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

THE EUROPEAN TABLE OF FREQUENCY ALLOCATIONS AND UTILISATIONS IN THE FREQUENCY RANGE 9 kHz to 1000 GHz

Lisboa 02- Dublin 03- Kusadasi 04- Copenhagen 04- Nice 07

CONTENTS

The European Table for the frequency range 9 kHz to 1000 GHz establishes a strategic framework for the utilisation of the radio spectrum in Europe

1 INTRODUCTION

Following the World Administrative Radio Conference in 1992 which allocated spectrum to new services in the 1-3 GHz frequency range CEPT began to develop a general plan to promote the harmonised European use of frequencies within the band 1350-2690 MHz. Particular importance was attached to the early development of such a general plan in order to provide a framework for the implementation of the decisions of WARC-92 and the consequential changes required, in a harmonised way, throughout CEPT member countries and to provide the necessary guidance for European radio equipment manufacturers to commence production.

Since then CEPT has endorsed the principle of adopting a harmonised European Table of Frequency Allocations and Utilisations by the year 2008. This work is carried out by the European Radiocommunications Office (ERO) through a series of Detailed Spectrum Investigations (DSIs) which consider in turn different frequency ranges. The DSIs were developed as a major open and transparent consultation process in close cooperation with industry, organizations, administrations and users within the following frequency bands:

- The DSI Phase I covering the frequency range 3400 MHz - 105 GHz developed in 1992-1993
- The DSI Phase II covering the frequency range 29.7-960 MHz developed in 1994-1995
- The DSI Phase III covering the frequency range 862-3400 MHz developed in 1998-2000.

As a result of the DSIs the CEPT adopted the Harmonised European Table of Frequency Allocations and Utilisations. The first table was agreed upon in June 1994 and has been revised a number of times since then. The Table was validated in 2007 following the introduction of a new database and will now be updated annually by WGFM at its January meeting to reflect the regulatory changes that have been made during the previous year

2 WARC-92, WRC-95, WRC-97, WRC-2000 AND WRC-03

Due account has been taken of the relevant decisions of the World Radio Conferences WARC-92, WRC-95, WRC-97, WRC-2000 and WRC-03 and of strategies developed by other international fora concerning, in particular, the introduction and development of mobile and mobile-satellite services.

3 EUROPEAN TABLE OF FREQUENCY ALLOCATIONS AND UTILISATIONS

A European Table of Frequency Allocations and Utilisations for the frequency band 9 kHz to 1000 GHz expected beyond the year 2008 has been developed and is provided in this Report. It is expected that CEPT member countries will endeavour to implement, as soon as possible, as many parts of the Table as they are able. It is also expected that the Table will be used as a source document by CEPT member countries for the development of Recommendations, Decisions, and European Common Proposals (ECPs) for future Radio Conferences of the ITU and as background for development of national frequency allocation tables and national frequency usage plans.

This Report and its associated table will be reviewed periodically (once a year) and revised as necessary by the ECC taking into account the results of World Radio Conferences, future DSIs, ECC/ERC Decisions and other relevant developments.

4 CEPT DECISIONS AND RECOMMENDATIONS

During the preparation of the 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, which were finally adopted prior to 1 December 2006 have been incorporated into the Table and are listed in Annex 3. Furthermore, clarifying text on the term 'to designate' has been incorporated into this report (as Section 6).

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 established a project team (JPT1) which has looked in detail at the requirements for harmonised military usage of spectrum to meet the needs of both NATO and non-NATO CEPT countries. The results of the studies by JPT1 are reflected in the Table.

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 employment 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.

6 UNDERSTANDING OF THE TERM "DESIGNATE"

ECC 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 (ie, 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, ie 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 area, 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 materialize 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.

7 THE EUROPEAN TABLE OF FREQUENCY ALLOCATIONS AND UTILISATIONS IN THE FREQUENCY RANGE 9 kHz TO 1000 GHz

Explanatory notes to the table

The heading of this table includes a number of columns, with the following contents:

Column 1: Frequency Band

Indicates the frequency band referred to in that row of the table.

RR Region 1 Allocations and relevant footnotes

Contains in each frequency band:
- Current RR Article 5 allocations which correspond to Region 1.
- Current RR Article 5 footnotes relevant to CEPT countries

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

Column 2: European Common Allocation (ECA)

Contains in each frequency band:
- Allocations of major use or major interest in CEPT member countries expected beyond 2008.
- RR Art. 5 footnotes affecting a major number of CEPT countries beyond 2008. RR Art 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
- EU footnotes relevant to the European allocation. See Annex 1.

Column 3: Major utilisation

This column includes where appropriate in each frequency band and for the services allocated in the European Common Allocation:
- The major uses in CEPT member countries expected beyond 2008.
- Mention of systems expected to be in use in a major number of CEPT member countries beyond the year 2008.

Mention of specific utilisations of a given service does not preclude the use of other services mentioned in the European Common Allocation, nor indicate this use to be regulated in all CEPT member countries.

Column 4: European footnotes

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

Column 5: ECC/ERC document

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

Column 6: Standard

This column contains information about the relevant standards.
For Harmonised Standards as defined in the R&TTE Directive see Annex 4.

Column 7: Notes

This column indicates where appropriate in each frequency band:

Where applicable, the date of entry into force of:

a) a specific allocation of the European Common Allocation column.
b) ECC/ERC Decision or Recommendation mentioned in the utilisations column.
c) major utilisation contained in the utilisation column.

Any other relevant information such as the nature of use of a major utilisation.

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). 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.

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
9 - 14 kHz						
RADIONAVIGATION	RADIONAVIGATION	Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
	EU2	ISM				
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
14 - 19.95 kHz						
FIXED MARITIME MOBILE 5.57 5.55 5.56	FIXED MARITIME MOBILE 5.57 5.56 EU2	Defence systems				
		Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
19.95 - 20.05 kHz						
STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)					
20.05 - 70 kHz						
FIXED MARITIME MOBILE 5.57 5.56 5.58	FIXED MARITIME MOBILE 5.57 5.56 EU2	Defence systems				
		Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
70 - 72 kHz						
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
	EU2	Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
72 - 84 kHz						
FIXED	FIXED	DCF time signal				77.5 kHz
MARITIME MOBILE 5.57	MARITIME MOBILE 5.57	Defence systems				
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
5.56	5.56 EU2	Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
84 - 86 kHz						
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Defence systems				
		Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
	EU2	Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
86 - 90 kHz						
FIXED	FIXED	Defence systems				
MARITIME MOBILE 5.57	MARITIME MOBILE 5.57	Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
RADIONAVIGATION	RADIONAVIGATION					
5.56	5.56 EU2	Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
90 - 110 kHz						
RADIONAVIGATION 5.62	RADIONAVIGATION 5.62	Defence systems				
Fixed	Fixed	Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
5.64	5.64 EU2	Loran C				
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
110 - 112 kHz						
FIXED	FIXED	Defence systems				
MARITIME MOBILE	MARITIME MOBILE	Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
RADIONAVIGATION	RADIONAVIGATION	Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
5.64	5.64 EU2					
112 - 115 kHz						
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Defence systems				
	EU2	Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
115 - 117.6 kHz						
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Defence systems				
Fixed	Fixed	Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
Maritime mobile	Maritime mobile	Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
5.64 5.66	5.64 EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
117.6 - 126 kHz						
FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64 EU2	Defence systems				
		Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
126 - 129 kHz						
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60 EU2	Defence systems				
		Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
129 - 130 kHz						
FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64 EU2	Defence systems				
		Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
130 - 148.5 kHz						
FIXED MARITIME MOBILE 5.64 5.67	FIXED MARITIME MOBILE Amateur 5.64 EU2	Amateur		ERC/REC 62-01	EN 301 783	Within the band 135.7-137.8 kHz
		Defence systems				
		Inductive applications		ERC/DEC(01)13 ERC/REC 70-03	EN 300 330	Within the band 9-148.5 kHz
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
148.5 - 255 kHz						
BROADCASTING	BROADCASTING	Broadcasting			EN 302 245	Frequency Assignment plan GE75. Digital systems to be introduced
		Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 148.5-1600 kHz
5.68		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
5.69						
5.70						
255 - 283.5 kHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Beacons (aeronautical)				Frequency Assignment plan GE85
BROADCASTING	BROADCASTING	Broadcasting				Frequency Assignment plan GE75. Digital systems to be introduced
5.70		Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 148.5-1600 kHz
5.71		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
283.5 - 315 kHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Beacons (aeronautical)				Frequency Assignment plan GE85
MARITIME RADIONAVIGATION (radiobeacons) 5.73	MARITIME RADIONAVIGATION (radiobeacons) 5.73	Beacons (maritime)				Frequency Assignment plan GE85
5.72	5.74 EU2	Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 148.5-1600 kHz
5.74		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 9-315 kHz
315 - 325 kHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Beacons (aeronautical)				Frequency Assignment plan GE85
Maritime radionavigation (radiobeacons) 5.73	Maritime radionavigation (radiobeacons) 5.73	Beacons (maritime)				Frequency Assignment plan GE85. IALA plan to allow differential GPS
5.72	EU2	Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 148.5-1600 kHz
5.75		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 315-600 kHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
325 - 405 kHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Beacons (aeronautical)				Frequency Assignment plan GE85
		Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 148.5-1600 kHz
5.72	EU2	Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 315-600 kHz
405 - 415 kHz						
RADIONAVIGATION 5.76	RADIONAVIGATION 5.76	Beacons (aeronautical)				Frequency Assignment plan GE85
		Beacons (maritime)				Frequency Assignment plan GE85. IALA - plan to allow differential GPS
5.72	EU2	Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 148.5-1600 kHz
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 315-600 kHz
415 - 435 kHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Beacons (aeronautical)				Frequency Assignment plan GE85
MARITIME MOBILE 5.79	MARITIME MOBILE 5.79	Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 148.5-1600 kHz
5.72	EU2	Maritime				Frequency Assignment plan GE85
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 315-600 kHz
435 - 495 kHz						
MARITIME MOBILE 5.79 5.79A	MARITIME MOBILE 5.79 5.79A	Detection Devices for Avalanche Victim		ERC/REC 70-03	EN 300 718	457 kHz
Aeronautical radionavigation	Aeronautical radionavigation	Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 148.5-1600 kHz
5.72	5.82 EU2	Maritime				Frequency Assignment plan GE85
5.82		Navtex transmission national language			EN 300 065	490 kHz
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 315-600 kHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
495 - 505 kHz						
MOBILE (distress and calling)	MOBILE (distress and calling)	Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 148.5-1600 kHz
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 315-600 kHz
5.83	5.83					
505 - 526.5 kHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Beacons (aeronautical)				Frequency Assignment plan GE85
MARITIME MOBILE 5.79 5.79A 5.84	MARITIME MOBILE 5.79 5.79A 5.84	Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 148.5-1600 kHz
5.72	EU2	Maritime				Frequency Assignment plan GE85
		Navtex transmission International			EN 300 065	518 kHz
		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 315-600 kHz
526.5 - 1606.5 kHz						
BROADCASTING	BROADCASTING	Broadcasting			EN 302 245	Frequency Assignment plan GE75. Digital systems to be introduced
		Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 148.5-1600 kHz
5.87						
5.87A		Wireless applications in Healthcare		ERC/REC 70-03	EN 300 330	Within the band 315-600 kHz
1606.5 - 1625 kHz						
FIXED	FIXED	Defence systems				
LAND MOBILE	LAND MOBILE	Maritime				Frequency Assignment plan GE85
MARITIME MOBILE 5.90	MARITIME MOBILE 5.90	Radiodetermination applications				Brussels Agreement 67
	Radiolocation					
5.92	5.92 EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1625 - 1635 kHz						
RADIOLOCATION	RADIOLOCATION	Radiodetermination applications				Brussels Agreement 67
5.93	5.93 EU2					
1635 - 1800 kHz						
FIXED	FIXED	Defence systems				
LAND MOBILE	LAND MOBILE	Maritime				Frequency Assignment plan GE85
MARITIME MOBILE 5.90	MARITIME MOBILE 5.90	Radiodetermination applications				Brussels Agreement 67
5.92	5.92 EU2					
5.96	5.96					
1800 - 1810 kHz						
RADIOLOCATION	RADIOLOCATION	Radiodetermination applications				Brussels Agreement 67
5.93	5.93 EU2					
1810 - 1850 kHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
5.100	5.98 EU2					
5.98	5.100					
5.99						

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
1850 - 2000 kHz						
FIXED MOBILE 5.103 5.92 5.96	FIXED MOBILE 5.92 EU2 5.96 5.103	Amateur Defence systems Maritime Radiodetermination applications			EN 301 783	 Brussels Agreement 67
2000 - 2025 kHz						
FIXED MOBILE except aeronautical mobile (R) 5.103 5.92	FIXED MOBILE except aeronautical mobile (R) 5.103 EU2 5.92	Defence systems Maritime Radiodetermination applications				 Brussels Agreement 67
2025 - 2045 kHz						
FIXED MOBILE except aeronautical mobile (R) Meteorological aids 5.104 5.103 5.92	FIXED MOBILE except aeronautical mobile (R) 5.92 EU2 5.103 5.104	Defence systems Maritime Oceanographic meteorological buoys Radiodetermination applications				 Brussels Agreement 67
2045 - 2160 kHz						
FIXED LAND MOBILE MARITIME MOBILE 5.92	FIXED LAND MOBILE MARITIME MOBILE 5.92	Defence systems Maritime				 Frequency Assignment plan GE85

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
2160 - 2170 kHz						
RADIOLOCATION	RADIOLOCATION	Radiodetermination applications				Brussels Agreement 67
5.107 5.93	5.93 EU2					
2170 - 2173.5 kHz						
MARITIME MOBILE	MARITIME MOBILE EU2	Maritime				Frequency Assignment plan GE85
2173.5 - 2190.5 kHz						
MOBILE (distress and calling)	MOBILE (distress and calling)	DSC for distress and calling				2187.5 kHz
		Maritime GMDSS distress and calling				2182 kHz distress and calling
5.108 5.109 5.110 5.111	5.108 EU2 5.109 5.110 5.111	Telex distress traffic				2174.5 kHz
2190.5 - 2194 kHz						
MARITIME MOBILE	MARITIME MOBILE EU2	Maritime				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
2194 - 2300 kHz						
FIXED	FIXED	Defence systems				
MOBILE except aeronautical mobile (R)	MOBILE except aeronautical mobile (R)	Maritime				
5.103	5.92 EU2	Radiodetermination applications				Brussels Agreement 67
5.112	5.103					
5.92						
2300 - 2498 kHz						
BROADCASTING 5.113	FIXED	Defence systems				
FIXED	MOBILE except aeronautical mobile (R)	Maritime				
MOBILE except aeronautical mobile (R)						
5.103	5.103 EU2					
2498 - 2501 kHz						
STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)					
2501 - 2502 kHz						
STANDARD FREQUENCY AND TIME SIGNAL	STANDARD FREQUENCY AND TIME SIGNAL					
Space research	Space research					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
2502 - 2625 kHz						
FIXED	FIXED	Defence systems				
MOBILE except aeronautical mobile (R)	MOBILE except aeronautical mobile (R)	Radiodetermination applications				
5.103	5.103 EU2					
5.114	5.92					
5.92						
2625 - 2650 kHz						
MARITIME MOBILE	MARITIME MOBILE	Defence systems				
MARITIME RADIONAVIGATION	MARITIME RADIONAVIGATION	Maritime				
5.92	5.92 EU2					
2650 - 2850 kHz						
FIXED	FIXED	Defence systems				
MOBILE except aeronautical mobile (R)	MOBILE except aeronautical mobile (R)	Radiodetermination applications				
5.103	5.103					
5.92	5.92					
2850 - 3025 kHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical mobile (R)				Appendix 27 Allotment Plan
		Telephony distress traffic and calling by rescue centers				3023 kHz
5.111	5.111					
5.115	5.115					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
3025 - 3155 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				Appendix 26 Allotment Plan
3155 - 3200 kHz						
FIXED MOBILE except aeronautical mobile (R) 5.116 5.117	FIXED MOBILE except aeronautical mobile (R) 5.116 EU2	Defence systems				
		Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 3155-3400 kHz
		Maritime				
3200 - 3230 kHz						
BROADCASTING 5.113 FIXED MOBILE except aeronautical mobile (R) 5.116	FIXED MOBILE except aeronautical mobile (R) 5.116 EU2	Defence systems				
		Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 3155-3400 kHz
		Maritime				
3230 - 3400 kHz						
BROADCASTING 5.113 FIXED MOBILE except aeronautical mobile 5.116 5.118	FIXED MOBILE except aeronautical mobile 5.116 EU2	Defence systems				
		Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 3155-3400 kHz
		Maritime				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
3400 - 3500 kHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical mobile (R)				Appendix 27 Allotment Plan. Including HF Data Links
3500 - 3800 kHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
FIXED	FIXED	Defence systems				
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile	Maritime				
5.92	5.92 EU2					
3800 - 3900 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				Appendix 26 Allotment Plan
FIXED	FIXED					
LAND MOBILE	LAND MOBILE					
	EU2					
3900 - 3950 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				Appendix 26 Allotment Plan
5.123						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
3950 - 4000 kHz						
BROADCASTING FIXED	BROADCASTING FIXED EU2	Broadcasting			EN 302 245	Digital systems to be introduced
		Defence systems				
4000 - 4063 kHz						
FIXED MARITIME MOBILE 5.127 5.126	FIXED MARITIME MOBILE 5.127 EU2	Maritime				Appendix 17 channeling plan. Appendix 25 allotment plan
4063 - 4438 kHz						
MARITIME MOBILE 5.79A 5.109 5.110	MARITIME MOBILE 5.79A 5.109 5.110	DSC calling				4208, 4208.5, 4209, 4219.5, 4220, 4220.5 kHz
		DSC distress traffic				4207.5 kHz
5.128 5.129 5.130 5.131 5.132	5.129 EU2 5.130 5.131 5.132	Maritime				Appendix 17 channelling plan. Appendix 25 allotment plan
		Maritime Safety Information				4210 kHz
		Meteorological and navigational warnings				4209.5 kHz
		Telephony distress traffic and calling by rescue centers				4125 kHz
		Telex distress traffic				4177.5 kHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
4438 - 4650 kHz						
FIXED	FIXED	Defence systems				
MOBILE except aeronautical mobile (R)	MOBILE except aeronautical mobile (R) EU2	Railway applications		ERC/REC 70-03	EN 300 330	4515 kHz Euroloop systems
4650 - 4700 kHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical mobile (R)				Appendix 27 Allotment Plan. Including HF Data Links
4700 - 4750 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				Appendix 26 Allotment Plan
4750 - 4850 kHz						
AERONAUTICAL MOBILE (OR) BROADCASTING 5.113 FIXED LAND MOBILE	AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE	Aeronautical Mobile (OR)				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
4850 - 4995 kHz						
BROADCASTING 5.113 FIXED LAND MOBILE	FIXED LAND MOBILE EU2	Defence systems				
4995 - 5003 kHz						
STANDARD FREQUENCY AND TIME SIGNAL(5000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL(5000 kHz)					
5003 - 5005 kHz						
STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research					
5005 - 5060 kHz						
BROADCASTING 5.113 FIXED	FIXED EU2	Defence systems				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
5060 - 5250 kHz						
FIXED	FIXED	Defence systems				
Mobile except aeronautical mobile	Mobile except aeronautical mobile					
5.133	EU2					
5250 - 5450 kHz						
FIXED	FIXED	Defence systems				
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile					
	EU2					
5450 - 5480 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				
FIXED	FIXED	Defence systems				
LAND MOBILE	LAND MOBILE					
	EU2					
5480 - 5680 kHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical Mobile (OR)				Appendix 27 Allotment Plan. Including HF Data Links
5.111	5.111	Telephony distress traffic and calling by rescue centers				5680 kHz
5.115	5.115					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
5680 - 5730 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				Appendix 26 Allotment Plan
		Telephony distress traffic and calling by rescue centers				5680 kHz
5.111	5.111					
5.115	5.115					
5730 - 5900 kHz						
FIXED	FIXED	Defence systems				
LAND MOBILE	LAND MOBILE					
	EU2					
5900 - 5950 kHz						
BROADCASTING 5.134	BROADCASTING 5.134	Broadcasting			EN 302 245	WARC92 band, change of band utilisation is effective from 1 April 2007. Article 12 planning procedure
5.136	5.136					
5950 - 6200 kHz						
BROADCASTING	BROADCASTING	Broadcasting			EN 302 245	Article 12 planning procedure. Digital systems to be introduced

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
6200 - 6525 kHz						
MARITIME MOBILE 5.109 5.110 5.130	MARITIME MOBILE 5.109 5.110 5.130	DSC calling				6312.5, 6313, 6313.5, 6331, 6331.5, 6332 kHz
		DSC distress traffic				6312 kHz
5.132	5.132 EU2	Maritime				Appendix 17 channeling plan. Appendix 25 allotment plan
5.137	5.137					
		Maritime Safety Information				6314 kHz
		Telephony distress traffic and calling by rescue centers				6215 kHz
		Telex distress traffic				6268 kHz
6525 - 6685 kHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical mobile (R)				Appendix 27 Allotment Plan. Including HF Data Links
6685 - 6765 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				Appendix 26 Allotment Plan

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
6765 - 7000 kHz						
FIXED	FIXED	Defence systems				
MOBILE except aeronautical mobile (R)	MOBILE except aeronautical mobile (R)	Inductive applications		ERC/REC 70-03	EN 300 330	In the band 6765-6795 kHz
5.138	5.138 EU2	ISM				Within the band 6765-6795 kHz
5.138A	5.138A	Non-Specific SRDs		ERC/REC 70-03	EN 300 330	Within the band 6765-6795 kHz
5.139						
7000 - 7100 kHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
AMATEUR-SATELLITE	AMATEUR-SATELLITE					
5.140						
5.141						
5.141A						
7100 - 7200 kHz						
AMATEUR	AMATEUR	Amateur		ECC/REC 05-05	EN 301 783	
5.141A	5.141C					
5.141B						
5.141C						
5.142						
7200 - 7300 kHz						
BROADCASTING	BROADCASTING	Broadcasting			EN 302 245	Article 12 planning procedure

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
7300 - 7400 kHz						
BROADCASTING 5.134	BROADCASTING 5.134	Broadcasting			EN 302 245	Article 12 planning procedure WARC92 band, change of band utilisation is effective from 1 April 2007.
5.143	5.143					Digital systems to be introduced
5.143A	5.143B					
5.143B						
5.143C						
5.143D						
7400 - 7450 kHz						
BROADCASTING	BROADCASTING	Broadcasting				Article 12 planning procedure
		Inductive applications		ERC/DEC(01)15	EN 300 330	Within the band 7400-8800 kHz
5.143B	5.143B			ERC/REC 70-03		
5.143C						
7450 - 8100 kHz						
FIXED	FIXED	Defence systems				
MOBILE except aeronautical mobile (R)	MOBILE except aeronautical mobile (R)	Inductive applications		ERC/DEC(01)15	EN 300 330	Within the band 7400-8800 kHz
5.143E	5.143E EU2			ERC/REC 70-03		
5.144						
8100 - 8195 kHz						
FIXED	FIXED	Inductive applications		ERC/DEC(01)15	EN 300 330	Within the band 7400-8800 kHz
MARITIME MOBILE	MARITIME MOBILE			ERC/REC 70-03		
	EU2	Maritime				Appendix 17 channeling plan

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
8195 - 8815 kHz						
MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132	DSC calling				8415, 8415.5, 8416, 8436.5, 8437, 8437.5 kHz
		DSC distress traffic				8414.5 kHz
5.111	5.145 EU2 5.111	Inductive applications		ERC/DEC(01)15 ERC/REC 70-03	EN 300 330	In the band 7400-8800 kHz
		Maritime				Appendix 17 channeling plan. Appendix 25 allotment plan
		Maritime Safety Information				8416.5 kHz
		Telephony distress traffic and calling by rescue centers				8291 kHz
		Telex distress traffic				8376.5 kHz
8815 - 8965 kHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical mobile (R)				Appendix 27 Allotment Plan. Including HF Data Links
8965 - 9040 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				Appendix 26 Allotment Plan
		Defence systems				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
9040 - 9400 kHz						
FIXED	FIXED EU2	Defence systems				
9400 - 9500 kHz						
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	Broadcasting			EN 302 245	Article 12 planning procedure. WARC92 band, change of band utilisation is effective from 1 April 2007. Digital systems to be introduced
9500 - 9900 kHz						
BROADCASTING 5.147	BROADCASTING 5.147	Broadcasting			EN 302 245	Article 12 planning procedure. Digital systems to be introduced
9900 - 9995 kHz						
FIXED	FIXED EU2	Defence systems				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
9995 - 10003 kHz						
STANDARD FREQUENCY AND TIME SIGNAL(10000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL(10000 kHz) 5.111					
10003 - 10005 kHz						
STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	SAR (communications)				10003 kHz (+/-3 kHz) concerning manned space vehicles
10005 - 10100 kHz						
AERONAUTICAL MOBILE (R) 5.111	AERONAUTICAL MOBILE (R) 5.111	Aeronautical mobile (R)				Appendix 27 Allotment Plan. Including HF Data Links
10100 - 10150 kHz						
FIXED Amateur	FIXED Amateur EU2	Amateur Defence systems			EN 301 783	

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
10150 - 11175 kHz						
FIXED	FIXED	Defence systems				
Mobile except aeronautical mobile (R)	Mobile except aeronautical mobile (R)	Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 10200-11000 kHz
	EU2					
11175 - 11275 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				Appendix 26 Allotment Plan
11275 - 11400 kHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical mobile (R)				Appendix 27 Allotment Plan. Including HF Data Links
11400 - 11600 kHz						
FIXED	FIXED	Defence systems				
	EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
11600 - 11650 kHz						
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	Broadcasting			EN 302 245	Article 12 planning procedure. WARC92 band, change of band utilisation is effective from 1 April 2007. Digital systems to be introduced
11650 - 12050 kHz						
BROADCASTING 5.147	BROADCASTING 5.147	Broadcasting			EN 302 245	Article 12 planning procedure. Digital systems to be introduced
12050 - 12100 kHz						
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	Broadcasting			EN 302 245	Article 12 planning procedure. WARC92 band, change of band utilisation is effective from 1 April 2007. Digital systems to be introduced
12100 - 12230 kHz						
FIXED	FIXED EU2	Defence systems				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
12230 - 13200 kHz						
MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132 5.145	DSC calling				12577.5, 12578, 12578.5, 12657, 12657.5, 12658 kHz
	EU2	DSC distress traffic				12577 kHz
		Maritime				Appendix 17 channeling plan. Appendix 25 allotment plan
		Maritime Safety Information				12579 kHz
		Telephony distress traffic and calling by rescue centers				12290 kHz
		Telex distress traffic				12520 kHz
13200 - 13260 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				Appendix 26 Allotment Plan
13260 - 13360 kHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical mobile (R)				Appendix 27 Allotment Plan. Including HF Data Links

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
13360 - 13410 kHz						
FIXED	FIXED	Defence systems				
RADIO ASTRONOMY	RADIO ASTRONOMY	Radio astronomy				
5.149	5.149 EU2					
13410 - 13570 kHz						
FIXED	FIXED	Defence systems				
Mobile except aeronautical mobile (R)	Mobile except aeronautical mobile (R)	Inductive applications		ERC/REC 70-03	EN 300 330	Within the band 13553-13567 kHz
5.150	5.150 EU2	ISM				Within the band 13553-13567 kHz
		Non-Specific SRDs		ERC/REC 70-03		Within the band 13553-13567 kHz
13570 - 13600 kHz						
BROADCASTING 5.134	BROADCASTING 5.134	Broadcasting			EN 302 245	Article 12 planning procedure. WARC92 band, change of band utilisation is effective from 1 April 2007.
5.151	5.151					Digital systems to be introduced
13600 - 13800 kHz						
BROADCASTING	BROADCASTING	Broadcasting			EN 302 245	Article 12 planning procedure. Digital systems to be introduced

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
13800 - 13870 kHz						
BROADCASTING 5.134	BROADCASTING 5.134	Broadcasting			EN 302 245	Article 12 planning procedure. WARC92 band, change of band utilisation is effective from 1 April 2007.
5.151	5.151					Digital systems to be introduced
13870 - 14000 kHz						
FIXED	FIXED	Defence systems				
Mobile except aeronautical mobile (R)	Mobile except aeronautical mobile (R) EU2					
14000 - 14250 kHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
AMATEUR-SATELLITE	AMATEUR-SATELLITE	Amateur Satellite				
14250 - 14350 kHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
5.152						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
14350 - 14990 kHz						
FIXED	FIXED	Defence systems				
Mobile except aeronautical mobile (R)	Mobile except aeronautical mobile (R) EU2					
14990 - 15005 kHz						
STANDARD FREQUENCY AND TIME SIGNAL(15000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL(15000 kHz)	SAR (communications)				14993 kHz (+/-3 kHz) concerning manned space vehicles
5.111	5.111					
15005 - 15010 kHz						
STANDARD FREQUENCY AND TIME SIGNAL	STANDARD FREQUENCY AND TIME SIGNAL					
Space research	Space research					
15010 - 15100 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				Appendix 26 Allotment Plan

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
15100 - 15600 kHz						
BROADCASTING	BROADCASTING	Broadcasting			EN 302 245	Article 12 planning procedure. Digital systems to be introduced
15600 - 15800 kHz						
BROADCASTING 5.134	BROADCASTING 5.134	Broadcasting			EN 302 245	Article 12 planning procedure. WARC92 band, change of band utilisation is effective from 1 April 2007.
5.146	5.146					Digital systems to be introduced
15800 - 16360 kHz						
FIXED	FIXED	Defence systems				
5.153	EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
16360 - 17410 kHz						
MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132 5.145	DSC calling				16805, 16805.5, 16806, 16903, 16903.5, 16904 kHz
		DSC distress traffic				16804.5 kHz
	EU2	Maritime				Appendix 17 channeling plan. Appendix 25 allotment plan
		Maritime Safety Information				16806.5 kHz
		Telephony distress traffic and calling by rescue centers				16420 kHz
		Telex distress traffic				16695 kHz
17410 - 17480 kHz						
FIXED	FIXED	Defence systems				
	EU2					
17480 - 17550 kHz						
BROADCASTING 5.134	BROADCASTING 5.134	Broadcasting			EN 302 245	WARC92 band, change of band utilisation is effective from 1 April 2007. Digital systems to be introduced
5.146	5.146					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
17550 - 17900 kHz						
BROADCASTING	BROADCASTING	Broadcasting			EN 302 245	Article 12 planning procedure. Digital systems to be introduced
17900 - 17970 kHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical mobile (R)				Appendix 27 Allotment Plan. Including HF Data Links
17970 - 18030 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				Appendix 26 Allotment Plan
18030 - 18052 kHz						
FIXED	FIXED	Defence systems				
	EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
18052 - 18068 kHz						
FIXED	FIXED	Defence systems				
Space research	Space research					
	EU2					
18068 - 18168 kHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
AMATEUR-SATELLITE	AMATEUR-SATELLITE	Amateur Satellite				
5.154						
18168 - 18780 kHz						
FIXED	FIXED	Defence systems				
Mobile except aeronautical mobile	Mobile except aeronautical mobile	DSC calling				18898.5, 18899. 18899.5 kHz
18780 - 18900 kHz						
MARITIME MOBILE	MARITIME MOBILE	Maritime				Appendix 17 channeling plan
	EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
18900 - 19020 kHz						
BROADCASTING 5.134	BROADCASTING 5.134	Broadcasting			EN 302 245	Article 12 planning procedure. WARC92 band, change of band utilisation is effective from 1 April 2007.
5.146	5.146					Digital systems to be introduced
19020 - 19680 kHz						
FIXED	FIXED	Defence systems				
	EU2					
19680 - 19800 kHz						
MARITIME MOBILE 5.132	MARITIME MOBILE 5.132	DSC calling				19703.5, 19704, 19704.5 kHz
		Maritime				Appendix 17 channeling plan. Appendix 25 allotment plan
	EU2	Maritime Safety Information				19680.5 kHz
19800 - 19990 kHz						
FIXED	FIXED	Defence systems				
	EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
19990 - 19995 kHz						
STANDARD FREQUENCY AND TIME SIGNAL	STANDARD FREQUENCY AND TIME SIGNAL	SAR (communications)				19993 kHz (+/-3 kHz) concerning manned space vehicles
Space research	Space research					
5.111	5.111					
19995 - 20010 kHz						
STANDARD FREQUENCY AND TIME SIGNAL(20000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL(20000 kHz)					
5.111	5.111					
20010 - 21000 kHz						
FIXED	FIXED	Defence systems				
Mobile	Mobile					
	EU2					
21000 - 21450 kHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
AMATEUR-SATELLITE	AMATEUR-SATELLITE	Amateur Satellite				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
21450 - 21850 kHz						
BROADCASTING	BROADCASTING	Broadcasting			EN 302 245	Article 12 planning procedure. Digital systems to be introduced
21850 - 21870 kHz						
FIXED 5.155A	FIXED	Defence systems				
5.155	EU2					
21870 - 21924 kHz						
FIXED 5.155B	FIXED 5.155B	Defence systems				
	EU2					
21924 - 22000 kHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical mobile (R)				Appendix 27 Allotment Plan. Including HF Data Links

