)
- 5.475B In the band 9300-9500 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, radars operating in the radionavigation service in conformity with the Radio Regulations. Ground-based radars used for meteorological purposes have priority over other radiolocation uses. (WRC-07)
- 5.476A In the band 9300-9800 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, nor claim protection from, stations of the radionavigation and radiolocation services. (WRC-07)
- 5.477 Different category of service: in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Japan, Jordan, Kuwait, Lebanon, Liberia, Malaysia, Nigeria, Oman, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Trinidad and Tobago, and Yemen, the allocation of the band 9800-10000 MHz to the fixed service is on a primary basis (see No. 5.33). (WRC-12)
- 5.478 Additional allocation: in Azerbaijan, Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 9800-10000 MHz is also allocated to the radionavigation service on a primary basis. (WRC-07)

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- 5.478A The use of the band 9800-9900 MHz by the Earth exploration-satellite service (active) and space research service (active) is limited to systems requiring necessary bandwidth greater than 500 MHz that cannot be fully accommodated within the 9300-9800 MHz band. (WRC-07)
- 5.478B In the band 9800-9900 MHz, stations in the Earth exploration-satellite service (active) and the space research service (active) shall not cause harmful interference to, nor claim protection from stations of the fixed service to which this band is allocated on a secondary basis. (WRC-12)
- 5.479 The band 9975-10025 MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars.
- 5.481 Additional allocation: in Germany, Angola, Brazil, China, Costa Rica, Côte d'Ivoire, El Salvador, Ecuador, Spain, Guatemala, Hungary, Japan, Kenya, Morocco, Nigeria, Oman, Uzbekistan, Pakistan, Paraguay, Peru, the Dem. People's Rep. of Korea, Romania, Tanzania, Thailand and Uruguay, the band 10.45-10.5 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 5.482 In the band 10.6-10.68 GHz, the power delivered to the antenna of stations of the fixed and mobile, except aeronautical mobile, services shall not exceed -3 dBW. This limit may be exceeded, subject to agreement obtained under No. 9.21. However, in Algeria, Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Egypt, United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Jordan, Libyan Arab Jamahiriya, Kazakhstan, Kuwait, Lebanon, Morocco, Mauritania, Moldova, Nigeria, Oman, Uzbekistan, Pakistan, Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, Singapore, Tajikistan, Tunisia, Turkmenistan and Viet Nam, this restriction on the fixed and mobile, except aeronautical mobile, service is not applicable. (WRC-07)
- 5.482A For sharing of the band 10.6-10.68 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile, except aeronautical mobile, services, Resolution 751 (WRC-07) applies. (WRC-07)
- 5.483 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, China, Colombia, Korea (Rep. of), Costa Rica, Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, Mongolia, Qatar, Kyrgyzstan, the Dem. People's Rep. of Korea, Tajikistan, Turkmenistan and Yemen, the band 10.68-10.7 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-12)
- 5.484 In Region 1, the use of the band 10.7-11.7 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service.



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- 5.484A The use of the bands 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) in Region 2, 12.2-12.75 GHz (space-to-Earth) in Region 3, 12.5-12.75 GHz (space-to-Earth) in Region 1, 13.75-14.5 GHz (Earth-to-space), 17.8-18.6 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 27.5-28.6 GHz (Earth-to-space), 29.5-30 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-2000)
- 5.487 In the band 11.7-12.5 GHz in Regions 1 and 3, the fixed, fixed-satellite, mobile, except aeronautical mobile, and broadcasting services, in accordance with their respective allocations, shall not cause harmful interference to, or claim protection from, broadcasting-satellite stations operating in accordance with the Regions 1 and 3 Plan in Appendix 30. (WRC-03)
- 5.487A Additional allocation: in Region 1, the band 11.7-12.5 GHz, in Region 2, the band 12.2-12.7 GHz and, in Region 3, the band 11.7-12.2 GHz, are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis, limited to non geostationary systems and subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed satellite service shall not claim protection from geostationary-satellite networks in the broadcasting-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-03)
- 5.488 The use of the band 11.7-12.2 GHz by geostationary-satellite networks in the fixed-satellite service in Region 2 is subject to application of the provisions of No. 9.14 for coordination with stations of terrestrial services in Regions 1, 2 and 3. For the use of the band 12.2-12.7 GHz by the broadcasting-satellite service in Region 2, see Appendix 30. (WRC-03)

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- 5.492 Assignments to stations of the broadcasting-satellite service which are in conformity with the appropriate regional Plan or included in the Regions 1 and 3 List in Appendix 30 may also be used for transmissions in the fixed-satellite service (space-to-Earth), provided that such transmissions do not cause more interference, or require more protection from interference, than the broadcasting-satellite service transmissions operating in conformity with the Plan or the List, as appropriate. (WRC-2000)
- 5.494 Additional allocation: in Algeria, Angola, Saudi Arabia, Bahrain, Cameroon, the Central African Rep., the Dem. Rep. of the Congo, Côte d'Ivoire, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Madagascar, Mali, Morocco, Mongolia, Nigeria, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 5.495 Additional allocation: in France, Greece, Monaco, Montenegro, Uganda, Romania, Tanzania and Tunisia, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-12)
- 5.496 Additional allocation: in Austria, Azerbaijan, Kyrgyzstan and Turkmenistan, the band 12.5-12.75 GHz is also allocated to the fixed service and the mobile, except aeronautical mobile, service on a primary basis. However, stations in these services shall not cause harmful interference to fixed-satellite service earth stations of countries in Region 1 other than those listed in this footnote. Coordination of these earth stations is not required with stations of the fixed and mobile services of the countries listed in this footnote. The power flux-density limit at the Earth's surface given in Table 21-4 of Article 21, for the fixed-satellite service shall apply on the territory of the countries listed in this footnote. (WRC-2000)
- 5.497 The use of the band 13.25-13.4 GHz by the aeronautical radionavigation service is limited to Doppler navigation aids.
- 5.498A The Earth exploration-satellite (active) and space research (active) services operating in the band 13.25-13.4 GHz shall not cause harmful interference to, or constrain the use and development of, the aeronautical radionavigation service. (WRC-97)
- 5.499 Additional allocation: in Bangladesh and India, the band 13.25-14 GHz is also allocated to the fixed service on a primary basis. In Pakistan, the band 13.25-13.75 GHz is allocated to the fixed service on a primary basis. (WRC-12)
- 5.500 Additional allocation: in Algeria, Angola, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Madagascar, Malaysia, Mali, Morocco, Mauritania, Niger, Nigeria, Oman, Qatar, the Syrian Arab Republic, Singapore, Sudan, South Sudan, Chad and Tunisia, the band 13.4-14 GHz is also allocated to the fixed and mobile services on a primary basis. In Pakistan, the band 13.4-13.75 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)

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- 5.501 Additional allocation: in Azerbaijan, Hungary, Japan, Kyrgyzstan, Romania, and Turkmenistan, the band 13.4-14 GHz is also allocated to the radionavigation service on a primary basis. (WRC-12)
- 5.501A The allocation of the band 13.4-13.75 GHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)
- 5.501B In the band 13.4-13.75 GHz, the earth exploration-satellite (active) and space research (active) services shall not cause harmful interference to, or constrain the use and development of, the radiolocation service. (WRC-97)
- 5.502 In the band 13.75-14 GHz, an earth station of a geostationary fixed-satellite service network shall have a minimum antenna diameter of 1.2 m and an earth station of a non-geostationary fixed-satellite service system shall have a minimum antenna diameter of 4.5 m. In addition, the e.i.r.p., averaged over one second, radiated by a station in the radiolocation or radionavigation services shall not exceed 59 dBW for elevation angles above 2° and 65 dBW at lower angles. Before an administration brings into use an earth station in a geostationary-satellite network in the fixed-satellite service in this band with an antenna size smaller than 4.5 m, it shall ensure that the power flux-density produced by this earth station does not exceed: - 115 dB(W/(m<sup>2</sup> · 10 MHz)) for more than 1% of the time produced at 36 m above sea level at the low water mark, as officially recognized by the coastal state; - 115 dB(W/(m<sup>2</sup> · 10 MHz)) for more than 1% of the time produced 3 m above ground at the border of the territory of an administration deploying or planning to deploy land mobile radars in this band, unless prior agreement has been obtained. For earth stations within the fixed-satellite service having an antenna diameter greater than or equal to 4.5 m, the e.i.r.p. of any emission should be at least 68 dBW and should not exceed 85 dBW. (WRC-03)

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- 5.503 In the band 13.75-14 GHz, geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the fixed-satellite service; after that date, new geostationary space stations in the space research service will operate on a secondary basis. Until those geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this band: - in the band 13.77-13.78 GHz, the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in geostationary-satellite orbit shall not exceed: i)  $4.7D + 28 \text{ dB(W/40 kHz)}$ , where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 1.2 m and less than 4.5 m; ii)  $49.2 + 20 \log(D/4.5) \text{ dB(W/40 kHz)}$ , where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 4.5 m and less than 31.9 m; iii)  $66.2 \text{ dB(W/40 kHz)}$  for any fixed-satellite service earth station for antenna diameters (m) equal to or greater than 31.9 m; iv)  $56.2 \text{ dB(W/4 kHz)}$  for narrow-band (less than 40 kHz of necessary bandwidth) fixed-satellite service earth station emissions from any fixed-satellite service earth station having an antenna diameter of 4.5 m or greater; - the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in non-geostationary-satellite orbit shall not exceed 51 dBW in the 6 MHz band from 13.772 to 13.778 GHz. Automatic power control may be used to increase the e.i.r.p. density in these frequency ranges to compensate for rain attenuation, to the extent that the power flux-density at the fixed-satellite service space station does not exceed the value resulting from use by an earth station of an e.i.r.p. meeting the above limits in clear-sky conditions. (WRC-03)
- 5.504 The use of the band 14-14.3 GHz by the radionavigation service shall be such as to provide sufficient protection to space stations of the fixed-satellite service.
- 5.504A In the band 14-14.5 GHz, aircraft earth stations in the secondary aeronautical mobile-satellite service may also communicate with space stations in the fixed-satellite service. The provisions of Nos. 5.29, 5.30 and 5.31 apply. (WRC-03)
- 5.504B Aircraft earth stations operating in the aeronautical mobile-satellite service in the band 14-14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643, with respect to any radio astronomy station performing observations in the 14.47-14.5 GHz band located on the territory of Spain, France, India, Italy, the United Kingdom and South Africa. (WRC-03)
- 5.504C In the band 14-14.25 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Botswana, Côte d'Ivoire, Egypt, Guinea, India, Iran (Islamic Republic of), Kuwait, Nigeria, Oman, the Syrian Arab Republic and Tunisia by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-12)

