



**REPUBLIC OF CYPRUS**

**MINISTRY OF COMMUNICATIONS AND WORKS**

**DEPARTMENT OF ELECTRONIC COMMUNICATIONS**

**RADIO FREQUENCY PLAN  
OF THE REPUBLIC OF CYPRUS**

**Effective Date: 1<sup>st</sup> November 2004**

**Modification dates: 17<sup>th</sup> June 2005, 27<sup>th</sup> October 2005, 24<sup>th</sup> November 2006, 22<sup>nd</sup> June 2007, 6<sup>th</sup> June 2008, 21<sup>st</sup> November 2008, 31<sup>st</sup> December 2009, 3<sup>rd</sup> September 2010, 30<sup>th</sup> September 2010, 15<sup>th</sup> July 2011, 9<sup>th</sup> September 2011, 30<sup>th</sup> March 2012 and 8<sup>th</sup> February 2013**

**Version: 1.13**

## INTRODUCTION

The Radiofrequency Plan of the Republic is drawn up and maintained by the Director of the Department of Electronic Communications in accordance to article 5 of the Radiocommunications Laws of 2002 until 2006.

Part 1.1 of the Radiofrequency Plan of the Republic includes the national allocation and usage of the radiofrequency spectrum from 9 kHz up to 1000 GHz.

Part 1.2 of the Radiofrequency Plan of the Republic includes the national usage of the radiofrequency spectrum from 9 kHz up to 1000 GHz from equipment using ultra wideband technology (UWB).

Part 1.3 the Radiofrequency Plan of the Republic includes the national usage of the radiofrequency spectrum from 9 kHz up to 1000 GHz from Short Range Devices (SRDs) that are not included in Part 1.1 of the Radiofrequency Plan of the Republic.

Part 2 of the Radiofrequency Plan of the Republic includes the footnotes with code EU, as defined in ERC Report 25<sup>1</sup> and used in the Radiofrequency Plan of the Republic.

Part 3 of the Radiofrequency Plan of the Republic includes the footnotes with code RR for the Allocations in Region 1, as defined in Article 5 of the Radio Regulations of the International Telecommunications Union and used in the Radiofrequency Plan of the Republic.

Part 4 of the Radiofrequency Plan of the Republic includes the list of abbreviations that are used in the Radiofrequency Plan of the Republic.

The procedure and the time of the authorization of use of any radiofrequency band is decided by the by the Director of the Department of Electronic Communications in accordance to the provisions of the Radiocommunications Laws of 2002 until 2006.

---

<sup>1</sup> The European table of frequency allocations and utilizations in the frequency range 9 kHz to 1000 GHz.

## **RADIO FREQUENCY PLAN OF THE REPUBLIC OF CYPRUS**

### *Part 1.1*

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
9 - 14 kHz	RADIONAVIGATION	RADIONAVIGATION EU2	RADIONAVIGATION EU2	1. Inductive SRD 2. ISM applications	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Decision 2010/368/EU. 2. ISM applications
14 - 19.95 kHz	FIXED MARITIME MOBILE 5.57 5.55 5.56	FIXED MARITIME MOBILE 5.57 5.56 EU2	FIXED MARITIME MOBILE 5.57 5.56 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Decision 2010/368/EU 2. Maritime applications 3. Government Use
19.95 – 20.05 kHz	STANDARD FREQUENCY AND TIME SIGNAL (20kHz)	STANDARD FREQUENCY AND TIME SIGNAL (20kHz)	STANDARD FREQUENCY AND TIME SIGNAL (20kHz)	1. Standard frequency and time signal (20kHz)	
20.05 – 70 kHz	FIXED MARITIME MOBILE 5.57 5.56 5.58	FIXED MARITIME MOBILE 5.57 5.56 EU2	FIXED MARITIME MOBILE 5.57 5.56 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Decision 2010/368/EU and the Implementing Decision 2011/829/EU. 2. Maritime applications 3. Government Use
70 - 72 kHz	RADIONAVIGATION 5.60	RADIONAVIGATION 5.60 EU2	RADIONAVIGATION 5.60 EU2	1. Inductive SRD	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Implementing Decision 2011/829/EU.
72 - 84 kHz	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56 EU2	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56 EU2	1. DCF time signal 2. Inductive SRD 3. Maritime applications 4. Government Use	1. DCF time signal: 77.5 kHz 2. Inductive SRD: In accordance to the Decision 2006/771/EC and the Implementing Decision 2011/829/EU. 3. Maritime applications 4. Government Use
84 - 86 kHz	RADIONAVIGATION 5.60	RADIONAVIGATION 5.60 EU2	RADIONAVIGATION 5.60 EU2	1. Inductive SRD 2. Government Use	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Implementing Decision 2011/829/EU. 2. Government Use
86 - 90 kHz	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56 EU2	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Implementing Decision 2011/829/EU. 2. Maritime applications 3. Government Use

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
90 - 110 kHz	RADIONAVIGATION 5.62 Fixed 5.64	RADIONAVIGATION 5.62 Fixed 5.64 EU2	RADIONAVIGATION 5.62 Fixed 5.64 EU2	1. Inductive SRD 2. LORAN-C 3. Government Use	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Implementing Decision 2011/829/EU. 2. LORAN-C 3. Government Use
110 - 112 kHz	FIXED MARITIME MOBILE RADIONAVIGATION 5.64	FIXED MARITIME MOBILE RADIONAVIGATION 5.64 EU2	FIXED MARITIME MOBILE RADIONAVIGATION 5.64 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Implementing Decision 2011/829/EU. 2. Maritime applications 3. Government Use
112 - 115 kHz	RADIONAVIGATION 5.60	RADIONAVIGATION 5.60 EU2	RADIONAVIGATION 5.60 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Implementing Decision 2011/829/EU. 2. Maritime applications 3. Government Use
115 - 117.6 kHz	RADIONAVIGATION 5.60 Fixed Maritime Mobile 5.64 5.66	RADIONAVIGATION 5.60 Fixed Maritime Mobile 5.64 EU2	RADIONAVIGATION 5.60 Fixed Maritime Mobile 5.64 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Implementing Decision 2011/829/EU. 2. Maritime applications 3. Government Use
117.6 - 126 kHz	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64 EU2	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Implementing Decision 2011/829/EU. 2. Maritime applications 3. Government Use
126 – 129 kHz	RADIONAVIGATION 5.60	RADIONAVIGATION 5.60 EU2	RADIONAVIGATION 5.60 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2006/771/EC and the Implementing Decision 2011/829/EU. 2. Maritime applications 3. Government Use
129 – 130 kHz	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64 EU2	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2008/432/EC and the Implementing Decision 2011/829/EU. 2. Maritime applications 3. Government Use

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
130 – 148.5 kHz	FIXED MARITIME MOBILE 5.64 5.67	FIXED MARITIME MOBILE 5.64 EU2	FIXED MARITIME MOBILE 5.64 EU2	1. Amateur applications 2. Inductive SRD 3. Maritime applications 4. Government Use	1. Amateur applications: EN 301 783, ERC REC 62-01 Within the band 135.7-137.8 kHz 2. Inductive SRD: In accordance to the Decision 2008/432/EC for the radiofrequency band 140-148,5 kHz and the Implementing Decision 2011/829/EU for the radiofrequency band 130-140 kHz. 3. Maritime applications 4. Government Use
148.5 - 255 kHz	BROADCASTING	BROADCASTING	BROADCASTING	1. Broadcasting	1. Broadcasting: Assignment plan GE75 Digital systems to be introduced
255 - 283.5 kHz	BROADCASTING AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION BROADCASTING	AERONAUTICAL RADIONAVIGATION BROADCASTING	1. Aeronautical Radio Beaco 2. Broadcasting	1. Aeronautical Radio Beacons 2. Broadcasting: Frequency assignment plan GE75 Digi systems to be introduced
283.5 - 315 kHz	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (RADIOBEACON) 5.73 5.72 5.74 5.75	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (RADIOBEACON) 5.73 5.74 EU2	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (RADIOBEACON) 5.73 5.74 EU2	1. Aeronautical Radio Beaco 2. Maritime Radio Beacons	1. Aeronautical radio beacons: Frequency assignment plan GE85 NDB 2. Maritime radio beacons: Frequency assignment plan GE85 IALA – plan to allow differential GPS
315 - 325 kHz	AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) 5.73 5.72 5.75	AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) 5.73 EU2	AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) 5.73 EU2	1. Aeronautical Radio Beaco 2. Maritime Radio Beacons	1. Aeronautical radio beacons: NDB 2. Maritime radio beacons: IALA – plan to allow differential GPS
325 - 405 kHz	AERONAUTICAL RADIONAVIGATION 5.72	AERONAUTICAL RADIONAVIGATION EU2	AERONAUTICAL RADIONAVIGATION EU2	1. Aeronautical Radio Beaco	
405 - 415 kHz	RADIONAVIGATION 5.76 5.72	RADIONAVIGATION 5.76 EU2	RADIONAVIGATION 5.76 EU2	1. Aeronautical Radio Beaco 2. Maritime Radio Beacons	
415 - 435 kHz	MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION 5.72	AERONAUTICAL RADIONAVIGATION MARITIME MOBILE 5.79 EU2	AERONAUTICAL RADIONAVIGATION MARITIME MOBILE 5.79 EU2	1. Aeronautical Radio Beaco 2. Maritime applications	1. Aeronautical Radio Beacons: Frequency assignment plan GE85 2. Maritime applications: Frequency assignment plan GE85

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
435 - 495 kHz	MARITIME MOBILE 5.79 5.79A Aeronautical Radionavigation 5.72 5.82	MARITIME MOBILE 5.79 5.79A Aeronautical Radionavigation 5.82 EU2	MARITIME MOBILE 5.79 5.79A Aeronautical Radionavigation 5.82 EU2	1. Detection of avalanche victims 2. Maritime applications 3. Navtex transmission national language 4. Receiver IF	1. Detection of avalanche victims: EN 300 718 ERC/REC 70-03, 457 kHz 2. Maritime applications: Frequency assignment plan GE85 3. Navtex transmission national language: EN 300 065, 490 kHz 4. Receiver IF: 455-457 kHz
495 - 505 kHz	MOBILE (distress and calling) 5.83	MOBILE (distress and calling) 5.83	MOBILE (distress and calling) 5.83	1. Maritime GMDSS	
505 - 526.5 kHz	MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION 5.72	AERONAUTICAL RADIONAVIGATION MARITIME MOBILE 5.79 5.79A 5.84 EU2	AERONAUTICAL RADIONAVIGATION MARITIME MOBILE 5.79 5.79A 5.84 EU2	1. Aeronautical Radio Beacons 2. Maritime applications 3. Navtex transmissions international	1. Aeronautical Radio Beacons: Frequency assignment plan GE85 2. Maritime applications: Frequency assignment plan GE85 3. Navtex transmissions international: EN 300 065, 518 kHz
526.5 - 1606.5 kHz	BROADCASTING	BROADCASTING	BROADCASTING	1. Broadcasting	1. Broadcasting: Assignment plan GE75 Digital systems to be introduced
1606.5 - 1625 kHz	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	FIXED LAND MOBILE MARITIME MOBILE 5.90 5.92 EU2	FIXED LAND MOBILE MARITIME MOBILE 5.90 5.92 EU2	1. Maritime applications 2. Government Use 3. Radiodetermination applications	1. Maritime applications: Frequency assignment plan GE85 2. Government Use 3. Radiodetermination applications
1625 - 1635 kHz	RADIOLOCATION 5.93	RADIOLOCATION 5.93 EU2	RADIOLOCATION 5.93 EU2	1. Radiodetermination applications	1. Radiodetermination applications: Brussels Agreement 67
1635 - 1800 kHz	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92 5.96	FIXED LAND MOBILE MARITIME MOBILE 5.90 5.92 5.96 EU2	FIXED LAND MOBILE MARITIME MOBILE 5.90 5.92 5.96 EU2	1. Maritime applications 2. Government Use 3. Radiodetermination applications	1. Maritime applications: Frequency assignment plan GE85 2. Government Use 3. Radiodetermination applications: Brussels Agreement 67
1800 - 1810 kHz	RADIOLOCATION 5.93	RADIOLOCATION 5.93 EU2	RADIOLOCATION 5.93 EU2	1. Radiodetermination applications	1. Radiodetermination applications: Brussels Agreement 67
1810 - 1850 kHz	AMATEUR 5.98 5.99 5.100	AMATEUR 5.100 5.98 EU2	AMATEUR 5.100 5.98 EU2	1. Amateur applications	1. Amateur applications: EN 301 783

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
1850 - 2000 kHz	FIXED MOBILE except aeronautical mobile 5.92 5.96 5.103	FIXED MOBILE 5.103 5.92 5.96 EU2	FIXED MOBILE 5.103 5.92 5.96 EU2	1. Amateur applications 2. Maritime applications 3. Government Use 4. Radiodetermination applications	1. Amateur applications: EN 301 783 2. Maritime applications 3. Government Use 4. Radiodetermination applications: Brussels Agreement 67
2000 - 2025 kHz	FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	FIXED MOBILE except aeronautical mobile (R) 5.103 5.92 EU2	FIXED MOBILE except aeronautical mobile (R) 5.103 5.92 EU2	1. Maritime applications 2. Government Use 3. Radiodetermination applications	1. Maritime applications 2. Government Use 3. Radiodetermination applications: Brussels Agreement 67
2025 - 2045 kHz	FIXED MOBILE except aeronautical mobile (R) Meteorological Aids 5.104 5.92 5.103	FIXED MOBILE MOBILE except aeronautical mobile (R) 5.103 5.92 EU2	FIXED MOBILE MOBILE except aeronautical mobile (R) 5.103 5.92 EU2	1. Maritime applications 2. Government Use 3. Radiodetermination applications	1. Maritime applications 2. Government Use 3. Radiodetermination applications: Brussels Agreement 67
2045 - 2160 kHz	FIXED MARITIME MOBILE LAND MOBILE 5.92	FIXED LAND MOBILE MARITIME MOBILE 5.92	FIXED LAND MOBILE MARITIME MOBILE 5.92	1. International Merchant Shipping 2. Maritime applications 3. Government Use	1. International Merchant Shipping: International telephony frequencies (ship TX) in accordance with RR 52.202-52.204 2. Maritime applications: Frequency assignment plan GE 3. Government Use
2160 - 2170 kHz	RADIOLOCATION 5.93	RADIOLOCATION 5.93 EU2	RADIOLOCATION 5.93 EU2	1. Radiodetermination applications	1. Radiodetermination applications: Brussels Agreement 67
2170 - 2173.5 kHz	MARITIME MOBILE	MARITIME MOBILE EU2	MARITIME MOBILE EU2	1. Maritime applications	1. Maritime applications: Frequency assignment plan GE85
2173.5 - 2190.5 kHz	MOBILE (distress and calling) 5.108 5.109 5.110 5.111	MOBILE (distress and calling) 5.108 5.109 5.110 5.111 EU2	MOBILE (distress and calling) 5.108 5.109 5.110 5.111 EU2	1. DSC distress and calling 2. Maritime GMDSS 3. Telex distress traffic	1. DSC distress and calling: 2187.5 kHz 2. Maritime GMDSS: 2182 kHz distress and calling 3. Telex distress traffic: 2174.5 kHz
2190.5 - 2194 kHz	MARITIME MOBILE	MARITIME MOBILE EU2	MARITIME MOBILE EU2	1. Maritime applications	

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
2194 - 2300 kHz	FIXED MOBILE except aeronautical mobile (R) 5.92 5.103 5.112	FIXED MOBILE except aeronautical mobile (R) 5.103 5.92 EU2	FIXED MOBILE except aeronautical mobile (R) 5.103 5.92 EU2	1. Maritime applications 2. Government Use	
2300 - 2498 kHz	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.103	FIXED MOBILE except aeronautical mobile (R) 5.103 EU2	FIXED MOBILE except aeronautical mobile (R) 5.103 EU2	1. Maritime applications 2. Government Use	
2498 - 2501 kHz	STANDARD FREQUENCY AND TIME SIGNAL (2500kHz)	STANDARD FREQUENCY AND TIME SIGNAL (2500kHz)	STANDARD FREQUENCY AND TIME SIGNAL (2500kHz)	1. Standard Frequency and Time Signal (2500kHz)	
2501 - 2502 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	1. Standard Frequency and Time Signal 2. Space Research	
2502 - 2625 kHz	FIXED MOBILE except aeronautical mobile (R) 5.92 5.103 5.114	FIXED MOBILE except aeronautical mobile (R) 5.103 5.92 EU2	FIXED MOBILE except aeronautical mobile (R) 5.103 5.92 EU2	1. Government Use 2. Radiodetermination applications 3. Maritime applications	1. Government Use 2. Radiodetermination applications 3. Maritime applications: 2520 kHz
2625 - 2650 kHz	MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	MARITIME MOBILE MARITIME RADIONAVIGATION 5.92 EU2	MARITIME MOBILE MARITIME RADIONAVIGATION 5.92 EU2	1. Maritime applications 2. Government Use	
2650 - 2850 kHz	FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	FIXED MOBILE except aeronautical mobile (R) 5.103 5.92	FIXED MOBILE except aeronautical mobile (R) 5.103 5.92	1. Government Use 2. Radiodetermination applications 3. Maritime applications	1. Government Use 2. Radiodetermination applications 3. Maritime applications: 2670 kHz, 2700 kHz
2850 - 3025 kHz	AERONAUTICAL MOBILE (R) 5.111 5.115	AERONAUTICAL MOBILE (R) 5.111 5.115	AERONAUTICAL MOBILE (R) 5.111 5.115	1. Aeronautical Mobile (R) applications 2. Telephony distress traffic	1. Aeronautical Mobile (R) applications: Appendix 27 Allotment Plan 2. Telephony distress traffic: 3023 kHz
3025 - 3155 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	1. Aeronautical Mobile (OR) applications	1. Aeronautical Mobile (OR) applications: Appendix 26 Allotment Plan

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
3155 - 3200 kHz	FIXED MOBILE except aeronautical mobile (R) 5.116 5.117	FIXED MOBILE except aeronautical mobile (R) 5.116 EU2	FIXED MOBILE except aeronautical mobile (R) 5.116 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2008/432/EC for the radiofrequency band 3155-3400 kHz 2. Maritime applications 3. Government Use
3200 - 3230 kHz	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116	FIXED MOBILE except aeronautical mobile (R) 5.116 EU2	FIXED MOBILE except aeronautical mobile (R) 5.116 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2008/432/EC for the radiofrequency band 3155-3400 kHz 2. Maritime applications 3. Government Use
3230 - 3400 kHz	FIXED MOBILE except aeronautical mobile BROADCASTING 5.113 5.116	FIXED MOBILE except aeronautical mobile 5.116 EU2	FIXED MOBILE except aeronautical mobile 5.116 EU2	1. Inductive SRD 2. Maritime applications 3. Government Use	1. Inductive SRD: In accordance to the Decision 2008/432/EC for the radiofrequency band 3155-3400 kHz 2. Maritime applications 3. Government Use
3400 - 3500 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	1. Aeronautical Mobile (R) applications	1. Aeronautical Mobile (R) applications: Appendix 27 Allotment Plan Including HF Data Links
3500 - 3800 kHz	AMATEUR FIXED MOBILE except aeronautical mobile 5.92	AMATEUR FIXED MOBILE except aeronautical mobile 5.92 EU2	AMATEUR FIXED MOBILE except aeronautical mobile 5.92 EU2	1. Amateur applications 2. Government Use 3. Maritime applications	1. Amateur applications: EN 301 783 2. Government Use 3. Maritime applications: 3690 kHz
3800 - 3900 kHz	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE EU2	AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE EU2	1. Aeronautical Mobile (OR) applications	
3900 - 3950 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	1. Aeronautical Mobile (OR) applications	1. Aeronautical Mobile (OR) applications: Appendix 26 Allotment Plan
3950 - 4000 kHz	FIXED BROADCASTING	BROADCASTING FIXED EU2	BROADCASTING FIXED EU2	1. Broadcasting 2. Government Use	1. Broadcasting: Digital systems to be introduced 2. Government Use
4000 - 4063 kHz	FIXED MARITIME MOBILE 5.127	FIXED MARITIME MOBILE 5.127 EU2	FIXED MARITIME MOBILE 5.127 EU2	1. Maritime applications	1. Maritime applications: Appendix 17 Channelling plan, Appendix 25 allotment plan

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
4063 - 4438 kHz	MARITIME MOBILE 5.79A 5.109 5.110 5.130 5.131 5.132 5.128 5.129	MARITIME MOBILE 5.79A 5.109 5.110 5.130 5.131 5.132 5.129 EU2	MARITIME MOBILE 5.79A 5.109 5.110 5.130 5.131 5.132 5.129 EU2	1. DSC calling 2. DSC distress traffic 3. Maritime applications 4. Maritime Safety Information (MSI) 5. Meteorological and navigational warnings 6. Telephony distress traffic 7. Telex distress traffic	1. DSC calling: 4208, 4208.5, 4209, 4219.5, 4220, 4220.5 kHz 2. DSC distress traffic: 4207.5 kHz 3. Maritime applications: Appendix 17 channelling plan, Appendix 25 allotment plan 4. Maritime Safety Information (MSI): 4210 kHz 5. Meteorological and navigational warnings: 4209.5 kHz 6. Telephony distress traffic: 4125 kHz 7. Telex distress traffic: 4177.5 kHz
4438 - 4650 kHz	FIXED MOBILE except aeronautical mobile (R)	FIXED MOBILE except aeronautical mobile (R) EU2	FIXED MOBILE except aeronautical mobile (R) EU2	1. Government Use 2. Railway applications	1. Government Use 2. Railway applications: EN 300 330, ERC REC 70-03, 4515 kHz Euroloop
4650 - 4700 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	1. Aeronautical Mobile (R) applications	1. Aeronautical Mobile (R) applications: Appendix 27 Allotment Plan Including HF Data Links
4700 - 4750 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	1. Aeronautical Mobile (OR) applications	1. Aeronautical Mobile (OR) applications: Appendix 26 Allotment Plan
4750 - 4850 kHz	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE	AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE	1. Aeronautical Mobile (OR) applications	
4850 - 4995 kHz	FIXED LAND MOBILE BROADCASTING 5.113	FIXED LAND MOBILE EU2	FIXED LAND MOBILE EU2	1. Government Use	
4995 - 5003 kHz	STANDARD FREQUENCY AND TIME SIGNAL (5000kHz)	STANDARD FREQUENCY AND TIME SIGNAL (5000kHz)	STANDARD FREQUENCY AND TIME SIGNAL (5000kHz)	Standard frequency and time signal (5000kHz)	
5003 - 5005 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	1. Standard frequency and time signal 2. Space Research	
5005 - 5060 kHz	FIXED BROADCASTING 5.113	FIXED EU2	FIXED EU2	1. Government Use	
5060 - 5250 kHz	FIXED Mobile except aeronautical mobile 5.133	FIXED MOBILE except aeronautical mobile EU2	FIXED MOBILE except aeronautical mobile EU2	1. Government Use	

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
5250 - 5450 kHz	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile EU2	FIXED MOBILE except aeronautical mobile EU2	1. Government Use	
5450 - 5480 kHz	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE EU2	AERONAUTICAL MOBILE (OR) FIXED LAND MOBILE EU2	1. Aeronautical Mobile (OR) applications 2. Government Use	
5480 - 5680 kHz	AERONAUTICAL MOBILE ( R) 5.111 5.115	AERONAUTICAL MOBILE (R) 5.111 5.115	AERONAUTICAL MOBILE (R) 5.111 5.115	1. Aeronautical Mobile (R) applications 2. Telephony distress traffic	1. Aeronautical Mobile (R) applications: Appendix 27 Allotment Plan Including HF Data Links 2. Telephony distress telephony: 5680 kHz
5680 - 5730 kHz	AERONAUTICAL MOBILE (OR) 5.111 5.115	AERONAUTICAL MOBILE (OR) 5.111 5.115	AERONAUTICAL MOBILE (OR) 5.111 5.115	1. Aeronautical Mobile (OR) applications 2. Telephony distress traffic	1. Aeronautical Mobile (OR) applications: Appendix 26 Allotment Plan 2. Telephony distress telephony: 5680 kHz
5730 - 5900 kHz	FIXED LAND MOBILE	FIXED LAND MOBILE EU2	FIXED LAND MOBILE EU2	1. Government Use	
5900 - 5950 kHz	BROADCASTING 5.134 5.136	BROADCASTING 5.134 5.136	BROADCASTING 5.134 5.136	1. Broadcasting	1. Broadcasting: WARC92 bands to be implemented 2007, Digital systems to be introduced
5950 - 6200 kHz	BROADCASTING	BROADCASTING	BROADCASTING	1. Broadcasting	1. Broadcasting: Article 12 planning procedure Digital systems to be introduced
6200 - 6525 kHz	MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137	MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137 EU2	MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137 EU2	1. DSC calling 2. DSC distress traffic 3. Maritime applications 4. Maritime Safety Information (MSI) 5. Telephone distress traffic 6. Telex distress traffic	1. DSC calling: 6312.5, 6313, 6313.5, 6331, 6331.5, 6332 kHz 2. DSC distress traffic: 6312 kHz 3. Maritime applications: Appendix 17 channelling plan, Appendix 25 allotment plan 4. Maritime Safety Information (MSI): 6314 kHz 5. Telephony distress traffic: 6215 kHz 6. Telex distress traffic: 6268kHz
6525 - 6685 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	1. Aeronautical Mobile (R) applications	1. Aeronautical Mobile (R) applications: Appendix 27 Allotment Plan Including HF Data Links
6685 - 6765 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	1. Aeronautical Mobile (OR) applications	1. Aeronautical Mobile (OR) applications: Appendix 26 Allotment Plan

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
6765 - 7000 kHz	FIXED Land Mobile 5.139 5.138 5.138A	FIXED Land Mobile 5.139 5.138 5.138A EU2	FIXED Land Mobile 5.139 5.138 5.138A EU2	1. Inductive SRD 2. ISM applications 3. Government Use 4. Non-specific SRD applications	1. Inductive SRD: In accordance to the Decision 2008/432/EC for the radiofrequency band 6765-6795 kHz 2. ISM applications 3. Government Use 4. Non-specific SRD applications: In accordance to the Decision 2008/432/EC for the radiofrequency band 6765-6795 kHz
7000 - 7100 kHz	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	1. Amateur applications 2. Amateur-satellite applications	1. Amateur applications: EN 301 783 2. Amateur-satellite applications
7100-7200 kHz	AMATEUR 5.141C	AMATEUR 5.141C	AMATEUR 5.141C	1. Amateur applications	1. Amateur applications: EN 301 783
7200 - 7300 kHz	BROADCASTING	BROADCASTING	BROADCASTING	1. Broadcasting	
7300 - 7400 kHz	BROADCASTING 5.134 5.143 5.143B	BROADCASTING 5.134 5.143 5.143B	BROADCASTING 5.134 5.143 5.143B	1. Broadcasting	1. Broadcasting: WARC92 bands to be implemented 2007 Digital systems to be introduced
7400 - 7450 kHz	BROADCASTING 5.143B	BROADCASTING 5.134 5.143B	BROADCASTING 5.134 5.143B	1. Broadcasting 2. Inductive SRD	1. Broadcasting 2. Inductive SRD: In accordance to the Decision 2008/432/EC for the radiofrequency band 7400-8800 kHz
7450 - 8100 kHz	FIXED MOBILE except aeronautical mobile (R) 5.143E	FIXED MOBILE except aeronautical mobile (R) 5.143E EU2	FIXED MOBILE except aeronautical mobile (R) 5.143E EU2	1. Inductive SRD 2. Government Use	1. Inductive SRD: In accordance to the Decision 2008/432/EC for the radiofrequency band 7400-8800 kHz 2. Government Use
8100 - 8195 kHz	FIXED MARITIME MOBILE	FIXED MARITIME MOBILE EU2	FIXED MARITIME MOBILE EU2	1. Inductive SRD 2. Maritime applications	1. Inductive SRD: In accordance to the Decision 2008/432/EC for the radiofrequency band 7400-8800 kHz 2. Maritime applications: Appendix 17 channelling plan

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
8195 - 8815 kHz	MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111	MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111 EU2	MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111 EU2	1. DSC calling 2. DSC distress traffic 3. Inductive SRD 4. Maritime applications 5. Maritime Safety Information (MSI) 6. Telephony distress traffic and calling by rescue centers 7. Telex distress traffic	1. DSC calling: 8415, 8415.5, 8416, 8436.5, 8437, 8437.5 kHz 2. DSC distress traffic: 8364 kHz and 8414.5 kHz 3. Inductive SRD: In accordance to the Decision 2008/432/EC for the radiofrequency band 7400-8800 kHz 4. Maritime applications: Appendix 17 channelling plan Appendix 25 allotment plan 5. Maritime Safety Information (MSI): 8416.5 kHz 6. Telephony distress traffic and calling by rescue centers: 8291 kHz 7. Telex distress traffic: 8376.5 kHz
8815 - 8965 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	1. Aeronautical Mobile (R) applications	1. Aeronautical Mobile (R) applications: Appendix 27 Allotment Plan Including HF Data Links
8965 - 9040 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	1. Aeronautical Mobile (OR) applications 2. Government Use	1. Aeronautical Mobile (OR) applications: Appendix 26 Allotment Plan 2. Government Use
9040 - 9400 kHz	FIXED	FIXED EU2	FIXED EU2	1. Government Use	
9400 - 9500 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	1. Broadcasting	1. Broadcasting: WARC92 bands to be implemented 2007 Digital systems to be introduced
9500 - 9900 kHz	BROADCASTING 5.147	BROADCASTING 5.147	BROADCASTING 5.147	1. Broadcasting	1. Broadcasting: Article 12 planning procedure Digital systems to be introduced
9900 - 9995 kHz	FIXED	FIXED EU2	FIXED EU2	1. Government Use	
9995 - 10003 kHz	STANDARD FREQUENCY AND TIME SIGNAL (10000kHz)	STANDARD FREQUENCY AND TIME SIGNAL (10000kHz)	STANDARD FREQUENCY AND TIME SIGNAL (10000kHz)	1. Standard frequency and time signal (10000kHz)	
10003 - 10005 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	1. Standard frequency and time signal 2. Space Research	
10005 - 10100 kHz	AERONAUTICAL MOBILE (R) 5.111	AERONAUTICAL MOBILE (R) 5.111	AERONAUTICAL MOBILE (R) 5.111	1. Aeronautical Mobile (R) applications	1. Aeronautical Mobile (R) applications: Appendix 27 Allotment Plan Including HF Data Links
10100 - 10150 kHz	FIXED Amateur	Amateur FIXED EU2	Amateur FIXED EU2	1. Amateur applications 2. Government Use	1. Amateur applications: EN 301783 2. Government Use

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
10150 - 11175 kHz	FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R) EU2	FIXED Mobile except aeronautical mobile (R) EU2	1. Government Use 2. Inductive applications	1. Government Use 2. Inductive applications: In accordance to the Decision 2008/432/EC for the radiofrequency band 10200-11000 kHz
11175 - 11275 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	1. Aeronautical Mobile (OR) applications	1. Aeronautical Mobile (OR) applications: Appendix 26 Allotment Plan
11275 - 11400 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	1. Aeronautical Mobile (R) applications	1. Aeronautical Mobile (R) applications: Appendix 27 Allotment Plan Including HF Data Links
11400 - 11600 kHz	FIXED	FIXED EU2	FIXED EU2	1. Government Use	
11600 - 11650 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	1. Broadcasting	1. Broadcasting: WARC92 bands to be implemented 2007 Digital systems to be introduced
11650 - 12050 kHz	BROADCASTING 5.147	BROADCASTING 5.147	BROADCASTING 5.147	1. Broadcasting	1. Broadcasting: Article 12 planning procedure Digital systems to be introduced
12050 - 12100 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.146	BROADCASTING 5.146	1. Broadcasting	1. Broadcasting: WARC92 bands to be implemented 2007 Digital systems to be introduced
12100 - 12230 kHz	FIXED	FIXED EU2	FIXED EU2	1. Government Use	
12230 - 13200 kHz	MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132 5.145 EU2	MARITIME MOBILE 5.109 5.110 5.132 5.145 EU2	1. DSC calling 2. DSC distress traffic 3. Maritime applications 4. Maritime Safety Information (MSI) 5. Telephony distress traffic and calling by rescue centers 6. Telex distress traffic	1. DSC calling: 12577.5, 12578, 12578.5, 12657, 12657.5, 12658 kHz 2. DSC distress traffic: 12577 kHz 3. Maritime applications: Appendix 17 channelling plan Appendix 25 allotment plan 4. Maritime Safety Information (MSI): 12579 kHz 5. Telephony distress traffic and calling by rescue centers: 12290 kHz 6. Telex distress traffic: 12520 kHz
13200 - 13260 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	1. Aeronautical Mobile (OR) applications	1. Aeronautical Mobile (OR) applications: Appendix 26 Allotment Plan
13260 - 13360 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	1. Aeronautical Mobile (R) applications	1. Aeronautical Mobile (R) applications: Appendix 27 Allotment Plan Including HF Data Links
13360 - 13410 kHz	FIXED RADIO ASTRONOMY 5.149	FIXED RADIO ASTRONOMY 5.149 EU2	FIXED RADIO ASTRONOMY 5.149 EU2	1. Government Use 2. Radioastronomy	

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
13410 - 13570 kHz	FIXED Mobile except aeronautical mobile (R) 5.150	FIXED Mobile except aeronautical mobile (R) 5.150 EU2	FIXED Mobile except aeronautical mobile (R) 5.150 EU2	1. Inductive SRD 2. ISM applications 3. Government Use 4. Non-specific SRD applications	1. Inductive SRD: In accordance to the Decision 2008/432/EC for the radiofrequency band 13553-13567 kHz 2. ISM applications: 13553-13567 kHz 3. Government Use 4. Non-specific SRD applications: In accordance to the Decision 2008/432/EC for the radiofrequency band 13553-13567 kHz
13570 - 13600 kHz	BROADCASTING 5.134 5.151	BROADCASTING 5.134 5.151	BROADCASTING 5.134 5.151	1. Broadcasting	1. Broadcasting: WARC92 bands to be implemented 2007 Digital systems to be introduced
13600 - 13800 kHz	BROADCASTING	BROADCASTING	BROADCASTING	1. Broadcasting	1. Broadcasting: Article 12 planning procedure Digital systems to be introduced
13800 - 13870 kHz	BROADCASTING 5.134 5.151	BROADCASTING 5.134 5.151	BROADCASTING 5.134 5.151	1. Broadcasting	1. Broadcasting: WARC92 bands to be implemented 2007 Digital systems to be introduced
13870 - 14000 kHz	FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R) EU2	FIXED Mobile except aeronautical mobile (R) EU2	1. Government Use	
14000 - 14250 kHz	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	1. Amateur applications 2. Amateur-satellite applications	1. Amateur applications: EN 301 783 2. Amateur-satellite applications
14250 - 14350 kHz	AMATEUR 5.152	AMATEUR	AMATEUR	1. Amateur applications	1. Amateur applications: EN 301 783
14350 - 14990 kHz	FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R) EU2	FIXED Mobile except aeronautical mobile (R) EU2	1. Government Use 2. Maritime applications	1. Government Use 2. Maritime applications: 14564 kHz
14990 - 15005 kHz	STANDARD FREQUENCY AND TIME SIGNAL (15000kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (15000kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (15000kHz) 5.111	1. Standard frequency and time signal (15000kHz)	
15005 - 15010 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	1. Standard frequency and time signal 2. Space Research	
15010 - 15100 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	1. Aeronautical mobile (OR) applications	1. Aeronautical Mobile (OR) applications: Appendix 26 Allotment Plan
15100 - 15600 kHz	BROADCASTING	BROADCASTING	BROADCASTING	1. Broadcasting	1. Broadcasting: Article 12 planning procedure Digital systems to be introduced

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
15600 - 15800 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	1. Broadcasting	1. Broadcasting: WARC92 bands to be implemented 2007 Digital systems to be introduced
15800 - 16360 kHz	FIXED	FIXED EU2	FIXED EU2	1. Government Use	
16360 - 17410 kHz	MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132 5.145 EU2	MARITIME MOBILE 5.109 5.110 5.132 5.145 EU2	1. DSC calling 2. DSC distress traffic 3. Maritime applications 4. Maritime Safety Information (MSI) 5. Telephony distress traffic and calling by rescue centers 6. Telex distress traffic	1. DSC calling: 16805, 16805.5, 16806, 16903, 16903.5, 16904 kHz 2. DSC distress traffic: 16804.5 kHz 3. Maritime applications: Appendix 17 channelling plan Appendix 25 allotment plan 4. Maritime Safety Information (MSI): 16806.5 kHz 5. Telephone distress traffic: 16420 kHz 6. Telex distress traffic: 16695 kHz
17410 - 17480 kHz	FIXED	FIXED EU2	FIXED EU2	1. Government Use	
17480 - 17550 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	1. Broadcasting	1. Broadcasting: WARC92 bands to be implemented 2007 Digital systems to be introduced
17550 - 17900 kHz	BROADCASTING	BROADCASTING	BROADCASTING	1. Broadcasting	1. Broadcasting: Article 12 planning procedure Digital systems to be introduced
17900 - 17970 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	1. Aeronautical Mobile (R) applications	1. Aeronautical Mobile (R) applications: Appendix 27 Allotment Plan Including HF Data Links
17970 - 18030 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	1. Aeronautical mobile (OR) applications	1. Aeronautical Mobile (OR) applications: Appendix 26 Allotment Plan
18030 - 18052 kHz	FIXED	FIXED EU2	FIXED EU2	1. Government Use	
18052 - 18068 kHz	FIXED Space Research	FIXED Space Research EU2	FIXED Space Research EU2	1. Government Use	
18068 - 18168 kHz	AMATEUR AMATEUR-SATELLITE 5.154	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	1. Amateur applications 2. Amateur-satellite applications	1. Amateur applications: EN 301 783 2. Amateur-satellite applications
18168 - 18780 kHz	FIXED Mobile except aeronautical mobile	FIXED Mobile except aeronautical mobile	FIXED Mobile except aeronautical mobile	1. DSC calling 2. Government Use	1. DSC calling: 18898.5, 18899, 18899.5 kHz 2. Government Use
18780 - 18900 kHz	MARITIME MOBILE	MARITIME MOBILE EU2	MARITIME MOBILE EU2	1. Maritime applications	1. Maritime applications: Appendix 17 channelling plan
18900 - 19020 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	1. Broadcasting	1. Broadcasting: WARC92 bands to be implemented 2007 Digital systems to be introduced