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
22000 - 22855 kHz						
MARITIME MOBILE 5.132	MARITIME MOBILE 5.132	DSC calling				22374.5, 22375, 22375.5, 22444, 22444.5, 22445 kHz
		Maritime				Appendix 17 channeling plan. Appendix 25 allotment plan
5.156	EU2					
		Maritime Safety Information				22376 kHz
22855 - 23000 kHz						
FIXED	FIXED	Defence systems				
5.156	EU2					
23000 - 23200 kHz						
FIXED	FIXED	Defence systems				
Mobile except aeronautical mobile (R)	Mobile except aeronautical mobile (R)					
5.156	EU2					
23200 - 23350 kHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (OR)				
FIXED 5.156A	FIXED 5.156A	Defence systems				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
23350 - 24000 kHz						
FIXED	FIXED	Defence systems				
MOBILE except aeronautical mobile 5.157	MOBILE except aeronautical mobile 5.157					
	EU2					
24000 - 24890 kHz						
FIXED	FIXED	Defence systems				
LAND MOBILE	LAND MOBILE					
	EU2					
24890 - 24990 kHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
AMATEUR-SATELLITE	AMATEUR-SATELLITE	Amateur Satellite				
24990 - 25005 kHz						
STANDARD FREQUENCY AND TIME SIGNAL(25000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL(25000 kHz)					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
25005 - 25010 kHz						
STANDARD FREQUENCY AND TIME SIGNAL	STANDARD FREQUENCY AND TIME SIGNAL	Space Research				Scientific and medical space research
Space research	Space research					
25010 - 25070 kHz						
FIXED	FIXED	Defence systems				
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile					
	EU2					
25070 - 25210 kHz						
MARITIME MOBILE	MARITIME MOBILE	DSC calling				25208.5, 25209, 25209.5 kHz
		Maritime				Appendix 17 channeling plan
	EU2					
25210 - 25550 kHz						
FIXED	FIXED	Defence systems				
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile					
	EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
25550 - 25670 kHz						
RADIO ASTRONOMY	RADIO ASTRONOMY	Radio astronomy				
5.149	5.149					
25670 - 26100 kHz						
BROADCASTING	BROADCASTING	Broadcasting			EN 302 245	Article 12 planning procedure. Digital systems to be introduced
26100 - 26175 kHz						
MARITIME MOBILE 5.132	MARITIME MOBILE 5.132	DSC calling				26121, 26121.5, 26122 kHz.
		Maritime				Appendix 17 channeling plan. Appendix 25 allotment plan
	EU2	Maritime Safety Information				26100.5 kHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
26175 - 27500 kHz						
FIXED MOBILE except aeronautical mobile 5.150	FIXED MOBILE except aeronautical mobile 5.150 EU2	CB radio (CEPT PR 27)		ERC/DEC(96)02 ERC/DEC(98)11 T/R 20-09	EN 300 135 EN 300 433	Within the band 26.960-27.410 MHz
		Defence systems				
		Inductive applications		ERC/DEC(01)16 ERC/REC 70-03	EN 300 330	Within the band 26.957-27.283 MHz
		ISM				Within the band 26.957-27.283 MHz
		Model control		ERC/DEC(01)10 ERC/REC 70-03	EN 300 220	26.995, 27.045, 27.095, 27.145, 27.195 MHz
		Non-Specific SRDs		ERC/DEC(01)02 ERC/REC 70-03	EN 300 330	Within the band 26.957-27.283 MHz
		Railway applications		ERC/REC 70-03	EN 300 330	27.095 MHz Eurobalise system
27500 - 28000 kHz						
FIXED METEOROLOGICAL AIDS MOBILE	FIXED METEOROLOGICAL AIDS MOBILE EU2	Defence systems				
28000 - 29700 kHz						
AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	Amateur			EN 301 783	
		Amateur Satellite				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
29.7 - 30.005 MHz						
FIXED MOBILE	MOBILE	Defence systems	EU1			
	EU2	Radio microphones		ERC/REC 70-03	EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis
		Wireless applications in Healthcare		ERC/REC 70-03		Within the band 30.0-37.5 MHz
30.005 - 30.01 MHz						
FIXED MOBILE SPACE OPERATION (satellite identification) SPACE RESEARCH	MOBILE	Defence systems	EU1			
	EU2	Radio microphones	EU1	ERC/REC 70-03	EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis
		Wireless applications in Healthcare		ERC/REC 70-03		Within the band 30.0-37.5 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation		Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
30.01 - 37.5 MHz							
FIXED MOBILE	MOBILE		Defence systems	EU1			The bands 30.3-30.5 MHz and 32.15-32.45 MHz are harmonised military bands
		EU2 EU27	Model control		ERC/DEC(01)11 ERC/REC 70-03	EN 300 220	Within the band 34.995-35.225 MHz only for flying models
			PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	
			Radio microphones		ERC/REC 70-03	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
			Wireless applications in Healthcare		ERC/REC 70-03		Within the band 30.0-37.5 MHz
37.5 - 38.25 MHz							
FIXED MOBILE Radio astronomy 5.149	MOBILE Radio astronomy 5.149	EU2	Defence systems	EU1			
			PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	
			Radio astronomy				Continuum observations
			Radio microphones		ERC/REC 70-03	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 and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
38.25 - 39.986 MHz						
FIXED MOBILE	MOBILE EU2	Defence systems	EU1			
		Meteor scatter communications		ERC/REC 00-04		Within the band 39.0-39.2 MHz
		PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	
		Radio microphones		ERC/REC 70-03	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 - 40.02 MHz						
FIXED MOBILE Space research	MOBILE Space research EU2	Defence systems	EU1			
		PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	
		Radio microphones		ERC/REC 70-03	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 and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
40.02 - 40.66 MHz							
FIXED	MOBILE		Defence systems	EU1			
MOBILE			PMR		T/R 25-08	EN 300 086	
5.150		EU2				EN 300 113	
						EN 300 219	
						EN 300 296	
						EN 300 341	
						EN 300 390	
						EN 300 471	
			Radio microphones		ERC/REC 70-03	EN 300 422	Within the band 29.7-47.0 MHz. Narrow band audio systems including tour guide systems on a tuning range basis
40.66 - 40.7 MHz							
FIXED	MOBILE		Defence systems	EU1			
MOBILE			ISM				
5.150	5.150	EU2	Model control		ERC/DEC(01)12	EN 300 220	40.665, 40.675, 40.685, 40.695 MHz
			Non-Specific SRDs		ERC/DEC(01)03	EN 300 220	
					ERC/REC 70-03		
			Radio microphones		ERC/REC 70-03	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 and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
40.7 - 40.98 MHz						
FIXED MOBILE 5.150	MOBILE EU2	Defence systems	EU1			
		PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	
		Radio microphones		ERC/REC 70-03	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 - 41.015 MHz						
FIXED MOBILE Space research 5.160 5.161	MOBILE Space research EU2	Defence systems	EU1			
		PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	
		Radio microphones		ERC/REC 70-03	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 and Frequency Band	European Common Allocation		Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
41.015 - 44 MHz							
FIXED MOBILE 5.160 5.161	MOBILE	EU27	Defence systems	EU1			Harmonised military band
			PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	
			Radio microphones		ERC/REC 70-03	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 - 46.4 MHz							
FIXED MOBILE 5.162 5.162A	MOBILE 5.162A	EU27	Defence systems	EU1			Harmonised military band
			PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	
			Radio microphones		ERC/REC 70-03	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 profiler radars				In the range 46-68 MHz, geographical sharing with other services

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
46.4 - 47 MHz						
FIXED MOBILE 5.162 5.162A	MOBILE 5.162A EU27	Defence systems	EU1			Harmonised military band
		PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	
		Radio microphones		ERC/REC 70-03	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 profiler radars				In the range 46-68 MHz, geographical sharing with other services
47 - 48 MHz						
BROADCASTING 5.162A 5.163 5.164 5.165 5.169 5.171	LAND MOBILE 5.162A EU2 5.163 EU3 5.164	Defence systems	EU1			
		On-site paging			EN 300 224	On site paging in the band 47.0-47.25 MHz
		PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	Single frequency applications
		Wind profiler radars				In the range 46-68 MHz, geographical sharing with other services

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
48 - 48.5 MHz						
BROADCASTING	LAND MOBILE	Defence systems	EU1			
		PMR		T/R 25-08	EN 300 086	Single frequency applications
					EN 300 113	
5.162A	5.162A EU2				EN 300 219	
5.163	5.163 EU3				EN 300 341	
5.164	5.164				EN 300 390	
5.165					EN 300 471	
5.169		Wind profiler radars				In the range 46-68 MHz, geographical sharing with other services
5.171						
48.5 - 50 MHz						
BROADCASTING	LAND MOBILE	Defence systems	EU1			
		PMR		T/R 25-08	EN 300 086	Single frequency applications
					EN 300 113	
5.162A	5.162A EU2				EN 300 219	
5.163	5.164 EU3				EN 300 296	
5.164					EN 300 341	
5.165					EN 300 390	
5.169					EN 300 471	
5.171		Space Research/EESS				
		Wind profiler radars				In the range 46-68 MHz, geographical sharing with other services

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
50 - 51 MHz						
BROADCASTING	LAND MOBILE Amateur	Amateur			EN 301 783	
		Defence systems	EU1			
5.162A 5.163 5.164 5.165 5.169 5.171	5.162A EU2 5.164 EU3	PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	Single frequency applications
		Wind profiler radars				In the range 46-68 MHz, geographical sharing with other services
51 - 52 MHz						
BROADCASTING	LAND MOBILE Amateur	Amateur			EN 301 783	
		Defence systems	EU1			
5.162A 5.163 5.164 5.165 5.169 5.171	5.162A EU2 5.164 EU3	PMR		T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	Single frequency applications
		Wind profiler radars				In the range 46-68 MHz, geographical sharing with other services

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
52 - 54 MHz						
BROADCASTING	LAND MOBILE	Defence systems	EU1			
		PMR		T/R 25-08	EN 300 086	Single frequency applications
5.162A	5.162A EU2				EN 300 113	
5.163	5.164 EU3				EN 300 219	
5.164					EN 300 296	
5.165					EN 300 341	
5.169					EN 300 390	
5.171					EN 300 471	
		Wind profiler radars				In the range 46-68 MHz, geographical sharing with other services
54 - 61 MHz						
BROADCASTING	LAND MOBILE	Defence systems	EU1			
		PMR		T/R 25-08	EN 300 086	ML paired with 61-68 MHz
5.162A	5.162A EU2				EN 300 113	
5.163	5.163 EU3				EN 300 219	
5.164	5.164				EN 300 296	
5.165					EN 300 341	
5.169					EN 300 390	
5.171					EN 300 471	
		Wind profiler radars				In the range 46-68 MHz, geographical sharing with other services

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
61 - 68 MHz							
BROADCASTING	LAND MOBILE		Defence systems	EU1			
			PMR		T/R 25-08	EN 300 086	FB paired with 54-61 MHz
5.162A	5.162A	EU2				EN 300 113	
5.163	5.164	EU3				EN 300 219	
5.164						EN 300 296	
5.165						EN 300 341	
5.169						EN 300 390	
5.171						EN 300 471	
			Wind profiler radars				In the range 46-68 MHz, geographical sharing with other services
68 - 70.45 MHz							
FIXED	MOBILE		Defence systems	EU1			
MOBILE except aeronautical mobile							
			PMR/PAMR		ECC/DEC/(06)06	EN 300 086	ML paired with 77.8-80.25 MHz
5.149		EU2			T/R 25-08	EN 300 113	
5.174		EU4				EN 300 219	
5.175						EN 300 296	
5.177						EN 300 341	
5.179						EN 300 390	
						EN 300 471	

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
70.45 - 74.8 MHz						
FIXED MOBILE except aeronautical mobile 5.149 5.174 5.175 5.177 5.179	MOBILE except aeronautical mobile Radio astronomy 5.149 EU2 EU4 EU27	Defence systems	EU1			Harmonised military band 73.3-74.1 MHz
		PMR/PAMR		ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	ML paired with 80.25-84.6 MHz
		Radio astronomy				Continuum observations, in 73-74.6 MHz RA for solar wind monitoring
74.8 - 75.2 MHz						
AERONAUTICAL RADIONAVIGATION 5.180 5.181	AERONAUTICAL RADIONAVIGATION 5.180	ILS/marker beacons				
75.2 - 77.7 MHz						
FIXED MOBILE except aeronautical mobile 5.175 5.179 5.184 5.187	MOBILE EU2	Defence systems	EU1			
		PMR/PAMR		ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	ML paired with 85.0-87.5 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
77.7 - 77.8 MHz						
FIXED MOBILE except aeronautical mobile	MOBILE	Defence systems	EU1			
		PMR/PAMR		ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	Single frequency applications
5.175 5.179 5.184 5.187	EU2					
77.8 - 84.6 MHz						
FIXED MOBILE except aeronautical mobile	MOBILE	Defence systems	EU1			Harmonised military band 79.0-79.7 MHz
		PMR/PAMR		ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	FB paired with 68-74.8 MHz
5.175 5.179 5.184 5.187	EU2 EU27					
84.6 - 85 MHz						
FIXED MOBILE except aeronautical mobile	MOBILE	Defence systems	EU1			
		PMR/PAMR		ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	Single frequency applications
5.175 5.179 5.184 5.187	EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
85 - 87.5 MHz						
FIXED MOBILE except aeronautical mobile	MOBILE	Defence systems	EU1			
		PMR/PAMR		ECC/DEC/(06)06	EN 300 086	FB paired with 75.2-77.7 MHz
5.175	EU2			T/R 25-08	EN 300 113	
5.179					EN 300 219	
5.184					EN 300 296	
5.187					EN 300 341	
					EN 300 390	
					EN 300 471	
87.5 - 100 MHz						
BROADCASTING	BROADCASTING	FM Sound Broadcasting				Geneva Agreement GE84
		Wireless Audio Applications		ERC/REC 70-03	EN 301 357	Within the band 87.5-108.0 MHz
5.190						
100 - 108 MHz						
BROADCASTING	BROADCASTING	FM Sound Broadcasting				Geneva Agreement GE84
		Wireless Audio Applications		ERC/REC 70-03	EN 301 357	Within the band 87.5-108.0 MHz
5.192						
5.194						
108 - 117.975 MHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	ILS/Localiser				Within the band 108-112 MHz
		VOR				Within the band 108-117.975 MHz
5.197	5.197A					
5.197A						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
117.975 - 121.45 MHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical mobile	EU5			Safety and regularity of flights
5.111	5.200					
5.198						
5.199						
5.200						
5.201						
5.202						
5.203						
5.203A						
5.203B						
121.45 - 121.55 MHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	EPIRB			EN 300 152	Band only available for distress and safety
	MOBILE-SATELLITE (E/S)					
5.111	5.111					
5.198	5.199					
5.199	5.200					
5.200						
5.201						
5.202						
5.203						
5.203A						
5.203B						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
121.55 - 136 MHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical communication	EU5			123.1 MHz Aeronautical mobile distress communication
5.111	5.200					
5.198	5.201					
5.199						
5.200						
5.201						
5.202						
5.203						
5.203A						
5.203B						
136 - 137 MHz						
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical communication	EU5			
5.111	5.202					
5.198						
5.199						
5.200						
5.201						
5.202						
5.203						
5.203A						
5.203B						

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
137 - 137.025 MHz						
METEOROLOGICAL-SATELLITE (S/E) MOBILE-SATELLITE (S/E) 5.208A 5.209 SPACE OPERATION (S/E) SPACE RESEARCH (S/E) Fixed Mobile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208	METEOROLOGICAL-SATELLITE (S/E) MOBILE MOBILE-SATELLITE (S/E) 5.208A 5.209 Space operation (S/E) Space research (S/E) 5.206 5.208	Low earth orbiting satellites Meteorological Satellites Mobile applications	EU6	ERC/DEC(99)06	EN 301 721	Mobile restricted to Aeronautical Mobile (OR), including air sport
137.025 - 137.175 MHz						
METEOROLOGICAL-SATELLITE (S/E) SPACE OPERATION (S/E) SPACE RESEARCH (S/E) Fixed Mobile except aeronautical mobile (R) Mobile-satellite (S/E) 5.208A 5.209 5.204 5.205 5.206 5.207 5.208	METEOROLOGICAL-SATELLITE (S/E) MOBILE MOBILE-SATELLITE (S/E) 5.208A 5.209 Space operation (S/E) Space research (S/E) 5.206 5.208	Low earth orbiting satellites Meteorological Satellites Mobile applications	EU6	ERC/DEC(99)06	EN 301 721	Mobile restricted to Aeronautical Mobile (OR), including air sport

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
137.175 - 137.825 MHz						
METEOROLOGICAL-SATELLITE (S/E)	METEOROLOGICAL-SATELLITE (S/E)	Low earth orbiting satellites	EU6	ERC/DEC(99)06	EN 301 721	
MOBILE-SATELLITE (S/E) 5.208A 5.209	MOBILE	Meteorological Satellites				
SPACE OPERATION (S/E)	MOBILE-SATELLITE (S/E) 5.208A 5.209	Mobile applications				Mobile restricted to Aeronautical Mobile (OR), including air sport
SPACE RESEARCH (S/E)	Space operation (S/E)					
Fixed	Space research (S/E)					
Mobile except aeronautical mobile (R)						
5.204	5.206					
5.205	5.208					
5.206						
5.207						
5.208						
137.825 - 138 MHz						
METEOROLOGICAL-SATELLITE (S/E)	METEOROLOGICAL-SATELLITE (S/E)	Low earth orbiting satellites	EU6	ERC/DEC(99)06	EN 301 721	
SPACE OPERATION (S/E)	MOBILE	Meteorological Satellites				
SPACE RESEARCH (S/E)	Mobile-satellite (S/E) 5.208A 5.209	Mobile applications				Mobile restricted to Aeronautical Mobile (OR), including air sport
Fixed	Space operation (S/E)					
Mobile except aeronautical mobile (R)	Space research (S/E)					
Mobile-satellite (S/E) 5.208A 5.209						
5.204	5.206					
5.205	5.208					
5.206						
5.207						
5.208						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
138 - 143.6 MHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Defence systems	EU5			Harmonised military band, including air operation control
	LAND MOBILE					
	Space research (S/E)	Mobile applications				
5.210	5.211 EU2	Non-Specific SRDs		ERC/REC 70-03	EN 300 220	Within the band 138.20-138.45 MHz
5.211	EU27					
5.212						
5.214						
143.6 - 143.65 MHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Defence systems	EU5			Harmonised military band, including air operation control
SPACE RESEARCH (S/E)	LAND MOBILE					
	SPACE RESEARCH (S/E)	Mobile applications				
5.211	5.211 EU2					
5.212	EU27					
5.214						
143.65 - 144 MHz						
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Defence systems	EU5			Harmonised military band, including air operation control
	LAND MOBILE					
		Mobile applications				
5.210	5.211 EU2					
5.211	EU27					
5.212						
5.214						
144 - 146 MHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
AMATEUR-SATELLITE	AMATEUR-SATELLITE	Amateur Satellite				
5.216						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
146 - 146.8 MHz						
FIXED	MOBILE	PMR/PAMR	EU7	ECC/DEC/(06)06	EN 300 086	Single frequency applications
MOBILE except aeronautical mobile (R)				T/R 25-08	EN 300 113	
					EN 300 219	
					EN 300 296	
					EN 300 341	
					EN 300 390	
					EN 300 471	
146.8 - 148 MHz						
FIXED	MOBILE	PMR/PAMR	EU7	ECC/DEC/(06)06	EN 300 086	ML-paired with 151.4-152.6 MHz
MOBILE except aeronautical mobile (R)				T/R 25-08	EN 300 113	
					EN 300 219	
					EN 300 296	
					EN 300 341	
					EN 300 390	
					EN 300 471	
148 - 148.4 MHz						
FIXED	MOBILE	Low earth orbiting satellites	EU6	ERC/DEC(99)06	EN 301 721	
MOBILE except aeronautical mobile (R)	MOBILE-SATELLITE (E/S) 5.209	PMR/PAMR	EU7	ECC/DEC/(06)06	EN 300 113	ML paired with 152.6-153.0 MHz
MOBILE-SATELLITE (E/S) 5.209				T/R 25-08	EN 300 219	
5.218	5.218				EN 300 296	
5.219	5.219				EN 300 341	
5.221	5.221				EN 300 390	
					EN 300 471	

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
148.4 - 149.9 MHz						
FIXED	MOBILE	Low earth orbiting satellites	EU6	ERC/DEC(99)06	EN 301 721	
MOBILE except aeronautical mobile (R)	MOBILE-SATELLITE (E/S) 5.209	PMR/PAMR	EU7	ECC/DEC/(06)06	EN 300 086	ML paired with 153.0-154.5 MHz
MOBILE-SATELLITE (E/S) 5.209				T/R 25-08	EN 300 113	
5.218	5.218				EN 300 219	
5.219	5.219				EN 300 296	
5.221	5.221				EN 300 341	
					EN 300 390	
					EN 300 471	
149.9 - 150.05 MHz						
MOBILE-SATELLITE (E/S) 5.209 5.224A	MOBILE	Low earth orbiting satellites	EU6	ERC/DEC(99)06	EN 301 721	
RADIONAVIGATION-SATELLITE 5.224B	MOBILE-SATELLITE (E/S) 5.209 5.224A	PMR/PAMR		ECC/DEC/(06)06	EN 300 086	Single frequency applications
	RADIONAVIGATION-SATELLITE 5.224B			T/R 25-08	EN 300 113	
5.220	5.220				EN 300 219	
5.222	5.222				EN 300 296	
5.223	5.223				EN 300 341	
					EN 300 390	
					EN 300 471	
150.05 - 151.4 MHz						
FIXED	MOBILE except aeronautical mobile	PMR/PAMR	EU7	ECC/DEC/(06)06	EN 300 086	ML paired with 154.65-156.0 MHz
MOBILE except aeronautical mobile	RADIO ASTRONOMY			T/R 25-08	EN 300 113	
RADIO ASTRONOMY					EN 300 219	
5.149	5.149				EN 300 296	
					EN 300 341	
					EN 300 390	
					EN 300 471	
		Radio astronomy				Continuum observation and pulsar/solar observations

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
151.4 - 153 MHz						
FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	PMR/PAMR	EU7	ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	FB paired with 146.8-148.4 MHz
		Radio astronomy				Continuum observation and pulsar/solar observations
153 - 154 MHz						
FIXED MOBILE except aeronautical mobile (R) Meteorological aids	MOBILE except aeronautical mobile (R)	PMR/PAMR	EU7	ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	FB paired with 148.4-149.4 MHz
154 - 154.5 MHz						
FIXED MOBILE except aeronautical mobile (R) 5.226 5.227	MOBILE except aeronautical mobile (R)	PMR/PAMR	EU7	ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	FB paired with 149.4-149.9 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
154.5 - 154.65 MHz						
FIXED MOBILE except aeronautical mobile (R) 5.226 5.227	MOBILE except aeronautical mobile (R)	PMR/PAMR	EU7	ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	Single frequency applications
154.65 - 156 MHz						
FIXED MOBILE except aeronautical mobile (R) 5.226 5.227	MOBILE except aeronautical mobile (R)	PMR/PAMR	EU7	ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	FB paired with 150.05-151.4 MHz
156 - 156.5125 MHz						
FIXED MOBILE except aeronautical mobile (R) 5.226 5.227	MOBILE except aeronautical mobile (R) 5.226	Maritime	EU7 EU8		EN 300 162 EN 300 698 EN 301 178 EN 301 025	Ship stations paired with 160.6-160.625 MHz. Single frequency in 156.375-156.500 MHz. RR Appendix 18
156.5125 - 156.5375 MHz						
FIXED MOBILE except aeronautical mobile (R) 5.226 5.227	MARITIME MOBILE 5.227	DSC for distress and calling			EN 301 025	156.525 MHz RR Appendix 18

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
156.5375 - 156.7625 MHz						
FIXED MOBILE except aeronautical mobile (R) 5.226 5.227	MOBILE except aeronautical mobile (R) 5.226	Maritime	EU7 EU8		EN 300 162 EN 300 698 EN 301 178 EN 301 025	Single frequency applications. RR Appendix 18
156.7625 - 156.8375 MHz						
MARITIME MOBILE (distress and calling) 5.111 5.226	MARITIME MOBILE (distress and calling) 5.111 5.226	Distress, safety and calling			EN 300 162	156.8 MHz. RR Appendix 18. Single frequency applications
156.8375 - 157.45 MHz						
FIXED MOBILE except aeronautical mobile 5.226 5.229	MOBILE except aeronautical mobile 5.226	Maritime	EU7 EU8		EN 300 162 EN 300 698 EN 301 178 EN 301 025	Ship stations paired with 161.5-162.0 MHz and single frequency applications. RR Appendix 18
157.45 - 160.6 MHz						
FIXED MOBILE except aeronautical mobile 5.226 5.229	MOBILE except aeronautical mobile	PMR/PAMR	EU7	ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	ML paired with 162.05-165.2 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
160.6 - 160.975 MHz						
FIXED MOBILE except aeronautical mobile 5.226 5.229	MOBILE except aeronautical mobile 5.226	Maritime	EU7 EU8		EN 300 162 EN 300 698 EN 301 178 EN 301 025	Coast stations, paired with 156.025-156.350 MHz. RR Appendix 18
160.975 - 161.475 MHz						
FIXED MOBILE except aeronautical mobile 5.226 5.229	MOBILE except aeronautical mobile	PMR/PAMR	EU7	ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	Single frequency applications
161.475 - 162.05 MHz						
FIXED MOBILE except aeronautical mobile 5.226 5.229	MOBILE except aeronautical mobile 5.226	Maritime	EU7 EU8		EN 300 162 EN 301 025 EN 300 698 EN 301 178	Coast stations paired with 156.9-157.4 MHz. RR Appendix 18
		Shipborne AIS		ERC/DEC(99)17		161.975 and 162.025 MHz
162.05 - 165.2 MHz						
FIXED MOBILE except aeronautical mobile 5.226 5.229	MOBILE except aeronautical mobile	PMR/PAMR	EU7	ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	FB paired with 157.45-160.6 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
165.2 - 165.225 MHz						
FIXED MOBILE except aeronautical mobile 5.226 5.229	MOBILE except aeronautical mobile	PMR/PAMR		ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	Single frequency applications
165.225 - 169.4 MHz						
FIXED MOBILE except aeronautical mobile 5.226 5.229	MOBILE except aeronautical mobile	PMR/PAMR	EU7	ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	ML paired with 169.825-174.0 MHz
169.4 - 169.825 MHz						
FIXED MOBILE except aeronautical mobile 5.226 5.229	MOBILE except aeronautical mobile	Aids for hearing impaired		ECC/DEC/(05)02		
		Meter reading systems		ECC/DEC/(05)02		
		PMR/PAMR	EU7	ECC/DEC/(05)02 ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	Single frequency applications
		Social Alarms		ECC/DEC/(05)02		Within the bands169.4750-169.4875 MHz and 169.5875-169.6000 MHz
		Tracking and asset tracing systems		ECC/DEC/(05)02		

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
169.825 - 174 MHz						
FIXED MOBILE except aeronautical mobile	MOBILE except aeronautical mobile	Aids for hearing impaired		ECC/DEC/(05)02 ERC/REC 70-03		Within the band 173.965-174.015 MHz
5.226 5.229		PMR/PAMR	EU7	ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471	FB paired with 165.225-169.4 MHz
174 - 216 MHz						
BROADCASTING	BROADCASTING LAND MOBILE	Aids for hearing impaired		ERC/REC 70-03	EN 300 422	Within the band 173.965-174.015 MHz
		Radio microphones		ERC/REC 70-03	EN 300 422	On a tuning range basis
5.235 5.237 5.243	5.235	T-DAB			EN 300 401	Wiesbaden special Arrangement, 1995 revised Maastricht 2002
		TV Broadcasting			EN 300 744	Geneva Agreement 2006. The band 174-230 MHz is being reviewed for possible future applications. EN 300 744 is for DVB-T applications
216 - 223 MHz						
BROADCASTING	BROADCASTING	T-DAB			EN 300 401	Wiesbaden special Arrangement, 1995 revised Maastricht 2002
		TV Broadcasting			EN 300 744	Geneva Agreement 2006. The band 174-230 MHz is being reviewed for possible future applications. EN 300 744 is for DVB-T applications
5.235 5.237 5.243	5.235					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
223 - 225 MHz						
BROADCASTING Fixed Mobile 5.243 5.246 5.247	BROADCASTING	T-DAB			EN 300 401	Wiesbaden special Arrangement, 1995 revised Maastricht 2002
		TV Broadcasting			EN 300 744	Geneva Agreement 2006. The band 174-230 MHz is being reviewed for possible future applications. EN 300 744 is for DVB-T applications
225 - 230 MHz						
BROADCASTING Fixed Mobile 5.243 5.246 5.247	BROADCASTING Land mobile EU10	T-DAB			EN 300 401	Wiesbaden special Arrangement, 1995 revised Maastricht 2002
		TV Broadcasting			EN 300 744	Geneva Agreement 2006. The band 174-230 MHz is being reviewed for possible future applications. EN 300 744 is for DVB-T applications. This band is within the military tuning range 225-400 MHz. Sharing with defence on national basis.
230 - 235 MHz						
FIXED MOBILE 5.247 5.251 5.252	MOBILE EU10 EU27	Defence systems				Harmonised military band
		T-DAB			EN 300 401	T-DAB sharing with defence on a national basis. Wiesbaden special Arrangement, 1995 revised Maastricht 2002

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
235 - 240 MHz							
FIXED	MOBILE		Defence systems				Harmonised military band
MOBILE			T-DAB			EN 300 401	T-DAB sharing with defence on a national basis. Wiesbaden special Arrangement, 1995 revised Maastricht 2002
5.111	5.254	EU10					
5.199		EU27					
5.252							
5.254							
5.256							
5.256A							
240 - 242.95 MHz							
FIXED	MOBILE		Defence systems				Harmonised military band. Air traffic control
MOBILE							
5.111	5.254	EU10					
5.199		EU27					
5.252							
5.254							
5.256							
5.256A							

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
242.95 - 243.05 MHz						
FIXED MOBILE 5.111 5.199 5.252 5.254 5.256 5.256A	AERONAUTICAL MOBILE MOBILE-SATELLITE (E/S) 5.111 5.199 5.254 5.256	EPIRB			EN 300 152	Band only available for distress and safety purposes 243.0 MHz
243.05 - 267 MHz						
FIXED MOBILE except aeronautical mobile 5.111 5.199 5.252 5.254 5.256 5.256A	MOBILE 5.254	Defence systems	EU10 EU27			Harmonised military band. Air traffic control
267 - 272 MHz						
FIXED MOBILE Space operation (S/E) 5.254 5.257	MOBILE 5.254 5.257	Defence systems	EU10 EU27			Harmonised military band. Air traffic control

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
272 - 273 MHz							
FIXED	MOBILE		Defence systems				Harmonised military band. Air traffic control
MOBILE							
SPACE OPERATION (S/E)							
5.254	5.254	EU10					
		EU27					
273 - 312 MHz							
FIXED	MOBILE		Defence systems				Harmonised military band. Air traffic control
MOBILE							
5.254	5.254	EU10					
		EU27					
312 - 315 MHz							
FIXED	MOBILE		Defence systems				Harmonised military band. Air traffic control
MOBILE							
Mobile-satellite (E/S) 5.254 5.255							
	5.254	EU10					
	5.255	EU27					
315 - 322 MHz							
FIXED	MOBILE		Defence systems				Harmonised military band. Air traffic control
MOBILE							
5.254	5.254	EU10					
		EU27					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
322 - 328.6 MHz							
FIXED MOBILE RADIO ASTRONOMY 5.149	MOBILE RADIO ASTRONOMY 5.149	EU10 EU27	Defence systems				Harmonised military band
			Radio astronomy				Continuum observations also VLBI
328.6 - 335.4 MHz							
AERONAUTICAL RADIONAVIGATION 5.258 5.259	AERONAUTICAL RADIONAVIGATION 5.258	EU2	ILS/Glide path				
335.4 - 380 MHz							
FIXED MOBILE 5.254	MOBILE 5.254	EU10 EU27	Defence systems	EU7			Harmonised military band Air traffic control

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
380 - 385 MHz							
FIXED	MOBILE		Defence systems				Harmonised military band
MOBILE							
			Emergency AGA		ECC/DEC/(06)05	EN 300 113	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
5.254	5.254	EU2				EN 300 390	
		EU10					
		EU27					
			Emergency DMO		ERC/DEC(01)19	EN 300 113	Within the bands 380-380.15 and 390-390.15 MHz for DMO emergency
						EN 300 390	
			Emergency services		ERC/DEC(96)01	EN 303 035	ML paired with 390.0-395.0 MHz. Emergency services sharing with defence applications
					T/R 02-02	EN 300 392	
					T/R 25-08		
385 - 387 MHz							
FIXED	MOBILE		Defence systems				Harmonised military band
MOBILE							
			Digital land mobile PMR/PAMR		ERC/DEC(96)04	EN 303 035	ML paired with 395-397 MHz
5.254	5.254	EU2			T/R 02-02	EN 300 392	
		EU10			T/R 25-08		
		EU27					
387 - 390 MHz							
FIXED	MOBILE		Defence systems				Harmonised military band
MOBILE							
Mobile-satellite (S/E) 5.208A							
			Digital land mobile PMR/PAMR		ERC/DEC(96)04	EN 303 035	ML paired with 397.0-399.9 MHz
5.254	5.254	EU2			T/R 02-02	EN 300 392	
5.255	5.255	EU10			T/R 25-08		
		EU27					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation		Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
390 - 395 MHz							
FIXED MOBILE	MOBILE		Defence systems				Harmonised military band. Emergency services sharing with defence applications
5.254	5.254	EU2 EU10 EU27	Emergency AGA		ECC/DEC/(06)05	EN 300 113 EN 300 390	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
			Emergency DMO		ERC/DEC(01)19	EN 300 113 EN 300 390	Within the bands 380-380.15 and 390-390.15 MHz for DMO emergency
			Emergency services		ERC/DEC(96)01 T/R 02-02 T/R 25-08	EN 303 035 EN 300 392	FB paired with 380-385 MHz. Emergency services sharing with defence applications
395 - 399.9 MHz							
FIXED MOBILE	MOBILE		Defence systems				Harmonised military band
5.254	5.254	EU2 EU10 EU27	Digital land mobile PMR/PAMR		ERC/DEC(96)04 T/R 02-02 T/R 25-08	EN 303 035 EN 300 392	FB paired with 385.0-389.9 MHz
399.9 - 400.05 MHz							
MOBILE-SATELLITE (E/S) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.222 5.224B 5.260 5.220	MOBILE-SATELLITE (E/S) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.222 5.224B 5.260 5.220						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
400.05 - 400.15 MHz						
STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz)	STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz)					
5.261	5.261					
5.262	5.262					
400.15 - 401 MHz						
METEOROLOGICAL AIDS	METEOROLOGICAL AIDS	Low earth orbiting satellites		ERC/DEC(99)06	EN 301 721	
METEOROLOGICAL-SATELLITE (S/E)	METEOROLOGICAL-SATELLITE (S/E)	Meteorological radiosondes			EN 302 054	
MOBILE-SATELLITE (S/E) 5.208A 5.209	MOBILE-SATELLITE (S/E) 5.208A 5.209	Meteorological Satellites				
SPACE RESEARCH (S/E) 5.263	SPACE RESEARCH (S/E) 5.263					
Space operation (S/E)	SPACE OPERATION (S/E)					
5.262	5.262					
5.264	5.264					
401 - 402 MHz						
EARTH EXPLORATION-SATELLITE (E/S)	EARTH EXPLORATION-SATELLITE (E/S)	Meteorological radiosondes			EN 302 054	
METEOROLOGICAL AIDS	METEOROLOGICAL AIDS	Meteorological Satellites				Data collection platform telemetry
METEOROLOGICAL-SATELLITE (E/S)	METEOROLOGICAL-SATELLITE (E/S)					
SPACE OPERATION (S/E)						
Fixed						
Mobile except aeronautical mobile						
	EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
402 - 403 MHz						
EARTH EXPLORATION-SATELLITE (E/S)	EARTH EXPLORATION-SATELLITE (E/S)	Meteorological radiosondes			EN 302 054	
METEOROLOGICAL AIDS	METEOROLOGICAL AIDS	Meteorological Satellites				Data collection platform telemetry
METEOROLOGICAL-SATELLITE (E/S) Fixed Mobile except aeronautical mobile	METEOROLOGICAL-SATELLITE (E/S)	Wireless applications in Healthcare		ERC/DEC(01)17 ERC/REC 70-03	EN 300 220 EN 301 839	Active medical implants within the band 402-405 MHz
	EU2					
403 - 406 MHz						
METEOROLOGICAL AIDS	METEOROLOGICAL AIDS	Meteorological radiosondes			EN 302 054	
Fixed Mobile except aeronautical mobile		Wireless applications in Healthcare		ERC/DEC(01)17 ERC/REC 70-03	EN 300 220 EN 301 839	Active medical implants within the band 402-405 MHz
	EU2					
406 - 406.1 MHz						
MOBILE-SATELLITE (E/S)	MOBILE-SATELLITE (E/S)	Sat-EPIRB			EN 300 066	Band only available for distress and safety purposes
5.266	5.266					
5.267	5.267					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
406.1 - 410 MHz						
FIXED	LAND MOBILE	PMR/PAMR		ECC/DEC/(06)06	EN 300 086	Single frequency applications
MOBILE except aeronautical mobile	RADIO ASTRONOMY			T/R 25-08	EN 300 113	
RADIO ASTRONOMY					EN 300 219	
5.149	5.149				EN 300 296	
					EN 300 341	
					EN 300 390	
					EN 300 471	
		Radio astronomy				Continuum observation and pulsar observation
410 - 420 MHz						
FIXED	MOBILE except aeronautical mobile	PMR/PAMR		ECC/DEC/(04)06	EN 300 086	ML paired with 420-430 MHz
MOBILE except aeronautical mobile				ECC/DEC/(06)06	EN 300 113	
SPACE RESEARCH (S/S) 5.268				ERC/DEC(96)04	EN 300 219	
				T/R 25-08	EN 300 296	
					EN 300 341	
					EN 300 390	
					EN 300 392	
					EN 300 471	
					EN 303 035	
420 - 430 MHz						
FIXED	MOBILE except aeronautical mobile	PMR/PAMR	EU7	ECC/DEC/(04)06	EN 300 086	FB paired with 410-420 MHz
MOBILE except aeronautical mobile	Radiolocation			ECC/DEC/(06)06	EN 300 113	
Radiolocation				ERC/DEC(96)04	EN 300 219	
5.269				T/R 25-08	EN 300 296	
5.270					EN 300 341	
5.271					EN 300 390	
					EN 300 392	
					EN 300 471	
					EN 303 035	