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- 5.505 Additional allocation: in Algeria, Angola, Saudi Arabia, Bahrain, Botswana, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Djibouti, Korea (Rep. of), Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Oman, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Swaziland, Tanzania, Chad and Yemen, the band 14-14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-12)
- 5.506 The band 14-14.5 GHz may be used, within the fixed-satellite service (Earth-to-space), for feeder links for the broadcasting-satellite service, subject to coordination with other networks in the fixed-satellite service. Such use of feeder links is reserved for countries outside Europe.
- 5.506A In the band 14-14.5 GHz, ship earth stations with an e.i.r.p. greater than 21 dBW shall operate under the same conditions as earth stations located on board vessels, as provided in Resolution 902 (WRC 03). This footnote shall not apply to ship earth stations for which the complete Appendix 4 information has been received by the Bureau prior to 5 July 2003. (WRC-03)
- 5.506B Earth stations located on board vessels communicating with space stations in the fixed-satellite service may operate in the frequency band 14-14.5 GHz without the need for prior agreement from Cyprus, Greece and Malta, within the minimum distance given in Resolution 902 (WRC 03) from these countries. (WRC-03)
- 5.508 Additional allocation: in Germany, France, Italy, Libya, The Former Yugoslav Rep. of Macedonia and the United Kingdom, the band 14.25-14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-12)
- 5.508A In the band 14.25-14.3 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Botswana, China, Côte d'Ivoire, Egypt, France, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom and Tunisia by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-12)
- 5.509A In the band 14.3-14.5 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Botswana, Cameroon, China, Côte d'Ivoire, Egypt, France, Gabon, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Morocco, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom, Sri Lanka, Tunisia and Viet Nam by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-12)

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- 5.510 The use of the band 14.5-14.8 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. This use is reserved for countries outside Europe.
- 5.511 Additional allocation: in Saudi Arabia, Bahrain, Cameroon, Egypt, the United Arab Emirates, Guinea, Iran (Islamic Republic of), Iraq, Israel, Kuwait, Lebanon, Pakistan, Oman, Qatar, the Syrian Arab Republic and Somalia, the band 15.35-15.4 GHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)
- 5.511A The band 15.43-15.63 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. Use of the band 15.43-15.63 GHz by the fixed-satellite service (space-to-Earth and Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under No. 9.11A. The use of the frequency band 15.43-15.63 GHz by the fixed-satellite service (space-to-Earth) is limited to feeder links of non-geostationary systems in the mobile-satellite service for which advance publication information has been received by the Bureau prior to 2 June 2000. In the space-to-Earth direction, the minimum earth station elevation angle above and gain towards the local horizontal plane and the minimum coordination distances to protect an earth station from harmful interference shall be in accordance with Recommendation ITU-R S.1341. In order to protect the radio astronomy service in the band 15.35-15.4 GHz, the aggregate power flux-density radiated in the 15.35-15.4 GHz band by all the space stations within any feeder-link of a non-geostationary system in the mobile-satellite service (space-to-Earth) operating in the 15.43-15.63 GHz band shall not exceed the level of  $-156 \text{ dB(W/m}^2\text{)}$  in a 50 MHz bandwidth, into any radio astronomy observatory site for more than 2% of the time. (WRC-2000)
- 5.511C Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340. The minimum coordination distance required to protect the aeronautical radionavigation stations (No. 4.10 applies) from harmful interference from feeder link earth stations and the maximum e.i.r.p. transmitted towards the local horizontal plane by a feeder link earth station shall be in accordance with Recommendation ITU-R S.1340. (WRC-97)
- 5.511D Fixed-satellite service systems for which complete information for advance publication has been received by the Bureau by 21 November 1997 may operate in the bands 15.4-15.43 GHz and 15.63-15.7 GHz in the space-to-Earth direction and 15.63-15.65 GHz in the Earth-to-space direction. In the bands 15.4-15.43 GHz and 15.65-15.7 GHz, emissions from a non-geostationary space station shall not exceed the power flux-density limits at the Earth's surface of  $-146 \text{ dB(W/m}^2\text{/MHz)}$  for any angle of arrival. In the band 15.63-15.65 GHz, where an administration plans emissions from a non-geostationary space station that exceed  $-146 \text{ dB(W/m}^2\text{/MHz)}$  for any angle of arrival, it shall coordinate under No. 9.11A with the affected administrations. Stations in the fixed-satellite service operating in the band 15.63-15.65 GHz in the Earth-to-space direction shall not cause harmful interference to stations in the aeronautical radionavigation service (No. 4.10 applies). (WRC-97)
- 5.511E In the frequency band 15.4-15.7 GHz, stations operating in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the aeronautical radionavigation service. (WRC-12)

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- 5.511F In order to protect the radio astronomy service in the frequency band 15.35-15.4 GHz, radiolocation stations operating in the frequency band 15.4-15.7 GHz shall not exceed the power flux-density level of  $-156$  dB(W/m<sup>2</sup>) in a 50 MHz bandwidth in the frequency band 15.35-15.4 GHz, at any radio astronomy observatory site for more than 2 per cent of the time. (WRC-12)
- 5.512 Additional allocation: in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, the Dem. Rep. of the Congo, Costa Rica, Egypt, El Salvador, the United Arab Emirates, Eritrea, Finland, Guatemala, India, Indonesia, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Montenegro, Mozambique, Nepal, Nicaragua, Niger, Oman, Pakistan, Qatar, Syrian Arab Republic, the Dem. Rep. of the Congo, Serbia, Singapore, Somalia, Sudan, South Sudan, Tanzania, Chad, Togo and Yemen, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 5.513 Additional allocation: in Israel, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. These services shall not claim protection from or cause harmful interference to services operating in accordance with the Table in countries other than those included in No. 5512.
- 5.513A Spaceborne active sensors operating in the band 17.2-17.3 GHz shall not cause harmful interference to, or constrain the development of, the radiolocation and other services allocated on a primary basis. (WRC-97)
- 5.514 Additional allocation: in Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, El Salvador, the United Arab Emirates, Guatemala, India, Iran (Islamic Republic of), Iraq, Israel, Italy, Japan, Jordan, Kuwait, Libya, Lithuania, Nepal, Nicaragua, Nigeria, Oman, Uzbekistan, Pakistan, Qatar, Kyrgyzstan Sudan and South Sudan, the band 17.3-17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. 21.3 and 21.5 shall apply. (WRC-12)
- 5.515 In the band 17.3-17.8 GHz, sharing between the fixed-satellite service (Earth-to-space) and the broadcasting-satellite service shall also be in accordance with the provisions of § 1 of Annex 4 of Appendix 30A

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- 5.516 The use of the band 17.3-18.1 GHz by geostationary-satellite systems in the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. The use of the band 17.3-17.8 GHz in Region 2 by systems in the fixed-satellite service (Earth-to-space) is limited to geostationary satellites. For the use of the band 17.3-17.8 GHz in Region 2 by feeder links for the broadcasting satellite service in the band 12.2-12.7 GHz, see Article 11. The use of the bands 17.3-18.1 GHz (Earth-to-space) in Regions 1 and 3 and 17.8-18.1 GHz (Earth-to-space) in Region 2 by non geostationary-satellite systems in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non geostationary-satellite systems in the fixed satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC 2000)
- 5.516A In the band 17.3-17.7 GHz, earth stations of the fixed-satellite service (space-to-Earth) in Region 1 shall not claim protection from the broadcasting-satellite service feeder-link earth stations operating under Appendix 30A, nor put any limitations or restrictions on the locations of the broadcasting-satellite service feeder-link earth stations anywhere within the service area of the feeder link. (WRC-03)
- 5.516B The following bands are identified for use by high-density applications in the fixed-satellite service (HDFSS): 17.3-17.7 GHz (space-to-Earth) in Region 1 18.3-19.3 GHz (space-to-Earth) in Region 2 19.7-20.2 GHz (space-to-Earth) in all Regions 39.5-40 GHz (space-to-Earth) in Region 1 40-40.5 GHz (space-to-Earth) in all Regions 40.5-42 GHz (space-to-Earth) in Region 2 47.5-47.9 GHz (space-to-Earth) in Region 1 48.2-48.54 GHz (space-to-Earth) in Region 1 49.44-50.2 GHz (space-to-Earth) in Region 1 and 27.5-27.82 GHz (Earth-to-space) in Region 1 28.35-28.45 GHz (Earth-to-space) in Region 2 28.45-28.94 GHz (Earth-to-space) in all Regions 28.94-29.1 GHz (Earth-to-space) in Region 2 and 3 29.25-29.46 GHz (Earth-to-space) in Region 2 29.46-30 GHz (Earth-to-space) in all Regions 48.2-50.2 GHz (Earth-to-space) in Region 2. This identification does not preclude the use of these bands by other fixed-satellite service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in these Regulations among users of the bands. Administrations should take this into account when considering regulatory provisions in relation to these bands. See Resolution 143 (WRC-03)\*. (WRC-03) \*Note by the Secretariat: This Resolution was revised by WRC-07
- 5.519 Additional allocation: the bands 18.0-18.3 GHz in Region 2 and 18.1-18.4 GHz in Regions 1 and 3 are also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Their use is limited to geostationary satellites. (WRC-07)