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
19020 - 19680 kHz	FIXED	FIXED EU2	FIXED EU2	1. Government Use	
19680 - 19800 kHz	MARITIME MOBILE 5.132	MARITIME MOBILE 5.132 EU2	MARITIME MOBILE 5.132 EU2	1. DSC calling 2. Maritime applications 3. Maritime Safety Information (MSI)	1. DSC calling: 19703.5, 19704, 19704.5 kHz 2. Maritime applications: Appendix 17 channelling plan Appendix 25 allotment plan 3. Maritime Safety Information (MSI): 19680.5 kHz
19800 - 19990 kHz	FIXED	FIXED EU2	FIXED EU2	1. Government Use	
19990 - 19995 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	1. Search and rescue applications	1. Search and rescue applications: 19993 kHz (+ / - 3 kHz) concerning manned space vehicles
19995 - 20010 kHz	STANDARD FREQUENCY AND TIME SIGNAL (20000kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (20000kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (20000kHz) 5.111	1. Standard frequency and time signal (20000kHz)	
20010 - 21000 kHz	FIXED Mobile	FIXED Mobile EU2	FIXED Mobile EU2	1. Government Use	
21000 - 21450 kHz	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	1. Amateur applications 2. Amateur-satellite applications	1. Amateur applications: EN 301783 2. Amateur-satellite applications
21450 - 21850 kHz	BROADCASTING	BROADCASTING	BROADCASTING	1. Broadcasting	1. Broadcasting: Article 12 planning procedure Digital systems to be introduced
21850 - 21870 kHz	FIXED 5.155A 5.155	FIXED 5.155A 5.155 EU2	FIXED 5.155A 5.155 EU2	1. Government Use	
21870 - 21924 kHz	FIXED 5.155B	FIXED 5.155B EU2	FIXED 5.155B EU2	1. Government Use	
21924 - 22000 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	1. Aeronautical Mobile (R) applications	1. Aeronautical Mobile (R) applications: Appendix 27 Allotment Plan Including HF Data Links
22000 - 22855 kHz	MARITIME MOBILE 5.132	MARITIME MOBILE 5.132 EU2	MARITIME MOBILE 5.132 EU2	1. DSC calling 2. Maritime applications 3. Maritime Safety Information (MSI)	1. DSC calling: 22374.5, 22375, 22444, 22444.5, 22445 kHz 2. Maritime applications: Appendix 17 channelling plan Appendix 25 allotment plan 3. Maritime Safety Information (MSI): 22376 kHz
22855 - 23000 kHz	FIXED	FIXED EU2	FIXED EU2	1. Government Use	

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
23000 - 23200 kHz	FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R) EU2	FIXED Mobile except aeronautical mobile (R) EU2	1. Government Use	
23200 - 23350 kHz	FIXED 5.156A AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) FIXED 5.156A	AERONAUTICAL MOBILE (OR) FIXED 5.156A	1. Aeronautical Mobile (OR) applications 2. Government Use	
23350 - 24000 kHz	FIXED MOBILE except aeronautical mobile 5.157	FIXED MOBILE except aeronautical mobile 5.157 EU2	FIXED MOBILE except aeronautical mobile 5.157 EU2	1. Government Use 2. Maritime applications	1. Government Use 2. Maritime applications: 23860 kHz
24000 - 24890 kHz	FIXED LAND MOBILE	FIXED LAND MOBILE EU2	FIXED LAND MOBILE EU2	1. Government Use	
24890 - 24990 kHz	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	1. Amateur applications 2. Amateur-satellite applications	1. Amateur applications: EN 301783 2. Amateur-satellite applications
24990 - 25005 kHz	STANDARD FREQUENCY AND TIME SIGNAL (25000kHz)	STANDARD FREQUENCY AND TIME SIGNAL (25000kHz)	STANDARD FREQUENCY AND TIME SIGNAL (25000kHz)	1. Standard frequency and time signal (25000kHz)	
25005 - 25010 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	1. Standard frequency and time signal 2. Space Research	1. Standard frequency and time signal 2. Space Research: Scientific and medical space research
25010 - 25070 kHz	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile EU2	FIXED MOBILE except aeronautical mobile EU2	1. Government Use	
25070 - 25210 kHz	MARITIME MOBILE	MARITIME MOBILE EU2	MARITIME MOBILE EU2	1. DSC calling 2. Maritime applications	1. DSC calling: 25208.5, 25209, 25209.5 kHz 2. Maritime applications: Appendix 17 channelling plan
25210 - 25550 kHz	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile EU2	FIXED MOBILE except aeronautical mobile EU2	1. Government Use	
25550 - 25670 kHz	RADIO ASTRONOMY 5.149	RADIO ASTRONOMY 5.149	RADIO ASTRONOMY 5.149	1. Radioastronomy	
25670 - 26100 kHz	BROADCASTING	BROADCASTING	BROADCASTING	1. Broadcasting	1. Broadcasting: Article 12 planning procedure Digital systems to be introduced

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
26100 - 26175 kHz	MARITIME MOBILE 5.132	MARITIME MOBILE 5.132 EU2	MARITIME MOBILE 5.132 EU2	1. DSC calling 2. Maritime applications 3. Maritime Safety Information (MSI)	1. DSC calling: 26121, 26121.5, 26122 kHz 2. Maritime applications: Appendix 17 channelling plan Appendix 25 allotment plan 3. Maritime Safety Information (MSI): 26100.5 kHz
26175 - 27500 kHz	FIXED MOBILE except aeronautical mobile 5.150	FIXED MOBILE except aeronautical mobile 5.150 EU2	FIXED MOBILE except aeronautical mobile 5.150 EU2	1. CB 2. Inductive SRD 3. ISM applications 4. Government Use 5. Model control 6. Non Specific SRD applications 7. Railway applications	1. CB: ETS 300 135, ERC DEC (98)11, 26.960-27.410 MHz, ERC REC T/R 20-09, EN 300 433 2. Inductive SRD: In accordance to the Decision 2008/432/EC for the radiofrequency band 26,957 – 27,283 MHz 3. ISM applications: 26.957 – 27.283 MHz 4. Government Use 5. Model control: In accordance to the Decision 2009/381/EC, in the bands 26,990 - 27 MHz, 27,040 – 27,050 MHz, 27,090 – 27,100 MHz, 27,140 – 27,150 MHz and 27,190 – 27,200 MHz. 6. Non Specific SRD applications: In accordance to the Decision 2006/771/EC , 26.957 – 27.283 MHz 7. Railway applications: ERC REC 70-03, EN 300 330, 27.095 MHz Eurobalise
27500 - 28000 kHz	METEOROLOGICAL AIDS FIXED MOBILE	FIXED METEOROLOGICAL AIDS MOBILE EU2	FIXED METEOROLOGICAL AIDS MOBILE EU2	1. Government Use	
28000 - 29700 kHz	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	1. Amateur applications 2. Amateur-satellite applications	1. Amateur applications: EN 301783 2. Amateur-satellite applications
29.700 - 30.005 MHz	FIXED MOBILE	MOBILE EU2	MOBILE EU2	1. Government Use EU1 2. Radio microphones 3. Active Medical Implants	1. Government Use 2. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis 3. Active Medical Implants: In accordance to the Decision 2010/368/EU in the band 30-37,5 MHz
30.005 - 30.010 MHz	FIXED MOBILE SPACE OPERATION (satellite identification) SPACE RESEARCH	MOBILE EU2	MOBILE EU2	1. Government Use EU1 2. Radio microphones 3. Active Medical Implants	1. Government Use 2. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis 3. Active Medical Implants: In accordance to the Decision 2010/368/EU in the band 30-37,5 MHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
30.01 - 37.50 MHz	FIXED MOBILE	MOBILE EU2 EU27	MOBILE EU2 EU27	1. Government Use EU1 2. Model control 3. PMR 4. Radio microphones 5. Active Medical Implants	1. Government Use: The bands 30.3-30.5 MHz and 32.15-32.45 MHz are harmonized bands 2. Model control: EN 300 220, ERC REC 70-03, ERC DEC (01)11, Model control in 34.995-35.225 MHz only for flying model 3. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. For non-civil applications only. 4. Radio microphones: EN 300 422, ERC REC 70-03, Within the band 30.01-34.90 MHz. Narrow band audio systems including tour guide systems on a tuning range basis 5. Active Medical Implants: In accordance to the Decision 2010/368/EU in the band 30-37,5 MHz
37.50 - 38.25 MHz	FIXED MOBILE Radio Astronomy 5.149	MOBILE except Aeronautical Mobile Radio Astronomy 5.149 EU2	MOBILE except Aeronautical Mobile Radio Astronomy 5.149 EU2	1. Government Use EU1 2. PMR 3. Radio astronomy applications 4. Radio microphones	1. Government Use 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. For non-civil applications only. 3. Radio astronomy applications: Continuum measurements 4. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis
38.250 - 39.986 MHz	FIXED MOBILE	MOBILE EU2	MOBILE EU2	1. Government Use EU1 2. Meteor-scatter applications 3. PMR 4. Radio microphones	1. Government Use 2. Meteor-scatter applications: Within the band 39.0-39.2 MHz, ERC REC 00-04 3. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. For non-civil applications only. 4. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis
39.986 - 40.020 MHz	FIXED MOBILE Space Research	MOBILE Space Research EU2	MOBILE Space Research EU2	1. Government Use EU1 2. PMR 3. Radio microphones	1. Government Use. 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. For non-civil applications only. 3. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
40.02 - 40.66 MHz	FIXED MOBILE	MOBILE EU2	MOBILE EU2	1. Government Use EU1 2. PMR 3. Radio microphones	1. Government Use. 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. For non-civil applications only. 3. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis
40.660 - 40.700 MHz	FIXED MOBILE 5.150	MOBILE 5.150 EU2	MOBILE 5.150 EU2	1. Government Use EU1 2. ISM 3. Model control 4. Non Specific SRD 5. Radio microphones	1. Government Use 2. ISM 3. Model control: EN 300 220, ERC DEC (01)12 4. Non Specific SRD: In accordance to the Decisions 2006/771/EC 5. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis
40.70 - 40.98 MHz	FIXED MOBILE	MOBILE EU2	MOBILE EU2	1. Government Use EU1 2. PMR 3. Radio microphones	1. Government Use. 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. For non-civil applications only. 3. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis
40.980 - 41.015 MHz	FIXED MOBILE Space Research	MOBILE Space Research EU2	MOBILE Space Research EU2	1. Government Use EU1 2. PMR 3. Radio microphones	1. Government Use. 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. For non-civil applications only. 3. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis
41.015 - 44.000 MHz	FIXED MOBILE	MOBILE EU27	MOBILE EU27	1. Government Use EU1 2. PMR 3. Radio microphones	1. Government Use: Harmonised band 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. For non-civil applications only. 3. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
44.0 - 46.4 MHz	FIXED MOBILE 5.162A	MOBILE 5.162A EU27	MOBILE 5.162A EU27	1. Government Use EU1 2. PMR 3. Radio microphones 4. Wind profiler radars	1. Government Use: Harmonised band 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. For non-civil applications only. 3. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis 4. Wind profiler radars: In the range 46-68 MHz. Geographical sharing with other services.
46.4 - 47.0 MHz	FIXED MOBILE 5.162A	MOBILE except Aeronautical Mobile 5.162A EU27	MOBILE except Aeronautical Mobile 5.162A EU27	1. Government Use EU1 2. PMR 3. Radio microphones 4. Wind profiler radars	1. Government Use: Harmonised band 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. For non-civil applications only. 3. Radio microphones: EN 300 422, ERC REC 70-03, Narrow band audio systems including tour guide systems on a tuning range basis 4. Wind profiler radars: In the range 46-68 MHz. Geographical sharing with other services.
47 - 48 MHz	BROADCASTING 5.162A 5.163 5.164	LAND MOBILE 5.162A 5.163 5.164 EU2 EU3	LAND MOBILE 5.162A 5.163 5.164 EU2 EU3	1. Government Use EU1 2. On-site paging. 3. PMR 4. Wind profiler radars	1. Government Use 2. On-site paging: EN 300 224, in the band 47.0-47.25 MHz 3. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ERC REC T/R 25-08. Single frequency applications. For non-civil applications only. 4. Wind profiler radars: In the range 46-68 MHz. Geographical sharing with other services
48.0 - 48.5 MHz	BROADCASTING 5.162A 5.163 5.164	LAND MOBILE 5.162A 5.163 5.164 EU2 EU3	LAND MOBILE 5.162A 5.163 5.164 EU2 EU3	1. Government Use EU1 2. PMR 3. Wind profiler radars	1. Government Use 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ERC REC T/R 25-08. Single frequency applications. For non-civil applications only. 3. Wind profiler radars: In the range 46-68 MHz. Geographical sharing with other services

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
48.5 - 50.0 MHz	BROADCASTING 5.162A 5.164	LAND MOBILE 5.162A 5.164 EU2 EU3	LAND MOBILE 5.162A 5.164 EU2 EU3	1. Government Use EU1 2. Non Specific SRD 3. PMR 4. Wind profiler radars	1. Government Use 2. Non specific SRD: in 49.50 - 50.00 MHz. 3. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ERC REC T/R 25-08. Single frequency applications. For non-civil applications only. 4. Wind profiler radars: In the range 46-68 MHz. Geographical sharing with other services.
50 - 51 MHz	BROADCASTING 5.162A 5.164	LAND MOBILE Amateur 5.162A 5.164 EU2 EU3	LAND MOBILE Amateur 5.162A 5.164 EU2 EU3	1. Amateur applications 2. Government Use EU1 3. PMR 4. Wind profiler radars	1. Amateur applications: EN 301783 2. Government Use 3. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ERC REC T/R 25-08. Single frequency applications. For non-civil applications only. 4. Wind profiler radars: In the range 46-68 MHz. Geographical sharing with other services.
51 - 52 MHz	BROADCASTING 5.162A 5.164	LAND MOBILE Amateur 5.162A 5.164 EU2 EU3	LAND MOBILE 5.162A 5.164 EU2 EU3	1. Government Use EU1 2. PMR 3. Wind profiler radars	1. Government Use 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ERC REC T/R 25-08. Single frequency applications. For non-civil applications only. 3. Wind profiler radars: In the range 46-68 MHz. Geographical sharing with other services
52 - 54 MHz	BROADCASTING 5.162A 5.164	LAND MOBILE 5.162A 5.164 EU2 EU3	LAND MOBILE 5.162A 5.164 EU2 EU3	1. Government Use EU1 2. PMR 3. Wind profiler radars	1. Government Use 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ERC REC T/R 25-08. Single frequency applications. For non-civil applications only. 3. Wind profiler radars: In the range 46-68 MHz. Geographical sharing with other services
54 - 61 MHz	BROADCASTING 5.162A 5.163 5.164	LAND MOBILE 5.162A 5.163 5.164 EU2 EU3	LAND MOBILE 5.162A 5.163 5.164 EU2 EU3	1. Government Use EU1 2. PMR 3. Wind profiler radars	1. Government Use 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ERC REC T/R 25-08. ML paired with 61-68 MHz. For non-civil applications only. 3. Wind profiler radars: In the range 46-68 MHz. Geographical sharing with other services

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
61 - 68 MHz	BROADCASTING 5.162A 5.164	LAND MOBILE 5.162A 5.164 EU2 EU3	LAND MOBILE 5.162A 5.164 EU2 EU3	1. Government Use EU1 2. PMR 3. Wind profiler radars 4. T-DAB	1. Government Use 2. PMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ERC REC T/R 25-08. FB paired with 54-61 MHz. For non-civil applications only. 3. Wind profiler radars: In the range 46-68 MHz. Geographical sharing with other services 4. T-DAB: Frequencies 61.168 –62.704 MHz
68.00 - 70.45 MHz	FIXED MOBILE except Aeronautical Mobile 5.175	MOBILE EU2 EU4 EU9	MOBILE EU2 EU4 EU9	1. Government Use EU1 2. PMR/PAMR	1. Government Use 2. PMR/PAMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ECC/DEC/(06)06, T/R 25-08. ML paired with 77.8-80.25 MHz. For government use applications only.
70.45 - 74.80 MHz	FIXED MOBILE except aeronautical mobile 5.149 5.175 5.177 5.179	MOBILE except Aeronautical Mobile Radio Astronomy 5.149 EU2 EU4 EU9 EU27	MOBILE except Aeronautical Mobile Radio Astronomy 5.149 EU2 EU4 EU9 EU27	1. Government Use EU1 2. PMR/PAMR 3. Radio astronomy applications	1. Government Use: Harmonised band 73.3-74.1 MHz 2. PMR/PAMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ECC/DEC/(06)06, T/R 25-08. ML paired with 80.25-84.6 MHz. For government use applications only. 3. Radio astronomy applications: Continuum measurements. In 73-74.6 MHz RA for solar wind monitoring
74.8 - 75.2 MHz	AERONAUTICAL RADIONAVIGATION 5.180	AERONAUTICAL RADIONAVIGATION 5.180	AERONAUTICAL RADIONAVIGATION 5.180	1. ILS/marker beacons.	
75.2 - 77.7 MHz	FIXED MOBILE except aeronautical mobile 5.175 5.179	MOBILE EU2	MOBILE EU2	1. Government Use EU1 2. PMR/PAMR	1. Government Use 2. PMR/PAMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ECC/DEC/(06)06, T/R 25-08. ML paired with 85.0-87.5 MHz. For government use applications only.
77.7 - 77.8 MHz	FIXED MOBILE except aeronautical mobile 5.175	MOBILE EU2	MOBILE EU2	1. Government Use EU1 2. PMR/PAMR	1. Government Use 2. PMR/PAMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ECC/DEC/(06)06, T/R 25-08. Single frequency applications. For government use applications only.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
77.8 - 84.6 MHz	FIXED MOBILE except aeronautical mobile 5.175 5.187	MOBILE EU2 EU27	MOBILE EU2 EU27	1. Government Use EU1 2. PMR/PAMR	1. Government Use: Harmonised band 79.0-79.7 MHz 2. PMR/PAMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ECC/DEC/(06)06, T/R 25-08. FB paired with 68-74.8 MHz. For government use applications only.
84.6 - 85.0 MHz	FIXED MOBILE except aeronautical mobile 5.175 5.187	MOBILE EU2	MOBILE EU2	1. Government Use EU1 2. PMR/PAMR	1. Government Use 2. PMR/PAMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ECC/DEC/(06)06, T/R 25-08. Single frequency applications. For government use applications only.
85.0 - 87.5 MHz	FIXED MOBILE except aeronautical mobile 5.175 5.187	MOBILE EU2	MOBILE EU2	1. Government Use EU1 2. PMR/PAMR	1. Government Use 2. PMR/PAMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471. ECC/DEC/(06)06, T/R 25-08. FB paired with 75-75.2 MHz. For government use applications only.
87.5 - 100 MHz	BROADCASTING 5.190	BROADCASTING	BROADCASTING	1. FM Sound Broadcasting, Geneva Agreement 1984 2. Low Power FM transmitters	1. FM Sound Broadcasting, Geneva Agreement 1984 2. Low Power FM transmitters: In accordance to the Decision 2010/368/EU for the radiofrequency band 87,5-108 MHz
100 - 108 MHz	BROADCASTING 5.192 5.194	BROADCASTING	BROADCASTING	1. FM Sound Broadcasting, Geneva Agreement 1984 2. Low Power FM transmitters	1. FM Sound Broadcasting, Geneva Agreement 1984 2. Low Power FM transmitters: In accordance to the Decision 2010/368/EU for the radiofrequency band 87,5-108 MHz
108.000 - 117.975 MHz	AERONAUTICAL RADIONAVIGATION 5.197A	AERONAUTICAL RADIONAVIGATION 5.197A	AERONAUTICAL RADIONAVIGATION 5.197A	1. ILS/Localiser 2. VOR	1. ILS/Localiser: Within the band 108 - 112 MHz. 2. VOR: Within the band 108.0 - 117.975 MHz
117.975 - 121.450 MHz	AERONAUTICAL MOBILE (R) 5.198 5.200	AERONAUTICAL MOBILE (R) 5.200	AERONAUTICAL MOBILE (R) 5.200	1. Aeronautical mobile communications for safety and regularity of flight. EU5	
121.45 - 121.55 MHz	AERONAUTICAL MOBILE (R) 5.111 5.198 5.199 5.200 5.201	AERONAUTICAL MOBILE MOBILE-SATELLITE (Earth-to-space) 5.111 5.199 5.200	AERONAUTICAL MOBILE MOBILE-SATELLITE (Earth-to-space) 5.111 5.199 5.200	1. EPIRB	1. EPIRB: EN 300 152, band only available for distress and safety

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
121.55 - 136.00 MHz	AERONAUTICAL MOBILE (R) 5.198 5.200 5.201	AERONAUTICAL MOBILE (R) 5.200 5.201	AERONAUTICAL MOBILE (R) 5.200 5.201	1. Aeronautical mobile communications for safety and regularity of flights, airline business and airport mobile communications EU5	
136 - 137 MHz	AERONAUTICAL MOBILE (R) 5.202 5.203	AERONAUTICAL MOBILE (R) 5.202	AERONAUTICAL MOBILE (R) 5.202	1. Aeronautical mobile communications for safety and regularity of flights, airline business and airport mobile communications EU5	
137.000 - 137.025 MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except Aeronautical mobile (R) 5.204 5.206 5.208	METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 Space Operation (space-to-Earth) Space Research (space-to-Earth) 5.206 5.208	METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 Space Operation (space-to-Earth) Space Research (space-to-Earth) 5.206 5.208	1. Low earth orbiting satellites. EU6 2. Meteorological Satellite. 3. Mobile applications	1. Low earth orbiting satellites: EN 301 721, ERC DEC (99)06 2. Meteorological Satellite 3. Mobile applications: Mobile restricted to Aeronautical Mobile (OR), including air sport
137.025 - 137.175 MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-Satellite (space-to-Earth) 5.208A 5.209 Mobile except aeronautical mobile (R) 5.204 5.206 5.208	METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE Mobile-Satellite (space-to-Earth) 5.208A 5.209 Space Operation (space-to-Earth) Space Research (space-to-Earth) 5.206 5.208	METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE Mobile-Satellite (space-to-Earth) 5.208A 5.209 Space Operation (space-to-Earth) Space Research (space-to-Earth) 5.206 5.208	1. Low earth orbiting satellites. EU6 2. Meteorological Satellite. 3. Mobile applications	1. Low earth orbiting satellites: EN 301 721, ERC DEC (99)06 2. Meteorological Satellite 3. Mobile applications: Mobile restricted to Aeronautical Mobile (OR), including air sport

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
137.175 - 137.825 MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.204 5.206 5.208	METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 Space Operation (space-to-Earth) Space Research (space-to-Earth) 5.206 5.208	METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 Space Operation (space-to-Earth) Space Research (space-to-Earth) 5.206 5.208	1. Low earth orbiting satellites. EU6 2. Meteorological Satellite. 3. Mobile applications	1. Meteorological satellite 2. Low earth orbiting satellites ERC DEC (99)06 3. Mobile applications. Mobile restricted to Aeronautical Mobile (OR), including air sport
137.825 - 138.000 MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-Satellite (space-to-Earth) 5.208A 5.209 Mobile except aeronautical mobile (R) 5.204 5.206 5.208	METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE Mobile-Satellite (space-to-Earth) 5.208A 5.209 Space Operation (space-to-Earth) Space Research (space-to-Earth) 5.206 5.208	METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE Mobile-Satellite (space-to-Earth) 5.208A 5.209 Space Operation (space-to-Earth) Space Research (space-to-Earth) 5.206 5.208	1. Low earth orbiting satellites. EU6 2. Meteorological Satellite. 3. Mobile applications	1. Low earth orbiting satellites: EN 301 721, ERC DEC (99)06 2. Meteorological Satellite 3. Mobile applications: Mobile restricted to Aeronautical Mobile (OR), including air sport
138.0 - 143.6 MHz	AERONAUTICAL MOBILE (OR) 5.210 5.211 5.214	AERONAUTICAL MOBILE (OR) LAND MOBILE Space Research (space-to-Earth) 5.211 EU2 EU27	AERONAUTICAL MOBILE (OR) LAND MOBILE Space Research (space-to-Earth) 5.211 EU2 EU27	1. Air operation control EU5 2. Government Use 3. Mobile applications 4. Non specific SRDs	1. Air operation control 2. Government Use: Harmonised military band 3. Mobile applications 4. Non specific SRDs: EN 300 220, ERC REC 70-03, in the band 138.2-138.45 MHz
143.60 - 143.65 MHz	AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space-to-Earth) 5.211 5.214	AERONAUTICAL MOBILE (OR) LAND MOBILE SPACE RESEARCH (space-to-Earth) 5.211 EU2 EU27	AERONAUTICAL MOBILE (OR) LAND MOBILE SPACE RESEARCH (space-to-Earth) 5.211 EU2 EU27	1. Air operation control EU5 2. Government Use 3. Mobile applications	1. Air operation control 2. Government Use: Harmonised military band 3. Mobile applications

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
143.65 - 144.00 MHz	AERONAUTICAL MOBILE (OR) 5.210 5.211 5.214	AERONAUTICAL MOBILE (OR) LAND MOBILE 5.211 EU2 EU27	AERONAUTICAL MOBILE (OR) LAND MOBILE 5.211 EU2 EU27	1. Air operation control EU5 2. Government Use 3. Mobile applications	1. Air operation control 2. Government Use: Harmonised military band 3. Mobile applications
144 - 146 MHz	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	1. Amateur applications 2. Amateur Satellite applications	1. Amateur applications: EN 301783 2. Amateur Satellite applications
146.0 - 146.8 MHz	FIXED MOBILE except aeronautical mobile (R)	MOBILE	MOBILE	1. PMR/PAMR EU7	1. 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
146.8 - 148.0 MHz	FIXED MOBILE except aeronautical mobile (R)	MOBILE	MOBILE	1. PMR/PAMR EU7	1. 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 151.4-152.6 MHz
148.0 - 148.4 MHz	FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 5.221	MOBILE MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 5.221	MOBILE MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 5.221	1. Low earth orbiting satellites EU6 2. PMR/PAMR EU7	1. Low earth orbiting satellites: ERC DEC (99)06, EN 301 721 2. 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 152.6-153 MHz
148.4 - 149.9 MHz	FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 5.221	MOBILE MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 5.221	MOBILE MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 5.221	1. Low earth orbiting satellites EU6 2. PMR/PAMR EU7	1. Low earth orbiting satellites: ERC DEC (99)06, EN 301 721 2. 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 153-154.5 MHz
149.90 - 150.05 MHz	MOBILE-SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.224B 5.220 5.222 5.223	MOBILE MOBILE-SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.224B 5.220 5.222 5.223	MOBILE MOBILE-SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.224B 5.220 5.222 5.223	1. Low earth orbiting satellites EU6 2. PMR/PAMR	1. Low earth orbiting satellites: ERC DEC (99)06, EN 301 721 2. 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

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
150.05 - 151.40 MHz	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149	MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149	1. PMR/PAMR EU7 2. Radio astronomy	1. 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 154.65-156 MHz 2. Radio astronomy: Continuum measurement and pulsar/solar observations
151.4 - 153.0 MHz	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149	MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149	1. PMR/PAMR EU7 2. Radio astronomy	1. 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 146.8-148.4 MHz 2. Radio astronomy: Continuum measurement and pulsar/solar observations
153 - 154 MHz	FIXED MOBILE except aeronautical mobile (R) Meteorological Aids	MOBILE except Aeronautical Mobile (R)	MOBILE except Aeronautical Mobile (R)	1. PMR/PAMR EU7	1. 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 148.4-149.4 MHz
154.0 - 154.5 MHz	FIXED MOBILE except aeronautical mobile (R) 5.226	MOBILE except Aeronautical Mobile (R)	MOBILE except Aeronautical Mobile (R)	1. PMR/PAMR EU7	1. 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 149.4-149.9 MHz
154.50 - 154.65 MHz	FIXED MOBILE except aeronautical mobile (R) 5.226	MOBILE except Aeronautical Mobile (R)	MOBILE except Aeronautical Mobile (R)	1. PMR/PAMR EU7	1. 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
154.65 - 156.00 MHz	FIXED MOBILE except aeronautical mobile (R) 5.226	MOBILE except Aeronautical Mobile (R)	MOBILE except Aeronautical Mobile (R)	1. PMR/PAMR EU7	1. 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 150.05-151.4 MHz
156.0000 - 156.4875 MHz	FIXED MOBILE except aeronautical mobile (R) 5.226	MOBILE except Aeronautical Mobile (R) 5.226	MOBILE except Aeronautical Mobile (R) 5.226	1. Maritime Mobile EU7 EU8	1. Maritime Mobile: EN 300 162, EN 300 698, EN 301 178, EN 301 025, RR Appendix 18 Ship stations paired with 160.6-160.950 MHz. Single frequency in 156.375-156.500 MHz
156.4875 - 156.5375 MHz	MARITIME MOBILE (distress and calling via DSC) 5.111 5.226 5.227	MARITIME MOBILE (distress and calling via DSC) 5.111 5.226 5.227	MARITIME MOBILE (distress and calling via DSC) 5.111 5.226 5.227	1. Digital selective calling for distress, safety.	1. Digital selective calling for distress, safety: EN 301 025, The frequency 156.525 MHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
156.5375 - 156.5625 MHz	MARITIME MOBILE (distress and calling via DSC) 5.226 5.227	MOBILE except Aeronautical Mobile (R) MARITIME MOBILE (distress and calling via DSC) 5.226 5.227	MOBILE except Aeronautical Mobile (R) MARITIME MOBILE (distress and calling via DSC) 5.226 5.227	1. Maritime Mobile EU7 EU8	1. Maritime Mobile: EN 300 162, EN 300 698, EN 301 178, EN 301 025, RR Appendix 18, Single frequency applications
156.5625 - 156.7625 MHz	MOBILE except Aeronautical Mobile (R) 5.226	MOBILE except Aeronautical Mobile (R) 5.226	MOBILE except Aeronautical Mobile (R) 5.226	1. Maritime Mobile EU7 EU8	1. Maritime Mobile: EN 300 162, EN 300 698, EN 301 178, EN 301 025, RR Appendix 18, Single frequency applications
156.7625 - 156.8375 MHz	MARITIME MOBILE (distress and calling) 5.111 5.226	MARITIME MOBILE (distress and calling) 5.111 5.226	MARITIME MOBILE (distress and calling) 5.111 5.226	1. International distress safety and calling frequency.	1. International distress safety and calling frequency: EN 300 162, The frequency 156.8 MHz+single frequencies
156.8375 - 157.4500 MHz	FIXED MOBILE except Aeronautical mobile 5.226 5.229	MOBILE except Aeronautical Mobile 5.226	MOBILE except Aeronautical Mobile 5.226	1. Maritime Mobile EU7 EU8	1. Maritime Mobile: EN 300 162, EN 300 698, EN 301 178, EN 301 025, RR Appendix 18 Ship stations paired with 161.5-162.0 MHz and single frequencies
157.45 - 160.60 MHz	FIXED MOBILE except Aeronautical mobile	MOBILE except Aeronautical Mobile	MOBILE except Aeronautical Mobile	1. PMR/PAMR EU7	1. 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 162.05-165.2 MHz
160.600 - 160.975 MHz	FIXED MOBILE except Aeronautical mobile 5.226	MOBILE except Aeronautical Mobile 5.226	MOBILE except Aeronautical Mobile 5.226	1. Maritime Mobile EU7 EU8	1. Maritime Mobile: EN 300 162, EN 300 698, EN 301 178, EN 301 025, RR Appendix 18, Coast stations, paired with 156.250-156.350 MHz
160.975 - 161.475 MHz	FIXED MOBILE except Aeronautical mobile	MOBILE except Aeronautical Mobile	MOBILE except Aeronautical Mobile	1. PMR/PAMR EU7	1. 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
161.475 - 162.050 MHz	FIXED MOBILE except Aeronautical mobile 5.226 5.227A 5.229	MOBILE except Aeronautical Mobile 5.226 5.227A	MOBILE except Aeronautical Mobile 5.226 5.227A	1. Maritime Mobile EU7 EU8 2. Shipborne Automatic Identification System (AIS)	1. Maritime Mobile: EN 300 162, EN 300 698, EN 301 178, EN 301 025, RR Appendix 18, Coast stations paired with 156.9-157.4 MHz for DSC 2. Shipborne Automatic Identification System (AIS): ERC DEC (99)17, 161.975 and 162.025 MHz
162.05 - 165.20 MHz	FIXED MOBILE except Aeronautical mobile 5.229	MOBILE except Aeronautical Mobile	MOBILE except Aeronautical Mobile	1. PMR/PAMR EU7	1. 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 157.45-160.6 MHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
165.200 - 165.225 MHz	FIXED MOBILE except Aeronautical mobile 5.229	MOBILE except Aeronautical Mobile	MOBILE except Aeronautical Mobile	1. PMR/PAMR EU7	1. 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 - 169.400 MHz	FIXED MOBILE except Aeronautical mobile 5.229	MOBILE except Aeronautical Mobile	MOBILE except Aeronautical Mobile	1. PMR/PAMR EU7	1. 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 169.825-174.0 MHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
169.400 - 169.825 MHz	FIXED MOBILE except Aeronautical mobile 5.229	MOBILE except Aeronautical Mobile	MOBILE except Aeronautical Mobile	1. Hearing aids 2. Social alarms 3. Meter reading systems 4. Low power transmitters for tracing and asset tracking systems 5. High power transmitters for tracing and asset tracking systems 6. Paging systems 7. PMR/PAMR EU7	1. Hearing aids: In accordance to Commission Decisions 2005/928/EC and 2008/673/EC in the radiofrequency band 169,4-169,6 MHz 2. Social alarms: In accordance to Commission Decision 2005/928/EC in the radiofrequency band 169,475-169,6 MHz 3. Meter reading systems: In accordance to Commission Decision 2005/928/EC in the radiofrequency band 169,4-169,475 MHz 4. Low power transmitters for tracing and asset tracking systems: In accordance to Commission Decision 2005/928/EC in the radiofrequency band 169,4-169,475 MHz 5. High power transmitters for tracing and asset tracking systems: In accordance to Commission Decision 2005/928/EC in the radiofrequency band 169,6125-169,8125 MHz 6. Paging systems: In accordance to Commission Decision 2005/928/EC in the radiofrequency band 169,6125-169,8125 MHz 7. PMR/PAMR: ECC/DEC/(06)06, T/R 25-08, EN 300086, EN 300113, EN 300219, EN 300296, EN 300341, EN 300390, EN 300471, Single frequency applications  The use of radiofrequencies by paging systems ERMES and by private mobile radio communications that is authorised before the date of notification of the Commission Decision 2005/928/EC and which is not in conformity with Article 3 paragraphs 1 to 5, of the said Decision, may continue for as long as the authorisations for such services, existing at the date of notification of this Decision, remain valid.
169.825 - 174.000 MHz	FIXED MOBILE except Aeronautical mobile 5.229	MOBILE except Aeronautical Mobile	MOBILE except Aeronautical Mobile	1. Aids for handicapped 2. PMR/PAMR EU7	1. Aids for handicapped: EN 300 422, ERC REC 70-03, within 173.965-174.015 MHz 2. 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 165.225-169.4 MHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
174 - 216 MHz	BROADCASTING 5.235	BROADCASTING LAND MOBILE 5.235 EU9	BROADCASTING LAND MOBILE 5.235 EU9	1. Aids for handicapped 2. Radio microphones 3. T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002. 4. TV Stockholm Agreement 1961.	1. Aids for handicapped: EN 300 422, ERC REC 70-03, within 173.965-174.015 MHz 2. Radio microphones: EN 300 422, ERC REC 70-03, On a tuning range basis 3. T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002. 4. TV Stockholm Agreement 1961: ERC REC T/R 25- 06, The band 174-230 MHz be reviewed for possible future applications after the introduction of T-DAB and DVB-T.
216 - 223 MHz	BROADCASTING 5.235	BROADCASTING 5.235	BROADCASTING 5.235	1. T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002	1. T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002: Existing TV transmitters according to Stockholm Agreement 1961. The band 174-230 MHz be reviewed for possible future applications after the introduction of T-DAB and DVB-T.
223 - 225 MHz	BROADCASTING Fixed Mobile 5.246	BROADCASTING	BROADCASTING	T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002	1. T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002: The band 174-230 MHz be reviewed for possible future applications after the introduction of T-DAB and DVB-T.
225 - 230 MHz	BROADCASTING Fixed Mobile 5.246	BROADCASTING Land Mobile EU10	BROADCASTING Land Mobile EU10	1. T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002.	1. T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002: This band is within the government use tuning range 225-400 MHz. T-DAB sharing with government use on national basis. The band 174-230 MHz be reviewed for possible future applications after the introduction of T-DAB and DVB- T. Cyprus assignments for T-DAB in band 226.592- 228.128 MHz
230 - 235 MHz	FIXED MOBILE	MOBILE EU10 EU27	MOBILE EU10 EU27	1. Government Use 2. T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002	1. Government Use: Harmonised band 2. T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002: T-DAB sharing with government use on a national basis
235 - 240 MHz	FIXED MOBILE 5.254	MOBILE 5.254 EU10 EU27	MOBILE 5.254 EU10 EU27	1. Government Use 2. T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002	1. Government Use: Harmonised band 2. T-DAB Wiesbaden Special Arrangement 1995 revised Maastricht 2002: T-DAB sharing with government use on a national basis

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
240.00 - 242.95 MHz	FIXED MOBILE 5.254	MOBILE 5.254 EU10 EU27	MOBILE 5.254 EU10 EU27	1. Government Use	1. Government Use: Harmonised band. Air traffic control
242.95 - 243.05 MHz	FIXED MOBILE 5.111 5.199 5.254 5.256	AERONAUTICAL MOBILE MOBILE SATELLITE (Earth-to-space) 5.111 5.199 5.254 5.256	AERONAUTICAL MOBILE MOBILE SATELLITE (Earth-to-space) 5.111 5.199 5.254 5.256	1. EPIRB	1. EPIRB: EN 300 152, band only available for distress and safety purposes
243.05 - 267.00 MHz	FIXED MOBILE except Aeronautical Mobile 5.254 5.256A	MOBILE 5.254 EU10 EU27	MOBILE 5.254 EU10 EU27	1. Government Use	1. Government Use: Harmonised band. Air traffic control
267 - 272 MHz	FIXED MOBILE Space Operation (space -Earth) 5.254 5.257	MOBILE 5.254 5.257 EU10 EU27	MOBILE 5.254 5.257 EU10 EU27	1. Government Use	1. Government Use: Harmonised band. Air traffic control
272 - 273 MHz	SPACE OPERATION (space-to-Earth) FIXED MOBILE 5.254	MOBILE 5.254 EU10 EU27	MOBILE 5.254 EU10 EU27	1. Government Use	1. Government Use: Harmonised band. Air traffic control
273 - 312 MHz	FIXED MOBILE 5.254	MOBILE 5.254 EU10 EU27	MOBILE 5.254 EU10 EU27	1. Government Use	1. Government Use: Harmonised band. Air traffic control
312 - 315 MHz	FIXED MOBILE Mobile-Satellite (Earth-to-space) 5.254 5.255	MOBILE 5.254 5.255 EU10 EU27	MOBILE 5.254 5.255 EU10 EU27	1. Government Use	1. Government Use: Harmonised band. Air traffic control
315 - 322 MHz	FIXED MOBILE 5.254	MOBILE 5.254 EU10 EU27	MOBILE 5.254 EU10 EU27	1. Government Use	1. Government Use: Harmonised band. Air traffic control
322.0 - 328.6 MHz	FIXED MOBILE RADIO ASTRONOMY 5.149	MOBILE RADIO ASTRONOMY 5.149 EU10 EU27	MOBILE RADIO ASTRONOMY 5.149 EU10 EU27	1. Government Use 2. Radio astronomy applications	1. Government Use: Harmonised band. 2. Radio astronomy applications: Continuum measurements, also VLBI

