Office of the Director of
Telecommunications
Regulation

Table Of Frequency Allocations Ireland

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Foreword

The publication of this Table of Frequency Allocations - the Radio Frequency Plan - is a very important milestone in increasing availability of information to the public on telecommunications in Ireland.

This publication is aimed at current and potential users and investors in telecommunications services in Ireland. It outlines the types of radiocommunications services permitted in each frequency range currently in use in Ireland, together with some notes on future developments. It takes into account international agreements on frequencies up to and including the Final Acts of the 1995 World Radiocommunications Conference of the International Telecommunications Union.

As new services are introduced and older ones phased out, changes are made in the frequency allocations. New editions of the Table will be issued regularly, taking account of changes as they come into effect in particular those arising from the agreements reached at World Radiocommunications Conferences.

The Office of the Director of Telecommunications Regulation (ODTR) is responsible for licensing the use of spectrum. It should be noted that any use of spectrum, even if in line with these tables must have the prior approval and a licence from the ODTR.

In managing the radio spectrum, the ODTR seeks to ensure that it is efficiently and effectively used. To this end it is carrying out reviews of spectrum use and is tightening the efficiency standards required. This is especially important in the bands designated for use by the fast growing telephony sector, both fixed and mobile. The sector provides critically important support for economic and social development generally, particularly in rural areas.

We would be very glad to receive any comments and ideas you may have which will assist us in making future editions more useful. We have included a comment form at the back for this purpose

Etain Doyle
Director of Telecommunications Regulation

Introduction

The Table lists the allocations in the radio frequency spectrum for Ireland. The structure of the Table, which is outlined below, is similar to that of the International Table of Frequency Allocations as appears in the Radio Regulations (Edition of 1994, as updated by the Final Acts of the World Radiocommunications Conference, 1995, WRC-95) of the International Telecommunications Union (ITU). It covers the frequency range 9 kilohertz (kHz) to 400 Gigahertz (GHz). It lists for each frequency range the types of radiocommunications services that are permitted and which ones are currently in use in Ireland. Information is also given on possible future uses or changes in use of particular frequency bands.

References are given to documentation of the International Telecommunications Union (ITU), European Union (EU), The European Conference of Postal and Telecommunications Administrations (CEPT), the European Technical Standards Institute (ETSI) and the National Standards Association of Ireland (NSAI) where appropriate. Such documentation is available to the public from these organisations.

The Table of Frequency Allocations will be updated regularly. The allocations are not static and will change in time as new radio systems are introduced and old ones phased out. Changes will also be made to reflect agreements reached on spectrum utilisation at international level, e.g. at World Radiocommunication Conferences (WRCs) of the ITU or within CEPT, or as a consequence of national decisions made to meet our specific national requirements.

Structure of the Table

Frequency Band	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
Column 1 Denotes the frequency band.Units used:kilohertz **(kHz),**Megahertz**(MHz)** or Gigahertz**(GHz)**	**Column 2** Indicates the type of service allocated to the band, e.g. (FIXED, Mobile).The services are defined in the ITU International Radio Regulations.Note: Entries in UPPER CASE denote primary services. Entries in lower case denote secondary services (as defined in the Radio Regulations).The footnotes (e.g. S5.314) are the footnotes to the Table of Frequency Allocations in the Radio Regulations.Note: Only footnotes relevant to Ireland are included.	**Column 3** Indicates the national usage of the frequency band.	**Column 4** Notes of additional information.

Note

While every effort has been made to ensure that this document is error free, the ODTR accepts no liability for errors. Its policy is to correct and update the document every year.

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
Below 9	(Not Allocated) S5.53 S5.54	Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3. (Induction Loop systems include Anti - Theft Devices, Alarm Systems, RFID Systems, Paging).
9 - 14	RADIONAVIGATION	Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
14 - 19.95	FIXED MARITIME MOBILE S5.55 S5.56 S5.57	Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
19.95 - 20.05	STANDARD FREQUENCY AND TIME SIGNAL (20kHz)	Standard Frequency and Time Signal (Reception)	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
20.05 - 70	FIXED MARITIME MOBILES5.55 S5.56 S5.57	Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
70 - 72	RADIONAVIGATION S5.60	Radionavigation (DECCA navigation system) Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
72 - 84	FIXED MARITIME MOBILE RADIONAVIGAION S5.56 S5.57 S5.60	Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
84 - 86	RADIONAVIGATION S5.60	Radionavigation (DECCA navigation system) Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
86 - 90	FIXED MARITIME MOBILE RADIONAVIGATION S5.56 S5.57	Paging (Commercial Firms) Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
90 - 110	RADIONAVIGATION Fixed S5.62 S5.63 S5.64	Radionavigation (DECCA/LORAN) Inductive Loop Systems	A LORAN C Station is planned Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
110 - 112	FIXED MARITIME MOBILE RADIONAVIGATION S5.64	Radionavigation (DECCA navigation system) Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
112 - 115	RADIONAVIGATION S5.60	Radionavigation (DECCA navigation system) Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
115 - 117.6	RADIONAVIGATION Fixed Maritime Mobile S5.60 S5.64 S5.66	Radionavigation (DECCA navigation system) Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: SeeNote 1, Annex 3
117.6 - 126	FIXED MARITIME MOBILE RADIONAVIGATION S5.60 S5.64	Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
126 - 129	RADIONAVIGATION S5.60	Radionavigation (DECCA navigation system) Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
129 - 130	FIXED MARITIME MOBILE RADIONAVIGATION S5.60 S5.64	Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
130 - 148.5	MARITIME MOBILE FIXED S5.64 S5.67	Weather Chart Reception (Met Eireann) Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
148.5 - 255	BROADCASTING S5.68 S5.69 S5.70	Broadcasting (AM Sound)	ITU Geneva 1975 Plan.
255 - 283.5	BROADCASTING AERONAUTICAL RADIONAVIGATION S5.70 S5.71	Broadcasting (AM Sound)	ITU Geneva 1975 Plan.
283.5 - 315	MARITIME RADIONAVIGATION (radiobeacons) AERONAUTICAL RADIONAVIGATION S5.72 S5.73 S5.74	Maritime Radionavigation: Radiobeacons (283.5 - 315 Mhz) Inductive Loop Systems (from 285 kHz)	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
315 - 325	AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) S5.72 S5.73 S5.75	Inductive Loop Systems	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
325 - 405	AERONAUTICAL RADIONAVIGATION S5.72	Aeronautical Radionavigation: Non- Directional Beacons Inductive Loop Systems (up to 400 kHz)	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
405 - 415	RADIONAVIGATION S5.72 S5.76	Aeronautical Radionavigation: Non-Directional Beacons	
415 - 435	AERONAUTICAL RADIONAVIGATION MARITIME MOBILE S5.72 S5.79	Aeronautical Radionavigation: RadioBeacons Maritime Mobile	ITU Geneva (Region 1) 1985 Plan.
435 - 495	MARITIME MOBILE Aeronautical Radionavigation S5.72 S5.79 S5.81 S5.82	Maritime Mobile	ITU Geneva (Region 1) 1985 Plan.
495 - 505	MOBILE (distress and calling) S5.83	500 kHz is an international Distress and Calling Frequency for Radiotelegraphy	
505 -526.5	MARITIME MOBILE AERONAUTICAL RADIONAVIGATION S5.72 S5.79 S5.81 S5.84	Maritime Mobile Aeronautical Radio Beacons (510 - 526.5 kHz)	ITU Geneva (Region 1) 1985 Plan.
526.5 - 1606.5	BROADCASTING	Broadcasting (AM Sound)	ITU Geneva 1975 Plan.
1606.5 - 1625	MARITIME MOBILE FIXED LAND MOBILE S5.90 S5.92	Maritime Mobile	ITU Geneva (Region 1) 1985 Plan.
1635 - 1800	MARITIME MOBILE FIXED LAND MOBILE S5.90 S5.92 S5.96	Maritime Mobile Radiolocation: Position Fixing Amateur (secondary)	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
1800 - 1810	RADIOLOCATION S5.93	Radiolocation: Position Fixing	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
1810 - 1850	AMATEUR S5.98 S5.99 S5.100	Amateur	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
1850 - 2000	FIXED MOBILE except aeronautical mobile S5.92 S5.96 S5.103	Radiolocation: Position Fixing Amateur (Primary)	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2000 - 2025	FIXED MOBILE except aeronautical mobile (R) S5.92 S5.103	Fixed Maritime Mobile	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2025 - 2045	FIXED MOBILE except aeronautical mobile (R) Meteorological Aids S5.92 S5.103 S5.104		Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2045 -2160	MARITIME MOBILE FIXED LAND MOBILE S5.92	Maritime Mobile	ITU Geneva (Region 1) 1985 Plan Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2160 - 2170	RADIOLOCATION S5.93	Radiolocation	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2170 - 2173.5	MARITIME MOBILE		Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2173.5 - 2190.5	MOBILE (distress and calling) S5.108 S5.109 S5.110 S5.111	International Distress and Calling frequencies	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2190.5 - 2194	MARITIME MOBILE		Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
2194 - 2300	FIXED MOBILE except aeronautical mobile (R) S5.92 S5.103 S5.112	Fixed Maritime Mobile	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2300 - 2498	FIXED MOBILE except aeronautical mobile (R) BROADCASTING S5.103 S5.113	Maritime Mobile	
2498 - 2501	STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	Standard Frequency and Time Signal (Reception)	
2501 -2502	STANDARD FREQUENCY AND TIME SIGNAL Space Research	Standard Frequency and Time Signal (Reception)	
2502 -2625	FIXED MOBILE except aeronautical mobile (R) S5.92 S5.103 S5.114	Fixed Maritime Mobile	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2625 - 2650	MARITIME MOBILE MARITIME RADIONAVIGATION S5.92	International Intership Communications	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2650 - 2850	FIXED MOBILE except aeronautical mobile (R) S5.92 S5.103	Fixed Maritime Mobile	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2850 - 3025	AERONAUTICAL MOBILE (R) S5.111 S5.115	Aeronautical Mobile (Government Services)	Appendix 27 AER.2 of Radio Regulations Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
3025 - 3155	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (Government Services)	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
3155 - 3200	FIXED MOBILE except aeronautical mobile (R) S5.116 S5.117		Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
3200 - 3230	FIXED MOBILE except aeronautical mobile (R) BROADCASTING S5.113 S5.116		Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
3230 - 3400	FIXED MOBILE except aeronautical mobile BROADCASTING S5.113 S5.116	Fixed (Government Services, Commercial Firms)	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
3400 - 3500	AERONAUTICAL MOBILE (R)	Aeronautical Mobile	Appendix 27 AER.2 of Radio Regulations Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
3500 - 3800	AMATEUR FIXED MOBILE except aeronautical mobile S5.92 S5.120	Fixed Amateur Maritime Mobile	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
3800 - 3900	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE		
3900 - 3950	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile(Government Services)	
3950 - 4000	FIXED BROADCASTING		
4000 - 4063	FIXED MARITIME MOBILE S5.127	Maritime Mobile	Appendix 16 of Radio Regulations
4063 - 4438	MARITIME MOBILE S5.109 S5.110 S5.129 S5.130 S5.131 S5.132	Maritime Mobile	Appendix 16 of Radio Regulations
4438 - 4650	FIXED MOBILE except aeronautical mobile (R)	Fixed (Government Services)	
4650 - 4700	AERONAUTICAL MOBILE (R)	Aeronautical Mobile (Government Services)	Appendix 27 AER.2 of Radio Regulations
4700 - 4750	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (Government Services)	

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
4750 - 4850	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING S5.113		
4850 - 4995	FIXED LAND MOBILE BROADCASTING S5.113	Fixed	
4995 - 5003	STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz)	Standard Frequency and Time Signal (Reception)	
5003 - 5005	STANDARD FREQUENCY AND TIME SIGNAL Space Research	Standard Frequency and Time Signal (Reception)	
5005 - 5060	FIXED BROADCASTING S5.113		
5060 - 5250	FIXED Mobile except aeronautical mobile (R) S5.133	Fixed	
5250 - 5450	FIXED MOBILE except aeronautical mobile (R)	Fixed (GovernmentServices)	
5450 - 5480	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE		
5480 - 5680	AERONAUTICAL MOBILE (R) S5.111 S5.115	Aeronautical Mobile	Appendix 27 AER.2 of Radio Regulations
5680 - 5730	AERONAUTICAL MOBILE (OR) S5.111 S5.115	Aeronautical Mobile (Government Services)	
5730 - 5900	FIXED LAND MOBILE	Fixed (Government Services)	
5900 - 5950	BROADCASTING S5.134 S5.135 S5.136	Shortwave Broadcasting (Reception)	
5950 - 6200	BROADCASTING	Shortwave Broadcasting (Reception)	