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation		Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
430 - 432 MHz							
AMATEUR	AMATEUR		Amateur			EN 301 783	
RADIOLOCATION	RADIOLOCATION						
5.271	5.277	EU2					
5.272		EU12					
5.273							
5.274							
5.275							
5.276							
5.277							
432 - 433.05 MHz							
AMATEUR	AMATEUR		Active sensors (satellite)				The use of this band by sensors in the Earth exploration-satellite service (EESS) (active) shall be in accordance with Recommendation ITU-R SA 1260-1
RADIOLOCATION	RADIOLOCATION						
Earth exploration-satellite (active) 5.279A	Earth exploration-satellite (active) 5.279A						
5.138	5.277	EU2	Amateur			EN 301 783	
5.271		EU12					
5.272							
5.276							
5.277							
5.280							
5.281							
5.282							

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
433.05 - 434.79 MHz						
AMATEUR RADIOLOCATION Earth exploration-satellite (active) 5.279A 5.138 5.271 5.272 5.276 5.277 5.280 5.281 5.282	AMATEUR RADIOLOCATION Land mobile Earth exploration-satellite (active) 5.279A 5.138 EU2 5.277 EU12 5.280	Active sensors (satellite)				The use of this band by sensors in the Earth exploration-sattelite services (EESS) (active) shall be in accordance with Recommendation ITU-R SA 1260-1
		Amateur			EN 301 783	
		ISM				
		Non-Specific SRDs		ECC/DEC/(04)02 ERC/REC 70-03	EN 300 220	
434.79 - 438 MHz						
AMATEUR RADIOLOCATION Earth exploration-satellite (active) 5.279A 5.138 5.271 5.272 5.276 5.277 5.280 5.281 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 Earth exploration-satellite service (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			EN 301 783	

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
438 - 440 MHz						
AMATEUR RADIOLOCATION 5.271 5.273 5.274 5.275 5.276 5.277 5.283	AMATEUR RADIOLOCATION 5.277 EU2 EU12	Amateur			EN 301 783	
440 - 450 MHz						
FIXED MOBILE except aeronautical mobile Radiolocation 5.269 5.270 5.271 5.284 5.285 5.286	MOBILE except aeronautical mobile Radiolocation EU31	On-site paging			EN 300 224	Call-out & answer-back
		PMR 446 and Digital PMR 446		ECC/DEC/(05)12 ERC/DEC(98)25	EN 300 296 EN 301 166 EN 300 113	Analogue PMR-446 in 446-446.1 MHz. Digital PMR-446 in 446.1-446.2 MHz
		PMR/PAMR	EU7	ECC/DEC/(06)06 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 471 EN 301 166	Single frequency operation
		Wind profiler radars				Geographical sharing with other services

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
450 - 455 MHz						
FIXED MOBILE 5.209 5.271 5.286 5.286A 5.286B 5.286C 5.286D 5.286E	MOBILE EU31	On-site paging			EN 300 224	Call-out & answer-back
		PMR/PAMR	EU34 EU7	ECC/DEC/(04)06 ECC/DEC/(06)06 ERC/DEC(96)04 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 392	ML paired with 460-465 MHz
455 - 456 MHz						
FIXED MOBILE 5.209 5.271 5.286A 5.286B 5.286C 5.286E	MOBILE EU31	Existing public cellular networks				
		On-site paging			EN 300 224	Call-out & answer-back
		PMR/PAMR	EU34 EU7	ECC/DEC/(04)06 ECC/DEC/(06)06 ERC/DEC(96)04 T/R 25-08	EN 300 086 EN 300 113 EN 300 219 EN 300 296 EN 300 341 EN 300 390 EN 300 392 EN 300 471 EN 303 035	ML paired with 465-466 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
456 - 459 MHz							
FIXED	MOBILE		Existing public cellular networks				
MOBILE			Maritime on board communications		T/R 32-02	EN 300 720	Within the band 457.525-457.575 MHz
5.271	5.287	EU31	On-site paging			EN 300 224	Call-out & answer-back
5.287			PMR/PAMR	EU34	ECC/DEC/(04)06	EN 300 086	ML paired with 466-469 MHz
5.288				EU7	ECC/DEC/(06)06	EN 300 113	
					ERC/DEC(96)04	EN 300 219	
					T/R 25-08	EN 300 296	
						EN 300 341	
						EN 300 390	
						EN 300 392	
						EN 300 471	
						EN 303 035	
459 - 460 MHz							
FIXED	MOBILE		Existing public cellular networks				
MOBILE			On-site paging			EN 300 224	Call-out & answer-back
5.209		EU31	PMR/PAMR	EU7	ECC/DEC/(04)06	EN 300 086	ML paired with 469-470 MHz
5.271					ECC/DEC/(06)06	EN 300 113	
5.286A					ERC/DEC(96)04	EN 300 219	
5.286B					T/R 25-08	EN 300 296	
5.286C						EN 300 341	
5.286E						EN 300 390	
						EN 300 392	
						EN 300 471	
						EN 303 035	

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
460 - 470 MHz							
FIXED	MOBILE		Existing public cellular networks				
MOBILE							
Meteorological-satellite (S/E)			Maritime on board communications		T/R 32-02	EN 300 720	Within the band 467.525-467.575 MHz
5.287	5.287	EU31	Meteorological aids				
5.288	5.289		On-site paging			EN 300 224	Call-out & answer-back
5.289			PMR/PAMR	EU34	ECC/DEC/(04)06	EN 300 086	FB paired with 450-460 MHz
5.290				EU7	ECC/DEC/(06)06	EN 300 113	
					ERC/DEC(96)04	EN 300 219	
					T/R 25-08	EN 300 296	
						EN 300 341	
						EN 300 390	
						EN 300 392	
						EN 300 471	
						EN 303 035	
			Space Research/EESS				Allocation to EESS is via RR 5.289. Data collection platform telecommand. Geographical sharing with other services

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
470 - 608 MHz						
BROADCASTING	BROADCASTING Mobile	Radio microphones		ERC/REC 70-03	EN 300 422	Within the band 470-862 MHz in a tuning range basis
		SAP/SAB				Mobile applications restricted to SAB/SAP including radio microphones
5.149 5.291A 5.294 5.296 5.300 5.302 5.304 5.306 5.311 5.312	5.291A 5.296	TV Broadcasting			EN 300 744	Geneva Agreement 2006. The band 470-862 MHz is being reviewed for possible future applications. EN 300 744 is for DVB-T applications
		Wind profiler radars				Limited to the band 470-494 MHz. Geographical sharing with other services
608 - 614 MHz						
BROADCASTING	BROADCASTING Mobile Radio astronomy	Radio astronomy				Continuum measurements and VLBI
		Radio microphones		ERC/REC 70-03	EN 300 422	Within the band 470-862 MHz on a tuning range basis
		SAP/SAB				Mobile applications restricted to SAB/SAP including radio microphones
5.149 5.291A 5.294 5.296 5.300 5.302 5.304 5.306 5.311 5.312	5.149 5.296 5.306	TV Broadcasting			EN 300 744	Geneva Agreement 2006. The band 470-862 MHz is being reviewed for possible future applications. EN 300 744 is for DVB-T applications

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
614 - 790 MHz						
BROADCASTING	BROADCASTING	Radio microphones		ERC/REC 70-03	EN 300 422	Within the band 470-862 MHz on a tuning range basis
	Mobile					
		SAP/SAB				Mobile applications restricted to SAB including radiomicrophones
5.149	5.296 EU13					
5.291A	5.312	TV Broadcasting			EN 300 744	Geneva Agreement 2006. The band 470-862 MHz is being reviewed for possible future applications. EN 300 744 is for DVB-T applications
5.294						
5.296						
5.300						
5.302						
5.304						
5.306						
5.311						
5.312						
790 - 838 MHz						
BROADCASTING	BROADCASTING	Defence systems				Mobile applications restricted to tactical links and SAB/SAP including radio microphones
FIXED	Mobile					
		Radio microphones		ERC/REC 70-03	EN 300 422	Within the band 470-862 MHz on a tuning range basis
5.312	5.312 EU2					
5.314	5.316 EU13	SAP/SAB				Mobile applications restricted to tactical links and SAB/SAP including radio microphones
5.315						
5.316						
5.319		TV Broadcasting			EN 300 744	Geneva Agreement 2006. The band 470-862 MHz is being reviewed for possible future applications. EN 300 744 is for DVB-T applications
5.321						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
838 - 862 MHz							
BROADCASTING FIXED	BROADCASTING MOBILE		Defence systems				Mobile applications restricted to tactical links and SAB/SAP including radio microphones
5.312 5.314 5.315 5.316 5.319 5.321	5.312 5.316	EU2 EU13	Radio microphones		ERC/REC 70-03	EN 300 422	Within the band 470-862 MHz on a tuning range basis
			SAP/SAB				Mobile applications restricted to tactical links and SAB/SAP including radio microphones
			TV Broadcasting			EN 300 744	Geneva Agreement 2006. The band 470-862 MHz is being reviewed for possible future applications. EN 300 744 is for DVB-T applications
862 - 870 MHz							
BROADCASTING 5.322 FIXED MOBILE except aeronautical mobile 5.317A 5.319 5.323	MOBILE 5.323	EU2 EU13	Alarms		ERC/DEC(01)09 ERC/REC 70-03	EN 300 220	Within the band 868.6-869.700 MHz
			Defence systems				
			Narrow band analogue voice devices		ERC/REC 70-03	EN 300 220	Within the band 864.8-865.0 MHz
			Non-Specific SRDs		ERC/DEC(01)04 ERC/REC 70-03	EN 300 220	Within the band 863-870 Strategic Plan for the use of SRD within the band 862-870 MHz adopted
			Radio microphones		ERC/REC 70-03	EN 300 422 EN 301 357	Within the band 863-865 MHz
			RFID			EN 302 208	Within the band 865-868 MHz
			Wireless Audio Applications		ERC/DEC(01)18 ERC/REC 70-03	EN 301 357 EN 300 220	Within the band 863-865 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation		Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
870 - 876 MHz							
BROADCASTING 5.322 FIXED MOBILE except aeronautical mobile 5.317A 5.319 5.323	MOBILE 5.323	 EU2 EU13	Defence systems				The bands 870-876 and 915-921 MHz are identified as a preferred bands for Tactical Radio Relays (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 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
			Digital land mobile PMR/PAMR		ECC/DEC/(04)06 ERC/DEC(96)04 T/R 25-08	EN 300 392 EN 303 035	ML paired with 915-921 MHz
876 - 880 MHz							
BROADCASTING 5.322 FIXED MOBILE except aeronautical mobile 5.317A 5.319 5.323	MOBILE 5.323	 EU2 EU13	Defence systems				Sharing on a national basis
			GSM-R		ECC/DEC/(02)05 ECC/DEC/(02)09 ECC/DEC/(02)10 ECC/REC 05-08 T/R 25-09	EN 301 419 EN 301 502 EN 301 511	ML paired with 921-925 MHz. Railway systems
880 - 890 MHz							
BROADCASTING 5.322 FIXED MOBILE except aeronautical mobile 5.317A 5.319 5.323	MOBILE 5.317A 5.323	 EU2 EU13 EU29	Defence systems				Sharing on a national basis
			GSM-900	EU32	ECC/REC 05-08 ERC/DEC(97)02	EN 301 419 EN 301 502 EN 301 511	ML paired with 925-935 MHz. Planned implementation of IMT-2000/UMTS in some areas in parallel with GSM in order to increase rural coverage and to provide increased capacity and deep indoor coverage in dense urban areas

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
890 - 915 MHz							
BROADCASTING 5.322 FIXED MOBILE except aeronautical mobile 5.317A Radiolocation 5.323	MOBILE Radiolocation 5.317A 5.323	 EU13 EU14 EU29	GSM-900	EU32	ECC/REC 05-08 ERC/DEC(94)01	EN 301 502 EN 301 511 EN 301 419	ML paired with the band 935-960 MHz. Planned implementation of IMT-2000/UMTS in some areas in parallel with GSM in order to increase rural coverage and to provide increased capacity and deep indoor coverage in dense urban areas
915 - 921 MHz							
BROADCASTING 5.322 FIXED MOBILE except aeronautical mobile 5.317A Radiolocation 5.323	MOBILE Radiolocation 5.323	 EU2 EU13 EU14	Defence systems				The bands 870-876 and 915-921 MHz are identified as a preferred band for Tactical Radio Relays (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 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
			Digital land mobile PMR/PAMR		ECC/DEC/(04)06 ERC/DEC(96)04 T/R 25-08	EN 300 392 EN 303 035	FB paired with 870-876 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
921 - 925 MHz							
BROADCASTING 5.322 FIXED MOBILE except aeronautical mobile 5.317A Radiolocation 5.323	MOBILE Radiolocation 5.323	EU2 EU13 EU14	Defence systems				Sharing on a national basis
			GSM-R		ECC/DEC/(02)05 ECC/DEC/(02)09 ECC/DEC/(02)10 ECC/REC 05-08 T/R 25-09	EN 301 419 EN 301 502 EN 301 511	FB paired with 876-880 MHz. Railway systems
925 - 935 MHz							
BROADCASTING 5.322 FIXED MOBILE except aeronautical mobile 5.317A Radiolocation 5.323	MOBILE Radiolocation 5.317A 5.323	EU2 EU13 EU14 EU29	Defence systems	EU30			Sharing on a national basis
			GSM-900	EU30 EU32	ECC/REC 05-08 ERC/DEC(97)02	EN 301 419 EN 301 502 EN 301 511	FB paired with 880-890 MHz. Planned implementation of IMT-2000/UMTS in some areas in parallel with GSM in order to increase rural coverage and to provide increased capacity and deep indoor coverage in dense urban areas
935 - 942 MHz							
BROADCASTING 5.322 FIXED MOBILE except aeronautical mobile 5.317A Radiolocation 5.323	MOBILE Radiolocation 5.317A 5.323	EU13 EU14 EU29	GSM-900	EU32	ECC/REC 05-08 ERC/DEC(94)01	EN 301 419 EN 301 502 EN 301 511	FB paired with 890-897 MHz. Planned implementation of IMT-2000/UMTS in some areas in parallel with GSM in order to increase rural coverage and to provide increased capacity and deep indoor coverage in dense urban areas

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
942 - 960 MHz						
BROADCASTING 5.322 FIXED MOBILE except aeronautical mobile 5.317A 5.323	MOBILE 5.317A EU13 5.323 EU29	GSM-900	EU32	ECC/REC 05-08 ERC/DEC(94)01	EN 301 419 EN 301 502 EN 301 511	FB paired with 897-915 MHz. Planned implementation of IMT-2000/UMTS in some areas in parallel with GSM in order to increase rural coverage and to provide increased capacity and deep indoor coverage in dense urban areas
960 - 1164 MHz						
AERONAUTICAL RADIONAVIGATION 5.328	AERONAUTICAL RADIONAVIGATION 5.328	Navigation systems				Including DME, JTIDS, MIDS, SSR, TACAN
1164 - 1215 MHz						
AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.328A	AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.328A	Galileo				Within the band 1164-1214 MHz
		GLONASS				Within the band 1190.3-1213.8 MHz
		Navigation systems				Including DME, JTIDS, MIDS, SSR, TACAN

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
1215 - 1240 MHz						
EARTH EXPLORATION-SATELLITE (active)	EARTH EXPLORATION-SATELLITE (active)	Active sensors (satellite)				
RADIOLOCATION	RADIOLOCATION	Defence systems				
RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.329 5.329A	RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.329 5.329A	GLONASS				Within the band 1237.8-1253.8 MHz
SPACE RESEARCH (active)	SPACE RESEARCH (active)	GPS				Within the band 1215.6-1239.6 MHz
5.330	5.331 EU2	Radar and Navigation systems				
5.331	5.332					
5.332						
1240 - 1260 MHz						
EARTH EXPLORATION-SATELLITE (active)	EARTH EXPLORATION-SATELLITE (active)	Active sensors (satellite)				
RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.329 5.329A	RADIOLOCATION	Amateur			EN 301 783	
RADIOLOCATION	RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.329 5.329A	Defence systems				
SPACE RESEARCH (active)	SPACE RESEARCH (active)	GLONASS				Within the band 1237.8-1253.8 MHz
Amateur	Amateur	Radar and Navigation systems				
5.282	5.331 EU2					
5.330	5.332					
5.331						
5.332						
5.335						
5.335A						

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
1260 - 1270 MHz						
EARTH EXPLORATION-SATELLITE (active)	EARTH EXPLORATION-SATELLITE (active)	Active sensors (satellite)				
RADIOLOCATION	RADIOLOCATION	Amateur			EN 301 783	
RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.329 5.329A	RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.329 5.329A	Amateur Satellite			EN 301 783	
SPACE RESEARCH (active)	SPACE RESEARCH (active)	Defence systems				
Amateur	Amateur	Galileo				Within the band 1260-1300 MHz
	Amateur-satellite	Radar and Navigation systems				
5.282	5.282 EU2					
5.330	5.331					
5.331	5.335A					
5.332						
5.335						
5.335A						
1270 - 1300 MHz						
EARTH EXPLORATION-SATELLITE (active)	EARTH EXPLORATION-SATELLITE (active)	Active sensors (satellite)				
RADIOLOCATION	RADIOLOCATION	Amateur			EN 301 783	
RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.329 5.329A	RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.329 5.329A	Defence systems				
SPACE RESEARCH (active)	SPACE RESEARCH (active)	Galileo				Within the band 1260-1300 MHz
Amateur	Amateur	Radar and Navigation systems				
5.282	5.331 EU2	Wind profiler radars				Within the band 1270-1295 MHz
5.330	5.335A					
5.331						
5.332						
5.335						
5.335A						

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
1300 - 1350 MHz						
AERONAUTICAL RADIONAVIGATION 5.337	AERONAUTICAL RADIONAVIGATION 5.337	Defence systems				
RADIOLOCATION	RADIOLOCATION	Radar and Navigation systems				
RADIONAVIGATION-SATELLITE (E/S)	RADIONAVIGATION-SATELLITE (E/S)	Radio astronomy				Spectral line observations in 1330-1400 MHz
5.149	5.149 EU2	Satellite Navigation systems				
5.337A	5.337A					
1350 - 1400 MHz						
FIXED	FIXED	Defence systems	EU15A			
MOBILE	MOBILE	Low capacity fixed links		T/R 13-01	EN 301 751	
RADIOLOCATION	RADIOLOCATION	Radio astronomy				Spectral line observations in 1330-1400 MHz
5.149	5.149 EU2					
5.338	5.339 EU15					
5.339						
5.339A						
1400 - 1427 MHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				Measurement of soil moisture, salinity, ocean surface temperature, vegetation index
RADIO ASTRONOMY	RADIO ASTRONOMY					
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.340	5.340					
5.341	5.341					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation		Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
1427 - 1429 MHz							
FIXED	FIXED		Defence systems	EU15A			
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile		Low capacity fixed links		T/R 13-01	EN 301 751	
SPACE OPERATION (E/S)	SPACE OPERATION (E/S)						
5.341	5.341	EU2					
		EU15					
1429 - 1452 MHz							
FIXED	FIXED		Defence systems	EU15A			
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile		Low capacity fixed links		T/R 13-01	EN 301 751	
5.339A	5.341	EU2					
5.341		EU15					
5.342							
1452 - 1492 MHz							
BROADCASTING 5.345 5.347	BROADCASTING 5.345		S-DAB		ECC/DEC/(03)02		Within the band 1479.5-1492.0 MHz
BROADCASTING-SATELLITE 5.345 5.347 5.347A	BROADCASTING-SATELLITE 5.345 5.347A		T-DAB			EN 300 401	Within the band 1452.0-1479.5 MHz. Maastricht 2002 special arrangement
FIXED	Fixed						
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile						
5.341	5.341						
5.342	5.342						
1492 - 1518 MHz							
FIXED	FIXED		Defence systems	EU15A			
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile		Low capacity fixed links		T/R 13-01	EN 301 751	
5.341	5.341	EU2					
5.342		EU15					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1518 - 1525 MHz						
FIXED	FIXED	Defence systems	EU15A			
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile	Mobile satellite applications		ECC/DEC/(04)09		
MOBILE-SATELLITE (S/E) 5.348 5.348A 5.348B 5.348C	MOBILE-SATELLITE (S/E) 5.348 5.348A 5.348B 5.348C	Unidirectional fixed links			EN 301 751	
5.341	5.341 EU2					
5.342	EU15					
1525 - 1530 MHz						
FIXED	FIXED	Mobile satellite applications		ECC/DEC/(02)08	EN 301 426	
MOBILE-SATELLITE (S/E) 5.347A 5.351A	MOBILE-SATELLITE (S/E) 5.347A 5.351A			ECC/DEC/(02)11	EN 301 444	
SPACE OPERATION (S/E)	SPACE OPERATION (S/E)				EN 301 681	
Earth exploration-satellite					EN 301 473	
Mobile except aeronautical mobile 5.349		Unidirectional fixed links			EN 301 751	
5.341	5.341					
5.342	5.351					
5.350	5.354					
5.351						
5.352A						
5.354						

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
1530 - 1533 MHz						
MOBILE-SATELLITE (S/E) 5.347A 5.351A 5.353A	MOBILE-SATELLITE (S/E) 5.347A 5.351A 5.353A	Mobile satellite applications		ECC/DEC/(02)08	EN 301 426	Priority for GMDSS Distress and safety communications
SPACE OPERATION (S/E)	SPACE OPERATION (S/E)			ECC/DEC/(02)11	EN 301 444	
Earth exploration-satellite	Earth exploration-satellite				EN 301 681	
Fixed	Fixed				EN 301 473	
Mobile except aeronautical mobile	Mobile except aeronautical mobile					
5.341	5.341					
5.342	5.351					
5.351	5.354					
5.354						
1533 - 1535 MHz						
MOBILE-SATELLITE (S/E) 5.347A 5.351A 5.353A	MOBILE-SATELLITE (S/E) 5.347A 5.351A 5.353A	Mobile satellite applications		ECC/DEC/(02)08	EN 301 426	Priority for GMDSS Distress and safety communications
SPACE OPERATION (S/E)	SPACE OPERATION (S/E)			ECC/DEC/(02)11	EN 301 444	
Earth exploration-satellite	Earth exploration-satellite				EN 301 681	
Fixed	Mobile except aeronautical mobile				EN 301 473	
Mobile except aeronautical mobile						
5.341	5.341					
5.342	5.351					
5.351	5.354					
5.354						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1535 - 1544 MHz						
MOBILE-SATELLITE (S/E) 5.347A 5.351A	MOBILE-SATELLITE (S/E) 5.347A 5.351A	Mobile satellite applications		ECC/DEC/(02)08 ECC/DEC/(02)11	EN 301 426 EN 301 444 EN 301 681 EN 301 473	Priority for GMDSS Distress and safety communications
5.341 5.351 5.353A 5.354 5.355 5.356 5.357 5.357A 5.359 5.362A	5.341 5.351 5.353A 5.354					
1544 - 1545 MHz						
MOBILE-SATELLITE (S/E) 5.347A 5.351A	MOBILE-SATELLITE (S/E) 5.347A	Distress and safety communications (incl GMDSS) Mobile satellite applications			 EN 301 426 EN 301 444 EN 301 681 EN 301 473	 Limited to distress communications
5.341 5.351 5.353A 5.354 5.355 5.356 5.357 5.357A 5.359 5.362A	5.341 5.354 5.356					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1545 - 1555 MHz						
MOBILE-SATELLITE (S/E) 5.347A 5.351A	MOBILE-SATELLITE (S/E) 5.347A 5.351A	Mobile satellite applications		ECC/DEC/(02)08	EN 301 426	
				ECC/DEC/(02)11	EN 301 444	
					EN 301 681	
5.341	5.341				EN 301 473	
5.351	5.351					
5.353A	5.354					
5.354	5.357					
5.355	5.357A					
5.356	5.359					
5.357						
5.357A						
5.359						
5.362A						
1555 - 1559 MHz						
MOBILE-SATELLITE (S/E) 5.347A 5.351A	MOBILE-SATELLITE (S/E) 5.347A 5.351A	Mobile satellite applications		ECC/DEC/(02)08	EN 301 426	
				ECC/DEC/(02)11	EN 301 444	
					EN 301 681	
5.341	5.341				EN 301 473	
5.351	5.351					
5.353A	5.354					
5.354	5.359					
5.355						
5.356						
5.357						
5.357A						
5.359						
5.362A						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1559 - 1610 MHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Galileo				Within the band 1559.42-1591.42 MHz
RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.329A	RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.329A	GLONASS				Within the band 1592.9-1610.5 MHz
5.341	5.341	GPS				Within the band 1563.42-1587.42 MHz
5.362B	5.362B					
5.362C						
5.363						
1610 - 1610.6 MHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	GLONASS				Within the band 1592.9-1610.5 MHz
MOBILE-SATELLITE (E/S) 5.351A	MOBILE-SATELLITE (E/S) 5.351A	Mobile satellite applications		ERC/DEC(97)03	EN 301 441	
5.341	5.341			ERC/DEC(97)05	EN 301 473	
5.355	5.359					
5.359	5.364					
5.363	5.366					
5.364	5.367					
5.366	5.368					
5.367	5.371					
5.368	5.372					
5.369						
5.371						
5.372						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1610.6 - 1613.8 MHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Mobile satellite applications		ERC/DEC(97)03	EN 301 441	
				ERC/DEC(97)05	EN 301 473	
MOBILE-SATELLITE (E/S) 5.351A	MOBILE-SATELLITE (E/S) 5.351A					
RADIO ASTRONOMY	RADIO ASTRONOMY	Radio astronomy				Spectral line observations
5.149	5.149					
5.341	5.341					
5.355	5.359					
5.359	5.364					
5.363	5.366					
5.364	5.367					
5.366	5.368					
5.367	5.371					
5.368	5.372					
5.369						
5.371						
5.372						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1613.8 - 1626.5 MHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Mobile satellite applications		ERC/DEC(97)03	EN 301 441	
MOBILE-SATELLITE (E/S) 5.351A	MOBILE-SATELLITE (E/S) 5.351A			ERC/DEC(97)05	EN 301 473	
Mobile-satellite (S/E) 5.347A	Mobile-satellite (S/E) 5.347A					
5.341	5.341					
5.355	5.359					
5.359	5.364					
5.363	5.365					
5.364	5.366					
5.365	5.367					
5.366	5.368					
5.367	5.371					
5.368	5.372					
5.369						
5.371						
5.372						

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
1626.5 - 1631.5 MHz						
MOBILE-SATELLITE (E/S) 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 (E/S) 5.351A 5.341 5.351 5.353A 5.354 5.359	Mobile satellite applications		ECC/DEC/(02)08 ECC/DEC/(02)11	EN 301 426 EN 301 444 EN 301 681 EN 301 473	Priority for GMDSS Distress and safety communications
1631.5 - 1636.5 MHz						
MOBILE-SATELLITE (E/S) 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 (E/S) 5.351A 5.341 5.351 5.353A 5.354 5.359 5.374	Mobile satellite applications		ECC/DEC/(02)08 ECC/DEC/(02)11	EN 301 426 EN 301 444 EN 301 681 EN 301 473	Priority for GMDSS Distress and safety communications

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1636.5 - 1645.5 MHz						
MOBILE-SATELLITE (E/S) 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 (E/S) 5.351A 5.341 5.351 5.353A 5.354 5.359	Mobile satellite applications		ECC/DEC/(02)08 ECC/DEC/(02)11	EN 301 426 EN 301 444 EN 301 681 EN 301 473	Priority for GMDSS Distress and safety communications
1645.5 - 1646.5 MHz						
MOBILE-SATELLITE (E/S) 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 (E/S) 5.341 5.354 5.375	Mobile satellite applications			EN 301 426 EN 301 444 EN 301 681 EN 301 473	Distress and safety communications (incl GMDSS)

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1646.5 - 1656.5 MHz						
MOBILE-SATELLITE (E/S) 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 (E/S) 5.351A 5.341 5.351 5.354 5.357A 5.359 5.376	Mobile satellite applications		ECC/DEC/(02)08 ECC/DEC/(02)11	EN 301 426 EN 301 444 EN 301 681 EN 301 473	
1656.5 - 1660 MHz						
MOBILE-SATELLITE (E/S) 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 (E/S) 5.351A 5.341 5.351 5.354 5.359 5.374	Mobile satellite applications		ECC/DEC/(02)08 ECC/DEC/(02)11	EN 301 426 EN 301 444 EN 301 681 EN 301 473	

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1660 - 1660.5 MHz						
MOBILE-SATELLITE (E/S) 5.351A	MOBILE-SATELLITE (E/S) 5.351A	Mobile satellite applications		ECC/DEC/(02)08	EN 301 426	
RADIO ASTRONOMY	RADIO ASTRONOMY			ECC/DEC/(02)11	EN 301 444	
					EN 301 681	
5.149	5.149 EU15				EN 301 473	
5.341	5.341	Radio astronomy				Continuum line and VLBI observations
5.351	5.351					
5.354	5.354					
5.362A	5.376A					
5.376A						
1660.5 - 1668 MHz						
RADIO ASTRONOMY	RADIO ASTRONOMY	Defence systems	EU15A			
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)	Radio astronomy				Continuum line and VLBI observations
Fixed	Fixed					
Mobile except aeronautical mobile	Mobile except aeronautical mobile					
5.149	5.149 EU2					
5.341	5.341 EU15					
5.379	5.379A					
5.379A						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1668 - 1668.4 MHz						
MOBILE-SATELLITE (E/S) 5.348C 5.379B 5.379C	MOBILE-SATELLITE (E/S) 5.348C 5.379B 5.379C	Defence systems				
RADIO ASTRONOMY	RADIO ASTRONOMY	Radio astronomy				Continuum line and VLBI observations
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
Fixed	Fixed					
Mobile except aeronautical mobile	Mobile except aeronautical mobile					
5.149	5.149 EU15					
5.341	5.341					
5.379	5.379A					
5.379A	5.379D					
5.379D						
1668.4 - 1670 MHz						
FIXED	FIXED	Defence systems	EU15A			
METEOROLOGICAL AIDS	METEOROLOGICAL AIDS	Meteorology				
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile					
MOBILE-SATELLITE (E/S) 5.348C 5.379B 5.379C	MOBILE-SATELLITE (E/S) 5.348C 5.379B 5.379C	Radio astronomy				Continuum line and VLBI observations
RADIO ASTRONOMY	RADIO ASTRONOMY					
5.149	5.149 EU2					
5.341	5.341 EU15					
5.379D	5.379D					
5.379E	5.379E					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
1670 - 1675 MHz						
FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (S/E) MOBILE 5.380 MOBILE-SATELLITE (E/S) 5.348C 5.379B 5.341 5.379D 5.379E 5.380A	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (S/E) MOBILE MOBILE-SATELLITE (E/S) 5.348C 5.379B Fixed 5.341 5.379D 5.379E 5.380A	Meteorological Satellites				
		Mobile satellite applications (S/E)		ECC/DEC/(04)09		
1675 - 1690 MHz						
FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (S/E) MOBILE except aeronautical mobile 5.341	FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (S/E) MOBILE except aeronautical mobile 5.341	Defence systems	EU15A			
		Meteorological radiosondes				
		Meteorological Satellites				Data collection platform
			EU2 EU15			
1690 - 1700 MHz						
METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (S/E) Fixed Mobile except aeronautical mobile 5.289 5.341 5.382	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (S/E) Fixed Mobile except aeronautical mobile 5.289 5.341 5.382	Defence systems	EU15A			
		Meteorological Satellites				Data collection platform. Allocation to EESS is via RR 5.289
			EU2 EU15			

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1700 - 1710 MHz						
FIXED	FIXED	Defence systems	EU15A			
METEOROLOGICAL-SATELLITE (S/E)	METEOROLOGICAL-SATELLITE (S/E)	Meteorological Satellites				Data collection platform. Allocation to EESS is via RR 5.289
MOBILE except aeronautical mobile	Mobile except aeronautical mobile					
5.289	5.289 EU2					
5.341	5.341 EU15					
1710 - 1785 MHz						
FIXED	FIXED	GSM-1800	EU33	ECC/DEC/(05)08	EN 301 419	Planned implementation of IMT-2000/UMTS in some areas in parallel with GSM in order to increase rural coverage and to provide increase capacity and deep indoor coverage in dense urban areas
MOBILE 5.380 5.384A 5.388A 5.388B	MOBILE 5.384A			ERC/DEC(95)03	EN 301 502	
					EN 301 511	
5.149	5.149 EU29					
5.341	5.341					
5.385	5.385					
5.386						
5.387						
5.388						
1785 - 1800 MHz						
FIXED	FIXED	Mobile applications				
MOBILE 5.380 5.384A 5.388A 5.388B	MOBILE 5.384A	Radio microphones		ERC/REC 70-03	EN 301 840	
5.149	EU2	Wireless Audio Applications		ERC/REC 70-03	EN 301 357	Within the band 1795-1800 MHz
5.341	EU15					
5.385						
5.386						
5.387						
5.388						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1800 - 1805 MHz						
FIXED	MOBILE 5.380 5.384A					
MOBILE 5.380 5.384A 5.388A 5.388B	Fixed					
5.149						
5.341						
5.385						
5.386						
5.387						
5.388						
1805 - 1880 MHz						
FIXED	FIXED	GSM-1800	EU33	ECC/REC 05-08	EN 301 419	Planned implementation of IMT-2000/UMTS in some areas in parallel with GSM in order to increase rural coverage and to provide increase capacity and deep indoor coverage in dense urban areas
MOBILE 5.380 5.384A 5.388A 5.388B	MOBILE 5.384A			ERC/DEC(95)03	EN 301 502	
					EN 301 511	
5.149	EU29					
5.341						
5.385						
5.386						
5.387						
5.388						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1880 - 1885 MHz						
FIXED	MOBILE 5.384A	DECT	EU33	ERC/DEC(94)03	EN 301 406	
MOBILE 5.380 5.384A 5.388A 5.388B	Fixed				EN 301 908	
5.149						
5.341						
5.385						
5.386						
5.387						
5.388						
1885 - 1900 MHz						
FIXED	MOBILE 5.388A	DECT	EU33	ERC/DEC(94)03	EN 301 406	
MOBILE 5.380 5.384A 5.388A 5.388B	Fixed				EN 301 908	
5.149	5.388					
5.341						
5.385						
5.386						
5.387						
5.388						

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
1900 - 1930 MHz						
FIXED MOBILE 5.380 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.386 5.387 5.388	MOBILE 5.388A Fixed 5.388	-				This band can also be used by fixed service on a national basis
		IMT-2000/UMTS		ECC/DEC/(06)01 ERC/REC 01-01	EN 301 908	
1930 - 1970 MHz						
FIXED MOBILE 5.388A 5.388B 5.388	MOBILE 5.388A Fixed 5.388	-				This band can also be used by fixed service on a national basis
		IMT-2000/UMTS		ECC/DEC/(06)01 ERC/REC 01-01	EN 301 908	
1970 - 1980 MHz						
FIXED MOBILE 5.388A 5.388B 5.388	MOBILE 5.388A Fixed 5.388	-				This band can also be used by fixed service on a national basis
		IMT-2000/UMTS		ECC/DEC/(06)01 ERC/REC 01-01		