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
328.6 - 335.4 MHz	AERONAUTICAL RADIONAVIGATION 5.258	AERONAUTICAL RADIONAVIGATION 5.258 EU2	AERONAUTICAL RADIONAVIGATION 5.258 EU2	1. ILS/Glide path	
335.4 - 380.0 MHz	FIXED MOBILE 5.254	MOBILE 5.254 EU10 EU27	MOBILE 5.254 EU10 EU27	1. Government Use EU7	1. Government Use: Harmonised band. Air traffic control
380 - 385 MHz	FIXED MOBILE 5.254	MOBILE 5.254 EU2 EU10 EU27	MOBILE 5.254 EU2 EU10 EU27	1. Government Use 2. Emergency AGA 3. Emergency DMO 4. Emergency services (PPDR)	1. Government Use: Harmonised band 2. Emergency AGA: ECC/DEC/(06)05, EN 300 113, EN 300 390, 384.8-385/394.8-395 MHz. The bands 384.75-384.8/394.75-394.8 MHz may be used as preferred extension bands. 3. Emergency DMO: ERC DEC (01)19, EN 300 113, EN 300 390, 380-380.15/390-390.15 MHz 4. Emergency services (PPDR): EN 303 035, EN 300 392, ECC/DEC/(08)05, T/R 02-02, T/R 25-08, ML paired with 390.0 - 395.0 MHz. Emergency services sharing with government use applications
385 - 387 MHz	FIXED MOBILE 5.254	MOBILE 5.254 EU2 EU10 EU27	MOBILE 5.254 EU2 EU10 EU27	1. Government Use 2. Digital land mobile- PMR/PAMR	1. Government Use: Harmonised band 2. Digital land mobile PMR/PAMR: EN 303 035, T/R 02-02, ML Paired with 395-397 MHz
387 - 390 MHz	FIXED MOBILE Mobile-Satellite (space-to-Earth) 5.208A 5.254 5.255 5.347A	MOBILE EU2 EU10 EU27	MOBILE 5.254 5.255 EU2 EU10 EU27	1. Government Use 2. Digital land mobile- PMR/PAMR	1. Government Use: Harmonised band 2. Digital land mobile PMR/PAMR: EN 303 035, T/R 02-02, ML Paired with 397-399.9 MHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
390 - 395 MHz	FIXED MOBILE 5.254	MOBILE 5.254 EU2 EU10 EU27	MOBILE 5.254 EU2 EU10 EU27	1. Government Use 2. Emergency AGA 3. Emergency DMO 4. Emergency services (PPDR)	1. Government Use: Harmonised band. Emergency services sharing with government use applications 2. Emergency AGA: ECC/DEC/(06)05, EN 300 113, EN 300 390, 384.8-385/394.8-395 MHz. The bands 384.75-384.8/394.75-394.8 MHz may be used as preferred extension bands. 3. Emergency DMO: EN 300 113, EN 300 390, ERC DEC (01)19, 380-380.15/390-390.15 MHz 4. Emergency services (PPDR): EN 303 035, EN 300 392, ECC/DEC/(08)05, T/R 02-02, T/R 25-08, sharing with government use applications. FB paired with 380-385 MHz
395.0 - 399.9 MHz	FIXED MOBILE 5.254	MOBILE 5.254 EU2 EU10 EU27	MOBILE 5.254 EU2 EU10 EU27	1. Government Use 2. Digital land mobile-PMR/PAMR	1. Government Use: Harmonised band 2. Digital land mobile PMR/PAMR: EN 303 035, T/R 02-02, FB paired with 385-389.9 MHz
399.90 - 400.0500 MHz	MOBILE- SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.222 5.224B 5.260 5.220	MOBILE SATELLITE (Earth-space) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.222 5.224B 5.260 5.220	MOBILE SATELLITE (Earth- space) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.222 5.224B 5.260 5.220		
400.0500 - 400.150 MHz	STANDARD FREQUENCY AND TIME SIGNAL SATELLITE (400.1 MHz) 5.261 5.262	STANDARD FREQUENCY AND TIME SIGNAL SATELLITE (400.1 MHz)	STANDARD FREQUENCY AND TIME SIGNAL SATELLITE (400.1 MHz)		
400.15 - 401.00 MHz	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 SPACE RESEARCH (space-to-Earth) 5.263 Space Operation (space-to-Earth) 5.262 5.264	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 SPACE RESEARCH (space-to-Earth) 5.263 5.264	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 SPACE RESEARCH (space-to-Earth) 5.263 5.264	1. Low earth orbiting satellites 2. Meteorological radio sondes.	1. Low earth orbiting satellites: ERC DEC (99)06, EN 301 721 2. Meteorological radio sondes

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
401 - 402 MHz	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (Earth-to-space) SPACE OPERATION (space-to-Earth) Fixed Mobile except Aeronautical Mobile	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (Earth-to-space) EU2	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (Earth-to-space) EU2	1. Meteorological radio sondes. 2. Meteorological satellites, data collection platform 3. Active medical implants and associated peripherals	1. Meteorological radio sondes. 2. Meteorological satellites, data collection platform 3. Active medical implants and associated peripherals: In accordance to the Decision 2010/368/EU
402 - 403 MHz	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL SATELLITE (Earth-to-space) Fixed Mobile except Aeronautical Mobile	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (Earth-to-space) EU2	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (Earth-to-space) EU2	1. Active Medical implants 2. Meteorological radio sondes. 3. Meteorological satellites, data collection platform	1. Active Medical implants: In accordance to the Decision 2009/381/EC for the radiofrequency band 402-405 MHz 2. Meteorological radio sondes. 3. Meteorological satellites, data collection platform
403 - 406 MHz	METEOROLOGICAL AIDS Fixed Mobile except Aeronautical Mobile	METEOROLOGICAL AIDS EU2	METEOROLOGICAL AIDS EU2	1. Active medical implants and associated peripherals 2. Meteorological radio sondes.	1. Active medical implants and associated peripherals: In accordance to the Decision 2009/381/EC for the radiofrequency band 402-405 MHz. In accordance to the Decision 2010/368/EU for the radiofrequency band 405-406 MHz. 2. Meteorological radio sondes.
406.0 - 406.1 MHz	MOBILE-SATELLITE (Earth-to-space) 5.266 5.267	MOBILE-SATELLITE (Earth-to-space) 5.266 5.267	MOBILE-SATELLITE (Earth-to-space) 5.266 5.267	1. EPIRB	1. EPIRB: EN 300 066 Band only available for distress and safety purposes
406.1 - 410.0 MHz	FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149	LAND MOBILE RADIO ASTRONOMY 5.149	LAND MOBILE RADIO ASTRONOMY 5.149	1. PMR/PAMR 2. Radio astronomy	1. 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. 2. Radio astronomy: Continuum measurement and pulsar observations
410 - 420 MHz	FIXED MOBILE except Aeronautical Mobile SPACE RESEARCH (space-to-space) 5.268	MOBILE except Aeronautical Mobile	MOBILE except Aeronautical Mobile	1. PMR/PAMR	1. PMR/PAMR: ECC/DEC/(04)06, ECC/DEC/(06)06, T/R 25-08, ML paired with 420-430 MHz, EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471, EN 303 035

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
420 - 430 MHz	FIXED MOBILE except Aeronautical Mobile Radiolocation 5.269 5.270 5.271	MOBILE except Aeronautical Mobile Radiolocation	MOBILE except Aeronautical Mobile Radiolocation	1. PMR/PAMR EU7	1. PMR/PAMR: ECC/DEC/(04)06, ECC/DEC/(06)06, T/R 25-08, ML paired with 410-420 MHz, EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471, EN 303 035
430 - 432 MHz	AMATEUR RADIOLOCATION 5.271 5.272 5.273 5.274 5.275 5.276 5.277	AMATEUR RADIOLOCATION 5.277 EU2 EU12	AMATEUR RADIOLOCATION 5.277 EU2 EU12	1. Amateur applications	1. Amateur applications: EN 301 783
432 – 433.05 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 Earth Exploration Satellite (active) 5.279A 5.277 EU2 EU12	AMATEUR RADIOLOCATION Earth Exploration Satellite (active) 5.279A 5.277 EU2 EU12	1. Amateur applications	1. Amateur applications: EN 301 783
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	AMATEUR RADIOLOCATION Land Mobile Earth Exploration Satellite (active) 5.279A 5.138 5.277 5.280 EU2 EU12	AMATEUR RADIOLOCATION Land Mobile Earth Exploration Satellite (active) 5.279A 5.138 5.277 5.280 EU2 EU12	1. Amateur applications 2. ISM 3. Non specific SRD	1. Amateur applications: EN 301 783 2. ISM. 3. Non specific SRD: In accordance to the Decision 2006/771/EC, the Decision 2008/432/EC and the Decision 2010/368/EU
434.79 - 438.00 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	AMATEUR AMATEUR-SATELLITE RADIOLOCATION Earth Exploration Satellite (active) 5.279A 5.277 EU2 EU12	1. Amateur applications 2. Amateur-Satellite applications	1. Amateur applications: EN 301 783 2. Amateur-Satellite applications : EN 301 783 Restricted to 435-438 MHz
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 RADIOLOCATION 5.277 EU2 EU12	1. Amateur applications	1. Amateur applications: EN 301 783

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
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	MOBILE except aeronautical mobile Radiolocation EU31	1. PMR/PAMR EU7 2. On site paging 3. PMR 446 and Digital PMR 4. Wind profiler radars	1. PMR/PAMR: EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 471 EN 301 166, ECC/DEC/(06)06, T/R 25-08. Single frequency operation. 2. On site paging: EN 300 224, Call-out & answer-back 3. PMR 446 and Digital PMR: EN 300 296, EN 300 113, EN 301 166, ECC/DEC/(05)12, ERC/DEC/(98)25. Analogue PMR in the band 446-446.1 MHz. Digital PMR in the band 446.1-446.2 MHz. 4. Wind profiler radars: Geographical sharing with other services.
450 - 455 MHz	FIXED MOBILE 5.286AA 5.209 5.271 5.286 5.286A 5.286B 5.286C 5.286D 5.286E	MOBILE EU31	MOBILE EU31	1. PMR/PAMR EU7 EU34 2. On site paging	1. PMR/PAMR: ECC/DEC/(04)06, ECC/DEC/(06)06, ERC/DEC/(96)04, T/R 25-08, ML paired with 460-465 MHz, EN 300 086, EN 300 113, EN 300 219, EN 300 296, EN 300 341, EN 300 390, EN 300 392. 2. On site paging: EN 300 224 Call-out & answer-back
455 - 456 MHz	FIXED MOBILE 5.286AA 5.209 5.271 5.286A 5.286B 5.286C 5.286E	MOBILE EU31	MOBILE EU31	1. PMR/PAMR EU7 EU34 2. On site paging	1. PMR/PAMR: ECC/DEC/(04)06, ECC/DEC/(06)06, ERC/DEC/(96)04, T/R 25-08, ML paired with 465-466 MHz, 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 2. On site paging: EN 300 224 Call-out & answer-back
456 - 459 MHz	FIXED MOBILE 5.286AA 5.271 5.286 5.287	MOBILE 5.287 EU31	MOBILE 5.287 EU31	1. PMR/PAMR. EU7 EU34 2. Maritime on board communications 3. On site paging	1. PMR/PAMR: ECC/DEC/(04)06, ECC/DEC/(06)06, ERC/DEC/(96)04, T/R 25-08, ML paired with 466-469 MHz, 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 2. Maritime on board communications: EN 300 720, ERC REC T/R 32-02, Within the band 457.525-457.575 MHz 3. On site paging: EN 300 224, Call-out & answer-back
459 - 460 MHz	FIXED MOBILE 5.286AA 5.209 5.271 5.286A 5.286B 5.286C 5.286E	MOBILE EU31	MOBILE EU31	1. PMR/PAMR. EU7 2. On site paging	1. PMR/PAMR: ECC/DEC/(04)06, ECC/DEC/(06)06, ERC/DEC/(96)04, T/R 25-08, ML paired with 469-470 MHz, 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 2. On site paging: EN 300 224 Call-out & answer-back

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
460 - 470 MHz	FIXED MOBILE 5.286AA Meteorological-Satellite (space-to-Earth) 5.287 5.288 5.289 5.290	MOBILE 5.287 5.289 EU31	MOBILE 5.287 5.289 EU31	1. PMR/PAMR. EU7 EU34 2. Maritime on board communications 3. On site paging 4. Meteorological aids 5. Space Research/EESS	1. PMR/PAMR: ECC/DEC/(04)06, ECC/DEC/(06)06, ERC/DEC/(96)04, T/R 25-08, FB paired with 450-460 MHz, 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 2. Maritime on board communications: EN 300 720, ERC REC T/R 32-02, Within the band 467.525-467.575 MHz 3. On site paging: EN 300 224, Call-out & answer-back 4. Meteorological aids 5. Space Research/EESS: Allocation to EESS is via RR 5.289. Data collection platform telecommand. Geographical sharing with other services.
470 - 608 MHz	BROADCASTING 5.149 5.291A 5.296 5.302 5.306	BROADCASTING Mobile 5.291A 5.296	BROADCASTING Mobile 5.291A 5.296	1. Radio microphones 2. Stockholm Agreement 1961 complemented by the Chester 1997 Agreement. EU9	1. Radio microphones: EN 300 422, ERC REC 70-03 On a tuning range basis 2. Stockholm Agreement: The band 470-862 MHz be reviewed for possible future applications after the introduction of DVB-T
608 - 614 MHz	BROADCASTING 5.149 5.291A 5.296 5.306	BROADCASTING Mobile Radio Astronomy 5.149 5.296 5.306	BROADCASTING Mobile Radio Astronomy 5.149 5.296 5.306	1. Radio astronomy applications 2. Radio microphones 3. Stockholm Agreement 1961 complemented by the Chester 1997 Agreement. EU9	1. Radio astronomy applications: Continuum measurements and VLBI 2. Radio microphones: EN 300 422, ERC REC 70-03 On a tuning range basis 3. Stockholm Agreement: The band 470-862 MHz be reviewed for possible future applications after the introduction of DVB-T
614 - 790 MHz	BROADCASTING 5.149 5.291A 5.296 5.311 5.312	BROADCASTING Mobile 5.296 5.312 EU13	BROADCASTING Mobile 5.296 5.312 EU13	1. Radio microphones 2. Stockholm Agreement 1961 complemented by the Chester 1997 Agreement. EU9	1. Radio microphones: EN 300 422, ERC REC 70-03 On a tuning range basis 2. Stockholm Agreement: The band 470-862 MHz be reviewed for possible future applications after the introduction of DVB-T

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
790 - 862 MHz	BROADCASTING FIXED MOBILE except aeronautical mobile 5.316B 5.317A 5.312 5.314 5.315 5.316 5.316A 5.319	BROADCASTING MOBILE except aeronautical mobile 5.316B 5.317A 5.312 5.316 5.316A EU2 EU13	BROADCASTING MOBILE except aeronautical mobile 5.316B 5.317A 5.312 5.316 5.316A EU2	1. Government Use 2. Radio microphones and Assistive Listening Devices 3. SAP/SAB 4. TV Broadcasting 5. Terrestrial systems capable of providing electronic communication services	1. Government use: Mobile applications restricted to tactical links 2. Radio microphones and Assistive Listening Devices: EN 300 422, ERC REC 70-03 On a tuning range basis 3. SAP/SAB: radio microphones 4. TV Broadcasting: Geneva Agreement 2006, EN 300744 for DVB-T applications 5. Terrestrial systems capable of providing electronic communication services: In accordance to the Decision 2010/267/EU
862 - 870 MHz	BROADCASTING 5.322 FIXED MOBILE except Aeronautical Mobile 5.317A 5.319 5.323	MOBILE 5.323 EU2 EU13	MOBILE 5.323 EU2 EU13	1. Cordless Telephones 2. Government Use 3. Narrow band analogue voice devices 4. Radio microphones 5. Social alarms 6. Non Specific SRD 7. Wireless Audio applications 8. Alarm systems 9. RFID	1. Cordless Telephones: EN 301 792, ERC DEC (01)02, To be phased out in accordance with ERC Decision (01)02 2. Government Use 3. Narrow band analogue voice devices: EN 300 220, ERC REC 70-03, 864.8-865 MHz 4. Radio microphones: EN 300 422, EN 301 357, ERC REC 70-03 Within the band 863-865 MHz 5. Social alarms: In accordance to the Decision 2006/771/EC for the radiofrequency band 869.2-869.25 MHz 6. Non Specific SRD: In accordance to the Decision 2006/771/EC, the Decision 2008/432/EC and the Decision 2010/368/EU for the radiofrequency bands 863,0 – 865,0 MHz, 865,0 – 868,0 MHz, 868,0 – 868,6 MHz, 868,7 – 869,2 MHz, 869,4 – 869,65 MHz and 869,7 – 870,0 MHz. 7. Wireless Audio applications: In accordance to the Decision 2006/771/EC and the Decision 2010/368/EU. Within the band 863-865 MHz 8. Alarm systems: In accordance to the Decisions 2006/771/EC and 2008/432/EC for the radiofrequency bands 868,6 – 868,7 MHz, 869,25 – 869,3 MHz and 869,65 – 869,7 MHz. 9. RFID: In accordance to the Decision 2006/804/EC, 865-868 MHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
870 - 876 MHz	BROADCASTING 5.322 FIXED MOBILE except Aeronautical Mobile 5.317A 5.319 5.323	MOBILE 5.323 EU2 EU13	MOBILE 5.323 EU2 EU13	1. Government Use 2. Digital land mobile PMR/PAMR.	1. Government Use: The band 870-876 / 915-921 MHz is identified as a preferred band for Tactical Radio Relays (TRR), in particular for cross-border operations. In countries where this band is or will be in civil use according to ERC / ECC Decisions (e.g. digital PAMR), shared use of the band 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. 2. Digital land mobile PMR/PAMR: EN 303 035, ECC/DEC/(04)07, T/R 25-08. ML paired with 915-921 MHz.
876 - 880 MHz	FIXED MOBILE except Aeronautical Mobile 5.317A BROADCASTING 5.322 5.319 5.323	MOBILE 5.323 EU2 EU13	MOBILE 5.323 EU2 EU13	1. Government Use 2. Digital land mobile 3. UIC Railway systems	1. Government Use: Sharing on a national basis 2. Digital land mobile 3. UIC Railway systems: EN 301 502, EN 301 511, ERC DEC (02)05, ERC REC T/R 25-09 ML paired with 921-925 MHz
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	MOBILE EU2 EU29	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services: In accordance to the Directive 87/372/EEC, the Directive 2009/114/EC, the Decision 2009/766/EC, the Decision 2010/166/EU and the Implementing Decision 2011/251/EU.
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	MOBILE Radiolocation EU14 EU29	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services : In accordance to the Directive 87/372/EEC, the Directive 2009/114/EC, the Decision 2009/766/EC, the Decision 2010/166/EU and the Implementing Decision 2011/251/EU.
915 - 921 MHz	BROADCASTING 5.322 FIXED MOBILE except Aeronautical Mobile 5.317A Radiolocation 5.323	MOBILE Radiolocation 5.323 EU2 EU13 EU14	MOBILE Radiolocation 5.323 EU2 EU13 EU14	1. Government Use 2. Digital land mobile PMR/PAMR	1. Government Use: The band 870-876 / 915-921 MHz is identified as a preferred band for Tactical Radio Relays (TRR), in particular for cross-border operations. In countries where this band is or will be in civil use according to ERC / ECC Decisions (e.g. digital PAMR), shared use of the band 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. 2. Digital land mobile PMR/PAMR: EN 303 035, EN 300 092, ECC/DEC/(04)06, T/R 25-08 FB paired with 870-876 MHz.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
921 - 925 MHz	BROADCASTING 5.322 FIXED MOBILE except Aeronautical Mobile 5.317A Radiolocation 5.323	MOBILE Radiolocation 5.323 EU2 EU13 EU14	MOBILE Radiolocation 5.323 EU2 EU13 EU14	1. Government Use 2. Digital land mobile 3. UIC Railway systems	1. Government Use: Sharing on a national basis 2. Digital land mobile: FB paired with 876-880 MHz 3. UIC Railway systems: EN 301 502, EN 301 511, T/R 25-09, ECC/DEC/(02)05amended. FB paired with 876-880 MHz
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	MOBILE Radiolocation EU2 EU14 EU29	1. Terrestrial systems capable of providing electronic communication services EU30	1. Terrestrial systems capable of providing electronic communication services: In accordance to the Directive 87/372/EEC, the Directive 2009/114/EC, the Decision 2009/766/EC, the Decision 2010/166/EU and the Implementing Decision 2011/251/EU.
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	MOBILE Radiolocation EU14 EU29	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services : In accordance to the Directive 87/372/EEC, the Directive 2009/114/EC, the Decision 2009/766/EC, the Decision 2010/166/EU and the Implementing Decision 2011/251/EU.
942 - 960 MHz	BROADCASTING 5.322 FIXED MOBILE except aeronautical mobile 5.317A 5.323	MOBILE 5.317A 5.323 EU13 EU29	MOBILE EU29	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services : In accordance to the Directive 87/372/EEC, the Directive 2009/114/EC, the Decision 2009/766/EC, the Decision 2010/166/EU and the Implementing Decision 2011/251/EU.
960 - 1164 MHz	AERONAUTICAL RADIONAVIGATION 5.328	AERONAUTICAL RADIONAVIGATION 5.328	AERONAUTICAL RADIONAVIGATION 5.328	1. Flight Safety, Navigation and Information Distribution Systems (DME, TACAN, SSR, MIDS).	
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	AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION – SATELLITE (S/E) (S/S) 5.328B 5.328A	1. Flight Safety, Navigation and Information Distribution Systems (DME, TACAN, SSR, MIDS). 2. Satellite Navigation	

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
1215 - 1240 MHz	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space-to-Earth) (space-to-space) 5.329 5.329A 5.328B SPACE RESEARCH (active) 5.331 5.332	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to- space) 5.329 5.329A 5.328B SPACE RESEARCH (active) 5.331 5.332	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION- SATELLITE (space-to- Earth) (space-to-space) 5.329 5.329A 5.328B SPACE RESEARCH (active) 5.331 5.332	1. Radar and Navigation Systems and Active Sensors 2. Satellite Navigation	
1240 - 1260 MHz	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space-to-Earth) (space-to-space) 5.329 5.329A 5.328B SPACE RESEARCH (active) Amateur 5.331 5.332 5.335A 5.282	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION SATELLITE (space-to-Earth) (space-to-space) 5.329 5.329A 5.328B SPACE RESEARCH (active) Amateur 5.331 5.332	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION SATELLITE (space-to- Earth) (space-to-space) 5.329 5.329A 5.328B SPACE RESEARCH (active) Amateur 5.331 5.332	1. Amateur applications 2. Radar and Navigation Systems and Active Sensors. 3. Satellite Navigation	1. Amateur applications: EN 301 783 2. Radar and Navigation Systems and Active Sensors. 3. Satellite Navigation
1260 - 1270 MHz	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space-to-Earth) (space-to-space) 5.329 5.329A 5.328B SPACE RESEARCH (active) Amateur 5.282 5.331 5.335A	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION SATELLITE (space-to-Earth) (space-to-space) 5.329 5.329A 5.328B SPACE RESEARCH (active) Amateur Amateur-Satellite 5.282 5.331 5.335A	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION SATELLITE (space-to- Earth) (space-to-space) 5.329 5.329A 5.328B SPACE RESEARCH (active) Amateur Amateur-Satellite 5.282 5.331 5.335A	1. Amateur applications 2. Amateur Satellite applications 3. Radar and Navigation Systems and Active Sensors.	1. Amateur applications: EN 301 783 2. Amateur Satellite applications: EN 301 783 3. Radar and Navigation Systems and Active Sensors

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
1270 - 1300 MHz	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space-to-Earth) (space-to-space) 5.329 5.329A 5.328B SPACE RESEARCH (active) Amateur 5.282 5.331 5.335A	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.329 5.329A 5.328B SPACE RESEARCH (active) Amateur 5.331 5.335A	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.329 5.329A 5.328B SPACE RESEARCH (active) Amateur 5.331 5.335A	1. Amateur applications 2. Radar and Navigation Systems and Active Sensors. 3. Wind profiler radars	1. Amateur applications: EN 301 783 2. Radar and Navigation Systems and Active Sensors. 3. Wind profiler radars: Within the band 1270-1295 MHz
1300 - 1350 MHz	AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION RADIONAVIGATION SATELLITE (Earth-to-space) 5.149 5.337A	AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION RADIONAVIGATION-SATELLITE (Earth-to-space) 5.149 5.337A	AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION RADIONAVIGATION-SATELLITE (Earth-to-space) 5.149 5.337A	1. Radar and Navigation Systems. 2. Radio astronomy applications 3. Satellite Navigation	1. Radar and Navigation Systems. 2. Radio astronomy applications: Spectral line observations 1330-1440 MHz 3. Satellite Navigation
1350 - 1400 MHz	FIXED MOBILE RADIOLOCATION 5.149 5.338 5.339 5.339A	FIXED MOBILE RADIOLOCATION 5.149 5.339 EU2 EU15	FIXED MOBILE RADIOLOCATION 5.149 5.339 EU2 EU15	1. Government use. EU15A 2. Low capacity fixed links 3. Radio astronomy applications	1. Government use 2. Low capacity fixed links: EN 301 751, ERC REC T/R 13-01 3. Radio astronomy applications: Spectral line observations 1330-1440 MHz
1400 - 1427 MHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION-SATELLITE (passive). RADIO ASTRONOMY SPACE RESEARCH (passive). 5.340 5.341 EU15	EARTH EXPLORATION-SATELLITE (passive). RADIO ASTRONOMY SPACE RESEARCH (passive). 5.340 5.341 EU15	1. Passive applications.	
1427 - 1429 MHz	SPACE OPERATION (Earth-to-space) FIXED MOBILE except Aeronautical Mobile 5.341	FIXED MOBILE except Aeronautical Mobile SPACE OPERATION (Earth-to-space) 5.341 EU2 EU15	FIXED MOBILE except Aeronautical Mobile SPACE OPERATION (Earth-to-space) 5.341 EU2 EU15	1. Government use. EU15A 2. Low capacity fixed links	1. Government use. 2. Low capacity fixed links: EN 301 751, ERC REC T/R 13-01

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
1429 - 1452 MHz	FIXED MOBILE except Aeronautical Mobile 5.339A 5.341 5.342	FIXED MOBILE except Aeronautical Mobile 5.341 EU2 EU15	FIXED MOBILE except Aeronautical Mobile 5.341 EU2 EU15	1. Government use. EU15A 2. Low capacity fixed links	1. Government use. 2. Low capacity fixed links: EN 301 751, ERC REC T/R 13-01
1452 - 1492 MHz	FIXED MOBILE except Aeronautical Mobile BROADCASTING 5.345 5.347 BROADCASTING - SATELLITE 5.341 5.342 5.347A	BROADCASTING 5.345 BROADCASTING- SATELLITE 5.345 Fixed Mobile except Aeronautical Mobile 5.341 EU15	BROADCASTING 5.345 BROADCASTING- SATELLITE 5.345 Fixed Mobile except Aeronautical Mobile 5.341 EU15	1. S-DAB 2. T-DAB Maastricht 2002 Special Arrangement	1. S-DAB: ECC DEC(03)02, 1479.5-1492 MHz 2. T-DAB Maastricht 2002 Special Arrangement: 1452-1479.5 MHz
1492 - 1518 MHz	FIXED MOBILE except Aeronautical Mobile 5.341 5.342	FIXED MOBILE except Aeronautical Mobile 5.341 EU2 EU15	FIXED MOBILE except Aeronautical Mobile 5.341 EU2 EU15	1. Government use. EU15A 2. Low capacity fixed links	1. Government use. 2. Low capacity fixed links: EN 301 751, ERC REC T/R 13-01
1518 - 1525 MHz	FIXED MOBILE except Aeronautical Mobile MOBILE-SATELLITE (S/E) 5.348 5.348A 5.348B 5.351A 5.341 5.342	FIXED MOBILE except Aeronautical Mobile MOBILE-SATELLITE (S/E) 5.348 5.348A 5.348B 5.351A 5.341 EU2 EU15	FIXED MOBILE except Aeronautical Mobile MOBILE-SATELLITE (S/E) 5.348 5.348A 5.348B 5.351A 5.341 EU2 EU15	1. Government use. EU15A 2. Unidirectional fixed links. 3. IMT Satellite component 4. Mobile satellite applications	1. Government use. 2. Unidirectional fixed links: EN 302 217 3. IMT Satellite component 4. Mobile satellite applications: ECC/DEC/(04)09, ECC/DEC/(07)04, ECC/DEC/(07)05
1525 - 1530 MHz	FIXED MOBILE-SATELLITE (space-to- Earth) 5.347A 5.351A SPACE OPERATION (space-to- Earth) Earth Exploration- Satellite Mobile except Aeronautical Mobile 5.349 5.341 5.342 5.350 5.351 5.352A 5.354	FIXED MOBILE-SATELLITE (space-to- Earth) 5.347A 5.351A SPACE OPERATION (space-to- Earth) 5.341 5.351 5.354 EU15	FIXED MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A SPACE OPERATION (space-to-Earth) 5.341 5.351 5.354	1. IMT Satellite component 2. Mobile satellite applications 3. Unidirectional fixed links.	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 444, EN 301 681, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05 3. Unidirectional fixed links: EN 302 217

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
1530 - 1533 MHz	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.353A SPACE OPERATION (space-to-Earth) Earth Exploration-Satellite Fixed Mobile except Aeronautical Mobile 5.341 5.342 5.351 5.354	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.353A SPACE OPERATION (space-to-Earth) Earth Exploration-Satellite Fixed Mobile except Aeronautical Mobile 5.341 5.351 5.354	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.353A SPACE OPERATION (space-to-Earth) Earth Exploration-Satellite Fixed Mobile except Aeronautical Mobile 5.341 5.351 5.354	1. IMT Satellite component 2. Mobile satellite applications	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 444, EN 301 681, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05 Priority for GMDSS Distress and safety communications
1533 - 1535 MHz	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.353A SPACE OPERATION (space-to-Earth) Earth Exploration-Satellite Fixed Mobile except Aeronautical Mobile 5.341 5.342 5.351 5.354	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.353A SPACE OPERATION (space-to-Earth) Earth Exploration-Satellite Mobile except Aeronautical Mobile 5.341 5.351 5.354	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.353A SPACE OPERATION (space-to-Earth) Earth Exploration-Satellite Mobile except Aeronautical Mobile 5.341 5.351 5.354	1. IMT Satellite component 2. Mobile satellite applications	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 444, EN 301 681, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05 Priority for GMDSS Distress and safety communications
1535 - 1544 MHz	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.341 5.351 5.353A 5.354 5.355	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.341 5.351 5.353A 5.354	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.341 5.351 5.353A 5.354	1. IMT Satellite component 2. Mobile satellite applications	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 444, EN 301 681, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05 Priority for GMDSS Distress and safety communications
1544 - 1545 MHz	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.341 5.354 5.355 5.356 5.357 5.357A	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.341 5.354 5.356	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.341 354 5.356	1. Distress and safety communications (including GMDSS). 2. IMT Satellite component 3. Mobile satellite applications	1. Distress and safety communications (including GMDSS). 2. IMT Satellite component 3. Mobile satellite applications: EN 301 426, EN 301 473, EN 301 681, limited to distress communications
1545 - 1555 MHz	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.341 5.351 5.354 5.355 5.357 5.357A 5.359	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.341 5.351 5.354 5.357 5.357A 5.359	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.341 5.351 5.354 5.357 5.357A 5.359	1. IMT Satellite component 2. Mobile satellite applications	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 444, EN 301 681, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
1555 - 1559 MHz	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.341 5.351 5.354 5.355 5.359 5.362A	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.341 5.351 5.354 5.359	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.341 5.351 5.354 5.359	1. IMT Satellite component 2. Mobile satellite applications	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 444, EN 301 681, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05
1559 - 1610 MHz	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329A 5.347A 5.341 5.362B 5.362C	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329A 5.347A 5.341 5.362B	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329A 5.347A 5.341 5.362B	1. Galileo 2. GLONASS 3. GPS	1. Galileo: Within the band 1559.42-1591.42 MHz 2. GLONASS: Within the band 1592.9-1610.5 MHz 3. GPS: Within the band 1563.42-1587.42 MHz
1610 - 1610.6 MHz	AERONAUTICAL RADIONAVIGATION MOBILE SATELLITE (Earth-to-space) 5.351A 5.341 5.355 5.359 5.364 5.366 5.367 5.368 5.369 5.371 5.372	AERONAUTICAL RADIONAVIGATION MOBILE SATELLITE (Earth-to-space) 5.351A 5.341 5.359 5.364 5.366 5.367 5.368 5.371 5.372	AERONAUTICAL RADIONAVIGATION MOBILE SATELLITE (Earth-to-space) 5.351A 5.341 5.359 5.364 5.366 5.367 5.368 5.371 5.372	1. Mobile Satellite applications. 2. GLONASS 3. IMT Satellite component	1. Mobile Satellite applications: ECC/DEC/(07)04, ECC/DEC/(07)05, ECC/DEC/(09)02, ERC/DEC/(97)03, ERC/DEC/(97)05 EN 301 441, EN 301473 2. GLONASS: Within the band 1592.9-1610.5 MHz 3. IMT Satellite component
1610.6 - 1613.8 MHz	AERONAUTICAL RADIONAVIGATION MOBILE SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149 5.341 5.355 5.359 5.364 5.366 5.367 5.368 5.369 5.371 5.372	AERONAUTICAL RADIONAVIGATION MOBILE SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149 5.341 5.359 5.364 5.366 5.367 5.368 5.371 5.372	AERONAUTICAL RADIONAVIGATION MOBILE SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149 5.341 5.359 5.364 5.366 5.367 5.368 5.371 5.372	1. Mobile Satellite applications 2. Radio astronomy 3. IMT Satellite component	1. Mobile Satellite applications: ECC/DEC/(07)04, ECC/DEC/(07)05, ECC/DEC/(09)02, ERC/DEC/(97)03, ERC/DEC/(97)05 EN 301 441, EN 301473 2. Radio astronomy: Spectral line observations 3. IMT Satellite component
1613.8 - 1626.5 MHz	AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space) 5.351A Mobile-Satellite (space-to-Earth) 5.347A 5.341 5.355 5.359 5.364 5.365 5.366 5.367 5.368 5.369 5.371 5.372	AERONAUTICAL RADIONAVIGATION MOBILE SATELLITE (Earth-to-space) 5.351A Mobile-satellite (space-to-Earth) 5.347A 5.341 5.359 5.364 5.365 5.366 5.367 5.368 5.371 5.372	AERONAUTICAL RADIONAVIGATION MOBILE SATELLITE (Earth-to-space) 5.351A Mobile-satellite (space-to-Earth) 5.347A 5.341 5.359 5.364 5.365 5.366 5.367 5.368 5.371 5.372	1. IMT Satellite component 2. Mobile satellite applications	1. IMT Satellite component : ECC/DEC/(07)04, ECC/DEC/(07)05, ECC/DEC/(09)02, ERC/DEC/(97)03, ERC/DEC/(97)05 EN 301 441, EN 301473 2. Mobile satellite applications
1626.5 - 1631.5 MHz	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.355 5.359	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.359	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.359	1. IMT Satellite component 2. Mobile satellite applications	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 681, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05 Priority for GMDSS Distress and safety communications

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
1631.5 - 1636.5 MHz	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.355 5.359 5.374	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.359 5.374	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.359 5.374	1. IMT Satellite component 2. Mobile satellite applications	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 444, EN 301 681, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05 Priority for GMDSS Distress and safety communications
1636.5 - 1645.5 MHz	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.355 5.359	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.359	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.359	1. IMT Satellite component 2. Mobile satellite applications	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 681, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05 Priority for GMDSS Distress and safety communications
1645.5 - 1646.5 MHz	MOBILE-SATELLITE (Earth-to-space) 5.341 5.354 5.375	MOBILE-SATELLITE (Earth-to-space) 5.341 5.354 5.375	MOBILE-SATELLITE (Earth-to-space) 5.341 5.354 5.375	1. Mobile satellite applications	1. Mobile satellite applications: EN 301426, EN301 681, EN 301 473 ECC/DEC/(07)04, ECC/DEC/(07)05 2. Search and rescue satellite systems (including GMDSS).
1646.5 - 1656.5 MHz	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.354 5.355 5.357A 5.359 5.376	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.354 5.357A 5.359 5.376	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.354 5.357A 5.359 5.376	1. IMT Satellite component 2. Mobile satellite applications	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 681, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05
1656.5 - 1660 MHz	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.354 5.355 5.359 5.362A 5.374	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.354 5.359 5.374	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.354 5.359 5.374	1. IMT Satellite component 2. Mobile satellite applications	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 681, EN 301 444, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05
1660 - 1660.5 MHz	MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149 5.341 5.351 5.354 5.362A 5.376A	MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149 5.341 5.351 5.354 5.376A EU15	MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149 5.341 5.351 5.354 5.376A EU15	1. IMT Satellite component 2. Mobile satellite applications 3. Radio astronomy	1. IMT Satellite component 2. Mobile satellite applications: EN 301 426, EN 301 681, EN 301 444, EN 301 473, ECC/DEC/(02)08, ECC/DEC/(02)11, ECC/DEC/(07)04, ECC/DEC/(07)05 3. Radio astronomy: Continuum line and VLBI Measurements
1660.5 – 1668 MHz	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.341 5.379A	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.341 5.379A EU2 EU15	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.341 5.379A EU2 EU15	1. Government Use EU15A 2. Radio astronomy applications	1. Government Use 2. Radio astronomy applications: Continuum line and VLBI measurements

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
1668 – 1668.4 MHz	MOBILE- SATELLITE (E/S) 5.348C 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.3415.379A 5.379D	MOBILE- SATELLITE (E/S) 5.348C 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.3415.379A 5.379D	MOBILE- SATELLITE (E/S) 5.348C 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.3415.379A 5.379D	1. Government Use EU15 2. Radio astronomy applications	1. Government Use 2. Radio astronomy applications: Continuum line and VLBI measurements
1668.4 - 1670 MHz	METEOROLOGICAL AIDS FIXED MOBILE except Aeronautical Mobile MOBILE- SATELLITE (E/S) 5.348C 5.379B 5.379C RADIO ASTRONOMY 5.149 5.341 5.379D 5.379E	FIXED METEOROLOGICAL AIDS MOBILE- SATELLITE (E/S) 5.348C 5.379B 5.379C RADIO ASTRONOMY Mobile except Aeronautical Mobile 5.149 5.3415.379D 5.379E EU2 EU15	FIXED METEOROLOGICAL AIDS MOBILE- SATELLITE (E/S) 5.348C 5.379B 5.379C RADIO ASTRONOMY Mobile except Aeronautical Mobile 5.149 5.3415.379D 5.379E EU2 EU15	1. Government Use EU15A 2. Meteorological applications 3. Radio astronomy applications	
1670 - 1675 MHz	FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE MOBILE- SATELLITE (E/S) 5.351A 5.379B 5.341 5.379D 5.379E 5.380A	METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (space-to-Earth) MOBILE MOBILE- SATELLITE (E/S) 5.351A 5.379B Fixed 5.341 5.379D 5.379E 5.380A	METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (space-to-Earth) MOBILE MOBILE- SATELLITE (E/S) 5.351A 5.379B Fixed 5.341 5.379D 5.379E 5.380A	1. Meteorological satellites 2. IMT satellite component 3. Mobile Satellite applications (space-to- Earth)	ECC/DEC/(02)07 1. Meteorological satellites 2. IMT satellite component 3. Mobile Satellite applications (space-to-Earth): ECC/DEC/(04)09, ECC/DEC/(07)04, ECC/DEC/(07)05
1675 - 1690 MHz	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.341	FIXED METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.341 EU2 EU15	FIXED METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.341 EU2 EU15	1. Government Use EU 15A 2. Meteorological applications	