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
6200 - 6525	MARITIME MOBILE S5.109 S5.110 S5.130 S5.132 S5.137	Maritime Mobile	Appendix 16 of Radio Regulations
6525 - 6685	AERONAUTICAL MOBILE (R)	Aeronautical Mobile (Government Services)	Appendix 27 AER.2 of Radio Regulations
6685 - 6765	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (Government Services)	
6765 - 7000	FIXED Land Mobile S5.138 S5.139	Fixed Low power devices	CEPT Rec. T/R 01-04 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
7000 - 7100	AMATEUR AMATEUR - SATELLITE S5.120	Amateur Amateur - Satellite	
7100 - 7300	BROADCASTING	Shortwave Broadcasting (Reception)	
7300 - 7350	BROADCASTING S5.134 S5.135 S5.143	Shortwave Broadcasting (Reception)	
7350 - 8100	FIXED Land Mobile S5.144	Fixed	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
8100 - 8195	FIXED MARITIME MOBILE	Maritime Mobile	Appendix 16 of Radio Regulations Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
8195 - 8815	MARITIME MOBILE S5.109 S5.110 S5.111 S5.132 S5.145	Maritime Mobile	Appendix 16 of Radio Regulations Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
8815 - 8965	AERONAUTICAL MOBILE (R)	Aeronautical Mobile	Appendix 27 AER.2 of Radio RegulationsLegislation to license exempt certain short range devices is planned: See Note 1, Annex 3
8965-9040	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (Government Services)	
9040 - 9400	FIXED	Fixed	

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
9400 - 9500	BROADCASTING S5.134 S5.135 S5.146	Shortwave Broadcasting (Reception)	
9500 - 9900	BROADCASTING S5.147 S5.148	Shortwave Broadcasting (Reception)	
9900 - 9995	FIXED		
9995 - 10003	STANDARD FREQUENCY AND TIME SIGNAL (10000 kHz) S5.111	Standard Frequency and Time Signal (Reception)	
10003 - 10005	STANDARD FREQUENCY AND TIME SIGNAL Space Research S5.111	Standard Frequency and Time Signal (Reception)	
10005 - 10100	AERONAUTICAL MOBILE (R) S5.111	Aeronautical Mobile	Appendix 27 AER.2 of Radio Regulations
10100 - 10150	FIXED Amateur S5.120	Amateur (secondary)	
10150 - 11175	FIXED Mobile except aeronautical mobile (R)	Fixed	
11175 - 11275	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (Government Service)	
11275 - 11400	AERONAUTICAL MOBILE (R)	Aeronautical Mobile (Government Service)	
11400 - 11600	FIXED	Fixed (Government Services)	
11600 - 11650	BROADCASTING S5.134 S5.135 S5.146	Shortwave Broadcasting (Reception)	
11650 - 12050	BROADCASTING S5.147 S5.148	Shortwave Broadcasting (Reception)	
12050 - 12100	BROADCASTING S5.134 S5.135 S5.146	Shortwave Broadcasting (Reception)	
12100 - 12230	FIXED	Fixed	
12230 - 13200	MARITIME MOBILE S5.109 S5.110 S5.132 S5.145	Maritime Mobile	Appendix 16 of Radio Regulations
13200 - 132600	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (Government Services)	

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
13260 - 13360	AERONAUTICAL MOBILE (R)	Aeronautical Mobile	Appendix 27 AER.2 of Radio Regulations
13360 - 13410	FIXED RADIO ASTRONOMY S5.149	Fixed	
13410 - 13570	FIXED Mobile except aeronautical mobile (R) S5.150	Low power devices ISM (13553-13567 kHz)	CEPT Rec. T/R 01-04 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
13570 - 13600	BROADCASTING S5.134 S5.135 S5.151	Shortwave Broadcasting (Reception)	
13600 - 13800	BROADCASTING S5.148	Shortwave Broadcasting (Reception)	
13800 - 13870	BROADCASTING S5.134 S5.135 S5.151		
13870 - 14000	FIXED Mobile except aeronautical mobile (R)		
14000 - 14250	AMATEUR AMATEUR-SATELLITE S5.120	Amateur Amateur - Satellite	
14250 -14350	AMATEUR S5.120	Amateur	
14350 - 14990	FIXED Mobile except aeronautical mobile (R)	Fixed	
14990 - 15005	STANDARD FREQUENCY AND TIME SIGNAL (15000 kHz) S5.111	Standard Frequency and Time Signal (Reception)	
15005 - 15010	STANDARD FREQUENCY AND TIME SIGNAL Space Research	Standard Frequency and Time Signal (Reception)	
15010 - 15100	AERONAUTICAL MOBILE (OR)	Aeronautical Mobile (Government Services)	
15100 - 15600	BROADCASTING S5.148	Shortwave Broadcasting (Reception)	
15600 - 15800	BROADCASTING S5.134 S5.135 S5.146	Shortwave Broadcasting (Reception)	

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
15800 - 16360	FIXED S5.153		
16360 - 17410	MARITIME MOBILE S5.109 S5.110 S5.132 S5.145	Maritime Mobile	Appendix 16 of Radio Regulations
17410 - 17480	FIXED		
17480 - 17550	BROADCASTING S5.134 S5.135 S5.146	Shortwave Broadcasting (Reception)	
17550 - 17900	BROADCASTING S5.148	Shortwave Broadcasting (Reception)	
17900 - 17970	AERONAUTICAL MOBILE (R)	Aeronautical Mobile	Appendix 27 AER.2 of Radio Regulations
17970 - 18030	AERONAUTICAL MOBILE (OR)		
18030 - 18052	FIXED		
18052 - 18068	FIXED Space Research		
18068 - 18168	AMATEUR AMATEUR - SATELLITE S5.120	Amateur Amateur - Satellite	
18168 - 18780	FIXED Mobile except aeronautical mobile		
18780 - 18900	MARITIME MOBILE	Maritime Mobile	Appendix 16 of Radio Regulations
18900 - 19020	BROADCASTING S5.134 S5.135 S5.146	Shortwave Broadcasting (Reception)	
19020 - 19680	FIXED		
19680 - 19800	MARITIME MOBILE S5.132		
19800 - 19990	FIXED		
19990 - 19995	STANDARD FREQUENCY AND TIME SIGNAL Space Research S5.111	Standard Frequency and Time Signal (Reception)	
19995 - 20010	STANDARD FREQUENCY AND TIME SIGNAL (25000 kHz) S5.111	Standard Frequency and Time Signal (Reception)	

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
20010 - 21000	FIXED Mobile		
21000 - 21450	AMATEUR AMATEUR-SATELLITE S5.120	Amateur Amateur - Satellite	
21450 - 21850	BROADCASTING S5.148	Shortwave Broadcasting (Reception)	
21850 - 21870	FIXED S5.155 S5.155A		
21870 - 21924	AERONAUTICAL FIXED S5.155B		
21924 - 22000	AERONAUTICAL MOBILE (R)		
22000 - 22855	MARITIME MOBILE S5.132	Maritime Mobile	Appendix 16 of Radio Regulations
22855 - 23000	FIXED		
23000 - 23200	FIXED Mobile except aeronautical mobile (R)		
23200 - 23350	AERONAUTICAL FIXED AERONAUTICAL MOBILE (OR) S5.156A		
23350 - 24000	FIXED MOBILE except aeronautical mobile S5.157		
24000 - 24890	FIXED LAND MOBILE		
24890 - 24990	AMATEUR AMATEUR-SATELLITE S5.120	AmateurAmateur - Satellite	
24990 - 25005	STANDARD FREQUENCY AND TIME SIGNAL (25000 kHz)	Standard Frequency and Time Signal (Reception)	
25005 - 25010	STANDARD FREQUENCY AND TIME SIGNAL Space Research	Standard Frequency and Time Signal (Reception)	
25010 - 25070	FIXED MOBILE except aeronautical mobile		

Frequency Band (kHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
25070 - 25210	MARITIME MOBILE	Maritime Mobile	Appendix 16 of Radio Regulations
25210 - 25550	FIXED MOBILE except aeronautical mobile		
25550 - 25670	RADIO ASTRONOMY S5.149		
25670 - 26100	BROADCASTING	Shortwave Broadcasting (Reception)	
26100 - 26175	MARITIME MOBILE S5.132	Maritime Mobile	Appendix 16 of Radio Regulations
26175 - 27500	FIXED MOBILE except aeronautical mobile S5.150	Paging (private, on-site) Low Power devices Citizen Band Radio (26.96 - 27.41 Mhz.) Model Control	CEPT/ERC/DEC/(96);19,I.S.ETS300.224 CEPT/ERC/DEC/(96);02,I.S.ETS300.135 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
27.5 - 28	METEOROLOGICAL AIDS FIXED MOBILE	Paging (private, on-site)	CEPT/ERC/DEC/(96)19,I.S./ETS.300.224
28 - 29.7	AMATEUR AMATEUR-SATELLITE	Amateur Amateur - satellite.	
29.7 - 30.005	FIXED MOBILE	Telemetry	
30.005 - 30.01	SPACE OPERATION (satellite operation) FIXED MOBILE SPACE RESEARCH	Fixed Mobile (government services)	
30.01 - 37.5	FIXED MOBILE	Paging (Hospitals) Cordless telephones (fixed part) (31.025 - 31.325 Mhz.) Telemetry Fixed (Government Services) Mobile (Government Services) Model Aircraft Control (AM & FM) (35.01 - 35.25 MHz)	CEPT/ERC/DEC/(96)19,I.S./ETS.300.224 Irish Specification TTE 9 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
37.5 - 38.25	FIXED MOBILE Radio Astronomy S5.149	FixedMobile(Government services)	
38.25 - 39.986	FIXED MOBILE	Fixed (Government Services) Mobile (Government Services)	
39.986 - 40.02	FIXED MOBILE Space Research	Cordless telephones (portable part) (39.925 - 40.225 Mhz.) Fixed (Government Services) Mobile (Government Services)	Irish Specification TTE 9

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
40.02 - 40.98	FIXED MOBILE S5.150	Cordless telephones (portable part) (39.925 - 40.225 Mhz.) Fixed (Government Services) Mobile (Government Services) Low power devices ISM (40.66 - 40.7 MHz)	Irish Specification TTE 9 CEPT Rec. T/R 01-04Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
40.98 - 41.015	FIXED MOBILE Space Research	Fixed Mobile (Government services)	
41.015 - 44	FIXED MOBILE	Fixed Mobile (Government services)	
44 - 47	FIXED MOBILE	Broadcasting (Television) (44.5 - 68.5 Mhz) Fixed (Government Services) Mobile (Government Services)	
47 - 68	BROADCASTING S5.164	Broadcasting (television) Amateurs* (secondary) (50 - 50.5 MHz)	ITU Stockholm 1961 Plan: Mobile planned if broadcasting is phased out *Special license. Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
68 - 74.8	FIXED MOBILE except aeronautical mobile S5.149	Land mobile (Government Services, Commercial, Public Broadcasters) Amateur (secondary, 70.125 - 70.450 MHz)	PMR (VHF Low Band) mainly commercial users and County Councils CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14 refer to equipment specifications. (Channel spacing 12.5 kHz)
74.8 - 75.2	AERONAUTICAL RADIONAVIGATION S5.180	Aeronautical Radionavigation	
75.2 - 87.5	FIXED MOBILE except aeronautical mobile	Land mobile (Government services,Commercial, Local Authorities)	PMR (VHF Low Band) mainly commercial users and County Councils CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14 refer to equipment specifications. (Channel spacing 12.5 kHz)

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
87.5 - 100	BROADCASTING S5.190	Broadcasting (FM Sound)	ITU Geneva 1984 PlanCEPT/ERC/DEC/(96)13
100 - 108	BROADCASTING	Broadcasting (FM Sound)	ITU Geneva 1984 PlanCEPT/ERC/DEC/(96)13
108 - 117.975	AERONAUTICAL RADIONAVIGATION S5.197	Aeronautical Radionavigation: Instrument Landing Systems (ILS) VHF Omni-Range (VOR)	
117.975 - 136	AERONAUTICAL MOBILE (R) S5.111 S5.198 S5.199 S5.200	Aeronautical Radionavigation: air - ground - air communications (ATC) 121.5 MHz Aeronautical Emergency Frequency 123.1 MHz Aeronautical auxiliary Frequency to 121.5 Mhz National Glider Frequency: 130.4 Mhz	
136 - 137	AERONAUTICAL MOBILE (R) Fixed Mobile except aeronautical mobile (R) S5.198 S5.202	Aeronautical Radionavigation: air - ground - air communications (ATC)	
137 - 137.025	SPACE OPERATION (space - Earth) METEOROLOGICAL - SATELLITE (space - Earth) SPACE RESEARCH (space - Earth) MOBILE SATELLITE (space - Earth) Fixed Mobile except aeronautical mobile (R) S5.208 S5.208A S5.209		
137.025 - 137.175	SPACE OPERATION (space - Earth) METEOROLOGICAL - SATELLITE (space - Earth) SPACE RESEARCH (space - Earth) Mobile - Satellite (space - Earth) Fixed Mobile except aeronautical mobile (R) S5.208 S5.208A S5.209		
137.175 - 137.825	SPACE OPERATION (space - Earth) METEOROLOGICAL - SATELLITE (space - Earth) SPACE RESEARCH (space - Earth) MOBILE-SATELLITE (space - Earth) Fixed Mobile except aeronautical mobile (R) S5.208 S5.208A S5.209	Meteorological - Satellite(reception) (137.5MHz, 137.62 MHz)	