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
1980 - 2010 MHz						
FIXED MOBILE MOBILE-SATELLITE (E/S) 5.351A 5.388 5.389A 5.389B 5.389F	MOBILE MOBILE-SATELLITE (E/S) 5.351A Fixed 5.388 5.389A	- IMT-2000 Satellite component Mobile satellite applications		 ERC/DEC(97)03 ERC/DEC(97)04 ERC/DEC(97)05	 EN 301 442 EN 301 473	This band can also be used by fixed service on a national basis
2010 - 2025 MHz						
FIXED MOBILE 5.388A 5.388B 5.388	MOBILE 5.388A Fixed 5.388	IMT-2000/UMTS		ECC/DEC/(06)01 ERC/REC 01-01	EN 301 908	This band can also be used by fixed service on a national basis
2025 - 2110 MHz						
EARTH EXPLORATION-SATELLITE (E/S) (S/S) FIXED MOBILE 5.391 SPACE OPERATION (E/S) (S/S) SPACE RESEARCH (E/S) (S/S) 5.392	EARTH EXPLORATION-SATELLITE (E/S) (S/S) FIXED MOBILE 5.391 SPACE OPERATION (E/S) (S/S) SPACE RESEARCH (E/S) (S/S) 5.392 EU2 EU15 EU27	Defence systems	EU16A			Harmonised military band for Tactical Radio Relay links for near cross border operation within the band 2025-2070 MHz
		Fixed links		T/R 13-01	EN 301 751	
		SAP/SAB	EU16A	ERC/REC 25-10	EN 302 064	On a tuning range basis
		Space Research/EESS				Satellite payload and platform telecommand

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
2110 - 2120 MHz						
FIXED MOBILE 5.388A 5.388B SPACE RESEARCH (deep space) (E/S) 5.388	MOBILE 5.388A SPACE RESEARCH (deep space) (E/S) Fixed 5.388	-				Satellite payload and platform telecommand for space research (deep space). This band can also be used by fixed service on a national basis
		IMT-2000/UMTS		ECC/DEC/(06)01 ERC/REC 01-01	EN 301 908	
2120 - 2170 MHz						
FIXED MOBILE 5.388A 5.388B 5.388 5.392A	MOBILE 5.388A Fixed 5.388 5.392A	-				This band can also be used by fixed service on a national basis
		IMT-2000/UMTS		ECC/DEC/(06)01 ERC/REC 01-01		
2170 - 2200 MHz						
FIXED MOBILE MOBILE-SATELLITE (S/E) 5.351A 5.388 5.389A 5.389F 5.392A	MOBILE MOBILE-SATELLITE (S/E) 5.351A Fixed 5.388 5.389A	-				This band can also be used by fixed service on a national basis
		IMT-2000/UMTS Satellite component				
		Mobile satellite applications		ERC/DEC(97)03 ERC/DEC(97)04 ERC/DEC(97)05	EN 301 442 EN 301 473	

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
2200 - 2290 MHz						
EARTH EXPLORATION-SATELLITE (S/E) (S/S) FIXED MOBILE 5.391 SPACE OPERATION (S/E) (S/S) SPACE RESEARCH (S/E) (S/S) 5.392	EARTH EXPLORATION-SATELLITE (S/E) (S/S) FIXED MOBILE 5.391 SPACE OPERATION (S/E) (S/S) SPACE RESEARCH (S/E) (S/S) 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
		Fixed links		T/R 13-01	EN 301 751	
		Radio astronomy				Continuum line and VLBI observations
		SAP/SAB	EU16A	ERC/REC 25-10	EN 302 064	On a tuning range basis
		Space Research/EESS				Satellite payload and platform telemetry
2290 - 2300 MHz						
FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (S/E)	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (S/E) EU2	Mobile applications				
		Space Research (deep space)				Satellite payload and platform telemetry for space research (deep space)
2300 - 2400 MHz						
FIXED MOBILE Amateur Radiolocation 5.150 5.282 5.395	FIXED MOBILE Amateur Radiolocation EU2	Aeronautical Telemetry		ERC/REC 62-02		Parts of the band are used for aeronautical telemetry on a national basis
		Amateur			EN 301 783	
		Mobile applications				
		SAP/SAB		ERC/REC 25-10	EN 302 064	

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*		*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
2400 - 2450 MHz							
FIXED MOBILE Amateur Radiolocation 5.150 5.282 5.395	FIXED MOBILE Amateur-satellite 5.150 5.282	EU2	Amateur			EN 301 783	
			Amateur Satellite			EN 301 783	
			Equipment for Detecting Movement and Alert		ERC/DEC(01)08 ERC/REC 70-03	EN 300 440	Within the band 2400.0-2483.5 MHz
			ISM				
			Non-Specific SRDs		ERC/REC 70-03	EN 300 440	Within the band 2400.0-2483.5 MHz
			Railway applications		ERC/REC 70-03	EN 300 761	Within the band 2446-2454 MHz for AVI applications
			RFID		ERC/REC 70-03	EN 300 440	Within the band 2446-2454 MHz
			Wideband Data Transmission Systems		ERC/DEC(01)07 ERC/REC 70-03	EN 300 328	Within the band 2400-2483.5 MHz
2450 - 2483.5 MHz							
FIXED MOBILE Radiolocation 5.150 5.397	FIXED MOBILE 5.150	EU2	Equipment for Detecting Movement and Alert		ERC/DEC(01)08 ERC/REC 70-03	EN 300 440	Within the band 2400.0-2483.5 MHz
			ISM				
			Non-Specific SRDs		ERC/REC 70-03	EN 300 440	Within the band 2400.0-2483.5 MHz
			Railway applications		ERC/REC 70-03	EN 300 761	Within the band 2446-2454 MHz for AVI applications
			RFID		ERC/REC 70-03	EN 300 440	Within the band 2446-2454 MHz
			Wideband Data Transmission Systems		ERC/DEC(01)07 ERC/REC 70-03	EN 300 328	Within the band 2400-2483.5 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
2483.5 - 2500 MHz						
FIXED MOBILE MOBILE-SATELLITE (S/E) 5.351A Radiolocation 5.150 5.371 5.397 5.398 5.399 5.400 5.402	FIXED MOBILE MOBILE-SATELLITE (S/E) 5.351A 5.150 5.371 5.398 5.402	ISM				
		Mobile applications				
		Mobile satellite applications		ERC/DEC(97)03 ERC/DEC(97)05	EN 301 441 EN 301 473	
		SAP/SAB		ERC/REC 25-10	EN 302 064	
2500 - 2520 MHz						
FIXED 5.409 5.410 5.411 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE (S/E) 5.351A 5.403 5.405 5.407 5.412 5.414	MOBILE except aeronautical mobile 5.384A Fixed	IMT-2000/UMTS		ECC/DEC/(02)06 ECC/DEC/(05)05 ECC/REC 03-03		Planned implementation date of IMT-2000/UMTS 1 January 2008 in accordance with ECC/DEC(02)06

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation		Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
2520 - 2655 MHz							
BROADCASTING-SATELLITE 5.413 5.416 FIXED 5.409 5.410 5.411 MOBILE except aeronautical mobile 5.384A 5.339 5.403 5.405 5.412 5.417C 5.417D 5.418B 5.418C	FIXED MOBILE except aeronautical mobile 5.384A		Defence systems				Within the band 2520-2575 MHz
	5.339	EU2	Fixed links		T/R 13-01	EN 301 751	
	5.418B	EU15	IMT-2000/UMTS		ECC/DEC/(02)06 ECC/DEC/(05)05 ECC/REC 03-03		Planned implementation date of IMT-2000/UMTS 1 January 2008 in accordance with ECC/DEC(02)06
	5.418C	EU16	SAP/SAB		ERC/REC 25-10	EN 302 064	On a tuning range basis until IMT-2000/UMTS is implemented
2655 - 2670 MHz							
BROADCASTING-SATELLITE 5.347A 5.413 5.416 FIXED 5.409 5.410 5.411 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)		Fixed links		T/R 13-01	EN 301 751	
	5.149	EU2	IMT-2000/UMTS		ECC/DEC/(02)06 ECC/DEC/(05)05 ECC/REC 03-03		Planned implementation date of IMT-2000/UMTS 1 January 2008 in accordance with ECC/DEC(02)06
	5.347A	EU15	Radio astronomy				Continuum observations
		EU16	SAP/SAB		ERC/REC 25-10	EN 302 064	On a tuning range basis until IMT-2000/UMTS is implemented

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
2670 - 2690 MHz						
FIXED 5.409 5.410 5.411	MOBILE except aeronautical mobile 5.384A	IMT-2000/UMTS		ECC/DEC/(02)06		Planned implementation date of IMT-2000/UMTS 1 January 2008 in accordance with ECC/DEC(02)06
MOBILE except aeronautical mobile 5.384A	Fixed			ECC/DEC/(05)05		
MOBILE-SATELLITE (E/S) 5.351A	Radio astronomy			ECC/REC 03-03		
Earth exploration-satellite (passive)		Radio astronomy				Continuum observations
Radio astronomy						
Space research (passive)						
5.149	5.149					
5.412						
5.419						
5.420						
2690 - 2700 MHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				
RADIO ASTRONOMY	RADIO ASTRONOMY					
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.340	5.340					
5.422						
2700 - 2900 MHz						
AERONAUTICAL RADIONAVIGATION 5.337	AERONAUTICAL RADIONAVIGATION 5.337	Meteorological radars				
Radiolocation	Radiolocation	Radar and Navigation systems		ECC/REC 02-09		
5.423	5.423					
5.424						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
2900 - 3100 MHz						
RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 5.427	RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 EU2 5.427 EU27	Defence systems Radar and Navigation systems				
3100 - 3300 MHz						
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 Radars active sensors satellite				
3300 - 3400 MHz						
RADIOLOCATION 5.149 5.429 5.430	RADIOLOCATION 5.149 EU2	Defence systems Radars				Upper limit for airborne radars 3410 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
3400 - 3500 MHz						
FIXED	FIXED	Amateur	EU17		EN 301 783	EU 17 within the band 3400-3410 MHz
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
Mobile	MOBILE	BWA		ECC/REC 04-05	EN 301 751	Within the band 3400-3800 MHz
Radiolocation	Amateur			ERC/REC 13-04	EN 301 753	
	Radiolocation			ERC/REC 14-03	EN 302 326	
5.431		Mobile applications			EN 302 064	For coordinated SAB/SAP applications for occasional use. In some countries the mobile service may be on secondary basis
		Radars				Upper limit for airborne radars is 3410 MHz
3500 - 3600 MHz						
FIXED	FIXED	BWA		ECC/REC 04-05	EN 301 751	Within the band 3400-3800 MHz
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)			ERC/REC 13-04	EN 301 753	
Mobile	MOBILE			ERC/REC 14-03	EN 302 326	
Radiolocation		Mobile applications			EN 302 064	For coordinated SAB/SAP applications for occasional use. In some countries the mobile service may be on secondary basis
5.431						
3600 - 3800 MHz						
FIXED	FIXED	-				In some countries the mobile service may be on secondary basis
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
Mobile	MOBILE	BWA		ECC/REC 04-05	EN 301 751	Within the band 3400-3800 MHz
					EN 301 753	
					EN 302 326	
		FSS		ECC/DEC/(05)09	EN 301 443	Priority for civil networks
		Medium/high capacity fixed links		ERC/REC 12-08	EN 301 751	

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
3800 - 4200 MHz						
FIXED FIXED-SATELLITE (S/E) Mobile	FIXED FIXED-SATELLITE (S/E)	FSS		ECC/DEC/(05)09	EN 301 443	Priority for civil networks
		Medium/high capacity fixed links		ERC/REC 12-08	EN 301 751	
4200 - 4400 MHz						
AERONAUTICAL RADIONAVIGATION 5.438 5.439 5.440	AERONAUTICAL RADIONAVIGATION 5.438 5.440 EU18	Altimeters				
		Passive sensors (satellite)				For sea surface temperature measurements
4400 - 4500 MHz						
FIXED MOBILE	FIXED MOBILE EU2 EU27	Defence systems	EU20			Harmonised military band for fixed and mobile systems
		Mobile applications			EN 302 064	For coordinated SAB/SAP applications for occasional use
4500 - 4800 MHz						
FIXED FIXED-SATELLITE (S/E) 5.441 MOBILE	FIXED FIXED-SATELLITE (S/E) 5.441 MOBILE EU27	Defence systems	EU20			Harmonised military band for fixed and mobile systems
		FSS				Fixed-Satellite service not to be implemented in NATO Europe. Fixed-Satellite frequency plan in 4500-4800 MHz
		Mobile applications			EN 302 064	For coordinated SAB/SAP applications for occasional use

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
4800 - 4990 MHz						
FIXED MOBILE 5.442 Radio astronomy 5.149 5.339 5.443	FIXED MOBILE except aeronautical mobile Radio astronomy 5.149 EU27 5.339	Defence systems	EU20			Harmonised military band for fixed and mobile systems
		Mobile applications			EN 302 064	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 observations and VLBI
4990 - 5000 MHz						
FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive) 5.149	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149 EU27	Defence systems	EU20			Harmonised military band for fixed and mobile systems
		Mobile applications				For coordinated SAB/SAP applications for occasional use
		Radio astronomy				Continuum observation and VLBI
5000 - 5010 MHz						
AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (E/S) 5.367	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (E/S) Radio astronomy Space research (passive) 5.367	Galileo				For future use by Galileo
		Radio astronomy				Continuum observation and VLBI
		Satellite Navigation systems				Aeronautical Radionavigation and Fixed Satellite Service envisaged in some countries

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
5010 - 5030 MHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Galileo C1				
RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.443B	RADIONAVIGATION-SATELLITE (S/E) (S/S) 5.328B 5.443B	Radio astronomy				VLBI observations
	Radio astronomy	Satellite Navigation systems				Aeronautical Radionavigation and Fixed Satellite Service envisaged in some countries
	Space research (passive)					
5.367	5.367					
5030 - 5150 MHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	MLS				Aeronautical Radionavigation envisaged in some countries. Fixed Satellite Service in use in some countries
5.367	5.367 EU18					
5.444	5.444					
5.444A	5.444A					
5150 - 5250 MHz						
AERONAUTICAL RADIONAVIGATION	FIXED-SATELLITE (E/S) 5.447A	Feeder links for MSS				Aeronautical Radionavigation and Fixed Satellite Service envisaged in some countries
FIXED-SATELLITE (E/S) 5.447A	MOBILE except aeronautical mobile 5.446A 5.446B					
MOBILE except aeronautical mobile 5.446A 5.446B		WAS/RLANS		ECC/DEC/(04)08 ERC/REC 70-03	EN 301 893	Within the bands 5150-5350 and 5470-5725 MHz
5.446	5.446					
5.447	5.447					
5.447B	5.447B					
5.447C	5.447C					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
5250 - 5255 MHz						
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	Active sensors (satellite)				
		Defence systems				Tactical and weapon system radars
		Position fixing				
		Shipborne and VTS radar				
		WAS/RLANS		ECC/DEC/(04)08 ERC/REC 70-03	EN 301 893	Within the bands 5150-5350 and 5470-5725 MHz
		Weather radars				Ground based and airborne
5255 - 5350 MHz						
EARTH EXPLORATION-SATELLITE (active) MOBILE except aeronautical mobile 5.446A 5.447F RADIOLOCATION SPACE RESEARCH (active) 5.447E 5.448 5.448A	EARTH EXPLORATION-SATELLITE (active) MOBILE except aeronautical mobile 5.446A 5.447F RADIOLOCATION SPACE RESEARCH (active) 5.448A EU2 EU22	Active sensors (satellite)				
		Defence systems				Tactical and weapon system radars
		Position fixing				
		Shipborne and VTS radar				
		WAS/RLANS		ECC/DEC/(04)08 ERC/REC 70-03	EN 301 893	Within the bands 5150-5350 and 5470-5725 MHz
		Weather radars				Ground based and airborne

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
5350 - 5450 MHz						
AERONAUTICAL RADIONAVIGATION 5.449	AERONAUTICAL RADIONAVIGATION 5.449	Active sensors (satellite)				
EARTH EXPLORATION-SATELLITE (active) 5.448B	EARTH EXPLORATION-SATELLITE (active) 5.448B	Defence systems				Tactical and weapon system radars
RADIOLOCATION 5.448D	RADIOLOCATION 5.448D	Position fixing				
SPACE RESEARCH (active) 5.448C	SPACE RESEARCH (active) 5.448C	Shipborne and VTS radar				
	Fixed	Weather radars				Ground based and airborne
	EU2					
	EU22					
5450 - 5460 MHz						
AERONAUTICAL RADIONAVIGATION 5.449	AERONAUTICAL RADIONAVIGATION 5.449	Active sensors (satellite)				
EARTH EXPLORATION-SATELLITE (active) 5.448B	EARTH EXPLORATION-SATELLITE (active) 5.448B	Defence systems				Tactical and weapon system radars
RADIOLOCATION 5.448D	RADIOLOCATION 5.448D	Position fixing				
SPACE RESEARCH (active) 5.448C	SPACE RESEARCH (active) 5.448C	Shipborne and VTS radar				
	EU2	Weather radars				Ground based and airborne
	EU22					
5460 - 5470 MHz						
EARTH EXPLORATION-SATELLITE (active)	EARTH EXPLORATION-SATELLITE (active)	Active sensors (satellite)				
RADIOLOCATION 5.448D	RADIOLOCATION 5.448D	Defence systems				Tactical and weapon system radars
RADIONAVIGATION 5.449	RADIONAVIGATION 5.449	Position fixing				
SPACE RESEARCH (active)	SPACE RESEARCH (active)	Shipborne and VTS radar				
5.448B	5.448B EU2	Weather radars				Ground based and airborne
	EU22					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
5470 - 5570 MHz						
EARTH EXPLORATION-SATELLITE (active)	EARTH EXPLORATION-SATELLITE (active)	Active sensors (satellite)				
MARITIME RADIONAVIGATION	MARITIME RADIONAVIGATION	Defence systems				Tactical and weapon system radars
MOBILE except aeronautical mobile 5.446A 5.450A	MOBILE except aeronautical mobile 5.446A 5.450A	Position fixing				
RADIOLOCATION 5.450B	RADIOLOCATION 5.450B	Shipborne and VTS radar				
SPACE RESEARCH (active)	SPACE RESEARCH (active)	WAS/RLANS		ECC/DEC/(04)08 ERC/REC 70-03	EN 301 893	Within the bands 5150-5350 and 5470-5725 MHz
5.448B	5.448B EU2	Weather radars				Ground based and airborne
5.450	EU22					
5.451						
5570 - 5650 MHz						
MARITIME RADIONAVIGATION	MARITIME RADIONAVIGATION	Defence systems				Tactical and weapon system radars
MOBILE except aeronautical mobile 5.446A 5.450A	MOBILE except aeronautical mobile 5.446A 5.450A	Position fixing				
RADIOLOCATION 5.450B	RADIOLOCATION 5.450B	Shipborne and VTS radar				
5.450	5.452 EU2	WAS/RLANS		ECC/DEC/(04)08 ERC/REC 70-03	EN 301 893	Within the bands 5150-5350 and 5470-5725 MHz
5.451	EU22	Weather radars				Ground based
5.452						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
5650 - 5725 MHz						
MOBILE except aeronautical mobile 5.446A 5.450A	MOBILE except aeronautical mobile 5.446A 5.450A	Amateur	EU17		EN 301 783	Within the band 5660-5670 MHz
RADIOLOCATION	RADIOLOCATION	Amateur Satellite (E/S)	EU23		EN 301 783	Within the band 5660-5670 MHz
Amateur	Amateur	Defence systems				Tactical and weapon system radars
Space research (deep space)	Amateur-satellite (E/S)	Position fixing				
5.282	5.282 EU2	Shipborne and VTS radar				
5.451	EU17	WAS/RLANS		ECC/DEC/(04)08 ERC/REC 70-03	EN 301 893	Within the bands 5150-5350 and 5470-5725 MHz
5.453	EU22	Weather radars				Ground based and airborne
5.454						
5.455						
5725 - 5830 MHz						
FIXED-SATELLITE (E/S)	FIXED-SATELLITE (E/S)	Amateur			EN 301 783	
RADIOLOCATION	RADIOLOCATION	BFWA		ECC/REC 06-04		Within the band 5725-5875 MHz
Amateur	Amateur	Defence systems				Tactical and weapon system radars
	Mobile	ISM				Within the band 5725-5875 MHz
5.150	5.150 EU2	Non-Specific SRDs		ERC/REC 70-03	EN 300 440	Within the band 5725-5875 MHz
5.451	EU22	RTTT		ECC/DEC/(02)01 ERC/REC 70-03	EN 300 674	Within the band 5795-5805 MHz. RTTT in the band 5805-5815 MHz on a national basis
5.453		Weather radars				Ground based and airborne
5.455						
5.456						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
5830 - 5850 MHz						
FIXED-SATELLITE (E/S) RADIOLOCATION Amateur Amateur-satellite (S/E) 5.150 5.451 5.453 5.455 5.456	FIXED-SATELLITE (E/S) RADIOLOCATION Amateur Amateur-satellite (S/E) Mobile 5.150 EU2 EU22	Amateur Satellite (S/E)	EU23			Within the band 5830-5850 MHz
		BFWA		ECC/REC 06-04		Within the band 5725-5875 MHz
		Defence systems				Tactical and weapon system radars
		ISM				Within the band 5725-5875 MHz
		Non-Specific SRDs		ERC/REC 70-03	EN 300 440	Within the band 5725-5875 MHz
		Weather radars				Ground based and airborne
5850 - 5925 MHz						
FIXED FIXED-SATELLITE (E/S) MOBILE 5.150	FIXED FIXED-SATELLITE (E/S) MOBILE 5.150	BFWA		ECC/REC 06-04		Within the band 5725-5875 MHz
		FSS			EN 301 443	Priority for civil networks
		ISM				Within the band 5725-5875 MHz
		Non-Specific SRDs		ERC/REC 70-03	EN 300 440	Within the band 5725-5875 MHz
5925 - 6425 MHz						
FIXED FIXED-SATELLITE (E/S) 5.457A 5.457B MOBILE 5.149 5.440 5.458	FIXED FIXED-SATELLITE (E/S) 5.457A	Fixed links		ERC/REC 14-01	EN 301 751	Point-to-point
		FSS		ECC/DEC/(05)09	EN 301 443	Priority for civil networks
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
6425 - 6700 MHz						
FIXED	FIXED	Fixed links		ERC/REC 14-02	EN 301 751	Point-to-point
FIXED-SATELLITE (E/S) 5.457A 5.457B	FIXED-SATELLITE (E/S) 5.457A	FSS			EN 301 443	Priority for civil networks
MOBILE	Earth exploration-satellite (passive)	Passive sensors (satellite)				For sea surface temperature, sea surface wind speed and soil moisture measurements
5.149	5.149					
5.440	5.440					
5.458	5.458	UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz
6700 - 7075 MHz						
FIXED	FIXED	Feeder links for MSS				Within the band 6925-7075 MHz
FIXED-SATELLITE (E/S) (S/E) 5.441	FIXED-SATELLITE (E/S) (S/E) 5.441	Fixed links		ERC/REC 14-02	EN 301 751	Point-to-point
MOBILE	Earth exploration-satellite (passive)	FSS				Within the band 6725-7025 MHz Priority for civil networks
5.458	5.458					
5.458A	5.458A	Passive sensors (satellite)				For sea surface temperature, sea surface wind speed and soil moisture measurements
5.458B	5.458B					
5.458C	5.458C					
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz
7075 - 7145 MHz						
FIXED	FIXED	Fixed links		ERC/REC 14-02	EN 301 751	Point-to-point
MOBILE	Earth exploration-satellite (passive)	Passive sensors (satellite)				For sea surface temperature, sea surface wind speed and soil moisture measurements
5.458	5.458					
5.459		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
7145 - 7235 MHz						
FIXED MOBILE SPACE RESEARCH (E/S) 5.460 5.458 5.459	FIXED MOBILE SPACE RESEARCH (E/S) 5.460 Earth exploration-satellite (E/S) Space operation (E/S) 5.458	Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point
		Passive sensors (satellite)				For sea surface temperature, sea surface wind speed and soil moisture measurements
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz
7235 - 7250 MHz						
FIXED MOBILE 5.458	FIXED Earth exploration-satellite (E/S) Space research (E/S)	Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point
		Passive sensors (satellite)				For sea surface temperature, sea surface wind speed and soil moisture measurements
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz
7250 - 7300 MHz						
FIXED FIXED-SATELLITE (S/E) MOBILE 5.461	FIXED FIXED-SATELLITE (S/E) MOBILE 5.461 EU2 EU27	Defence systems				Harmonised military band for satellite operation
		Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point. FIXED and MOBILE services not to be implemented in most NATO countries
		Mobile satellite applications				Within the band 7250-7375 MHz
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
7300 - 7450 MHz						
FIXED	FIXED	Defence systems				Harmonised military band for satellite operation
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile	Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point
5.461	5.461 EU2 EU27	Mobile satellite applications				Within the band 7250-7375 MHz
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz
7450 - 7550 MHz						
FIXED	FIXED	Defence systems				Harmonised military band for satellite operation
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
METEOROLOGICAL-SATELLITE (S/E)	METEOROLOGICAL-SATELLITE (S/E)	Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile	Meteorological Satellites				Limited to geostationary systems
5.461A	5.461A EU2 EU27	UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz
7550 - 7750 MHz						
FIXED	FIXED	Defence systems				Harmonised military band for satellite operation
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile EU2 EU27	Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
7750 - 7850 MHz						
FIXED METEOROLOGICAL-SATELLITE (S/E) 5.461B MOBILE except aeronautical mobile	FIXED METEOROLOGICAL-SATELLITE (S/E) 5.461B MOBILE except aeronautical mobile EU2	Defence systems				
		Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point
		Meteorological Satellites				Limited to non-geostationary systems
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz
7850 - 7900 MHz						
FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile	Defence systems				
		Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz
7900 - 8025 MHz						
FIXED FIXED-SATELLITE (E/S) MOBILE 5.461	FIXED FIXED-SATELLITE (E/S) MOBILE 5.461 EU2 EU27	Defence systems				Harmonised military band for satellite operation
		Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point. FIXED and MOBILE services not to be implemented above 7975 MHz in NATO countries
		Mobile satellite applications				
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
8025 - 8175 MHz						
EARTH EXPLORATION-SATELLITE (S/E) FIXED FIXED-SATELLITE (E/S) MOBILE 5.463 5.462A	EARTH EXPLORATION-SATELLITE (S/E) FIXED FIXED-SATELLITE (E/S) MOBILE 5.463 5.462A EU2 EU27	Defence systems				Harmonised military band fro satellite operation
		Earth Exploration-Satellite				Satellite payload telemetry
		Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point
		Mobile applications				Within the band 8025-8200 MHz
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz
8175 - 8215 MHz						
EARTH EXPLORATION-SATELLITE (S/E) FIXED FIXED-SATELLITE (E/S) METEOROLOGICAL-SATELLITE (E/S) MOBILE 5.463 5.462A	EARTH EXPLORATION-SATELLITE (S/E) FIXED FIXED-SATELLITE (E/S) METEOROLOGICAL-SATELLITE (E/S) MOBILE 5.463 5.462A EU2 EU27	Defence systems				Harmonised military band for satellite operation
		Earth Exploration-Satellite				Satellite payload telemetry
		Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point
		Mobile applications				Within the band 8025-8200 MHz
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz
8215 - 8400 MHz						
EARTH EXPLORATION-SATELLITE (S/E) FIXED FIXED-SATELLITE (E/S) MOBILE 5.463 5.462A	EARTH EXPLORATION-SATELLITE (S/E) FIXED FIXED-SATELLITE (E/S) 5.462A EU2 5.463 EU27	Defence systems				Harmonised military band for satellite operation
		Earth Exploration-Satellite				Satellite payload telemetry
		Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point
		Radio astronomy				Continuum observations and VLBI
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
8400 - 8500 MHz						
FIXED MOBILE except aeronautical mobile SPACE RESEARCH (S/E) 5.465 5.466	FIXED SPACE RESEARCH (S/E) 5.465 Radiolocation	Fixed links		ECC/REC 02-06	EN 301 751	Point-to-point
		Space Research				Satellite payload telemetry. The band 8400-8450 MHz is limited to deep space applications
		UWB		ECC/DEC/(06)04		Within the band 6000-8500 MHz
8500 - 8550 MHz						
RADIOLOCATION 5.468 5.469	RADIOLOCATION 5.469 EU2 EU24	Aeronautical radionavigation				Civil and military e.g. airfield approach
		Radars				Shipborne, land and airborne surveillance and weapon
8550 - 8650 MHz						
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 radionavigation				Civil and military e.g. airfield approach
		Radars				Shipborne, land and airborne surveillance and weapon
8650 - 8750 MHz						
RADIOLOCATION 5.468 5.469	RADIOLOCATION 5.469 EU2 EU24	Aeronautical radionavigation				Civil and military e.g. airfield approach
		Radars				Shipborne, land and airborne surveillance and weapon

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
8750 - 8850 MHz						
AERONAUTICAL RADIONAVIGATION 5.470	AERONAUTICAL RADIONAVIGATION 5.470	Aeronautical radionavigation				Civil and military e.g. airfield approach
RADIOLOCATION	RADIOLOCATION	Radars				Shipborne, land and airborne surveillance and weapon
	Space research					
5.471	EU2					
	EU24					
8850 - 9000 MHz						
MARITIME RADIONAVIGATION 5.472	MARITIME RADIONAVIGATION 5.472	Aeronautical radionavigation				Civil and military e.g. airfield approach
RADIOLOCATION	RADIOLOCATION	Radars				Shipborne, land and airborne surveillance and weapon
	Space research					
5.473	5.473 EU2					
	EU24					
9000 - 9200 MHz						
AERONAUTICAL RADIONAVIGATION 5.337	AERONAUTICAL RADIONAVIGATION 5.337	Aeronautical radionavigation				Civil and military e.g. airfield approach
Radiolocation	Radiolocation	Radars				Shipborne, land and airborne surveillance and weapon
	Space research					
5.471	EU2					
	EU24					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
9200 - 9300 MHz						
MARITIME RADIONAVIGATION 5.472	MARITIME RADIONAVIGATION 5.472	Aeronautical radionavigation				Civil and military e.g. airfield approach
RADIOLOCATION	RADIOLOCATION	Equipment for Detecting Movement and Alert		ERC/REC 70-03	EN 300 440	Within the band 9200-9975 MHz
	Space research	Radars				Shipborne, land and airborne surveillance and weapon
5.473	5.473 EU2					
5.474	5.474 EU24					
9300 - 9500 MHz						
RADIONAVIGATION 5.476	RADIONAVIGATION 5.476	Aeronautical radionavigation				Civil and military e.g. airfield approach
Radiolocation	Radiolocation	Equipment for Detecting Movement and Alert		ERC/REC 70-03	EN 300 440	Within the band 9200-9975 MHz
	Space research	Radars				Shipborne, land and airborne surveillance and weapon
5.427	5.427 EU2	Weather radars				Ground based and airborne
5.474	5.474 EU24					
5.475	5.475					
9500 - 9800 MHz						
EARTH EXPLORATION-SATELLITE (active)	EARTH EXPLORATION-SATELLITE (active)	Active sensors (satellite)				
RADIOLOCATION	RADIOLOCATION	Aeronautical radionavigation				Civil and military e.g. airfield approach
RADIONAVIGATION	SPACE RESEARCH (active)	Equipment for Detecting Movement and Alert		ERC/REC 70-03	EN 300 440	Within the band 9200-9975 MHz
SPACE RESEARCH (active)		Radars				Shipborne, land and airborne surveillance and weapon
5.476A	5.476A EU2					
	EU24					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
9800 - 10000 MHz						
RADIOLOCATION Fixed 5.477 5.478 5.479	RADIOLOCATION Space research 5.479 EU2 EU24	Aeronautical radionavigation				Civil and military e.g. airfield approach
		Equipment for Detecting Movement and Alert		ERC/REC 70-03	EN 300 440	Within the band 9200-9975 MHz
		Radars				Shipborne, land and airborne surveillance and weapon

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
10 - 10.15 GHz						
FIXED	FIXED	Amateur			EN 301 783	
MOBILE	MOBILE	Non civil radar				
RADIOLOCATION	RADIOLOCATION	SAP/SAB	EU17A	ERC/REC 25-10		
Amateur	Amateur					
5.479	5.479 EU2					
10.15 - 10.3 GHz						
FIXED	FIXED	Amateur			EN 301 783	
MOBILE	MOBILE	Civil and military radars				Low power radars in certain subbands
RADIOLOCATION	RADIOLOCATION	Fixed links		ERC/REC 12-05	EN 301 751	
Amateur	Amateur	FWA		ERC/REC 13-04	EN 301 753	Including Point-to-Multipoint
5.479	EU2	SAP/SAB	EU17A	ERC/REC 25-10		
10.3 - 10.45 GHz						
FIXED	FIXED	Amateur			EN 301 783	
MOBILE	RADIOLOCATION	Civil and military radars				Low power radars in certain subbands
RADIOLOCATION	Amateur	SAP/SAB	EU17A	ERC/REC 25-10		
Amateur	Mobile					
5.479	EU2					
	EU17					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
10.45 - 10.5 GHz						
RADIOLOCATION Amateur Amateur-satellite 5.481	FIXED MOBILE RADIOLOCATION Amateur Amateur-satellite 5.481 EU2	Amateur	EU17		EN 301 783	
		Amateur Satellite	EU23		EN 301 783	
		Civil and military radars				
		Fixed links		ERC/REC 12-05	EN 301 751	
		SAP/SAB	EU17A	ERC/REC 25-10		
10.5 - 10.55 GHz						
FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation	Equipment for Detecting Movement and Alert		ERC/REC 70-03	EN 300 440	Within the band 10.5-10.6 GHz
		Fixed links		ERC/REC 12-05	EN 301 751	
		FWA		ERC/REC 13-04	EN 301 753	Including Point-to-Multipoint
		SAP/SAB	EU17A	ERC/REC 25-10		
10.55 - 10.6 GHz						
FIXED MOBILE except aeronautical mobile Radiolocation	FIXED MOBILE except aeronautical mobile Radiolocation	Equipment for Detecting Movement and Alert		ERC/REC 70-03	EN 300 440	Within the band 10.5-10.6 GHz
		Fixed links		ERC/REC 12-05	EN 301 751	
		FWA		ERC/REC 13-04	EN 301 753	Including Point-to-Multipoint
		SAP/SAB	EU17A	ERC/REC 25-10		