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
1690 - 1700 MHz	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except Aeronautical Mobile 5.289 5.341 5.382	METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (space-to-Earth) Fixed Mobile except Aeronautical Mobile 5.289 5.341 5.382 EU2 EU15	METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (space-to-Earth) Fixed Mobile except Aeronautical Mobile 5.289 5.341 5.382 EU2 EU15	1. Government Use EU 15A 2. Meteorological applications.	
1700 - 1710 MHz	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.289 5.341	FIXED METEOROLOGICAL SATELLITE (space-to-Earth) Mobile except Aeronautical Mobile 5.289 5.341 EU2 EU15	FIXED METEOROLOGICAL SATELLITE (space-to- Earth) Mobile except Aeronautical Mobile 5.289 5.341 EU2 EU15	1. Government Use EU 15A 2. Meteorological applications.	
1710 - 1785 MHz	FIXED MOBILE 5.384A 5.149 5.341 5.385 5.386 5.387	FIXED MOBILE 5.384A 5.149 5.341 5.385 EU29	FIXED MOBILE 5.384A 5.149 5.341 5.385 EU15 EU29	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services : In accordance to the Decision 2008/294/EC, the Decision 2009/766/EC, the Decision 2010/166/EU and the Implementing Decision 2011/251/EU.
1785 - 1800 MHz	FIXED MOBILE 5.384A 5.387	FIXED MOBILE EU2 EU15	FIXED MOBILE EU2 EU15	1. Mobile applications. 2. Radio microphones	1. Mobile applications. 2. Radio microphones: EN 301 840, ERC REC 70-03 Within the band 1785.7-1799.4 MHz
1800 - 1805 MHz	FIXED MOBILE 5.384A 5.386	MOBILE Fixed	MOBILE Fixed		ECC/DEC/(02)07
1805 - 1880 MHz	FIXED MOBILE 5.384A 5.386	FIXED MOBILE 5.384A EU29	FIXED MOBILE 5.384A EU15 EU29	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services: In accordance to the Decision 2008/294/EC, the Decision 2009/766/EC, the Decision 2010/166/EU and the Implementing Decision 2011/251/EU.
1880 - 1885 MHz	FIXED MOBILE 5.384A	MOBILE 5.384A Fixed EU15	MOBILE 5.384A Fixed EU15	1. DECT EU33	1. DECT : EN 301 406, EN 301 908, ERC DEC (94)03

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
1885 - 1900 MHz	FIXED MOBILE 5.388A 5.388	MOBILE 5.388A Fixed 5.388 EU15	MOBILE 5.388A Fixed 5.388 EU15	1. DECT EU33	1. DECT : EN 301 406, EN 301 908, ERC DEC (94)03
1900 - 1930 MHz	FIXED MOBILE 5.388A 5.388	FIXED MOBILE 5.388A 5.388 EU15 EU16	FIXED MOBILE 5.388A 5.388 EU15 EU16	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services: In accordance to the Implementing Decision 2012/688/EU for the radiofrequency band 1920-1980 MHz. For the radiofrequency band 1900-1920 MHz: ECC/DEC/(06)01. For border coordination ERC/REC/(01)01.
1930 - 1970 MHz	FIXED MOBILE 5.388A 5.388	FIXED MOBILE 5.388A 5.388 EU15 EU16	FIXED MOBILE 5.388A 5.388 EU15 EU16	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services: In accordance to the Implementing Decision 2012/688/EU for the radiofrequency band 1920-1980 MHz.
1970 - 1980 MHz	FIXED MOBILE 5.388A 5.388	FIXED MOBILE 5.388A 5.388 EU15 EU16	FIXED MOBILE 5.388A 5.388 EU15 EU16	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services: In accordance to the Implementing Decision 2012/688/EU for the radiofrequency band 1920-1980 MHz.
1980 - 2010 MHz	FIXED MOBILE MOBILE-SATELLITE (Earth-to- space) 5.351A 5.388 5.389A 5.389B 5.389F	MOBILE MOBILE- SATELLITE (Earth-to- space) 5.351A Fixed 5.388 5.389A	MOBILE MOBILE- SATELLITE (Earth-to-space) 5.351A Fixed 5.388 5.389A	1.Mobile Satellite service 2. IMT	1. Mobile satellite service: In accordance to the Decision 2007/98/EC. 2. IMT
2010 - 2025 MHz	FIXED MOBILE 5.388A 5.388	FIXED MOBILE 5.388A 5.388 EU15 EU16	FIXED MOBILE 5.388A 5.388 EU15 EU16	1. UMTS/IMT-2000	1. UMTS/IMT-2000: ECC/DEC/(06)01. For border coordination ERC/REC/(01)01.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
2025 - 2110 MHz	SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space) 5.392	EARTH EXPLORATION SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE OPERATION (Earth-to-space) (space-to-space) SPACE RESEARCH (Earth-to-space) (space-to-space) 5.392 EU2 EU15 EU27	EARTH EXPLORATION SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE OPERATION (Earth-to-space) (space-to-space) SPACE RESEARCH (Earth-to-space) (space-to-space) 5.392 EU2 EU15 EU27	1. Fixed links 2. SAP/SAB EU16A 3. Space Science Services 4. Tactical Radio Relay EU16A	1. Fixed links: EN 301 751, ERC REC T/R 13-01 2. SAP/SAB: ERC REC 25-10 On a tuning range basis 3. Space Science Services 4. Tactical Radio Relay: Harmonised government use band for Tactical Radio Relay links for near cross border operation within the band 2025-2070 MHz
2110 - 2120 MHz	FIXED MOBILE 5.388A SPACE RESEARCH (deep space) (Earth-to-space) 5.388	FIXED MOBILE 5.388A SPACE RESEARCH (deep space) (Earth-to-space) 5.388 EU15 EU16	FIXED MOBILE 5.388A SPACE RESEARCH (deep space) (Earth-to-space) 5.388 EU15 EU16	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services: In accordance to the Implementing Decision 2012/688/EU.
2120 - 2170 MHz	FIXED MOBILE 5.388A 5.388 5.392A	FIXED MOBILE 5.388A 5.388 EU15 EU16	FIXED MOBILE 5.388A 5.388 EU15 EU16	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services: In accordance to the Implementing Decision 2012/688/EU.
2170 - 2200 MHz	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A 5.388 5.389A 5.3892F	MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A Fixed 5.388 5.389A	MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A Fixed 5.388 5.389A	1. Mobile Satellite service 2. IMT satellite component	1. Mobile satellite service: In accordance to the Decision 2007/98/EC. 2. IMT satellite component

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
2200 - 2290 MHz	SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (space-to-Earth) (space-space) 5.392	EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 5.391 SPACE OPERATION (space-to-Earth) (space-to-space) SPACE RESEARCH (space-to-Earth) (space-to-space) 5.392 EU15 EU27	EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 5.391 SPACE OPERATION (space-to-Earth) (space-to-space) SPACE RESEARCH (space-to-Earth) (space-to-space) 5.392 EU15 EU27	1. Fixed links 2. Radio astronomy applications 3.SAP/SAB EU16A 4. Space Science Services 5. Tactical Radio Relay EU16A	1. Fixed links: EN 301 751, ERC REC T/R 13-01 2. Radio astronomy applications: VLBI 3.SAP/SAB: ERC REC 25-10 On a tuning range basis 4. Space Science Services 5. Tactical Radio Relay: Harmonised government use band for Tactical Radio Relay links for near cross border operation within the band 2200-2245 MHz
2290 - 2300 MHz	FIXED MOBILE except Aeronautical Mobile SPACE RESEARCH (deep space) (space-to-Earth)	FIXED MOBILE except Aeronautical Mobile SPACE RESEARCH (deep space) (space-to-Earth) EU2	FIXED MOBILE except Aeronautical Mobile SPACE RESEARCH (deep space) (space-to-Earth) EU2	1. Mobile applications.	
2300 - 2400 MHz	FIXED MOBILE Amateur Radiolocation 5.395	FIXED MOBILE Amateur Radiolocation EU2 EU15	FIXED MOBILE Amateur Radiolocation EU2 EU15	1. Aeronautical Telemetry 2. Amateur applications 3. Mobile applications 4. SAP/SAB	1. Aeronautical Telemetry: ERC REC 62-02 Parts of the band are used for aeronautical telemetry on a national basis 2. Amateur applications: EN 301 783 3. Mobile applications 4. SAP/SAB: ERC REC 25-10
2400 - 2450 MHz	FIXED MOBILE Amateur Radiolocation 5.395	FIXED MOBILE Amateur Amateur satellite 5.150 5.282 EU2 EU15	FIXED MOBILE Amateur Amateur satellite 5.150 5.282 EU2 EU15	1. Amateur applications 2. Amateur Satellite applications 3. Automatic Vehicle Identification 4. ISM 5. Radiodetermination applications 6. Non specific SRD 7. RFID 8. Wideband data transmission systems	1. Amateur applications: EN 301 783 2. Amateur Satellite applications: EN 301 783 3. Automatic Vehicle Identification: EN 300 761, ERC REC 70-03, 2446-2454 MHz 4. ISM 5. Radiodetermination applications: In accordance to the Decision 2009/381/EC 6. Non specific SRD: In accordance to the Decision 2006/771/EC. 7. RFID: In accordance to the Implementing Decision 2011/829/EU in the band 2446-2454 MHz 8. Wideband data transmission systems: In accordance to the Decision 2009/381/EC

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
2450 - 2483.5 MHz	FIXED MOBILE Radiolocation 5.150 5.397	FIXED MOBILE 5.150 EU2 EU15	FIXED MOBILE 5.150 EU2 EU15	1. ISM 2. Motion sensors 3. Automatic Vehicle Identification 4. Non specific SRD 5. RFID 6. Wideband data transmission systems	1. ISM 2. Motion sensors. EN 300 440, ERC DEC (01)08 3. Automatic Vehicle Identification: EN 300 761, ERC REC 70-03, 2446-2454 MHz 4. Non specific SRD: In accordance to the Decision 2006/771/EC. 5. RFID: In accordance to the Implementing Decision 2011/829/EU in the band 2446-2454 MHz 6. Wideband data transmission systems: In accordance to the Decision 2009/381/EC
2483.5 - 2500 MHz	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A Radiolocation 5.150 5.371 5.397 5.398 5.399 5.400 5.402	FIXED MOBILE MOBILE- SATELLITE (space-to-Earth) 5.351A 5.150 5.371 5.398 5.402	FIXED MOBILE MOBILE- SATELLITE (space-to-Earth) 5.351A 5.150 5.371 5.398 5.402 EU15	1. IMT Satellite Component 2. ISM 3. Mobile applications 4. Mobile Satellite applications 5. SAP/SAB	1. IMT Satellite Component 2. ISM 3. Mobile applications 4. Mobile Satellite applications: EN 301 441, EN 301 473, ECC/DEC/(07)04, ECC/DEC/(07)05, ECC/DEC/(09)02, ERC/DEC/(97)03 ERC/DEC/(97)05 5. SAP/SAB: ERC REC 25-10
2500 - 2520 MHz	FIXED 5.409 5.410 5.411 MOBILE except Aeronautical Mobile 5.384A MOBILE-SATELLITE (space-to-Earth) 5.403 5.351A 5.405 5.412 5.414	MOBILE except Aeronautical Mobile 5.384A MOBILE- SATELLITE (space-to-Earth) 5.403 5.351A Fixed 5.414 EU15	MOBILE except Aeronautical Mobile 5.384A MOBILE- SATELLITE (space-to-Earth) 5.403 5.351A Fixed 5.414 EU15	1.Mobile satellite applications 2.Terrestrial systems capable of providing electronic communication services	1.Mobile satellite applications 2. Terrestrial systems capable of providing electronic communication services: In accordance to the Decision 2008/477/EC for the radiofrequency band 2500-2690 MHz
2520 - 2655 MHz	FIXED 5.409 5.410 5.411 MOBILE except Aeronautical Mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 5.339 5.403 5.405 5.412 5.417C 5.417D 5.418B 5.418C	FIXED MOBILE except Aeronautical Mobile 5.384A 5.339 5.418B 5.418C EU2 EU15 EU16	FIXED MOBILE except Aeronautical Mobile 5.384A 5.339 5.418B 5.418C EU2 EU15 EU16	1. Government Use 2. Fixed links 3. SAP/SAB 4. Terrestrial systems capable of providing electronic communication services	1. Government Use 2. Fixed links: EN 301 751, ERC REC T/R 13-01 3. SAP/SAB: ERC REC 25-10 On a tuning range basis until UMTS/IMT2000 is implemented 4. Terrestrial systems capable of providing electronic communication services: In accordance to the Decision 2008/477/EC for the radiofrequency band 2500-2690 MHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
2655 - 2670 MHz	FIXED 5.409 5.410 5.411 MOBILE except Aeronautical Mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149 5.347A 5.412 5.420	FIXED MOBILE except Aeronautical Mobile 5.384A Earth Exploration-Satellite (passive) Radio astronomy Space research (passive) 5.149 EU2 EU15 EU16	FIXED MOBILE except Aeronautical Mobile 5.384A Earth Exploration-Satellite (passive) Radio astronomy Space research (passive) 5.149 EU2 EU15 EU16	1. Fixed links 2. Radio astronomy applications 3. SAP/SAB 4. Terrestrial systems capable of providing electronic communication services	1. Fixed links: EN 301 751, ERC REC T/R 13-01 2. Radio astronomy applications: Continuum measurements 3. SAP/SAB: ERC REC 25-10 On a tuning range basis until UMTS/IMT2000 is implemented 4. Terrestrial systems capable of providing electronic communication services: In accordance to the Decision 2008/477/EC for the radiofrequency band 2500-2690 MHz
2670 - 2690 MHz	FIXED 5.409 5.410 5.411 MOBILE except Aeronautical Mobile 5.384A MOBILE-SATELLITE (Earth-to- space) 5.351A Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149 5.347A 5.412 5.419 5.420	MOBILE except Aeronautical Mobile 5.384A MOBILE- SATELLITE (Earth-to- space) 5.351A Fixed Radio Astronomy 5.149 5.419 5.420 EU15	MOBILE except Aeronautical Mobile 5.384A MOBILE- SATELLITE (Earth-to-space) 5.351A Fixed Radio Astronomy 5.149 5.419 5.420 EU15	1. Mobile satellite applications 2. Radio astronomy applications 3. Terrestrial systems capable of providing electronic communication services	1. Mobile satellite applications 2. Radio astronomy applications: Continuum measurements 3. Terrestrial systems capable of providing electronic communication services: In accordance to the Decision 2008/477/EC for the radiofrequency band 2500-2690 MHz
2690 - 2700 MHz	EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.421 5.422	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	1. Passive applications.	
2700 - 2900 MHz	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423	1. Meteorological radars. 2. Radars and Navigation Systems.	
2900 - 3100 MHz	RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 5.427	RADIOLOCATION RADIONAVIGATION 5.426 5.424A 5.425 5.427	RADIOLOCATION RADIONAVIGATION 5.426 5.424A 5.425 5.427	1. 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	RADIOLOCATION Earth Exploration-Satellite (active) Space Research (active) 5.149	1. Radars and Active Sensors.	

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
3300 - 3400 MHz	RADIOLOCATION 5.149 5.430	RADIOLOCATION 5.149	RADIOLOCATION 5.149	1. Radars	1. Radars: Upper limit for airborne radars 3410 MHz
3400 - 3500 MHz	FIXED FIXED-SATELLITE (space-to-Earth) Mobile Radiolocation 5.431	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Amateur Radiolocation	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Amateur Radiolocation	1. Amateur applications EU17 2. Radars 3. Terrestrial systems capable of providing electronic communication services	1. Amateur applications: EN 301 783, EU17 within the band 3400-3410 MHz 2. Radars: Upper limit for airborne radars is 3410 MHz 3. Terrestrial systems capable of providing electronic communication services: In accordance to the Decision 2008/411/EC for the radiofrequency band 3400-3800 MHz
3500 - 3600 MHz	FIXED FIXED-SATELLITE (space-to-Earth) Mobile Radiolocation	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	1. Terrestrial systems capable of providing electronic communication services	1. Terrestrial systems capable of providing electronic communication services: In accordance to the Decision 2008/411/EC for the radiofrequency band 3400-3800 MHz
3600 - 3800 MHz	FIXED FIXED-SATELLITE (space-to-Earth) Mobile	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	1. FSS 2. Terrestrial systems capable of providing electronic communication services 3. Medium/High capacity fixed links.	1. FSS: EN 301 443 EN 301 ECC/DEC/(05)09 2. Terrestrial systems capable of providing electronic communication services: In accordance to the Decision 2008/411/EC for the radiofrequency band 3400-3800 MHz 3. Medium/High capacity fixed links: EN 301 751, ERC REC 12-08
3800 - 4200 MHz	FIXED FIXED-SATELLITE (space-to-Earth) Mobile	FIXED FIXED-SATELLITE (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth)	1. FSS. 2. Medium/High capacity fixed links.	1. FSS: EN 301 443 EN 301 447 ECC/DEC/(05)09 2. Medium/High capacity fixed links: EN 301 751, ERC REC 12-08
4200 - 4400 MHz	AERONAUTICAL RADIONAVIGATION 5.438 5.440	AERONAUTICAL RADIONAVIGATION 5.438 5.440 EU18	AERONAUTICAL RADIONAVIGATION 5.438 5.440 EU18	1. Earth Exploration Satellite systems 2. Radio altimeters.	1. Earth Exploration Satellite systems: For sea surface temperature measurements 2. Radio altimeters.
4400 - 4500 MHz	FIXED MOBILE	FIXED MOBILE EU2 EU27	FIXED MOBILE EU2 EU27	1. Government Use EU20 2. Mobile applications 3. Transhorizon links. EU20	1. Government Use: Harmonised military band for fixed and mobile systems 2. Mobile applications: For coordinated SAB/SAP applications for occasional use 3. Transhorizon links

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
4500 - 4800 MHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE EU27	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE EU27	1. Coordinated Earth stations in FSS. 2. Government Use EU20 3. Mobile applications 4. Transhorizon links EU20	1. Coordinated Earth stations in FSS: Fixed-Satellite service not to be implemented in NATO Europe. Fixed-Satellite frequency plan in 4500-4800 MHz 2. Government Use: Harmonised band for fixed and mobile systems 3. Mobile applications: For coordinated SAB/SAP applications for occasional use 4. Transhorizon links
4800 - 4990 MHz	FIXED MOBILE 5.442 Radio Astronomy 5.149 5.339	FIXED MOBILE except Aeronautical Mobile Radio Astronomy 5.149 5.339 EU27	FIXED MOBILE except Aeronautical Mobile Radio Astronomy 5.149 5.339 EU27	1. Government Use EU20 2. Mobile applications 3. Passive applications 4. Radio astronomy applications	1. Government Use: Harmonised band for fixed and mobile systems 2. Mobile applications: For coordinated SAB/SAP applications for occasional use 3. Passive applications: Space Research and EES (passive) above 4950 MHz in some countries. Continuum measurements 4. Radio astronomy applications: Continuum measurements 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	FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149 EU27	1. Government Use EU20 2. Mobile applications 3. Radio astronomy applications	1. Government Use: Harmonised military band for fixed and mobile systems 2. Mobile applications: For coordinated SAB/SAP applications for occasional use 3. Radio astronomy applications: Continuum measurements and VLBI
5000 - 5010 MHz	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (E/S) 5.367 5.443B	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (E/S) Radio Astronomy Space Research (passive) 5.367 5.443B	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (E/S) Radio Astronomy Space Research (passive) 5.367 5.443B	1. Radio astronomy applications 2. Satellite Navigation	1. Radio astronomy applications: VLBI observations 2. Aeronautical Radionavigation and Fixed Satellite Service envisaged in some countries
5010 - 5030 MHz	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (S/E) (S/S) 5.443B 5.328B 5.367	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (S/E) (S/S) 5.443B 5.328B Radio Astronomy Space Research (passive) 5.367	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (S/E) (S/S) 5.443B 5.328B Radio Astronomy Space Research (passive) 5.367	1. Radio astronomy applications 2. Satellite Navigation	1. Radio astronomy applications: VLBI observations 2. Aeronautical Radionavigation and Fixed Satellite Service envisaged in some countries

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
5030 - 5150 MHz	AERONAUTICAL RADIONAVIGATION 5.367 5.444 5.444A	AERONAUTICAL RADIONAVIGATION 5.367 5.443B 5.444 5.444A EU18	AERONAUTICAL RADIONAVIGATION 5.367 5.443B 5.444 5.444A EU18	1. MLS	Aeronautical Radionavigation envisaged in some countries. Fixed Satellite Service in use in some countries
5150 - 5250 MHz	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except Aeronautical Mobile 5.446A 5.446B 5.446 5.447 5.447B 5.447C	FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except Aeronautical Mobile 5.446A 5.446B 5.446 5.447 5.447B 5.447C	FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except Aeronautical Mobile 5.446A 5.446B 5.446 5.447 5.447B 5.447C	1. Feeder links for MSS 2. Wireless Access Systems including Radio Local Area Networks (WAS/RLAN)	1. Feeder links for MSS: Aeronautical Radionavigation and Fixed Satellite Service envisaged in some countries. 2. Wireless Access Systems including Radio Local Area Networks (WAS/RLAN): In accordance to the Decisions 2005/513/EC and 2007/90/EC.
5250 - 5255 MHz	EARTH EXPLORATION-SATELLITE (active) MOBILE except Aeronautical Mobile 5.446A 5.447F RADIOLOCATION SPACE RESEARCH 5.447D 5.448 5.448A	EARTH EXPLORATION-SATELLITE (active) MOBILE except Aeronautical Mobile 5.446A 5.447F RADIOLOCATION SPACE RESEARCH 5.447D 5.448A EU22	EARTH EXPLORATION-SATELLITE (active) MOBILE except Aeronautical Mobile 5.446A 5.447F RADIOLOCATION SPACE RESEARCH 5.447D 5.448A EU22	1. Active Sensors 2. Wireless Access Systems including Radio Local Area Networks (WAS/RLAN) 3. Position fixing 4. Shipborne and VTS radar 5. Tactical radars 6. Weapon system radars 7. Weather radars	1. Active Sensors 2. Wireless Access Systems including Radio Local Area Networks (WAS/RLAN): In accordance to the Decisions 2005/513/EC and 2007/90/EC 3. Position fixing 4. Shipborne and VTS radar 5. Tactical radars 6. Weapon system radars 7. 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) 5.448 5.448A	EARTH EXPLORATION-SATELLITE (active) MOBILE except Aeronautical Mobile 5.446A 5.447F RADIOLOCATION SPACE RESEARCH (active) 5.448A EU22	EARTH EXPLORATION-SATELLITE (active) MOBILE except Aeronautical Mobile 5.446A 5.447F RADIOLOCATION SPACE RESEARCH (active) 5.448A EU22	1. Active Sensors 2. Wireless Access Systems including Radio Local Area Networks (WAS/RLAN) 3. Position fixing 4. Shipborne and VTS radar 5. Tactical radars 6. Weapon system radars 7. Weather radars	1. Active Sensors 2. Wireless Access Systems including Radio Local Area Networks (WAS/RLAN): In accordance to the Decisions 2005/513/EC and 2007/90/EC 3. Position fixing 4. Shipborne and VTS radar 5. Tactical radars 6. Weapon system radars 7. Weather radars: Ground based and airborne

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
5350 - 5450 MHz	EARTH EXPLORATION-SATELLITE (active) 5.448B AERONAUTICAL RADIONAVIGATION 5.449 RADIOLOCATION 5.448D SPACE RESEARCH (active) 5.448C	AERONAUTICAL RADIONAVIGATION 5.449 EARTH EXPLORATION-SATELLITE (active) 5.448B RADIOLOCATION 5.448D SPACE RESEARCH (active) 5.448C Fixed EU22	AERONAUTICAL RADIONAVIGATION 5.449 EARTH EXPLORATION-SATELLITE (active) 5.448B RADIOLOCATION 5.448D SPACE RESEARCH (active) 5.448C Fixed EU22	1. Active Sensors 2. Position fixing 3. Shipborne and VTS radar 4. Tactical radars 5. Weapon system radars 6. Weather radars	1. Active Sensors 2. Position fixing 3. Shipborne and VTS radar 4. Tactical radars 5. Weapon system radars 6. Weather radars: Ground based and airborne
5450 - 5460 MHz	EARTH EXPLORATION-SATELLITE (active) 5.448B AERONAUTICAL RADIONAVIGATION 5.449 RADIOLOCATION 5.448D SPACE RESEARCH (active) 5.448C	AERONAUTICAL RADIONAVIGATION 5.449 EARTH EXPLORATION-SATELLITE (active) 5.448B RADIOLOCATION 5.448D SPACE RESEARCH (active) 5.448C EU22	AERONAUTICAL RADIONAVIGATION 5.449 EARTH EXPLORATION-SATELLITE (active) 5.448B RADIOLOCATION 5.448D SPACE RESEARCH (active) 5.448C EU22	1. Active Sensors 2. Position fixing 3. Shipborne and VTS radar 4. Tactical radars 5. Weapon system radars 6. Weather radars	1. Active Sensors 2. Position fixing 3. Shipborne and VTS radar 4. Tactical radars 5. Weapon system radars 6. Weather radars: Ground based and airborne
5460 - 5470 MHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION 5.448D RADIONAVIGATION 5.449 SPACE RESEARCH (active) 5.448C	RADIONAVIGATION 5.449 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION 5.448D RADIONAVIGATION 5.449 SPACE RESEARCH (active) 5.448C EU22	RADIONAVIGATION 5.449 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION 5.448D RADIONAVIGATION 5.449 SPACE RESEARCH (active) 5.448C EU22	1. Position fixing 2. Shipborne and VTS radar 3. Tactical radars 4. Weapon system radars 5. Weather radars 6. Active sensors	1. Position fixing 2. Shipborne and VTS radar 3. Tactical radars 4. Weapon system radars 5. Weather radars: Ground based and airborne 6. Active sensors
5470 - 5570 MHz	EARTH EXPLORATION-SATELLITE (active) MARITIME RADIONAVIGATION MOBILE except Aeronautical Mobile 5.446A 5.450A RADIOLOCATION 5.450B SPACE RESEARCH (active) 5.448B 5.450 5.451 5.452	RADIOLOCATION 5.450B EARTH EXPLORATION-SATELLITE (active) MARITIME RADIONAVIGATION MOBILE except Aeronautical Mobile 5.446A 5.450A SPACE RESEARCH (active) 5.448B 5.452 EU22	RADIOLOCATION 5.450B EARTH EXPLORATION-SATELLITE (active) MARITIME RADIONAVIGATION MOBILE except Aeronautical Mobile 5.446A 5.450A SPACE RESEARCH (active) 5.448B 5.452 EU22	1 Wireless Access Systems including Radio Local Area Networks (WAS/RLAN) 2. Position fixing 3. Shipborne and VTS radar 4. Tactical radars 5. Weapon system radars 6. Weather radars 7. Active sensors	1. Wireless Access Systems including Radio Local Area Networks (WAS/RLAN): EN 301 893, EC DEC 2005/513/EC 2. Position fixing 3. Shipborne and VTS radar 4. Tactical radars 5. Weapon system radars 6. Weather radars: Ground based and airborne 7. Active sensors

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
5570 - 5650 MHz	MARITIME RADIONAVIGATION MOBILE except Aeronautical Mobile 5.446A 5.450A RADIOLOCATION 5.450B 5.450 5.451 5.452	MARITIME RADIONAVIGATION MOBILE except Aeronautical Mobile 5.446A 5.450A RADIOLOCATION 5.450B 5.452	MARITIME RADIONAVIGATION MOBILE except Aeronautical Mobile 5.446A 5.450A RADIOLOCATION 5.450B 5.452	1. Wireless Access Systems including Radio Local Area Networks (WAS/RLAN) 2. Position fixing 3. Shipborne and VTS radar 4. Tactical radars 5. Weapon system radars 6. Weather radars	1. Wireless Access Systems including Radio Local Area Networks (WAS/RLAN): EN 301 893, EC DEC 2005/513/EC 2. Position fixing 3. Shipborne and VTS radar 4. Tactical radars 5. Weapon system radars 6. Weather radars: Single frequency use - 5625 MHz. In 2010 the use of the service will be re-examined
5650 - 5725 MHz	MOBILE except Aeronautical Mobile 5.446A 5.450A RADIOLOCATION Amateur Space Research (deep space) 5.282 5.451 5.454 5.455	MOBILE except Aeronautical Mobile 5.446A 5.450A RADIOLOCATION Amateur 5.282 EU17 EU22	MOBILE except Aeronautical Mobile 5.446A 5.450A RADIOLOCATION Amateur 5.282 EU17 EU22	1. Amateur applications EU17 2. Amateur Satellite applications (E/S) EU23 3. Wireless Access Systems including Radio Local Area Networks (WAS/RLAN) 4. Position fixing 5. Shipborne and VTS radar 6. Tactical radars 7. Weapon system radars 8. Weather radars	1. Amateur applications: EN 301 783, Within 5660- 5670 MHz 2. Amateur Satellite applications (E/S): EN 301 783, Within 5660-5670 MHz 3. Wireless Access Systems including Radio Local Area Networks (WAS/RLAN): EN 301 893, EC DEC 2005/513/EC 4. Position fixing 5. Shipborne and VTS radar 6. Tactical radars 7. Weapon system radars 8. Weather radars: Ground based and airborne
5725 - 5830 MHz	FIXED-SATELLITE (Earth-to- space) RADIOLOCATION Amateur 5.150 5.451 5.455 5.456	FIXED-SATELLITE (Earth-to- space) RADIOLOCATION Amateur Mobile 5.150 EU22	FIXED-SATELLITE (Earth- to-space) RADIOLOCATION Amateur Mobile 5.150 EU22	1. Amateur applications 2. ISM 3. Non civil radiolocation 4. Non specific SRD 5. Road Transport and Traffic Telematic Systems (RTTT) 6. Weather radars	1. Amateur applications: EN 301 783 2. ISM : Within the band 5725-5875 MHz 3. Non civil radiolocation 4. Non specific SRD: In accordance to the Decision 2006/771/EC 5. Road Transport and Traffic Telematic Systems (RTTT): EN 300 674, ECC DEC (02)01, ERC REC 70- 03 Within the band 5795-5805 MHz. RTTT in the band 5805-5815 MHz on a national basis 6. Weather radars: Ground based and airborne

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
5830 - 5850 MHz	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur-Satellite (space-to-Earth) 5.150 5.451 5.455 5.456	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur-Satellite (space-to-Earth) Mobile 5.150 EU22	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur-Satellite (space-to-Earth) Mobile 5.150 EU22	1. Amateur Satellite applications (S/E) EU23 2. ISM 3. Non civil radiolocation 4. Non specific SRD 5. Weather radars	1. Amateur Satellite applications (S/E): Within the band 5830-5850 MHz 2. ISM: Within the band 5725-5875 MHz 3. Non civil radiolocation 4. Non specific SRD: : In accordance to the Decision 2006/771/EC 5. Weather radars: Ground based and airborne
5850 - 5925 MHz	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.150	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.150	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.150	1. Coordinated Earth Stations in FSS. 2. ISM 3. Intelligent Transport Systems (ITS)	1. Coordinated Earth stations in FSS: EN 301 443 Priority for civil networks. 2. ISM : Within the band 5725-5875 MHz 3. Intelligent Transport Systems (ITS): In accordance to the Decision 2008/671/EC for the radiofrequency band 5875-5905 MHz
5925 - 6425 MHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B MOBILE 5.457C	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A	1. FSS. 2. Medium/High capacity fixed links	1. FSS: EN 301 443 EN 301 447. ECC/DEC/(05)09 2. Medium/High capacity fixed links: EN 301 751, ERC REC 14-01
6425 - 6700 MHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B MOBILE 5.149 5.440 5.458	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A Earth Exploration-Satellite (passive) 5.149 5.440 5.458	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A Earth Exploration-Satellite (passive) 5.149 5.440 5.458	1. Coordinated Earth Stations in FSS. 2. Earth Exploration Satellite systems 3. Medium/High capacity fixed links	1. Coordinated Earth stations in FSS: EN 301 443 Priority for civil networks 2. Earth Exploration Satellite systems: For sea surface temperature measurements 3. Medium/High capacity fixed links: EN 301 751, ERC REC 14-02
6700 - 7075 MHz	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441 MOBILE 5.458 5.458A 5.458B 5.458C	FIXED FIXED-SATELLITE (Earth-to-space) 5.441 Earth Exploration-Satellite (passive) 5.458 5.458A 5.458B 5.458C	FIXED FIXED-SATELLITE (Earth-to-space) 5.441 Earth Exploration-Satellite (passive) 5.458 5.458A 5.458B 5.458C	1. Earth Exploration Satellite systems 2. Feederlinks for MSS 3. Fixed Satellite applications 4. Medium/High capacity fixed links	1. Earth Exploration Satellite systems: For sea surface temperature measurements 2. Feederlinks for MSS: Within the band 6925-7075 MHz. 3. Fixed Satellite applications: Within the band 6725-7025 MHz. Priority for civil networks. 4. Medium/High capacity fixed links: EN 301 751, ERC REC 14-02
7075 - 7145 MHz	FIXED MOBILE 5.458 5.459	FIXED Earth Exploration-Satellite (passive) 5.458	FIXED Earth Exploration-Satellite (passive) 5.458	1. Earth Exploration Satellite systems 2. Medium/High capacity fixed links	1. Earth Exploration Satellite systems: For sea surface temperature measurements 2. Medium/High capacity fixed links: EN 301 751, ERC REC 14-02

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
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 MOBILE SPACE RESEARCH (E/S) 5.460 Earth Exploration-Satellite (E/S) Space Operation (E/S) 5.458	1. Earth Exploration Satellite systems 2. Fixed links	1. Earth Exploration Satellite systems: For sea surface temperature measurements 2. Fixed links: EN 301 751, ECC REC 02-06
7235 - 7250 MHz	FIXED MOBILE 5.458	FIXED Earth Exploration-Satellite (Earth- to-space) Space Operation (Earth-to-space) Space Research (Earth-to-space)	FIXED Earth Exploration-Satellite (Earth-to-space) Space Operation (Earth-to- space) Space Research (Earth-to- space)	1. Earth Exploration Satellite systems 2. Fixed links	1. Earth Exploration Satellite systems: For sea surface temperature measurements 2. Fixed links: EN 301 751, ECC REC 02-06
7250 - 7300 MHz	FIXED FIXED-SATELLITE (space-to- Earth) MOBILE 5.461	FIXED FIXED-SATELLITE (space-to- Earth) MOBILE 5.461 EU2 EU27	FIXED FIXED-SATELLITE (space- to-Earth) MOBILE 5.461 EU2 EU27	1. Government Use 2. Fixed links 3. Mobile satellite applications	1. Government Use: Harmonised band for satellite operation 2. Fixed links: EN 301 751, ECC REC 02-06, FIXED and MOBILE services not to be implemented in most NATO countries 3. Mobile satellite applications: Within the band 7250- 7375 MHz
7300 - 7450 MHz	FIXED FIXED-SATELLITE (space-to- Earth) MOBILE except Aeronautical Mobile 5.461	FIXED FIXED-SATELLITE (space-to- Earth) MOBILE except Aeronautical Mobile 5.461 EU2 EU27	FIXED FIXED-SATELLITE (space- to-Earth) MOBILE except Aeronautical Mobile 5.461 EU2 EU27	1. Government Use 2. Fixed links 3. Mobile satellite applications	1. Government Use: Harmonised band for satellite operation 2. Fixed links: EN 301 751, ECC REC 02-06 3. Mobile satellite applications: Within the band 7250- 7375 MHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
7450 - 7550 MHz	FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.461A	FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.461A EU2 EU27	FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.461A EU2 EU27	1. Government Use 2. Fixed links 3. Meteorological Satellite	1. Government Use: Harmonised band for satellite operation 2. Fixed links: EN 301 751, ECC REC 02-06 3. Meteorological Satellite: Limited to geostationary systems
7550 - 7750 MHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile EU2 EU27	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile EU2 EU27	1. Government Use 2. Fixed links	1. Government Use: Harmonised band for satellite operation 2. Fixed links: EN 301 751, ECC REC 02-06
7750 - 7850 MHz	FIXED METEOROLOGICAL SATELLITE (space-to-Earth) 5.461B MOBILE except Aeronautical Mobile	FIXED METEOROLOGICAL SATELLITE (space-to-Earth) 5.461B MOBILE except Aeronautical Mobile EU2	FIXED METEOROLOGICAL SATELLITE (space-to-Earth) 5.461B MOBILE except Aeronautical Mobile EU2	1. Government Use 2. Fixed links 3. Meteorological Satellite	1. Government Use 2. Fixed links: EN 301 751, ECC REC 02-06 3. Meteorological Satellite: Limited to non-geostationary systems
7850 – 7900 MHz	FIXED MOBILE except Aeronautical Mobile	FIXED MOBILE except Aeronautical Mobile	FIXED MOBILE except Aeronautical Mobile	1. Government Use 2. Fixed links	1. Government Use 2. Fixed links: EN 301 751, ECC REC 02-06
7900 - 8025 MHz	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.461	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.461 EU2 EU27	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.461 EU2 EU27	1. Government Use 2. Fixed links 3. Mobile satellite applications	1. Government Use 2. Fixed links: EN 301 751, ECC REC 02-06, FIXED and MOBILE services not to be implemented above 7975 MHz in NATO countries 3. Mobile satellite applications

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
8025 - 8175 MHz	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A EU2 EU27	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A EU2 EU27	1. Government Use 2. Earth Exploration Satellite systems 3. Fixed links 4. Mobile applications	1. Government Use: Harmonised band for satellite operation 2. Earth Exploration Satellite systems 3. Fixed links: EN 301 751, ECC REC 02-06 4. Mobile applications: Within the band 8025-8200 MHz
8175 - 8215 MHz	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A EU2 EU27	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A EU2 EU27	1. Government Use 2. Earth Exploration Satellite systems 3. Fixed links 4. Mobile applications	1. Government Use: Harmonised band for satellite operation 2. Earth Exploration Satellite systems 3. Fixed links: EN 301 751, ECC REC 02-06 4. Mobile applications: Within the band 8025-8200 MHz
8215 - 8400 MHz	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) 5.462A 5.463 EU2 EU27	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) 5.462A 5.463 EU2 EU27	1. Government Use 2. Earth Exploration Satellite systems 3. Fixed links 4. Radio astronomy applications	1. Government Use: Harmonised band for satellite operation 2. Earth Exploration Satellite systems 3. Fixed links: EN 301 751, ECC REC 02-06 4. Radio astronomy applications: VLBI observations
8400 - 8500 MHz	FIXED MOBILE except Aeronautical Mobile SPACE RESEARCH (space-to-Earth) 5.465 5.467	FIXED SPACE RESEARCH (space-to-Earth) 5.465 Radiolocation	FIXED SPACE RESEARCH (space-to-Earth) 5.465 Radiolocation	1. Fixed links	1. Fixed links: EN 301 751, ECC REC 02-06

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
8500 - 8550 MHz	RADIOLOCATION 5.469	RADIOLOCATION 5.469 EU2 EU24	RADIOLOCATION 5.469 EU2 EU24	1. Civil and non-civil aeronautical radionavigation systems e.g. airfield approach.  2. Shipborne, land and airborne surveillance and weapon radars.	
8550 - 8650 MHz	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.469 5.469A	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.469 5.469A EU2 EU24	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.469 5.469A EU2 EU24	1. Civil and non-civil aeronautical radionavigation systems e.g. airfield approach. 2. Shipborne, land and airborne surveillance and weapon radars. 3. Spaceborne active sensors	
8650 - 8750 MHz	RADIOLOCATION 5.469	RADIOLOCATION 5.469 EU2 EU24	RADIOLOCATION 5.469 EU2 EU24	1. Civil and non-civil aeronautical radionavigation systems e.g. airfield approach.  2. Shipborne, land and airborne surveillance and weapon radars.	
8750 - 8850 MHz	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470 5.471	AERONAUTICAL RADIONAVIGATION 5.470 RADIOLOCATION Space Research EU2 EU24	AERONAUTICAL RADIONAVIGATION 5.470 RADIOLOCATION Space Research EU2 EU24	1. Civil and non-civil aeronautical radionavigation systems e.g. airfield approach.  2. Shipborne, land and airborne surveillance and weapon radars.	