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
137.825 - 138	SPACE OPERATION (space - Earth) METEOROLOGICAL - SATELLITE (space - Earth) SPACE RESEARCH (space - Earth) Mobile - Satellite (space - Earth) Fixed Mobile except aeronautical mobile (R) S5.208 S5.208A S5.209		
138 - 143.6	AERONAUTICAL MOBILE (OR) S5.210 S5.211	Land Mobile	VHF mid- Band,CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14 refer to equipment specifications. (Channel spacing 12.5 kHz)
143.6 - 143.65	AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space -Earth) S5.211	Land Mobile	VHF mid- Band,CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07, 10, 11, 12, 14 refer to equipment specifications.(Channel spacing 12.5 kHz)
143.65 - 144	AERONAUTICAL MOBILE (OR) S5.210 S5.211	Land Mobile	VHF mid- Band, CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14 refer to equipment specifications. (Channel spacing 12.5 kHz)
144 - 146	AMATEUR AMATEUR-SATELLITES 5.120	Amateur	
146 - 148	FIXED MOBILE except aeronautical mobile (R)	Land Mobile	VHF mid- Band,CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14 refer to equipment specifications. (Channel spacing 12.5 kHz)

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
148 - 149.9	FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth -space) S5.209 S5.218 S5.219 S5.221	Land Mobile	VHF mid- Band,CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14 refer to equipment specifications. (Channel spacing 12.5 kHz)
149.9 - 150.05	RADIONAVIGATION - SATELLITE LAND MOBILE - SATELLITE (Earth - space) S5.209 S5.220 S5.222 S5.223 S5.224		
150.05 - 153	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY S5.149	Land Mobile Radio Telemetry (Educational Institutions)	VHF mid - Band, CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14 refer to equipment specifications. (Channel spacing 12.5 kHz)
153 - 154	FIXED MOBILE except aeronautical mobile (R) Meteorological Aids	Paging	CEPT/ERC/DEC/(96)19,I.S./ETS.300.224
154 - 156.7625	FIXED MOBILE except aeronautical mobile (R) S5.226 S5.227	Maritime Mobile	Appendix 18 Radio Regulations CEPT/ERC/DEC/(96)20,I.S./ETS300.162
156.7625 - 156.8375	MARITIME MOBILE (distress and calling) S5.111 S5.226	Maritime Mobile Land Mobile	Appendix 18 Radio Regulations CEPT/ERC/DEC/(96)20,I.S./ETS300.162 PMR VHF high Band, mainly commercial users and County Councils CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14,19 refer to equipment specs (12.5 kHz Channels)
156.8375 - 174	FIXED MOBILE except aeronautical mobile S5.226	Pan-European Land Based Public Radio Paging Service - ERMES (169.4 - 169.8 Mhz.) Maritime Mobile Fixed Land Mobile and Telemetry	E.C Directive 90/543/EEC,S.I.No.28of 1995 Memorandum of Understanding (Ireland/UK) Appendix 18 Radio Regulations CEPT/ERC/DEC/(96)20,I.S./ETS.300.162 PMR VHF high Band, mainly commercial users and County Councils CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14,19 refer to equipment specifications. (Channel spacing 12.5 kHz) Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
174 - 223	BROADCASTING S5.235 S5.244	Broadcasting (Television)	ITU Stockholm 1961 Plan (Channel J Television to be phased out) T-DAB In the UK (217.2 - 230 Mhz) (CEPT 1995 Wiesbaden Arrangement, CEPT Bonn Meeting 1996) Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
223 - 230	BROADCASTING Fixed Mobile S5.244	Broadcasting (Television)	ITU Stockholm 1961 Plan (Channel J Television to be phased out)T-DAB in UK (217.2 - 230 MHz), Introduction in Ireland (223 - 230Mhz) (CEPT 1995 Wiesbaden Arrangement, CEPT Bonn Meeting 1996)
230 - 235	FIXED MOBILE S5.244		
235 - 267	FIXED MOBILE S5.111 S5.199 S5.254 S5.256	Mobile (Government Services): 243 MHz Emergency Search & Rescue SAR Training Frequencies ATC Air to Air Naval Intership Fixed (Government Services)	
267 - 272	FIXED MOBILE Space Operation (space - Earth) S5.254 S5.257		
272 - 273	SPACE OPERATION (space - Earth) FIXED MOBILE S5.254		
273 - 312	FIXED MOBILE S5.254	Mobile: Emergency Search & Rescue - SAR (Government Services) Position Fixing	
312 - 315	FIXED MOBILE Mobile - Satellite (Earth - space) S5.254 S5.255		

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
315 - 322	FIXED MOBILE S5.254	Low Power Security Devices	
322 - 328.6	FIXED MOBILE RADIO ASTRONOMY S5.149		
328.6 - 335.4	AERONAUTICAL RADIONAVIGATION S5.258 S5.259	Aeronautical Radionavigation: Instrument Landing Systems (Glide Path)	
335.4 - 387	FIXED MOBILE S5.254	Mobile: Trunked Radio (Planned) TETRA (Emergency) (380 - 385 MHz / 390 - 395Mhz) TETRA (Civil) (385 - 390 MHz / 395 - 399.9MHz)	CEPT/ERC/DEC(96)01 CEPT/ERC/DEC(96)04 I.S./ ETS 300 392 I.S./ ETS 300 393
387 - 390	FIXED MOBILE Mobile - Satellite (space - Earth) S5.208A S5.254 S5.255	Mobile: Trunked Radio (Planned)(TETRA Civil) (385 - 390 MHz /395 - 399.9MHz)	CEPT/ERC/DEC(96)04 I.S./ ETS 300 392 I.S./ ETS 300 393
390 - 399.9	FIXED MOBILE S5.254	Mobile: Trunked Radio (Planned) (TETRA Emergency) (380 - 385 MHz / 390 - 395MHz) (TETRA Civil) (385 - 390 MHz / 395 - 399.9Mhz) Monitoring Systems	CEPT/ERC/DEC(96)01 CEPT/ERC/DEC(96)04 I.S./ ETS 300 392 I.S./ ETS 300 393
399.9 - 400.05	RADIONAVIGATION - SATELLITE LAND - MOBILE SATELLITE (Earth - space) S5.209 S5.220 S5.222 S5.224 S5.260	Radionavigation satellite	
400.05 - 400.15	STANDARD FREQUENCY AND TIME SIGNAL - SATELLITE (400.1 Mhz) S5.261	Standard Frequency and Time Signal (Reception)	

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
400.15 - 401.00	METEOROLOGICAL AIDS METEOROLOGICAL - SATELLITE (space - Earth) SPACE RESEARCH (space - Earth) MOBILE - SATELLITE (space - Earth) Space Operation (space - Earth) S5.208A S5.209 S5.263 S5.264	Meteorological Aids (Radiosondes)	
401 - 402	METEOROLOGICAL AIDS SPACE OPERATION (space - Earth) Earth Exploration - Satellite (Earth - space) FixedMeteorological Satellite (Earth - space) Mobile except aeronautical mobile	Meteorological Aids (Radiosondes)	
402 - 403	METEOROLOGICAL AIDS Earth Exploration - Satellite (Earth - space) Fixed Meteorological - Satellite (Earth - space) Mobile except aeronautical mobile	Meteorological Aids (Radiosondes)	
403 - 406	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile	Meteorological Aids (Radiosondes)	
406 - 406.1	MOBILE - SATELLITE (Earth - space) S5.266 S5.267	EPIRBs (Emergency beacons)	Cospar - Sarsat
406.1 - 410	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY S5.149		
410 - 420	FIXED MOBILE except aeronautical mobile Space Research (space - space) S5.268	Fixed Land Mobile: Trunked Radio: TETRA (Civil) (Planned) Analogue Trunking: (415.775 –418.9875MHz / 425.775 - 428.9875MHz)	Fixed to be phased out CEPT/ERC/DEC(96)04 I.S./ ETS 300 392 I.S./ ETS 300 393
420 - 430	FIXED MOBILE except aeronautical mobile Radiolocation S5.269 S5.271	Fixed Land Mobile: Trunked Radio: TETRA (Civil) (Planned) Analogue Trunking (415.775-418.9875MHz /425.775-428.9875MHz)	Fixed to be phased out CEPT/ERC/DEC(96)04 I.S./ ETS 300 392 I.S./ ETS 300 393

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
430 - 440	AMATEUR RADIOLOCATION S5.138 S5.271 S5.282	Amateur Radiolocation (Syledis) Low power devices (<=1mW) (433.05 - 434.79 MHz.) ISM (433.05 - 434.79 MHz.)	Possible transfer of Syledis users to GPS CEPT Rec. T/R 01 - 04Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
440 - 450	FIXED MOBILE except aeronautical mobile Radiolocation S5.269 S5.271 S5.286	Low power devices Fixed (Government Services) Mobile: Short Range Business Radio (SRBR) (446 - 446.1MHz): 8 channels 446.00625MHz, 446.01875MHz, 446.03125MHz, 446.04375MHz, 446.05625MHz, 446.06875MHz, 446.08125MHz, 446.09375 MHz	CEPT Rec. T/R 20-04 Fixed to be phased out. Legislation to license exempt short range business radio in this band is planned: These devices will not be protected and must not cause interference to licensed users, 500mW max erp. See Note 2, Annex 3
450 - 455	FIXED MOBILE S5.271 S5.286	Fixed (used mainly for radiolinks in support of land mobile) Land mobile (Government Services, Commercial, Local Authorities)	Fixed to be phased out. PMR UHF Band CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14,19 refer to equipment specifications. (Channel spacing 12.5 kHz) TETRA Civil, CEPT/ERC/DEC(96)04 (not planned at present)
455 - 456	FIXED MOBILE S5.271 S5.286C	Fixed (used mainly for radiolinks in support of land mobile) Land mobile (Government Services, Commercial, Local Authorities)	Fixed to be phased out. PMR UHF Band CEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14, 19 refer to equipment specifications. (Channel spacing 12.5 kHz) TETRA Civil, CEPT/ERC/DEC(96)04 (not planned at present)

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
456 - 459	FIXED MOBILE S5.271 S5.287	Fixed (used mainly for radiolinks in support of land mobile) Land mobile (Government Services, Commercial, Local Authorities)	Fixed to be phased out. PMR UHF BandCEPT/ERC/DEC/(95)02, BandCEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14,19 refer to equipment specifications. (Channel spacing 12.5 kHz) TETRA Civil, CEPT/ERC/DEC(96)04 (not planned at present)
459 - 460	FIXED MOBILE S5.271 S5.286C	Fixed (used mainly for radiolinks in support of land mobile) Land mobile (Government Services, Commercial, Local Authorities)	Fixed to be phased out. PMR UHF BandCEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14,19 refer to equipment specifications. (Channel spacing 12.5 kHz) TETRA Civil, CEPT/ERC/DEC(96)04 (not planned at present)
460 - 470	FIXED MOBILE Meteorological - Satellite (space - Earth) S5.287 S5.289	Land mobile (Government Services, Commercial, Local Authorities)	PMR UHF BandCEPT/ERC/DEC/(95)02, CEPT/ERC/DEC/(96)07,10,11,12,14,19 refer to equipment specifications. (Channel spacing 12.5 kHz) TETRA Civil, CEPT/ERC/DEC(96)04 (not planned at present)
470 - 790	BROADCASTING S5.149 S5.296 S5.302 S5.306 S5.311	Broadcasting (Television)	ITU Stockholm 1961 Plan Mobile (services ancillary to broadcasting under consideration) Digital Broadcasting (DTV),CEPT Chester Agreement (1997)
790 - 862	FIXED BROADCASTING S5.314	Broadcasting (Television) Broadcasting (STL and OB Links)	ITU Stockholm 1961 Plan Links to be relocated to 1.3 GHz Digital Broadcasting (DTV), CEPT Chester Agreement (1997)

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
862 - 890	FIXED MOBILE except aeronautical mobile BROADCASTING S5.322	Cordless Telephones (864.1 - 868.1 Mhz) Trunked Radio (Planned) (TETRA Civil) 870 - 876 MHz / 915 - 921 MHz Public Mobile RadioTACS & GSM Extension bands 880 - 890 MHz / 925 – 935 MHz	CT2 - CAI, I-ETS 300 131 CEPT/ERC/DEC/(96)04 I.S./ ETS 300 392 I.S./ ETS 300 393 CEPT/ERC/ DEC/ (97)02 (E-GSM) Social Alarm Systems (869.2-869.25 MHz) (Planned) CEPT/ERC/DEC/ (97)06
890 - 942	FIXED MOBILE except aeronautical mobile BROADCASTING Radiolocation S5.322	Broadcasting (Links) Public Cellular Mobile Radio: TACS (Analogue) (890 - 900 / 935 - 945 MHz) GSM (Digital) (900 - 915 / 945 - 960 MHz) Trunked Radio (Planned): TETRA (Civil) 870 - 876 MHz / 915 – 921 MHz. TACS / GSM extension Bands 880 - 890 MHz / 925 - 935 MHz	Existing links to be relocated TACS to be phased out in favour of GSM E.C. Dir. 87/372/EEC S.I. 416 of 1994 CEPT/ERC/DEC/(96)04 I.S./ ETS 300 392 I.S./ ETS 300 393 CEPT/ERC/DEC/(97)02 (E-GSM)
942 - 960	FIXED MOBILE except aeronautical mobile BROADCASTING S5.322	Broadcasting (Links) Public Cellular Mobile Radio: TACS (Analogue) (890 - 900 / 935 - 945 MHz) GSM (Digital) (900 - 915 / 945 - 960 MHz)	Existing links to be relocated TACS to be phased out in favour of GSM E.C. Dir. 87/372/EEC S.I. 416 of 1994
960 - 1215	AERONAUTICAL RADIONAVIGATION S5.328	Aeronautical Radionavigation: Distance Measuring Equipment (DME) Radar	
1215 - 1240	RADIOLOCATION RADIONAVIGATION - SATELLITE (space - Earth) S5.329 S5.333	Radionavigation: Radar, Navigation Systems and Active Sensors GPS Amateur (Secondary)	