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
10.6 - 10.65 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Fixed links		ERC/REC 12-05	EN 301 751	
FIXED	FIXED	FWA		ERC/REC 13-04	EN 301 753	Including Point-to-Multipoint
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile	Passive sensors (satellite)				Surface emissivity and precipitation measurements
RADIO ASTRONOMY	RADIO ASTRONOMY	Radio astronomy				Continuum and VLBI measurements
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)	SAP/SAB	EU17A	ERC/REC 25-10		
Radiolocation	Radiolocation					
5.149	5.149					
5.482	5.482					
10.65 - 10.68 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Fixed links		ERC/REC 12-05	EN 301 751	
FIXED	FIXED	Passive sensors (satellite)				Surface emissivity and precipitation measurements
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile	Radio astronomy				Continuum and VLBI measurement
RADIO ASTRONOMY	RADIO ASTRONOMY	SAP/SAB	EU17A	ERC/REC 25-10		
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
Radiolocation						
5.149	5.149					
5.482	5.482					
10.68 - 10.7 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				Surface emmissivity and precipitation measurement
RADIO ASTRONOMY	RADIO ASTRONOMY	Radio astronomy				Continuum and VLBI measurement
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.340	5.340					
5.483						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
10.7 - 11.7 GHz						
FIXED FIXED-SATELLITE (S/E) 5.441 5.484A (E/S) 5.484 MOBILE except aeronautical mobile	FIXED FIXED-SATELLITE (S/E) 5.441 5.484A (E/S) 5.484 MOBILE except aeronautical mobile Mobile-satellite (S/E)	Aircraft Earth Stations		ECC/DEC/(05)11	EN 302 186	
		Fixed links		ERC/DEC(00)08 ERC/REC 12-06	EN 301 751	Limited to high capacity fixed links
		FSS		ECC/DEC/(05)10 ECC/DEC/(05)11 ERC/DEC(00)08	EN 301 427 EN 301 428 EN 301 430 EN 301 459 EN 301 360	Within the band 10.7-10.95/11.2-11.45 GHz in accordance with App 30B of RR SIT/SUT - EUTELTRACK - VSAT
		HEST		ECC/DEC/(06)03	EN 301 428 EN 301 459	
		LEST		ECC/DEC/(06)02	EN 301 459 EN 301 428	
11.7 - 12.5 GHz						
BROADCASTING BROADCASTING-SATELLITE FIXED MOBILE except aeronautical mobile 5.487 5.487A 5.492	BROADCASTING-SATELLITE FIXED MOBILE except aeronautical mobile 5.487 EU28 5.487A 5.492	HEST		ECC/DEC/(06)03	EN 301 428 EN 301 459	
		LEST		ECC/DEC/(06)02	EN 301 428 EN 301 459	
		Satellite Broadcasting		ERC/DEC(00)03 ERC/DEC(00)08		In accordance with App 30 of RR. SIT within the band 12.4 - 12.5 GHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
12.5 - 12.75 GHz						
FIXED-SATELLITE (S/E) 5.484A (E/S) 5.494 5.495 5.496	FIXED-SATELLITE (S/E) 5.484A (E/S) 5.495 5.496	Aircraft Earth Stations		ECC/DEC/(05)11	EN 302 186	
		FSS		ECC/DEC/(05)10 ECC/DEC/(05)11 ERC/DEC(00)03 ERC/DEC(00)05	EN 301 427 EN 301 428 EN 301 430 EN 301 459 EN 301 360 EN 302 186	Priority for civil networks. Low density carriers, including VSATs and digital SNG are encouraged to use this band VSAT - SIT/SUT
		HEST		ECC/DEC/(06)03	EN 301 428 EN 301 459	
		LEST		ECC/DEC/(06)02	EN 301 428 EN 301 459	
12.75 - 13.25 GHz						
FIXED FIXED-SATELLITE (E/S) 5.441 MOBILE Space research (deep space) (S/E)	FIXED FIXED-SATELLITE (E/S) 5.441	Fixed links		ERC/REC 12-02	EN 301 751	
		FSS			EN 301 430	
13.25 - 13.4 GHz						
AERONAUTICAL RADIONAVIGATION 5.497 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) 5.498A 5.499	AERONAUTICAL RADIONAVIGATION 5.497 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) 5.498A EU26	Active sensors (satellite)				Altimeters, scatterometers, precipitation radars
		Doppler Navigation aids				
		Ship berthing radars				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
13.4 - 13.75 GHz						
EARTH EXPLORATION-SATELLITE (active)	EARTH EXPLORATION-SATELLITE (active)	Active sensors (satellite)				Altimeters, scatterometers, precipitation radars
RADIOLOCATION	RADIOLOCATION	Data relay satellites				
SPACE RESEARCH 5.501A	SPACE RESEARCH 5.501A	Defence systems				Military radars
Standard frequency and time signal-satellite (E/S)		Doppler Navigation aids				
5.499	5.501B EU2	Equipment for Detecting Movement and Alert		ERC/REC 70-03	EN 300 440	Within the band 13.4-14.0 GHz
5.500	EU26	Ship berthing radars				
5.501						
5.501B						
13.75 - 14 GHz						
FIXED-SATELLITE (E/S) 5.484A	FIXED-SATELLITE (E/S) 5.484A	Data relay satellites				
RADIOLOCATION	RADIOLOCATION	Defence systems				Military radars
Earth exploration-satellite	Space research	Equipment for Detecting Movement and Alert		ERC/REC 70-03	EN 300 440	Within the band 13.4-14.0 GHz
Space research		FSS			EN 301 430	
Standard frequency and time signal-satellite (E/S)		Navigation radars				
5.499	5.502 EU2	Passive sensors (satellite)				Future VLBI measurements
5.500	5.503 EU26	Ship berthing radars				
5.501						
5.502						
5.503						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
14 - 14.25 GHz						
FIXED-SATELLITE (E/S) 5.457A 5.457B 5.484A 5.506 5.506B RADIONAVIGATION 5.504 Space research Mobile-satellite (E/S) 5.504C 5.506A 5.504A	FIXED-SATELLITE (E/S) 5.457A 5.457B 5.484A 5.506 5.506B Space research Mobile-satellite (E/S) 5.504C 5.506A 5.504	Aircraft Earth Stations		ECC/DEC/(05)11	EN 302 186	
		Earth Stations on board Vessels		ECC/DEC/(05)10	EN 302 340	
		HEST		ECC/DEC/(06)03	EN 301 428 EN 301 459	
		LEST		ECC/DEC/(06)02	EN 301 428 EN 301 459	
		MSS			EN 301 427	Priority for civil networks
		VSAT/SNG		ERC/DEC(00)05 ERC/REC 13-03		Low density carriers, including VSATs and digital SNG, are encouraged to use this band
14.25 - 14.3 GHz						
FIXED-SATELLITE (E/S) 5.457A 5.457B 5.484A 5.506 5.506B RADIONAVIGATION 5.504 Mobile-satellite (E/S) 5.506A 5.508A Space research 5.504A 5.508 5.509	FIXED-SATELLITE (E/S) 5.457A 5.457B 5.484A 5.506 5.506B Mobile-satellite (E/S) 5.506A 5.508A Space research 5.504	Aircraft Earth Stations		ECC/DEC/(05)11	EN 302 186	
		Earth Stations on board Vessels		ECC/DEC/(05)10	EN 302 340	
		MSS			EN 301 427	Priority for civil networks
		VSAT/SNG		ERC/REC 13-03	EN 301 428 EN 301 430	

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
14.3 - 14.4 GHz						
FIXED FIXED-SATELLITE (E/S) 5.457A 5.457B 5.484A 5.506 5.506B Mobile except aeronautical mobile Mobile-satellite (E/S) 5.506A 5.509A Radionavigation-satellite 5.504A	FIXED-SATELLITE (E/S) 5.457A 5.484A 5.506 Mobile-satellite (E/S) 5.506A 5.509A	Aircraft Earth Stations		ECC/DEC/(05)11	EN 302 186	
		Earth Stations on board Vessels		ECC/DEC/(05)10	EN 302 340	
		FSS				Fixed links to be coordinated with Fixed Satellite Services on a national basis
		MSS			EN 301 427	Priority for civil networks
		VSAT/SNG		ERC/REC 13-03	EN 301 428 EN 301 430	
14.4 - 14.47 GHz						
FIXED FIXED-SATELLITE (E/S) 5.457A 5.457B 5.484A 5.506 5.506B MOBILE except aeronautical mobile Mobile-satellite (E/S) 5.506A 5.509A Radionavigation-satellite 5.504A	FIXED-SATELLITE (E/S) 5.457A 5.484A 5.506 Mobile-satellite (E/S) 5.506A 5.509A	Aircraft Earth Stations		ECC/DEC/(05)11	EN 302 186	
		Earth Stations on board Vessels		ECC/DEC/(05)10	EN 302 340	
		FSS				Fixed links to be coordinated with Fixed Satellite Services on a national basis
	5.504A	MSS			EN 301 427	Priority for civil networks
		VSAT/SNG		ERC/REC 13-03	EN 301 428 EN 301 430	

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
14.47 - 14.5 GHz						
FIXED FIXED-SATELLITE (E/S) 5.457A 5.457B 5.484A 5.506 5.506B MOBILE except aeronautical mobile Mobile-satellite (E/S) 5.504B 5.506A 5.509A Radio astronomy 5.149 5.504A	FIXED-SATELLITE (E/S) 5.457A 5.484A 5.506 Mobile-satellite (E/S) 5.504B 5.506A 5.509A Radio astronomy 5.149 5.504A	Aircraft Earth Stations		ECC/DEC/(05)11	EN 302 186	
		Earth Stations on board Vessels		ECC/DEC/(05)10	EN 302 340	
		FSS				Fixed links to be coordinated with Fixed Satellite Service on a national basis
		MSS			EN 301 427	Priority for civil networks
		Radio astronomy				Spectral line and future VLBI measurements
		VSAT/SNG		ERC/REC 13-03	EN 301 428	VSAT&SNG
14.5 - 14.8 GHz						
FIXED FIXED-SATELLITE (E/S) 5.510 MOBILE Space research	FIXED MOBILE Radio astronomy EU27	Defence systems	EU20			The band 14.62-15.23 GHz is a harmonised military band for fixed and mobile services
		Fixed links	EU20	ERC/REC 12-07	EN 301 751	
		Radio astronomy				Future VLBI measurements compatible with primary use
14.8 - 15.35 GHz						
FIXED MOBILE Space research 5.339	FIXED MOBILE Radio astronomy 5.339 EU27	Defence systems	EU20			The band 14.62-15.23 GHz is a harmonised military band for fixed and mobile services
		Fixed links	EU20	ERC/REC 12-07	EN 301 753	
		Radio astronomy				Future VLBI measurements compatible with primary use

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
15.35 - 15.4 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				
RADIO ASTRONOMY	RADIO ASTRONOMY	Radio astronomy				Continuum and future VLBI measurements
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.340	5.340					
5.511						
15.4 - 15.43 GHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Doppler radar low power sensing				
		Ground movement radars				
5.511D	5.511D					
15.43 - 15.63 GHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Doppler radar low power sensing				
FIXED-SATELLITE (E/S) 5.511A	FIXED-SATELLITE (E/S)	FSS				MSS feeder links
5.511C	5.511C	Ground movement radars				
15.63 - 15.7 GHz						
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Doppler radar low power sensing				
		Ground movement radars				
5.511D	5.511D					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
15.7 - 16.6 GHz						
RADIOLOCATION	RADIOLOCATION	Defence systems				Harmonised military band for land, airborne and naval radars
5.512	EU27					
5.513						
16.6 - 17.1 GHz						
RADIOLOCATION	RADIOLOCATION	Defence systems				Harmonised military band for land, airborne and naval radars
Space research (deep space) (E/S)	Space research (deep space) (E/S)					
5.512	EU27					
5.513						
17.1 - 17.2 GHz						
RADIOLOCATION	RADIOLOCATION	Defence systems				Military radar applications
	Mobile	WAS/RLANS		ERC/REC 70-03		Within the band 17.1-17.3 GHz
5.512	EU2			T/R 22-06		
5.513						
17.2 - 17.3 GHz						
EARTH EXPLORATION-SATELLITE (active)	EARTH EXPLORATION-SATELLITE (active)	Defence systems				Military radar applications
RADIOLOCATION	MOBILE	WAS/RLANS		ERC/REC 70-03		Within the band 17.1-17.3 GHz
SPACE RESEARCH (active)	RADIOLOCATION			T/R 22-06		
	SPACE RESEARCH (active)					
5.512	5.513A EU2					
5.513						
5.513A						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
17.3 - 17.7 GHz						
FIXED-SATELLITE (E/S) 5.516 (S/E) 5.516A 5.516B	FIXED-SATELLITE (E/S) 5.516 (S/E) 5.516A 5.516B	Defence systems				Military radar applications
Radiolocation	Radiolocation	Feeder links for the BSS service				Appendix 30A of RR
5.514	EU2	High Density FSS		ECC/DEC/(05)08		
17.7 - 18.1 GHz						
FIXED	FIXED	Feeder links for the BSS service				Appendix 30A of RR
FIXED-SATELLITE (S/E) 5.484A (E/S) 5.516	FIXED-SATELLITE (S/E) 5.484A (E/S) 5.516	Fixed links		ERC/DEC(00)07 ERC/REC 12-03	EN 301 751	
MOBILE		FSS		ERC/DEC(00)07	EN 301 360	To coordinated earth stations. Priority for civil networks
18.1 - 18.3 GHz						
FIXED	FIXED	Feeder links for the BSS service				
FIXED-SATELLITE (S/E) 5.484A (E/S) 5.520	FIXED-SATELLITE (S/E) 5.484A	Fixed links		ERC/REC 12-03	EN 301 751	
MOBILE	METEOROLOGICAL-SATELLITE (S/E)	FSS			EN 301 360	To coordinated earth stations. Priority for civil networks
5.519		Meteorological Satellites				
5.521						

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
18.3 - 18.4 GHz						
FIXED	FIXED	Feeder links for the BSS service				
FIXED-SATELLITE (S/E) 5.484A 5.516B (E/S) 5.520	FIXED-SATELLITE (S/E) 5.484A (E/S) 5.520	Fixed links		ERC/REC 12-03	EN 301 751	
MOBILE		FSS			EN 301 360	To coordinated earth stations. Priority for civil networks
5.519						
5.521						
18.4 - 18.6 GHz						
FIXED	FIXED	Fixed links		ERC/DEC(00)07	EN 301 751	
FIXED-SATELLITE (S/E) 5.484A 5.516B	FIXED-SATELLITE (S/E) 5.484A			ERC/REC 12-03		
MOBILE		FSS		ERC/DEC(00)07	EN 301 360	To coordinated earth stations. Priority for civil networks
18.6 - 18.8 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Fixed links		ERC/DEC(00)07	EN 301 751	
FIXED	FIXED			ERC/REC 12-03		
FIXED-SATELLITE (S/E) 5.522B	FIXED-SATELLITE (S/E) 5.522B	FSS		ERC/DEC(00)07	EN 301 360	To coordinated earth stations. Priority for civil networks
MOBILE except aeronautical mobile		Passive sensors (satellite)				Surface emmissivity, snow, sea, ice and precipitation
Space research (passive)						
5.522A	5.522A					
5.522C						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
18.8 - 19.3 GHz						
FIXED FIXED-SATELLITE (S/E) 5.516B 5.523A MOBILE	FIXED FIXED-SATELLITE (S/E) 5.523A	Fixed links		ERC/DEC(00)07 ERC/REC 12-03	EN 301 751	
		FSS		ERC/DEC(00)07	EN 301 360	To coordinated earth stations. Priority for civil networks
19.3 - 19.7 GHz						
FIXED FIXED-SATELLITE (S/E) (E/S) 5.523B 5.523C 5.523D 5.523E MOBILE	FIXED FIXED-SATELLITE (S/E) (E/S) 5.523B 5.523C 5.523D 5.523E	Fixed links		ERC/DEC(00)07 ERC/REC 12-03	EN 301 751	
		FSS		ERC/DEC(00)07	EN 301 360	To coordinated earth stations. Priority for civil networks
19.7 - 20.1 GHz						
FIXED-SATELLITE (S/E) 5.484A 5.516B Mobile-satellite (S/E) 5.524	FIXED-SATELLITE (S/E) 5.484A 5.516B Mobile-satellite (S/E)	FSS/MSS		ERC/DEC(00)04	EN 301 459	For uncoordinated earth stations SUT
		HEST		ECC/DEC/(06)03	EN 301 428 EN 301 459	
		High Density FSS		ECC/DEC/(05)08		
		LEST		ECC/DEC/(06)02	EN 301 428 EN 301 459	

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
20.1 - 20.2 GHz						
FIXED-SATELLITE (S/E) 5.484A 5.516B	FIXED-SATELLITE (S/E) 5.484A 5.516B	FSS/MSS		ERC/DEC(00)04	EN 301 459	For uncoordinated earth stations SUT
MOBILE-SATELLITE (S/E)	MOBILE-SATELLITE (S/E)	HEST		ECC/DEC/(06)03	EN 301 428	
5.524	5.525				EN 301 459	
5.525	5.526	High Density FSS		ECC/DEC/(05)08		
5.526	5.527	LEST		ECC/DEC/(06)02	EN 301 428	
5.527	5.528				EN 301 459	
5.528						
20.2 - 21.2 GHz						
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)	FSS/MSS				For uncoordinated earth stations. Harmonised military band for satellite downlinks
MOBILE-SATELLITE (S/E)	MOBILE-SATELLITE (S/E)					
Standard frequency and time signal-satellite (S/E)						
5.524	EU2					
	EU27					
21.2 - 21.4 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				Passive systems will be phased out by 2015
FIXED	FIXED	Unidirectional temporary fixed or mobile links		ERC/REC 25-10		Including SAP/SAB
MOBILE	MOBILE					
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
21.4 - 22 GHz						
BROADCASTING-SATELLITE FIXED MOBILE 5.347A	BROADCASTING-SATELLITE 5.347A	SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
5.530	5.530	Wideband High Definition Television				Fixed service envisaged in some countries
22 - 22.21 GHz						
FIXED	FIXED	Fixed links		T/R 13-02	EN 301 751	
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive)	Radio astronomy				Spectral line observations (water line and redshifted water line under 22.5 GHz)
5.149	5.149	SAP/SAB	EU17A	ERC/REC 25-10		
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
22.21 - 22.5 GHz						
EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive)	FIXED MOBILE except aeronautical mobile Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Earth exploration-satellite (passive)	Fixed links		T/R 13-02	EN 301 751	
		Passive sensors (satellite)				EESS systems will be phased out by 2015
		Radio astronomy				Spectral line observations (water line and redshifted water line under 22.5 GHz) also VLBI
5.149	5.149	SAP/SAB	EU17A	ERC/REC 25-10		
5.532	5.532	SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
22.5 - 22.55 GHz						
FIXED	FIXED	Fixed links		T/R 13-02	EN 301 751	
MOBILE	MOBILE	Radio astronomy				
	RADIO ASTRONOMY					
	SPACE RESEARCH (passive)	SAP/SAB	EU17A	ERC/REC 25-10		
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
22.55 - 22.6 GHz						
FIXED	FIXED	Fixed links		T/R 13-02	EN 301 751	
INTER-SATELLITE	MOBILE	Radio astronomy				
MOBILE	RADIO ASTRONOMY					
	SPACE RESEARCH (passive)	SAP/SAB	EU17A	ERC/REC 25-10		
5.149		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
22.6 - 23 GHz						
FIXED	FIXED	Radio astronomy				Spectral line observations (Methyl Formate and Ammonia lines 22.81-22.86 GHz)
INTER-SATELLITE	MOBILE					
MOBILE	RADIO ASTRONOMY	SAP/SAB	EU17A	ERC/REC 25-10		
	SPACE RESEARCH (passive)					
5.149	5.149	SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
23 - 23.55 GHz						
FIXED INTER-SATELLITE MOBILE 5.149	FIXED INTER-SATELLITE MOBILE 5.149	Fixed links		T/R 13-02	EN 301 751	
		Radio astronomy				Spectral line observations
		SAP/SAB		ERC/REC 25-10		
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
23.55 - 23.6 GHz						
FIXED MOBILE	FIXED INTER-SATELLITE MOBILE	Fixed links		T/R 13-02	EN 301 751	
		SAP/SAB		ERC/REC 25-10		
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
23.6 - 24 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)				Measurement of water vapour, liquid water, clouds for atsmospheric sounding
		Radio astronomy				Continuum observation. Ammonia line measurement
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
24 - 24.05 GHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
AMATEUR-SATELLITE	AMATEUR-SATELLITE	Amateur Satellite			EN 301 783	
5.150	5.150	ISM				Within the band 24-24.25 GHz
		Non-Specific SRDs		ERC/REC 70-03	EN 300 440	Within the band 24-24.25 GHz
		SAP/SAB		ERC/REC 25-10		
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
24.05 - 24.25 GHz						
RADIOLOCATION	RADIOLOCATION	Active sensors (satellite)				Rain radars from satellites
Amateur	Amateur	Amateur				
Earth exploration-satellite (active)	Earth exploration-satellite (active)	Defence systems				
	Fixed	Equipment for Detecting Movement and Alert		ERC/REC 70-03	EN 300 440	Includes narrow band SRR
	Mobile	ISM				Within the band 24-24.25 GHz
5.150	5.150 EU2	Non-Specific SRDs		ERC/REC 70-03	EN 300 440	Within the band 24-24.25 GHz
		SAP/SAB		ERC/REC 25-10		
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
24.25 - 24.45 GHz						
FIXED	FIXED MOBILE	SAP/SAB	EU17A	ERC/REC 25-10		
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
		Unidirectional fixed links				
24.45 - 24.5 GHz						
FIXED INTER-SATELLITE	FIXED MOBILE	SAP/SAB	EU17A	ERC/REC 25-10		
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
		Unidirectional fixed links				
24.5 - 24.65 GHz						
FIXED INTER-SATELLITE	FIXED	Fixed links		T/R 13-02	EN 301 751	
		FWA		ERC/REC 00-05 ERC/REC 13-04	EN 301 753	CRS paired with 25.5-26.5 GHz for FDD systems
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
24.65 - 24.75 GHz						
FIXED INTER-SATELLITE	FIXED	Fixed links		T/R 13-02	EN 301 751	
		FWA		ERC/REC 00-05 ERC/REC 13-04	EN 301 753	CRS paired with 25.5-26.5 GHz for FDD systems
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
24.75 - 25.25 GHz						
FIXED	FIXED	Fixed links		T/R 13-02	EN 301 751	
		FWA		ERC/REC 00-05 ERC/REC 13-04	EN 301 753	CRS paired with 25.5-26.5 GHz for FDD systems
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
25.25 - 25.5 GHz						
FIXED INTER-SATELLITE 5.536 MOBILE Standard frequency and time signal-satellite (E/S)	FIXED INTER-SATELLITE 5.536 MOBILE	Fixed links		T/R 13-02	EN 301 751	
		FWA		ERC/REC 00-05 ERC/REC 13-04	EN 301 753	CRS paired with 25.5-26.5 GHz for FDD systems
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
25.5 - 26.5 GHz						
EARTH EXPLORATION-SATELLITE (S/E) 5.536A 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (S/E) 5.536A 5.536C Standard frequency and time signal-satellite (E/S)	FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (S/E) 5.536A 5.536C Earth exploration-satellite (S/E) 5.536A 5.536B	Fixed links		T/R 13-02	EN 301 751	
		FWA		ERC/REC 00-05 ERC/REC 13-04	EN 301 753	TS should be paired with 24.5-25.5 GHz for FDD systems
		Space Research				Satellite payload telemetry
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013
26.5 - 27 GHz						
EARTH EXPLORATION-SATELLITE (S/E) 5.536A 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (S/E) 5.536A 5.536C Standard frequency and time signal-satellite (E/S)	FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (S/E) 5.536A 5.536C Earth exploration-satellite (S/E) 5.536A 5.536B EU27	Defence systems				Harmonised military band for fixed and mobile systems
		Space Research				Satellite payload telemetry
		SRR		ECC/DEC/(04)10		New SRR systems may only be introduced in CEPT countries in the frequency bands 21.4-27 GHz until the reference date that is set to 1 July 2013

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
27 - 27.5 GHz						
FIXED INTER-SATELLITE 5.536 MOBILE	FIXED INTER-SATELLITE 5.536 MOBILE Earth exploration-satellite (S/E) EU27	Defence systems				Harmonised military band for fixed and mobile systems
27.5 - 28.5 GHz						
FIXED 5.537A FIXED-SATELLITE (E/S) 5.484A 5.516B 5.539 MOBILE 5.538 5.540	FIXED FIXED-SATELLITE (E/S) 5.484A 5.516B 5.539 5.538 5.540	Feeder links				Feeder links to be used for Broadcasting satellites (HDTV) 27.5-29.5 GHz
		Fixed links		ECC/DEC/(05)01 T/R 13-02	EN 301 751	For frequency arrangement between FS and FSS see ECC Decision (05)01
		FSS		ECC/DEC/(05)01	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
		FWA		ERC/REC 01-03 ERC/REC 13-04	EN 301 753	CRS paired with 28.5-29.5 GHz for FDD systems

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
28.5 - 29.1 GHz						
FIXED FIXED-SATELLITE (E/S) 5.484A 5.516B 5.523A 5.539 MOBILE Earth exploration-satellite (E/S) 5.541 5.540	FIXED FIXED-SATELLITE (E/S) 5.484A 5.516B 5.523A 5.539 Earth exploration-satellite (E/S) 5.541 5.540	Feeder links		ECC/DEC/(05)01		Feeder links to be used for Broadcasting satellites (HDTV) 27.5-29.5 GHz
		Fixed links		ECC/DEC/(05)01 T/R 13-02	EN 301 751	For frequency arrangement between FS and FSS see ECC Decision (05)01
		FSS		ECC/DEC/(05)01	EN 301 360	Uncoordinated earth stations within the band 28.4445-28.8365 GHz
		FWA		ERC/REC 01-03 ERC/REC 13-04	EN 301 753	TS paired with 27.5-28.5 GHz for FDD systems
29.1 - 29.5 GHz						
FIXED FIXED-SATELLITE (E/S) 5.516B 5.523C 5.523E 5.535A 5.539 5.541A MOBILE Earth exploration-satellite (E/S) 5.541 5.540	FIXED FIXED-SATELLITE (E/S) 5.516B 5.523C 5.523E 5.535A 5.539 5.541A Earth exploration-satellite (E/S) 5.541 5.540	Feeder links				Feeder links to be used for Broadcasting satellites (HDTV) 27.5-29.5 GHz
		Fixed links		ECC/DEC/(05)01 T/R 13-02	EN 301 751	Within the band 29.0605-29.4525 GHz
		FSS		ECC/DEC/(05)01	EN 301 360	Uncoordinated earth stations within the band 29.4525-29.5 GHz
		FWA		ERC/REC 01-03 ERC/REC 13-04	EN 301 753	TS paired with 27.5-28.5 GHz for FDD systems

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
29.5 - 29.9 GHz						
FIXED-SATELLITE (E/S) 5.484A 5.516B 5.539 Earth exploration-satellite (E/S) 5.541 Mobile-satellite (E/S) 5.540 5.542	FIXED-SATELLITE (E/S) 5.484A 5.516B 5.539 Earth exploration-satellite (E/S) 5.541 Mobile-satellite (E/S) 5.540	HEST		ECC/DEC/(06)03	EN 301 428 EN 301 459	
		High Density FSS		ECC/DEC/(05)08 ERC/DEC(00)03 ERC/DEC(00)04	EN 301 459	SIT/SUT
		LEST		ECC/DEC/(06)02	EN 301 428 EN 301 459	
		MSS			EN 301 459	
29.9 - 30 GHz						
FIXED-SATELLITE (E/S) 5.484A 5.516B 5.539 MOBILE-SATELLITE (E/S) Earth exploration-satellite (E/S) 5.541 5.543 5.525 5.526 5.527 5.538 5.540 5.542	FIXED-SATELLITE (E/S) 5.484A 5.516B 5.539 MOBILE-SATELLITE (E/S) Earth exploration-satellite (E/S) 5.541 5.543 5.525 5.526 5.527 5.538 5.540	FSS				Limited to beacons for uplink power control 29.999-30 GHz
		HEST		ECC/DEC/(06)03	EN 301 428 EN 301 459	
		High Density FSS		ECC/DEC/(05)08 ERC/DEC(00)03 ERC/DEC(00)04	EN 301 459	SIT/SUT
		LEST		ECC/DEC/(06)02	EN 301 428 EN 301 459	
		MSS			EN 301 459	For uncoordinated earth stations
30 - 31 GHz						
FIXED-SATELLITE (E/S) MOBILE-SATELLITE (E/S) Standard frequency and time signal-satellite (S/E) 5.542	FIXED-SATELLITE (E/S) MOBILE-SATELLITE (E/S) EU2 EU27	FSS/MSS				For uncoordinated earth stations. Harmonised military band for satellite uplinks

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
31 - 31.3 GHz						
FIXED 5.543A	FIXED	Fixed links		ECC/REC 02-02	EN 301 751	
MOBILE	MOBILE	Radio astronomy				Continuum observations
Space research 5.544 5.545						
Standard frequency and time signal-satellite (S/E)						
5.149	5.149					
31.3 - 31.5 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				Measurement of sea ice, water vapour, oil spills, liquid water, clouds, surface temperature. Reference window for the 50-60 GHz range
RADIO ASTRONOMY	RADIO ASTRONOMY					
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.340	5.340	Radio astronomy				Continuum observation
		Surface temperature and emissivity, atmospheric attenuation				
31.5 - 31.8 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Fixed links				
RADIO ASTRONOMY	RADIO ASTRONOMY	Passive sensors (satellite)				Measurement of sea ice, water vapour, oil spills, liquid water, clouds, surface temperature. Reference window for the 50-60 GHz range
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
Fixed	Fixed					
Mobile except aeronautical mobile	Mobile except aeronautical mobile					
5.149	5.149	Radio astronomy				Continuum observation
5.546	5.546	Surface temperature and emissivity, atmospheric attenuation				

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
31.8 - 32 GHz						
FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (S/E) 5.547 5.547B 5.548	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (S/E) 5.547 5.548	High Density FS		ECC/REC 04-06 ERC/REC 01-02	EN 301 751 EN 301 753	Point-to-Point and Point-to-Multipoint
32 - 32.3 GHz						
FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (S/E) 5.547 5.547C 5.548	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (S/E) 5.547 5.548	High Density FS		ECC/REC 04-06 ERC/REC 01-02	EN 301 751 EN 301 753	Point-to-Point and Point-to-Multipoint
32.3 - 33 GHz						
FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.547D 5.548	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.548	High Density FS		ECC/REC 04-06 ERC/REC 01-02	EN 301 751 EN 301 753	Point-to-Point and Point-to-Multipoint

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
33 - 33.4 GHz						
FIXED 5.547A RADIONAVIGATION 5.547 5.547E	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547	High Density FS		ECC/REC 04-06 ERC/REC 01-02	EN 301 751 EN 301 753	Point-to-Point and Point-to-Multipoint
33.4 - 34.2 GHz						
RADIOLOCATION	RADIOLOCATION	Defence systems				Harmonised military band for radiolocation systems
5.549	EU2 EU27	Equipment for Detecting Movement and Alert Surveying and measurement				
34.2 - 34.7 GHz						
RADIOLOCATION SPACE RESEARCH (deep space) (E/S) 5.549	RADIOLOCATION SPACE RESEARCH (deep space) (S/E) EU2 EU27	Defence systems Equipment for Detecting Movement and Alert Surveying and measurement				Harmonised military band for radiolocation systems
34.7 - 35.2 GHz						
RADIOLOCATION Space research 5.550 5.549	RADIOLOCATION Space research EU2 EU27	Defence systems Equipment for Detecting Movement and Alert Surveying and measurement				Harmonised military band for radiolocation systems

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
35.2 - 35.5 GHz						
METEOROLOGICAL AIDS	METEOROLOGICAL AIDS	Active sensors (satellite)				Rain radar from satellites
RADIOLOCATION	RADIOLOCATION	Defence systems				Harmonised military band for radiolocation systems
5.549	EU2					
	EU27					
35.5 - 36 GHz						
EARTH EXPLORATION-SATELLITE (active)	EARTH EXPLORATION-SATELLITE (active)	Active sensors (satellite)				
METEOROLOGICAL AIDS	METEOROLOGICAL AIDS	Defence systems				Harmonised military band for Radiolocation systems
RADIOLOCATION	RADIOLOCATION					
SPACE RESEARCH (active)	SPACE RESEARCH (active)					
5.549	5.549A EU2					
5.549A	EU27					
36 - 37 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Defence systems				Harmonised military band for fixed and mobile systems
FIXED	FIXED	Passive sensors (satellite)				EESS surface emmissivity, snow, sea ice and precipitation
MOBILE	MOBILE	Radio astronomy				Hydrogen cyanide and Hydroxil lines 36.43-36.50 GHz
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
	Radio astronomy					
5.149	5.149 EU27					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
37 - 37.5 GHz						
FIXED MOBILE SPACE OPERATION (S/E) 5.547	FIXED SPACE RESEARCH (S/E) 5.547 EU2	Defence systems				Low and medium capacity fixed links
		High density fixed links		T/R 12-01	EN 301 751	Major use by civil Fixed Service Systems
37.5 - 38 GHz						
FIXED FIXED-SATELLITE (S/E) MOBILE SPACE RESEARCH (S/E) Earth exploration-satellite (S/E) 5.547	FIXED FIXED-SATELLITE (S/E) SPACE RESEARCH (S/E) Earth exploration-satellite (S/E) 5.547 EU2	Defence systems				Low and medium capacity fixed links
		FSS		ERC/DEC(00)02		Uncoordinated Earth stations shall not claim protection from the Fixed Service
		High density fixed links		T/R 12-01	EN 301 751	Major use by civil Fixed Service Systems
38 - 39.5 GHz						
FIXED FIXED-SATELLITE (S/E) MOBILE Earth exploration-satellite (S/E) 5.547	FIXED FIXED-SATELLITE (S/E) Earth exploration-satellite (S/E) 5.547 EU2	Defence systems				Low and medium capacity fixed links
		FSS		ERC/DEC(00)02		Uncoordinated Earth stations shall not claim protection from the Fixed Service
		High density fixed links		T/R 12-01	EN 301 751	Major use by civil Fixed Service Systems

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
39.5 - 40 GHz						
FIXED	FIXED	FSS		ERC/DEC(00)02		Earth stations
FIXED-SATELLITE (S/E) 5.516B	FIXED-SATELLITE (S/E) 5.516B					
MOBILE	MOBILE					
MOBILE-SATELLITE (S/E)	MOBILE-SATELLITE (S/E)					
Earth exploration-satellite (S/E)	Earth exploration-satellite (S/E)					
5.547	5.547 EU2					
40 - 40.5 GHz						
EARTH EXPLORATION-SATELLITE (E/S)	FIXED	Broadband mobile systems				Possible future band
FIXED	FIXED-SATELLITE (S/E) 5.516B	FSS		ERC/DEC(00)02		Earth stations
FIXED-SATELLITE (S/E) 5.516B	MOBILE					
MOBILE	MOBILE-SATELLITE (S/E)					
MOBILE-SATELLITE (S/E)	SPACE RESEARCH (E/S)					
SPACE RESEARCH (E/S)	Earth exploration-satellite (S/E)					
Earth exploration-satellite (S/E)						
	EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
40.5 - 41 GHz						
BROADCASTING	BROADCASTING	FSS		ECC/DEC/(02)04		
BROADCASTING-SATELLITE	BROADCASTING-SATELLITE	MWS		ECC/REC 01-04	EN 301 753	
FIXED	FIXED			ERC/DEC(99)15		
FIXED-SATELLITE (S/E)						
Mobile						
5.547	5.547					
41 - 42 GHz						
BROADCASTING	BROADCASTING	FSS		ECC/DEC/(02)04		
BROADCASTING-SATELLITE	BROADCASTING-SATELLITE	MWS		ECC/REC 01-04	EN 301 751	
FIXED	FIXED			ERC/DEC(99)15	EN 301 753	
FIXED-SATELLITE (S/E)						
Mobile						
5.547	5.547					
5.551F						
5.551H						
5.551I						
42 - 42.5 GHz						
BROADCASTING	BROADCASTING	FSS		ECC/DEC/(02)04		
BROADCASTING-SATELLITE	BROADCASTING-SATELLITE	MWS		ECC/REC 01-04	EN 301 751	
FIXED	FIXED			ERC/DEC(99)15	EN 301 753	
FIXED-SATELLITE (S/E)						
Mobile						
5.547	5.551H					
5.551F	5.551I					
5.551H						
5.551I						