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
8850 - 9000 MHz	RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473	MARITIME RADIONAVIGATION 5.472 RADIOLOCATION Space Research 5.473 EU2 EU24	MARITIME RADIONAVIGATION 5.472 RADIOLOCATION Space Research 5.473 EU2 EU24	1. Civil and non-civil aeronautical radionavigation systems e.g. airfield approach.  2. Shipborne, land and airborne surveillance and weapon radars.	
9000 - 9200 MHz	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.471	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation Space Research EU2 EU24	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation Space Research EU2 EU24	1. Civil and non-civil aeronautical radionavigation systems e.g. airfield approach.  2. Shipborne, land and airborne surveillance and weapon radars.	
9200 - 9300 MHz	RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473 5.474	MARITIME RADIONAVIGATION 5.472 RADIOLOCATION Space Research 5.473 5.474 EU2 EU24	MARITIME RADIONAVIGATION 5.472 RADIOLOCATION Space Research 5.473 5.474 EU2 EU24	1. Civil and non-civil aeronautical radionavigation systems e.g. airfield approach. 2. Motion sensors 3. Shipborne, land and airborne surveillance and weapon radars.	2. Motion sensors: EN 300 440, ERC REC 70-03
9300 - 9500 MHz	RADIONAVIGATION 5.476 Radiolocation 5.427 5.474 5.475	RADIONAVIGATION 5.476 Radiolocation Space Research 5.427 5.474 5.475 EU2 EU24	RADIONAVIGATION 5.476 Radiolocation Space Research 5.427 5.474 5.475 EU2 EU24	1. Civil and non-civil aeronautical radionavigation systems e.g. airfield approach. 2. Motion sensors 3. Shipborne, land and airborne surveillance and weapon radars.	2. Motion sensors: EN 300 440, ERC REC 70-03

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
9500 - 9800 MHz	EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.476A	EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.476A EU2 EU24	EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.476A EU2 EU24	1. Civil and non-civil aeronautical radionavigation systems e.g. airfield approach. 2. Motion sensors 3. Shipborne, land and airborne surveillance and weapon radars. 4. Spaceborne active sensors	2. Motion sensors: EN 300 440, ERC REC 70-03
9800 - 10000 MHz	RADIOLOCATION Fixed 5.477 5.478 5.479	RADIOLOCATION Space Research 5.479 EU2 EU24	RADIOLOCATION Space Research 5.479 EU2 EU24	1. Civil and non-civil aeronautical radionavigation systems e.g. airfield approach. 2. Motion sensors 3. Shipborne, land and airborne surveillance and weapon radars.	2. Motion sensors: EN 300 440, ERC REC 70-03 Within the band 9500-9975 MHz
10 - 10.15 GHz	FIXED MOBILE RADIOLOCATION Amateur 5.479	FIXED MOBILE RADIOLOCATION Amateur 5.479 EU2	FIXED MOBILE RADIOLOCATION Amateur 5.479 EU2	1. Amateur applications 2. Non civil radar 3. SAP/SAB applications EU17A	1. Amateur applications: EN 301783 2. Non civil radar 3. SAP/SAB applications: ERC REC 25-10
10.15 - 10.30 GHz	FIXED MOBILE RADIOLOCATION Amateur	FIXED MOBILE RADIOLOCATION Amateur EU2	FIXED MOBILE RADIOLOCATION Amateur EU2	1. Amateur applications 2. Civil and government use radars 3. Fixed links 4. SAP/SAB applications EU17A	1. Amateur applications: EN 301 783 2. Civil and government use radars: Low power radars in certain subbands 3. Fixed links: EN 301 751, ERC REC 12-05 4. SAP/SAB applications: ERC REC 25-10
10.30 - 10.45 GHz	FIXED MOBILE RADIOLOCATION Amateur	FIXED RADIOLOCATION Amateur Mobile EU2 EU17	FIXED RADIOLOCATION Amateur Mobile EU2 EU17	1. Amateur applications 2. Civil and government use radars 3. SAP/SAB applications EU17A	1. Amateur applications: EN 301 783 2. Civil and government use radars: Low power radars in certain subbands 3. SAP/SAB applications: ERC REC 25-10

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
10.45 - 10.50 GHz	RADIOLOCATION Amateur Amateur-Satellite 5.481	FIXED MOBILE RADIOLOCATION Amateur Amateur-Satellite EU2 EU17	FIXED MOBILE RADIOLOCATION Amateur Amateur-Satellite EU2 EU17	1. Amateur applications EU23 2. Amateur Satellite applications EU23 3. Civil and government use radars 4. Fixed links 5. SAP/SAB applications EU17A	1. Amateur applications: EN 301 783 2. Amateur Satellite applications: EN 301 783 3. Civil and government use radars 4. Fixed links: EN 301 751, ERC REC 12-05 5. SAP/SAB applications: ERC REC 25-10
10.50 - 10.55 GHz	FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation	1. Fixed links 2. Motion sensors 3. SAP/SAB applications EU17A	1. Fixed links: EN 301 751, ERC REC 12-05 2. Motion sensors: EN 300 440, ERC REC 70-03 3. SAP/SAB applications: ERC REC 25-10
10.55 - 10.60 GHz	FIXED MOBILE except Aeronautical Mobile Radiolocation	FIXED MOBILE except Aeronautical Mobile Radiolocation	FIXED MOBILE except Aeronautical Mobile Radiolocation	1. Fixed links 2. Motion sensors 3. SAP/SAB applications EU17A	1. Fixed links: EN 301 751, ERC REC 12-05 2. Motion sensors: EN 300 440, ERC REC 70-03 3. SAP/SAB applications: ERC REC 25-10
10.60 - 10.65 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482	1. Fixed links 2. Passive applications 3. SAP/SAB applications EU17A	1. Fixed links: EN 301 751, ERC REC 12-05 2. Passive applications: Continuum measurements and VLBI. Surface emissivity and precipitation measurements 3. SAP/SAB applications: ERC REC 25-10
10.65 - 10.68 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.482	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.482	1. Fixed links 2. Passive applications 3. SAP/SAB applications EU17A	1. Fixed links: EN 301 751, ERC REC 12-05 2. Passive applications: Continuum measurements and VLBI. Surface emissivity and precipitation measurements 3. SAP/SAB applications: ERC REC 25-10

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
10.68 - 10.70 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.483	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	1. Passive applications	1. Passive applications: Continuum measurements and VLBI. Surface emissivity and precipitation measurements
10.70 - 11.70 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 5.484A (Earth-to-space) 5.484 MOBILE except Aeronautical Mobile	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 5.484A (Earth-to-space) 5.484 MOBILE except Aeronautical Mobile Mobile-Satellite (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 5.484A (Earth-to-space) 5.484 MOBILE except Aeronautical Mobile Mobile-Satellite (space-to-Earth)	1. Fixed links 2. Fixed Satellite Service applications 3. HEST 4. LEST	1. Fixed links: EN 301 751, ERC DEC (00)08, ERC REC 12-06 Limited to high capacity fixed links 2. Fixed Satellite Service applications: EN 301 427, EN 301 428, EN 301 430, EN 301 459, EN 301 360 ERC/DEC/(00)08, ECC/DEC/(05)10 ECC/DEC/(05)11. Within the band 10.7-10.95/11.2-11.45 GHz in accordance with App 30B of RR SIT/SUT - EUTELTRACK - VSAT 3. HEST: EN 301428, EN 301459, ECC/DEC/(06)03 4. LEST: EN 301428, EN 301459, ECC/DEC/(06)02
11.70 - 12.50 GHz	BROADCASTING BROADCASTING-SATELLITE FIXED MOBILE except Aeronautical Mobile 5.487 5.487A 5.492	BROADCASTING-SATELLITE FIXED MOBILE except Aeronautical Mobile 5.487 5.487A 5.492 EU28	BROADCASTING-SATELLITE FIXED MOBILE except Aeronautical Mobile 5.487 5.487A 5.492 EU28	1. Satellite broadcasting 2. HEST 3. LEST	1. Satellite broadcasting: ERC DEC (00)08 In accordance with Appendix S30. 2. HEST: EN 301428, EN 301459, ECC/DEC/(06)03 3. LEST: EN 301428, EN 301459, ECC/DEC/(06)02
12.50 - 12.75 GHz	FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.494 5.495 5.496	FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.495 5.496	FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.495 5.496	1. AESs 2. Fixed Satellite Service applications. 3. HEST 4. LEST	1. AESs: EN 302186, ECC/DEC/(05)11 2. Fixed Satellite Service applications: EN 301 427, EN 301 428, EN 301 430, EN 301 459, EN 301 360, EN 302 186 ECC/DEC/(05)10 ECC/DEC/(05)11. Priority for civil networks. Low density carriers, including VSATs and digital SNG are encouraged to use this band VSAT-SIT/SUT. 3. HEST: EN 301428, EN 301459, ECC/DEC/(06)03 4. LEST: EN 301428, EN 301459, ECC/DEC/(06)02
12.75 - 13.25 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.441 Space Research (deep space) (space-to-Earth)	FIXED FIXED-SATELLITE (Earth-to-space) 5.441	FIXED FIXED-SATELLITE (Earth-to-space) 5.441	1. Fixed links 2. Fixed Satellite Service applications.	1. Fixed links: EN 301 751, ERC REC 12-02 2. Fixed Satellite Service applications: EN 301 430

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
13.25 - 13.40 GHz	EARTH EXPLORATION-SATELLITE (active) AERONAUTICAL RADIONAVIGATION 5.497 SPACE RESEARCH (active) 5.498A	AERONAUTICAL RADIONAVIGATION 5.497 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) 5.498A EU26	AERONAUTICAL RADIONAVIGATION 5.497 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) 5.498A EU26	1. Doppler Navigation aids 2. Earth exploration observations 3. Ship berthing radars	
13.40 - 13.75 GHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A Standard Frequency and Time Signal-Satellite (Earth-to-space) 5.499 5.500 5.501 5.501B	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A 5.501B EU2 EU26	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A 5.501B EU2 EU26	1. Doppler Navigation aids 2. Military land, airborne and naval radars. 3. Motion sensors 4. Ship berthing radars	1. Doppler Navigation aids. 2. Military land, airborne and naval radars. 3. Motion sensors: EN 300 440, ERC REC 70-03 Within 13.4-14.0 GHz 4. Ship berthing radars.
13.75 - 14 GHz	FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Earth Exploration - Satellite Standard Frequency and Time Signal-Satellite (Earth-to-space) Space Research 5.500 5.501 5.502 5.503 5.503A	FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Earth Exploration - Satellite Space Research 5.502 5.503 EU2 EU26	FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Earth Exploration - Satellite Space Research 5.502 5.503 EU2 EU26	1. Fixed Satellite Service applications. 2. Government use land, airborne and naval radars. 3. Motion sensors 4. Navigation radars 5. Passive applications 6. Ship berthing radars	1. Fixed Satellite Service applications: EN 301 430 2. Government use land, airborne and naval radars. 3. Motion sensors: EN 300 440, ERC REC 70-03 Within 13.4-14.0 GHz 4. Navigation radars 5. Passive applications: Future VLBI observations 6. Ship berthing radars
14 - 14.25 GHz	FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A 5.506B 5.457B RADIONAVIGATION 5.504 Space Research Mobile-Satellite (Earth-to-space) 5.506A 5.504C 5.504A	FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A 5.506B 5.457B Space Research Mobile-Satellite (Earth-to-space) 5.506A 5.504C 5.504	FIXED-SATELLITE (Earth-to-space) 5.484A 5.457A 5.457B 5.506 5.506B Mobile-Satellite (Earth-to-space) 5.506A 5.504C Space Research 5.504	1. Mobile Satellite systems 2. VSAT/SNG applications 3. AESs 4. ESVs 5. HEST 6. LEST	1. Mobile satellite systems: EN 301 427 Priority for civil networks. 2. VSAT/SNG applications: EN 301 428, EN 301 430, ERC REC 13-03 Low density carriers, including VSATs and digital SNG, are encouraged to use this band 3. AESs: EN 302186, ECC/DEC/(05)11 4. ESVs: EN 302340, ECC/DEC/(05)10 5. HEST: EN 301428, EN 301459, ECC/DEC/(06)03 6. LEST: EN 301428, EN 301459, ECC/DEC/(06)02
14.25 - 14.30 GHz	FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A 5.506B 5.457B RADIONAVIGATION 5.504 Mobile-Satellite (Earth-to-space) 5.506A 5.508A Space Research 5.504A 5.508	FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A 5.506B 5.457B Mobile-Satellite (Earth-to-space) 5.506A 5.508A Space Research 5.504	FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A 5.457B 5.506B Mobile-Satellite (Earth-to-space) 5.506A 5.508A Space Research 5.504	1. Mobile Satellite systems 2. VSAT/SNG applications 3. AESs 4. ESVs	1. Mobile satellite systems: EN 301 427 Priority for civil networks. Fixed links to be coordinated with fixed satellite service on a national basis. 2. VSAT/SNG applications: EN 301 428, EN 301 430, ERC REC 13-03 3. AESs: EN 302186, ECC/DEC/(05)11 4. ESVs: EN 302340, ECC/DEC/(05)10

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
14.30 - 14.40 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.506B 5.457A 5.457B Mobile except Aeronautical Mobile Mobile-Satellite (Earth-to-space) 5.506A 5.509A Radionavigation –Satellite 5.404A	FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A Mobile-Satellite (Earth-to-space) 5.506A 5.509A	FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A Mobile-Satellite (Earth-to-space) 5.506A 5.509A	1. Fixed and Mobile Satellite Service applications 2. VSAT/SNG applications 3. AESs 4. ESVs	1. Fixed and Mobile satellite Service applications: EN 301 427 Priority for civil networks. Fixed links to be coordinated with fixed satellite service on a national basis. 2. VSAT/SNG applications: EN 301 428 EN 301 430 ERC REC 13-03 3. AESs: EN 302186, ECC/DEC/(05)11 4. ESVs: EN 302340, ECC/DEC/(05)10
14.40 - 14.47 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A 5.506B 5.457B MOBILE except Aeronautical Mobile Mobile-Satellite (Earth-to-space) 5.506A 5.509A Radionavigation –Satellite 5.504A	FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A Mobile-Satellite (Earth-to-space) 5.506A 5.509A 5.504A	FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A Mobile-Satellite (Earth-to-space) 5.506A 5.509A 5.504A	1. Fixed and Mobile Satellite Service applications 2. VSAT/SNG applications 3. AESs 4. ESVs	1. Fixed and Mobile satellite Service applications: EN 301 427 Priority for civil networks. Fixed links to be coordinated with fixed satellite service on a national basis. 2. VSAT/SNG applications: EN 301 428, EN 301 430, ERC REC 13-03 3. AESs: EN 302186, ECC/DEC/(05)11 4. ESVs: EN 302340, ECC/DEC/(05)10
14.47 - 14.50 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A 5.506B 5.457B MOBILE except Aeronautical Mobile Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.509A Radio Astronomy 5.149 5.504A	FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A Mobile-Satellite (Earth-to-space) 5.504B 5.509A 5.506A Radio Astronomy 5.149 5.504A	FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.509A Radio Astronomy 5.149 5.504A	1. Fixed and Mobile Satellite Service applications 2. Radio astronomy applications 3. VSAT/SNG applications 4. AESs 5. ESVs	1. Fixed and Mobile satellite Service applications: EN 301 427, Priority for civil networks. Fixed links to be coordinated with fixed satellite service on a national basis. 2. Radio astronomy applications: Spectral line observations and future VLBI 3. VSAT/SNG applications: EN 301 428, ERC REC 13-03 VSAT&SNG 4. AESs: EN 302186, ECC/DEC/(05)11 5. ESVs: EN 302340, ECC/DEC/(05)10
14.50 - 14.80 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.510 MOBILE Space Research	FIXED MOBILE Radio Astronomy EU27	FIXED MOBILE Radio Astronomy EU27	1. Government Use. EU20 2. Fixed links. EU20 3. Radio astronomy applications	1. Government Use: The band 14.62-15.23 GHz is a harmonised band for fixed and mobile services 2. Fixed links: EN 301 751, ERC REC 12-07 3. Radio astronomy applications: Future VLBI observations compatible with primary use

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
14.80 - 15.35 GHz	FIXED MOBILE Space Research 5.339	FIXED MOBILE Radio Astronomy 5.339 EU27	FIXED MOBILE Radio Astronomy 5.339 EU27	1. Government Use. EU20 2. Fixed links. EU20 3. Radio astronomy applications	1. Government Use: The band 14.62-15.23 GHz is a harmonised band for fixed and mobile services 2. Fixed links: EN 301 753, ERC REC 12-07 3. Radio astronomy applications: Future VLBI observations compatible with primary use
15.35 - 15.40 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.511	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	1. Passive applications	1. Passive applications: Continuum measurements and future VLBI
15.40 - 15.43 GHz	AERONAUTICAL RADIONAVIGATION 5.511D	AERONAUTICAL RADIONAVIGATION 5.511D	AERONAUTICAL RADIONAVIGATION 5.511D	1. Doppler radar low power sensing. 2. Ground movement radars	
15.43 - 15.63 GHz	FIXED-SATELLITE (Earth to space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth to space) 5.511A 5.511C	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth to space) 5.511A 5.511C	1. Doppler radar low power sensing 2. Fixed Satellite Service applications 3. Ground movement radars	1. Doppler radar low power sensing 2. Fixed Satellite Service applications: MSS feeder links 3. Ground movement radars
15.63 - 15.7 GHz	AERONAUTICAL RADIONAVIGATION 5.511D	AERONAUTICAL RADIONAVIGATION 5.511D	AERONAUTICAL RADIONAVIGATION 5.511D	1. Doppler radar low power sensing. 2. Ground movement radars	
15.70 - 16.60 GHz	RADIOLOCATION 5.512	RADIOLOCATION EU27	RADIOLOCATION EU27	1. Government Use	1. Government Use: Harmonised band for land, airborne and naval radars
16.60 - 17.10 GHz	RADIOLOCATION Space Research (deep space) (Earth-to-space) 5.512	RADIOLOCATION Space Research (Earth-to-space) EU27	RADIOLOCATION Space Research (Earth-to-space) EU27	1. Government Use	1. Government Use: Harmonised band for land, airborne and naval radars
17.10 - 17.20 GHz	RADIOLOCATION 5.512	RADIOLOCATION Mobile EU2	RADIOLOCATION Mobile EU2	1. Government Use 2. Wireless Access Systems including Radio Local Area Networks 3. Radiodetermination applications	1. Government Use: Radar applications 2. Wireless Access Systems including Radio Local Area Networks: ERC REC 70-03, ERC REC T/R 22-06 3. Radiodetermination applications: In accordance to the Decision 2009/381/EC

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
17.20 - 17.30 GHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.512 5.513A	EARTH EXPLORATION-SATELLITE (active) MOBILE RADIOLOCATION SPACE RESEARCH (active) 5.513A EU2	EARTH EXPLORATION-SATELLITE (active) MOBILE RADIOLOCATION SPACE RESEARCH (active) 5.513A EU2	1. Airborne terrain following radars 2. Government Use 3. Wireless Access Systems including Radio Local Area Networks 4. Government use systems radars 5. Radiodetermination applications	1. Airborne terrain following radars 2. Government Use: Radar applications 3. Wireless Access Systems including Radio Local Area Networks: ERC REC 70-03 Mobile applications for HIPERLANs which have priority over space services. HIPERLANs cannot claim protection from radiolocation service 4. Government use systems radars 5. Radiodetermination applications: In accordance to the Decision 2009/381/EC
17.30 - 17.70 GHz	FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation 5.514	FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation EU2	FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation EU2	1. Government Use 2. Feeder link plan 3. Fixed Satellite Service High Density	1. Government Use: Systems radars 2. Feeder link plan: Feeder links for 11.7 - 12.5 GHz. Appendix S30A of Radio Regulations 3. Fixed Satellite Service High Density: ECC/DEC/(05)08
17.70 - 18.10 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516	1. Feeder link plan 2. Fixed links 3. Fixed Satellite Service applications	1. Fixed link plan: Appendix S30A 2. Fixed links: EN 301 751, ERC DEC (00)07, ERC REC 12-03 3. Fixed Satellite Service applications: EN 301 360, ERC DEC (00)07 To coordinated earth stations. Priority for civil networks.
18.10 - 18.30 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.520 MOBILE 5.519 5.521	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.520 METEOROLOGICAL-SATELLITE (space-to-Earth) 5.519	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.520 METEOROLOGICAL-SATELLITE (space-to-Earth) 5.519	1. Feeder link band 2. Fixed links 3. Fixed Satellite Service applications	1. Fixed link plan: 2. Fixed links: EN 301 751, ERC REC 12-03 3. Fixed Satellite Service applications: EN 301 360 To coordinated earth stations. Priority for civil networks.
18.30 - 18.40 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.520 MOBILE 5.521	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.520	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.520	1. Feeder link band 2. Fixed links 3. Fixed Satellite Service applications	1. Fixed link plan: 2. Fixed links: EN 301 751, ERC REC 12-03 3. Fixed Satellite Service applications: EN 301 360 To coordinated earth stations. Priority for civil networks.
18.40 - 18.60 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A	1. Fixed links 2. Fixed Satellite Service applications	1. Fixed links: EN 301 751, ERC DEC (00)07 ERC REC 12-03 2. Fixed Satellite Service applications: EN 301 360, ERC DEC (00)07 To coordinated earth stations. Priority for civil networks.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
18.60 - 18.80 GHz	EARTH EXPLORATION SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except Aeronautical Mobile Space Research (passive) 5.522A	EARTH EXPLORATION SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.522B 5.522A	EARTH EXPLORATION SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.522B 5.522A	1. Fixed links 2. Fixed Satellite Service applications 3. Passive applications	1. Fixed links: EN 301 751, ERC DEC (00)07 ERC REC 12-03 2. Fixed Satellite Service applications: EN 301 360, ERC DEC (00)07 To coordinated earth stations. Priority given to civil networks. 3. Passive applications: EESS surface emissivity, snow, sea ice and preception, Earth Exploration Satellite is included
18.80 - 19.30 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.523A MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) 5.523A	FIXED FIXED-SATELLITE (space-to-Earth) 5.523A	1. Fixed links 2. Fixed Satellite Service applications	1. Fixed links: EN 301 751, ERC DEC (00)07 ERC REC 12-03 2. Fixed Satellite Service applications: EN 301 360, ERC DEC (00)07 To coordinated earth stations. Priority for civil networks.
19.30 - 19.70 GHz	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B 5.523C 5.523D 5.523E MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B 5.523C 5.523D 5.523E	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B 5.523C 5.523D 5.523E	1. Fixed links 2. Fixed Satellite Service applications	1. Fixed links: EN 301 751, ERC DEC (00)07 ERC REC 12-03 2. Fixed Satellite Service applications: EN 301 360, ERC DEC (00)07 To coordinated earth stations. Priority for civil networks.
19.70 - 20.10 GHz	FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B Mobile-Satellite (space-to-Earth)	FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B Mobile-Satellite (space-to-Earth)	FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B Mobile-Satellite (space-to-Earth)	1. Fixed and Mobile Satellite Service applications 2. HEST 3. Fixed Satellite Service High Density 4. LEST	1. Fixed and Mobile Satellite Service applications: EN 301 459 For uncoordinated earth stations SUT 2. HEST: ECC/DEC/(06)03, EN 301459 EN 301360 3. Fixed Satellite Service High Density: ECC/DEC/(05)08 4. LEST: ECC/DEC/(06)02, EN 301459 EN 301360
20.10 - 20.20 GHz	FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE-SATELLITE (space-to-Earth) 5.524 5.525 5.526 5.527 5.528	FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE-SATELLITE (space-to-Earth) 5.525 5.526 5.527 5.528	FIXED-SATELLITE (space-to-Earth) 5.484A MOBILE-SATELLITE (space-to-Earth) 5.525 5.526 5.527 5.528	1. Fixed and Mobile Satellite Service applications 2. HEST 3. Fixed Satellite Service High Density 4. LEST	1.Fixed and Mobile Satellite Service applications: EN 301 459 For uncoordinated earth stations SUT 2. HEST: ECC/DEC/(06)03, EN 301459 EN 301360 3. Fixed Satellite Service High Density: ECC/DEC/(05)08 4. LEST: ECC/DEC/(06)02, EN 301459 EN 301360
20.20 - 21.20 GHz	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard Frequency and Time Signal-Satellite (space-to-Earth)	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) EU2 EU27	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) EU2 EU27	1. Fixed and Mobile Satellite Service applications	1. Fixed and Mobile Satellite Service applications: For uncoordinated Earth stations. Harmonised government use band for satellite downlinks.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
21.20 - 21.40 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	1. Passive applications 2. Unidirectional temporary fixed or mobile links 3. Fixed links	1. Passive applications: Passive systems will be phased out by 2015 2. Unidirectional, temporary fixed or mobile links: ERC REC 25-10 Including SAP/SAB 3. Fixed links: In 2019 the use of the service will be terminated
21.40 - 22 GHz	FIXED MOBILE BROADCASTING-SATELLITE 5.530 5.347A	BROADCASTING-SATELLITE 5.530	BROADCASTING-SATELLITE 5.530 FIXED	1. Wide band high definition television 2. Automotive short range radars	1. Wide band high definition television: Fixed service envisaged in some countries. 2. Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
22 - 22.21 GHz	FIXED MOBILE except Aeronautical Mobile 5.149	FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149	FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149	1. Fixed links 2. Passive applications 3. SAP/SAB applications EU17A 4. Automotive short range radars	1. Fixed links: EN 301 751, ERC REC T/R 13-02 2. Passive applications: Spectral line observations (water line and redshifted water line under 22.5 GHz) 3. SAP/SAB applications: ERC REC 25-10 4. Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
22.21 - 22.50 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.532	FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Earth Exploration-Satellite (passive) 5.149 5.532	FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Earth Exploration-Satellite (passive) 5.149 5.532	1. Fixed links 2. Radio astronomy applications 3. SAP/SAB applications EU17A 4. Automotive short range radars	1. Fixed links: EN 301 751, ERC REC T/R 13-02 2. Radio Astronomy applications – EESS systems will be phased out by 2015. Spectral line observations (water line and redshifted water line under 22.5 GHz) also VLBI 3. SAP/SAB applications: ERC REC 25-10 4. Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
22.50 - 22.55 GHz	FIXED MOBILE	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive)	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive)	1. Fixed links 2. Radio astronomy applications 3. SAP/SAB applications EU17A 4. Automotive short range radars	1. Fixed links: EN 301 751, ERC REC T/R 13-02 2. Radio Astronomy applications 3. SAP/SAB applications: ERC REC 25-10 4. Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
22.55 - 22.60 GHz	FIXED INTER-SATELLITE MOBILE 5.149	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149	1. Fixed links 2. Radio astronomy applications 3. SAP/SAB applications EU17A 4. Automotive short range radars	1. Fixed links: EN 301 751, ERC REC T/R 13-02 2. Radio Astronomy applications 3. SAP/SAB applications: ERC REC 25-10 4. Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
22.60 - 23 GHz	FIXED INTER-SATELLITE MOBILE 5.149	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149	1. Radio astronomy applications 2. SAP/SAB applications EU17A 3. Fixed links 4. Automotive short range radars	1. Radio astronomy applications: Spectral line observations (Methyl Formate and Ammonia lines 22.81 - 22.86 GHz.) 2. SAP/SAB applications: ERC REC 25-10 3. Fixed links: In 2009 the use of the service will be re-examined 4. Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
23 - 23.55 GHz	FIXED INTER-SATELLITE MOBILE 5.149	FIXED INTER-SATELLITE MOBILE 5.149	FIXED INTER-SATELLITE MOBILE 5.149	1. Fixed links 2. Radio astronomy applications 3. SAP/SAB applications 4. Automotive short range radars	1. Fixed links: EN 301 751, ERC REC T/R 13-02 2. Radio astronomy applications: Spectral line observations 3. SAP/SAB applications: ERC REC 25-10 4. Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
23.55 - 23.60 GHz	FIXED MOBILE	FIXED INTER-SATELLITE MOBILE	FIXED INTER-SATELLITE MOBILE	1. Fixed links 2. SAP/SAB applications 3. Automotive short range radars	1. Fixed links: EN 301 751, ERC REC T/R 13-02 2. SAP/SAB applications: ERC REC 25-10 3. Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
23.60 - 24 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	1. Passive applications 2. Automotive short range radars	1. Passive applications – Continuum observations, Ammonia line, Water vapour measurements 2. Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
24 - 24.05 GHz	AMATEUR AMATEUR-SATELLITE 5.150	AMATEUR AMATEUR-SATELLITE 5.150	AMATEUR AMATEUR-SATELLITE 5.150	1. Amateur applications 2. Amateur Satellite applications 3. ISM 4. Non specific SRD 5.SAP/SAB applications 6.Automotive short range radars	1. Amateur applications: EN 301 783 2. Amateur Satellite applications: EN 301 783 3. ISM: Within 24 - 24.25 GHz 4. Non specific SRD: EN 300 440 ERC REC 70-03 5.SAP/SAB applications: ERC REC 25-10 6.Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
24.05 - 24.25 GHz	RADIOLOCATION Amateur Earth Exploration-Satellite (active) 5.150	RADIOLOCATION Amateur Earth Exploration-Satellite (active) Fixed Mobile 5.150 EU2	RADIOLOCATION Amateur Earth Exploration-Satellite (active) Fixed Mobile 5.150 EU2	1. Amateur applications 2. Government Use 3. ISM 4. Motion sensors 5. Non specific SRD 6. Rain radar from satellites 7.SAP/SAB applications 8.Automotive short range radars 9. RTTT	1. Amateur applications 2. Government Use 3. ISM 4. Motion sensors: EN 300 440, ERC REC 70-03 5. Non specific SRD: In accordance to the Decision 2008/432/EC in the frequency band 24,15 – 24,25 GHz, EN300 440, ERC REC 70-03 for the radiofrequency band 24,0 – 24,15 GHz 6. Rain radar from satellites 7.SAP/SAB applications: ERC REC 25-10 8.Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz. 9. RTTT: In accordance to the Implementing Decision 2011/829/EU
24.25 - 24.45 GHz	FIXED	FIXED MOBILE	FIXED MOBILE	1. SAP/SAB applications EU17A 2. Unidirectional temporary fixed links 3.Automotive short range radars	1. SAP/SAB applications: ERC REC 25-10 2.Unidirectional temporary fixed links 3.Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
24.45 - 24.50 GHz	FIXED INTER-SATELLITE	FIXED MOBILE	FIXED MOBILE	1. SAP/SAB applications EU17A 2. Unidirectional temporary fixed links 3.Automotive short range radars	1. SAP/SAB applications: ERC REC 25-10 2.Unidirectional temporary fixed links 3.Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
24.50 - 24.65 GHz	FIXED INTER-SATELLITE	FIXED	FIXED MOBILE	1. Broadband (fixed, nomadic and mobile) Wireless Access (BWA) 2.Fixed links 3.Automotive short range radars	1. Broadband (fixed, nomadic and mobile) Wireless Access (BWA): In the band 24,50-26,332 GHz 2. Fixed links: In the band 24,50-26,332 GHz 3.Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
24.65 - 24.75 GHz	FIXED INTER-SATELLITE	FIXED	FIXED MOBILE	1. Broadband (fixed, nomadic and mobile) Wireless Access (BWA) 2.Fixed links 3.Automotive short range radars	1. Broadband (fixed, nomadic and mobile) Wireless Access (BWA): In the band 24,50-26,332 GHz 2. Fixed links: In the band 24,50-26,332 GHz 3.Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
24.75 - 25.25 GHz	FIXED	FIXED	FIXED MOBILE	1. Broadband (fixed, nomadic and mobile) Wireless Access (BWA) 2.Fixed links 3.Automotive short range radars	1. Broadband (fixed, nomadic and mobile) Wireless Access (BWA): In the band 24,50-26,332 GHz 2. Fixed links: In the band 24,50-26,332 GHz 3.Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
25.25 - 25.50 GHz	FIXED INTER-SATELLITE 5.536 MOBILE Standard Frequency and Time Signal-Satellite (Earth-to-space)	FIXED INTER-SATELLITE 5.536 MOBILE	FIXED INTER-SATELLITE 5.536 MOBILE	1. Broadband (fixed, nomadic and mobile) Wireless Access (BWA) 2.Fixed links 3.Automotive short range radars	1. Broadband (fixed, nomadic and mobile) Wireless Access (BWA): In the band 24,50-26,332 GHz 2. Fixed links: In the band 24,50-26,332 GHz 3.Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
25.50 - 26.50 GHz	EARTH EXPLORATION-SATELLITE (space-to-Earth) 5.536A 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (S/E) 5.536A 5.536C Standard Frequency and Time Signal-Satellite (Earth-to-space)	FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (S/E) 5.536A 5.536C Earth Exploration-Satellite (space-to-Earth) 5.536A 5.536B	FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (S/E) 5.536A 5.536C Earth Exploration-Satellite (space-to-Earth) 5.536A 5.536B	1. Fixed links 2. Broadband (fixed, nomadic and mobile) Wireless Access (BWA) 3.Automotive short range radars	1. Fixed links: In the band 24,50-26,332 GHz. EN 301 751, ERC REC T/R 13-02 in the band 26,36-26,5 GHz 2. Broadband (fixed, nomadic and mobile) Wireless Access (BWA): In the band 24,50-26,332 GHz 3.Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
26.50 - 27 GHz	EARTH EXPLORATION-SATELLITE (space-to-Earth) 5.536A 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (S/E) 5.536A 5.536C Standard Frequency and Time Signal-Satellite (Earth-to-space)	FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (S/E) 5.536A 5.536C Earth Exploration-Satellite (space-to-Earth) 5.536A 5.536B EU27	FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (S/E) 5.536A 5.536C Earth Exploration-Satellite (space-to-Earth) 5.536A 5.536B EU27	1. Government Use. 2. Automotive short range radars	1. Government Use: Harmonised band for fixed and mobile systems 2. Automotive short range radars: In accordance to the Decision 2005/50/EC and the Implementing Decision 2011/485/EU in the frequency range 21.65 – 26.65 GHz.
27 - 27.50 GHz	FIXED INTER-SATELLITE 5.536 MOBILE	FIXED INTER-SATELLITE 5.536 MOBILE Earth Exploration-Satellite (space-to-Earth) EU27	FIXED INTER-SATELLITE 5.536 MOBILE Earth Exploration-Satellite (space-to-Earth) EU27	1. Government Use.	1. Government Use: Harmonised band for fixed and mobile systems
27.50 - 28.50 GHz	FIXED 5.537A FIXED-SATELLITE (Earth-to-space) 5.484A 5.539 5.516B MOBILE 5.538 5.540	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.539 5.516B 5.538 5.540	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.539 5.516B 5.538 5.540	1. Feeder link band 2. Fixed links 3. Fixed Satellite Service applications 4. Fixed Wireless Access Systems	1. Feeder link band: Feeder links to broadcasting satellites (HDTV) 27.5 - 29.5 GHz. 2. Fixed links: EN 302 217, ECC/DEC/(05)01, ERC REC T/R 13-02. 3. Fixed Satellite Service applications: EN 301 360, ECC/DEC/(05)01. 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. 4. Fixed Wireless Access Systems: EN 301 753, ERC REC 13-04 ERC REC 01-03 CRS paired with 28.5 – 29.5 GHz for FDD systems
28.50 - 29.10 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.523A 5.539 5.516B MOBILE Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.523A 5.539 5.516B Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.523A 5.539 5.516B Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	1. Feeder link band 2. Fixed links 3. Fixed Satellite Service applications 4. Fixed Wireless Access Systems	1. Feeder link band: ECC/DEC/(05)01, Feeder links to broadcasting satellites (HDTV) 27.5 - 29.5 GHz. 2. Fixed links: EN 302 217, ECC/DEC/(05)01, ERC REC T/R 13-02. 3. Fixed Satellite Service applications: EN 301 360, ECC/DEC/(05)01. Uncoordinated earth stations within the band 28.4445 – 28.8365 GHz and the band 28.8365 – 28.9485 GHz. 4. Fixed Wireless Access Systems: EN 301 753, ERC REC 13-04 TS paired with 27.5 – 28.5 GHz for FDD systems