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- 5.520 The use of the band 18.1-18.4 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links of geostationary-satellite systems in the broadcasting-satellite service. (WRC-2000)
- 5.521 Alternative allocation: in Germany, Denmark, the United Arab Emirates and Greece, the band 18.1-18.4 GHz is allocated to the fixed, fixed-satellite (space-to-Earth) and mobile services on a primary basis (see No. 5.33). The provisions of No. 5.519 also apply. (WRC-03)
- 5.522A The emissions of the fixed service and the fixed-satellite service in the band 18.6-18.8 GHz are limited to the values given in Nos. 21.5A and 21.16.2, respectively. (WRC-2000)
- 5.522B The use of the band 18.6-18.8 GHz by the fixed-satellite service is limited to geostationary systems and systems with an orbit of apogee greater than 20 000 km. (WRC-2000)
- 5.522C In the band 18.6-18.8 GHz, in Algeria, Saudi Arabia, Bahrain, Egypt, the United Arab Emirates, the Libyan Arab Jamahiriya, Jordan, Lebanon, Morocco, Oman, Qatar, the Syrian Arab Republic, Tunisia and Yemen, fixed-service systems in operation at the date of entry into force of the Final Acts of WRC-2000 are not subject to the limits of No. 21.5A. (WRC-2000)
- 5.523A The use of the bands 18.8-19.3 GHz (space-to-Earth) and 28.6-29.1 GHz (Earth-to-space) by geostationary and non-geostationary fixed-satellite service networks is subject to the application of the provisions of No. 9.11A and No. 22.2 does not apply. Administrations having geostationary-satellite networks under coordination prior to 18 November 1995 shall cooperate to the maximum extent possible to coordinate pursuant to No. 9.11A with non-geostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view to reaching results acceptable to all the parties concerned. Non-geostationary-satellite networks shall not cause unacceptable interference to geostationary fixed-satellite service networks for which complete Appendix 4 notification information is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)
- 5.523B The use of the band 19.3-19.6 GHz (Earth-to-space) by the Fixed-satellite service is limited to feeder links for non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, and No. 22.2 does not apply.
- 5.523C No. 22.2 of the Radio Regulations shall continue to apply in the bands 19.3-19.6 GHz and 29.1-29.4 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

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- 5.523D The use of the band 19.3-19.7 GHz (space-to-Earth) by geostationary fixed-satellite service systems and by feeder links for non-geostationary-satellite systems in the mobile-satellite service is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2. The use of this band for other non-geostationary fixed-satellite service systems, or for the cases indicated in Nos. 5.523C and 5.523E, is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. 22.2. (WRC-97)
- 5.523E No. 22.2 shall continue to apply in the bands 19.6-19.7 GHz and 29.4-29.5 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau by 21 November 1997. (WRC-97)
- 5.524 Additional allocation: in Afghanistan, Algeria, Angola, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, the Dem. Rep. of the Congo, Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Tanzania, Chad, Togo and Tunisia, the band 19.7-21.2 GHz is also allocated to the fixed and mobile services on a primary basis. This additional use shall not impose any limitation on the power flux-density of space stations in the fixed-satellite service in the band 19.7-21.2 GHz and of space stations in the mobile-satellite service in the band 19.7-20.2 GHz where the allocation to the mobile-satellite service is on a primary basis in the latter band. (WRC-12)
- 5.525 In order to facilitate interregional coordination between networks in the mobile-satellite and fixed-satellite services, carriers in the mobile-satellite service that are most susceptible to interference shall, to the extent practicable, be located in the higher parts of the bands 19.7-20.2 GHz and 29.5-30 GHz.
- 5.526 In the bands 19.7-20.2 GHz and 29.5-30 GHz in Region 2, and in the bands 20.1-20.2 GHz and 29.9-30 GHz in Regions 1 and 3, networks which are both in the fixed-satellite service and in the mobile-satellite service may include links between earth stations at specified or unspecified points or while in motion, through one or more satellites for point-to-point and point-to-multipoint communications.
- 5.527 In the bands 19.7-20.2 GHz and 29.5-30 GHz, the provisions of No 4.10 do not apply with respect to the mobile-satellite service.
- 5.528 The allocation to the mobile-satellite service is intended for use by networks which use narrow spot-beam antennas and other advanced technology at the space stations. Administrations operating systems in the mobile-satellite service in the band 19.7 - 20.1 GHz in Region 2 and in the band 20.1 - 20.2 GHz shall take all practicable steps to ensure the continued availability of these bands for administrations operating fixed and mobile systems in accordance with the provisions of No. 5.524.

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- 5.530A Unless otherwise agreed between the administrations concerned, any station in the fixed or mobile services of an administration shall not produce a power flux-density in excess of  $-120.4$  dB(W/(m<sup>2</sup>-MHz)) at 3 m above the ground of any point of the territory of any other administration in Regions 1 and 3 for more than 20% of the time. In conducting the calculations, administrations should use the most recent version of Recommendation ITU-R P.452 (see Recommendation ITU-R BO.1898). (WRC-12)
- 5.530B In the band 21.4-22 GHz, in order to facilitate the development of the broadcasting-satellite service, administrations in Regions 1 and 3 are encouraged not to deploy stations in the mobile service and are encouraged to limit the deployment of stations in the fixed service to point-to-point links. (WRC-12)
- 5.530C The use of the band 21.4-22 GHz is subject to the provisions of Resolution 755 WRC-12). (WRC-12)
- 5.530D See Resolution 555 (WRC-12). (WRC-12)
- 5.532 The use of the band 22.21-22.5 GHz by the earth exploration-satellite (passive) and space research (passive) services shall not impose constraints upon the fixed and mobile, except aeronautical mobile, services.
- 5.532A The location of earth stations in the space research service shall maintain a separation distance of at least 54 km from the respective border(s) of neighbouring countries to protect the existing and future deployment of fixed and mobile services unless a shorter distance is otherwise agreed between the corresponding administrations. Nos. 9.17 and 9.18 do not apply. (WRC-12)
- 5.532B Use of the band 24.65-25.25 GHz in Region 1 and the band 24.65-24.75 GHz in Region 3 by the fixed-satellite service (Earth-to-space) is limited to earth stations using a minimum antenna diameter of 4.5 m. (WRC-12)
- 5.533 The inter-satellite service shall not claim protection from harmful interference from airport surface detection equipment stations of the radionavigation service.
- 5.535 In the band 24.75-25.25 GHz, feeder links to stations of the broadcasting-satellite service shall have priority over other uses in the fixed-satellite service (Earth-to-space). Such other uses shall protect and shall not claim protection from existing and future operating feeder-link networks to such broadcasting satellite stations.
- 5.535A The use of the band 29.1-29.5 GHz (Earth-to-space) by the fixed-satellite service is limited to geostationary-satellite systems and feeder links to non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2, except as indicated in Nos. 5.523C and 5.523E where such use is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. 22.2. (WRC-97)
- 5.536 Use of the 25.25-27.5 GHz band by the inter-satellite service is limited to space research and Earth exploration-satellite applications, and also transmissions of data originating from industrial and medical activities in space.

## Annex 2 - ITU Radio Regulations Footnotes for Region 1

- 5.536A Administrations operating earth stations in the Earth exploration-satellite service or the space research service shall not claim protection from stations in the fixed and mobile services operated by other administrations. In addition, earth stations in the Earth exploration-satellite service or in the space research service should be operated taking into account Recommendation ITU-R SA.1862. (WRC-12)
- 5.536B In Saudi Arabia, Austria, Belgium, Brazil, Bulgaria, China, Korea (Rep. of), Denmark, Egypt, United Arab Emirates, Estonia, Finland, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, Libya, Liechtenstein, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the Czech Rep., Romania, the United Kingdom, Singapore, Sweden, Switzerland, Tanzania, Turkey, Viet Nam and Zimbabwe, earth stations operating in the Earth exploration-satellite service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-12)
- 5.536C In Algeria, Saudi Arabia, Bahrain, Botswana, Brazil, Cameroon, Comoros, Cuba, Djibouti, Egypt, United Arab Emirates, Estonia, Finland, Iran (Islamic Rep. of), Israel, Jordan, Kenya, Kuwait, Lithuania, Malaysia, Morocco, Nigeria, Oman, Qatar, Syrian Arab Republic, Somalia, Sudan, South Sudan, Tanzania, Tunisia, Uruguay, Zambia and Zimbabwe, earth stations operating in the space research service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-12)
- 5.537 Space services using non-geostationary satellites operating in the inter-satellite service in the band 27-27.5 GHz are exempt from the provisions of No. 22.2
- 5.537A In Bhutan, Cameroon, Korea (Rep. of), the Russian Federation, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 27.9-28.2 GHz may also be used by high altitude platform stations (HAPS) within the territory of these countries. Such use of 300 MHz of the fixed-service allocation by HAPS in the above countries is further limited to operation in the HAPS-to-ground direction and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems or other co-primary services. Furthermore, the development of these other services shall not be constrained by HAPS. See Resolution 145 (Rev.WRC-12). (WRC-12)
- 5.538 Additional allocation: the bands 27.500-27.501 GHz and 29.999-30.000 GHz are also allocated to the fixed-satellite service (space to Earth) on a primary basis for the beacon transmissions intended for up-link power control. Such space-to-Earth transmissions shall not exceed an equivalent isotropically radiated power (e.i.r.p.) of +10 dBW in the direction of adjacent satellites on the geostationary-satellite orbit. (WRC-07)
- 5.539 The band 27.5-30 GHz may be used by the fixed-satellite service (Earth-to-space) for the provision of feeder links for the broadcasting-satellite service.