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
42.5 - 43.5 GHz						
FIXED	FIXED	Broadband mobile systems				Possible future band
FIXED-SATELLITE (E/S) 5.552	FIXED-SATELLITE (E/S) 5.552	FSS		ECC/DEC/(02)04		For fixed applications. Priority for civil networks
MOBILE except aeronautical mobile	MOBILE except aeronautical mobile	MWS		ECC/REC 01-04 ERC/DEC(99)15	EN 301 753	
RADIO ASTRONOMY	RADIO ASTRONOMY	Radio astronomy				Silicon monoxide lines and many other spectral lines in this band
5.149	5.149					
5.547	5.547					
43.5 - 45.5 GHz						
MOBILE 5.553	MOBILE 5.553	Defence systems				Harmonised military band for satellite uplinks and mobile systems
MOBILE-SATELLITE	MOBILE-SATELLITE					
RADIONAVIGATION	Fixed-satellite					
RADIONAVIGATION-SATELLITE						
5.554	5.554 EU27					
45.5 - 47 GHz						
MOBILE 5.553	MOBILE 5.553					
MOBILE-SATELLITE	MOBILE-SATELLITE					
RADIONAVIGATION	RADIONAVIGATION					
RADIONAVIGATION-SATELLITE	RADIONAVIGATION-SATELLITE					
5.554	5.554					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
47 - 47.2 GHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
AMATEUR-SATELLITE	AMATEUR-SATELLITE	Amateur Satellite			EN 301 783	
47.2 - 47.5 GHz						
FIXED	FIXED	Feeder links				For 40 GHz Broadcasting satellites
FIXED-SATELLITE (E/S) 5.552	FIXED-SATELLITE (E/S) 5.552	FSS				For fixed applications. Priority for civil networks
MOBILE	MOBILE Amateur	HAPS				
5.552A	5.552A	SAP/SAB		ERC/REC 25-10		
47.5 - 47.9 GHz						
FIXED	FIXED	Feeder links				For 40 GHz Broadcasting satellites
FIXED-SATELLITE (E/S) 5.552 (S/E) 5.516B 5.554A	FIXED-SATELLITE (E/S) 5.552 (S/E) 5.516B	High Density FSS		ECC/DEC/(05)08		
MOBILE	MOBILE Amateur	SAP/SAB		ERC/REC 25-10		

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
47.9 - 48.2 GHz						
FIXED	FIXED	Feeder links				For 40 GHz Broadcasting satellites
FIXED-SATELLITE (E/S) 5.552	FIXED-SATELLITE (E/S) 5.552	FSS				For fixed applications. Priority for civil networks
MOBILE	MOBILE					
5.552A	5.552A	HAPS				
		SAP/SAB		ERC/REC 25-10		
48.2 - 48.54 GHz						
FIXED	FIXED	Feeder links				For 40 GHz Broadcasting satellites
FIXED-SATELLITE (E/S) 5.552 (S/E) 5.516B 5.554A 5.555B	FIXED-SATELLITE (E/S) 5.552 (S/E) 5.516B 5.554A 5.555B	Fixed links		ERC/REC 12-10		From 48.50 to 48.54 GHz
MOBILE	MOBILE	High Density FSS		ECC/DEC/(05)08		
	Amateur	SAP/SAB		ERC/REC 25-10		
48.54 - 49.44 GHz						
FIXED	FIXED	Feeder links				48.5-49.2 GHz for 40 GHz Broadcasting satellites
FIXED-SATELLITE (E/S) 5.552	FIXED-SATELLITE (E/S) 5.552	Fixed links		ERC/REC 12-10	EN 301 751	
MOBILE	MOBILE	FSS				For fixed applications. Priority for civil networks
	RADIO ASTRONOMY	Radio astronomy				Carbon monosulphide line 48.94-49.4 GHz
5.149	5.149	SAP/SAB	EU17A	ERC/REC 25-10		
5.340	5.340					
5.555	5.555					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
49.44 - 50.2 GHz						
FIXED FIXED-SATELLITE (E/S) 5.552 (S/E) 5.516B 5.554A 5.555B MOBILE	FIXED FIXED-SATELLITE (E/S) 5.552 (S/E) 5.516B 5.554A 5.555B MOBILE	Fixed links		ERC/REC 12-10	EN 301 751	
		High Density FSS		ECC/DEC/(05)08		
		SAP/SAB	EU17A	ERC/REC 25-10		
50.2 - 50.4 GHz						
EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	Passive sensors (satellite)				Atmospheric temperature sounding. Terrestrial passive radiometers. Reference window for the 52.6-59.3 GHz band
50.4 - 51.4 GHz						
FIXED FIXED-SATELLITE (E/S) MOBILE Mobile-satellite (E/S)	FIXED FIXED-SATELLITE (E/S) Mobile-satellite (E/S)	Future satellite and terrestrial applications				Shared civil and non civil allocation
	EU2					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
51.4 - 52.6 GHz						
FIXED	FIXED	High density fixed links		ERC/REC 12-11	EN 301 751	
MOBILE	MOBILE					
	RADIO ASTRONOMY					
5.547	5.547					
5.556	5.556					
52.6 - 54.25 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				Atmospheric temperature sounding. Terrestrial passive radiometers
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.340	5.340					
5.556	5.556					
54.25 - 55.78 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				Atmospheric temperature sounding. Terrestrial passive radiometers
INTER-SATELLITE 5.556A	SPACE RESEARCH (passive)					
SPACE RESEARCH (passive)						
5.556B						

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
55.78 - 56.9 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	High density fixed links		ERC/REC 12-12	EN 301 751	
FIXED 5.557A	FIXED 5.557A	Passive sensors (satellite)				Atmospheric temperature sounding
INTER-SATELLITE 5.556A	INTER-SATELLITE 5.556A					
MOBILE 5.558	SPACE RESEARCH (passive)					
SPACE RESEARCH (passive)						
5.547	5.547 EU21					
5.557	5.558					
56.9 - 57 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	High density fixed links		ERC/REC 12-12	EN 301 751	
FIXED	FIXED	Passive sensors (satellite)				Atmospheric temperature sounding
INTER-SATELLITE 5.558A	MOBILE 5.558					
MOBILE 5.558	SPACE RESEARCH (passive)					
SPACE RESEARCH (passive)						
5.547	5.547 EU21					
5.557	5.558A					
57 - 58.2 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	High density fixed links		ERC/REC 12-09	EN 301 751	Un-coordinated deployment
FIXED	FIXED	Passive sensors (satellite)				Atmospheric temperature sounding
INTER-SATELLITE 5.556A	INTER-SATELLITE 5.556A					
MOBILE 5.558	MOBILE 5.558					
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.547	5.547					
5.557						

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
58.2 - 59 GHz						
EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547 5.556	EARTH EXPLORATION-SATELLITE (passive) FIXED RADIO ASTRONOMY SPACE RESEARCH (passive) 5.547 EU6 5.556 EU19	High density fixed links		ERC/REC 12-09	EN 301 751	Un-coordinated deployment
		Passive sensors (satellite)				Atmospheric temperature sounding. Terrestrial passive radiometers
59 - 59.3 GHz						
EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive) EU2 EU27	Defence systems				Frequency band 59-61 GHz is a harmonised military band for fixed, mobile and radiolocation systems
		Passive sensors (satellite)				Atmospheric temperature sounding. Terrestrial passive radiometers
59.3 - 62 GHz						
FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138 EU2 EU27	Defence systems				Frequency band 59-61 GHz is a harmonised military band for fixed, mobile and radiolocation systems
		ISM				Within the band 61.0-61.5 GHz
		Non-Specific SRDs		ERC/REC 70-03		Within the band 61.0-61.5 GHz
		WAS				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
62 - 63 GHz						
FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 EU2	Broadband mobile systems				For connection to IBCN paired with 65-66 GHz
		Defence systems				
63 - 64 GHz						
FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 EU2	Defence systems				
		RTTT		ECC/DEC/(02)01 ERC/REC 70-03		Road Transport and Traffic Telematic Vehicle to road/vehicle to vehicle
64 - 65 GHz						
FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.547 5.556	FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.547 5.556	High density fixed links		ECC/REC 05-02		

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
65 - 66 GHz						
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	Broadband mobile systems				For connection to IBCN paired with 62-63 GHz
		High density fixed links		ECC/REC 05-02		
66 - 71 GHz						
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				
71 - 74 GHz						
FIXED FIXED-SATELLITE (S/E) MOBILE MOBILE-SATELLITE (S/E)	FIXED FIXED-SATELLITE (S/E) MOBILE MOBILE-SATELLITE (S/E) EU27	Defence systems		ECC/REC 05-07		Harmonised military band. Pairing with 81-84 GHz is envisaged
		Fixed links				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
74 - 75.5 GHz						
BROADCASTING	BROADCASTING	Fixed links		ECC/REC 05-07		
BROADCASTING-SATELLITE	BROADCASTING-SATELLITE	Space Research				VLBI measurements within the band 74-84 GHz
FIXED	FIXED					
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
MOBILE	MOBILE					
Space research (S/E)	Space research (S/E)					
5.559A	5.561					
5.561						
75.5 - 76 GHz						
BROADCASTING	BROADCASTING	Amateur	EU35		EN 301 783	
BROADCASTING-SATELLITE	BROADCASTING-SATELLITE	Amateur Satellite				
FIXED	FIXED	Fixed links		ECC/REC 05-07		
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)	Space Research				VLBI
MOBILE	Amateur					
Space research (S/E)	Amateur-satellite					
5.559A	5.561 EU2					
5.561	EU35					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
76 - 77.5 GHz						
RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (S/E) 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (S/E) 5.149 EU2	Amateur			EN 301 783	
		Amateur Satellite			EN 301 783	
		Automotive SRR		ECC/DEC/(04)03		
		Civil radiolocation				
		Radio astronomy				Spectral line and wide band continuum observations
		RTTT		ECC/DEC/(02)01 ERC/REC 70-03	EN 301 091	Within the band 76-77 GHz Radar. Road Transport and Traffic Telematic
77.5 - 78 GHz						
AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (S/E) 5.149	AMATEUR AMATEUR-SATELLITE Space research (S/E) 5.149	Automotive SRR		ECC/DEC/(04)03		
		Radio astronomy				Spectral line and wide band continuum observations
78 - 79 GHz						
RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (S/E) 5.149 5.560	RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (S/E) 5.149 EU2 5.560	Automotive SRR		ECC/DEC/(04)03		
		Civil and military radiolocation				
		Radio astronomy				Spectral line and wide band continuum observations

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
79 - 81 GHz						
RADIO ASTRONOMO RADIOLOCATION Amateur Amateur-satellite (S/E) Space research (S/E) 5.149	RADIO ASTRONOMO RADIOLOCATION Amateur Amateur-satellite (S/E) 5.149 EU2	Automotive SRR		ECC/DEC/(04)03		
		Civil and military radiolocation				
		Radio astronomy				Spectral line and wide band continuum observations
81 - 84 GHz						
FIXED FIXED-SATELLITE (E/S) MOBILE MOBILE-SATELLITE (E/S) RADIO ASTRONOMO Space research (S/E) 5.149 5.561A	FIXED FIXED-SATELLITE (E/S) MOBILE MOBILE-SATELLITE (E/S) RADIO ASTRONOMO Space research (S/E) 5.149 EU27 5.561A	Amateur				Within the band 81-81.5 GHz
		Amateur Satellite				Within the band 81-81.5 GHz
		Defence systems				Harmonised military band. Paring with 71-74 GHz is envisaged
		Fixed links		ECC/REC 05-07		
		Radio astronomy				Spectral line and wide band continuum observations
84 - 86 GHz						
FIXED FIXED-SATELLITE (E/S) 5.561B MOBILE RADIO ASTRONOMO 5.149	FIXED FIXED-SATELLITE (E/S) 5.561B MOBILE RADIO ASTRONOMO 5.149	Fixed links		ECC/REC 05-07		
		Radio astronomy				Spectral line and wide band continuum observations

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
86 - 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)				Measurement of clouds, oil spills, ice, snow, rain, reference window for the temperature sounding near 118 GHz. Continuum and spectral line measurements
		Radio astronomy				Continuum and spectral line measurements
92 - 94 GHz						
FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149 EU2	Radio astronomy				Diazenylium line and numerous other spectral lines including wide band continuum observations
94 - 94.1 GHz						
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	Active sensors (satellite)				Cloud radars
		Space Research (active)				

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
94.1 - 95 GHz						
FIXED	FIXED	Radio astronomy				Spectral line and wide band continuum observations
MOBILE	MOBILE					
RADIO ASTRONOMY	RADIO ASTRONOMY					
RADIOLOCATION	RADIOLOCATION					
5.149	5.149 EU2					
95 - 100 GHz						
FIXED	FIXED	Radio astronomy				Multiple line observations including wide band continuum observations
MOBILE	MOBILE					
RADIO ASTRONOMY	RADIO ASTRONOMY					
RADIOLOCATION	RADIOLOCATION					
RADIONAVIGATION	RADIONAVIGATION					
RADIONAVIGATION-SATELLITE	RADIONAVIGATION-SATELLITE					
5.149	5.149 EU2					
5.554	5.554					
100 - 102 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				Limb sounding of atmospheric constituents
RADIO ASTRONOMY	RADIO ASTRONOMY	Radio astronomy				Spectral line and wide band continuum observations
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.340	5.340					
5.341	5.341					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
102 - 105 GHz						
FIXED	FIXED	Radio astronomy				Spectral line and wide band continuum observations
MOBILE	MOBILE					
RADIO ASTRONOMY	RADIO ASTRONOMY					
5.149	5.149					
5.341	5.341					
105 - 109.5 GHz						
FIXED	FIXED					
MOBILE	MOBILE					
RADIO ASTRONOMY	RADIO ASTRONOMY					
SPACE RESEARCH (passive) 5.562B	SPACE RESEARCH (passive) 5.562B					
5.149	5.149					
5.341	5.341					
109.5 - 111.8 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Radio astronomy				Observations of CO lines at 109.8 and 110.2 GHz and for continuum observations
RADIO ASTRONOMY	RADIO ASTRONOMY					
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.340	5.340					
5.341	5.341					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
111.8 - 114.25 GHz						
FIXED	FIXED					
MOBILE	MOBILE					
RADIO ASTRONOMY	RADIO ASTRONOMY					
SPACE RESEARCH (passive) 5.562B	SPACE RESEARCH (passive) 5.562B					
5.149	5.149					
5.341	5.341					
114.25 - 116 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Radio astronomy				Observations of the 115.3 GHz CO line
RADIO ASTRONOMY	RADIO ASTRONOMY					
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.340	5.340					
5.341	5.341					
116 - 119.98 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				Passive sensing as part of the oxygen absorption band with peak at 118.75 GHz
INTER-SATELLITE 5.562C	INTER-SATELLITE 5.562C					
SPACE RESEARCH (passive)						
5.341	5.341					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
119.98 - 120.02 GHz						
EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138 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
120.02 - 122.25 GHz						
EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138 5.341	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138	Non-Specific SRDs				Within the band 122-123 GHz
		Passive sensors (satellite)				Passive sensing as part of the oxygen absorption band with peak at 118.75 GHz
122.25 - 123 GHz						
FIXED INTER-SATELLITE MOBILE 5.558 Amateur 5.138	FIXED INTER-SATELLITE MOBILE 5.558 Amateur Amateur-satellite 5.138	Amateur			EN 301 783	
		Amateur Satellite			EN 301 783	
		Non-Specific SRDs		ERC/REC 70-03		Within the band 122-123 GHz

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
123 - 126 GHz						
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
MOBILE-SATELLITE (S/E)	MOBILE-SATELLITE (S/E)					
RADIONAVIGATION	RADIONAVIGATION					
RADIONAVIGATION-SATELLITE	RADIONAVIGATION-SATELLITE					
Radio astronomy 5.562D	Radio astronomy					
5.149	5.149					
5.554	5.554					
126 - 130 GHz						
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
MOBILE-SATELLITE (S/E)	MOBILE-SATELLITE (S/E)					
RADIONAVIGATION	RADIONAVIGATION					
RADIONAVIGATION-SATELLITE	RADIONAVIGATION-SATELLITE					
Radio astronomy 5.562D	Radio astronomy					
5.149	5.149					
5.554	5.554					
130 - 134 GHz						
EARTH EXPLORATION-SATELLITE (active) 5.562E	EARTH EXPLORATION-SATELLITE (active) 5.562E	Radio astronomy				Spectral line and wide band continuum observations
FIXED	FIXED					
INTER-SATELLITE	INTER-SATELLITE					
MOBILE 5.558	MOBILE 5.558					
RADIO ASTRONOMY	RADIO ASTRONOMY					
5.149	5.149					
5.562A	5.562A					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
134 - 136 GHz						
AMATEUR	AMATEUR	Amateur			EN 301 783	
AMATEUR-SATELLITE	AMATEUR-SATELLITE	Amateur Satellite			EN 301 783	
Radio astronomy	Radio astronomy					
136 - 141 GHz						
RADIO ASTRONOMY	RADIO ASTRONOMY	Amateur			EN 301 783	
RADIOLOCATION	RADIOLOCATION	Amateur Satellite			EN 301 783	
Amateur	Amateur	Radio astronomy				Spectral line and wide band continuum observations
Amateur-satellite	Amateur-satellite					
5.149	5.149					
141 - 148.5 GHz						
FIXED	FIXED	Radio astronomy				Spectral line and wide band continuum observations
MOBILE	MOBILE					
RADIO ASTRONOMY	RADIO ASTRONOMY					
RADIOLOCATION	RADIOLOCATION					
5.149	5.149					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
148.5 - 151.5 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)				Harmonised reference window for passive sensor observations
151.5 - 155.5 GHz						
FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	Radio astronomy				Spectral line and wide band continuum observations
155.5 - 158.5 GHz						
EARTH EXPLORATION-SATELLITE (passive) 5.562F FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.562G	EARTH EXPLORATION-SATELLITE (passive) 5.562F FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.562G	Passive sensors (satellite)				Protection until 1.1.2018
		Radio astronomy				Spectral line and wide band continuum observations

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
158.5 - 164 GHz						
FIXED	FIXED					
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
MOBILE	MOBILE					
MOBILE-SATELLITE (S/E)	MOBILE-SATELLITE (S/E)					
164 - 167 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)				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
167 - 168 GHz						
FIXED FIXED-SATELLITE (S/E) INTER-SATELLITE MOBILE 5.558 5.149 5.562D	FIXED FIXED-SATELLITE (S/E) INTER-SATELLITE MOBILE 5.558					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
168 - 170 GHz						
FIXED	FIXED					
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
INTER-SATELLITE	INTER-SATELLITE					
MOBILE 5.558	MOBILE 5.558					
5.149	5.149					
5.562D						
170 - 174.5 GHz						
FIXED	FIXED					
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
INTER-SATELLITE	INTER-SATELLITE					
MOBILE 5.558	MOBILE 5.558					
5.149	5.149					
5.562D						
174.5 - 174.8 GHz						
FIXED	FIXED					
INTER-SATELLITE	INTER-SATELLITE					
MOBILE 5.558	MOBILE 5.558					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
174.8 - 182 GHz						
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
182 - 185 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)				Passive sensing of the water vapour absorption line whose peak is at 183.31 GHz
185 - 190 GHz						
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

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
190 - 191.8 GHz						
EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	Passive sensors (satellite)				Passive sensing of the water vapour absorption line whose peak is at 183.31 GHz
191.8 - 200 GHz						
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					
200 - 202 GHz						
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	EESS				Atmospheric limb sounding and atmospheric remote sensing of nitrous oxide at 201 GHz
		Radio astronomy				Spectral line and wide band continuum observations

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
202 - 209 GHz						
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	EESS				Atmospheric limb sounding and atmospheric remote sensing of water vapour at 203.4 GHz and ozone at 208.5 GHz
209 - 217 GHz						
FIXED FIXED-SATELLITE (E/S) MOBILE RADIO ASTRONOMY 5.149 5.341	FIXED FIXED-SATELLITE (E/S) MOBILE RADIO ASTRONOMY 5.149 5.341	Radio astronomy				Spectral line and wide band continuum observations
217 - 226 GHz						
FIXED FIXED-SATELLITE (E/S) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	FIXED FIXED-SATELLITE (E/S) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
226 - 231.5 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				Atmospheric limb sounding. Reference window for higher frequency water vapour measurements
RADIO ASTRONOMY	RADIO ASTRONOMY					
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.340	5.340	Radio astronomy				Observations of the 230.5 GHz CO line
231.5 - 232 GHz						
FIXED	FIXED					
MOBILE	MOBILE					
Radiolocation	Radiolocation					
232 - 235 GHz						
FIXED	FIXED					
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
MOBILE	MOBILE					
Radiolocation	Radiolocation					

RR Region 1 Allocation and RR footnotes and Frequency Band	European Common Allocation	Major utilisation	European footnotes	ECC/ERC document	Standard	Notes
235 - 238 GHz						
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Passive sensors (satellite)				Passive sensing limited to microwave sounding
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)	Radio astronomy				Spectral line and wide band continuum observations
SPACE RESEARCH (passive)	SPACE RESEARCH (passive)					
5.563A	5.563A					
5.563B	5.563B					
238 - 240 GHz						
FIXED	FIXED					
FIXED-SATELLITE (S/E)	FIXED-SATELLITE (S/E)					
MOBILE	MOBILE					
RADIOLOCATION	RADIOLOCATION					
RADIONAVIGATION	RADIONAVIGATION					
RADIONAVIGATION-SATELLITE	RADIONAVIGATION-SATELLITE					
240 - 241 GHz						
FIXED	FIXED					
MOBILE	MOBILE					
RADIOLOCATION	RADIOLOCATION					

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
241 - 248 GHz						
RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.138 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.138 5.149	Amateur			EN 301 783	
		Amateur Satellite			EN 301 783	
		Non-Specific SRDs		ERC/REC 70-03		Within the band 244-246 GHz
		Radio astronomy				Spectral line and wide band continuum observations
248 - 250 GHz						
AMATEUR AMATEUR-SATELLITE Radio astronomy 5.149	AMATEUR AMATEUR-SATELLITE Radio astronomy 5.149	Amateur			EN 301 783	
		Amateur Satellite			EN 301 783	
250 - 252 GHz						
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	EESS				Limb sounding of nitrous oxide near 251 GHz

RR Region 1 Allocation and RR footnotes and Frequency Band	*European Common Allocation*	*Major utilisation*	*European footnotes*	*ECC/ERC document*	*Standard*	*Notes*
252 - 265 GHz						
FIXED	FIXED	Radio astronomy				Spectral line and wide band continuum observations
MOBILE	MOBILE					
MOBILE-SATELLITE (E/S)	MOBILE-SATELLITE (E/S)					
RADIO ASTRONOMY	RADIO ASTRONOMY					
RADIONAVIGATION	RADIONAVIGATION					
RADIONAVIGATION-SATELLITE	RADIONAVIGATION-SATELLITE					
5.149	5.149					
5.554	5.554					
265 - 275 GHz						
FIXED	FIXED					
FIXED-SATELLITE (E/S)	FIXED-SATELLITE (E/S)					
MOBILE	MOBILE					
RADIO ASTRONOMY	RADIO ASTRONOMY					
5.149	5.149					
5.563A	5.563A					
275 - 1000 GHz						
Not allocated	Not allocated					
5.565	5.565					

Annex 1 – European-footnotes included in the European Common Allocation 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	Not used.
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 by the year 2008.
EU14	Radiolocation limited to military requirements for naval ship borne radars.
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 UMTS/IMT-2000 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-2000, 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	This aeronautical radionavigation band shall be subject to further study to ascertain future requirements and developments.
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 EU20).

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 and 1710-1785 / 1805-1880 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 The band 440-470 MHz is the tuning range for Private Wide Area Paging (PWAP).

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 are expected to be used by UMTS/IMT-2000 (3rd generation terrestrial mobile system) , depending on the market demands and national licensing schemes.

EU33 RR 5.384A identifies the band 1710-1885 MHz and RR 5.388 identifies the bands 1885–2025 MHz and 2110-2200 MHz for IMT-2000. The bands 1710-1785 MHz and 1805-1880 MHz are currently used for GSM (2nd generation terrestrial mobile system), and the band 1880–1900 MHz is currently used for DECT applications in most CEPT member countries. These bands are generally expected to be used by IMT-2000/UMTS (3rd generation terrestrial mobile system) in some areas in parallel with GSM in order to increased rural coverage and to provide increased capacity and deep indoor coverage in dense urban areas.

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

5.053 Administrations authorizing the use of frequencies below 9 kHz shall ensure that no harmful interference is caused thereby to the services to which the bands above 9 kHz are allocated

5.054 Administrations conducting scientific research using frequencies below 9 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.

5.055 Additional allocation: in Armenia, Azerbaijan, Bulgaria, 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-2000)

5.056 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, Bulgaria, the Czech Rep., Georgia, Kazakhstan, Mongolia, Kyrgyzstan the Russian Federation, , Slovakia, Tajikistan and Turkmenistan, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-03)

5.057 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.

5.058 Additional allocation: in Armenia, Azerbaijan, Georgia, Kazakstan, Kyrgyzstan, the Russian Federation, Tajikistan and Turkmenistan, the band 67-70 kHz is also allocated to the radionavigation service on a primary basis.

5.060 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.

5.062 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.

5.064 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.

5.066 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).

5.067 Additional allocation: in Azerbaijan, Bulgaria, Kyrgyzstan, Mongolia, Romania 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-2000)

5.072 Norwegian stations of the fixed service situated in northern areas (north of 60° N) subject to auroral disturbances are allowed to continue operation on four frequencies in the bands 283.5-490 kHz and 510-526.5 kHz.

5.073 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)

5.074 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.

5.075 Different category of service: in Armenia, Azerbaijan, Belarus, Georgia, Kyrgyzstan, Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and the Black Sea areas of Bulgaria and 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-2000)

5.076 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.

5.079 The use of the bands 415-495 kHz and 505-526.5 kHz (505-510 kHz in Region 2) by the maritime mobile service is limited to radiotelegraphy.

5.079A 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-97))*. (WRC-97)

5.082 In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution 331 (Rev.WRC-97))*, 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-97)

5.083 The frequency 500 kHz is an international distress and calling frequency for Morse radiotelegraphy. The conditions for its use are prescribed in Articles 31 and 52, and in Appendix 13.

5.084 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles 31 and 52 and in Appendix 13. (WRC-97)

5.090 In the band 1 605-1 705 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.

5.092 Some countries in 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.

5.093 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, the Czech Republic, Georgia, Hungary, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, Nigeria, Poland, Kyrgyzstan, Slovakia, the Russian Federation, Tajikistan, Chad, Turkmenistan, Ukraine and Uzbekistan the bands 1 625-1 635 kHz, 1 800-1 810 kHz and 2 160-2 170 kHz and, in Bulgaria, the bands 1 625-1 635 kHz and 1 800-1 810 kHz, are also allocated to the fixed and land mobile services on a primary basis, subject to agreement obtained under No. 9.21. (WRC-2000)

5.096 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)

5.098 Alternative allocation: in Angola, Armenia, Azerbaijan, Belarus, Belgium, Bulgaria, Cameroon, the Congo (Rep. of the), Denmark, Egypt, Eritrea, Spain, Ethiopia, Georgia, Greece, Italy, Kazakhstan, Lebanon, Lithuania, Moldova, the Syrian Arab Republic, Kyrgyzstan, the Russian Federation, 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-03)

5.099 Additional allocation: in Saudi Arabia, Austria, Bosnia and Herzegovina, Iraq, the Libyan Arab Jamahiriya, Uzbekistan, Slovakia, Romania, Serbia and Montenegro, 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-03)

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, 2502-2 625 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 2 025-2 045 kHz by the meteorological aids service is limited to oceanographic buoy stations.

5.108 The carrier frequency 2 182 kHz is an international distress and calling frequency for radiotelephony. The conditions for the use of the band
2 173.5-2 190.5 kHz are prescribed in Articles 31 and 52 and in Appendix 13.

5.109 The frequencies 2 187.5 kHz, 4 207.5 kHz, 6 312 kHz, 8 414.5 kHz, 12 577 kHz and 16 804.5 kHz are international distress frequencies for digital selective calling. The conditions for the use of these frequencies are prescribed in Article 31.

5.110 The frequencies 2 174.5 kHz, 4 177.5 kHz, 6 268 kHz, 8 376.5 kHz, 12 520 kHz and 16 695 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 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz and the frequencies 121.5 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 and in Appendix 13.

The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of ± 3 kHz about the frequency.

5.112 Alternative allocation: in Bosnia and Herzegovina, Denmark, Malta, Serbia and Montenegro and Sri Lanka, the band 2 194-2 300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.113 For the conditions for the use of the bands 2 300-2 495 kHz (2 498 kHz in Region 1), 3 200-3 400 kHz, 4 750-4 995 kHz and 5 005-5 060 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 Bosnia and Herzegovina, Denmark, Iraq, Malta, and Serbia and Montenegro, the band 2 502-2 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.115 The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Article 31 and Appendix 13 by stations of the maritime mobile service engaged in coordinated search and rescue operations.

5.116 Administrations are urged to authorize the use of the band 3 155-3 195 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 3 155 kHz and 3 400 kHz to suit local needs.

It should be noted that frequencies in the range 3 000 kHz to 4 000 kHz are suitable for hearing aid devices which are designed to operate over short distances within the induction field.

5.117 Alternative allocation: in Bosnia and Herzegovina, Côte d'Ivoire, Denmark, Egypt, Liberia, Malta, Serbia and Montenegro, Sri Lanka and Togo, the band 3 155-3 200 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.125 Additional allocation: in Greenland, the band 3 950-4 000 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 4 000-4 063 kHz by the maritime mobile service is limited to ship stations using radiotelephony (see No. 52.220 and Appendix 17).

5.128 In Afghanistan, Argentina, Armenia, Azerbaijan, Belarus, Botswana, Burkina Faso, the Central African Republic, China, Georgia, India, Kazakstan, Mali, Niger, Kyrgyzstan, the Russian Federation, Tajikistan, Chad, Turkmenistan and Ukraine, in the bands 4 063-4 123 kHz, 4 130-4 133 kHz and 4 408-4 438 kHz, stations of limited power in the fixed service which are situated at least 600 km from the coast may operate on condition that harmful interference is not caused to the maritime mobile service. (WRC-97)

5.129 On condition that harmful interference is not caused to the maritime mobile service, the frequencies in the bands 4 063-4 123 kHz and 4 130 - 4 438 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.

5.130 The conditions for the use of the carrier frequencies 4 125 kHz and 6 215 kHz are prescribed in Articles 31 and 52 and in Appendix 13.

5.131 The frequency 4 209.5 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 4 210 kHz, 6 314 kHz, 8 416.5 kHz, 12 579 kHz, 16 806.5 kHz, 19 680.5 kHz, 22 376 kHz and 26 100.5 kHz are the international frequencies for the transmission of maritime safety information (MSI) (see Appendix 17).

5.133 Different category of service: in Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Latvia, Lithuania, Moldova, Uzbekistan, Kyrgyzstan, the Russian Federation, 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).

5.134 The use of the bands 5 900-5 950 kHz, 7 300-7 350 kHz, 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 13 570-13 600 kHz, 13 800-13 870 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz by the broadcasting service as from 1 April 2007 is subject to the application of the procedure of Article 12. Administrations are urged to use these bands to facilitate the introduction of digitally modulated emissions in accordance with the provisions of Resolution 517 (Rev.WRC-03). (WRC-03)

5.136 The band 5 900-5 950 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis, as well as to the following services: in Region 1 to the land mobile service on a primary basis, in Region 2 to the mobile except aeronautical mobile (R) service on a primary basis, and in Region 3 to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95)*. After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned services, 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 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.

5.137 On condition that harmful interference is not caused to the maritime mobile service, the bands 6 200-6 213.5 kHz and 6 220.5-6 525 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:

6 765 - 6 795 kHz	(centre frequency 6 780 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.

5.138A Until 29 March 2009, the band 6 765-7 000 kHz is allocated to the fixed service on a primary basis and to the land mobile service on a secondary basis. After this date, this band is allocated to the fixed and the mobile except aeronautical mobile (R) services on a primary basis. (WRC-03).

5.139 Different category of service: until 29 March 2009, in Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 6 765-7 000 kHz to the land mobile service is on a primary basis (see No. 5.33). (WRC-03)

5141 Alternative allocation: in Egypt, Eritrea, Ethiopia, Guinea, the Libyan Arab Jamahiriya and Madagascar, the band 7 000 – 7 050 kHz is allocated to the fixed service on a primary basis. (WRC-97)

5141B 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, the Libyan Arab Jamahiriya, Morocco, Mauritania, New Zealand, Oman, Papua New Guinea, Qatar, the Syrian Arab Republic, Singapore, 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-03)

5.141C In Regions 1 and 3, the band 7 100-7 200 kHz is allocated to the broadcasting service until 29 March 2009 on a primary basis. (WRC-03)

5.142 Until 29 March 2009, the use of the band 7 100-7 300 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 7 200-7 300 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 The band 7 300-7 350 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis and to the land mobile service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95).* After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned 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. 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.

5.143B In Region 1, the band 7 350-7 450 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, on condition that harmful interference is not caused to the broadcasting service, frequencies in the band 7 350-7 450 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, each station using a total radiated power that shall not exceed 24 dBW. (WRC-03)

5.143E Until 29 March 2009, the band 7 450-8 100 kHz is allocated to the fixed service on a primary basis and to the land mobile service on a secondary basis. (WRC 03)

5.145 The conditions for the use of the carrier frequencies 8 291 kHz, 12 290 kHz and 16 420 kHz are prescribed in Articles 31 and 52 and in Appendix 13.

5.146 The bands 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz are allocated to the fixed service on a primary basis until 1 April 2007, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95).* After 1 April 2007, frequencies in these bands 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.

5.147 On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9 775-9 900 kHz, 11 650-11 700 kHz and 11 975-12 050 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.

5.149 In making assignments to stations of other services to which the bands:

13 360-13 410 kHz,
25 550-25 670 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,
1 330-1 400 MHz,
1 610.6-1 613.8 MHz,
1 660-1 670 MHz,
1 718.8-1 722.2 MHz,
2 655-2 690 MHz,
3 260-3 267 MHz,
3 332-3 339 MHz,
3 345.8-3 352.5 MHz,
4 825-4 835 MHz,
4 950-4 990 MHz,
4 990-5 000 MHz,
6 650-6 675.2 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,
42.77-42.87 GHz,
43.07-43.17 GHz,
43.37-43.47 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-2000)

5.150 The following bands:

13 553 - 13 567 kHz	(centre frequency 13 560 kHz),
26 957 - 27 283 kHz	(centre frequency 27 120 kHz),
40.66 - 40.70 MHz	(centre frequency 40.68 MHz),
902 - 928 MHz	in Region 2 (centre frequency 915 MHz),
2 400 - 2 500 MHz	(centre frequency 2 450 MHz),
5 725 - 5 875 MHz	(centre frequency 5 800 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 The bands 13 570-13 600 kHz and 13 800-13 870 kHz are allocated, until 1 April 2007, to the fixed service on a primary basis and to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95).* After 1 April 2007, frequencies in these bands may be used by stations in the above-mentioned services, 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.

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 18 068-18 168 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)

5.155 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Rep., the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 21 850-21 870 kHz is also allocated to the aeronautical mobile (R) services on a primary basis. (WRC 03)

5.155A In Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Republic, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the use of the band 21 850-21 870 kHz by the fixed service is limited to provision of services related to aircraft flight safety. (WRC-2000)

5.155B The band 21 870-21 924 kHz is used by the fixed service for provision of services related to aircraft flight safety.