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
1240 - 1260	RADIOLOCATION RADIONAVIGATION - SATELLITE (space - Earth) Amateur S5.329 S5.333	Radionavigation: Radar, Navigation Systems and Active Sensors Glonass Amateur (Secondary)	
1260 - 1300	RADIOLOCATION Amateur S5.282 S5.333	Radionavigation: Radar, Navigation Systems and Active Sensors Glonass Amateur (Secondary)	
1300 - 1350	AERONAUTICAL RADIONAVIGATION Radiolocation S5.149 S5.337	Navigation Systems	
1350 - 1400	FIXED MOBILE RADIOLOCATION S5.149 S5.339	Fixed: Point - Point Links (Infrastructure)	CEPT/ERC/ REC 13- 01 E: Annex A (1350 - 1375 MHz paired with 1492 - 1517 MHz) -1.3 GHz band Annex B (1375 - 1400 MHz paired with 1427 - 1452 MHz) - 1.4 GHz band Low capacity links, up to 2mbit/s REF: Links Guidelines, Doc: ODTR 97/02
1400 - 1427	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.341	Radio Astronomy (all emissions prohibited)	
1427 - 1429	FIXED SPACE OPERATION (Earth - space) MOBILE except aeronautical mobile S5.341	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/ REC 13- 01 E: Annex B. REF: Links Guidelines, Doc: ODTR 97/02
1429 - 1452	FIXED MOBILE except aeronautical mobile	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/ REC 13- 01 E: Annex B. REF: Links Guidelines, Doc: ODTR 97/02
1452 - 1492	FIXED MOBILE except aeronautical mobile BROADCASTING-SATELLITE BROADCASTING S5.341 S5.345 S5.347	Fixed	Band Closed. Fixed to be relocated. DIGITAL AUDIO BROADCASTING Resolution 528 (WARC-92) (CEPT 1995 Wiesbaden Arrangement, CEPT 1996 Bonn meeting (T-DAB in France))

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
1492 - 1525	FIXED MOBILE except aeronautical mobile S5.341 S5.342	Fixed	Band Closed. Fixed to be relocated.
1525 - 1530	SPACE OPERATION (space -Earth) FIXED MARITIME MOBILE - SATELLITE (space -Earth) Land Mobile-Satellite (space – Earth) Earth Exploration - Satellite Mobile except aeronautical mobile S5.341 S5.351 S5.352 S5.354		Satellite Mobile Services expected from 1995
1530 - 1533	SPACE OPERATION (space - Earth) MARITIME MOBILE – SATELLITE (space - Earth) Earth Exploration - Satellite Fixed Mobile except aeronautical mobile S5.341 S5.351 S5.354	Maritime Mobile - Satellite (space - Earth): Inmarsat System	Other Mobile - Satellite Systems
1533 - 1535	SPACE OPERATION (space - Earth) MARITIME MOBILE - SATELLITE (space - Earth) Earth Exploration - Satellite Fixed Mobile except aeronautical mobile Land Mobile - Satellite (space - Earth) S5.341 S5.351 S5.352 S5.354	Maritime Mobile - Satellite (space - Earth): Inmarsat - M (receive)	Other Mobile - Satellite Systems
1535 - 1544	MARITIME MOBILE - SATELLITE (space - Earth) Land Mobile - Satellite (space - Earth) S5.341 S5.351 S5.352 S5.354	Maritime Mobile - Satellite (space - Earth): Inmarsat – M (receive)	
1544 - 1545	MOBILE - SATELLITE (space - Earth) S5.341 S5.354 S5.356	SAR Satellite Systems including GMDSS Inmarsat – M (receive)	
1545 - 1555	AERONAUTICAL MOBILE SATELLITE (R) (space - Earth) S5.341 S5.351 S5.354 S5.357 S5.358	Maritime Mobile - Satellite (space - Earth): Inmarsat - M (receive)	

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
1555 - 1559	LAND MOBILE - SATELLITE (space - Earth) S5.341 S5.351 S5.354 S5.355 S5.360	Maritime Mobile - Satellite (space - Earth): Inmarsat - M (receive)	
1559 - 1610	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION - SATELLITE (space - Earth) S5.341	Aeronautical Radionavigation: GPS & Glonass	
1610 - 1610.60	AERONAUTICAL RADIONAVIGATION MOBILE - SATELLITE (Earth - space) S5.341 S5.364 S5.366 S5.367 S5.368 S5.371 S5.372	Aeronautical Radionavigation: Glonass	Satellite Personal Communications Service S-PCS (planned) CEPT/ERC/DEC /(97)03
1610.60 – 1613.80	AERONAUTICAL RADIONAVIGATION MOBILE - SATELLITE (Earth - space) RADIO ASTRONOMY S5.149 S5.341 S5.364 S5.366 S5.367 S5.368 S5.371 S5.372	Aeronautical Radionavigation: Glonass	Satellite Personal Communications Service S-PCS (planned) CEPT/ERC/DEC /(97)03
1613.80 – 1626.50	AERONAUTICAL RADIONAVIGATION MOBILE - SATELLITE (Earth - space) Mobile - Satellite (space - Earth) S5.341 S5.364 S5.365 S5.366 S5.367 S5.368 S5.371 S5.372	Aeronautical Radionavigation: Glonass	Satellite Personal Communications Service S-PCS (planned) CEPT/ERC/DEC /(97)03
1626.50 – 1631.50	MARITIME MOBILE - SATELLITE (Earth - space) Land Mobile - Satellite (Earth - space) S5.341 S5.351 S5.352 S5.354		
1631.50 – 1634.50	MARITIME MOBILE - SATELLITE (Earth - space) LAND MOBILE - SATELLITE (Earth - space) S5.341 S5.351 S5.354 S5.374	Maritime Mobile - Satellite (Earth-space): Inmarsat - M (transmit)	
1634.50 - 1645.50	MARITIME MOBILE - SATELLITE (Earth - space) Land Mobile - Satellite (Earth - space) S5.341 S5.351 S5.352 S5.354	Maritime Mobile - Satellite (Earth - space): Inmarsat - M (transmit)	

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
1645.50-1646.50	MOBILE - SATELLITE (Earth - space) S5.341 S5.354 S5.375	Search and Rescue Satellite Systems including GMDSS Inmarsat - M (transmit)	
1646.50-1656.50	AERONAUTICAL MOBILE-SATELLITE (R) (Earth - space) S5.341 S5.351 S5.354 S5.358 S5.376	Inmarsat - M (transmit)	
1656.50 – 1660	LAND MOBILE - SATELLITE (Earth - space) S5.341 S5.351 S5.354 S5.360 S5.374	Inmarsat - M (transmit)	
1660.00 – 1660.50	RADIO ASTRONOMY LAND MOBILE - SATELLITE (Earth - space) S5.149 S5.341 S5.351 S5.354 S5.360	Radio Astronomy	Important band for Radio Astronomy
1660.50 – 1668.40	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile S5.149 S5.341 S5.379A	Radio Astronomy	Important band for Radio Astronomy
1668.40 - 1670	METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY S5.149 S5.341	Radio Astronomy	Important band for Radio Astronomy
1670 - 1675	METEOROLOGICAL AIDS FIXED METEOROLOGICAL - SATELLITE (space - Earth) MOBILE S5.380 S5.341	TFTS (ground - air) 1670 - 1675 MHz	CEPT/ERC/DEC/(92)01 (frequencies) CEPT/ERC/DEC (97)08 (Plan)
1675 - 1690	METEOROLOGICAL AIDS FIXED METEOROLOGICAL - SATELLITE (space - Earth) MOBILE except aeronautical mobile S5.341	Meteorological - Satellites	

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
1690 - 1700	METEOROLOGICAL AIDS METEOROLOGICAL - SATELLITE (space - Earth) Fixed Mobile except aeronautical mobile S5.289 S5.341	Meteorological - Satellites	Future plan: Metsat reception (HRPT) 1698 - 1710 MHz
1700 - 1710	FIXED METEOROLOGICAL - SATELLITE (space - Earth) MOBILE except aeronautical mobile S5.289 S5.341	Meteorological - Satellites	Future plan: Metsat reception (HRPT) 1698 - 1710 MHz
1710 - 1930	FIXED MOBILE S5.149 S5.341 S5.380 S5.385 S5.388	Fixed Digital European Cordless Telephone (DECT) (1880 - 1900 Mhz.) TFTS (air - ground) 1800 - 1805 Mhz DCS - 1800, 1710 -1785 / 1805 - 1880 MHz	ITU-R 382-6, 283-5 (Band closed, Fixed to be phased out by 1998) DIR 91/287/EEC S.I. No. 168, 1994 CEPT/ERC/DEC/(92)01 (frequencies) CEPT/ERC/DEC/(97)08 (Plan) CEPT/ERC/DEC/(95)03 UMTS (terrestrial) Planned 1900-1980 MHz CEPT/ERC/DEC/(97)07(UMTS)
1930 - 1970	FIXED MOBILE S5.388	Fixed	ITU-R Recs. 382-6, 283-5 (Band closed, Fixed to be phased out by 2000) UMTS (terrestrial) Planned 1900 – 1980 MHz CEPT/ERC/DEC/(97)07(UMTS)
1970 - 1980	FIXED MOBILE S5.388	Fixed	ITU-R Recs. 382-6, 283-5 (Band closed, Fixed to be phased out by 2000) UMTS (terrestrial) Planned (1900 – 1980 MHz) CEPT/ERC/DEC/(97)07 (UMTS)
1980 - 2010	FIXED MOBILE - MOBILE SATELLITE (Earth - space) S5.388 S5.389A	Fixed	ITU-R Recs. 382-6, 283-6 (Band closed, Fixed to be phased out by 2000) UMTS/S-PCS (satellite, Earth - space)(1980 - 2010 MHz.) CEPT/ERC/DEC/(97)03 (S-PCS) CEPT/ERC/DEC/(97)07 (UMTS) CEPT/ERC/DEC/(97)04 (Transition)

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
2010 - 2025	FIXED MOBILE S5.388	Fixed	ITU-R Recs. 382-6, 283-5 (Band closed, Fixed to be phased out by 2000) UMTS (terrestrial) planned (2010 - 2025 MHz.)CEPT/ERC/DEC/(97)07 (UMTS)
2025 - 2110	FIXED MOBILE SPACE RESEARCH (Earth - space) (space - space) SPACE OPERATION (Earth -space) (space - space) EARTH EXPLORATION -SATELLITE (Earth - space) (space - space) S5.391 S5.392	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 13 - 01 E, Annex CRec. ITU-R F.1098 Annex 1 (new fixed service plan, 2.0-2.3 GHz) Medium Capacity links 2mbit/s-16mbit/s REF: Links Guidelines, Doc: ODTR 97/02
2110 - 2120	FIXED MOBILE SPACE RESEARCH (deep space) (Earth-space) S5.388	Fixed	ITU-R Rec 382-6 (Band closed, Fixed to be phased out by 2000) UMTS (terrestrial) planned (2110-2170 MHz) CEPT/ERC/DEC/(97)07 (UMTS)
2120 - 2160	FIXED MOBILE S5.388	Fixed	ITU-R Rec.382-6 (Band closed, Fixed to be phased out by 2000) UMTS (terrestrial) planned (2110 -2170 MHz) CEPT/ERC/DEC/(97)07 (UMTS)
2120 - 2160	FIXED MOBILE S5.388	Fixed	ITU-R Rec.382-6 (Band closed, Fixed to be phased out by 2000) UMTS (terrestrial) planned (2110 -2170 MHz) CEPT/ERC/DEC/(97)07 (UMTS)
2160 - 2170	FIXED MOBILE 5.388	Fixed	ITU-R Rec. 382-6 (Band closed, Fixed to be phased out by 2000) UMTS (terrestrial) planned (2110 -2170 MHz) CEPT/ERC/DEC/(97)07 (UMTS)
2170 - 2200	FIXED MOBILE MOBILE - SATELLITE (space - Earth) S5.388 S5.389A	Fixed	ITU-R 382-5 (Band closed, Fixed to be phased out by 2000) UMTS/S-PCS (satellite, space - Earth) (2170-2200 MHz.) CEPT/ERC/DEC/(97)03 (S-PCS) CEPT/ERC/DEC/(97)07 (UMTS) CEPT/ERC/DEC/(97)04 (Transition)