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- 5.540 Additional allocation: the band 27.501-29.999 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis for beacon transmissions intended for up-link power control.
- 5.541 In the band 28.5-30 GHz, the earth exploration-satellite service is limited to the transfer of data between stations and not to the primary collection of information by means of active or passive sensors.
- 5.541A Feeder links of non-geostationary networks in the mobile-satellite service and geostationary networks in the fixed-satellite service operating in the band 29.1-29.5 GHz (Earth-to-space) shall employ uplink adaptive power control or other methods of fade compensation, such that the earth station transmissions shall be conducted at the power level required to meet the desired link performance while reducing the level of mutual interference between both networks. These methods shall apply to networks for which Appendix 4 coordination information is considered as having been received by the Bureau after 17 May 1996 and until they are changed by a future competent world radiocommunication conference. Administrations submitting Appendix 4 information for coordination before this date are encouraged to utilize these techniques to the extent practicable. (WRC-2000)
- 5.542 Additional allocation: in Algeria, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, the Dem. Rep. of the Congo, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, India, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Oman, Pakistan, Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Somalia, Sudan, South Sudan, Sri Lanka and Chad, the band 29.5-31 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. 21.3 and 21.5 shall apply. (WRC-12)
- 5.543 The band 29.95-30 GHz may be used for space-to-space links in the earth exploration-satellite service for telemetry, tracking, and control purposes, on a secondary basis.

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- 5.543A In Bhutan, Cameroon, Korea (Rep. of), the Russian Federation, India, Indonesia, Iran (Islamic Republic of), Japan, Kazakhstan, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 31-31.3 GHz may also be used by systems using high altitude platform stations (HAPS) in the ground-to-HAPS direction. The use of the band 31-31.3 GHz by systems using HAPS is limited to the territory of the countries listed above and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems, systems in the mobile service and systems operated under No. 5.545. Furthermore, the development of these services shall not be constrained by HAPS. Systems using HAPS in the band 31-31.3 GHz shall not cause harmful interference to the radio astronomy service having a primary allocation in the band 31.3-31.8 GHz, taking into account the protection criterion as given in Recommendation ITU-R RA.769. In order to ensure the protection of satellite passive services, the level of unwanted power density into a HAPS ground station antenna in the band 31.3-31.8 GHz shall be limited to  $-106$  dB(W/MHz) under clear-sky conditions, and may be increased up to  $-100$  dB(W/MHz) under rainy conditions to mitigate fading due to rain, provided the effective impact on the passive satellite does not exceed the impact under clear-sky conditions. See Resolution 145 (Rev.WRC-12). (WRC-12)
- 5.544 In the band 31-31.3 GHz the power flux-density limits specified in Article 21, Table 21-4 shall apply to the space research service.
- 5.545 Different category of service: in Armenia, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 31-31.3 GHz to the space research service is on a primary basis (see No. 5.33). (WRC-12)
- 5.546 Different category of service: in Saudi Arabia, Armenia, Azerbaijan, Belarus, Egypt, the United Arab Emirates, Spain, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Israel, Jordan, Lebanon, Moldova, Mongolia, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, the United Kingdom, South Africa, Tajikistan, Turkmenistan and Turkey, the allocation of the band 31.5-31.8 GHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33). (WRC-12)
- 5.547 The bands 31.8-33.4 GHz, 37-40 GHz, 40.5-43.5 GHz, 51.4-52.6 GHz, 55.78-59 GHz and 64-66 GHz are available for high-density applications in the fixed service (see Resolution 75 (WRC-2000)). Administrations should take this into account when considering regulatory provisions in relation to these bands. Because of the potential deployment of high-density applications in the fixed-satellite service in the bands 39.5-40 GHz and 40.5-42 GHz (see No. 5.516B), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate. (WRC-07)
- 5.547A Administrations should take practical measures to minimize the potential interference between stations in the fixed service and airborne stations in the radionavigation service in the 31.8-33.4 GHz band, taking into account the operational needs of the airborne radar systems. (WRC-2000)

## Annex 2 - ITU Radio Regulations Footnotes for Region 1

- 5.548 In designing systems for the inter-satellite service in the band 32.3-33 GHz, for the radionavigation service in the band 32-33 GHz, and for the space research service (deep space) in the band 31.8-32.3 GHz, administrations shall take all necessary measures to prevent harmful interference between these services, bearing in mind the safety aspects of the radionavigation service (see Recommendation 707). (WRC-03)
- 5.549 Additional allocation: in Saudi Arabia, Bahrain, Bangladesh, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Singapore, Somalia, Sudan, South Sudan, Sri Lanka, Togo, Tunisia and Yemen, the band 33.4-36 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 5.549A In the band 35.5-36.0 GHz, the mean power flux-density at the Earth's surface, generated by any spaceborne sensor in the Earth exploration-satellite service (active) or space research service (active), for any angle greater than  $0.8^\circ$  from the beam centre shall not exceed  $-73.3 \text{ dB(W/m}^2\text{)}$  in this band. (WRC-03)
- 5.550 Different category of service: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 34.7-35.2 GHz to the space research service is on a primary basis (see No. 5.33). (WRC-12)
- 5.550A For sharing of the band 36-37 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile services, Resolution 752 (WRC-07) shall apply. (WRC-07)
- 5.551H The equivalent power flux-density (epfd) produced in the band 42.5-43.5 GHz by all space stations in any non-geostationary-satellite system in the fixed-satellite service (space-to-Earth), or in the broadcasting-satellite service (space-to-Earth) operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station for more than 2% of the time:  $-230 \text{ dB(W/m}^2\text{)}$  in 1 GHz and  $-246 \text{ dB(W/m}^2\text{)}$  in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and  $-209 \text{ dB(W/m}^2\text{)}$  in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station. These epfd values shall be evaluated using the methodology given in Recommendation ITU-R S.1586-1 and the reference antenna pattern and the maximum gain of an antenna in the radio astronomy service given in Recommendation ITU-R RA.1631 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle  $\theta_{\text{min}}$  of the radiotelescope (for which a default value of  $5^\circ$  should be adopted in the absence of notified information). These values shall apply at any radio astronomy station that either: - was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or - was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply. Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution 743 (WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-07)

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- 5.5511 The power flux-density in the band 42.5-43.5 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth), or the broadcasting-satellite service (space-to-Earth) operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station: -137 dB(W/m<sup>2</sup>) in 1 GHz and -153 dB(W/m<sup>2</sup>) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and -116 dB(W/m<sup>2</sup>) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station. These values shall apply at the site of any radio astronomy station that either: - was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or - was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply. Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution 743 (WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-03)
- 5.552 The allocation of the spectrum for the fixed-satellite service in the bands 42.5-43.5 GHz and 47.2-50.2 GHz for Earth-to-space transmission is greater than that in the band 37.5-39.5 GHz for space-to-Earth transmission in order to accommodate feeder links to broadcasting satellites. Administrations are urged to take all practicable steps to reserve the band 47.2-49.2 GHz for feeder links for the broadcasting-satellite service operating in the band 40.5-42.5 GHz.
- 5.552A The allocation to the fixed service in the bands 47.2-47.5 GHz and 47.9-48.2 GHz is designated for use by high altitude platform stations. The use of the bands 47.2-47.5 GHz and 47.9-48.2 GHz is subject to the provisions of Resolution 122 (Rev.WRC-07). (WRC-07)
- 5.553 In the bands 43.5-47 GHz and 66-71 GHz, stations in the land mobile service may be operated subject to not causing harmful interference to the space radiocommunication services to which these bands are allocated (see No. 5.43). (WRC-2000)
- 5.554 In the bands 43.5-47 GHz, 66-71 GHz, 95-100 GHz, 123-130 GHz, 191.8-200 GHz and 252-265 GHz, satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service. (WRC-2000)
- 5.554A The use of the bands 47.5-47.9 GHz, 48.2-48.54 GHz and 49.44-50.2 GHz by the fixed-satellite service (space-to-Earth) is limited to geostationary satellites. (WRC-03)
- 5.555 Additional allocation: the band 48.94-49.04 GHz is also allocated to the radio astronomy service on a primary basis. (WRC-2000)
- 5.555B The power flux-density in the band 48.94-49.04 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth) operating in the bands 48.2-48.54 GHz and 49.44-50.2 GHz shall not exceed -151.8 dB(W/m<sup>2</sup>) in any 500 kHz band at the site of any radio astronomy station. (WRC-03)