5.156A The use of the band 23 200-23 350 kHz by the fixed service is limited to provision of services related to aircraft flight safety

5.157 The use of the band 23 350-24 000 kHz by the maritime mobile service is limited to inter-ship radiotelegraphy.

5.162A Additional allocation: in Germany, Austria, Belgium, Bosnia and Herzegovina, China, Vatican, Denmark, Spain, Estonia, Finland, France, Ireland, Iceland, Italy, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Luxembourg, Moldova, Monaco, Norway, the Netherlands, Poland, Portugal, Slovakia, the Czech Republic, the United Kingdom, the Russian Federation, 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-2000)

5.163 Additional allocation: in Armenia, Azerbaijan, Belarus, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Rep., the Russian Federation, 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-03)

5.164 Additional allocation: in Albania, Germany, Austria, Belgium, Bosnia and Herzegovina, Botswana, Bulgaria, Côte d' Ivoire, Denmark, Spain, Estonia, Finland, France, Gabon, Greece, Ireland, Israel, Italy, Jordan, Lebanon, the Libyan Arab Jamahiriya, Liechtenstein, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Nigeria, Norway, the Netherlands, Poland, Syrian Arab Republic, the United Kingdom, Serbia and Montenegro, Slovenia, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 47-68 MHz, in Romania the band 47-58 MHz, in South Africa the band 47-50 MHz, and in the Czech Rep. the band 66-68 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-03)

5.174 Alternative allocation: in Bulgaria, Hungary and Romania, the band 68-73 MHz is allocated to the broadcasting service on a primary basis and used in accordance with the decisions in the Final Acts of the Special Regional Conference (Geneva, 1960). (WRC-03)

5.175 Alternative allocation: in Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the bands 68 - 73 MHz and 76 - 87.5 MHz are allocated to the broadcasting service 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-2000)

5.176 Additional allocation: in Australia, China, Korea (Rep. of), the Philippines, the Dem. People's Rep. of Korea, Estonia (subject to agreement obtained under No. 9.21) and Samoa, the band 68-74 MHz is also allocated to the broadcasting service on a primary basis. (WRC-2000)

5.177 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakhstan, Latvia, Moldova, Uzbekistan, Kyrgyzstan, the Russian Federation, 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-03)

5.179 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, China, Georgia, Kazakhstan, Lithuania, Moldova, Mongolia, Kyrgyzstan, Slovakia, the Russian Federation, 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 03)

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.

5.184 Additional allocation: in Bulgaria and Romania, the band 76 - 87.5 MHz is also 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). (WRC-97)

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, Lebanon, the Syrian Arab Republic, Kyrgyzstan, Somalia and Turkmenistan, the band 104-108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a secondary basis.

5.197A The band 108-117.975 MHz may also be used by the aeronautical mobile (R) service on a primary basis, limited to systems that transmit navigational information in support of air navigation and surveillance functions in accordance with recognized international aviation standards. Such use shall be in accordance with Resolution 413 (WRC 03) and shall not cause harmful interference to nor claim protection from stations operating in the aeronautical radionavigation service which operate in accordance with international aeronautical standards. (WRC 03)

5.198 Additional allocation: the band 117.975 - 136 MHz is also allocated to the aeronautical mobile-satellite (R) service on a secondary basis, subject to agreement obtained under No. 9.21. (WRC-97)

5.199 The bands 121.45 - 121.55 MHz and 242.95 - 243.05 MHz are also allocated to the mobile-satellite service for the reception on board satellites of emissions from emergency position-indicating radiobeacons transmitting at 121.5 MHz and 243 MHz (see Appendix 13).

5.200 In the band 117.975 - 136 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 and Appendix 13 for distress and safety purposes with stations of the aeronautical mobile service.

5.201 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Japan, Kazakstan, Latvia, Moldova, Mongolia, Mozambique, Uzbekistan, Papua New Guinea, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, the Russian Federation, 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-97)

5.202 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Belarus, Bulgaria, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Jordan, Latvia, Moldova, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Slovakia, the Czech Republic, Romania, the Russian Federation, 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-2000)

5.203 In the band 136-137 MHz, existing operational meteorological satellites may continue to operate, under the conditions defined in No. 4.4 with respect to the aeronautical mobile service, until 1 January 2002. Administrations shall not authorize new frequency assignments in this band to stations in the meteorological-satellite service. (WRC-97)

5.204 Different category of service: in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Bosnia and Herzegovina, Brunei Darussalam, China, Cuba, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Malaysia, Oman, Pakistan, the Philippines, Qatar, Serbia and Montenegro, 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-03)

5.206 Different category of service: in Armenia, Azerbaijan, Belarus, Bulgaria, Egypt, Finland, France, Georgia, Greece, Kazakstan, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Syrian Arab Republic, Slovakia, the Czech Republic, Romania, the Russian Federation, 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 Table 1 of Recommendation ITU-R RA.769-1. (WRC-97)

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 the Czech Rep., France, Italy 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-03)

5.211 Additional allocation: in Germany, Saudi Arabia, Austria, Bahrain, Belgium, Bosnia and Herzegovina, Denmark, the United Arab Emirates, Spain, Finland, Greece, Ireland, Israel, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Liechtenstein, Luxembourg, Mali, Malta, Norway, the Netherlands, Qatar, the United Kingdom, Serbia and Montenegro, 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-2000)

5.214 Additional allocation: in Bosnia and Herzegovina, Croatia, Eritrea, Ethiopia, Kenya, The Former Yugoslav Republic of Macedonia, Malta, Serbia and Montenegro, Somalia, Sudan and Tanzania, the band 138-144 MHz is also allocated to the fixed service on a primary basis. (WRC-2000)

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 ± 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, Egypt, the United Arab Emirates, Eritrea, Spain, Estonia, Ethiopia, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, Iran (Islamic Republic of), Ireland, Iceland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Lesotho, Latvia, The Former Yugoslav Republic of Macedonia, Lebanon, the Libyan Arab Jamahiriya, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, 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, Slovakia, Romania, the United Kingdom, the Russian Federation, Senegal, Serbia and Montenegro, 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-03)

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)

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 are contained in Article 31 and Appendix 13.

In the bands 156 - 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 13).

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 frequency 156.8 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.

5.227 In the maritime mobile VHF service the frequency 156.525 MHz is to be used exclusively for digital selective calling for distress, safety and calling. The conditions for the use of this frequency are prescribed in Articles 31 and 52, and Appendices 13 and 18.

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.

5.246 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.

5.254 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 (see Appendix 13).

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).

5.260 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 ± 25 kHz about the standard frequency 400.1 MHz.

5.262 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Botswana, Bulgaria, Colombia, Costa Rica, Cuba, Egypt, the United Arab Emirates, Ecuador, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Liberia, Malaysia, Moldova, Uzbekistan, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Kyrgyzstan, Romania, the Russian Federation, Serbia and Montenegro, Singapore, Somalia, Tajikistan, Turkmenistan and Ukraine, the band 400.05-401 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

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.

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 and Appendix 13).

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 dB(W/m^2) for $0° \leq \delta \leq 5°$, $-153 + 0.077 (\delta - 5)$ dB(W/m^2) for $5° \leq \delta \leq 70°$ and -148 dB(W/m^2) for $70° \leq \delta \leq 90°$, where δ 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 Azerbaijan, Belarus, China, India, Latvia, Lithuania, Kyrgyzstan and Turkmenistan, the band 420-460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis. (WRC-03)

5.272 Different category of service: in France, the allocation of the band 430 - 434 MHz to the amateur service is on a secondary basis (see No. 5.32).

5.274 Alternative allocation: in Denmark, Norway and Sweden, the bands 430 - 432 MHz and 438 - 440 MHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.275 Additional allocation: in Bosnia and Herzegovina, Croatia, Estonia, Finland, Latvia, the Libyan Arab Jamahiriya, The Former Yugoslav Republic of Macedonia, Serbia and Montenegro 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-97)

5.276 Additional allocation: in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burkina Faso, Burundi, Egypt, the United Arab Emirates, Ecuador, Eritrea, Ethiopia, Greece, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, the Libyan Arab Jamahiriya, Liechtenstein, Malaysia, Malta, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Democratic People's Republic of Korea, Singapore, Somalia, 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-97)

5.277 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, Cameroon, Congo (Rep. of the), Djibouti, Georgia, Hungary, Israel, Kazakhstan, Mali, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., Romania, the Russian Federation, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the band 430-440 MHz is also allocated to the fixed service on a primary basis. (WRC-03)

5.279A The use of this band by sensors in the Earth exploration-satellite service (active) shall be in accordance with Recommendation ITU R SA.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, Portugal, Serbia and Montenegro, 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.

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, 1 260 - 1 270 MHz, 2 400 - 2 450 MHz, 3 400 - 3 410 MHz (in Regions 2 and 3 only) and 5 650 - 5 670 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 1 260 - 1 270 MHz and 5 650 - 5 670 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)

5.286B 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)

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 (see Resolution 341 (WRC-97)*). (WRC-97)

5.289 Earth exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands 460 - 470 MHz and 1 690 - 1 710 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, Japan, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, 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-2000)

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)

5.296 Additional allocation: in Germany, Austria, Belgium, Côte d'Ivoire, Denmark, Spain, Finland, France, Ireland, Israel, Italy, The Libyan Arab Jamahiriya, Lithuania, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, the Syrian Arab Republic, the United Kingdom, Sweden, Switzerland, Swaziland and Tunisia, the band 470-790 MHz is 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 03)

5.302 Additional allocation: in the United Kingdom, the band 590 - 598 MHz is also allocated to the aeronautical radionavigation service on a primary basis. All new assignments to stations in the aeronautical radionavigation service, including those transferred from the adjacent bands, shall be subject to coordination with the Administrations of the following countries: Germany, Belgium, Denmark, Spain, France, Ireland, Luxembourg, Morocco, Norway and the Netherlands.

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.

5.311 Within the frequency band 620-790 MHz, assignments may be made to television stations using frequency modulation in the broadcasting-satellite service subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Resolutions 33 (Rev.WRC-03) and 507 (Rev.WRC-03)). Such stations shall not produce a power flux-density in excess of the value –129 dB(W/m^2) for angles of arrival less than 20° (see Recommendation 705) within the territories of other countries without the consent of the administrations of those countries. Resolution 545 (WRC-03) applies. (WRC-03)

5.312 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Hungary, Kazakhstan, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., Romania, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 645 - 862 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-03)

5.314 Additional allocation: in Austria, Italy, Moldova, Uzbekistan, the United Kingdom and Swaziland, the band 790 - 862 MHz is also allocated to the land mobile service on a secondary basis. (WRC-2000)

5.315 Alternative allocation: in Greece, Italy and Tunisia, the band 790 - 838 MHz is allocated to the broadcasting service on a primary basis. (WRC-2000)

5.316 Additional allocation: in Germany, Saudi Arabia, Bosnia and Herzegovina, Burkina Faso, Cameroon, Côte d'Ivoire, Croatia, Denmark, Egypt, Finland, Greece, Israel, Jordan, Kenya, The Former Yugoslav Republic of Macedonia, the Libyan Arab Jamahiriya, Liechtenstein, Mali, Monaco, Norway, the Netherlands, Portugal, Serbia and Montenegro, the Syrian Arab Republic, Sweden, Switzerland and the United Kingdom, 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. (WRC-03)

5.317A Administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000) may use those parts of the band 806-960 MHz which are allocated to the mobile service on a primary basis and are used or planned to be used for mobile systems (see Resolution 224 (WRC-2000)). 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-2000)

5.319 Additional Allocation: In Belarus, the Russian Federation and Ukraine, the bands 806-840 MHz (E/S) and 856-890 MHz (S/E) 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.

5.321 Alternative allocation: in Italy, the band 838 - 854 MHz is allocated to the broadcasting service on a primary basis as from 1 January 1995.

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, Egypt, Spain, the Libyan Arab Jamahiriya, Morocco, Namibia, Nigeria, South Africa, Tanzania, Zimbabwe and Zambia, subject to agreement obtained under No 9.21. (WRC-2000)

5.323 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, Hungary, Kazakhstan, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., Romania, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 862-960 MHz is 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-03).

5.328 The use of the band 960-1 215 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 1 164 - 1 215 MHz shall operate in accordance with the provisions of Resolution 609 (WRC 03) and shall not claim protection from stations in the aeronautical radionavigation service in the band 960 - 1 215 MHz. No. 5.43A does not apply. The provisions of No. 21.18 shall apply. (WRC-03).

5.328B The use of the bands 1 164 - 1 300 MHz, 1 559-1 610 MHz and 5 010-5 030 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. (WRC-03)

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 other systems or services operating in accordance with the Table. (WRC-2000)

5.330 Additional allocation: in Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, China, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, the Libyan Arab Jamahiriya, Japan, Jordan, Kuwait, Lebanon, Mozambique, Nepal, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Somalia, 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-03)

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, Lesotho, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Mauritania, Nigeria, Norway, Oman, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Slovakia, the United Kingdom, Serbia and Montenegro, Slovenia, Somalia, Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Thailand, Togo, Turkey, Venezuela and Viet Nam, the band 1 215 - 1 300 MHz is also allocated to the radionavigation service on a primary basis. In Canada and the United States, the band 1 240 - 1 300 MHz is also allocated to the radionavigation service, and use of the radionavigation service shall be limited to the aeronautical radionavigation service. (WRC 03).

5.332 In the band 1 215 - 1 260 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 1 260 - 1 300 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)

5337 The use of the bands 1 300 – 1 350 MHz, 2 700 – 2 900 MHz and 9 000 – 9 200 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 Azerbaijan, Mongolia, Kyrgyzstan, Slovakia, the Czech Rep., Romania and Turkmenistan, existing installations of the radionavigation service may continue to operate in the band 1 350 - 1 400 MHz. (WRC 03).

5.339 The bands 1 370 - 1 400 MHz, 2 640 - 2 655 MHz, 4 950 - 4 990 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.

5.339A Additional allocation: the band 1 390-1 392 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a secondary basis and the band 1 430-1 432 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis. These allocations are limited to use for feeder links for non geostationary-satellite networks in the mobile-satellite service with service links below 1 GHz, and Resolution 745 (WRC 03) applies. (WRC 03)

5.340 All emissions are prohibited in the following bands:

1 400 - 1 427 MHz,	
2 690 - 2 700 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)	

5.341 In the bands 1 400 - 1 727 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, Bulgaria, the Russian Federation, Uzbekistan, Kyrgystan and Ukraine, the band 1 429-1 535 MHz is 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 1 452-1 492 MHz is subject to agreement between the administrations concerned. (WRC-2000)

5.345 Use of the band 1 452 - 1 492 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).*

5.347 Different category of service: in Bangladesh, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Cuba, Denmark, Egypt, Greece, Ireland, Italy, Mozambique, Portugal, Serbia and Montenegro, Sri Lanka, Swaziland, Yemen and Zimbabwe, the allocation of the band 1 452 - 1 492 MHz to the broadcasting-satellite service and the broadcasting service is on a secondary basis until 1 April 2007. (WRC 03)

5.347A In the bands:

1 452 - 1 492 MHz,
1 525 - 1 559 MHz,
1 613.8 - 1 626.5 MHz,
2 655 - 2 670 MHz,
2 670 - 2 690 MHz,
21.4 - 22.0 GHz.

Resolution 739 (WRC 03) applies. (WRC 03)

5.348 The use of the band 1 518 - 1 525 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. In the band 1 518 - 1 525 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 1 518 - 1 525 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^2) in any 4 kHz band for all angles of arrival, instead of those given in Table 5-2 of Appendix 5. In the band 1 518-1 525 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)

[1] 5.340.1 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)

5.348B In the band 1 518 - 1 525 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)

5.348C For the use of the bands 1 518 - 1 525 MHz and 1 668 - 1 675 MHz by the mobile-satellite service, see Resolution 225 (Rev.WRC 03). (WRC-03)

5.349 Different category of service: in Saudi Arabia, Azerbaijan, Bahrain, Bosnia and Herzegovina, Cameroon, Egypt, France, Iran (Islamic Republic of), Iraq, Israel, Kazakhstan, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Morocco, Qatar, Syrian Arab Republic, Kyrgyzstan, Romania, Serbia and Montenegro, 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-2000)

5.350 Additional allocation: in Azerbaijan, Kyrgyzstan and Turkmenistan, the band 1 525-1 530 MHz is also allocated to the aeronautical mobile service on a primary basis. (WRC-2000)

5.351 The bands 1 525 - 1 544 MHz, 1 545 - 1 559 MHz, 1 626.5 - 1 645.5 MHz and 1 646.5 - 1 660.5 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 1 525 - 1 544 MHz, 1 545 - 1 559 MHz, 1 610 - 1 626.5 MHz, 1 626.5 - 1 645.5 MHz, 1 646.5 - 1 660.5 MHz, 1 980 - 2 010 MHz, 2 170 - 2 200 MHz, 2 483.5 - 2 500 MHz, 2 500 - 2 520 MHz and 2 670 - 2 690 MHz by the mobile-satellite service, see Resolutions 212 (Rev.WRC-97) and 225 (WRC-2000).*

5.352A In the band 1 525 - 1 530 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 territories in Region 3, Algeria, Saudi Arabia, Egypt, Guinea, India, Israel, Italy, Jordan, Kuwait, Mali, Malta, Morocco, Mauritania, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Tanzania, Viet Nam and Yemen notified prior to 1 April 1998. (WRC 97)

5.353A In applying the procedures of Section II of Article 9 to the mobile-satellite service in the bands 1 530 - 1 544 MHz and 1 626.5 - 1 645.5 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)

5.354 The use of the bands 1 525 - 1 559 MHz and 1 626.5 - 1 660.5 MHz by the mobile-satellite services is subject to coordination under 9.11A.

5.356 The use of the band 1 544 - 1 545 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 1 545 - 1 555 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 1 545 - 1 555 MHz and 1 646.5 - 1 656.5 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 (WRC-2000) shall apply.) (WRC-2000)

5.359 Additional allocation: in Germany, Saudi Arabia, Armenia, Austria, Azerbaijan, Belarus, Benin, Bosnia and Herzegovina, Bulgaria, Cameroon, Spain, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, Hungary, Jordan, Kazakhstan, Kuwait, Lebanon, the Libyan Arab Jamahiriya, Lithuania, Mauritania, Moldova, Mongolia, Uganda, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, the Russian Federation, Swaziland, Tajikistan, Tanzania, Tunisia, Turkmenistan and Ukraine, the bands 1 550-1 559 MHz, 1 610-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a primary basis. Administrations are urged to make all practicable efforts to avoid the implementation of new fixed-service stations in these bands. (WRC-03)

5.362B Additional allocation: The band 1 559 - 1 610 MHz is also allocated to the fixed service on a primary basis until 1 January 2005 in Germany, Armenia, Azerbaijan, Belarus, Benin, Bosnia and Herzegovina, Bulgaria, Spain, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, Hungary, Kazakhstan, Lithuania, Moldova, Mongolia, Nigeria, Uganda, Uzbekistan, Pakistan, Poland, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, the Russian Federation, Senegal, Swaziland, Tajikistan, Tanzania, Turkmenistan and Ukraine, and until 1 January 2010 in Saudi Arabia, Cameroon, Jordan, Kuwait, Lebanon, the Libyan Arab Jamahiriya, Mali, Mauritania, the Syrian Arab Republic and Tunisia. After these dates, 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. 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-03)

5.362C Additional allocation: in Bahrain, Bangladesh, Congo (Rep. of the), Egypt, Eritrea, Iraq, Israel, Jordan, Kuwait, Lebanon, Malta, Morocco, Qatar, the Syrian Arab Republic, Somalia, 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-2000)

5.363 Alternative allocation: in Sweden, the band 1 590 - 1 626.5 MHz is allocated to the aeronautical radionavigation service on a primary basis.

5.364 The use of the band 1 610 - 1 626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodeterminationsatellite 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 1 613.8 - 1 626.5 MHz by the mobile-satellite service (space-to-Earth) is subject to coordination under 9.11A.

5.366 The band 1 610 - 1 626.5 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 and 5 000 - 5 150 MHz are 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.

5.371 Additional allocation: in Region 1, the bands 1 610 - 1 626.5 MHz (Earth-to-space) and 2 483.5 - 2 500 MHz (space-to-Earth) are also allocated to the radiodetermination-satellite service on a secondary basis, subject to agreement obtained under No. 9.21.

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 1 631.5 - 1 634.5 MHz and 1 656.5 - 1 660 MHz shall not cause harmful interference to the stations in the fixed service operating in the countries listed in No. 5.359. (WRC-97)

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 1 646.5 - 1 656.5 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 1 660-1 660.5 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 1 660.5 - 1 668.4 MHz for future research in radio astronomy, particularly by eliminating air-to-ground transmissions in the meteorological aids service in the band 1 664.4 1 668.4 MHz as soon as practicable.

5.379B The use of the band 1 668 - 1 675 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. (WRC-03).

5.379C In order to protect the radio astronomy service in the band 1 668 - 1 670 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^2) in 10 MHz and 194dB(W/m^2) 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 1 668 - 1 675 MHz between the mobile-satellite service and the fixed, mobile and space research (passive) services, Resolution 744 (WRC 03) shall apply. (WRC-03)

5.379E In the band 1 668.4 - 1 675 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 1 668.4 - 1 675 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)

5.380 The bands 1 670 - 1 675 MHz and 1 800 - 1 805 MHz are intended for use, on a worldwide basis, by administrations wishing to implement aeronautical public correspondence. The use of the band 1 670 1 675 MHz by stations in the systems for public correspondence with aircraft is limited to transmissions from aeronautical stations and the use of the band 1 800 - 1 805 MHz is limited to transmissions from aircraft stations.

5.380A In the band 1 670-1 675 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 in accordance with Resolution 670 (WRC 03).

5.382 Different category of service: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Bulgaria, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, Hungary, Iraq, Israel, Jordan, Kazakhstan, Kuwait, the Former Yugoslav Republic of Macedonia, Lebanon, Mauritania, Moldova, Mongolia, Oman, Uzbekistan, Poland, Qatar, the Syrian Arab Republic, Kyrgyzstan, Romania, the Russian Federation, Serbia and Montenegro, Somalia, Tajikistan, Tanzania, Turkmenistan, Ukraine and Yemen, the allocation of the band 1 690 - 1 700 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 1 690 - 1 700 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-03)

5.384A The bands, or portions of the bands, 1 710 - 1 885 MHz and 2 500 - 2 690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000) in accordance with Resolution 223 (WRC-2000). 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-2000)

5.385 Additional allocation: the band 1 718.8 - 1 722.2 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 1 750-1 850 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 Azerbaijan, Belarus, Georgia, Kazakhstan, Mongolia, Kyrgyzstan, Slovakia, Romania, Tajikistan and Turkmenistan, the band 1 770 - 1 790 MHz is also allocated to the meteorological-satellite service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-03)

5.388 The bands 1 885 - 2 025 MHz and 2 110 - 2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000). 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-2000 in accordance with Resolution 212 (Rev.WRC-97). (See also Resolution 223 (WRC-2000)).

5.388A In Regions 1 and 3, the bands 1 885 - 1 980 MHz, 2 010 - 2 025 MHz and 2 110 - 2 170 MHz and, in Region 2, the bands 1 885 - 1 980 MHz and 2 110 - 2 160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications 2000 (IMT-2000), in accordance with Resolution 221 (Rev.WRC-03). Their use by IMT-2000 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-03)

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, the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Mali, Morocco, Mauritania, Nigeria, Oman, Uganda, Qatar, the Syrian Arab Republic, Senegal, Singapore, 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 dB(W/(m^2· 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-03).

5.389A The use of the bands 1 980 - 2 010 MHz and 2 170 - 2 200 MHz by the mobile-satellite service is subject to coordination under 9.11A and to the provisions of Resolution 716 (WRC-95)**. The use of these bands shall not commence before 1 January 2000; however the use of the band 1 980 - 1 990 MHz in Region 2 shall not commence before 1 January 2005.

5.389E The use of the bands 2 010-2 025 MHz and 2 160-2 170 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.

5.391 In making assignments to the mobile service in the bands 2 025 - 2 110 MHz and 2 200 - 2 290 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.

5.392A Additional allocation: in the Russian Federation, the band 2 160 - 2 200 MHz is also allocated to the space research service (space-to-Earth) on a primary basis until 1 January 2005. Stations in the space research service shall not cause harmful interference to, or claim protection from, stations in the fixed and mobile services operating in this frequency band.

5.395 In France and Turkey, the use of the band 2 310-2 360 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service. (WRC-03)

5.397 Different category of service: in France, the band 2 450 - 2 500 MHz is allocated on a primary basis to the radiolocation service (see No. 5.33). Such use is subject to agreement with administrations having services operating or planned to operate in accordance with the Table of Frequency Allocations which may be affected.

5.398 In respect of the radiodetermination-satellite service in the band 2 483.5 - 2 500 MHz, the provisions of No. 4.10 do not apply.

5.399 In Region 1, in countries other than those listed in No. 5.400, harmful interference shall not be caused to, or protection shall not be claimed from, stations of the radiolocation service by stations of the radiodetermination satellite service.

5.400 Different category of service*:* in Angola, Australia, Bangladesh, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, the Dem. Rep. of the Congo, the Syrian Arab Republic, Sudan, Swaziland, Togo and Zambia, the allocation of the band 2 483.5-2 500 MHz to the radiodetermination-satellite service (space-to-Earth) 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-03)

5.402 The use of the band 2 483.5 - 2 500 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 2 483.5 - 2 500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4 990 - 5 000 MHz band allocated to the radio astronomy service worldwide.

5.403 Subject to agreement obtained under No. 9.21, the band 2 520 - 2 535 MHz (until 1 January 2005 the band 2 500 - 2 535 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 of No. 9.11A apply.

5.405 Additional allocation: in France, the band 2 500 - 2 550 MHz is also allocated to the radiolocation service on a primary basis. Such use is subject to agreement with the administrations having services operating or planned to operate in accordance with the Table which may be affected.

5.409 Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in the band 2 500 - 2 690 MHz.

5.410 The band 2 500 - 2 690 MHz may be used for tropospheric scatter systems in Region 1, subject to agreement obtained under No. 9.21.

5.411 When planning new tropospheric scatter radio-relay links in the band 2 500 - 2 690 MHz, all possible measures shall be taken to avoid directing the antennae of these links towards the geostationary-satellite orbit.

5.412 Alternative allocation: in Azerbaijan, Bulgaria, 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-2000)

5.413 In the design of systems in the broadcasting-satellite service in the bands between 2 500 MHz and 2 690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690 - 2 700 MHz.

5.414 The allocation of the frequency band 2 500 - 2 520 MHz to the mobile-satellite service (space-to-Earth) shall be effective on 1 January 2005 and is subject to coordination under No. 9.11A.

5.416 The use of the band 2 520 - 2 670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under No. 9.21. (WRC-03)

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 2 605-2 630 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 2 605-2 630 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:

$$\begin{aligned} &-130 \quad \text{dB}(\text{W}/(\text{m}^2 \cdot \text{MHz})) && \text{for} \quad 0^0 \le \theta \le 5^0 \\ &-130 + 0.4\,(\theta - 5) \quad \text{dB}(\text{W}/(\text{m}^2 \cdot \text{MHz})) && \text{for} \quad 5^0 < \theta \le 25^0 \\ &-122 \quad \text{dB}(\text{W}/(\text{m}^2 \cdot \text{MHz})) && \text{for} \quad 25^0 < \theta \le 90^0 \end{aligned}$$

where θ 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 dB(W/(m^2 · MHz)) shall be used as a threshold for coordination under No. 9.11 in an area of 1 000 km around the territory of the administration notifying the broadcasting-satellite service (sound) system, for angles of arrival greater than 35^0. (WRC-03)

5.417C Use of the band 2 605 - 2 630 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)

5.417D Use of the band 2 605-2 630 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 2 630-2 655 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 2 630 2 655 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 The allocation of the frequency band 2 670 - 2 690 MHz to the mobile-satellite service shall be effective from 1 January 2005. When introducing systems of the mobile-satellite service in this band, 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.

5.420 The band 2 655 - 2 670 MHz (until 1 January 2005 the band 2 655 - 2 690 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.

5.422 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Brunei Darussalam, Congo (Rep. of the), Côte d'Ivoire, Cuba, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Georgia, Guinea, Guinea-Bissau, Iran (Islamic Republic of), Iraq, Israel, Jordan, Lebanon, Mauritania, Moldova, Mongolia, Nigeria, Oman, Uzbekistan, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Kyrgyzstan, the Dem. Rep. of the Congo, Romania, the Russian Federation, Serbia and Montenegro, Somalia, Tajikistan, Tunisia, Turkmenistan, Ukraine and Yemen, the band 2 690 - 2 700 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-03)

5.423 In the band 2 700 - 2 900 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 2 900 - 3 100 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 2 900 - 3 100 MHz, the use of the shipborne interrogator-transponder system (SIT) shall be confined to the sub-band 2 930 - 2 950 MHz.

5.426 The use of the band 2 900 - 3 100 MHz by the aeronautical radionavigation service is limited to ground-based radars.

5.427 In the bands 2 900 - 3 100 MHz and 9 300 - 9 500 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, Cuba, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 3 100 - 3 300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

5.430 Additional allocation: in Azerbaijan, Cuba, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 3 300 - 3 400 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

5.431 Additional allocation: in Germany, Israel and the United Kingdom, the band 3 400 - 3 475 MHz is also allocated to the amateur service on a secondary basis. (WRC-03)

5.438 Use of the band 4 200 - 4 400 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).

5.440 The standard frequency and time signal-satellite service may be authorised to use the frequency 4 202 MHz for space-to-Earth transmissions and the frequency 6 427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of ±2 MHz of these frequencies, subject to agreement obtained under No. 9.21.

5.441 The use of the bands 4 500 - 4 800 MHz (space-to-Earth), 6 725 - 7 025 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 4 825 - 4 835 MHz and 4 950 - 4 990 MHz, the allocation to the mobile service is restricted to the mobile, except aeronautical mobile, service.

5.443B In order not to cause harmful interference to the microwave landing system operating above 5 030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5 030 - 5 150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the band 5 010 5 030 MHz shall not exceed –124.5 dB(W/m^2) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4 990 5 000 MHz, radionavigation-satellite service systems operating in the band 5 010 - 5 030 MHz shall comply with the limits in the band 4 990 - 5 000 MHz defined in Resolution 741 (WRC 03). (WRC-03)

5.444 The band 5 030 - 5 150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. The requirements of this system shall take precedence over other uses of this band. For the use of this band, No. 5.444A and Resolution 114 (Rev.WRC 03) apply. (WRC-03)

5.444A Additional allocation: the band 5 091 - 5 150 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 5 091 - 5 150 MHz, the following conditions also apply:

- prior to 1 January 2018, the use of the band 5 091 - 5 150 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);
- prior to 1 January 2018, the requirements of existing and planned international standard systems for the aeronautical radionavigation service which cannot be met in the 5 000 - 5 091 MHz band, shall take precedence over other uses of this band;
- after 1 January 2012, no new assignments shall be made to earth stations providing feeder links of non-geostationary mobile-satellite systems;
- after 1 January 2018, the fixed-satellite service will become secondary to the aeronautical radionavigation service. (WRC-03)

5.446 Additional allocation: in the countries listed in Nos. 5.369 and 5.400, the band 5 150 - 5 216 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 5.400, 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 1 610 - 1 626.5 MHz and/or 2 483.5 - 2 500

MHz. The total power flux-density at the Earth's surface shall in no case exceed -159 dB(W/m²) in any 4 kHz band for all angles of arrival.

5.446A The use of the bands 5 150 - 5 350 MHz and 5 470 - 5 725 MHz by the stations in the mobile service shall be in accordance with Resolution 229 (WRC 03). (WRC-03)

5.446B In the band 5 150 - 5 250 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)

5.447A 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 5 150 - 5 216 MHz is also allocated to the fixed-satellite service (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 5 150 - 5 216 MHz shall in no case exceed -164 dB(W/m²) in any 4 kHz band for all angles of arrival.

5.447C Administrations responsible for fixed-satellite service networks in the band 5 150 - 5 250 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 5 250 - 5 255 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 5 250 - 5 350 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).

5.448 Additional allocation: in Azerbaijan, the Libyan Arab Jamahiriya, Mongolia, Kyrgyzstan, Slovakia, Romania and Turkmenistan, the band 5 250 - 5 350 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03).

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 5 350 - 5 570 MHz and space research service (active) operating in the band 5 460 - 5 570 MHz shall not cause harmful interference to the aeronautical radionavigation service in the band 5 350 - 5 460 MHz, the radionavigation service in the band 5 460 - 5 470 MHz and the maritime radionavigation service in the band 5 470 - 5 570 MHz. (WRC-03)

5.448C The space research service (active) operating in the band 5 350 - 5 460 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 5 350 - 5 470 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 5 350 - 5 470 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), Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 5 470 - 5 650 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-03)

5.450A In the band 5 470 - 5 725 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 5 470 - 5 650 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 5 470 - 5 850 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 5 600 MHz and 5 650 MHz, ground-based radars used for meteorological purposes are authorised to operate on a basis of equality with stations of the maritime radionavigation service.

5.454 Different category of service: in Azerbaijan, Georgia, Mongolia, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan and Turkmenistan, the allocation of the band 5 670 - 5 725 MHz to the space research service is on a primary basis (see No. 5.33). (WRC-03)

5.455 Additional allocation: in Armenia, Azerbaijan, Belarus, Cuba, Georgia, Hungary, Kazakhstan, Latvia, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 5 670 - 5 850 MHz is also allocated to the fixed service on a primary basis. (WRC-03)

5.457A In the bands 5 925 - 6 425 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)5457B. In the bands 5 925 – 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, the Libyan Arab Jamahiriya, Jordan, Kuwait, Morocco, Mauritania, Oman, Qatar, the Syrian Arab

Republic, 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-03)

5.458 In the band 6 425 - 7 075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7 075 - 7 250 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 6 425 - 7 025 MHz and 7 075 - 7 250 MHz.

5.458A In making assignments in the band 6 700 - 7 075 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 6 650 - 6 675.2 MHz from harmful interference from unwanted emissions.

5.458B The space-to-Earth allocation to the fixed-satellite service in the band 6 700 - 7 075 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 6 700 - 7 075 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 7 025 - 7 075 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 the Russian Federation, the frequency bands 7 100 - 7 155 MHz and 7 190 - 7 235 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 7 145-7 190 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 7 190-7 235 MHz. Geostationary satellites in the space research service operating in the band 7 190-7 235 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 7 250 - 7 375 MHz (space-to-Earth) and 7 900 - 8 025 MHz (Earth-to-space) are also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. 9.21.

5.461A The use of the band 7 450-7 550 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 7 750-7 850 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems. (WRC-97)

5.462A In Regions 1 and 3 (except for Japan), in the band 8 025-8 400 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 (θ), without the consent of the affected administration:

-174 dB(W/m^2) in a 4 kHz band	for $0° \le \theta < 5°$
$-174 + 0.5\ (\theta - 5)$ dB(W/m^2) in a 4 kHz band	for $5° \le \theta < 25°$
-164 dB(W/m²) in a 4 kHz band	for $25° \le \theta \le 90°$

These values are subject to study under Resolution 124 (WRC-97)**. (WRC-97)

5.463 Aircraft stations are not permitted to transmit in the band 8 025 - 8 400 MHz. (WRC-97)

5.465 In the space research service, the use of the band 8 400 - 8 450 MHz is limited to deep space.

5.469 Additional allocation: in Armenia, Azerbaijan, Belarus, Georgia, Hungary, Lithuania, Moldova, 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-03)

5.469A In the band 8 550 - 8 650 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 8 750 - 8 850 MHz by the aeronautical radionavigation service is limited to airborne Doppler navigation aids on a centre frequency of 8 800 MHz.

5.471 Additional allocation: in Algeria, Germany, Bahrain, Belgium, China, the United Arab Emirates, France, Greece, Indonesia, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, the Netherlands, Qatar and Sudan, the bands 8 825 - 8 850 MHz and 9 000 - 9 200 MHz are also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars only.