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
29.1 - 29.50 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.523C 5.523E 5.535A 5.539 5.541A 5.516B MOBILE Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	FIXED FIXED-SATELLITE (Earth-to-space) 5.523C 5.523E 5.535A 5.539 5.541A 5.516B Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	FIXED FIXED-SATELLITE (Earth-to-space) 5.523C 5.523E 5.535A 5.539 5.541A 5.516B Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	1. Feeder link band 2. Fixed links 3. Fixed Satellite Service applications 4. Fixed Wireless Access Systems	1. Feeder link band: ERC DEC (00)09 Feeder links to broadcasting satellites (HDTV) 27.5 - 29.5 GHz. 2. Fixed links: EN 302 217, ECC/DEC/(05)01, ERC REC T/R 13-02. In the band 29.0605 – 29.4525 GHz. 3. Fixed Satellite Service applications: EN 301 360, ECC/DEC/(05)01. Uncoordinated earth stations within the band 29.4525 – 29.5 GHz. 4. Fixed Wireless Access Systems: EN 301 753, ERC REC 13-04 EN 301 753 TS paired with 27.5 – 28.5 GHz for FDD systems
29.50 - 29.90 GHz	FIXED-SATELLITE (Earth-to-space) 5.484A 5.539 5.516B Earth Exploration-Satellite (Earth-to-space) 5.541 Mobile-Satellite (Earth-to-space) 5.540 5.542	FIXED-SATELLITE (Earth-to-space) 5.484A 5.539 5.516B Earth Exploration-Satellite (Earth-to-space) 5.541 Mobile-Satellite (Earth-to-space) 5.540	FIXED-SATELLITE (Earth-to-space) 5.484A 5.539 5.516B Earth Exploration-Satellite (Earth-to-space) 5.541 Mobile-Satellite (Earth-to-space) 5.540	1. HEST 2. Fixed Satellite Service High Density 3. LEST 4. MSS	1. HEST: ECC/DEC/(06)03, EN 301459 2. Fixed Satellite Service High Density: ECC/DEC/(05)08, EN 301459 3. LEST: ECC/DEC/(06)02, EN 301459 4. MSS: EN 301459
29.90 - 30 GHz	FIXED-SATELLITE (Earth-to-space) 5.484A 5.539 5.516B MOBILE-SATELLITE (Earth-to-space) Earth Exploration-Satellite (Earth-to-space) 5.541 5.543 5.525 5.526 5.527 5.538 5.540 5.542	FIXED-SATELLITE (Earth-to-space) 5.484A 5.539 5.516B MOBILE-SATELLITE (Earth-to-space) Earth Exploration-Satellite (Earth-to-space) 5.541 5.525 5.526 5.527 5.538 5.540 5.543	FIXED-SATELLITE (Earth-to-space) 5.484A 5.539 5.516B MOBILE-SATELLITE (Earth-to-space) Earth Exploration-Satellite (Earth-to-space) 5.541 5.543 5.525 5.526 5.527 5.538 5.540	1. Fixed Satellite Service applications 2. HEST 3. Fixed Satellite Service High Density 4. LEST 5. MSS	1. Fixed Satellites Service applications: Limited to beacons for uplink power control 29.999-30 GHz. 2. HEST: ECC/DEC/(06)03, EN 301459 3. Fixed Satellite Service High Density: ECC/DEC/(05)08, EN 301459 4. LEST: ECC/DEC/(06)02, EN 301459 5. MSS: EN 301459
30 - 31 GHz	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Standard Frequency and Time Signal-Satellite (space-to-Earth)	FIXED-SATELLITE (space-to-Earth) (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) EU2 EU27	FIXED-SATELLITE (space-to-Earth) (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) EU2 EU27	1. Fixed and Mobile Satellite Service applications	1. Fixed and Mobile Satellite Service applications: For uncoordinated earth stations. Harmonised government use band for satellite uplinks.
31 - 31.30 GHz	FIXED MOBILE Standard Frequency and Time Signal-Satellite (space-to-Earth) Space Research 5.544 5.149 5.545	FIXED MOBILE 5.149	FIXED MOBILE 5.149	1. Fixed links 2. Radio astronomy applications	1. Fixed links: EN 301 751, ECC REC 02-2 2. Radio astronomy applications: Continuum measurements

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
31.30 - 31.50 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	1. Passive applications. 2. Surface temperature and emissivity, atmospheric attenuation	1. Passive applications: Continuum measurements 2. Surface temperature and emissivity, atmospheric attenuation
31.50 - 31.80 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.546	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.546	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.546	1. Fixed links 2. Passive applications. 3. Surface temperature and emissivity, atmospheric attenuation	1. Fixed links 2. Passive applications: Continuum measurements 3. Surface temperature and emissivity, atmospheric attenuation
31.80 - 32 GHz	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547 5.548	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (space-to-Earth) 5.547 5.548	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (space-to-Earth) 5.547 5.548	1. High density fixed links	Space research (deep space) in some countries 1. High density fixed links: EN 301 751, EN 301 753, ERC REC 01-02 Both Point-to-Point and Point-to-Multipoint
32 - 32.30 GHz	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547 5.548	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION SPACE RESEARCH (space-to-Earth) 5.547 5.548	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION SPACE RESEARCH (space-to-Earth) 5.547 5.548	1. High density fixed links	Space research (deep space) in some countries 1. High density fixed links: EN 301 751, EN 301 753, ERC REC 01-02 Both Point-to-Point and Point-to-Multipoint
32.30 - 33 GHz	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.548	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.548	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.548	1. High density fixed links	1. High density fixed links: EN 301 751, EN 301 753, ERC REC 01-02 Both Point-to-Point and Point-to-Multipoint
33 - 33.40 GHz	FIXED 5.547A RADIONAVIGATION 5.547	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547	1. High density fixed links	1. High density fixed links: EN 301 751, EN 301 753, ERC REC 01-02 Both Point-to-Point and Point-to-Multipoint
33.40 - 34.20 GHz	RADIOLOCATION EU2 5.549	RADIOLOCATION EU2 EU27	RADIOLOCATION EU2 EU27	1. Government Use 2. Motion sensors 3. Short range radar 4. Surveying and measurement	1. Government Use: Harmonised band for radiolocation systems 2. Motion sensors 3. Short range radar 4. Surveying and measurement

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
34.20 - 34.70 GHz	RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) 5.549	RADIOLOCATION SPACE RESEARCH (Earth-to-space) EU2 EU27	RADIOLOCATION SPACE RESEARCH (Earth-to-space) EU2 EU27	1. Government Use 2. Motion sensors 3. Short range radar 4. Surveying and measurement	1. Government Use: Harmonised band for radiolocation systems 2. Motion sensors 3. Short range radar 4. Surveying and measurement
34.70 - 35.20 GHz	RADIOLOCATION Space Research 5.549 5.550	RADIOLOCATION Space Research EU2 EU27	RADIOLOCATION Space Research EU2 EU27	1. Government Use 2. Motion sensors 3. Short range radar 4. Surveying and measurement	1. Government Use: Harmonised band for radiolocation systems 2. Motion sensors 3. Short range radar 4. Surveying and measurement
35.20 - 35.5 GHz	METEOROLOGICAL AIDS RADIOLOCATION 5.549	METEOROLOGICAL AIDS RADIOLOCATION EU2 EU27	METEOROLOGICAL AIDS RADIOLOCATION EU2 EU27	1. Government Use 2. Rain radar from satellites	1. Government Use: Harmonised band for radiolocation systems 2. Rain radar from satellites
35.5 - 36 GHz	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.549 5.549A 5.551A	EARTH EXPLORATION-SATELLITE (active) METEOROLOGICAL AIDS RADIOLOCATION SPACE RESEARCH (active) 5.551A 5.549A EU2 EU27	EARTH EXPLORATION-SATELLITE (active) METEOROLOGICAL AIDS RADIOLOCATION SPACE RESEARCH (active) 5.551A 5.549A EU2 EU27	1. Government Use 2. Rain radar from satellites	1. Government Use: Harmonised band for radiolocation systems 2. Rain radar from satellites
36 - 37 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.149	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) Radio Astronomy 5.149 EU27	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) Radio Astronomy 5.149 EU27	1. Government Use 2. Passive applications 3. Radio astronomy applications	1. Government Use: Harmonised band for fixed and mobile systems 2. Passive applications: EESS surface emissivity, snow, sea ice and preception measurements. 3. Radio astronomy applications: Hydrogen cyanide and Hydroxyl lines 36.43-36.5 GHz
37 - 37.50 GHz	FIXED MOBILE SPACE RESEARCH (space-to-Earth) 5.547	FIXED SPACE RESEARCH (space-to-Earth) 5.547 EU2	FIXED SPACE RESEARCH (space-to-Earth) 5.547 EU2	1. High density fixed links 2. Low and medium capacity fixed links 3. Unplanned, uncoordinated use	1. High density fixed links: EN 301751, ERC REC T/R 12-01 For civil applications 2. Low and medium capacity fixed links: For government use applications 3. Unplanned, uncoordinated use: Within the sub bands 37 - 37.142 GHz paired with 38.22 - 38.402 GHz, subject to national decisions.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
37.50 - 38 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth Exploration-Satellite (space-to-Earth) 5.551AA 5.547	FIXED FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Earth Exploration-Satellite (space-to-Earth) 5.547 5.551AA EU2	FIXED FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Earth Exploration-Satellite (space-to-Earth) 5.547 5.551AA EU2	1. Fixed Satellite Service applications 2. High density fixed links 3. Low capacity fixed links.	1. Fixed Satellite Service applications: ERC DEC (00)02 Uncoordinated Earth Stations shall not claim protection from the Fixed Service 2. High density fixed links: EN 301751, ERC DEC (00)02, ERC REC T/R 12-01 For civil applications 3. Low capacity fixed links: for government use applications.
38 - 39.50 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth Exploration-Satellite (space-to-Earth) 5.551AA 5.547	FIXED FIXED-SATELLITE (space-to-Earth) Earth Exploration-Satellite (space-to-Earth) 5.547 5.551AA EU2	FIXED FIXED-SATELLITE (space-to-Earth) Earth Exploration-Satellite (space-to-Earth) 5.547 5.551AA EU2	1. Fixed Satellite Service applications 2. High density fixed links 3. Low capacity fixed links 4. Unplanned, uncoordinated use	1. Fixed Satellite Service applications: : ERC DEC (00)02 Uncoordinated Earth Stations shall not claim protection from the Fixed Service 2. High density fixed links: EN 301751, ERC DEC (00)02, ERC REC T/R 12-01 For civil applications 3. Low capacity fixed links: for government use applications 4. Unplanned, uncoordinated use: Within the sub bands 37 - 37.142 GHz paired with 38.26 - 38.402 GHz, subject to national decisions.
39.50 - 40 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite (space-to-Earth) 5.547	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite (space-to-Earth) 5.547 EU2	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite (space-to-Earth) 5.547 EU2	1. Fixed Satellite Service applications	1. Fixed Satellite Service applications: ERC DEC (00)02 Coordinated and uncoordinated earth stations

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
40 - 40.50 GHz	EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth Exploration-Satellite (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE ((space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth Exploration-Satellite (space-to-Earth) EU2	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE ((space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth Exploration-Satellite (space-to-Earth) EU2	1. Broadband mobile systems. 2. Fixed Satellite Service applications	1. Broadband mobile systems: Possible future band 2. Fixed Satellite Service applications: ERC DEC (00)02 Coordinated and uncoordinated earth stations
40.50 - 41 GHz	FIXED FIXED SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547	BROADCASTING BROADCASTING-SATELLITE FIXED 5.547	BROADCASTING BROADCASTING-SATELLITE FIXED 5.547	1. Fixed Satellite Service applications 2. Multimedia Wireless Systems MWS	1. Fixed Satellite Service applications: ECC DEC (02)04 2. Multimedia Wireless Systems MWS: EN 301 751 ERC DEC (99)15 , ECC REC 01-04
41 - 42 GHz	FIXED FIXED SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547	BROADCASTING BROADCASTING-SATELLITE FIXED 5.547	BROADCASTING BROADCASTING-SATELLITE FIXED 5.547	1. Fixed Satellite Service applications 2. Multimedia Wireless Systems MWS	1. Fixed Satellite Service applications: ECC DEC (02)04 2. Multimedia Wireless Systems MWS: EN 301 751 EN 301 753 ERC DEC (99)15 , ECC REC 01-04
42 - 42.5 GHz	FIXED FIXED SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.551H 5.547 5.551I	BROADCASTING BROADCASTING-SATELLITE FIXED 5.547 5.551H	BROADCASTING BROADCASTING-SATELLITE FIXED 5.547 5.551H	1. Fixed Satellite Service applications 2. Multimedia Wireless Systems MWS	1. Fixed Satellite Service applications: ECC DEC (02)04 2. Multimedia Wireless Systems MWS: EN 301 751, EN 301 753, ERC DEC (99)15 , ECC REC 01-04

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
42.50 - 43.50 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149 5.547 5.551H 5.551I	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149 5.547 5.551H 5.551I	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149 5.547 5.551H 5.551I	1. Broadband mobile systems 2. Fixed Satellite Service applications 3. Multimedia Wireless Systems MWS 4. Radio astronomy applications	1. Broadband mobile systems: Possible future band 2. Fixed Satellite Service applications: ECC DEC (02)04 for fixed applications. Priority for civil networks 3. Multimedia Wireless Systems MWS: EN 301 753 ERC DEC (99)15, ECC REC 01-04 4. Radio astronomy applications: Silicon monoxide lines and many other spectral lines in the band
43.50 - 45.50 GHz	MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	MOBILE 5.553 MOBILE-SATELLITE Fixed-Satellite 5.554 EU27	MOBILE 5.553 MOBILE-SATELLITE Fixed-Satellite 5.554 EU27	1. Government Use	Radionavigation envisaged in some countries 1. Government Use: Harmonised band for satellite uplinks and mobile systems
45.50 - 47 GHz	MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554		
47 - 47.20 GHz	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	1. Amateur applications 2. Amateur Satellite applications	1. Amateur applications: EN 301 783 2. Amateur Satellite applications: EN 301 783
47.2 - 47.5 GHz	FIXED FIXED-SATELLITE (E/S) 5.552 MOBILE 5.552A	FIXED FIXED-SATELLITE (E/S) 5.552 MOBILE Amateur 5.552A	FIXED FIXED-SATELLITE (E/S) 5.552 MOBILE Amateur 5.552A	1. Feeder link band 2. Fixed Satellite Service applications 3. HAPS 4. SAP/SAB applications	1. Feeder link band: for 40 GHz broadcasting satellites 2. Fixed Satellite Service applications: for fixed applications. Priority for civil networks. 3. HAPS 4. SAP/SAB applications: ERC REC 25-10
47.5 - 47.9 GHz	FIXED FIXED-SATELLITE (E/S) 5.552 (S/E) 5.516B 5.554A MOBILE	FIXED FIXED-SATELLITE (E/S) 5.552 (S/E) 5.516B MOBILE	FIXED FIXED-SATELLITE (E/S) 5.552 (S/E) 5.516B MOBILE	1. Feeder link band 2. Fixed Satellite Service High Density 3. SAP/SAB applications	1. Feeder link band: for 40 GHz broadcasting satellites 2. Fixed Satellite Service High Density: ECC/DEC/(05)08 3. SAP/SAB applications: ERC REC 25-10
47.9 - 48.2 GHz	FIXED FIXED-SATELLITE (E/S) 5.552 MOBILE 5.552A	FIXED FIXED-SATELLITE (E/S) 5.552 MOBILE 5.552A	FIXED FIXED-SATELLITE (E/S) 5.552 MOBILE 5.552A	1. Feeder link band 2. Fixed Satellite Service applications 3. HAPS 4. SAP/SAB applications	1. Feeder link band: for 40 GHz broadcasting satellites 2. Fixed Satellite Service applications: for fixed applications. Priority for civil networks. 3. HAPS 4. SAP/SAB applications: ERC REC 25-10

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
48.2 - 48.54 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 FIXED-SATELLITE (E/S) 5.552 (S/E) 5.516B 5.554A 5.555B MOBILE Amateur	1. Feeder link band 2. Fixed links 3. Fixed Satellite Service High Density 4. SAP/SAB applications	1. Feeder link band: for 40 GHz broadcasting satellites 2. Fixed links: ERC/REC12-10 3. Fixed Satellite Service High Density: ECC/DEC/(05)08. 4. SAP/SAB applications: ERC REC 25-10
48.54 – 49.44 GHz	FIXED FIXED-SATELLITE (E/S) 5.552 MOBILE 5.149 5.340 5.555	FIXED FIXED-SATELLITE (E/S) 5.552 MOBILE RADIO ASTRONOMY 5.149 5.340 5.555	FIXED FIXED-SATELLITE (E/S) 5.552 MOBILE RADIO ASTRONOMY 5.149 5.340 5.555	1. Feeder link band 2. Fixed Satellite Service applications 3. Low and medium capacity fixed links 4. Radio astronomy applications 5. SAP/SAB applications EU17A	1. Feeder link band: for 40 GHz broadcasting satellites 2. Fixed Satellite Service applications: for fixed applications. Priority for civil networks. 3. Low and medium capacity fixed links: EN 301 751, ERC REC 25-10 4. Radio astronomy applications: Carbon monosulphide line 48.94-49.4 GHz 5. SAP/SAB applications: ERC REC 25-10
49.44 – 50.2 GHz	FIXED FIXED-SATELLITE (E/S) 5.552 5.338A (S/E) 5.516B 5.554A 5.555B MOBILE	FIXED FIXED-SATELLITE (E/S) 5.552 5.338A (S/E) 5.516B 5.554A 5.555B MOBILE	FIXED FIXED-SATELLITE (E/S) 5.552 5.338A (S/E) 5.516B 5.554A 5.555B MOBILE	1. Fixed Satellite Service High Density 2. Fixed links 3. SAP/SAB applications EU17A	1. Fixed Satellite Service High Density: ECC/DEC/(05)08 2. Fixed links: EN 301 751, ERC REC 12-10 3. SAP/SAB applications: ERC REC 25-10
50.20 - 50.40 GHz	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.555A	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	1. Passive applications.	
50.40 - 51.40 GHz	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Mobile-Satellite (Earth-to-space)	FIXED FIXED-SATELLITE (Earth-to-space) Mobile-Satellite (Earth-to-space) EU2	FIXED FIXED-SATELLITE (Earth-to-space) Mobile-Satellite (Earth-to-space) EU2	1. Future satellite and terrestrial systems	1. Future satellite and terrestrial systems: Shared civil and non civil allocation
51.40 - 52.6 GHz	FIXED MOBILE 5.547 5.556	FIXED MOBILE RADIO ASTRONOMY 5.547 5.556	FIXED MOBILE RADIO ASTRONOMY 5.547 5.556	1. High density fixed links	1. High density fixed links: EN 301 751 ERC REC 12-11

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
52.6 - 54.25 GHz	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	1. Passive applications	1. Passive applications: Atmospheric temperature sounding
54.25 - 55.78 GHz	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.556A SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive)	1. Passive applications	1. Passive applications: Atmospheric temperature sounding
55.78 - 56.9 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	EARTH EXPLORATION-SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A SPACE RESEARCH (passive) 5.547 5.558 EU21	EARTH EXPLORATION-SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A SPACE RESEARCH (passive) 5.547 5.558 EU21	1. High density fixed links 2. Passive applications.	1. High density fixed links: EN 301751, ERC REC T/R 22-03, ERC REC 12-12 2. Passive applications
56.9 - 57.0 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.558A EU21	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.558A EU21	1. High density fixed links 2. Passive applications.	1. High density fixed links: EN 301751, ERC REC T/R 22-03, ERC REC 12-12 2. Passive applications: Atmospheric temperature sounding
57 - 58.2 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.557	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	1. High density fixed links 2. Passive applications. 3. Wideband data transmission systems	1. High density fixed links: EN 301751, ERC REC T/R 22-03, ERC REC 12-09 2. Passive applications: Atmospheric temperature sounding 3. Wideband data transmission systems: In accordance to the Decision 2009/381/EC and the Decision 2010/368/EU for the band 57-66 GHz.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
58.20 - 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 5.556 EU6 EU19	EARTH EXPLORATION-SATELLITE (passive) FIXED RADIO ASTRONOMY SPACE RESEARCH (passive) 5.547 5.556 EU6 EU19	1. High density fixed links 2. Passive applications. 3. Wideband data transmission systems	1. High density fixed links: EN 301751, ERC REC T/R 22-03, ERC REC 12-09 2. Passive applications: Atmospheric temperature sounding 3. Wideband data transmission systems: In accordance to the Decision 2009/381/EC and the Decision 2010/368/EU for the band 57-66 GHz.
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	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive) EU2 EU27	1. Government Use 2. Passive applications 3. Wideband data transmission systems	1. Government Use: Frequency band 59-61 GHz is a harmonized band for fixed, mobile, and radiolocation systems 2. Passive applications: Atmospheric temperature sounding 3. Wideband data transmission systems: In accordance to the Decision 2009/381/EC and the Decision 2010/368/EU for the band 57-66 GHz.
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	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138 EU2 EU27	1. Wideband data transmission systems 2. Government Use 3. High density fixed links 4. ISM 5. Non specific SRD	1. Wideband data transmission systems: In accordance to the Decision 2009/381/EC and the Decision 2010/368/EU for the band 57-66 GHz. 2. Government Use: Frequency band 59-61 GHz is a harmonized band for fixed, mobile, and radiolocation systems 3. High density fixed links: ERC REC T/R 22-03 4. ISM: Within the band 61 - 61.5 GHz 5. Non specific SRD: In accordance to the Decision 2008/432/EC in the frequency band 61 - 61.5 GHz
62 - 63 GHz	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559	INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 EU2	INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 EU2	1. Wideband data transmission systems 2. Short range non civil radiolocation.	1. Broadband mobile systems: ERC REC T/R 22-03 for connection to IBCN paired with 65 - 66 GHz. 2. Short range non civil radiolocation 3. Wideband data transmission systems: In accordance to the Decision 2009/381/EC and the Decision 2010/368/EU for the band 57-66 GHz.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
63 - 64 GHz	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559	INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 EU2	INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559	1. ITS 2. Short range non civil radiolocation. 3. Wideband data transmission systems 4. RTTT	1. ITS: ECC/DEC/(09)01 2. Short range non civil radiolocation 3. Wideband data transmission systems: In accordance to the Decision 2009/381/EC and the Decision 2010/368/EU for the band 57-66 GHz. 4. RTTT: In accordance to the Implementing Decision 2011/829/EU.
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	FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.547 5.556	1. High density fixed links. 2. Wideband data transmission systems	1. High density fixed links: ERC REC T/R 22-03 2. Wideband data transmission systems: In accordance to the Decision 2009/381/EC and the Decision 2010/368/EU for the band 57-66 GHz.
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	EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 5.547	1. Wideband data transmission systems 2. High density fixed links.	1. Wideband data transmission systems: In accordance to the Decision 2009/381/EC and the Decision 2010/368/EU for the band 57-66 GHz. 2. High density fixed links: ERC REC T/R 22-03.
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	INTER-SATELLITE MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	1. Future civil systems	
71 - 74 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) EU27	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) EU27	1. Government Use	1. Government Use: Harmonised band. Pairing with 81-84 GHz is envisaged.

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
74 - 75.50 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING SATELLITE Space Research (space-to-Earth) 5.561	BROADCASTING BROADCASTING SATELLITE FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Space Research (space-to-Earth) 5.561	BROADCASTING BROADCASTING SATELLITE FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Space Research (space-to-Earth) 5.561	1. Future civil systems 2. Space science services	1. Future civil systems 2. Space science services: VLBI within the band 74-84 GHz
75.50 - 76 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING SATELLITE Space Research (space-to-Earth) 5.561 5.559A	BROADCASTING BROADCASTING SATELLITE FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Space Research (space-to-Earth) 5.559A 5.561 EU2 EU35	BROADCASTING BROADCASTING SATELLITE FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Space Research (space-to-Earth) 5.559A 5.561 EU2 EU35	1. Amateur applications EU35 2. Future civil systems 3. Space science services	1. Amateur applications: EN 301 783. Until 2006 2. Future civil systems 3. Space science services: VLBI
76 - 77.5 GHz	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite Space Research (space-to-Earth) 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite Space Research (space-to-Earth) 5.149 EU2	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite Space Research (space-to-Earth) 5.149 EU2	1. Amateur 2. Amateur Satellite 3. Civil radiolocation 4. Radio astronomy 5. RTTT 6. Automotive Short Range Radars	1. Amateur: EN 301 783 2. Amateur Satellite: EN 301 783 3. Civil radiolocation 4. Radio astronomy: Spectral line and wide band continuum observations 5. RTTT: In accordance to the Decision 2010/386/EU for 76 - 77 GHz band. 6. Automotive Short Range Radars: In accordance to the Decision 2004/545/EC in the frequency band 77-81 GHz
77.5 – 78 GHz	AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) 5.149	AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) 5.149	AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) 5.149	1. Radio astronomy applications 2. Automotive Short Range Radars	1. Radio astronomy applications: Spectral line and wide band continuum observations 2. Automotive Short Range Radars: In accordance to the Decision 2004/545/EC in the frequency band 77-81 GHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
78 - 79 GHz	RADIOLOCATION Amateur Amateur-Satellite Radio Astronomy Space Research (space-to-Earth) 5.149 5.560	RADIOLOCATION Amateur Amateur-Satellite Radio Astronomy Space Research (space-to-Earth) 5.149 5.560	RADIOLOCATION Amateur Amateur-Satellite Radio Astronomy Space Research (space-to-Earth) 5.149 5.560	1. Civil and non-civil radiolocation 2. Radio astronomy applications 3. Automotive Short Range Radars	1. Civil and and non-civil radiolocation 2. Radio astronomy applications: Spectral line and wide band continuum observations 3. Automotive Short Range Radars: In accordance to the Decision 2004/545/EC in the frequency band 77-81 GHz
79 – 81 GHz	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space-research (space-to-Earth) 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space-research (space-to-Earth) 5.149 EU2	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space-research (space-to-Earth) 5.149 EU2	1. Civil and non-civil radiolocation 2. Radio astronomy applications 3. Automotive Short Range Radars	1. Civil and non-civil radiolocation 2. Radio astronomy applications: Spectral line and wide band continuum observations 3. Automotive Short Range Radars: In accordance to the Decision 2004/545/EC in the frequency band 77-81 GHz
81 - 84 GHz	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space Research (space-to-Earth) 5.149 5.560A	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space Research (space-to-Earth) 5.149 5.560A EU27	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space Research (space-to-Earth) 5.149 5.560A EU27	1. Government Use 2. Radio astronomy applications	1. Government Use: Harmonized band. Pairing with 71-74 GHz is envisaged. 2. Radio astronomy applications: Spectral line and wide band continuum observations
84 - 86 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.561A MOBILE RADIO ASTRONOMY 5.149	FIXED FIXED-SATELLITE (Earth-to-space) 5.561A MOBILE RADIO ASTRONOMY 5.149	FIXED FIXED-SATELLITE (Earth-to-space) 5.561A MOBILE RADIO ASTRONOMY 5.149	1. Future civil fixed and mobile systems 2. Radio astronomy applications	1. Future civil fixed and mobile systems 2. Radio astronomy applications: Spectral line and wide band continuum observations
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	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	1. Passive applications	1. Passive applications: Continuum and spectral line measurements

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
92 - 94 GHz	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149 EU2	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149 EU2	1. Radio astronomy applications 2. Short range radar	1. Radio astronomy applications: Diazenylium line and numerous other spectral lines including wide band continuum observations 2. Short range radar
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 5.562A EU2	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.562 5.562A EU2	1. Cloud profiler radar 2. Short range radar	
94.1 - 95 GHz	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149 EU2	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149 EU2	1. Radio astronomy applications 2. Short range radar	1. Radio astronomy applications: Spectral lines and wide band continuum observations 2. Short range radar
95 - 100 GHz	FIXED MOBILE RADIO ASTRONOMY RADIO LOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	FIXED MOBILE RADIO ASTRONOMY RADIO LOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554 EU2	FIXED MOBILE RADIO ASTRONOMY RADIO LOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554 EU2	1. Radio astronomy applications	1. Radio astronomy applications: Multiple line observations including wide band continuum observations
100 - 102 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	1. Earth Exploration Satellite systems 2. Radio astronomy applications	1. Earth Exploration Satellite systems: Limb sounding of atmospheric constituents 2. Radio astronomy applications: Spectral line and wide band continuum observations
102 - 105 GHz	FIXED MOBILE RADIO ASTRONOMY 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY 5.149 5.341	1. Radio astronomy applications	1. Radio astronomy applications: Spectral line and wide band continuum observations

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
105-109.5 GHz	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341		
109.5-111.8 GHz	EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	1. Radio astronomy applications	1. Radio astronomy applications: Observations of CO lines at 109.8 and 110.2 GHz and for continuum observations
111.8-114.25 GHz	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341		
114.25-116 GHz	EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	1. Radio astronomy applications	1. Radio astronomy applications: Observations of the 115.3 GHz CO line
116-119.98 GHz	EARTH EXPLORATION- SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.341	EARTH EXPLORATION- SATELLITE (passive) INTER-SATELLITE 5.562C 5.341	EARTH EXPLORATION- SATELLITE (passive) INTER-SATELLITE 5.562C 5.341	1. Passive applications	1. Passive applications: Passive sensing as part of the oxygen absorption band with peak at 118.75 GHz
119.98-120.02 GHz	EARTH EXPLORATION- SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.341	EARTH EXPLORATION- SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.341	EARTH EXPLORATION- SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.341	1. Passive applications	1. Passive applications: Passive sensing as part of the oxygen absorption band with peak at 118.75 GHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
120.02-122.25 GHz	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138	1. Passive applications 2. Non Specific SRD	1. Passive applications: Passive sensing as part of the oxygen absorption band with peak at 118.75 GHz 2. Non Specific SRD: In accordance to the Implementing Decision 2011/829/EU in the band 122-123 GHz.
122.25-123 GHz	FIXED INTER-SATELLITE MOBILE 5.558 Amateur 5.138	FIXED INTER-SATELLITE MOBILE 5.558 Amateur 5.138	FIXED INTER-SATELLITE MOBILE 5.558 Amateur 5.138	1. Amateur applications 2. Amateur Satellite applications 3. Non specific SRD	1. Amateur applications: EN 301 783 2. Amateur Satellite applications: EN 301 783 3. Non specific SRD: In accordance to the Implementing Decision 2011/829/EU in the band 122-123 GHz.
123-126 GHz	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.554	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.554	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.554		
126-130 GHz	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.562D 5.149	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.149 5.554	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.149 5.554		
130-134 GHz	EARTH EXPLORATION-SATELLITE (active) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149 5.562A	EARTH EXPLORATION-SATELLITE (active) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149 5.562A	EARTH EXPLORATION-SATELLITE (active) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149 5.562A	1. Radio astronomy applications	1. Radio astronomy applications: Spectral line and wide band continuum observations
134-136 GHz	AMATEUR AMATEUR-SATELLITE Radio astronomy	AMATEUR AMATEUR-SATELLITE Radio astronomy	AMATEUR AMATEUR-SATELLITE Radio astronomy	1. Amateur applications 2. Amateur Satellite applications	1. Amateur applications: EN 301 783 2. Amateur Satellite applications: EN 301 783

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
136-141 GHz	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.149	1. Amateur applications 2. Amateur Satellite applications 3. Radio astronomy applications	1. Amateur applications: EN 301 783 2. Amateur Satellite applications: EN 301 783 3. Radio astronomy applications: Spectral line and wide band continuum observations
141-148.5 GHz	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	1. Radio astronomy applications	1. Radio astronomy applications: Spectral line and wide band continuum observations
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	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	1. Passive applications	1. Passive applications: 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	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	1. Radio astronomy applications	1. Radio astronomy applications: 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) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.562G	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.562G	1. Earth Exploration Satellite systems 2. Radio astronomy applications	1. Earth Exploration Satellite systems: Protection until 1.1.2018 2. Radio astronomy applications: Spectral line and wide band continuum observations
158.5-164 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)		

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
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	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	1. Passive applications	1. Passive applications: Harmonised reference window for passive sensor observations of the 183.31 GHz water vapor line. Microwave limb sounding of the 164.38 GHz CO line
167-168 GHz	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558		
168-170 GHz	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149		
170-174.5 GHz	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149		
174.5-174.8 GHz	FIXED INTER-SATELLITE MOBILE 5.558	FIXED INTER-SATELLITE MOBILE 5.558	FIXED INTER-SATELLITE MOBILE 5.558	1. Passive applications	1. Passive applications: Passive sensing of the water vapour absorption line whose peak is at 183.31 GHz
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)	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	1. Passive applications	1. Passive applications: 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 5.563	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.563	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.563	1. Passive applications	1. Passive applications: Passive sensing of the water vapour absorption line whose peak is at 183.31 GHz

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
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)	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	1. Passive applications	1. Passive applications: Passive sensing of the water vapour absorption line whose peak is at 183.31 GHz
190-191.8 GHz	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	1. Passive applications	1. Passive applications: 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	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	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341 5.563A	1. Earth Exploration observations 2. Radio astronomy applications	1. Earth Exploration observations: Atmospheric chemistry (limb sounding) and atmospheric remote sensing of nitrous oxide at 201 GHz 2. Radio astronomy applications: Spectral line and wide band continuum observations
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	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341 5.563A	1. Earth exploration observation	1. Earth Exploration observations: Atmospheric chemistry (limb sounding) and atmospheric remote sensing of water vapor at 203.4 GHz and ozone at 208.5 GHz
209-217 GHz	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.341	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.341	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.341	1. Radio astronomy applications	1. Radio astronomy applications: Spectral line and wide band continuum observations

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
217-226 GHz	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341		
226-231.5 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	1. Passive applications 2. Radio astronomy applications	1. Passive applications: Passive sensors for limb sounding of atmospheric constituents 2. Radio astronomy applications: Observations of the 230.5 GHz CO line
231.5-232 GHz	FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation		
232-235 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation		
235-238 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 5.563A 5.563B			1. Passive applications 2. Radio astronomy applications	1. Passive applications: Passive sensing limited to microwave sounding 2. Radio astronomy applications: Spectral line and wide band continuum observations
238-240 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE		
240-241 GHz	FIXED MOBILE RADIOLOCATION	FIXED MOBILE RADIOLOCATION	FIXED MOBILE RADIOLOCATION		

Frequency Band	RR Region 1 Allocation	European Common Allocation (ERC Report 25)	National Allocation	National Usage	Remarks
241-248 GHz	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.138 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.138 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.138 5.149	1. Amateur applications 2. Amateur Satellite applications 3. Non specific SRD 4. Radio astronomy applications	1. Amateur applications: EN 301 783 2. Amateur Satellite applications: EN 301 783 3. Non specific SRD: In accordance to the Implementing Decision 2011/829/EU in the band 244-246 GHz. 4. Radio astronomy applications: 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 AMATEUR-SATELLITE Radio astronomy 5.149	1. Amateur applications 2. Amateur Satellite applications	1. Amateur applications: EN 301 783 2. Amateur Satellite applications: 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	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.563A	1. Earth exploration observation	1. Earth exploration observation: Limb sounding of nitrous oxide near 251 GHz
252-265 GHz	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	1. Radio astronomy applications	1. Radio astronomy applications: Spectral line and wide band continuum observations
265 - 275 GHz	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.563A	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.563A	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.563A		
275-1000 GHz	(Not allocated) 5.565				

**NATIONAL USAGE IN THE RADIOFREQUENCY SPECTRUM 9 kHz UP TO 1000 GHz  
FOR EQUIPMENT USING ULTRA WIDEBAND TECHNOLOGY (UWB)**

Frequency Band	Remarks
<u>below 1,6 GHz</u>	In accordance to the Decision 2007/131/EC and the Decision 2009/343/EC In accordance to ECC/DEC/(07)01 amended for Material Sensing devices using Ultra-Wideband (UWB) technology
<u>1,6 - 2,7 GHz</u>	In accordance to the Decision 2007/131/EC and the Decision 2009/343/EC In accordance to ECC/DEC/(07)01 amended for Material Sensing devices using Ultra-Wideband (UWB) technology
<u>2,7 - 3,4 GHz</u>	In accordance to the Decision 2007/131/EC and the Decision 2009/343/EC In accordance to ECC/DEC/(07)01 amended for Material Sensing devices using Ultra-Wideband (UWB) technology
<u>3,4 - 3,8 GHz</u>	In accordance to the Decision 2007/131/EC and the Decision 2009/343/EC In accordance to ECC/DEC/(07)01 amended for Material Sensing devices using Ultra-Wideband (UWB) technology
<u>3,8 - 4,2 GHz</u>	In accordance to the Decision 2007/131/EC and the Decision 2009/343/EC In accordance to ECC/DEC/(07)01 amended for Material Sensing devices using Ultra-Wideband (UWB) technology
<u>4,2 - 4,8 GHz</u>	In accordance to the Decision 2007/131/EC and the Decision 2009/343/EC In accordance to ECC/DEC/(07)01 amended for Material Sensing devices using Ultra-Wideband (UWB) technology
<u>4,8 - 6,0 GHz</u>	In accordance to the Decision 2007/131/EC and the Decision 2009/343/EC In accordance to ECC/DEC/(07)01 amended for Material Sensing devices using Ultra-Wideband (UWB) technology
<u>6,0 - 8,5 GHz</u>	In accordance to the Decision 2007/131/EC and the Decision 2009/343/EC In accordance to ECC/DEC/(07)01 amended for Material Sensing devices using Ultra-Wideband (UWB) technology
<u>8,5 - 10,6 GHz</u>	In accordance to the Decision 2007/131/EC and the Decision 2009/343/EC In accordance to ECC/DEC/(07)01 amended for Material Sensing devices using Ultra-Wideband (UWB) technology
<u>above 10,6 GHz</u>	In accordance to the Decision 2007/131/EC and the Decision 2009/343/EC In accordance to ECC/DEC/(07)01 amended for Material Sensing devices using Ultra-Wideband (UWB) technology

**NATIONAL USAGE IN THE RADIOFREQUENCY SPECTRUM 9 kHz UP TO 1000 GHz  
FOR SHORT RANGE DEVICES (SRDs) THAT ARE NOT INCLUDED IN PART 1.1 OF THE RADIOFREQUENCY PLAN OF THE REPUBLIC**

Frequency Band	SRD type	Remarks
4,5-7,0 GHz	Tank Level Probing Radar	In accordance to the Decision 2009/381/EC
8,5-10,6 GHz	Tank Level Probing Radar	In accordance to the Decision 2009/381/EC
24,05-27,0 GHz	Tank Level Probing Radar	In accordance to the Decision 2009/381/EC
57-64 GHz	Tank Level Probing Radar	In accordance to the Decision 2009/381/EC
75-85 GHz	Tank Level Probing Radar	In accordance to the Decision 2009/381/EC
148,5 kHz-5 MHz	Inductive applications	In accordance to the Decision 2008/432/EC
5-30 MHz	Inductive applications	In accordance to the Decision 2008/432/EC
400-600 kHz	Inductive applications	In accordance to the Decision 2008/432/EC
9-315 kHz	Active medical implants	In accordance to the Decision 2008/432/EC
315-600 kHz	Animal implantable devices	In accordance to the Decision 2010/368/EU
12,5-20 MHz	Animal implantable devices	In accordance to the Decision 2010/368/EU

## ***European footnotes included in the European Common Allocation Table***

<b><i>EU-foot-number</i></b>	<b><i>EU-footnote text</i></b>
EU1	Within the frequency band 20-108 MHz the common military tuning range is 30-87.5 MHz, however, some equipment types use the lower (20 MHz) and upper (108 MHz) limits, regulated on a national basis. The harmonised military bands are: -30.30-30.50 MHz; 32.15-32.45 MHz; 41.00-47.00 MHz; 73.30-74.10 MHz; 79.0-79.70 MHz. When providing for additional requirements, further blocks of frequencies should be spread out over the whole common military tuning range in order to supply frequencies for frequency hopping equipment and to support a larger force (corps size, three divisions). This should be done by the national frequency management organisation(s) concerned.
EU2	Civil-military sharing.
EU3	CEPT administrations are urged to take all practical steps to clear the band 47-68 MHz of assignments to the broadcasting service. The broadcasting assignments according to Stockholm Agreement 1961 shall be protected.
EU4	CEPT administrations are urged to take all practical steps to clear the band 68 - 73 MHz of assignments to the broadcasting service. The broadcasting assignments according to the Final Acts of the Special Regional Conference, Geneva, 1961 shall be protected.
EU5	In parts of this band aeronautical stations and aircraft stations may utilise 8.33 kHz channel spacing for non secure communications requirements.
EU6	The mobile-satellite service is limited to low earth orbiting satellites.
EU7	This band can also be used by low capacity fixed links in rural areas on a national basis. These links need to be coordinated with mobile service and require full protection.
EU8	Any use of low capacity fixed links shall be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service.
EU9	In a growing number of CEPT countries, parts of the band 70.0-70.5 MHz is also allocated to the Amateur service on a secondary basis.
EU10	The mobile service in the harmonised military band 225-400 MHz generally comprises land, air maritime and satellite mobile applications.
EU11	Not used.
EU12	The applicable RR 5 footnotes remain in force. Administrations are however urged to aim for the fullest possible harmonisation with the ITU Table of Allocations and ECA.
EU13	CEPT Administrations are urged to take all practical steps to clear the band 645-960 MHz of the assignments to the aeronautical radionavigation service 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 and do not claim protection from them. The common requirement of 2 x 45 MHz for tactical radio relay for cross/near border operations and exercises should be met from 2025-2110 MHz and 2200-2290 MHz and in particular the bands 2025-2070 / 2200-2245 MHz.
EU15A	Use of the band by the mobile service is limited to tactical radio relay applications.
EU16	On the introduction of IMT, the fixed service will become secondary in appropriate parts of the band.
EU16A	Use of the band by the mobile service is limited to tactical radio relay and SAP/SAB applications.
EU17	In the sub-bands 3400 - 3410 MHz, 5660 - 5670 MHz, 10.36 - 10.37 GHz, 10.45 - 10.46 GHz the amateur service operates on a secondary basis. In making assignments to other services, CEPT administrations are requested wherever possible to maintain these sub-bands in such a way as to facilitate the reception of amateur emissions with minimal power flux densities.