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
2200 - 2290	FIXED SPACE RESEARCH (space - Earth) (space - space) SPACE OPERATION (space - Earth) (space - space) EARTH EXPLORATION - SATELLITE (space - Earth) (space - space) MOBILE S5.391 S5.392	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 13 - 01 E, Annex C Rec. ITU-R F.1098 Annex 1 (new fixed service plan, 2.0 - 2.3 GHz) Medium Capacity links 2mbit/s -16mbit/s REF: Links Guidelines,Doc:ODTR 97/02 Links to ITU-R Recs 283-5, 382-6 to be phased out by 2000
2290 - 2300	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space - Earth)	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 13 - 01 E, Annex C ,Rec. ITU-R F.1098 Annex 1 2 GHz band (new fixed service plan, 2.0 - 2.3 GHz) Medium Capacity links 2mbit/s -16mbit/s REF: Links Guidelines,Doc:ODTR 97/02 Links to ITU-R Recs 283-5, 382-6 to be phased out by 2000
2300 - 2450	FIXED MOBILE Amateur Radiolocation S5.150 S5.282	Multi - Access -Radiolinks (RURTEL) (2307 - 2326 MHz paired with 2407-2427 MHz with geographical restrictions on use) low power devices (2400 - 2483.5 MHz.) RLANS (2400 - 2483.5 Mhz) Amateur (secondary) ISM (2400 - 2500 MHz)	ITU-R F. 746 Annex 2 (2.3-2.5 GHz) CEPT Rec. T/R 01 - 04 CEPT Rec. T/R 10 - 01, CEPT/ERC/DEC/(96)17 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2450.00 – 2483.50	FIXED MOBILE Radiolocation S5.150	Low power devices (2400 -2483.5 MHz) RLANS (2400 - 2483.5 MHz) ISM (2400 - 2500 MHz)	CEPT Rec. T/R 01-04 CEPT Rec. T/R 10 - 01, CEPT/ERC/DEC/(96)17 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
2483.50 – 2500	FIXED MOBILE MOBILE - SATELLITE (space - Earth) Radiolocation S5.150 S5.371 S5.398 S5.399 S5.402	Low power devices ISM (2400 - 2500 MHz)	CEPT Rec . T/R 01 – 04 Satellite Personal Communications Service (S-PCS)CEPT/ERC/DEC/(97)03

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
2500.00 – 2520.00	FIXED MOBILE except aeronautical mobile MOBILE - SATELLITE (space -Earth) S5.403 S5.408 S5.409 S5.410 S5.411 S5.414	Programme Retransmission Systems (2500 – 2686 MHz)	S.I. 39 (1989), S.I. 252 (1991) Mobile Satellite Allocation (2520 - 2535 MHz) See S5.403
2520 - 2655	FIXED MOBILE except aeronautical mobile BROADCASTING – SATELLITE S5.339 S5.403 S5.408 S5.409 S5.410 S5.411 S5.413 S5.416	Programme Retransmission Systems (2500 - 2686 MHz)	S.I. 39 (1989), S.I. 252 (1991) Channel plan for the fixed service in CEPT/ERC/REC 13 - 01 E, Annex D will not be implemented as the band is used by Programme Retransmission Systems.
2655 - 2670	FIXED MOBILE except aeronautical mobile BROADCASTING - SATELLITE Earth Exploration - Satellite (passive) Radio Astronomy Space Research (passive) S5.149 S5.409 S5.410 S5.411 S5.413 S5.416 S5.420	Programme Retransmission Systems (2500 - 2686 MHz)	S.I. 39 (1989), S.I. 252 (1991)Channel plan for the fixed service in CEPT/ERC/REC 13 - 01 E, Annex D will not be implemented as the band is used by Programme Retransmission Systems.
2670 - 2690	FIXED MOBILE except aeronautical mobile MOBILE - SATELLITE (Earth - space)Earth Exploration - Satellite (passive) Radio Astronomy Space Research (passive) S5.149 S5.409 S5.410 S5.411 S5.419 S5.420	Programme Retransmission Systems (2500 - 2686 MHz) Radio Astronomy (all emissions prohibited in the band 2690 - 2700 MHz)	S.I. 39 (1989), S.I. 252 (1991) Mobile Satellite allocation (2670 - 2690 MHz) See Footnote S5.419
2690 - 2700	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340	Passive Services	
2700 - 2900	AERONAUTICA L RADIONAVIGAT ION Radiolocation S5.337 S5.423	Radars and Navigation Systems Meteorological radars	
2900 - 3100	RADIONAVIGATION Radiolocation S5.425 S5.426 S5.427	Radars	

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
3100 - 3300	RADIOLOCATION S5.149 S5.333	Radars, Active Sensors, Racons	
3300 - 3400	RADIOLOCATION S5.149		
3400 - 3600	FIXED FIXED - SATELLITE (space - Earth) Mobile Radiolocation S5.431 S5.434	Fixed (Public Broadcaster) Radiolocation (Government Services)	
3600 - 4200	FIXED FIXED - SATELLITE (space - Earth) Mobile	Fixed: Point - Point Radio Links (Infrastructure)	ITU-R F.382-6 4 GHz band (3.6-4.2 GHz) High Capacity band, minimum capacity 140mbit/s REF: Links Guidelines,Doc: ODTR 97/02
4200-4400	AERONAUTICAL RADIONAVIGATION S5.438 S5.440	Altimeters	
4400 - 4500	FIXED MOBILE		
4500 - 4800	FIXED FIXED - SATELLITE (space - Earth) MOBILE S5.441		National Allotment for Fixed - Satellite Down Link (4500 - 4800MHz) Appendix 30B, Radio Regulations
4800 - 4990	FIXED MOBILE Radio Astronomy S5.149 S5.339 S5.442		
4990 - 5000	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space Research (passive) S5.149		
5000 - 5150	AERONAUTICAL RADIONAVIGATION S5.367 S5.444 S5.444A	Microwave Landing Systems (MLS)	S5.444 gives priority to MLS in this band over other users

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
5150 - 5250	AERONAUTICAL RADIONAVIGATION FIXED - SATELLITE SERVICE (Earth - space) S5.446 S5.447 S5.447A S5.447B S5.447C	HIPERLANS (5150 - 5250 MHz)	CEPT/ERC/DEC/(96)03, ETS 300 652 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
5250 - 5255	RADIOLOCATION Space Research S5.333		HIPERLANs (possible extension band 5250 - 5300 MHz)
5255 - 5350	RADIOLOCATION S5.333		HIPERLANs (possible extension band 5250 - 5300 MHz)
5350 - 5460	AERONAUTICAL RADIONAVIGATION Radiolocation S5.449		
5460 - 5470	RADIONAVIGATION Radiolocation S5.449		
5470 - 5650	MARITIME RADIONAVIGATION Radiolocation S5.451 S5.452	Meteorological Service Radar Radiolocation: Position Fixing Equipment Amateur (Secondary) FSTV	
5650 - 5725	RADIOLOCATION Amateur Space Research (deep space) 5.282 S5.451 S5.453 S5.454 S5.455	Amateur (5650 – 5850MHz) (secondary)	
5725 - 5830	FIXED - SATELLITE (Earth – space) RADIOLOCATION Amateur S5.150 S5.451	Road Transport Telematics System (RTTS) (5795 - 5805 MHz) Low power devices Amateur (5650 - 5850MHz) (secondary) ISM (5725 - 5875 MHz)	ERC/DEC (92)02(5805-5815 MHz possible extension band) CEPT Rec. T/R 01-04Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
5830 - 5850	FIXED - SATELLITE (Earth – space) RADIOLOCATION Amateur Amateur - Satellite (space - Earth) S5.150 S5.451	Low power devices Amateur (5650 – 5850MHz) (secondary) ISM (5725 - 5875 MHz)	CEPT Rec. T/R 01-04 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
5850 - 5925	FIXED FIXED - SATELLITE (Earth -space) MOBILE S5.150	Low power devices ISM (5725-5875 MHz)	CEPT Rec. T/R 01-04 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
5925 - 6700	FIXED FIXED - SATELLITE (Earth - space) MOBILE S5.149 S5.440 S5.458	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 14-01 E L6GHz Band (5.925 - 6.425GHz) CEPT/ERC/REC 14-02 EU 6GHz Band (6.425 - 7.125 GHz) High Capacity links: minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02
6700 - 7075	FIXED FIXED - SATELLITE (Earth – space) (space - Earth) MOBILE S5.441 S5.458 S5.458A S5.458B S5.458C	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 14-02 E U6GHz Band (6.425 - 7.125 GHz) High Capacity links: minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02 National Allotment for Fixed-Satellite Uplink (6725 - 7025 MHz) Appendix 30B, Radio Regulations WRC - 95: 6700 - 7075 MHz: NGSO MSS (space - Earth) (footnote S5.458, S5.458B, S5.458C, S5.458D)
7075 - 7250	FIXED MOBILE S5.458 S5.459 S5.460	Fixed: Point - Point Radio Links (Infrastructure) Outside Broadcast Links (Public Broadcasters)	CEPT/ERC/REC 14-02 E U6GHz Band (6.425 - 7.125 GHz) High Capacity links: minimum capacity140mbit/s REF: Links Guidelines, Doc: ODTR 97/02
7250 -7300	FIXED FIXED - SATELLITE (space – Earth) MOBILE S5.461	Fixed	

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
7300 - 7450	FIXED FIXED - SATELLITE (space – Earth) MOBILE except aeronautical mobile S5.461	Fixed	
7450 - 7550	FIXED FIXED - SATELLITE (space - Earth) METEOROLOGICAL - SATELLITE (space - Earth) MOBILE except aeronautical mobile	Fixed: Point - Point Radio Links (Infrastructure)	ITU-R F. 1055 Annex 1 7 GHz band (7425 - 7725 MHz) High Capacity links minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02
7550 - 7750	FIXED FIXED - SATELLITE (space - Earth) MOBILE except aeronautical mobile	Fixed: Point - Point Radio Links (Infrastructure)	ITU-R F. 1055 Annex 1 7 GHz band (7425 - 7725 MHz) ITU-R F.386-4 Annex 1 L8 GHz band (7725 - 8275 MHz) High Capacity links minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02
7750 - 7900	FIXED MOBILE except aeronautical mobile	Fixed: Point - Point Radio Links (Infrastructure)	ITU-R F.386-4 Annex 1 L8 GHz band (7725 - 8275 MHz) High Capacity links minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02
7900 - 8025	FIXED FIXED - SATELLITE (Earth - space) MOBILE S5.461	Fixed: Point - Point Radio Links (Infrastructure)	ITU-R F.386-4 Annex 1 L8 GHz band (7725 - 8275 MHz) High Capacity links minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02
8025 - 8175	FIXED FIXED - SATELLITE (Earth - space) MOBILE Earth Exploration - Satellite (space - Earth) S5.462 S5.464	Fixed: Point - Point Radio Links (Infrastructure)	ITU-R F.386-4 Annex 1 L8 GHz band (7725 - 8275 MHz) High Capacity links minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02
8175 - 8215	FIXED FIXED - SATELLITE (Earth – space) METEOROLOGICAL - SATELLITE (Earth - space) MOBILE Earth Exploration - Satellite (space - Earth) S5.462	Fixed: Point - Point Radio Links (Infrastructure)	ITU-R F.386-4 Annex 1 L8 GHz band (7725 - 8275 MHz) High Capacity links minimum capacity 140mbit/sREF: Links Guidelines, Doc: ODTR 97/02

Frequency Band (MHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
8215 - 8400	FIXED FIXED - SATELLITE (Earth -space) MOBILE Earth Exploration Satellite (space - Earth) S5.462	Fixed: Point - Point Radio Links (Infrastructure)	ITU-R F.386-4 Annex 1 L8 GHz band (7725 - 8275 MHz) High Capacity links minimum capacity 140mbit/s ITU-R F.386-4 Annex 3 U8 GHz band (8275 - 8500 MHz) Medium Capacity links 8mbit/s-16mbit/s REF: Links Guidelines, Doc: ODTR 97/02
8400 - 8500	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space -Earth) S5.465 S5.467	Fixed: Point - Point Radio Links (Infrastructure)	ITU-R F.386-4 Annex 3 U8 GHz band (8275 - 8500 MHz) Medium Capacity links 8mbit/s 16mbit/s REF: Links Guidelines, Doc: ODTR 97/02
8500 - 8750	RADIOLOCATION S5.333		
8750 - 8850	RADIOLOCATION AERONAUTICAL RADIONAVIGATION S5.470	Airborne Doppler	
8850 - 9000	RADIOLOCATION MARITIME RADIONAVIGATION S5.472		
9000 - 9200	AERONAUTICAL RADIONAVIGATION Radiolocation S5.337	Radar (Government services)	
9200 - 9300	RADIOLOCATION MARITIME RADIONAVIGATION S5.472 S5.474		Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
9300 - 9500	RADIONAVIGATION Radiolocation S5.427 S5.474 S5.475 S5.476	Radar Radiolocation: Position Fixing (Private operators)	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
9500 - 9800	RADIOLOCATION RADIONAVIGATION S5.333	Detection of movement & alert (preferred freq. 9,520 MHz)	CEPT Rec. T/R 60-01 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
9800 - 10000	RADIOLOCATION Fixed S5.479		Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3

Frequency Band (GHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
10 - 10.45	FIXED MOBILE RADIOLOCATION Amateur S5.479	Amateur (secondary)	
10.45 - 10.5	RADIOLOCATION Amateur Amateur - Satellite	Amateur (secondary)	
10.5 - 10.55	FIXED MOBILE Radiolocation	Radiolocation (radars and sensors)	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
10.55 - 10.6	FIXED MOBILE except aeronautical mobile Radiolocation	Radiolocation (radars and sensors)	Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
10.6 - 10.68	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation S5.149 S5.482	Radiolocation (security devices)	
10.68 - 10.7	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340	Radio Astronomy (all emissions prohibited)	
10.7 - 11.7	FIXED FIXED - SATELLITE (space - Earth) (Earth - space) MOBILE except aeronautical mobile S5.441 S5.484	Fixed: Point - Point Radio Links (Infrastructure) Earth Stations (Satellite Down Links) (Broadcasters)	ITU-R F.387-6 11 GHz band (10.7 - 11.7GHz) High Capacity Band, minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02 National Allotment for Fixed - Satellite Down Link (10.7 - 10.95GHz, 11.2-11.45GHz) Appendix 30B, Radio Regulations
11.7 - 12.5	FIXED BROADCASTING BROADCASTING - SATELLITE Mobile except aeronautical mobile S5.487	ENG (Public Broadcasters)	Broadcast - Satellite plans as per Radio Regulations, Appendix 30