5.472 In the bands 8 850 - 9 000 MHz and 9 200 - 9 225 MHz, the maritime radionavigation service is limited to shore-based radars.

5.473 Additional allocation: in Armenia, Austria, Azerbaijan, Belarus, Bulgaria, Cuba, Georgia, Hungary, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Romania, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the bands 8 850 - 9 000 MHz and 9 200 - 9 300 MHz are also allocated to the radionavigation service on a primary basis. (WRC-03)

5.474 In the band 9 200 - 9 500 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 9 300 - 9 500 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 9 300 - 9 320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. In the band 9 300 - 9 500 MHz, ground-based radars used for meteorological purposes have priority over other radiolocation devices.

5.476 In the band 9 300 - 9 320 MHz in the radionavigation service, the use of shipborne radars, other than those existing on 1 January 1976, is not permitted until 1 January 2001.

5.476A In the band 9 500 - 9 800 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 radio-navigation and radiolocation services. (WRC-97)

5.478 Additional allocation: in Azerbaijan, Bulgaria, Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 9 800-10 000 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

5.479 The band 9 975 - 10 025 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, Paraguay, Peru, the Dem. People's Rep. of Korea, 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-03)

5.482 In the band 10.6 - 10.68 GHz, stations of the fixed and mobile, except aeronautical mobile, services shall be limited to a maximum equivalent isotropically radiated power of 40 dBW and the power delivered to the antenna shall not exceed –3 dBW. These limits may be exceeded subject to agreement obtained under No. 9.21. However, in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, China, the United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Kuwait, Latvia, Lebanon, Moldova, Nigeria, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Tajikistan and Turkmenistan, the restrictions on the fixed and mobile, except aeronautical mobile, services are not applicable. (WRC-03)

5.483 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, China, Colombia, Korea (Rep. of), Costa Rica, Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, Mongolia, Uzbekistan, Qatar, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Serbia and Montenegro, 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 03)

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.

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)

5.492 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)

5.495 Additional allocation: in Bosnia and Herzegovina, Croatia, France, Greece, Liechtenstein, Monaco, Uganda, Portugal, Romania, Serbia and Montenegro, Slovenia, Switzerland, 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-03)

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)

5.501 Additional allocation: in Azerbaijan, Hungary, Japan, Mongolia, Kyrgyzstan, Romania, the United Kingdom and Turkmenistan, the band 13.4 - 14 GHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

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^2 • 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^2 • 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)

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 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) 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 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 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)

5.506 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, Bosnia and Herzegovina, France, Italy, The Former Yugoslav Republic of Macedonia, the Libyan Arab Jamahiriya, Serbia and Montenegro, Slovenia and the United Kingdom, the band 14.25 - 14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-03)

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, Lesotho, 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-03)

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, Lesotho, 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-03)

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, Bosnia and Herzegovina, Cameroon, Egypt, the United Arab Emirates, Guinea, Iran (Islamic Republic of), Iraq, Israel, Kuwait, Lebanon, the Libyan Arab Jamahiriya, Pakistan, Qatar, Serbia and Montenegro, Slovenia, Somalia and the Syrian Arab Republic, the band 15.35 - 15.4 GHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-97)

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 dB(W/m^2) 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 dB(W/m^2/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 dB(W/m^2/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)

5.512 Additional allocation: in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Brunei Darussalam, Cameroon, the Congo (Rep. of the), Costa Rica, Egypt, El Salvador, the United Arab Emirates, Eritrea, Finland, Guatemala, India, Indonesia, Iran (Islamic Republic of), Jordan, Kenya, Kuwait, the Libyan Arab Jamahiriya, Malaysia, Mali, Morocco, Mauritania, Mozambique, Nepal, Nicaragua, Oman, Pakistan, Qatar, Serbia and Montenegro, Singapore, Slovenia, Somalia, Sudan, Swaziland, 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-03)

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, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Cameroon, Costa Rica, El Salvador, the United Arab Emirates, Finland, Guatemala, India, Iran (Islamic Republic of), Iraq, Israel, Italy, Japan, Jordan, Kuwait, the Libyan Arab Jamahiriya, Lithuania, Nepal, Nicaragua, Nigeria, Oman, Uzbekistan, Pakistan, Qatar, Kyrgyzstan, Slovenia, Sudan and Serbia and Montenegro, 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-03)

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.

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)

5.519 Additional allocation: the band 18.1 - 18.3 GHz is also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Its use is limited to geostationary satellites and shall be in accordance with the provisions of Article 21, Table 21-4.

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)

5.523A 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)

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)

5.525 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.

5.530 In Regions 1 and 3, the allocation to the broadcasting-satellite service in the band 21.4-22 GHz shall come into effect on 1 April 2007. The use of this band by the broadcasting-satellite service after that date and on an interim basis prior to that date is subject to the provisions of Resolution 525 (WARC-92)*.

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.

5.533 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.

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 Recommendations ITU-R SA.1278 and ITU-R SA.1625, respectively. (WRC-03)

5.536B In Germany, Saudi Arabia, Austria, Belgium, Brazil, Bulgaria, China, Korea (Republic of), Denmark, Egypt, United Arab Emirates, Spain, Estonia, Finland, France, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, the Libyan Arab Jamahiriya, Liechtenstein, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, the Syrian Arab Republic, Slovakia, Czech Republic, 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-97)

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, the Syrian Arab Republic, Somalia, 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-03)

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, Korea (Rep. of), the Russian Federation, Indonesia, Iran (Islamic Republic of), Japan, Kazakhstan, Lesotho, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 27.5 - 28.35 GHz may also be used by high altitude platform stations (HAPS). The use of HAPS within the band 27.5 - 28.35 GHz is limited, within the territory of the countries listed above, to a single 300 MHz sub band. 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 (WRC- 03). (WRC-03)

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. In the band 27.500 - 27.501 GHz, such space-to-Earth transmissions shall not produce a power flux-density in excess of the values specified in Article 21, Table 21-4 on the Earth's surface.

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

* *Note by the Secretariat:* This Resolution was revised by WRC-03.

broadcasting-satellite service.

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)

5.543 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.

5.543A In Bhutan, Korea (Rep. of), the Russian Federation, Indonesia, Iran (Islamic Republic of), Japan, Kazakhstan, Lesotho, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, 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 take account of rain attenuation, provided the effective impact on the passive satellite does not exceed the impact under clear-sky conditions as given above. See Resolution 145 (WRC-03). (WRC-03)

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, Azerbaijan, Georgia, Mongolia, 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-03)

5.546 Different category of service: in Saudi Arabia, Armenia, Azerbaijan, Belarus, Egypt, the United Arab Emirates, Spain, Estonia, Finland, Georgia, Hungary, Iran (Islamic Republic of), Israel, Jordan, Latvia, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, the United Kingdom, the Russian Federation, 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-03)

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 Resolutions 75 (WRC-2000) and 79 (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-03)

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)

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)

5.549A 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° from the beam centre shall not exceed -73.3 dB(W/m^2) in this band. (WRC-03)

5.550 Different category of service: in Armenia, Azerbaijan, Belarus, Georgia, Mongolia, Uzbekistan, Kyrgyzstan, the Russian Federation, 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-03)

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 dB(W/m^2) in 1 GHz and –246 dB(W/m^2) 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 dB(W/m^2) 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 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 θ_{min} of the

radiotelescope (for which a default value of 5° 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-03)

5.551I 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^2) in 1 GHz and –153 dB(W/m^2) 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^2) 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 Radiocommunication 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 (WRC-97)*. (WRC-97)

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^2) in any 500 kHz band at the site of any radio astronomy station. (WRC-03)

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^2 · 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^2 · 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)

5.559A The band 75.5 - 76 GHz is also allocated to the amateur and amateur-satellite services on a primary basis until the year 2006. (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)

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^2 · 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 1 000 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^2 · 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)

5.565 The frequency band 275-1 000 GHz may be used by administrations for experimentation with, and development of, various active and passive services. In this band a need has been identified for the following spectral line measurements for passive services:

- 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): 275-277 GHz, 294-306 GHz, 316-334 GHz, 342-349 GHz, 363-365 GHz, 371-389 GHz, 416-434 GHz, 442-444 GHz, 496-506 GHz, 546-568 GHz, 624-629 GHz, 634-654 GHz, 659-661 GHz, 684-692 GHz, 730-732 GHz, 851-853 GHz and 951-956 GHz.

Future research in this largely unexplored spectral region may yield additional spectral lines and continuum bands of interest to the passive services. Administrations are urged to take all practicable steps to protect these passive services from harmful interference until the date when the allocation Table is established in the above-mentioned frequency band. (WRC-2000)

* *Note by the Secretariat*: This Resolution was revised by WRC-03

** *Note by the Secretariat*: This Resolution was revised by WRC-2000

Annex 3 - Relevant CEPT ECC/ERC Decisions and Recommendations

ECC/DEC/(02)01	ECC Decision of 15 March 2002 on the frequency bands to be designated for the coordinated introduction of Road Transport and Traffic Telematic Systems
ECC/DEC/(02)04	ECC Decision of 15 March 2002 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)
ECC/DEC/(02)05	ECC Decision of 5 July 2002 on the designation and availability of frequency bands for railway purposes in the 876–880 and 921–925 MHz bands
ECC/DEC/(02)06	ECC Decision of 15 November 2002 on the designation of frequency band 2500–2690 MHz for UMTS/IMT–2000
ECC/DEC/(02)08	ECC Decision of 15 November 2002 on free circulation and use of Satellite User Terminals operating within the frequency bands 1525–1559 MHz space–to–Earth and 1626.5–1660.5 MHz Earth–to–space, in CEPT member countries, enlarging the field of application of ERC/DEC/(95)01
ECC/DEC/(02)09	ECC Decision of 15 November 2002 on free circulation and use of GSM–R mobile terminals operating within the frequency bands 876–880 MHz and 921–925 MHz for railway purposes in CEPT member countries, enlarging the field of application of ERC/DEC/(95)01
ECC/DEC/(02)10	ECC Decision of 15 November 2002 on exemption from individual licensing of GSM–R mobile terminals operating within the frequency bands 876–880 MHz and 921–925 MHz for railway purposes
ECC/DEC/(02)11	ECC Decision of 15 November 2002 on exemption from individual licensing of Satellite User Terminals operating within the frequency bands 1525–1559 MHz space–to–Earth and 1626–1660.5 MHz Earth–to–space, for land mobile applications
ECC/DEC/(03)02	ECC Decision of 17 October 2003 on the designation of the frequency band 1479.5–1492MHz for use by Satellite Digital Audio Broadcasting systems
ECC/DEC/(04)02	ECC Decision of 19 March 2004 on harmonised frequencies, technical characteristics and exemption from individual licensing of Non–Specific Short Range Devices operating in the frequency band 433.050–434.790 MHz excluding audio and voice applications
ECC/DEC/(04)03	ECC Decision of 19 March 2004 on the frequency band 77–81 GHz to be designated for the use of Automotive Short Range Radars
ECC/DEC/(04)06	ECC Decision of 19 March 2004 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)08	ECC Decision of 9 July 2004 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)09	ECC Decision of 12 November 2004 on designation of the bands 1518–1525 MHz and 1670–1675 MHz for the Mobile Satellite Service
ECC/DEC/(0410	ECC Decision of 12 November 2004 on the frequency bands to be designated for the temporary introduction of Automative Short Range Radars (SRR)
ECC/DEC/(05)01	ECC Decision of 18 March 2005 on the use of the band 27.5–29.5 GHz by fixed service and uncoordinated Earth stations of the fixed–satellite service (Earth–to–space)
ECC/DEC/(05)02	ECC Decision of 18 March 2005 on the use of the frequency band 169.4–169.8125 MHz
ECC/DEC/(05)05	ECC Decision of 18 March 2005 on harmonised utilisation of spectrum for IMT–2000/UMTS systems operating within the band 2500–2690 MHz
ECC/DEC/(05)08	ECC Decision of 24 June 2005 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)09	ECC Decision of 24 June 2005 on the free circulation and use of Earth Stations on board Vessels operating in Fixed Satellite service networks in the frequency bands 5 925–6 425 MHz (Earth–to–space) and 3 700–4 200 MHz (space–to–Earth)
ECC/DEC/(05)10	ECC Decision of 24 June 2005 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)11	ECC Decision of 24 June 2005 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)12	ECC Decision of 28.10.2005 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/(06)01	ECC Decision of 24 March 2006 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/(06)02	ECC Decision of 24 March 2006 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 19.7–20.2 GHz space–to–Earth and 14.00–14.25 GHz or 29.50–30.00 GHz Earth–to–Space.
ECC/DEC/(06)03	ECC Decision of 24 March 2006 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)04	ECC Decision of 24 March 2006 on the harmonised conditions for devices using UWB technology in bands below 10.6 GHz
ECC/DEC/(06)05	ECC Decision of 7 July 2006 on the harmonised frequency bands to be designated for Air-Ground-Air operation (AGA) of Digital Land Mobile Systems for the Emergency Services
ECC/DEC/(06)06	ECC Decision of 7 July 2006 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
ERC/DEC/(00)02	ERC Decision of 27 March 2000 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)
ERC/DEC/(00)03	ERC Decision of 27 March 2000 on Exemption from Individual Licensing of Satellite Interactive Terminals (SITs) operating within the bands 10.70-12.75 GHz space-to-Earth and 29.50-30.00 GHz Earth-to-space
ERC/DEC/(00)04	ERC Decision of 27 March 2000 on Exemption from Individual Licensing of Satellite User Terminals (SUTs) operating within the frequency bands 19.70-20.20 GHz space-to-Earth and 29.50-30.00 GHz Earth-to-space
ERC/DEC/(00)05	ERC Decision of 19 October 2000 on the shared use of the band 17.7 – 19.7 GHz by the fixed service and Earth stations of the fixed satellite services (space-to-Earth)
ERC/DEC/(00)07	ERC Decision of 19 October 2000 on the shared use of the band 17.7–19.7 GHz by the fixed service and Earth stations of the fixed satellite services (space–to–Earth)
ERC/DEC/(00)08	ERC Decision of 19 October 2000 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

ERC/DEC/(01)02	ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Non–specific Short Range Devices operating in the frequency band 26.957–27.283 MHz
ERC/DEC/(01)03	ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Non–specific Short Range Devices operating in the frequency band 40.660–40.700 MHz
ERC/DEC/(01)04	ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Non–specific Short Range Devices operating in the frequency bands 868.0–868.6 MHz, 868.7–869.2 MHz, 869.4–869.65 MHz, 869.7–870.0 MHz
ERC/DEC/(01)07	ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for Radio Local Area Networks (RLANs) operating in the frequency band 2400–2483.5 MHz
ERC/DEC/(01)08	ERC Decision of 12 March 2001 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/(01)09	ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for Alarms operating in the frequency bands 868.60–868.7 MHz, 869.25–869.3 MHz, 869.65–869.7 MHz
ERC/DEC/(01)10	ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for Model control operating in the frequencies 26.995, 27.045, 27.095, 27.145 and 27.195 MHz
ERC/DEC/(01)11	ERC Decision of 12 March 2001 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)12	ERC Decision of 12 March 2001 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)13	ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for inductive applications operating in the frequency bands 9-59.750 kHz, 59.750-60.250 kHz, 60.250-70 kHz, 70-119 kHz, 119-135 kHz
ERC/DEC/(01)15	ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for inductive applications operating in the frequency band 7400 - 8800 kHz
ERC/DEC/(01)16	ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for inductive applications operating in the frequency band 26.957 - 27.283 MHz
ERC/DEC/(01)17	ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for Ultra Low Power Active Medical Implants operating in the frequency band 402–405 MHz
ERC/DEC/(01)18	ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for Wireless Audio Applications operating in the frequency band 863–865 MHz
ERC/DEC/(01)19	ERC Decision of 12 March 2001 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/(94)01	ERC Decision of 24 October 1994 on the frequency bands to be designated for the coordinated introduction of the GSM Digital pan–European communications System
ERC/DEC/(94)03	ERC Decision of 24 October 1994 on the frequency band to be designated for the coordinated introduction of the Digital European Cordless Telecommunications system
ERC/DEC/(96)01	ERC Decision of 7 March 1996 on the harmonised frequency band to be designated for the introduction of the Digital Land Mobile System for the Emergency Services
ERC/DEC/(96)02	ERC Decision of 7 March 1996 on the harmonised frequency band to be designated for CEPT PR 27 radio equipment and on the implementation of the technical standard for this equipment
ERC/DEC/(96)04	ERC Decision of 7 March 1996 on the frequency bands for the introduction of the Trans European Trunked Radio System (TETRA)
ERC/DEC/(97)02	ERC Decision of 21 March 1997 on the extended frequency bands to be used for the GSM Digital Pan–European Communications System
ERC/DEC/(97)03	ERC Decision of 30 June 1997 on the Harmonised Use of Spectrum for Satellite Personal Communication Services (S–PCS) operating within the bands 1610–1626.5 MHz, 2483.5–2500 MHz, 1980–2010 MHz and 2170–2200 MHz
ERC/DEC/(97)04	ERC Decision of 30 June 1997 on transitional arrangements for the Fixed Service and the Mobile–Satellite Service in the bands 1980–2010 MHz and 2170–2200 MHz in order to facilitate the harmonised introduction and development of Satellite Personal Communications Services
ERC/DEC/(97)05	ERC Decision of 30 June 1997 on free circulation, use and licensing of Mobile Earth Stations of Satellite Personal Communications Services (S-PCS) operating within the bands 1610-1626.5 MHz, 2483.5-2500 MHz, 1980-2010 MHz and 2170-2200 MHz within the CEPT
ERC/DEC/(97)06	ERC Decision of 30 June 1997 on the harmonised frequency band to be designated for Social Alarm Systems
ERC/DEC/(98)11	ERC Decision of 23 November 1998 on the harmonised frequency band to be designated for CEPT PR 27 radio equipment and on the implementation of the technical standard for this equipment
ERC/DEC/(98)25	ERC Decision of 23 November 1998 on the harmonised frequency band to be designated for PMR 446
ERC/DEC/(99)06	ERC Decision of 10 March 1999 on the harmonised introduction of satellite personal communication systems operating in the bands below 1 GHz (S–PCS<1GHz)
ERC/DEC/(99)15	ERC Decision of 1 June 1999 on the designation of the harmonised frequency band 40.5 to 43.5 GHz for the introduction of Multimedia Wireless Systems (MWS) including Multipoint Video Distribution Systems (MVDS)
ERC/DEC/(99)17	ERC Decision of 1 June 1999 on the Automatic Identification and Surveillance system (AIS) channels in the maritime VHF band

ECC/REC/(01)04	Recommended guidelines for the accommodation and assignment of Multimedia Wireless Systems (MWS) in the frequency band 40.5–43.5 GHz
ECC/REC/(02)02	Channel arrangements for digital fixed service systems (point–to–point and point–to–multipoint) operating in the frequency band 31–31.3 GHz
ECC/REC/(02)06	Preferred channel arrangements for digital fixed service systems operating in the frequency range 7125–8500 MHz
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/(03)03	Measures to safeguard the future use of terrestrial UMTS/IMT–2000 in the 2.5 GHz range with respect to broadcasting satellite systems
ECC/REC/(04)05	Recommended guidelines for accommodation and assignment of multipoint Fixed Wireless Systems in frequency bands 3.4–3.6 and 3.6–3.8 GHz
ECC/REC/(04)06	Guidelines for block allocation for Fixed Wireless Systems in the band 31.8–33.4 GHz
ECC/REC/(05)02	Use of the 64–66 GHz frequency band for Fixed Service
ECC/REC/(05)05	Early access for the amateur service in the band 7100–7200 kHz
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)08	Frequency planning and frequency coordination for the GSM 900, GSM 1800, E–GSM and GSM–R systems
ECC/REC/(06)04	Use of the band 5725-5875 MHz for Broadband Fixed Wireless Access (BFWA)
ERC/REC/(00)04	Harmonised frequencies and free circulation and use for Meteor Scatter Applications
ERC/REC/(00)05	Use of the band 24.5 – 26.5 GHz for Fixed Wireless Access
ERC/REC/(01)01	Border coordination of UMTS/IMT–2000 systems
ERC/REC/(01)02	Preferred channel arrangement for digital fixed service systems operating in the frequency band 31.8–33.4 GHz
ERC/REC/(01)03	Use of parts of the band 27.5–29.5 GHz for Fixed Wireless Access (FWA)
CEPT/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
CEPT/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
CEPT/ERC/REC 12–05	Harmonised radio frequency channel arrangements for digital terrestrial fixed systems operating in the band 10.0 GHz to 10.68 GHz
CEPT/ERC/REC 12–06	Harmonised radio frequency channel arrangements for digital terrestrial fixed systems operating in the band 10.7 GHz to 11.7 GHz
CEPT/ERC/REC 12–07	Harmonised radio frequency channel arrangements for digital terrestrial fixed systems operating in the band 15.23 GHz to 15.35 GHz
CEPT/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
CEPT/ERC/REC 12–09	Radio frequency channel arrangement for fixed service systems operating in the band 57.0 to 59.0 GHz which do not require frequency planning
CEPT/ERC/REC 12–10	Harmonised radio frequency arrangements for digital systems operating in the band 48.5 GHz to 50.2 GHz
CEPT/ERC/REC 12–11	Radio frequency channel arrangement for fixed service systems operating in the band 51.4–52.6 GHz
CEPT/ERC/REC 12–12	Radio frequency channel arrangement for fixed service systems operating in the band 55.78–57.0 GHz
CEPT/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)
CEPT/ERC/REC 13–04	Preferred frequency bands for fixed wireless access in the frequency range between 3 and 29.5 GHz
CEPT/ERC/REC 14–01	Radio–frequency channel arrangements for high capacity analogue and digital radio–relay systems operating in the band 5925 MHz – 6425 MHz
CEPT/ERC/REC 14–02	Radio–frequency channel arrangements for medium and high capacity analogue or high capacity digital radio–relay systems operating in the band 6425 MHz – 7125 MHz
CEPT/ERC/REC 14–03	Harmonised radio frequency channel arrangements and block allocations for low and medium capacity systems in the band 3400 MHz to 3600 MHz
CEPT/ERC/REC 25–10	Frequency ranges for the use of temporary terrestrial audio and video SAP/SAB links (incl. ENG/OB)
CEPT/ERC/REC 62–01	Use of the band 135.7–137.8 kHz by the amateur service
CEPT/ERC/REC 62–02	Harmonised frequency band for civil and military airborne telemetry applications
CEPT/ERC/REC 70–03	Relating to the use of Short Range Devices (SRD)
T/R 02–02	Harmonised frequency band for the emergency services
T/R 12–01	Harmonized radio frequency channel arrangements for analogue and digital terrestrial fixed systems operating in the band 37 GHz–39.5 GHz
T/R 13–01	Preferred channel arrangements for fixed services in the range 1–3 GHz
T/R 13–02	Preferred channel arrangements for fixed services in the range 22.0–29.5 GHz
T/R 20-09	PR 27 radio equipment intended to provide short range voice radiocommunication in the 27 MHz band
T/R 22–06	Harmonised radio frequency bands for High Performance European Radio Local Area Networks (HIPERLANs) in the 5 GHz and 17 GHz frequency range
T/R 25–08	Planning criteria and coordination of frequencies in the land mobile service in the range 29.7–921 MHz
T/R 25–09	Designation of frequencies in the 900 MHz band for railway purposes
T/R 32–02	Frequencies to be used by on–board communication stations

Annex 4 - Harmonised Standards included in the ECA

Standard name	*Short Standard title*	*Harmonised Standard in Art 3.2 of RTTE Directive*[1]
EN 300 065	Narrow-band direct-printing telegraph equipment for receiving meteorological or navigational information (NAVTEX)	EN 300 065-3
EN 300 066	Float-free maritime satellite Emergency Position Indicating Radio Beacons (EPIRBs) operating in the 406.0 to 406.1 MHz	EN 300 066
EN 300 086	Land Mobile Service; Radio equipment with an internal or external RF connector intended primarily for analogue speech	EN 300 086-2
EN 300 113	Land mobile service; Radio equipment intended for the transmission of data (and speech) and having an antenna connector	EN 300 113-2
EN 300 135	Angle-modulated Citizens Band radio equipment (CEPT PR 27 Radio Equipment)	EN 300 135-2
EN 300 152	Maritime Emergency Position Indicating Radio Beacons (EPIRBs) intended for use on the frequency 121.5 MHz or the frequencies 121.5 MHz and 243 MHz for homing purposes only	EN 300 152-3
EN 300 162	Radiotelephone transmitters and receivers for the maritime mobile service operating in VHF bands	EN 300 162-3
EN 300 219	Land Mobile Service; Radio equipment transmitting signals to initiate a specific response in the receiver	EN 300 219-2
EN 300 220	SRD; Radio equipment to be used in the 25 to 1 000 MHz frequency range with power levels ranging up to 500 mW	EN 300 220-3
EN 300 224	Electromagnetic compatibility and Radio spectrum Matters (ERM); On-site paging service	EN 300 224-2
EN 300 296	Land Mobile Service; Radio equipment using integral antennas intended primarily for analogue speech	EN 300 296-2
EN 300 328	Wideband Transmission systems; Data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques	EN 300 328-2
EN 300 330	SRD; Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz	EN 300 330-2
EN 300 341	Land Mobile Service (RP 02); Radio equipment using an integral antenna transmitting signals to initiate a specific response in the receiver	EN 300 341-2
EN 300 390	Land Mobile Service; Radio equipment intended for the transmission of data (and speech) and using an integral antenna	EN 300 390-2
EN 300 392	Terrestrial Trunked Radio (TETRA); Voice plus Data	EN 300 392-1
EN 300 401	Radio Broadcasting Systems; Digital Audio Broadcasting (DAB) to mobile, portable and fixed receivers	EN 300 396-6
EN 300 422	Wireless microphones in the 25 MHz to 3 GHz frequency range	EN 300 442-2
EN 300 433	Land Mobile Service; Double Side Band (DSB) and/or Single Side Band (SSB) amplitude modulated citizen's band radio equipment	EN 300 433-2
EN 300 440	Short Range Devices; Radio equipment to be used in the 1 to 40 GHz frequency range	EN 300 440-2
EN 300 471	Land Mobile Service; Rules for Access and the Sharing of common used channels by equipment complying with EN 300 113	EN 300 471-2
EN 300 674	Road Transport and Traffic Telematics (RTTT);Dedicated Short Range Communication (DSRC) transmission equipment (500 kbit/s/250 kbit/s) operating in the 5.8 GHz	EN 300 674-2
EN 300 698	Radio telephone transmitters and receivers for the maritime mobile service operating in the VHF bands used on inland waterways	EN 300 698-3
EN 300 718	Avalanche Beacons; Transmitter-receiver systems	EN 300 718-3

[1] **R&TTE Directive:** Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

EN 300 720	Electromagnetic compatibility and Radio Spectrum Matters (ERM) Ultra-High Frequency (UHF) on-board communications systems and equipment	EN 300 720-2
EN 300 744	Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for digital terrestrial television	EN 300 744
EN 300 761	Short Range Devices (SRD); Automatic Vehicle Identification (AVI) for railways operating in the 2.45 GHz frequency range	EN 300 761-2
EN 301 025	VHF radiotelephone equipment for general communications and associated equipment for Class "D" Digital Selective Calling (DSC)	EN 301 025-3
EN 301 091	Short Range Devices;Road Transport and Traffic Telematics (RTTT); Radar equipment operating in the 76 GHz to 77 GHz range	EN 301 091-2
EN 301 166	Land Mobile Service; Radio equipment for analogue and/or digital communication (speech and/or data) and operating on narrow band channels and having an antenna connector	EN 301 166-2
EN 301 178	Portable Very High Frequency (VHF) radiotelephone equipment for the maritime mobile service operating in the VHF bands (for non-GMDSS applications only)	EN 301 178-2
EN 301 357	Analogue cordless wideband audio devices using integral antennas operating in the CEPT recommended 863 to 865 MHz frequency range	EN 301 357-2
EN 301 360	Satellite Interactive Terminals (SIT) and Satellite User Terminals (SUT) transmitting towards geostationary satellites in the 27.5 to 29.5 GHz	EN 301 360-2
EN 301 406	Digital Enhanced Cordless Telecommunications (DECT)	EN 301 406
EN 301 419	Digital cellular telecommunications system (Phase 2+) (GSM); Attachment requirements for Global	EN 301 419-7
EN 301 426	Low data rate Land Mobile satellite Earth Stations (LMES) and Maritime Mobile satellite Earth Stations (MMES) not intended for distress and safety communications operating in the 1.5/1.6 GHz	EN 301 426
EN 301 427	Low data rate Mobile satellite Earth Stations (MESs) except aeronautical mobile satellite earth stations, operating in the 11/12/14 GHz	EN 301 427
EN 301 428	Very Small Aperture Terminal (VSAT); Transmit-only, transmit/receive or receive-only satellite earth stations operating in the 11/12/14 GHz	EN 301 428
EN 301 430	Satellite News Gathering Transportable Earth Stations (SNG TES) operating in the 11-12/13-14 GHz frequency bands	EN 301 430
EN 301 441	Mobile Earth Stations (MESs), including handheld earth stations, for Satellite Personal Communications Networks (S-PCN) in the 1.6/2.4 GHz bands under the Mobile Satellite Service (MSS)	EN 301 441
EN 301 442	Mobile Earth Stations (MESs), including handheld earth stations, for Satellite Personal Communications Networks (S-PCN) in the 2.0 GHz bands under the Mobile Satellite Service (MSS)	EN 301 442
EN 301 443	Very Small Aperture Terminal (VSAT);Transmit-only, transmit-and-receive, receive-only satellite earth stations operating in the 4 GHz and 6 GHz	EN 301 443
EN 301 444	Land Mobile Earth Stations (LMES) operating in the 1.5 GHz and 1.6 GHz bands providing voice and/or data communications	EN 301 444
EN 301 459	Satellite Interactive Terminals (SIT) and Satellite User Terminals (SUT) transmitting towards satellites in geostationary orbit in the 29.5 GHz to 30.0 GHz	EN 301 459
EN 301 473	Aircraft Earth Stations (AES) operating under the Aeronautical Mobile Satellite Service (AMSS)/Mobile Satellite Service (MSS) and/or the Aeronautical Mobile Satellite on Route Service (AMS(R)S), MSS	*EN 301 473-2*
EN 301 502	Global System for Mobile communications (GSM); Base Station and Repeater equipment covering essential requirements under article 3.2 of the R&TTE directive	EN 301 502
EN 301 511	Global System for Mobile communications (GSM); Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements	EN 301 511

EN 301 681	Mobile Earth Stations (MESs) of Geostationary mobile satellite systems, including handheld earth stations, for Satellite Personal Communications Networks (S-PCN) in the 1.5/1.6 GHz under MSS	EN 301 681
EN 301 721	Mobile Earth Stations (MES) providing Low Bit Rate Data Communications (LBRDC) using Low Earth Orbiting (LEO) satellites operating below 1 GHz	EN 301 721
EN 301 751	Fixed Radio Systems; Point-to-Point equipments and antennas; Generic harmonized standard for Point-to-Point digital fixed radio systems and antennas	EN 301 751
EN 301 753	Fixed Radio Systems; Multipoint equipment and antennas; Generic harmonized standard for multipoint digital fixed radio systems and antennas	EN 301 753
EN 301 783	Land Mobile Service;Commercially available amateur radio equipment	EN 301 783-2
EN 301 839	Radio equipment in the frequency range 402 MHz to 405 MHz for Ultra Low Power Active Medical Implants and Accessories	EN 301 839-2
EN 301 840	Digital radio microphones operating in the CEPT Harmonized band 1 785 MHz to 1 800 MHz	EN 301 840-2
EN 301 893	Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN	EN 301 893
EN 301 908	Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks	EN 301 908-11
EN 302 054	Meteorological Aids (Met Aids); Radiosondes to be used in the 400.15 to 406 MHz frequency range with power levels ranging up to 200 mW	EN 302 054-2
EN 302 064	Wireless Video Links (WVL) operating in the 1.3 GHz to 50 GHz	EN 302 064
EN 302 186	Satellite mobile Aircraft Earth Stations (AESs) operating in the 11/12/14 GHz	EN 302 186
EN 302 208	Radio Frequency Identification Equipment operating in the band 865 to 868 MHz with power levels up to 2 W	EN 302 208-2
EN 302 245	Transmitting equipment for the Digital Radio Mondiale (DRM) broadcasting service	EN 302 245-2
EN 302 326	Covering the essential requirements of article 3.2 of the R&TTE Directive for Multipoint Radio Antennas	EN 302 326-3
EN 302 340	Satellite Earth Stations on board Vessels (ESVs) operating in the 11/12/14 GHz frequency bands	EN 302 340
EN 303 035	TETRA equipment covering essential requirements under article 3.2 of the R&TTE Directive	EN 303 035-2

Annex 5 - List of abbreviations used in this document

AGA	- Air Ground Air
AIS	- Automatic Identification System
APP	- Appendix of the ITU Radio Regulations
AVI	- Automatic Vehicle Idenfication
BFWA	- Broadband Fixed Wireless Access
BSS	- Broadcasting Satellite Service
BWA	- Broadband Wireless Access
CB	- Citizen Band
CEPT	- European Conference of Postal and Telecommunications Administrations
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
ECA	- European Common Allocation
ECC	- Electronic Communications Committee
ECM	- Electronic Countermeasures
ECP	- European Common Proposal
EESS	- Earth Exploration-Satellite Service
EGSM	- Extended GSM
EISCAT	- European Incoherent SCATter facility
ENG	- Electronic News Gathering
EPIRB	- Emergency Position-Indicating Radiobeacon
ERC	- European Radiocommunications Committee
ERO	- European Radiocommunications Office
E/s	- Earth-to-space direction
EU	- EUropean footnote
FB	- Frequency Band
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
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
ISM	- Industrial, Scientific and Medical
ITU	- International Telecommunication Union
JTIDS	- Joint Tactical Information Distribution System
LEST	- Low E.i.r.p. Satellite Terminals
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
(OR)	- Off-Route
PAMR	- Public Access Mobile Radio
PKO	- Peace Keeping Operations
PMR	- Professional Mobile Radio, Private Mobile Radio
PWAP	- Private Wide Area Paging
(R)	- Route
R&TTE	- Radio Equipment and Telecommunications Terminal Equipment
RA	- Radio Astronomy
REC	- Recommendation
RFID	- Radio Frequency Identification
RLANS	- Radio Local Area Network System
RR	- ITU Radio Regulations
RTTT	- Road Transport & Traffic Telematics
SAB	- Services Ancillary to Broadcasting
SAP	- Services Ancillary to Programming

SAR(communications)	- Search and Rescue
S-DAB	- Satellite Digital Audio Broadcasting
s/E	- space-to-Earth direction
SIT	- Satellite Interactive Terminal
SNG	- Satellite News Gathering
S-PCS	- Satellite Personal Communication System
SRD	- Short Range Device
SRR	- Short Range Radar
SSR	- Secondary Surveillance Radar
SUT	- Satellite User Terminal
TACAN	- Tactical Air Navigation
T-DAB	- Terrestrial Digital Audio Broadcasting
TETRA	- Terrestrial Trunked Radio
TS	- Terminal Station
TV	- Television
UMTS/IMT-2000	- International Mobile Telecommunications
UIC	- International Union for Railways
UWB	- Ultra – Wideband
VLBI	- Very Long Baseline Interferometry (Radio Astronomy)
VOR	- VHF Omni-directional Range
VTS	- Vessel Traffic System (radar)
VSAT	- Very Small Aperture Terminal
WARC	- World Administrative Radio Conference
WAS	- Wireless Access System
WRC	- World Radiocommunication Conference