EU17A	Use of the band by the mobile service is limited to SAP/SAB applications.
EU18	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, 1710-1785 / 1805-1880 MHz, 1900-1980 MHz, 2010-2025 MHz and 2010-2170 MHz are reserved for public cellular mobile use only. Other services such as the fixed service should only be allowed in the above bands where coexistence with public mobile systems is possible i.e. in sparsely populated or rural areas where the frequency band is not needed for mobile cellular systems.
EU30	National administrations should consider co-ordination zones around the EISCAT sites when using the band 925-935 MHz for mobile services including international planning for military services. Short Range Devices should not use this band.
EU31	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 (3rd generation terrestrial mobile system) , depending on the market demands and national licensing schemes.
EU33	The band 1880-1900 MHz is generally expected to be used by IMT/DECT
EU34	Parts of the bands 450-457.5 / 460-467.5 MHz may also be used for existing and evolving public cellular networks on a national basis.
EU35	In Europe the band 75.5-76 GHz is also allocated to the Amateur and Amateur Satellite services.

## ***ITU Radio Regulations footnotes for Region 1***

<b><i>RR-foot-no</i></b>	<b><i>Radio Regulation footnote text</i></b>
5.53	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
5.54	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.
5.55	Additional allocation: in Armenia, Azerbaijan, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the band 14-17 kHz is also allocated to the radionavigation service on a primary basis. (WRC-07)
5.56	The stations of services to which the bands 14-19.95 kHz and 20.05-70 kHz and in Region 1 also the bands 72-84 kHz and 86-90 kHz are allocated may transmit standard frequency and time signals. Such stations shall be afforded protection from harmful interference. In Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Mongolia, Kyrgyzstan, Slovakia, Tajikistan and Turkmenistan, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-07)
5.57	The use of the bands 14-19.95 kHz, 20.05-70 kHz and 70-90 kHz (72-84 kHz and 86-90 kHz in Region 1) by the maritime mobile service is limited to coast radiotelegraph stations (A1A and F1B only). Exceptionally, the use of class J2B or J7B emissions is authorized subject to the necessary bandwidth not exceeding that normally used for class A1A or F1B emissions in the band concerned.
5.58	Additional allocation: in Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, the band 67-70 kHz is also allocated to the radionavigation service on a primary basis. (WRC-2000)
5.60	In the bands 70-90 kHz (70-86 kHz in Region 1) and 110-130 kHz (112-130 kHz in Region 1), pulsed radionavigation systems may be used on condition that they do not cause harmful interference to other services to which these bands are allocated.
5.62	Administrations which operate stations in the radionavigation service in the band 90-110 kHz are urged to coordinate technical and operating characteristics in such a way as to avoid harmful interference to the services provided by these stations.
5.64	Only classes A1A or F1B, A2C, A3C, F1C or F3C emissions are authorized for stations of the fixed service in the bands allocated to this service between 90 kHz and 160 kHz (148.5 kHz in Region 1) and for stations of the maritime mobile service in the bands allocated to this service between 110 kHz and 160 kHz (148.5 kHz in Region 1). Exceptionally, class J2B or J7B emissions are also authorized in the bands between 110 kHz and 160 kHz (148.5 kHz in Region 1) for stations of the maritime mobile service.
5.66	Different category of service: in Germany, the allocation of the band 115-117.6 kHz to the fixed and maritime mobile services is on a primary basis (see No. 5.33) and to the radionavigation service on a secondary basis (see No.5.32).
5.67	Additional allocation: in Mongolia, Kyrgyzstan and Turkmenistan, the band 130-148.5 kHz is also allocated to the radionavigation service on a secondary basis. Within and between these countries this service shall have an equal right to operate. (WRC-07)
5.67A	Stations in the amateur service using frequencies in the band 135.7-137.8 kHz shall not exceed a maximum radiated power of 1 W (e.i.r.p.) and shall not cause harmful interference to stations of the radionavigation service operating in countries listed in No. 5.67. (WRC-07)
5.67B	The use of the band 135.7-137.8 kHz in Algeria, Egypt, Iran (Islamic Republic of), Iraq, Libyan Arab Jamahiriya, Lebanon, Syrian Arab Republic, Sudan and Tunisia is limited to the fixed and maritime mobile services. The amateur service shall not be used in the above-mentioned countries in the band 135.7-137.8 kHz, and this should be taken into account by the countries authorizing such use. (WRC-07)
5.68	Alternative allocation: in Angola, Burundi, Congo (Rep. of the), Malawi, the Dem. Rep. of the Congo, Rwanda and South Africa, the band 160-200 kHz is allocated to the fixed service on a primary basis. (WRC-03)
5.69	Additional allocation: in Somalia, the band 200-255 kHz is also allocated to the aeronautical radionavigation service on a primary basis.
5.70	Alternative allocation: in Angola, Botswana, Burundi, the Central African Rep., Congo (Rep. of the), Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, the Dem. Rep. of the Congo,

- Rwanda, South Africa, Swaziland, Tanzania, Chad, Zambia and Zimbabwe, the band 200-283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. (WRC-07)
- 5.71 Alternative allocation: in Tunisia, the band 255-283.5 kHz is allocated to the broadcasting service on a primary basis
- 5.72 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.
- 5.73 The band 285-325 kHz (283.5-325 kHz in Region 1) in the maritime radionavigation service may be used to transmit supplementary navigational information using narrow-band techniques, on condition that no harmful interference is caused to radiobeacon stations operating in the radionavigation service. (WRC-97)
- 5.74 Additional Allocation: in Region 1, the frequency band 285.3-285.7 kHz is also allocated to the maritime radionavigation service (other than radiobeacons) on a primary basis.
- 5.75 Different category of service: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Moldova, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine and the Black Sea areas of Romania, the allocation of the band 315-325 kHz to the maritime radionavigation service is on a primary basis under the condition that in the Baltic Sea area, the assignment of frequencies in this band to new stations in the maritime or aeronautical radionavigation services shall be subject to prior consultation between the administrations concerned. (WRC-07)
- 5.76 The frequency 410 kHz is designated for radio direction-finding in the maritime radionavigation service. The other radionavigation services to which the band 405-415 kHz is allocated shall not cause harmful interference to radio direction-finding in the band 406.5-413.5 kHz.
- 5.79 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.
- 5.79A When establishing coast stations in the NAVTEX service on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organization (IMO) (see Resolution 339 (Rev.WRC-07)). (WRC-07)
- 5.82 In the maritime mobile service, the frequency 490 kHz is to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles 31 and 52. In using the band 415-495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz. (WRC-07)
- 5.82A The use of the band 495-505 kHz is limited to radiotelegraphy. (WRC-07)
- 5.82B Administrations authorizing the use of frequencies in the band 495-505 kHz by services other than the maritime mobile service shall ensure that no harmful interference is caused to the maritime mobile service in this band or to the services having allocations in the adjacent bands, noting in particular the conditions of use of the frequencies 490 kHz and 518 kHz, as prescribed in Articles 31 and 52. (WRC-07)
- 5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles 31 and 52. (WRC-07)
- 5.87 Additional allocation: in Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland and Zimbabwe, the band 526.5-535 kHz is also allocated to the mobile service on a secondary basis. (WRC-03)
- 5.87A Additional allocation: in Uzbekistan, the band 526.5-1 606.5 kHz is also allocated to the radionavigation service on a primary basis. Such use is subject to agreement obtained under No. 9.21 with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-97)
- 5.90 In the band 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.
- 5.92 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.
- 5.93 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan, Chad, Turkmenistan and Ukraine, the bands 1 625-1 635 kHz, 1 800-1 810 kHz and 2 160-2 170 kHz are also allocated to the fixed and land mobile services on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-07)
- 5.96 In Germany, Armenia, Austria, Azerbaijan, Belarus, Denmark, Estonia, Finland, Georgia, Hungary, Iceland, Ireland, Israel, Kazakhstan, Latvia, Liechtenstein, Lithuania, Malta, Moldova, Norway, Uzbekistan, Poland,

Kyrgyzstan, Slovakia, the Czech Rep., the United Kingdom, the Russian Federation, Sweden, Switzerland, Tajikistan, Turkmenistan and Ukraine, administrations may allocate up to 200 kHz to their amateur service in the bands 1 715-1 800 kHz and 1 850-2 000 kHz. However, when allocating the bands within this range to their amateur service, administrations shall, after prior consultation with administrations of neighbouring countries, take such steps as may be necessary to prevent harmful interference from their amateur service to the fixed and mobile services of other countries. The mean power of any amateur station shall not exceed 10 W. (WRC-03)

- 5.98 Alternative allocation: in Angola, Armenia, Azerbaijan, Belarus, Belgium, Cameroon, Congo (Rep. of the), Denmark, Egypt, Eritrea, Spain, Ethiopia, the Russian Federation, Georgia, Greece, Italy, Kazakhstan, Lebanon, Lithuania, Moldova, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Tunisia, Turkmenistan, Turkey and Ukraine, the band 1 810-1 830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-07)
- 5.99 Additional allocation: in Saudi Arabia, Austria, Iraq, the Libyan Arab Jamahiriya, Uzbekistan, Slovakia, Romania, Serbia, 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-07)
- 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.
- 5.101 Alternative allocation: in Burundi and Lesotho, the band 1 810-1 850 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.
- 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.
- 5.107 Additional allocation: in Saudi Arabia, Eritrea, Ethiopia, Iraq, the Libyan Arab Jamahiriya, Lesotho, Somalia and Swaziland, the band 2 160-2 170 kHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. The mean power of stations in these services shall not exceed 50 W. (WRC-03)
- 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. (WRC-07)
- 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, 156.525 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles. The conditions for the use of the frequencies are prescribed in Article 31.
- The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of  $\pm 3$  kHz about the frequency. (WRC-07)
- 5.112 Alternative allocation: in Denmark, Malta, Serbia 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-07)
- 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 Denmark, Iraq, Malta, and Serbia, the band 2 502-2 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-07)
- 5.115 The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Article 31 by stations of the maritime mobile service engaged in coordinated search and rescue operations. (WRC-07)
- 5.116 Administrations are urged to authorize the use of the band 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 Côte d'Ivoire, Denmark, Egypt, Liberia, Malta, Serbia, 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-07)

- 5.123 Additional allocation: in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the band 3 900-3 950 kHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21.
- 5.125 Additional allocation: in Greenland, the band 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 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, on condition that harmful interference is not caused to the maritime mobile service. In addition, in Afghanistan, Argentina, Armenia, Azerbaijan, Belarus, Botswana, Burkina Faso, the Central African Rep., China, the Russian Federation, Georgia, India, Kazakhstan, Mali, Niger, Kyrgyzstan, 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 in the fixed service, with a mean power not exceeding 1 kW, can be operated on condition that they are situated at least 600 km from the coast and that harmful interference is not caused to the maritime mobile service. (WRC-07)
- 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**. (WRC-07)
- 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, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 5 130-5 250 kHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33). (WRC-07)
- 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 is subject to the application of the procedure of Article **12**. Administrations are encouraged to use these bands to facilitate the introduction of digitally modulated emissions in accordance with the provisions of Resolution **517 (Rev.WRC-07)**. (WRC-07)
- 5.136 Additional allocation: Frequencies in the band 5 900-5 950 kHz may be used by stations in the following services, communicating only within the boundary of the country in which they are located: fixed service (in all three Regions), land mobile service (in Region 1), mobile except aeronautical mobile (R) service (in Regions 2 and 3), on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)
- 5.137 On condition that harmful interference is not caused to the maritime mobile service, the bands 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, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Mongolia, Uzbekistan, Kyrgyzstan, 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-07)
- 5.140 Additional allocation: in Angola, Iraq, Kenya, Rwanda, Somalia and Togo, the band 7 000-7 050 kHz is also allocated to the fixed service on a primary basis. (WRC-03)
- 5.141 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)
- 5.141A Additional allocation: in Uzbekistan and Kyrgyzstan, the bands 7 000-7 100 kHz and 7 100-7 200 kHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-03)
- 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 Additional allocation: Frequencies in the band 7 300-7 350 kHz may be used by stations in the fixed service and in the land mobile service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)
- 5.143B In Region 1, 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)
- 5.143C Additional allocation: after 29 March 2009 in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, Jordan, Kuwait, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, Tunisia and Yemen, the bands 7 350-7 400 kHz and 7 400-7 450 kHz are also allocated to the fixed service on a primary basis. (WRC-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. (WRC-07)
- 5.146 Additional allocation: Frequencies in 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 may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)
- 5.147 On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 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,              | 10.6-10.68 GHz,  | 102-109.5 GHz,     |
| 25 550-25 670 kHz,              | 14.47-14.5 GHz,  | 111.8-114.25 GHz,  |
| 37.5-38.25 MHz,                 | 22.01-22.21 GHz, | 128.33-128.59 GHz, |
| 73-74.6 MHz IN REGIONS 1 AND 3, | 22.21-22.5 GHz,  | 129.23-129.49 GHz, |
| 150.05-153 MHz IN REGION 1,     | 22.81-22.86 GHz, | 130-134 GHz,       |
| 322-328.6 MHz,                  | 23.07-23.12 GHz, | 136-148.5 GHz,     |

406.1-410 MHz,	31.2-31.3 GHz,	151.5-158.5 GHz,
608-614 MHz IN REGIONS 1 AND 3,	31.5-31.8 GHz IN REGIONS 1 AND 3,	168.59-168.93 GHz,
1 330-1 400 MHz,	36.43-36.5 GHz,	171.11-171.45 GHz,
1 610.6-1 613.8 MHz,	42.5-43.5 GHz,	172.31-172.65 GHz,
1 660-1 670 MHz,	42.77-42.87 GHz,	173.52-173.85 GHz,
1 718.8-1 722.2 MHz,	43.07-43.17 GHz,	195.75-196.15 GHz,
2 655-2 690 MHz,	43.37-43.47 GHz,	209-226 GHz,
3 260-3 267 MHz,	48.94-49.04 GHz,	241-250 GHz,
3 332-3 339 MHz,	76-86 GHz,	252-275 GHz
3 345.8-3 352.5 MHz,	92-94 GHz,	
4 825-4 835 MHz,	94.1-100 GHz,	
4 950-4 990 MHz,		
4 990-5 000 MHz,		
6 650-6 675.2 MHz,		

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 Additional allocation: Frequencies in the bands 13 570-13 600 kHz and 13 800-13 870 kHz may be used by stations in the fixed service and in the mobile except aeronautical mobile (R) service, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies in these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)
- 5.152 Additional allocation: in Armenia, Azerbaijan, China, Côte d'Ivoire, Georgia, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 14 250-14 350 kHz is also allocated to the fixed service on a primary basis. Stations of the fixed service shall not use a radiated power exceeding 24 dBW. (WRC-03)
- 5.154 Additional allocation: in Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 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, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the band 21 850-21 870 kHz is also allocated to the aeronautical mobile (R) service on a primary basis. (WRC-07)
- 5.155A In Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the use of the band 21 850-21 870 kHz by the fixed service is limited to provision of services related to aircraft flight safety. (WRC-07)
- 5.155B The band 21 870-21 924 kHz is used by the fixed service for provision of services related to aircraft flight safety.
- 5.156 Additional allocation: in Nigeria, the band 22 720-23 200 kHz is also allocated to the meteorological aids service (radiosondes) on a primary basis.
- 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.
- 5.160 Additional allocation: in Botswana, Burundi, Lesotho, Malawi, Dem. Rep. of the Congo, Rwanda and Swaziland, the band 41-44 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-2000)

- 5.162A *Additional allocation:* in Germany, Austria, Belgium, Bosnia and Herzegovina, China, Vatican, Denmark, Spain, Estonia, the Russian Federation, Finland, France, Ireland, Iceland, Italy, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Luxembourg, Monaco, Montenegro, Norway, the Netherlands, Poland, Portugal, Slovakia, the Czech Rep., the United Kingdom, Serbia, Slovenia, Sweden and Switzerland the band 46-68 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution 217 (WRC-97). (WRC-07)
- 5.163 *Additional allocation:* in Armenia, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Rep., 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-07)
- 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, the Libyan Arab Jamahiriya, Jordan, Lebanon, Liechtenstein, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Montenegro, Nigeria, Norway, the Netherlands, Poland, Syrian Arab Republic, Romania, the United Kingdom, Serbia, Slovenia, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 47-68 MHz, in South Africa the band 47-50 MHz, in the Czech Rep. the band 66-68 MHz, and in Latvia and Lithuania the band 48.5-56.5 MHz, are also allocated to the land mobile service on a primary basis. However, stations of the land mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations of countries other than those mentioned in connection with the band. (WRC-07)
- 5.165 *Additional allocation:* in Angola, Cameroon, Congo (Rep. of the), Madagascar, Mozambique, Somalia, Sudan, Tanzania and Chad, the band 47-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.
- 5.169 *Alternative allocation:* in Botswana, Burundi, Lesotho, Malawi, Namibia, the Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 50-54 MHz is allocated to the amateur service on a primary basis.
- 5.171 *Additional allocation:* in Botswana, Burundi, Lesotho, Malawi, Mali, Namibia, Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland and Zimbabwe, the band 54-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis
- 5.175 *Alternative allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 68-73 MHz and 76-87.5 MHz are allocated to the broadcasting service on a primary basis. In Latvia and Lithuania, the bands 68-73 MHz and 76-87.5 MHz are allocated to the broadcasting and mobile, except aeronautical mobile, services on a primary basis. The services to which these bands are allocated in other countries and the broadcasting service in the countries listed above are subject to agreements with the neighbouring countries concerned. (WRC-07)
- 5.176 *Additional allocation:* in Australia, China, Korea (Rep. of), the Philippines, the Dem. People's Rep. of Korea and Samoa, the band 68-74 MHz is also allocated to the broadcasting service on a primary basis. (WRC-07)
- 5.177 *Additional allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 73-74 MHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-07)
- 5.179 *Additional allocation:* in Armenia, Azerbaijan, Belarus, China, the Russian Federation, Georgia, Kazakhstan, Lithuania, Mongolia, Kyrgyzstan, Slovakia, 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-07)
- 5.180 The frequency 75 MHz is assigned to marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services which, because of their power or geographical position, might cause harmful interference or otherwise place a constraint on marker beacons.  
Every effort should be made to improve further the characteristics of airborne receivers and to limit the power of transmitting stations close to the limits 74.8 MHz and 75.2 MHz.
- 5.181 *Additional allocation:* in Egypt, Israel and the Syrian Arab Republic, the band 74.8-75.2 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. 9.21. (WRC-03)
- 5.187 *Alternative allocation:* in Albania, the band 81 - 87.5 MHz is allocated to the broadcasting service on a primary basis and used in accordance with the decisions contained in the Final Acts of the Special Regional Conference (Geneva, 1960).
- 5.190 *Additional allocation:* in Monaco, the band 87.5 - 88 MHz is also allocated to the land mobile service on a

- primary basis, subject to agreement obtained under No. 9.21. (WRC-97)
- 5.194 Additional allocation: in Azerbaijan, Kyrgyzstan, Somalia and Turkmenistan, the band 104-108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-07)
- 5.197 Additional allocation: in Pakistan and the Syrian Arab Republic, the band 108-111.975 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedures invoked under No. 9.21. (WRC-07)
- 5.197A Additional allocation: the band 108-117.975 MHz is also allocated on a primary basis to the aeronautical mobile (R) service, limited to systems operating in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution 413 (Rev.WRC-07). The use of the band 108-112 MHz by the aeronautical mobile (R) service shall be limited to systems composed of ground-based transmitters and associated receivers that provide navigational information in support of air navigation functions in accordance with recognized international aeronautical standards. (WRC-07)
- 5.200 In the band 117.975-137 MHz, the frequency 121.5 MHz is the aeronautical emergency frequency and, where required, the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz. Mobile stations of the maritime mobile service may communicate on these frequencies under the conditions laid down in Article 31 for distress and safety purposes with stations of the aeronautical mobile service. (WRC-07)
- 5.201 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Latvia, Moldova, Mongolia, Mozambique, Uzbekistan, Papua New Guinea, Poland, Kyrgyzstan, 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)
- 5.204 Different category of service: in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, Cuba, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Kuwait, Montenegro, Oman, Pakistan, the Philippines, Qatar, Serbia, Singapore, Thailand and Yemen, the band 137-138 MHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis (see No. 5.33). (WRC-07)
- 5.205 Different category of service: in Israel and Jordan, the allocation of the band 137-138 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33).
- 5.206 Different category of service: in Armenia, Azerbaijan, Belarus, Bulgaria, Egypt, Finland, France, Georgia, Greece, Kazakhstan, 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 the relevant ITU-R Recommendation. (WRC-07)
- 5.209 The use of the bands 137-138 MHz, 148-150.05 MHz, 399.9-400.05 MHz, 400.15-401 MHz, 454-456 MHz and 459-460 MHz by the mobile-satellite service is limited to non-geostationary-satellite systems. (WRC-97)
- 5.210 Additional allocation: in Italy, the Czech Rep. and the United Kingdom, the bands 138-143.6 MHz and 143.65-144 MHz are also allocated to the space research service (space-to-Earth) on a secondary basis. (WRC-07)
- 5.211 Additional allocation: in Germany, Saudi Arabia, Austria, Bahrain, Belgium, Denmark, the United Arab Emirates, Spain, Finland, Greece, Ireland, Israel, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Liechtenstein, Luxembourg, Mali, Malta, Montenegro, Norway, the Netherlands, Qatar, the United Kingdom, Serbia, Slovenia, Somalia, Sweden, Switzerland, Tanzania, Tunisia and Turkey, the band 138-144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis. (WRC-07)

- 5.212 Alternative allocation: in Angola, Botswana, Burundi, Cameroon, the Central African Rep., Congo (Rep. of the), Gabon, Gambia, Ghana, Guinea, Iraq, Libyan Arab Jamahiriya, Jordan, Lesotho, Liberia, Malawi, Mozambique, Namibia, Oman, Uganda, Syrian Arab Republic, the Dem. Rep. of the Congo, Rwanda, Sierra Leone, South Africa, Swaziland, Chad, Togo, Zambia and Zimbabwe, the band 138-144 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-07)
- 5.214 Additional allocation: in Eritrea, Ethiopia, Kenya, The Former Yugoslav Republic of Macedonia, Malta, Montenegro, Serbia, Somalia, Sudan and Tanzania, the band 138-144 MHz is also allocated to the fixed service on a primary basis. (WRC-07)
- 5.218 Additional allocation: the band 148 - 149.9 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. 9.21. The bandwidth of any individual transmission shall not exceed  $\pm 25$  kHz.
- 5.219 The use of the band 148 - 149.9 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The mobile-satellite service shall not constrain the development and use of the fixed, mobile and space operation services in the band 148 - 149.9 MHz.
- 5.220 The use of the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The mobile-satellite service shall not constrain the development and use of the radionavigation-satellite service in the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz. (WRC-97)
- 5.221 Stations of the mobile-satellite service in the band 148-149.9 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations in the following countries: Albania, Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bosnia and Herzegovina, Botswana, Brunei Darussalam, Bulgaria, Cameroon, China, Cyprus, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Croatia, Cuba, Denmark, Egypt, the United Arab Emirates, Eritrea, Spain, Estonia, Ethiopia, the Russian Federation, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, Iran (Islamic Republic of), Ireland, Iceland, Israel, Italy, the Libyan Arab Jamahiriya, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Montenegro, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, the Philippines, Poland, Portugal, Qatar, the Syrian Arab Republic, Kyrgyzstan, Dem. People's Rep. of Korea, Slovakia, Romania, the United Kingdom, Senegal, Serbia, Sierra Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia, and Zimbabwe. (WRC-07)
- 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 and the band 156.7625-156.8375 MHz are contained in Article 31 and Appendix 18.

The frequency 156.525 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service using digital selective calling (DSC). The conditions for the use of this frequency and the band 156.4875-156.5625 MHz are contained in Articles 31 and 52, and in Appendix 18.

In the bands 156-156.4875 MHz, 156.5625-156.7625 MHz, 156.8375-157.45 MHz, 160.6-160.975 MHz and 161.475-162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by the administration (see Articles **31** and **52**, and Appendix **18**).

Any use of frequencies in these bands by stations of other services to which they are allocated should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service.

However, the frequencies 156.8 MHz and 156.525 MHz and the frequency bands in which priority is given to the maritime mobile service may be used for radiocommunications on inland waterways subject to agreement between interested and affected administrations and taking into account current frequency usage and existing agreements. (WRC-07)

- 5.227 Additional allocation: the bands 156.4875-156.5125 MHz and 156.5375-156.5625 MHz are also allocated to the fixed and land mobile services on a primary basis. The use of these bands by the fixed and land mobile services shall not cause harmful interference to nor claim protection from the maritime mobile VHF radiocommunication service. (WRC-07)
- 5.227A Additional allocation: the bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz are also allocated to the mobile-satellite service (Earth-to-space) on a secondary basis for the reception of automatic identification system (AIS) emissions from stations operating in the maritime-mobile service (see Appendix 18). (WRC-07)
- 5.229 Alternative allocation: in Morocco, the band 162-174 MHz is allocated to the broadcasting service on a primary basis. The use of this band shall be subject to agreement with administrations having services, operating or planned, in accordance with the Table which are likely to be affected. Stations in existence on 1 January 1981, with their technical characteristics as of that date, are not affected by such agreement.
- 5.235 Additional allocation: in Germany, Austria, Belgium, Denmark, Spain, Finland, France, Israel, Italy, Liechtenstein, Malta, Monaco, Norway, the Netherlands, the United Kingdom, Sweden and Switzerland, the band 174 - 223 MHz is also allocated to the land mobile service on a primary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, broadcasting stations, existing or planned, in countries other than those listed in this footnote.
- 5.237 *Additional allocation:* in Congo (Rep. of the), Eritrea, Ethiopia, Gambia, Guinea, the Libyan Arab Jamahiriya, Malawi, Mali, Sierra Leone, Somali, Chad and Zimbabwe, the band 174-223 MHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-03)
- 5.246 Alternative allocation: in Spain, France, Israel and Monaco, the band 223 - 230 MHz is allocated to the broadcasting and land mobile services on a primary basis (see No. 5.33) on the basis that, in the preparation of frequency plans, the broadcasting service shall have prior choice of frequencies; and allocated to the fixed and mobile, except land mobile, services on a secondary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations in Morocco and Algeria.
- 5.247 Additional allocation: in Saudi Arabia, Bahrain, the United Arab Emirates, Jordan, Oman, Qatar and Syrian Arab Republic, the band 223-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis.
- 5.251 Additional allocation: in Nigeria, the band 230-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis, subject to agreement obtained under No. 9.21.
- 5.252 Alternative allocation: in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the bands 230-238 MHz and 246-254 MHz are allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21.
- 5.254 The bands 235-322 MHz and 335.4-399.9 MHz may be used by the mobile-satellite service, subject to agreement obtained under No. 9.21, on condition that stations in this service do not cause harmful interference to those of other services operating or planned to be operated in accordance with the Table of Frequency Allocations except for the additional allocation made in footnote No. 5.256A. (WRC-03)
- 5.255 The bands 312 - 315 MHz (Earth-to-space) and 387 - 390 MHz (space-to-Earth) in the mobile-satellite service may also be used by non-geostationary-satellite systems. Such use is subject to coordination under No. 9.11A.
- 5.256 The frequency 243 MHz is the frequency in this band for use by survival craft stations and equipment used for survival purposes. (WRC-07)
- 5.256A Additional allocation: in China, the Russian Federation, Kazakhstan and Ukraine, the band 258-261 MHz is also allocated to the space research service (Earth-to-space) and space operation service (Earth-to-space) on a primary basis. Stations in the space research service (Earth-to-space) and space operation service (Earth-to-space) shall not cause harmful interference to, nor claim protection from, nor constrain the use and development of the mobile service systems and mobile-satellite service systems operating in the band. Stations in space research service (Earth-to-space) and space operation service (Earth-to-space) shall not constrain the future development of fixed service systems of other countries. (WRC-03)
- 5.257 The band 267 - 272 MHz may be used by administrations for space telemetry in their countries on a primary basis, subject to agreement obtained under No. 9.21.
- 5.258 The use of the band 328.6 - 335.4 MHz by the aeronautical radionavigation service is limited to Instrument Landing Systems (glide path).
- 5.259 Additional allocation: in Egypt, Israel, Japan, and the Syrian Arab Republic, the band 328.6-335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. 9.21. (WRC-2000)
- 5.260 Recognising that the use of the band 399.9 - 400.05 MHz by the fixed and mobile services may cause harmful

interference to the radionavigation satellite service, administrations are urged not to authorise such use in application of No. 4.4.

- 5.261 Emissions shall be confined in a band of  $\pm 25$  kHz about the standard frequency 400.1 MHz.
- 5.262 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Botswana, Colombia, Costa Rica, Cuba, Egypt, the United Arab Emirates, Ecuador, the Russian Federation, 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, 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-07)
- 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). (WRC-07)
- 5.267 Any emission capable of causing harmful interference to the authorised uses of the band 406 - 406.1 MHz is prohibited.
- 5.268 Use of the band 410-420 MHz by the space research service is limited to communications within 5 km of an orbiting, manned space vehicle. The power flux-density at the surface of the Earth produced by emissions from extra-vehicular activities shall not exceed  $-153 \text{ dB(W/m}^2\text{)}$  for  $0^\circ \leq \delta \leq 5^\circ$ ,  $-153 + 0.077 (\delta - 5) \text{ dB(W/m}^2\text{)}$  for  $5^\circ \leq \delta \leq 70^\circ$  and  $-148 \text{ dB(W/m}^2\text{)}$  for  $70^\circ \leq \delta \leq 90^\circ$ , where  $\delta$  is the angle of arrival of the radio-frequency wave and the reference bandwidth is 4 kHz. No. 4.10 does not apply to extra-vehicular activities. In this frequency band the space research (space-to-space) service shall not claim protection from, nor constrain the use and development of, stations of the fixed and mobile services. (WRC-97)
- 5.269 Different category of service: in Australia, the United States, India, Japan and the United Kingdom, the allocation of the bands 420 - 430 MHz and 440 - 450 MHz to the radiolocation service is on a primary basis (see No. 5.33).
- 5.271 Additional allocation: in Belarus, China, India, Kyrgyzstan and Turkmenistan, the band 420-460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis. (WRC-07)
- 5.272 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 Croatia, Estonia, Finland, Libyan Arab Jamahiriya, The Former Yugoslav Republic of Macedonia, Montenegro, Serbia and Slovenia, the bands 430-432 MHz and 438-440 MHz are also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-07)
- 5.276 Additional allocation: in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burkina Faso, Burundi, Egypt, the United Arab Emirates, Ecuador, Eritrea, Ethiopia, Greece, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Malta, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. 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-07)
- 5.277 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, Cameroon, Congo (Rep. of the), Djibouti, the Russian Federation, Georgia, Hungary, Israel, Kazakhstan, Mali, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, Romania, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the band 430-440 MHz is also allocated to the fixed service on a primary basis. (WRC-07)
- 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, Montenegro, Portugal, Serbia, Slovenia and Switzerland, the band 433.05-434.79 MHz (centre frequency 433.92 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services of these countries operating within this band must accept harmful interference

which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 15.13. (WRC-07)

- 5.281 Additional allocation: in the French Overseas Departments in Region 2 and India, the band 433.75 - 434.25 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis. In France and in Brazil, the band is allocated to the same service on a secondary basis.
- 5.282 In the bands 435 - 438 MHz, 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.
- 5.286AA The band 450-470 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). See Resolution 224 (Rev.WRC-07). This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations.
- 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.1174-2. (WRC-07)
- 5.289 Earth exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands 460 - 470 MHz and 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, the Russian Federation, Japan, Mongolia, Kyrgyzstan, Slovakia, 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-07)
- 5.291A Additional allocation: in Germany, Austria, Denmark, Estonia, Finland, Liechtenstein, Norway, Netherlands, the Czech Republic and Switzerland, the band 470 - 494 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution 217 (WRC-97). (WRC-97)
- 5.294 Additional allocation: in Saudi Arabia, Burundi, Cameroon, Côte d'Ivoire, Egypt, Ethiopia, Israel, the Libyan Arab Jamahiriya, Kenya, Malawi, the Syrian Arab Republic, Sudan, Chad and Yemen, the band 470-582 MHz is also allocated to the fixed service on a secondary basis. (WRC-07)
- 5.296 Additional allocation: in Germany, Saudi Arabia, Austria, Belgium, Côte d'Ivoire, Denmark, Egypt, Spain, Finland, France, Ireland, Israel, Italy, the Libyan Arab Jamahiriya, Jordan, Lithuania, Malta, Morocco, Monaco, Norway, Oman, 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-07)
- 5.300 Additional allocation: in Israel, the Libyan Arab Jamahiriya, the Syrian Arab Republic and Sudan, the band 582-790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.
- 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.
- 5.304 Additional allocation: in the African Broadcasting Area (see Nos. 5.10 to 5.13), the band 606-614 MHz is also allocated to the radio astronomy service on a primary basis.
- 5.306 Additional allocation: in Region 1, except in the African Broadcasting Area (see Nos. 5.10 to 5.13), and in Region 3, the band 608 - 614 MHz is also allocated to the radio astronomy service on a secondary basis.
- 5.311A For the frequency band 620-790 MHz, see also Resolution 549 (WRC-07).
- 5.312 Additional allocation: in Armenia, Azerbaijan, Belarus, 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, Kyrgyzstan, the United Kingdom and Swaziland, the band 790-862 MHz is also allocated to the land mobile service on a secondary basis. (WRC-07)
- 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, the Libyan Arab Jamahiriya, Jordan, Kenya, The Former Yugoslav Republic of Macedonia, Liechtenstein, Mali, Monaco, Montenegro, Norway, the Netherlands, Portugal, the United Kingdom, the Syrian Arab Republic, Serbia, Sweden and Switzerland, the band 790-830 MHz, and in these same countries and in Spain, France, Gabon and Malta, the band 830-862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band. This allocation is effective until 16 June 2015. (WRC-07)
- 5.316A Additional allocation: in Angola, Bahrain, Benin, Botswana, Congo (Rep. of the), French Overseas Departments and Communities in Region 1, Gambia, Ghana, Guinea, Kuwait, Lesotho, Malawi, Morocco, Mauritania, Mozambique, Namibia, Niger, Oman, Uganda, Poland, Qatar, Rwanda, Senegal, Sudan, South Africa, Swaziland, Tanzania, Chad, Togo, Yemen, Zambia and Zimbabwe, the band 790-862 MHz in Spain, France, Gabon and Malta, the band 790-830 MHz, in Lithuania, the band 830-862 MHz and in Georgia, the band 806-862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis subject to the agreement by the administrations concerned obtained under No. 9.21 and under the GE-06 Agreement, as appropriate, including those administrations mentioned in No. 5.312 where appropriate. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause unacceptable interference to, nor claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band. Frequency assignment to the mobile service under this allocation in Lithuania and Poland shall not be used without the agreement of the Russian Federation and Belarus. This allocation is effective until 16 June 2015. (WRC-07)
- 5.316B In Region 1, the allocation to the mobile, except aeronautical mobile, service on a primary basis in the frequency band 790-862 MHz shall come into effect from 17 June 2015 and shall be subject to agreement obtained under No. 9.21 with respect to the aeronautical radionavigation service in countries mentioned in No. 5.312. For countries party to the GE06 Agreement, the use of stations of the mobile service is also subject to the successful application of the procedures of that Agreement. Resolution 224 (Rev.WRC-07) and Resolution 749 (Rev.WRC-07) shall apply. (WRC-07)
- 5.317A Those parts of the band 698-960 MHz in Region 2 and the band 790-960 MHz in Regions 1 and 3 which are allocated to the mobile service on a primary basis are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) See Resolution 224 (Rev.WRC-07) and Resolution 749 (WRC-07). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-07)
- 5.319 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.
- 5.322 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, the Russian Federation, Hungary, Kazakhstan, Moldova, Uzbekistan, Poland, Kyrgyzstan, Romania, 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-07)

- 5.327A The use of the band 960-1 164 MHz by the aeronautical mobile (R) service is limited to systems that operate in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution 417 (WRC-07). (WRC-07)
- 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 (Rev.WRC-07) 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-07)
- 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; however, in the case of radionavigation-satellite service (space-to-space) networks and systems, Resolution 610 (WRC-03) shall only apply to transmitting space stations. In accordance with No. 5.329A, for systems and networks in the radionavigation-satellite service (space-to-space) in the bands 1 215-1 300 MHz and 1 559-1 610 MHz, the provisions of Nos. 9.7, 9.12, 9.12A and 9.13 shall only apply with respect to other systems and networks in the radionavigation-satellite service (space-to-space). (WRC-07)
- 5.329 Use of the radionavigation-satellite service in the band 1 215-1 300 MHz shall be subject to the condition that no harmful interference is caused to, and no protection is claimed from, the radionavigation service authorized under No. 5.331. Furthermore, the use of the radionavigation-satellite service in the band 1 215-1 300 MHz shall be subject to the condition that no harmful interference is caused to the radiolocation service. No. 5.43 shall not apply in respect of the radiolocation service. Resolution 608 (WRC-03) shall apply. (WRC-03)
- 5.329A Use of systems in the radionavigation-satellite service (space-to-space) operating in the bands 1 215-1 300 MHz and 1 559-1 610 MHz is not intended to provide safety service applications, and shall not impose any additional constraints on radionavigation-satellite service (space-to-Earth) systems or on other services operating in accordance with the Table of Frequency Allocations. (WRC-07)
- 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, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Mauritania, Montenegro, Nigeria, Norway, Oman, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the United Kingdom, Serbia, 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-07)
- 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 Mongolia, Kyrgyzstan, Slovakia, the Czech Rep. and Turkmenistan, existing installations of the radionavigation service may continue to operate in the band 1 350-1 400 MHz. (WRC-07)
- 5.338A In the bands 1 350-1 400 MHz, 1 427-1 429 MHz, 1 429-1 452 MHz, 22.55-23.55 GHz, 30-31 GHz, 31-31.3 GHz, 49.7-50.2 GHz, 50.4-50.9 GHz and 51.4-52.6 GHz, Resolution **750 (WRC-07)** applies. (WRC-07)
- 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.
- 5.340 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<sup>2</sup>,  
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, Kyrgyzstan 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).\*
- 5.347A In the bands:  
137-138MHz,  
387-390MHz,  
400.15-401MHz,  
1 452-1 492MHz,  
1 525-1 559MHz,  
1 559-1610MHz,  
1 613.8-1 626.5MHz,  
2 655-2 670MHz,  
2 670-2 690MHz,  
21.4-22 GHz,  
Resolution 739 (Rev.WRC-07) applies. (WRC-07)
- 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)