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- 5.556 In the bands 51.4-54.25 GHz, 58.2-59 GHz and 64-65 GHz, radio astronomy observations may be carried out under national arrangements. (WRC-2000)
- 5.556A Use of the bands 54.25-56.9 GHz, 57-58.2 GHz and 59-59.3 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, shall not exceed -147 dB(W/m<sup>2</sup> /100 MHz) for all angles of arrival. (WRC-97)
- 5.557A In the band 55.78-56.26 GHz, in order to protect stations in the Earth exploration-satellite service (passive), the maximum power density delivered by a transmitter to the antenna of a fixed service station is limited to -26 dB(W/MHz). (WRC-2000)
- 5.558 In the bands 55.78-58.2 GHz, 59-64 GHz, 66-71 GHz, 122.25-123 GHz, 130-134 GHz, 167-174.8 GHz and 191.8-200 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 5.43). (WRC-2000)
- 5.558A Use of the band 56.9-57 GHz by inter-satellite systems is limited to links between satellites in geostationary-satellite orbit and to transmissions from non-geostationary satellites in high-Earth orbit to those in low-Earth orbit. For links between satellites in the geostationary-satellite orbit, the single entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface, for all conditions and for all methods of modulation, shall not exceed -147 dB(W/m<sup>2</sup>·100 MHz) for all angles of arrival. (WRC-97)
- 5.559 In the band 59-64 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 5.43). (WRC-2000)
- 5.560 In the band 78-79 GHz radars located on space stations may be operated on a primary basis in the earth exploration-satellite service and in the space research service.
- 5.561 In the band 74-76 GHz, stations in the fixed, mobile and broadcasting services shall not cause harmful interference to stations of the fixed-satellite service or stations of the broadcasting-satellite service operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting-satellite service. (WRC-2000)
- 5.561A The 81-81.5 GHz band is also allocated to the amateur and amateur-satellite services on a secondary basis. (WRC-2000)
- 5.562 The use of the band 94-94.1 GHz by the Earth exploration-satellite (active) and space research (active) services is limited to spaceborne cloud radars. (WRC-97)
- 5.562A In the bands 94-94.1 GHz and 130-134 GHz, transmissions from space stations of the Earth exploration-satellite service (active) that are directed into the main beam of a radio astronomy antenna have the potential to damage some radio astronomy receivers. Space agencies operating the transmitters and the radio astronomy stations concerned should mutually plan their operations so as to avoid such occurrences to the maximum extent possible. (WRC-2000)

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- 5.562B In the bands 105-109.5 GHz, 111.8-114.25 GHz, 155.5-158.5 GHz and 217-226 GHz, the use of this allocation is limited to space-based radio astronomy only. (WRC-2000)
- 5.562C Use of the band 116-122.25 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 km to 1 000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed -148 dB(W/(m<sup>2</sup>·MHz)) for all angles of arrival. (WRC-2000)
- 5.562D Additional allocation: In Korea (Rep. of), the bands 128-130 GHz, 171-171.6 GHz, 172.2-172.8 GHz and 173.3-174 GHz are also allocated to the radio astronomy service on a primary basis until 2015. (WRC-2000)
- 5.562E The allocation to the Earth exploration-satellite service (active) is limited to the band 133.5-134 GHz. (WRC-2000)
- 5.562F In the band 155.5-158.5 GHz, the allocation to the Earth exploration-satellite (passive) and space research (passive) services shall terminate on 1 January 2018. (WRC-2000)
- 5.562G The date of entry into force of the allocation to the fixed and mobile services in the band 155.5-158.5 GHz shall be 1 January 2018. (WRC-2000)
- 5.562H Use of the bands 174.8-182 GHz and 185-190 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 km to 1000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed -144 dB(W/(m<sup>2</sup>·MHz)) for all angles of arrival. (WRC-2000)
- 5.563A In the bands 200-209 GHz, 235-238 GHz, 250-252 GHz and 265-275 GHz, ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents. (WRC-2000)
- 5.563B The band 237.9-238 GHz is also allocated to the Earth exploration-satellite service (active) and the space research service (active) for spaceborne cloud radars only. (WRC-2000)

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The following frequency bands in the range 275-1 000 GHz are identified for use by administrations for passive services applications: - radio astronomy service: 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz and 926-945 GHz; - Earth exploration-satellite service (passive) and space research service (passive): 275-286 GHz, 296-306 GHz, 313-356 GHz, 361-365 GHz, 369-392 GHz, 397-399 GHz, 409-411 GHz, 416-434 GHz, 439-467 GHz, 477-502 GHz, 523-527 GHz, 538-581 GHz, 611-630 GHz, 634-654 GHz, 657-692 GHz, 713-718 GHz, 729-733 GHz, 750-754 GHz, 771-776 GHz, 823-846 GHz, 850-854 GHz, 857-862 GHz, 866-882 GHz, 905-928 GHz, 951-956 GHz, 968-973 GHz and 985-990 GHz. The use of the range 275-1000 GHz by the passive services does not preclude use of this range by active services. Administrations wishing to make frequencies in the 275-1000 GHz range available for active service applications are urged to take all practicable steps to protect these passive services from harmful interference until the date when the Table of Frequency Allocations is established in the above-mentioned 275-1000 GHz frequency range. All frequencies in the range 1000-3000 GHz may be used by both active and passive services. (WRC-12)

### Annex 3 - Relevant ECC/Decisions and Recommendations

ECC/DEC/(14)02	Harmonised technical and regulatory conditions for the use of the band 2300-2400 MHz for Mobile/Fixed Communications Networks (MFCN)
ECC/DEC/(13)03	on the harmonised use of the frequency band 1452-1492 MHz for Mobile/Fixed Communications Networks Supplemental Downlink (MFCN SDL)
ECC/DEC/(13)01	on the use, free circulation, and exemption from individual licensing of Earth stations on mobile platforms (ESOMPs) in the frequency bands available for use by uncoordinated FSS Earth stations within the ranges 17.3-20.2 GHz and 27.5-30.0 GHz
ECC/DEC/(12)03	on the harmonised conditions for UWB applications onboard aircraft
ECC/DEC/(11)06	on harmonised frequency arrangements for mobile/fixed communications networks (MFCN operating in the bands 3400-3600 MHz and 3600-3800 MHz
ECC/DEC/(11)04	on Exemption from individual licensing of digital terminals of narrowband and wideband PMR/PAMR/PPDR systems and free circulation and use of digital terminals of narrowband and wideband PPDR systems operating in the 80 MHz, 160 MHz, 380-470 MHz and 800/900 MHz bands
ECC/DEC/(11)03	on the harmonised use of frequencies for Citizen' Band (CB) radio equipment
ECC/DEC/(11)02	on industrial Level Probing Radars (LPR) operating in frequency bands 6 - 8.5 GHz, 24.05 - 26.5 GHz, 57 - 64 GHz and 75 - 85 GHz
ECC/DEC/(11)01	on the protection of the Earth exploration satellite service (passive) in the 1400-1427 MHz band
ECC/DEC/(10)02	on compatibility between the fixed satellite service in the 30-31 GHz band and the Earth exploration satellite service (passive) in the 31.3-31.5 GHz band
ECC/DEC/(10)01	on sharing conditions in the 10.6-10.68 GHz band between the fixed service, mobile service and Earth exploration satellite service (passive)
ECC/DEC/(09)04	on exemption from individual licensing and the free circulation and use of transmit-only mobile satellite terminals operating in the Mobile-Satellite Service allocations in the 1613.8-1626.5 MHz band
ECC/DEC/(09)03	on harmonised conditions for Mobile/Fixed Communications Networks (MFCN) operating in the band 790-862 MHz
ECC/DEC/(09)02	on the harmonisation of the bands 1610-1626.5 MHz and 2483.5-2500 MHz for use by systems in the Mobile-Satellite Service
ECC/DEC/(09)01	on the harmonised use of the 63-64 GHz frequency band for Intelligent Transport Systems (ITS)
ECC/DEC/(08)08	on the harmonised use of GSM system on board vessels in the frequency bands 880-915/925-960 MHz and 1710-1785/1805-1880 MHz
ECC/DEC/(08)05	on the harmonisation of frequency bands for the implementation of digital Public Protection and Disaster Relief (PPDR) radio applications in bands within the 380-470 MHz range
ECC/DEC/(08)01	on the harmonised use of the 5875-5925 MHz frequency band for Intelligent Transport Systems (ITS)

### Annex 3 - Relevant ECC/Decisions and Recommendations

- ECC/DEC/(07)02 on availability of frequency bands between 3400-3800 MHz for the Harmonised implementation of Broadband Wireless Access systems (BWA)
- ECC/DEC/(06)13 on designation of the bands 880-915 MHz, 925-960 MHz, 1710-1785 MHz and 1805-1880 MHz for terrestrial IMT-2000/UMTS systems
- ECC/DEC/(06)10 on transitional arrangements for the Fixed Service and tactical radio relay systems in the bands 1980-2010 MHz and 2170-2200 MHz in order to facilitate the harmonised introduction and development of systems in the Mobile Satellite Service including those supplemented by a Complementary Ground Component
- ECC/DEC/(06)09 on the designation of the bands 1980-2010 MHz and 2170-2200 MHz for use by systems in the Mobile-Satellite Service including those supplemented by a Complementary Ground Component (CGC)
- ECC/DEC/(06)07 on the harmonised use of airborne GSM systems in the frequency bands 1710-1785 MHz and 1805-1880 MHz
- ECC/DEC/(06)06 on the availability of frequency bands for the introduction of Narrow Band Digital Land Mobile PMR/PAMR in the 80 MHz, 160 MHz and 400 MHz bands
- ECC/DEC/(06)05 on the harmonised frequency bands to be designated for Air-Ground-Air operation (AGA) of the Digital Land Mobile Systems for the Emergency Services
- ECC/DEC/(06)04 on the harmonised conditions for devices using Ultra-Wideband (UWB) technology in bands below 10.6 GHz
- ECC/DEC/(06)03 on Exemption from Individual Licensing of High e.i.r.p. Satellite Terminals (HEST) with e.i.r.p. above 34 dBW operating within the frequency bands 10.70 - 12.75 GHz or 19.70 - 20.20 GHz space-to-Earth and 14.00 - 14.25 GHz or 29.50 - 30.00 GHz Earth-to-space
- ECC/DEC/(06)02 on Exemption from Individual Licensing of Low e.i.r.p. Satellite Terminals (LEST) operating within the frequency bands 10.70–12.75 GHz or 19.70–20.20 GHz space-to-Earth and 14.00–14.25 GHz or 29.50–30.00 GHz Earth-to-Space
- ECC/DEC/(06)01 on the harmonised utilisation of spectrum for terrestrial IMT-2000/UMTS systems operating within the bands 1900-1980 MHz, 2010-2025 MHz and 2110-2170 MHz
- ECC/DEC/(05)12 on harmonised frequencies, technical characteristics, exemption from individual licensing and free carriage and use of digital PMR 446 applications operating in the frequency band 446.1-446.2 MHz
- ECC/DEC/(05)11 on the free circulation and use of Aircraft Earth Stations (AES) in the frequency bands 14-14.5 GHz (Earth-to-space), 10.7-11.7GHz (space-to-Earth) and 12.5-12.75 GHz (space-to-Earth)
- ECC/DEC/(05)10 on the free circulation and use of Earth Stations on board Vessels operating in fixed satellite service networks in the frequency bands 14-14.5 GHz (Earth-to-space), 10.7-11.7 GHz (space-to-Earth) and 12.5-12.75 GHz (space-to-Earth)
- ECC/DEC/(05)09 on the free circulation and use of Earth Stations on board Vessels operating in Fixed Satellite service networks in the frequency bands 5925-6425 MHz (Earth-to-space) and 3700-4200 MHz (space-to-Earth)