Frequency Band (GHz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
12.5 - 12.75	FIXED – SATELLITE (space-Earth) (Earth - space)		
12.75 - 13.25	FIXED FIXED - SATELLITE (Earth -space) MOBILE Space Research (deep space) (space - Earth) S5.441		National Allotment for Fixed - Satellite Uplink (12.75 - 13.25 GHz) Appendix 30B, Radio Regulations
13.25 - 13.4	AERONAUTICAL RADIONAVIGATION S5.497 S5.498		
13.4 - 13.75	RADIOLOCATION Standard Frequency and Time Signal - Satellite (Earth - space) Space Research S5.333	Detection of movement & alert (Preferred Freq. 13.55 GHz)	CEPT Rec. T/R 60-01 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
13.75 - 14	RADIOLOCATION FIXED - SATELLITE (Earth - Space) Standard Frequency and Time Signal - Satellite (Earth - space) Space Research S5.333 S5.502 S5.503 S5.503A	Detection of movement & alert (Preferred Freq. 13.55 GHz)	CEPT Rec. T/R 60-01 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
14 - 14.25	FIXED - SATELLITE (Earth - space) RADIONAVIGATION Space Research Land Mobile - Satellite (Earth - space) S5.504 S5.506	Earth Stations (Satellite uplinks) (Public Broadcasters) VSAT Sat ENG ENG	
14.25 - 14.3	FIXED - SATELLITE (Earth - space) RADIONAVIGATION Space Research Land Mobile - Satellite (Earth - space) S5.504 S5.506 S5.508	Earth Stations (Satellite uplinks) (Public Broadcasters) VSAT Sat ENG ENG	
14.3 - 14.4	FIXED FIXED - SATELLITE (Earth -space) MOBILE except aeronautical mobile Radionavigation - Satellite S5.506	ENG VSAT Sat ENG	

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
14.4 -14.47	FIXED FIXED - SATELLITE (Earth - space) MOBILE except aeronautical mobile Space Research (space - Earth) Land Mobile - satellite (Earth -space) S5.506	ENG V-SAT Sat ENG	
14.47 -14.5	FIXED FIXED-SATELLITE (Earth -space) MOBILE except aeronautical mobile Radio Astronomy Land Mobile - Satellite (Earth - space) S5.149 S5.506	ENG V-SAT Sat ENG	
14.5 - 14.8	FIXED FIXED - SATELLITE (Earth - space) MOBILE Space Research S5.510	Fixed: Point - Point Radio Links (Infrastructure)	ITU-R F. 636-3 15 GHz band (14.5 - 15.35 GHz) Medium Capacity Band minimum capacity 2mbit/s REF: Links Guidelines, Doc: ODTR 97/02
14.8 - 15.35	FIXED MOBILE Space Research S5.339	Fixed: Point - Point Radio Links (Infrastructure)	ITU-R F. 636-3 15 GHz band (14.5 - 15.35 GHz) Medium Capacity Band minimum capacity 2mbit/s REF: Links Guidelines, Doc: ODTR 97/02
15.35 - 15.4	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340	Radio Astronomy (all emissions prohibited)	
15.4 - 15.7	AERONAUTICAL RADIONAVIGATION FIXED - SATELLITE (space - Earth) S5.511A S5.511B S5.511C		Radio Regulations footnotes S5.511A and S5.511C give the provisions relating to the use of the band by satellite systems. Radio Regulations footnote S5.511B permits the use of the band for Aeronautical Radionavigation
15.7 - 16.6	RADIOLOCATION	Radar	
16.6 - 17.1	RADIOLOCATION Space Research (deep space) (Earth - space)		

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
17.1 - 17.2	RADIOLOCATION S5.512 S5.513	HIPERLANS (secondary)	CEPT T/R 22-06 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
17.2 - 17.3	RADIOLOCATION Earth Exploration Satellite (active) Space Research (active)	HIPERLANS (secondary)	CEPT T/R 22-06 Legislation to license exempt certain short range devices is planned: See Note 1, Annex 3
17.3 - 17.7	FIXED - SATELLITE (Earth - space) Radiolocation S5.516		Feeder Link plans for Broadcast Satellites as per Appendix 30A, Radio Regulations
17.7 - 18.1	FIXED FIXED - SATELLITE (space - Earth) (Earth - space) MOBILE S5.516	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 12-03 E, Annex A/ITU-R Rec 593-3 18 GHz band (17.7 - 19.7 GHz) High capacity band, minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02 Feeder Link plans for Broadcast Satellites as per Appendix 30A, Radio Regulation
18.1 - 18.4	FIXED FIXED - SATELLITE (space – Earth) (Earth - space) MOBILE S5.519 S5.520 S5.521	Fixed: Point - Point Radio Links (Infrastructure	CEPT/ERC/REC 12-03 E, Annex A/ITU-R Rec 593-3 18 GHz band (17.7 - 19.7 GHz) High capacity band, minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02
18.4 - 18.6	FIXED FIXED - SATELLITE (space – Earth) MOBILE	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 12-03 E, Annex A/ITU-R Rec 593-3 18 GHz band (17.7 - 19.7 GHz) High capacity band, minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02
18.6 - 18.8	FIXED FIXED - SATELLITE (space - Earth) MOBILE except aeronautical mobile Earth Exploration - Satellite (passive) Space Research (space - Earth) S5.522 S5.523	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 12-03 E, Annex A/ITU-R Rec 593-3 18 GHz band (17.7 - 19.7 GHz) High capacity band, minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
18.8 - 19.3	FIXED FIXED - SATELLITE (space – Earth) MOBILE S5.523A	Fixed: Point - Point Radio Links (Infrastructure) Earth Station Down Links Educational Institutions)	CEPT/ERC/REC 12-03 E, Annex A/ITU-R Rec 593-3 18 GHz band (17.7 - 19.7 GHz) High capacity band, minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02 Radio Regulations Footnote S5.523A refers to the use of this band by satellite systems
19.3 - 19.7	FIXED FIXED - SATELLITE (space - Earth) (Earth - space) MOBILE S5.523B S5.523C S5.523D	Fixed: Point - Point Radio Links (Infrastructure) Earth Station Down Links (Educational Institutions)	CEPT/ERC/REC 12-03 E, Annex A/ITU-R Rec 593-3 18 GHz band (17.7 - 19.7 GHz) High capacity band, minimum capacity 140mbit/s REF: Links Guidelines, Doc: ODTR 97/02 Radio Regulations Footnote S5.523B refers to the use of this band by satellite systems
19.7 - 20.1	FIXED - SATELLITE (space - Earth) Mobile - Satellite (space -Earth)		
20.1 - 20.2	FIXED - SATELLITE (space - Earth) MOBILE – SATELLITE (space – Earth) S5.525 S5.526 S5.527 S5.528		
20.2 - 21.2	FIXED - SATELLITE (space – Earth) MOBILE - SATELLITE (space - Earth) Standard Frequency and Time Signal - Satellite (space - Earth)		
21.2 - 21.4	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	Fixed: Point - Point Radio Links (Infrastructure)	Band closed, existing links to ITU-R Rec.637-2 (21.4-23.6 GHz) to be relocated
21.4 - 22	FIXED MOBILE BROADCASTING - SATELLITE S5.530	Fixed: Point - Point Radio Links (Infrastructure)	Band closed, existing links to ITU-R Rec.637-2 (21.4-23.6 GHz) to be relocated

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
22 - 22.21	FIXED MOBILE except aeronautical mobile S5.149	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 13-02 E, Annex A 23 GHz band (22 - 23.6 GHz) Medium capacity band (2mbit/s-34mbit/s) CEPT/ERC/DEC/(96)09, I.S./ETS 300 198 REF: Links Guidelines, Doc: ODTR 97/02 Existing links to ITU-R Rec. 637-2 (21.4 - 23.6 GHz) to be relocated.
22.21 - 22.5	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) S5.149 S5.532	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 13-02 E, Annex A 23 GHz band (22 - 23.6 GHz) Medium capacity band (2mbit/s-34mbit/s) CEPT/ERC/DEC/(96)09, I.S./ETS 300 198 REF: Links Guidelines,Doc:ODTR 97/02 Existing links to ITU-R Rec. 637-2 (21.4-23.6 GHz) to be relocated.
22.5 - 22.55	FIXED MOBILE	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 13-02 E, Annex A 23 GHz band (22 - 23.6 GHz) Medium capacity band (2mbit/s-34mbit/s) CEPT/ERC/DEC/(96)09, I.S./ETS 300 198 REF: Links Guidelines, Doc: ODTR 97/02 Existing links to ITU-R Rec. 637-2 (21.4-23.6 GHz) to be relocated.
22.55 - 23	FIXED INTER - SATELLITE MOBILE S5.149	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 13-02 E, Annex A 23 GHz band (22-23.6 GHz) Medium capacity band (2mbit/s-34mbit/s) CEPT/ERC/DEC/(96)09, I.S./ETS 300 198 Existing links to ITU-R Rec. 637-2 (21.4-23.6 GHz) to be relocated.
23 - 23.55	FIXED INTER - SATELLITE MOBILE S5.149	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 13-02 E, Annex A 23 GHz band (22 - 23.6 GHz) Medium capacity band (2mbit/s-34mbit/s) CEPT/ERC/DEC/(96)09, I.S./ETS 300 198 Existing links to ITU-R Rec. 637-2 to be relocated.
23.55 - 23.6	FIXED MOBILE	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 13-02 E, Annex A 23 GHz band (22 - 23.6 GHz) Medium capacity band (2mbit/s-34mbit/s) CEPT/ERC/DEC/(96)09, I.S./ETS 300 198 REF: Links Guidelines, Doc: ODTR 97/02 Existing links to ITU-R Rec. 637-2 (21.4-23.6 GHz) to be relocated.

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
23.6 - 24	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340	Radio Astronomy (all emissions prohibited)	
24 - 24.05	AMATEUR AMATEUR - SATELLITE S5.150	AMATEUR AMATEUR - SATELLITE Low Power Devices (24 - 24.25 GHz.) Radiolocation (movement and alert) ISM (24-24.25 GHz)	CEPT Rec. T/R 01-04 CEPT Rec. T/R 60-01
24.05 - 24.25	RADIOLOCATION Amateur Earth Exploration - Satellite (active) S5.150	Low Power Devices (24 - 24.25 GHz) Radiolocation (movement and alert) ISM (24 - 24.25 GHz)	CEPT Rec. T/R 01-04 CEPT Rec. T/R 60-01
24.25 - 24.45	FIXED		
24.45 - 24.65	FIXED INTER - SATELLITE		
24.65 - 24.75	FIXED INTER - SATELLITE		
24.75 - 25.25	FIXED		
25.25 - 25.5	FIXED MOBILE INTER - SATELLITE Standard Frequency and Time Signal - Satellite (Earth - space) S5.536		
25.5 - 27	FIXED MOBILE INTER - SATELLITE Earth Exploration - Satellite (space - Earth) Standard Frequency and Time Signal - Satellite (Earth - space) S5.536		
27 -27.5	FIXED MOBILE INTER - SATELLITE S5.536		

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
27.5 - 28.5	FIXED FIXED - SATELLITE (Earth -space) MOBILE S5.538 S5.539 S5.540		
28.5 - 29.1	FIXED FIXED - SATELLITE (Earth -space) MOBILE Earth Exploration - Satellite (Earth - space) S5.523A S5.539 S5.540 S5.541		Refer to Radio Regulations footnotes regarding the use of this band by satellite systems
29.1 - 29.5	FIXED FIXED - SATELLITE (Earth -space) MOBILE Earth Exploration - Satellite (Earth - space) S5.523C S5.535A S5.539 S5.540 S5.541 S5.541A		Refer to Radio Regulations footnotes regarding the use of this band by satellite systems
29.5 -29.9	FIXED - SATELLITE (Earth – space) Mobile - Satellite (Earth – space) Earth Exploration - Satellite (space - Earth) S5.539 S5.540 S5.541		
29.9 - 30	FIXED - SATELLITE (Earth – space) MOBILE – SATELLITE (Earth – space) Earth Exploration - Satellite (space - Earth) S5.525 S5.526 S5.527 S5.538 S5.539 S5.540 S5.541 S5.543		
30 - 31	FIXED - SATELLITE (Earth – space) MOBILE – SATELLITE (Earth – space) Standard Frequency and Time Signal - Satellite (space – Earth) Space Research		
31 - 31.3	FIXED MOBILE Standard Frequency and Time Signal - Satellite (space – Earth) Space Research (space – Earth) S5.149 S5.544		

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
31.3 - 31.5	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340	Radio Astronomy (all emissions prohibited)	
31.5 - 31.8	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile S5.149		
31.8 - 32	RADIONAVIGATION SPACE RESEARCH (deep space) (space - Earth) S5.548		
32 - 32.3	INTER - SATELLITE RADIONAVIGATION SPACE RESEARCH (deep space) (space - Earth) S5.548		
32.3 - 33	INTER-SATELLITE RADIONAVIGATION S5.548		
33 - 33.4	RADIONAVIGATION		
33.4 - 34.2	RADIOLOCATION		
34.2 - 34.7	RADIOLOCATION SPACE RESEARCH (deep space) (Earth - space)		
34.7 - 35.2	RADIOLOCATION Space Research		
35.2 - 36	METEOROLOGICAL AIDS RADIOLOCATION S5.551		
36 - 37	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) S5.149		