<sup>2</sup> 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)

service, with respect to the land mobile service use for specialized mobile radios or used in conjunction with public switched telecommunication networks (PSTN) operating within the territory of Japan, shall be  $-150$  dB(W/m<sup>2</sup>) in any 4 kHz band for all angles of arrival, instead of those given in Table 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)

- 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)
- 5.349 Different category of service: in Saudi Arabia, Azerbaijan, Bahrain, Cameroon, Egypt, France, Iran (Islamic Republic of), Iraq, Israel, Kazakhstan, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Morocco, Qatar, Syrian Arab Republic, Kyrgyzstan, Turkmenistan and Yemen, the allocation of the band 1 525-1 530 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33). (WRC-07)
- 5.350 Additional allocation: in Azerbaijan, Kyrgyzstan and Turkmenistan, the band 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 1 518-1 544 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, 1 668-1 675 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-07) and 225 (Rev.WRC-07). (WRC-07)
- 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.
- 5.355 Additional allocation: in Bahrain, Bangladesh, Congo (Rep. of the), Egypt, Eritrea, Iraq, Israel, Kuwait, Lebanon, Malta, Qatar, Syrian Arab Republic, Somalia, Sudan, Chad, Togo and Yemen, the bands 1 540-1 559 MHz, 1 610-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a secondary basis. (WRC-03)
- 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, Bulgaria, Cameroon, Spain, the Russian Federation, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, the Libyan

Arab Jamahiriya, Jordan, Kazakhstan, Kuwait, Lebanon, Lithuania, Mauritania, Moldova, Uganda, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, 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-07)

- 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 2010 in Algeria, Saudi Arabia, Cameroon, Libyan Arab Jamahiriya, Jordan, Mali, Mauritania, Syrian Arab Republic and Tunisia. After this date, the fixed service may continue to operate on a secondary basis until 1 January 2015, at which time this allocation shall no longer be valid. The band 1 559-1 610 MHz is also allocated to the fixed service on a secondary basis in Algeria, Germany, Armenia, Azerbaijan, Belarus, Benin, Bulgaria, Spain, Russian Federation, France, Gabon, Georgia, Guinea, Guinea-Bissau, Kazakhstan, Lithuania, Moldova, Nigeria, Uganda, Uzbekistan, Pakistan, Poland, Kyrgyzstan, Dem. People's Rep. of Korea, Romania, Senegal, Swaziland, Tajikistan, Tanzania, Turkmenistan and Ukraine until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and the aeronautical radionavigation service and not authorize new frequency assignments to fixed-service systems in this band. (WRC-07)
- 5.362C Additional allocation: in Congo (Rep. of the), Egypt, Eritrea, Iraq, Israel, Jordan, Malta, 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-07)
- 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.
- 5.369 *Different category of service:* in Angola, Australia, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Israel, the Libyan Arab Jamahiriya, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, the Dem. Rep. of the Congo, Sudan, Swaziland, Togo and Zambia, the allocation of the band 1 610-1 626.5 MHz to the radiodetermination-satellite service (Earth-to-space) is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21 from countries not listed in this provision. (WRC-03)
- 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**. In the band 1 668-1 668.4 MHz, Resolution 904 (WRC-07) shall apply. (WRC-07)
- 5.379C In order to protect the radio astronomy service in the band 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  $-181 \text{ dB(W/m}^2\text{)}$  in 10 MHz and  $194 \text{ dB(W/m}^2\text{)}$  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 1 668.4-1 675 MHz between the mobile-satellite service and the fixed and mobile services, Resolution 744 (Rev.WRC-07) shall apply. (WRC-07)
- 5.379E In the band 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)
- 5.380A 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 before 1 January 2004. Any new assignment to these earth stations in this band shall also be protected from harmful interference from stations in the mobile-satellite service. (WRC-07)
- 5.382 Different category of service: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Guinea, Iraq, Israel, Jordan, Kazakhstan, Kuwait, the Former Yugoslav Republic of Macedonia, Lebanon, Mauritania, Moldova, Mongolia, Oman, Uzbekistan, Poland, Qatar, the Syrian Arab Republic, Kyrgyzstan, Serbia, 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-07)
- 5.384A The bands, or portions of the bands, 1 710-1 885 MHz, 2 300-2 400 MHz and 2 500-2 690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223** (Rev.WRC-07). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-07).
- 5.385 Additional allocation: the band 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 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-07)
- 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  $-127 \text{ dB(W/(m}^2 \cdot \text{MHz))}$  at the Earth's surface outside a country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS. (WRC-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 No. 9.11A and to the provisions of Resolution 716 (Rev.WRC-2000). (WRC-07)
- 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.
- 5.389F In Algeria, Benin, Cape Verde, Egypt, Iran (Islamic Republic of), Mali, Syrian Arab Republic and Tunisia, the use of the bands 1 980-2 010 MHz and 2 170-2 200 MHz by the mobile-satellite service shall neither cause harmful interference to the fixed and mobile services, nor hamper the development of those services prior to 1 January 2005, nor shall the former service request protection from the latter services. (WRC-2000)
- 5.391 In making assignments to the mobile service in the bands 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.
- 5.395 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)
- 5.396 Space stations of the broadcasting-satellite service in the band 2 310-2 360 MHz operating in accordance with No. **5.393** that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution 33 (Rev.WRC-97)\*. Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use.
- 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 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. (WRC-07)
- 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.
- 5.410 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. Administrations shall make all practicable efforts to avoid developing new

tropospheric scatter systems in this band. When planning new tropospheric scatter radio-relay links in this band, all possible measures shall be taken to avoid directing the antennas of these links towards the geostationary-satellite orbit. (WRC-07)

- 5.412 Alternative allocation: in Azerbaijan, 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-07)
- 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) is subject to coordination under No. 9.11A. (WRC-07)
- 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. The provisions of No. 9.19 shall be applied by administrations in this band in their bilateral and multilateral negotiations. (WRC-07)
- 5.417A In applying provision No. 5.418, in Korea (Rep. of) and Japan, *resolves* 3 of Resolution 528 (Rev.WRC-03) is relaxed to allow the broadcasting-satellite service (sound) and the complementary terrestrial broadcasting service to additionally operate on a primary basis in the band 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:
- |   |                   |
|---|-------------------|
| -130 dB(W/(m <sup>2</sup> · MHz))               | for 0° ≤ θ ≤ 5°   |
| -130 □ 0.4 (θ - 5) dB(W/(m <sup>2</sup> · MHz)) | for 5° < θ ≤ 25°  |
| -122 dB(W/(m <sup>2</sup> · MHz))               | for 25° < θ ≤ 90° |
- 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<sup>2</sup> · 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°. (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 When introducing systems of the mobile-satellite service in the band 2 670-2 690 MHz, administrations shall take all necessary steps to protect the satellite systems operating in this band prior to 3 March 1992. The coordination of mobile-satellite systems in the band shall be in accordance with No. 9.11A. (WRC-07)
- 5.420 The band 2 655-2 670 MHz may also be used for the mobile-satellite (Earth-to-space), except aeronautical mobile-satellite, service for operation limited to within national boundaries, subject to agreement obtained under No. 9.21. The coordination under No. 9.11A applies. (WRC-07)
- 5.422 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Brunei Darussalam, 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, Kuwait, Lebanon, Mauritania, Moldova,

- Mongolia, Montenegro, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, the Dem. Rep. of the Congo, Romania, Somalia, Tajikistan, Tunisia, Turkmenistan, Ukraine and Yemen, the band 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-07)
- 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, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 3 100-3 300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-07)
- 5.429 Additional allocation: in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, the Libyan Arab Jamahiriya, Japan, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea and Yemen, the band 3 300-3 400 MHz is also allocated to the fixed and mobile services on a primary basis. The countries bordering the Mediterranean shall not claim protection for their fixed and mobile services from the radiolocation service. (WRC-07)
- 5.430 Additional allocation: in Azerbaijan, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 3 300-3 400 MHz is also allocated to the radionavigation service on a primary basis. (WRC-07)
- 5.430A *Different category of service:* in Albania, Algeria, Germany, Andorra, Saudi Arabia, Austria, Azerbaijan, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Cameroon, Cyprus, Vatican, Côte d'Ivoire, Croatia, Denmark, French Overseas Departments and Communities in Region 1, Egypt, Spain, Estonia, Finland, France, Gabon, Georgia, Greece, Guinea, Hungary, Ireland, Iceland, Israel, Italy, Jordan, Kuwait, Lesotho, Latvia, Macedonia, Liechtenstein, Lithuania, Malawi, Malta, Morocco, Mauritania, Moldova, Monaco, Mongolia, Montenegro, Mozambique, Namibia, Niger, Norway, Oman, Netherlands, Poland, Portugal, Qatar, Syria, Congo, Slovakia, Czech Rep., Romania, United Kingdom, San Marino, Senegal, Serbia, Sierra Leone, Slovenia, South Africa, Sweden, Switzerland, Swaziland, Togo, Chad, Tunisia, Turkey, Ukraine, Zambia and Zimbabwe, the band 3 400-3 600 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis subject to agreement obtained under No. 9.21 with other administrations and is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. 9.17 and 9.18 also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed  $-154.5 \text{ dBW}/(\text{m}^2 \cdot 4 \text{ kHz})$  for more than 20 per cent of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the band 3 400-3 600 MHz shall not claim more protection from space stations than that provided in Table 21-4 of the Radio Regulations (Edition of 2004). This allocation is effective from 17 November 2010. (WRC-07)
- 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  $\pm 2 \text{ MHz}$  of these frequencies, subject to agreement obtained under No. 9.21.

- 5.440A In Region 2 (except Brazil, Cuba, French Overseas Departments and Communities, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4 400-4 940 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. 1.83). Such use shall be in accordance with Resolution 416 (WRC-07) and shall not cause harmful interference to, nor claim protection from, the fixed-satellite and fixed services. Any such use does not preclude the use of these bands by other mobile service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)
- 5.441 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. In Region 2 (except Brazil, Cuba, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4 825-4 835 MHz is also allocated to the aeronautical mobile service, limited to aeronautical mobile telemetry for flight testing by aircraft stations. Such use shall be in accordance with Resolution 416 (WRC-07) and shall not cause harmful interference to the fixed service. (WRC-07)
- 5.443B 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  $-124.5 \text{ dB(W/m}^2\text{)}$  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. In the band 5 030-5 091 MHz, the requirements of this system shall take precedence over other uses of this band. For the use of the band 5 091-5 150 MHz, No. 5.444A and Resolution 114 (Rev.WRC-03) apply. (WRC-07)
- 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 2016, 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)
- 5.444B The use of the band 5 091-5 150 MHz by the aeronautical mobile service is limited to:
- systems operating in the aeronautical mobile (R) service and in accordance with international aeronautical standards, limited to surface applications at airports. Such use shall be in accordance with Resolution 748 (WRC-07);
  - aeronautical telemetry transmissions from aircraft stations (see No. 1.83) in accordance with Resolution 418 (WRC-07);
  - aeronautical security transmissions. Such use shall be in accordance with Resolution 419 (WRC-07). (WRC-07)

- 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/m<sup>2</sup>) 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, except aeronautical mobile, service shall be in accordance with Resolution 229 (WRC-03). (WRC-07)
- 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)
- 5.446C Additional allocation: in Region 1 (except in Algeria, Saudi Arabia, Bahrain, Egypt, United Arab Emirates, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Syrian Arab Republic, Sudan and Tunisia) and in Brazil, the band 5 150-5 250 MHz is also allocated to the aeronautical mobile service on a primary basis, limited to aeronautical telemetry transmissions from aircraft stations (see No. 1.83), in accordance with Resolution 418 (WRC-07). These stations shall not claim protection from other stations operating in accordance with Article 5. No. 5.43A does not apply. (WRC-07)
- 5.447 *Additional allocation:* in Côte d'Ivoire, Israel, Lebanon, Pakistan, the Syrian Arab Republic and Tunisia, the band 5 150-5 250 MHz is also allocated to the mobile service, on a primary basis, subject to agreement obtained under No. 9.21. In this case, the provisions of Resolution 229 (WRC-03) do not apply. (WRC-07)
- 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/m<sup>2</sup>) in any 4 kHz band for all angles of arrival.
- 5.447C Administrations responsible for fixed-satellite service networks in the band 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, the Russian Federation, Georgia, Mongolia, Kyrgyzstan, 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-07)
- 5.455 Additional allocation: in Armenia, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 5 670-5 850 MHz is also allocated to the fixed service on a primary basis. (WRC-07)
- 5.457A 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)
- 5.457B In the bands 5 925-6 425 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)
- 5.457C In Region 2 (except Brazil, Cuba, French Overseas Departments and Communities, Guatemala, Paraguay, Uruguay and Venezuela), the band 5 925-6 700 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. 1.83). Such use shall be in accordance with Resolution 416 (WRC-07) and shall not cause harmful interference to, nor claim protection from, the fixed-satellite and fixed services. Any such use does not preclude the use of these bands by other mobile service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)
- 5.458 In the band 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 ( $\theta$ ), without the consent of the affected administration:
- |   |  |
|---|--|
| -174 dB(W/m <sup>2</sup> ) in a 4 kHz band                        | for $0^\circ \leq \theta < 5^\circ$      |
| -174 + 0.5 ( $\theta - 5$ ) dB(W/m <sup>2</sup> ) in a 4 kHz band | for $5^\circ \leq \theta < 25^\circ$     |
| -164 dB(W/m <sup>2</sup> ) in a 4 kHz band                        | for $25^\circ \leq \theta \leq 90^\circ$ |
- 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.
- 5.466 Different category of service: in Israel, Singapore and Sri Lanka, the allocation of the band 8 400-8 500 MHz to the space research service is on a secondary basis (see No. 5.32). (WRC-03)
- 5.468 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burundi, Cameroon, China, Congo (Rep. of the), Costa Rica, Egypt, the United Arab Emirates, Gabon, Guyana, Indonesia, Iran (Islamic Republic of), Iraq, the Libyan Arab Jamahiriya, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Senegal, Singapore, Somalia, Swaziland, Tanzania, Chad, Togo, Tunisia and Yemen, the band 8 500-8 750 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)
- 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, Egypt, 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. (WRC-07)
- 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, Cuba, the Russian Federation, Georgia, Hungary, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Romania, 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-07)
- 5.473A In the band 9 000-9 200 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, systems identified in No. 5.337 operating in the aeronautical radionavigation service, or radar systems in the maritime radionavigation service operating in this band on a primary basis in the countries listed in No. 5.471. (WRC-07)

- 5.474 In the band 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. (WRC-07)
- 5.475A The use of the band 9 300-9 500 MHz by the Earth exploration-satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 300 MHz that cannot be fully accommodated within the 9 500-9 800 MHz band. (WRC-07)
- 5.475B In the band 9 300-9 500 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, radars operating in the radionavigation service in conformity with the Radio Regulations. Ground-based radars used for meteorological purposes have priority over other radiolocation uses. (WRC-07)
- 5.476A In the band 9 300-9 800 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, nor claim protection from, stations of the radionavigation and radiolocation services. (WRC-07)
- 5.477 Different category of service: in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Japan, Jordan, Kuwait, Lebanon, Liberia, Malaysia, Nigeria, Oman, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Trinidad and Tobago, and Yemen, the allocation of the band 9 800-10 000 MHz to the fixed service is on a primary basis (see No. 5.33). (WRC-07)
- 5.478 Additional allocation: in Azerbaijan, 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-07)
- 5.478A In the band 9 800-9 900 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, nor claim protection from stations of the fixed service to which this band is allocated on a secondary basis.
- 5.478B The use of the band 9 800-9 900 MHz by the Earth exploration-satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 500 MHz that cannot be fully accommodated within the 9 300-9 800 MHz band.
- 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, Romania, Tanzania, Thailand and Uruguay, the band 10.45-10.5 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-07)
- 5.482 In the band 10.6-10.68 GHz, the power delivered to the antenna of stations of the fixed and mobile, except aeronautical mobile, services shall not exceed -3 dBW. This limit may be exceeded, subject to agreement obtained under No. 9.21. However, in Algeria, Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Egypt, United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Jordan, Libyan Arab Jamahiriya, Kazakhstan, Kuwait, Lebanon, Morocco, Mauritania, Moldova, Nigeria, Oman, Uzbekistan, Pakistan, Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, Singapore, Tajikistan, Tunisia, Turkmenistan and Viet Nam, this restriction on the fixed and mobile, except aeronautical mobile, service is not applicable. (WRC-07)
- 5.482A For sharing of the band 10.6-10.68 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile, except aeronautical mobile, services, Resolution 751 (WRC-07) applies. (WRC-07)
- 5.483 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, China, Colombia, Korea (Rep. of), Costa Rica, Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, Mongolia, Qatar, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, 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-07)
- 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)
- 5.488 The use of the band 11.7-12.2 GHz by geostationary-satellite networks in the fixed-satellite service in Region 2 is subject to application of the provisions of No. 9.14 for coordination with stations of terrestrial services in Regions 1, 2 and 3. For the use of the band 12.2-12.7 GHz by the broadcasting-satellite service in Region 2, see Appendix 30. (WRC-03)
- 5.492 Assignments to stations of the broadcasting-satellite service which are in conformity with the appropriate regional Plan or included in the Regions 1 and 3 List in Appendix 30 may also be used for transmissions in the fixed-satellite service (space-to-Earth), provided that such transmissions do not cause more interference, or require more protection from interference, than the broadcasting-satellite service transmissions operating in conformity with the Plan or the List, as appropriate. (WRC-2000)
- 5.494 Additional allocation: in Algeria, Angola, Saudi Arabia, Bahrain, Cameroon, the Central African Rep., Congo (Rep. of the), Côte d'Ivoire, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Iraq, Israel, the Libyan Arab Jamahiriya, Jordan, Kuwait, Lebanon, Madagascar, Mali, Morocco, Mongolia, Nigeria, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Somalia, Sudan, Chad, Togo and Yemen, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)
- 5.495 Additional allocation: in Bosnia and Herzegovina, France, Greece, Liechtenstein, Monaco, Montenegro, Uganda, Romania, Serbia, 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-07)
- 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)
- 5.500 Additional allocation: in Algeria, Angola, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Madagascar, Malaysia, Mali, Malta, Morocco, Mauritania, Nigeria, Pakistan, Qatar, the Syrian Arab Republic, Singapore, Sudan, Chad and Tunisia, the band 13.4-14 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)
- 5.501 Additional allocation: in Azerbaijan, Hungary, Japan, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 13.4-14 GHz is also allocated to the radionavigation service on a primary basis. (WRC-07)
- 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:
- $-115 \text{ dB(W/(m}^2 \cdot 10 \text{ MHz))}$  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;
  - $-115 \text{ dB(W/(m}^2 \cdot 10 \text{ MHz))}$  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)  $4.7D + 28 \text{ dB(W/40 kHz)}$ , where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 1.2 m and less than 4.5 m;
    - ii)  $49.2 + 20 \log(D/4.5) \text{ dB(W/40 kHz)}$ , where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 4.5 m and less than 31.9 m;
    - iii)  $66.2 \text{ dB(W/40 kHz)}$  for any fixed-satellite service earth station for antenna diameters (m) equal to or greater than 31.9 m;
    - iv)  $56.2 \text{ dB(W/4 kHz)}$  for narrow-band (less than 40 kHz of necessary bandwidth) fixed-satellite service earth station emissions from any fixed-satellite service earth station having an antenna diameter of 4.5 m or greater;
  - the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in non-geostationary-satellite orbit shall not exceed 51 dBW in the 6 MHz band from 13.772 to 13.778 GHz.
- Automatic power control may be used to increase the e.i.r.p. density in these frequency ranges to compensate for rain attenuation, to the extent that the power flux-density at the fixed-satellite service space station does not exceed the value resulting from use by an earth station of an e.i.r.p. meeting the above limits in clear-sky conditions. (WRC-03)
- 5.504 The use of the band 14 - 14.3 GHz by the radionavigation service shall be such as to provide sufficient protection to space stations of the fixed-satellite service.
- 5.504A In the band 14 - 14.5 GHz, aircraft earth stations in the secondary aeronautical mobile-satellite service may also communicate with space stations in the fixed-satellite service. The provisions of Nos. 5.29, 5.30 and 5.31 apply. (WRC-03)
- 5.504B Aircraft earth stations operating in the aeronautical mobile-satellite service in the band 14 - 14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643, with respect to any radio astronomy station performing observations in the 14.47 - 14.5 GHz band located on the territory of Spain, France, India, Italy, the United Kingdom and South Africa. (WRC-03)
- 5.504C In the band 14-14.25 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Botswana, Côte d'Ivoire, Egypt, Guinea, India, Iran (Islamic Republic of), Kuwait, Lesotho, Nigeria, Oman, the Syrian Arab Republic and Tunisia by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-03)
- 5.505 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Botswana, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lesotho, Lebanon, Malaysia, Mali, Morocco, Mauritania, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the

- Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Swaziland, Tanzania, Chad and Yemen, the band 14-14.3 GHz is also allocated to the fixed service on a primary basis. (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, Libyan Arab Jamahiriya, The Former Yugoslav Rep. of Macedonia and the United Kingdom, the band 14.25-14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-07)
- 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, the Libyan Arab Jamahiriya, Kuwait, Lebanon, Pakistan, Qatar, the Syrian Arab Republic and Somalia, the band 15.35-15.4 GHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-07)
- 5.511A The band 15.43 - 15.63 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. Use of the band 15.43 - 15.63 GHz by the fixed-satellite service (space-to-Earth and Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under No. 9.11A. The use of the frequency band 15.43 - 15.63 GHz by the fixed-satellite service (space-to-Earth) is limited to feeder links of non-geostationary systems in the mobile-satellite service for which advance publication information has been received by the Bureau prior to 2 June 2000. In the space-to-Earth direction, the minimum earth station elevation angle above and gain towards the local horizontal plane and the minimum coordination distances to protect an earth station from harmful interference shall be in accordance with Recommendation ITU-R S.1341. In order to protect the radio astronomy service in the band 15.35 - 15.4 GHz, the aggregate power flux-density radiated in the 15.35 - 15.4 GHz band by all the space stations within any feeder-link of a non-geostationary system in the mobile-satellite service (space-to-Earth) operating in the 15.43 - 15.63 GHz band shall not exceed the level of  $-156 \text{ dB(W/m}^2\text{)}$  in a 50 MHz bandwidth, into any radio astronomy observatory site for more than 2% of the time. (WRC-2000)
- 5.511C Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340. The minimum coordination distance required to protect the aeronautical radionavigation stations (No. 4.10 applies) from harmful interference from feeder-link earth stations and the maximum e.i.r.p. transmitted towards the local horizontal plane by a feeder-link earth station shall be in accordance with Recommendation ITU-R S.1340. (WRC-97)
- 5.511D Fixed-satellite service systems for which complete information for advance publication has been received by the Bureau by 21 November 1997 may operate in the bands 15.4 - 15.43 GHz and 15.63 - 15.7 GHz in the space-to-Earth direction and 15.63 - 15.65 GHz in the Earth-to-space direction. In the bands 15.4 - 15.43 GHz and 15.63 - 15.7 GHz, emissions from a non-geostationary space station shall not exceed the power flux-density limits at the Earth's surface of  $-146 \text{ dB(W/m}^2\text{/MHz)}$  for any angle of arrival. In the band 15.63 - 15.65 GHz, where an administration plans emissions from a non-geostationary space station that exceed  $-146 \text{ dB(W/m}^2\text{/MHz)}$  for any angle of arrival, it shall coordinate under No. 9.11A with the affected administrations. Stations in the fixed-

satellite service operating in the band 15.63 - 15.65 GHz in the Earth-to-space direction shall not cause harmful interference to stations in the aeronautical radionavigation service (No. 4.10 applies). (WRC-97)

- 5.512 Additional allocation: in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Congo (Rep. of the), Costa Rica, Egypt, El Salvador, the United Arab Emirates, Eritrea, Finland, Guatemala, India, Indonesia, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Montenegro, Mozambique, Nepal, Nicaragua, Oman, Pakistan, Qatar, Syrian Arab Republic, Serbia, Singapore, 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-07)
- 5.513 Additional allocation: in Israel, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. These services shall not claim protection from or cause harmful interference to services operating in accordance with the Table in countries other than those included in No. 5.512.
- 5.513A Spaceborne active sensors operating in the band 17.2 - 17.3 GHz shall not cause harmful interference to, or constrain the development of, the radiolocation and other services allocated on a primary basis. (WRC-97)
- 5.514 Additional allocation: in Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, Costa Rica, El Salvador, the United Arab Emirates, Guatemala, India, Iran (Islamic Republic of), Iraq, Israel, Italy, the Libyan Arab Jamahiriya, Japan, Jordan, Kuwait, Lithuania, Nepal, Nicaragua, Nigeria, Oman, Uzbekistan, Pakistan, Qatar, Kyrgyzstan and Sudan, the band 17.3-17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. **21.3** and **21.5** shall apply. (WRC-07)
- 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 bands 18.0-18.3 GHz in Region 2 and 18.1-18.4 GHz in Regions 1 and 3 are also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Their use is limited to geostationary satellites. (WRC-07)
- 5.520 The use of the band 18.1 - 18.4 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links of geostationary-satellite systems in the broadcasting-satellite service. (WRC-2000)
- 5.521 Alternative allocation: in Germany, Denmark, the United Arab Emirates and Greece, the band 18.1 - 18.4 GHz is allocated to the fixed, fixed-satellite (space-to-Earth) and mobile services on a primary basis (see No. 5.33). The provisions of No. 5.519 also apply. (WRC-03)
- 5.522A The emissions of the fixed service and the fixed-satellite service in the band 18.6 - 18.8 GHz are limited to the values given in Nos. 21.5A and 21.16.2, respectively. (WRC-2000)
- 5.522B The use of the band 18.6 - 18.8 GHz by the fixed-satellite service is limited to geostationary systems and systems with an orbit of apogee greater than 20 000 km. (WRC-2000)
- 5.522C In the band 18.6-18.8 GHz, in Algeria, Saudi Arabia, Bahrain, Egypt, the United Arab Emirates, the Libyan Arab Jamahiriya, Jordan, Lebanon, Morocco, Oman, Qatar, the Syrian Arab Republic, Tunisia and Yemen, fixed-service systems in operation at the date of entry into force of the Final Acts of WRC-2000 are not subject to the limits of No. **21.5A**. (WRC-2000)
- 5.523A The use of the bands 18.8-19.3 GHz (space-to-Earth) and 28.6-29.1 GHz (Earth-to-space) by geostationary and non-geostationary fixed-satellite service networks is subject to the application of the provisions of No. 9.11A and No. 22.2 does not apply. Administrations having geostationary-satellite networks under coordination prior to 18 November 1995 shall cooperate to the maximum extent possible to coordinate pursuant to No. 9.11A with non-geostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view to reaching results acceptable to all the parties concerned. Non-geostationary-satellite networks shall not cause unacceptable interference to geostationary fixed-satellite service networks for which complete Appendix 4 notification information is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)
- 5.523B The use of the band 19.3 - 19.6 GHz (Earth-to-space) by the Fixed-satellite service is limited to feeder links for non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, and No. 22.2 does not apply.
- 5.523C No. 22.2 of the Radio Regulations shall continue to apply in the bands 19.3 - 19.6 GHz and 29.1 - 29.4 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)
- 5.523D The use of the band 19.3-19.7 GHz (space-to-Earth) by geostationary fixed-satellite service systems and by feeder links for non-geostationary-satellite systems in the mobile-satellite service is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2. The use of this band for other non-geostationary fixed-satellite service systems, or for the cases indicated in Nos. 5.523C and 5.523E, is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. 22.2. (WRC-97)
- 5.523E No. 22.2 shall continue to apply in the bands 19.6-19.7 GHz and 29.4 - 29.5 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau by 21 November 1997. (WRC-97)
- 5.524 *Additional allocation:* in Afghanistan, Algeria, Angola, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Tanzania, Chad, Togo and Tunisia, the band 19.7-21.2 GHz is also allocated to the fixed and mobile services on a primary basis. This additional use shall not impose any limitation on the power flux-density of space stations in the fixed-satellite service in the band 19.7-21.2 GHz and of space stations in the mobile-satellite service in the band 19.7-20.2 GHz where the allocation to the mobile-satellite service is on a primary basis in the latter band. (WRC-07)
- 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 use of the band 21.4-22 GHz by the broadcasting-satellite service is subject to the provisions of Resolution 525 (Rev.WRC-07). (WRC-07)
- 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 (Rep. of), Denmark, Egypt, United Arab Emirates, Spain, Estonia, Finland, France, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, Italy, the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Lebanon, Liechtenstein, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the Czech Rep., Romania, the United Kingdom, Singapore, Sweden, Switzerland, Tanzania, Turkey, Viet Nam and Zimbabwe, earth stations operating in the Earth exploration-satellite service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-07)
- 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, 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, Cameroon, Korea (Rep. of), the Russian Federation, India, 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 27.9-28.2 GHz may also be used by high altitude platform stations (HAPS) within the territory of these countries. Such use of 300 MHz of the fixed-service allocation by HAPS in the above countries is further limited to operation in the HAPS-to-ground direction and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems or other co-primary services. Furthermore, the development of these other services shall not be constrained by HAPS. See Resolution 145 (Rev.WRC-07). (WRC-07)
- 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  $\square$ 10 dBW in the direction of adjacent satellites on the geostationary-satellite orbit. (WRC-07)
- 5.539 The band 27.5 - 30 GHz may be used by the fixed-satellite service (Earth-to-space) for the provision of feeder

links for the broadcasting-satellite service.

- 5.540 Additional allocation: the band 27.501 - 29.999 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis for beacon transmissions intended for up-link power control.
- 5.541 In the band 28.5 - 30 GHz, the earth exploration-satellite service is limited to the transfer of data between stations and not to the primary collection of information by means of active or passive sensors.
- 5.541A Feeder links of non-geostationary networks in the mobile-satellite service and geostationary networks in the fixed-satellite service operating in the band 29.1 - 29.5 GHz (Earth-to-space) shall employ uplink adaptive power control or other methods of fade compensation, such that the earth station transmissions shall be conducted at the power level required to meet the desired link performance while reducing the level of mutual interference between both networks. These methods shall apply to networks for which Appendix 4 coordination information is considered as having been received by the Bureau after 17 May 1996 and until they are changed by a future competent world radiocommunication conference. Administrations submitting Appendix 4 information for coordination before this date are encouraged to utilize these techniques to the extent practicable. (WRC-2000)
- 5.542 Additional allocation: in Algeria, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, India, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Pakistan, Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Somalia, Sudan, Sri Lanka and Chad, the band 29.5-31 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. **21.3** and **21.5** shall apply. (WRC-07)
- 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, Cameroon, Korea (Rep. of), the Russian Federation, India, 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 mitigate fading due to rain, provided the effective impact on the passive satellite does not exceed the impact under clear-sky conditions. See Resolution 145 (Rev.WRC-07). (WRC-07)
- 5.544 In the band 31 - 31.3 GHz the power flux-density limits specified in Article 21, Table 21-4 shall apply to the space research service.
- 5.545 *Different category of service:* in Armenia, Georgia, 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-07)
- 5.546 *Different category of service:* in Saudi Arabia, Armenia, Azerbaijan, Belarus, Egypt, the United Arab Emirates, Spain, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Israel, Jordan, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, the United Kingdom, South Africa, Tajikistan, Turkmenistan and Turkey, the allocation of the band 31.5-31.8 GHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. **5.33**). (WRC-07)
- 5.547 The bands 31.8-33.4 GHz, 37-40 GHz, 40.5-43.5 GHz, 51.4-52.6 GHz, 55.78-59 GHz and 64-66 GHz are available for high-density applications in the fixed service (see Resolution 75 (WRC-2000)). Administrations should take this into account when considering regulatory provisions in relation to these bands. Because of the potential deployment of high-density applications in the fixed-satellite service in the bands 39.5-40 GHz and 40.5-42 GHz (see No. 5.516B), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate. (WRC-07)
- 5.547A Administrations should take practical measures to minimize the potential interference between stations in the fixed service and airborne stations in the radionavigation service in the 31.8 - 33.4 GHz band, taking into account the operational needs of the airborne radar systems. (WRC-2000)
- 5.548 In designing systems for the inter-satellite service in the band 32.3 - 33 GHz, for the radionavigation service in the band 32 - 33 GHz, and for the space research service (deep space) in the band 31.8 - 32.3 GHz, administrations shall take all necessary measures to prevent harmful interference between these services, bearing in mind the safety aspects of the radionavigation service (see Recommendation 707). (WRC-03)

- 5.549 Additional allocation: in Saudi Arabia, Bahrain, Bangladesh, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, the Libyan Arab Jamahiriya, Jordan, Kuwait, Lebanon, Malaysia, Mali, Malta, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Singapore, Somalia, Sudan, Sri Lanka, Togo, Tunisia and Yemen, the band 33.4-36 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-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  $0.8^\circ$  from the beam centre shall not exceed  $-73.3 \text{ dB(W/m}^2\text{)}$  in this band. (WRC-03)
- 5.550 Different category of service: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Mongolia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 34.7-35.2 GHz to the space research service is on a primary basis (see No. 5.33). (WRC-07)
- 5.550A For sharing of the band 36-37 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile services, Resolution 752 (WRC-07) shall apply. (WRC-07)
- 5.551H The equivalent power flux-density (epfd) produced in the band 42.5-43.5 GHz by all space stations in any non-geostationary-satellite system in the fixed-satellite service (space-to-Earth), or in the broadcasting-satellite service (space-to-Earth) operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station for more than 2% of the time:
- 230 dB(W/m<sup>2</sup>) in 1 GHz and -246 dB(W/m<sup>2</sup>) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and
  - 209 dB(W/m<sup>2</sup>) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.
- These epfd values shall be evaluated using the methodology given in Recommendation ITU-R S.1586-1 and the reference antenna pattern and the maximum gain of an antenna in the radio astronomy service given in Recommendation ITU-R RA.1631 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle  $\theta_{min}$  of the radiotelescope (for which a default value of  $5^\circ$  should be adopted in the absence of notified information).
- These values shall apply at any radio astronomy station that either:
- was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or
  - was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply.
- Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution 743 (WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-07)
- 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<sup>2</sup>) in 1 GHz and -153 dB(W/m<sup>2</sup>) in any 500 kHz of the 42.5 - 43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and
  - 116 dB(W/m<sup>2</sup>) in any 500 kHz of the 42.5 - 43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.
- These values shall apply at the site of any radio astronomy station that either:
- was in operation prior to 5 July 2003 and has been notified to the 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 (Rev.WRC-07). (WRC-07)

- 5.553 In the bands 43.5 - 47 GHz and 66 - 71 GHz, stations in the land mobile service may be operated subject to not causing harmful interference to the space radiocommunication services to which these bands are allocated (see No. 5.43). (WRC-2000)
- 5.554 In the bands 43.5 - 47 GHz, 66 - 71 GHz, 95 - 100 GHz, 123 - 130 GHz, 191.8 - 200 GHz and 252 - 265 GHz, satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service. (WRC-2000)
- 5.554A The use of the bands 47.5 - 47.9 GHz, 48.2 - 48.54 GHz and 49.44 - 50.2 GHz by the fixed-satellite service (space-to-Earth) is limited to geostationary satellites. (WRC-03)
- 5.555 Additional allocation: the band 48.94 - 49.04 GHz is also allocated to the radio astronomy service on a primary basis. (WRC-2000)
- 5.555B The power flux-density in the band 48.94 - 49.04 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth) operating in the bands 48.2 - 48.54 GHz and 49.44 - 50.2 GHz shall not exceed  $-151.8 \text{ dB(W/m}^2\text{)}$  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  $-147 \text{ dB(W/m}^2 \cdot 100 \text{ MHz)}$  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  $-26 \text{ dB(W/MHz)}$ . (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  $-147 \text{ dB(W/m}^2 \cdot 100 \text{ MHz)}$  for all angles of arrival. (WRC-97)
- 5.559 In the band 59 - 64 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 5.43). (WRC-2000)
- 5.560 In the band 78 - 79 GHz radars located on space stations may be operated on a primary basis in the earth exploration-satellite service and in the space research service.
- 5.561 In the band 74 - 76 GHz, stations in the fixed, mobile and broadcasting services shall not cause harmful interference to stations of the fixed-satellite service or stations of the broadcasting-satellite service operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting-satellite service. (WRC-2000)
- 5.561A The 81 - 81.5 GHz band is also allocated to the amateur and amateur-satellite services on a secondary basis. (WRC-2000)
- 5.562 The use of the band 94 - 94.1 GHz by the Earth exploration-satellite (active) and space research (active) services is limited to spaceborne cloud radars. (WRC-97)
- 5.562A In the bands 94-94.1 GHz and 130-134 GHz, transmissions from space stations of the Earth exploration-satellite service (active) that are directed into the main beam of a radio astronomy antenna have the potential to damage some radio astronomy receivers. Space agencies operating the transmitters and the radio astronomy stations concerned should mutually plan their operations so as to avoid such occurrences to the maximum extent possible. (WRC-2000)
- 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  $-148 \text{ dB(W/(m}^2 \cdot \text{MHz))}$  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  $-144 \text{ dB(W/(m}^2 \cdot \text{MHz))}$  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

**LIST OF ABBREVIATIONS**

AGA	- Air Ground Air
AIS	- Automatic Identification System
APP	- Appendix of the ITU Radio Regulations
AVI	- Automatic Vehicle Identification
BFWA	- Broadband Fixed Wireless Access
BSS	- Broadcasting Satellite Service
BMA	- Building Material Analysis
BWA	- Broadband Wireless Access
CB	- Citizen Band
CEPT	- European Conference of Postal and Telecommunications Administrations
CGC	- Complementary Ground Component
CRS	- Central Radio Station
DEC	- Decision
DECT	- Digital Enhanced Cordless Telecommunication
DME	- Distance Measuring Equipment
DMO	- Direct Mode Operation
DSC	- Digital Selective Calling
DSI	- Detailed Spectrum Investigation
DVB-T	- Terrestrial Digital Video Broadcasting
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	- Base station (fixed base)
FDD	- Frequency Division Duplex
FM	- Frequency Modulation
FSS	- Fixed-Satellite Service
FWA	- Fixed Wireless Access
GE75	- Geneva 1975 Agreement

GE85	- Geneva 1985 Agreement
GLONASS	- Global Navigation Satellite System
GMDSS	- Global Maritime Distress and Safety System
GNSS	- Global Navigation Satellite System
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
IMT	- International Mobile Telecommunications
ISM	- Industrial, Scientific and Medical
ITU	- International Telecommunication Union
JTIDS	- Joint Tactical Information Distribution System
LDC	- Low Duty Cycle
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
TLPR	- Tank Level Probing Radar
TRR	- Tactical Radio Relays
TS	- Terminal Station
TV	- Television
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