### Annex 3 - Relevant ECC/Decisions and Recommendations

- ECC/DEC/(05)08 on the availability of frequency bands for high density applications in the Fixed-Satellite Service (space-to-Earth and Earth-to-space)
- ECC/DEC/(05)05 on harmonised utilisation of spectrum for IMT-2000/UMTS systems operating within the band 2500-2690 MHz
- ECC/DEC/(05)02 - A harmonised frequency plan for the use of the band 169.4-169.8125 MHz
- ECC/DEC/(05)01 on the use of the band 27.5-29.5 GHz by the Fixed Service and uncoordinated Earth stations of the Fixed-Satellite Service (Earth-to-space)
- ECC/DEC/(04)10 on the frequency bands to be designated for the temporary introduction of Automotive Short Range Radars (SRR)
- ECC/DEC/(04)09 on designation of the bands 1518-1525 MHz and 1670-1675 MHz for the Mobile Satellite Service
- ECC/DEC/(04)08 on the harmonised use of the 5 GHz frequency bands for the implementation of Wireless Access Systems including Radio Local Area Networks (WAS/RLANs)
- ECC/DEC/(04)06 on the availability of frequency bands for the introduction of Wide Band Digital Land Mobile PMR/PAMR in the 400 MHz and 800/900 MHz bands
- ECC/DEC/(04)03 on the frequency band 77-81 GHz to be designated for the use of Automotive Short Range Radars
- ECC/DEC/(02)06 on the designation of frequency band 2500-2690 MHz for UMTS/IMT-2000
- ECC/DEC/(02)05 on the designation and availability of frequency bands for railway purposes in the 876-880 MHz and 921-925 MHz bands
- ECC/DEC/(02)04 on the use of the band 40.5 – 42.5 GHz by terrestrial (fixed service/ broadcasting service) systems and uncoordinated Earth stations in the fixed satellite service and broadcasting-satellite service (space to Earth)
- ERC/DEC/(99)17 on the Automatic Identification and Surveillance system (AIS) channels in the maritime VHF band
- ERC/DEC/(99)15 on the designation of the harmonised frequency band 40.5 to 43.5 GHz for the introduction of Multimedia Wireless Systems (MWS) and Point-to-Point (P-P) Fixed Wireless Systems
- ERC/DEC/(99)06 on the harmonised introduction of satellite personal communication systems operating in the bands below 1 GHz (S-PCS<1GHz)
- ERC/DEC/(98)25 on the harmonised frequency band to be designated for PMR 446
- ERC/DEC/(97)02 on the extended frequency bands to be used for the GSM Digital Pan-European Communications system
- ERC/DEC/(95)03 on the frequency bands to be designated for the introduction of DCS 1800
- ERC/DEC/(94)03 on the frequency band to be designated for the coordinated introduction of the Digital European Cordless Telecommunications system
- ERC/DEC/(94)01 on the frequency bands to be designated for the coordinated introduction of the GSM digital pan-European communications system

### Annex 3 - Relevant ECC/Decisions and Recommendations

- ERC/DEC/(01)19 on harmonised frequency bands to be designated for the Direct Mode Operation (DMO) of the Digital Land Mobile Systems for the Emergency Services
- ERC/DEC/(01)17 on harmonised frequencies, technical characteristics and exemption from individual licensing of Ultra Low Power Active Medical Implant (ULP-AMI) communication systems operating in the frequency band 401-406 MHz on a secondary basis
- ERC/DEC/(01)12 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for Model control operating in the frequencies 40.665, 40.675, 40.685 and 40.695 MHz
- ERC/DEC/(01)11 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for Flying Model control operating in the frequency band 34.995-35.225 MHz
- ERC/DEC/(01)08 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for Movement Detection and Alert operating in the frequency band 2400-2483.5 MHz
- ERC/DEC/(00)08 on the use of the band 10.7 - 12.5 GHz by the fixed service and Earth stations of the broadcasting-satellite and fixed-satellite Service (space-to-Earth)
- ERC/DEC/(00)07 on the shared use of the band 17.7 - 19.7 GHz by the fixed service and Earth stations of the fixed-satellite service (space-to-Earth)
- ERC/DEC/(00)02 on the use of the band 37.5 - 40.5 GHz by the fixed service and Earth stations of the fixed - satellite service (space to Earth)
- ECC/REC/(14)06 Implementation of Fixed Service Point-to-Point narrow channels (3.5 MHz, 1.75 MHz, 0.5 MHz, 0.25 MHz, 0.025 MHz) in the guard bands and center gaps of the lower 6 GHz (5925-6425 MHz) and upper 6 GHz (6425-7125 MHz) bands
- ECC/REC/(14)04 Cross-border coordination for mobile/fixed communications networks (MFCN) and between MFCN and other systems in the frequency band 2300-2400 MHz
- ECC/REC/(14)01 Radio frequency channel arrangements for fixed service systems operating in the band 92-95 GHz
- ECC/REC/(11)10 Location Tracking Application for emergency and disaster situations
- ECC/REC/(11)09 UWB Location Tracking Systems Type 2 (LT2)
- ECC/REC/(11)08 Framework for authorisation regime of indoor global navigation satellite system (GNSS) pseudolites in the band 1559-1610 MHz
- ECC/REC/(11)05 Frequency planning and frequency coordination for terrestrial systems for Mobile/Fixed Communication Networks (MFCN) capable of providing electronic communications services in the frequency band 2500-2690 MHz
- ECC/REC/(11)01 Guidelines for assignment of frequency blocks for Fixed Wireless Systems in the bands 24.5-26.5 GHz, 27.5-29.5 GHz and 31.8-33.4 GHz
- ECC/REC/(10)02 A framework for authorisation regime of Global Navigation Satellite System (GNSS) repeaters

### Annex 3 - Relevant ECC/Decissions and Recommendations

ECC/REC/(10)01	Guidelines for compatibility between Complementary Ground Components (CGC) operating in the band 2170-2200 MHz and EESS/SOS/SRS earth stations operating in the band 2200-2290 MHz
ECC/REC/(09)01	Use of the 57-64 GHz frequency band for point-to-point Fixed Wireless Systems
ECC/REC/(08)04	The identification of frequency bands for the implementation of Broad Band Disaster Relief (BBDR) radio applications in the 5 GHz frequency range
ECC/REC/(08)02	Frequency planning and frequency coordination for GSM / UMTS / LTE / WiMAX Land Mobile systems operating within the 900 and 1800 MHz bands
ECC/REC/(08)01	Use of the band 5855-5875 MHz for Intelligent Transport Systems (ITS)
ECC/REC/(06)04	Use of the band 5725-5875 MHz for Broadband Fixed Wireless Access (BFWA)
ECC/REC/(05)08	Frequency planning and frequency coordination for the GSM 900, GSM 1800, E-GSM and GSM-R Land Mobile Systems
ECC/REC/(05)07	Radio frequency channel arrangements for Fixed Service Systems operating in the bands 71-76 GHz and 81-86 GHz
ECC/REC/(05)02	Use of the 64-66 GHz frequency band for Fixed Service
ECC/REC/(04)05	Guidelines for accommodation and assignment of Multipoint Fixed Wireless systems in frequency bands 3.4-3-6 GHz and 3.6-3-8 GHz
ECC/REC/(02)09	Protection of Aeronautical Radio Navigation Service in the band 2700-2900 MHz from interference caused by the operation of Digital Cordless Cameras
ECC/REC/(02)06	Preferred channel arrangements for digital Fixed Service Systems operating in the frequency range 7125-8500 MHz
ECC/REC/(02)02	Preferred channel arrangements for fixed service systems (point-to-point and point-to-multipoint) operating in the frequency band 31.0-31.3 GHz
ECC/REC/(01)04	Recommended guidelines for the accommodation and assignment of multimedia wireless systems (MWS) and point-to-point (P-P) fixed wireless systems in the frequency band 40.5 - 43.5 GHz
ERC/REC/(01)02	Preferred channel arrangement for digital FS systems operating in the band 31.8-33.4 GHz
ERC/REC/(01)01	Border coordination of UMTS
ERC/REC/(00)04	Harmonised frequencies and free circulation and use for meteor scatter applications
ERC/REC 70-03	Relating to the Use of Short Range Devices (SRD)
ERC/REC 62-02	Harmonised frequency band for civil and military airborne telemetry applications
ERC/REC 25-10	Frequency ranges for the use of temporary terrestrial Audio and Video SAP/ SAB links (incl. ENG/OB)
ERC/REC 14-03	Harmonised radio frequency channel arrangements for low and medium capacity systems in the band 3400 MHz to 3600 MHz
ERC/REC 14-02	Radio-frequency channel arrangements for high, medium and low capacity digital Fixed Service systems operating in the band 6425-7125 MHz