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
37 -37.5	FIXED MOBILE SPACE RESEARCH(space – Earth)	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 12-01 E Annex A, ITU-R Rec. 749 Annex 1 38 GHz band (37 - 39.5 GHz) Medium capacity links (2mbit/s - 34mbit/s) CEPT/ERC/DEC/(96)08, I.S./ETS 300 197 REF: Links Guidelines, Doc: ODTR 97/02
37.5 - 38	FIXED FIXED-SATELLITE (space – Earth) MOBILE SPACE RESEARCH (space - Earth) Earth Exploration - Satellite (space - Earth)	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 12-01 E Annex A, ITU-R Rec. 749 Annex 1 38 GHz band (37 - 39.5 GHz) Medium capacity links (2mbit/s-34mbit/s) CEPT/ERC/DEC/(96)08,I.S./ETS.300 197 REF: Links Guidelines, Doc:ODTR 97/02
38 - 39.5	FIXED FIXED - SATELLITE (space - Earth) MOBILE Earth Exploration - Satellite (space - Earth)	Fixed: Point - Point Radio Links (Infrastructure)	CEPT/ERC/REC 12-01 E Annex A, ITU-R Rec. 749 Annex 1 38 GHz band (37 - 39.5 GHz) Medium capacity links (2mbit/s - 34mbit/s) CEPT/ERC/DEC/(96)08, I.S./ETS 300 197 REF: Links Guidelines, Doc: ODTR 97/02
39.5 - 40	FIXED FIXED - SATELLITE (space – Earth) MOBILE MOBILE – SATELLITE (space – Earth) Earth Exploration - Satellite (space - Earth)		
40 - 40.5	FIXED FIXED - SATELLITE (space - Earth) MOBILE MOBILE - SATELLITE (space - Earth) EARTH EXPLORATION - SATELLITE (Earth - space) SPACE RESEARCH (Earth - space) Earth Exploration - Satellite (space - Earth)		
40.5 - 42.5	BROADCASTING - SATELLITE BROADCASTING Fixed Mobile		MVDS under consideration CEPT/ERC/DEC/(96)05
42.5 - 43.5	FIXED FIXED - SATELLITE (Earth - space) MOBILE except aeronautical mobile RADIO ASTRONOMY S5.149 S5.552		

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
43.5 - 47	MOBILE MOBILE - SATELLITE (Earth - space) RADIONAVIGATION RADIONAVIGATION - SATELLITE S5.553 S5.554		
47 - 47.2	AMATEUR AMATEUR - SATELLITE		
47.2 - 50.2	FIXED FIXED-SATELLITE (Earth – space) MOBILE S5.149 S5.340 S5.552 S5.555	Radio Astronomy (48.94-49.04 GHz) (emissions from airborne stations prohibited)	
50.2 - 50.4	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)		
50.4 - 51.4	FIXED FIXED - SATELLITE (Earth – space) MOBILE Mobile - Satellite (Earth – space)		
51.4 - 54.25	EARTH EXPLORATION - SATELLITE (passive) SPACE RESEARCH (passive) S5.340 S5.556	Radio Astronomy (all emissions prohibited)	
54.25 - 58.2	EARTH EXPLORATION - SATELLITE (passive) FIXED INTER - SATELLITE MOBILE SPACE RESEARCH (passive) S5.557 S5.558	Fixed Mobile	CEPT Rec. T/R 22-03 Links for local infrastructure. Support infrastructure for large-scale public mobile networks. (54.25 - 57.2 GHz) Unplanned low power fixed and mobile systems. (57.2 - 58.2 GHz), ETS 300 408
58.2 - 59	EARTH EXPLORATION - SATELLITE (passive) SPACE RESEARCH (passive) S5.340 S5.556	Radio Astronomy (all emissions prohibited)	

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
59 - 64	FIXED INTER - SATELLITE MOBILE RADIOLOCATION S5.138 S5.558 S5.559	Fixed Mobile Radiolocation Low power devices (61 - 615 Ghz) ISM (61 - 61.5 GHz)	CEPT Rec T/R 01-04 CEPT Rec T/R 22 - 03 Radiolocation (59 - 64 GHz) Cordless Local Area Networks (59-62 GHz) Broadband Mobile Systems (62-63GHz) Road Traffic Informatics (63 - 64 GHz)
64 - 65	EARTH EXPLORATION - SATELLITE (passive) SPACE RESEARCH (passive) S5.340 S5.556	Radio Astronomy (all emissions prohibited)	
65 - 66	EARTH EXPLORATION - SATELLITE SPACE RESEARCH (passive) Fixed Mobile	Fixed Mobile	CEPT Rec. T/R 22-03 Broadband Mobile Systems
66 - 71	MOBILE MOBILE - SATELLITE RADIONAVIGATION RADIONAVIGATION - SATELLITE S5.553 S5.554		
71 - 74	FIXED FIXED - SATELLITE (Earth - space) MOBILE MOBILE - SATELLITE (Earth - space) S5.149 S5.556		
74 - 75.5	FIXED FIXED - SATELLITE (Earth - space) MOBILE Space Research (space - Earth)		
75.5 - 76	AMATEUR AMATEUR - SATELLITE Space Research (space - Earth)		
76 - 81	RADIOLOCATION Amateur Amateur - Satellite Space Research (space - Earth) S5.560		

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
81 - 84	FIXED FIXED - SATELLITE (space - Earth) MOBILE MOBILE - SATELLITE (space - Earth) Space Research (space - Earth)		
84 - 86	FIXED MOBILE BROADCASTING BROADCASTING-SATELLITE S5.561		
86 - 92	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340	Radio Astronomy (all emission prohibited)	
92 - 95	FIXED FIXED - SATELLITE (Earth - space) MOBILE RADIOLOCATION S5.149 S5.556		
95 - 100	MOBILE MOBILE - SATELLITE RADIONAVIGATION RADIONAVIGATION - SATELLITE Radiolocation S5.149 S5.553 S5.554 S5.555		
100 - 102	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) S5.341		
102 - 105	FIXED FIXED - SATELLITE (space - Earth) MOBILE S5.341		
105 - 116	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.341	Radio Astronomy (all emissions prohibited)	

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
116 - 119.98	EARTH EXPLORATION - SATELLITE (passive) FIXED INTER SATELLITE MOBILE SPACE RESEARCH (passive) S5.138 S5.341 S5.558		
119.98 - 120.02	EARTH EXPLORATION - SATELLITE (passive) FIXED INTER - SATELLITE MOBILE SPACE RESEARCH (passive) Amateur S5.138 S5.341 S5.558		
120.02 - 126	EARTH EXPLORATION - SATELLITE (passive) FIXED INTER - SATELLITE MOBILE SPACE RESEARCH (passive) S5.138 S5.341 S5.558	ISM (122 - 123 GHz)	Low Power Devices (122 - 123 GHz) CEPT Rec. T/R 01-04
126 - 134	FIXED INTER - SATELLITE MOBILE RADIOLOCATION S5.558 S5.559		
134 - 142	MOBILE MOBILE - SATELLITE RADIONAVIGATION RADIONAVIGATION - SATELLITE Radiolocation S5.149 S5.340 S5.553 S5.554 S5.555		Radio Astronomy (140.69 -140.98 GHz)
142 - 144	AMATEUR AMATEUR - SATELLITE		
144 - 149	RADIOLOCATION Amateur Amateur - Satellite S5.149 S5.555		
149 - 150	FIXED FIXED - SATELLITE (space -Earth) MOBILE		

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
150 - 151	EARTH EXPLORATION - SATELLITE (passive) FIXED FIXED - SATELLITE (space – Earth) MOBILE SPACE RESEARCH (passive) S5.149 S5.385		
151 - 156	FIXED FIXED - SATELLITE (space - Earth) MOBILE		
156 - 158	FIXED FIXED - SATELLITE (space -Earth) MOBILE EARTH EXPLORATION - SATELLITE (passive)		
158 - 164	FIXED FIXED - SATELLITE (space - Earth) MOBILE		
164 - 168	EARTH EXPLORATION - SATELLITE (passive) RADIO - ASTRONOMY SPACE RESEARCH (passive)		
168 - 170	FIXED MOBILE		
170 - 174.5	FIXED INTER - SATELLITE MOBILE S5.149 S5.385 S5.558		
174.5 - 176.5	EARTH EXPLORATION - SATELLITE (passive) FIXED INTER - SATELLITE MOBILE SPACE RESEARCH (passive) S5.149 S5.385 S5.558		
176.5 - 182	FIXED INTER - SATELLITE MOBILE S5.149 S5.385 S5.558		

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
182 - 185	EARTH EXPLORATION - SATELLITE (passive) RADIO - ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.563	Radio Astronomy (all emissions prohibited)	
185 - 190	FIXED INTER - SATELLITE MOBILE S5.149 S5.385 S5.558		
190 - 200	MOBILE MOBILE - SATELLITE RADIONAVIGATION RADIONAVIGATION - SATELLITE S5.341 S5.553 S5.554		
200 - 202	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) S5.341		
202 - 217	FIXED FIXED - SATELLITE (Earth - space) MOBILE S5.341		
217 - 231	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.341	Radio Astronomy (all emissions prohibited)	
231 - 235	FIXED FIXED - SATELLITE (space - Earth) MOBILE Radiolocation		
235 - 238	EARTH EXPLORATION - SATELLITE (passive) FIXED FIXED - SATELLITE (space – Earth) MOBILE SPACE RESEARCH (passive)		
238 - 241	FIXED FIXED - SATELLITE (space - Earth) MOBILE Radiolocation		

Frequency Band (Ghz)	**ITU Allocations (Applicable to Ireland)**	**National Usage**	**Notes**
241 - 248	RADIOLOCATION Amateur Amateur - Satellite S5.138	ISM (244-246 GHz)	Low power devices. (244 - 246 GHz.) CEPT Rec. T/R 01-04
248 - 250	AMATEUR AMATEUR - SATELLITE		
250 - 252	EARTH EXPLORATION - SATELLITE (passive) SPACE RESEARCH (passive) S5.149 S5.555		
252 - 265	MOBILE MOBILE - SATELLITE RADIONAVIGATION RADIONAVIGATION - SATELLITE S5.149 S5.385 S5.553 S5.554 S5.555		
265 - 275	FIXED FIXED - SATELLITE (Earth - space) MOBILE RADIO ASTRONOMY S5.149		
275 - 400	(Not Allocated) S5.149		

ANNEX 1

Relevant Footnotes from Radio Regulations

Reference is made in the Table of Allocations to the following footnotes. These Footnotes are taken from Article 8 of the Radio Regulations, as amended at WRC-95.

S5.53 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.

S5.54 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.

S5.55 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakstan, Moldova, Kyrgyzstan, Russia, Tajikistan, Turkmenistan and Ukraine, the band 14 - 17 kHz is also allocated to the radionavigation service on a primary basis.

S5.56 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, Georgia, Kazakstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Republic, Russia, Tajikistan, Turkmenistan and Ukraine, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions.

S5.57 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.

S5.58 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakstan, Moldova, Kyrgyzstan, Russia, Tajikistan, Turkmenistan and Ukraine, the band 67 - 70 kHz is also allocated to the radionavigation service on a primary basis.

S5.59 Different category of service: in Bangladesh, the Islamic Republic of Iran and Pakistan, the allocation of the bands 70 - 72 kHz and 84 - 86 kHz to the fixed and maritime mobile service is on a primary basis (see No. S5.33).

S5.60 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.

S5.61 In Region 2, the establishment and operation of stations in the maritime radionavigation service in the bands 70 - 90 kHz and 110 - 130 kHz shall be subject to agreement obtained under Article 14/No. S9.21 with administrations whose services, operating in accordance with the Table, may be affected. However, stations of the fixed, maritime mobile and radiolocation services shall not cause harmful interference to stations in the maritime radionavigation service established under such agreements.

S5.62 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.

S5.63 In the band 90 - 110 kHz, the United Kingdom may continue to use its coast radiotelegraph stations in operation on 14 September 1987, on a secondary basis.

S5.64 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.

S5.66 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. S5.33) and to the radionavigation service on a secondary basis (see No. S5.32).

S5.67 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakstan, Moldova, Mongolia, Kyrgyzstan, Romania, Russia, Tajikistan, Turkmenistan and Ukraine, 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.

S5.68 Alternative allocation: in Angola, Botswana, Burundi, the Congo, Malawi, Rwanda, South Africa and Zaire, the band 160 - 200 kHz is allocated to the fixed service on a primary basis.

S5.69 Additional allocation: in Somalia, the band 200 - 255 kHz is also allocated to the aeronautical radionavigation service on a primary basis.

S5.70 Alternative allocation: in Angola, Botswana, Burundi, Cameroon, the Central African Republic, the Congo, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, Rwanda, South Africa, Swaziland, Tanzania, Chad, Zaire, Zambia and Zimbabwe, the band 200 - 283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis.

S5.71 Alternative allocation: in Tunisia, the band 255 - 283.5 kHz is allocated to the broadcasting service on a primary basis.

S5.72 Norwegian stations of the fixed service situated in northern areas (north of 60^{o} 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.