### Annex 3 - Relevant ECC/Decisions and Recommendations

ERC/REC 14-01	Radio-frequency channel arrangements for high capacity analogue and digital radio-relay systems operating in the band 5925-6425 MHz
ERC/REC 13-03	The use of the band 14.0 - 14.5 GHz for Very Small Aperture Terminals (VSAT) and Satellite News Gathering (SNG)
ERC/REC 12-12	Radio frequency channel arrangement for fixed service systems operating in the band 55.78-57.0 GHz
ERC/REC 12-11	Radio frequency channel arrangement for fixed service systems operating in the band 51.4-52.6 GHz
ERC/REC 12-10	Harmonised radio frequency arrangements for digital systems operating in the band 48.5-50.2 GHz
ERC/REC 12-08	Harmonised radio frequency channel arrangements and block allocations for low, medium and high capacity systems in the band 3600 MHz to 4200 MHz
ERC/REC 12-07	Harmonised radio frequency channel arrangements for digital terrestrial fixed systems operating in the band 14.5 - 14.62 GHz paired with 15.23 - 15.35 GHz
ERC/REC 12-06	Preferred channel arrangements for fixed service systems operating in the frequency band 10.7-11.7 GHz
ERC/REC 12-05	Harmonised radio frequency channel arrangements for digital terrestrial fixed systems operating in the band 10.0 - 10.68 GHz
ERC/REC 12-03	Harmonised radio frequency channel arrangements for digital terrestrial fixed systems operating in the band 17.7 GHz to 19.7 GHz
ERC/REC 12-02	Harmonised radio frequency channel arrangements for analogue and digital terrestrial fixed systems operating in the band 12.75 GHz to 13.25 GHz
T/R 32-02	on frequencies to be used by on-board communication stations
T/R 25-08	on planning criteria and coordination of frequencies in the land mobile service in the range 29.7-921 MHz
T/R 13-02	Preferred channel arrangements for fixed service systems in the frequency range 22.0-29.5 GHz
T/R 13-01	on preferred channel arrangements for fixed service systems operating in the frequency range 1-2-3 GHz
T/R 12-01	Harmonised radio frequency channel arrangements for analogue/digital terrestrial FS operating in 37-39.5 GHz

#### Annex 4 - European Standards included in the ECA Table

EN 300 065	NAVTEX
EN 300 066	e.i.r.p.s operating in the 406.0 to 406.1 MHz
EN 300 086	Radio equipment with an internal or external RF connector intended primarily for analogue speech
EN 300 113	Radio equipment intended for the transmission of data (and speech) and having an antenna connector
EN 300 135	Angle-modulated Citizens Band radio equipment (CEPT PR 27 Radio Equipment)
EN 300 152	Maritime EPIRBs intended for use on freq 121.5 MHz or freqs 121.5 MHz and 243 MHz for homing purposes only
EN 300 162	Radiotelephone transmitters and receivers for the maritime mobile service operating in VHF bands
EN 300 219	Radio equipment transmitting signals to initiate a specific response in the receiver
EN 300 220	Radio equipment to be used in the 25 to 1000 MHz frequency range with power levels ranging up to 500 mW
EN 300 224	Electromagnetic compatibility and Radio spectrum Matters (ERM); On-site paging service
EN 300 296	Land Mobile Service; Radio equipment using integral antennas intended primarily for analogue speech
EN 300 328	Data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques
EN 300 330	Radio equipment in 9 kHz to 25 MHz and inductive loop systems in 9 kHz to 30 MHz
EN 300 341	Radio equipm using an integral antenna transmitting signals to initiate a specific response in the receiver
EN 300 373	Maritime mobile transmitters and receivers for use in the MF and HF bands
EN 300 390	Radio equipment intended for the transmission of data (and speech) and using an integral antenna
EN 300 422	Wireless microphones in the 25 MHz to 3 GHz frequency range
EN 300 433	Double Side Band and/or Single Side Band amplitude modulated citizen's band radio equipment
EN 300 440	Radio equipment to be used in the 1 to 40 GHz frequency range
EN 300 471	Rules for Access and the Sharing of common used channels by equipment complying with EN ... ..
EN 300 609	(GSM); Base Station System (BSS) equipment specification
EN 300 674	DSRC transmission equipment (500 kbit/s/250 kbit/s) operating in the 5.8 GHz
EN 300 676	Ground-based VHF hand-held, mobile/fixed radio transmitters, receivers/transceivers for the VHF aeronautical

#### Annex 4 - European Standards included in the ECA Table

EN 300 698	Radio telephone transmitters/receivers for the maritime mobile service operating in the VHF bands
EN 300 718	Avalanche Beacons; Transmitter-receiver systems
EN 300 720	Electromagnetic compatibility and Radio Spectrum Matters, UHF on-board communications systems and equipment
EN 300 761	Automatic Vehicle Identification (AVI) for railways operating in the 2.45 GHz frequency range
EN 301 025	VHF radiotelephone equipment for general communications and associated equipment for Class "D" DSC
EN 301 091	Radar equipment operating in the 76 GHz to 77 GHz range
EN 301 166	Radio equipment for analogue and/or digital comm (speech and/or data) and operating on narrow band channels
EN 301 178	VHF radiotelephone equipment for the maritime mobile service operating in VHF (non-GMDSS appls only)
EN 301 357	Cordless audio devices in the range 25 MHz to 2000 MHz
EN 301 360	SIT and SUT transmitting towards geostationary satellites in the 27.5-29.5 GHz
EN 301 406	Digital Enhanced Cordless Telecommunications (DECT)
EN 301 426	LMES and MMES not intended for distress and safety communications operating in the 1.5/1.6 GHz
EN 301 427	Low data rate MESs except aeronautical mobile satellite earth stations, operating in the 11/12/14 GHz
EN 301 428	(VSAT) Transmit-only, transmit/receive or receive-only satellite earth stations operating in the 11/12/14 GHz
EN 301 430	Satellite News Gathering Transportable Earth Stations (SNG TES) operating in the 11-12/13-14 GHz
EN 301 441	MESs, including handheld earth stations, for S-PCN in the 1.6/2.4 GHz bands under MSS
EN 301 442	MESs, including handheld earth stations, for S-PCN in the 2.0 GHz bands under MSS
EN 301 443	Transmit-only, transmit-and-receive, receive-only satellite earth stations operating in the 4 GHz and 6 GHz
EN 301 444	LMES operating in the 1.5 GHz and 1.6 GHz bands providing voice and/or data communications
EN 301 447	Satellite Earth Stations on board Vessels (ESVs) operating in the 4/6 GHz frequency bands allocated to FSS
EN 301 449	CDMA spread spectrum base stations operating in 450 MHz cellular band (CDMA 450) & 410, 450, 870 MHz PAMR
EN 301 459	SIT and SUT transmitting towards satellites in geostationary orbit in the 29.5 to 30.0 GHz

#### **Annex 4 - European Standards included in the ECA Table**

EN 301 473	AES operating under AMSS/MSS and/or the AMS(R)S), MSS
EN 301 502	Global System for Mobile communications (GSM); Base Station and Repeater equipment
EN 301 511	Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements
EN 301 526	CDMA spread spectrum mobile stations operating in 450 MHz cellular band and 410, 450, 870 MHz PAMR
EN 301 559	LP-AMI operating in the frequency range 2483.5 to 2500 MHz
EN 301 681	MESs of Geostationary mobile sat systs, incl handheld earth stations, for S-PCN in the 1.5/1.6 GHz under MSS
EN 301 721	MES providing Low Bit Rate Data Communications using LEO satellites operating below 1 GHz
EN 301 783	Land Mobile Service; Commercially available amateur radio equipment
EN 301 839	ULP-AMI and Peripherals operating in the frequency range 402-405 MHz
EN 301 893	Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN
EN 301 908	Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks
EN 301 929	VHF transmitters and receivers as Coast Stations for GMDSS and other appls in the maritime mobile service
EN 301 997	Radio equipment for use in Multimedia Wireless Systems (MWS) in the frequency band 40.5 GHz to 43.5 GHz
EN 302 017	Transmitting equipment for the Amplitude Modulated (AM) sound broadcasting service
EN 302 018	Transmitting equipment for the Amplitude Modulated (AM) sound broadcasting service
EN 302 054	Radiosondes to be used in the 400.15 to 406 MHz frequency range with power levels ranging up to 200 mW
EN 302 064	Wireless Video Links (WVL) operating in the 1.3 GHz to 50 GHz
EN 302 065	SRD using Ultra Wide Band technology (UWB) for communications purposes
EN 302 077	Transmitting equipment for the Terrestrial - Digital Audio Broadcasting (T-DAB) service
EN 302 152	Satellite Personal Locator Beacons (PLBs) operating in the 406.0 MHz to 406.1 MHz
EN 302 186	Satellite mobile Aircraft Earth Stations (AESs) operating in the 11/12/14 GHz
EN 302 194	Navigation radar used on inland waterways
EN 302 195	Radio equipment in the frequency range 9 kHz to 315 kHz for ULP-AMI and accessories
EN 302 208	Radio Frequency Identification Equipment operating in the band 865 to 868 MHz with power levels up to 2 W

#### **Annex 4 - European Standards included in the ECA Table**

EN 302 217	Characteristics and requirements for point-to-point equipment and antennas
EN 302 245	Transmitting equipment for the Digital Radio Mondiale (DRM) broadcasting service
EN 302 248	Navigation radar for use on non-SOLAS vessels
EN 302 264	Short Range Radar equipment operating in 77-81 GHz
EN 302 288	Short range radar equipment operating in the 24 GHz range
EN 302 296	Digital television broadcast service, terrestrial (DVB-T)
EN 302 297	Transmitting equipment for the analogue television broadcasting service
EN 302 326	Multipoint Equipment and Antennas
EN 302 340	Satellite Earth Stations on board Vessels (ESVs) operating in the 11/12/14 GHz bands allocated to FSS
EN 302 372	Tank Level Probing Radar (TLPR) operating in the frequency bands 5.8 GHz, 10 GHz, 25 GHz, 61 GHz and 77 GHz
EN 302 426	CDMA spread spectrum repeaters operating in 450 MHz cellular band and 410 MHz, 450 MHz, 870 MHz PAMR
EN 302 448	Earth Stations on Trains (ESTs) operating in the 14/12 GHz frequency bands
EN 302 454	Radiosondes to be used in the 1 668.4 MHz to 1 690 MHz frequency range
EN 302 480	GSM onboard aircraft system
EN 302 502	5.8 GHz fixed broadband data transmitting systems
EN 302 510	Radio equipment in the range 30-37.5 MHz for Ultra Low Power Active Medical Membrane Implants and Accessories
EN 302 536	Radio equipment in the frequency range 315 kHz to 600 kHz
EN 302 537	Ultra Low Power Medical Data Service Systems operating in the frequency range 401-402 MHz and 405-406 MHz
EN 302 544	Broadband Data Transmission systems operating in the 2500-2690 MHz frequency band
EN 302 561	Using constant or non-constant envelope modulation in a channel bandwidth of 25 kHz, 50 kHz, 100 kHz, 150 kHz
EN 302 567	60 GHz Multiple-Gigabit WAS/RLAN Systems
EN 302 571	Radiocommunications equipment operating in the 5855 MHz to 5925 MHz frequency band
EN 302 574	Satellite earth station for MSS operating in 1980-2010 MHz (E/s) and 2170-2200 MHz (s/E) frequency bands
EN 302 608	Radio equipment for Eurobalise railway systems
EN 302 609	Radio equipment for Euroloop railway systems
EN 302 617	Ground-based UHF radio transmitters, receivers and transceivers for the UHF aeronautical mobile service

#### **Annex 4 - European Standards included in the ECA Table**

EN 302 623	BWA equipment in the 3.4-3.8 GHz frequency range
EN 302 625	5 GHz BroadBand Disaster Relief applications (BBDR)
EN 302 645	Short Range Devices; Global Navigation Satellite Systems (GNSS) Repeaters
EN 302 686	ITS; Radiocommunications equipment operating in the 63 to 64 GHz frequency band
EN 302 729	LPR equipment operating in the frequency ranges 6.0-8.5 GHz, 24.05-26.5 GHz, 57-64 GHz, 75-85 GHz
EN 302 752	Active Radar Target Enhancers
EN 302 774	BWA in the 3400-3800 MHz frequency band
EN 302 858	SRR equipment in the 24.05-24.25 GHz range for automotive application
EN 302 961	Maritime Personal Homing Beacon for search and rescue purposes intended for use on the frequency 121.5 MHz
EN 302 977	Vehicle-Mounted Earth stations (VMES) operating 14/12 GHz frequency bands
EN 302 998	Transmitting equipment for terrestrial mobile TV provide multimedia multicast service
EN 303 084	Ground Based Augmentation System (GBAS) VHF ground-air Data Broadcast (VDB)
EN 303 098	Maritime low power personal locating devices employing AIS
EN 303 135	Coastal Surveillance, Vessel Traffic Systems and Harbour Radars
EN 303 203	Medical Body Area Network Systems (MBANS) operating in the 2483.5 MHz to 2500 MHz range
EN 303 213	Advanced Surface Movement Guidance and Control System
EN 303 978	ESOMP transmitting towards satellites in geostationary orbit in the 27.5-30.0 GHz frequency bands
EN 305 550	Radio equipment to be used in the 40 GHz to 246 GHz frequency range

## Annex 5 - List of abbreviations used in the ECA Table

(OR)	Off-Route
(R)	Route
1800	Global System for Mobile Communications using 1800 MHz band
AGA	Air Ground Air
AIS	Automatic Identification System
AMS(R)S	Aeronautical Mobile Satellite (Route) Services
APP	Appendix of the ITU Radio Regulations
AVI	Automatic Vehicle Identification
BBDR	Broad Band Disaster Relief
BFWA	Broadband Fixed Wireless Access
BMA	Building Material Analysis
BSS	Broadcasting Satellite Service
BWA	Broadband Wireless Access
CB	Citizen Band
CEPT	European Conference of Postal and Telecommunications Administrations
CGC	Complementary Ground Component
CRS	Central Radio Station
DEC	Decision
DECT	Digital Enhanced Cordless Telecommunication
DME	Distance Measuring Equipment
DMO	Direct Mode Operation
DSC	Digital Selective Calling
DSI	Detailed Spectrum Investigation
DVB-T	Terrestrial Digital Video Broadcasting
E/s	Earth-to-space direction
ECA	European Common Allocation
ECC	Electronic Communications Committee
ECM	Electronic Countermeasures
ECP	European Common Proposal
EESS	Earth Exploration-Satellite Service
EFIS	European Frequency Information System
EGSM	Extended GSM
EISCAT	European Incoherent SCATter facility

## Annex 5 - List of abbreviations used in the ECA Table

ENG	Electronic News Gathering
EPIRB	Emergency Position-Indicating Radiobeacon
ERC	European Radiocommunications Committee
ERO	European Radiocommunications Office
ESOMPs	Earth Stations On Mobile Platforms
EST	Earth Stations on Trains
EU	EUropean footnote
FB	Base station (fixed base)
FDD	Frequency Division Duplex
FM	Frequency Modulation
FSS	Fixed-Satellite Service
FWA	Fixed Wireless Access
GE75	Geneva 1975 Agreement
GE85	Geneva 1985 Agreement
GLONASS	Global Navigation Satellite System
GMDSS	Global Maritime Distress and Safety System
GNSS	Global Navigation Satellite System
GPR/WPR	Ground Probing Radar / Wall Probing Radar
GPS	Global Positioning System
GSM	Global System for Mobile Communications
GSM 1800	Global System for Mobile Communications using 1800 MHz band
GSM-R	GSM for Railways
HAPS	High Altitude Platform Systems
HDFS	High Density Fixed Service
HDFSS	High Density Fixed-Satellite Service
HDTV	High Definition Television
HEST	High E.i.r.p. Satellite Terminals
HF	High Frequency
HIPERLAN	High Performance Radio Local Area Network
IALA	International Association of Lighthouse Authorities
IBCN	Integrated Broadband Communications Network
ILS	Instrument Landing System
IMO	International Maritime Organisation



## Annex 5 - List of abbreviations used in the ECA Table

IMT	International Mobile Telecommunications
ISM	Industrial, Scientific and Medical
ITS	Intelligent Transport Systems
ITU	International Telecommunication Union
JTIDS	Joint Tactical Information Distribution System
LAES	Location Application for Emergency Services
LDC	Low Duty Cycle
LEST	Low E.i.r.p. Satellite Terminals
LP-AMI	Low Power Active Medical Implants
LPR	Level Probing Radar
LT2	Location Tracking Type 2
MBANS	Medical Body Area Network Systems
MCA	Mobile Communications Services on Board Aircraft
MCV	Mobile Communication Services on Board Vessels
MES	Mobile Earth Stations
MFCN	Mobile/Fixed Communications Networks
MIDS	Multifunctional Information Distribution System
ML	Mobile Link (Mobile station transmits)
MLS	Microwave Landing System
MSI	Maritime Safety Information
MSS	Mobile-Satellite Service
MWS	Multimedia Wireless System
NATO	North Atlantic Treaty Organisation
NAVTEX	Narrow-band direct-printing telegraphy system for transmission of navigational and meteorological warnings and urgent information to ships
NDB	Non-Directional Beacon
NJFA	NATO Joint Civil/Military Frequency Agreement
OB	Outside Broadcasting
ODC	Object Discrimination and Characterisation
PAMR	Public Access Mobile Radio
PKO	Peace Keeping Operations
PMR	Professional Mobile Radio, Private Mobile Radio
PPDR	Public Protection and Disaster Relief

## Annex 5 - List of abbreviations used in the ECA Table

PWAP	Private Wide Area Paging
RA	Radio Astronomy
REC	Recommendation
RFID	Radio Frequency Identification
RLANS	Radio Local Area Network System
RR	ITU Radio Regulations
s/E	space-to-Earth direction
SAB	Services Ancillary to Broadcasting
SAP	Services Ancillary to Programming
SAR(communications)	Search and Rescue
S-DAB	Satellite Digital Audio Broadcasting
SIT	Satellite Interactive Terminal
SNG	Satellite News Gathering
S-PCS	Satellite Personal Communication System
SRD	Short Range Device
SRR	Short Range Radar
SRS	Space Research Service
SSR	Secondary Surveillance Radar
SUT	Satellite User Terminal
TACAN	Tactical Air Navigation
T-DAB	Terrestrial Digital Audio Broadcasting
TDD	Time Division Duplex
TETRA	Terrestrial Trunked Radio
TLPR	Tank Level Probing Radar
TRR	Tactical Radio Relays
TS	Terminal Station
TV	Television
UIC	International Union for Railways
ULP-AMI	Ultra Low Power Active Medical Implants
UMTS	Universal Mobile Telecommunications System
UWB	Ultra – Wideband
VLBI	Very Long Baseline Interferometry (Radio Astronomy)
VOR	VHF Omni-directional Range

## **Annex 5 - List of abbreviations used in the ECA Table**

VSAT	Very Small Aperture Terminal
VTS	Vessel Traffic System (radar)
WARC	World Administrative Radio Conference
WAS	Wireless Access System
WRC	World Radiocommunication Conference