S5.73 In the band 285 - 325 kHz (283.5 - 325 kHz in Region 1), in the maritime radionavigation service, radiobeacon stations may also transmit supplementary navigational information using narrow-band techniques, on condition that the prime function of the beacon is not significantly degraded.

S5.74 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.

S5.75 Different category of service: in Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Moldova, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Ukraine and the Black Sea areas of Bulgaria and Romania, the allocation of the band 315 - 325 kHz to the maritime radionavigation service is on a primary basis under the condition that in the Baltic Sea area, the assignment of frequencies in this band to new stations in the maritime or aeronautical radionavigation services shall be subject to prior consultation between the administrations concerned.

S5.76 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.

S5.79 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.

S5.81 The bands 490 - 495 kHz and 505 - 510 kHz shall be subject to the provisions of No. 3018/Appendix S13 until the entry into force of the reduced guardband in accordance with Resolution 210 (Mob-87).

S5.82 In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution 331 (Mob-87)), 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 N38/S31 and 60/S52, and Resolution 339 (WRC-95). 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.

S5.83 The frequency 500 kHz is an international distress and calling frequency for Morse radiotelegraphy. The conditions for its use are prescribed in Articles N38/S31 and 60/S52, and in Articles 37 and 38/Appendix S13.

S5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles N38/S31 and 60/S52 and in Article 38/Appendix S13 (see Resolution 339 (WRC-95)).

S5.90 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.

S5.92 Some countries of Region 1 use radiodetermination systems in the bands 1 606.5 - 1 625 kHz, 1 635 - 1 800 kHz, 1 850 - 2 160 kHz, 2 194 - 2 300 kHz, 2 502 - 2 850 kHz and 3 500 - 3 800 kHz, subject to agreement obtained under Article 14/No. S9.21. The radiated mean power of these stations shall not exceed 50 W.

S5.93 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Hungary, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Russia, 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 Article 14/No. S9.21.

S5.96 In Germany, Armenia, Azerbaijan, Belarus, Denmark, Estonia, Finland, Georgia, Hungary, Ireland, Israel, Jordan, Kazakstan, Latvia, Lithuania, Malta, Moldova, Norway, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, the United Kingdom, Russia, Sweden, 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.

S5.98 Alternative allocation: in Angola, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, Cameroon, the Congo, Denmark, Egypt, Eritrea, Spain, Ethiopia, France, Georgia, Greece, Italy, Kazakstan, Lebanon, Lithuania, Luxembourg, Malawi, Moldova, Uzbekistan, the Netherlands, Syria, Kyrgyzstan, Russia, Somalia, Tajikistan, Tanzania, 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.

S5.99 Additional allocation: in Saudi Arabia, Bosnia and Herzegovina, Iraq, The Former Yugoslav Republic of Macedonia, Libya, Slovakia, the Czech Republic, Romania, Slovenia, Chad, Togo and Yugoslavia, the band 1 810 -1 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

S5.100 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 40o N shall be given only after consultation with the countries mentioned in Nos. S5.98 and S5.99 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. S5.98 and S5.99.

S5.103 In Region 1, in making assignments to stations in the fixed and mobile services in the bands 1 850 - 2 045 kHz, 2 194 - 2 498 kHz, 2 502 - 2 625 kHz and 2 650 - 2 850 kHz, administrations should bear in mind the special requirements of the maritime mobile service.

S5.104 In Region 1, the use of the band 2 025 - 2 045 kHz by the meteorological aids service is limited to oceanographic buoy stations.

S5.108 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 N38/S31 and 60/S52 and in Articles 37 and 38/Appendix S13.

S5.109 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 N38/S31.

S5.110 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 N38/S31.

S5.111 The carrier frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz and the frequencies 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles. The conditions for the use of the frequencies are prescribed in Article N38/S31 and in Article 38/Appendix S13. The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of +/-3 kHz about the frequency.

S5.112 Alternative allocation: in Belgium, Bosnia and Herzegovina, Cyprus, Denmark, Spain, France, Greece, Iceland, Italy, Malta, Norway, the United Kingdom, Singapore, Sri Lanka, Turkey and Yugoslavia, the band 2 194 - 2 300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

S5.113 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. S5.16 to S5.20, S5.21 and 2666/S23.3 to 2673/S23.10.

S5.114 Alternative allocation: in Belgium, Bosnia and Herzegovina, Cyprus, Denmark, Spain, France, Greece, Iraq, Italy, Malta, Norway, the United Kingdom, Turkey and Yugoslavia, the band 2 502 - 2 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

S5.115 The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Article N38/S31 and Article 38/Appendix S13 by stations of the maritime mobile service engaged in coordinated search and rescue operations.

S5.116 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.

S5.117 Alternative allocation: in Belgium, Bosnia and Herzegovina, Cameroon, Cyprus, Cote d'Ivoire, Denmark, Egypt, Spain, France, Greece, Iceland, Italy, Liberia, Malta, Norway, the United Kingdom, Singapore, Sri Lanka, Togo, Turkey and Yugoslavia, the band 3 155 - 3 200 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

S5.120 For the use of the bands allocated to the amateur service at 3.5 MHz, 7.0 MHz, 10.1 MHz, 14.0 MHz, 18.068 MHz, 21.0 MHz, 24.89 MHz and 144 MHz in the event of natural disasters, see Resolution 640.

S5.127 The use of the band 4 000 - 4 063 kHz by the maritime mobile service is limited to ship stations using radiotelephony (see No. 4374/S52.220 and Appendix 16/S17).

S5.129 On condition that harmful interference is not caused to the maritime mobile service, the frequencies in the bands 4 063 - 4 123 kHz and 4 130 - 4 438 kHz may be used exceptionally by stations in the fixed service communicating only within the boundary of the country in which they are located with a mean power not exceeding 50 W.

S5.130 The conditions for the use of the carrier frequencies 4 125 kHz and 6 215 kHz are prescribed in Articles N38/S31 and 60/S52 and in Articles 37 and 38/Appendix S13.

S5.131 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 (see Resolution 339 WRC-95).

S5.132 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 Resolution 333 (Mob-87) and Appendix 31/S17).

S5.133 Different category of service: in Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Latvia, Lithuania, Moldova, Uzbekistan, Kyrgyzstan, Russia, 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. S5.33).

S5.134 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 limited to single-sideband emissions with the characteristics specified in Appendix 45/S11 to the Radio Regulations.

S5.135 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 shall be subject to the planning procedures to be drawn up by a competent world radio conference.

S5.136 The band 5 900 - 5 950 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis, as well as to the following services: in Region 1 to the land mobile service on a primary basis, in Region 2 to the mobile except aeronautical mobile (R) service on a primary basis, and in Region 3 to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

S5.137 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.

S5.138 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. S5.280, 61 - 61.50 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 authorization 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.

S5.139 Different category of service: in Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Russia, 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. S5.33).

S5.142 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.

S5.143 The band 7 300 - 7 350 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis and to the land mobile service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

S5.145 The conditions for the use of the carrier frequencies 8 291 kHz, 12 290 kHz and 16 420 kHz are prescribed in Articles N38/S31 and 60/S52 and in Article 38/Appendix S13.

S5.146 The bands 9 400 - 9 500 kHz, 11 600 - 11 650 kHz, 12 050 - 12 100 kHz, 15 600 - 15 800 kHz, 17 480 - 17 550 kHz and 18 900 - 19 020 kHz are allocated to the fixed service on a primary basis until 1 April 2007, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in these bands may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

S5.147 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.

S5.148 The bands 9 775 - 9 900 kHz, 11 650 - 11 700 kHz, 11 975 - 12 050 kHz, 13 600 - 13 800 kHz, 15 450 - 15 600 kHz, 17 550 - 17 700 kHz and 21 750 - 21 850 kHz are allocated to the fixed service on a primary basis subject to the procedure described in Resolution 8. The use of these bands by the broadcasting service shall be subject to provisions established by the World Administrative Radio Conference for the Planning of the HF Bands Allocated to the Broadcasting Service (see Resolution 508). The provisions of Resolution 512 (HFBC-87) also apply. Within these bands, the date of commencement of operations in the broadcasting service on a planned channel shall not be earlier than the date of completion of satisfactory transfer, according to the procedures described in Resolution 8, of all assignments to stations in the fixed service operating in accordance with the Table and other provisions of the Radio Regulations, which are recorded in the Master Register and which may be affected by broadcasting operations on that channel.

S5.149 In making assignments to stations of other services to which the bands:
13 360 - 13 410 kHz, 25 550 - 25 670 kHz, 37.5 - 38.25 MHz, 73 - 74.6 MHz in Regions 1 and 3, 79.75 - 80.25 MHz in Region 3, 150.05 - 153 MHz in Region 1, 322 - 328.6 MHz*, 406.1 - 410 MHz, 608 - 614 MHz in Regions 1 and 3, 1 330 - 1 400 MHz*, 1 610.6 - 1 613.8 MHz*, 1 660 - 1670 MHz, 1 718.8 - 1 722.2 MHz*, 2 655 - 2 690 MHz, 3 260 - 3 267 MHz*, 3332 - 3 339 MHz*, 3 345.8 - 3 352.5 MHz*, 4 825 - 4 835 MHz*, 4 950 - 4990 MHz, 4 990 - 5 000 MHz, 6 650 - 6 675.2 MHz*, 10.6 - 10.68 GHz, 14.47 - 14.5 GHz*, 22.01 - 22.21 GHz*, 22.21 - 22.5 GHz, 22.81 - 22.86 GHz*, 23.07 - 23.12 GHz*, 31.2 - 31.3 GHz, 31.5 - 31.8 GHz in Regions 1 and 3, 36.43 - 36.5 GHz*, 42.5 - 43.5 GHz, 42.77 - 42.87 GHz*, 43.07 - 43.17 GHz*, 43.37 - 43.47 GHz*, 48.94 - 49.04 GHz*, 72.77 - 72.91 GHz*, 93.07 - 93.27 GHz*, 97.88 - 98.08 GHz*, 140.69 - 140.98 GHz*, 144.68 - 144.98 GHz*, 145.45 - 145.75 GHz*, 146.82 - 147.12 GHz*, 150 - 151 GHz*, 174.42 - 175.02 GHz*, 177 - 177.4 GHz*, 178.2 - 178.6 GHz*, 181 - 181.46 GHz*, 186.2 - 186.6 GHz*, 250 - 251 GHz*, 257.5 - 258 GHz*, 261 - 265 GHz, 262.24 - 262.76 GHz*, 265 - 275 GHz, 265.64 - 266.16 GHz*, 267.34 - 267.86 GHz*, 271.74 - 272.26 GHz* are allocated (* indicates radio astronomy use for spectral line observations), 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. 343/S4.5 and 344/S4.6 and Article 36/S29).

S5.150 The following bands: 13 553 - 13 567 kHz (centre frequency 13 560 kHz), 26957 - 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), 5725 - 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. 1815/S15.13.

S5.151 The bands 13 570 - 13 600 kHz and 13 800 - 13 870 kHz are allocated, until 1 April 2007, to the fixed service on a primary basis and to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in these bands may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies in these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

S5.153 In Region 3, the stations of those services to which the band 15 995 -16 005 kHz is allocated may transmit standard frequency and time signals.

S5.155 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Hungary, Kazakstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Republic, Russia, Tajikistan, Turkmenistan and Ukraine, the band 21 850 - 21 870 kHz is also allocated to the aeronautical mobile (R) services on a primary basis.

S5.155A In Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Hungary, Kazakstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Republic, Russia, 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.

S5.155B The band 21 870 - 21 924 kHz is used by the fixed service for provision of services related to aircraft flight safety.

S5.156A 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.

S5.157 The use of the band 23 350 - 24 000 kHz by the maritime mobile service is limited to inter-ship radiotelegraphy.

S5.164 Additional allocation: in Albania, Germany, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Cote d'Ivoire, Denmark, Spain, Finland, France, Gabon, Greece, Ireland, Israel, Italy, Jordan, Lebanon, Libya, Liechtenstein, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Nigeria, Norway, the Netherlands, Poland, Syria, the United Kingdom, Senegal, Slovenia, Sweden, Switzerland, Swaziland, Togo, Tunisia, Turkey and Yugoslavia, the band 47 - 68 MHz and in Romania, the band 47 -58 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.

S5.180 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.

S5.181 Additional allocation: in Germany, Austria, Belgium, Cyprus, Denmark, Egypt, Spain, France, Greece, Israel, Italy, Japan, Jordan, Lebanon, Malta, Morocco, Monaco, Norway, Syria, the United Kingdom, Sweden and Switzerland, the band 74.8 - 75.2 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under Article 14/No. S9.21. 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 Article 14/No. S9.21.

S5.190 Additional allocation: in France, Ireland, Israel, Italy and Monaco, the band 87.5 - 88 MHz is also allocated to the land mobile service on a primary basis, subject to agreement obtained under Article 14/No. S9.21.

S5.197 Additional allocation: in Germany, Austria, Cyprus, Denmark, Egypt, Spain, France, Israel, Italy, Japan, Jordan, Lebanon, Malta, Morocco, Monaco, Norway, Pakistan, Syria, the United Kingdom and Sweden, the band 108 - 111.975 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under Article 14/No. S9.21. 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 Article 14/No. S9.21.

S5.198 Additional allocation: the band 117.975 - 137 MHz is also allocated to the aeronautical mobile-satellite (R) service on a secondary basis, subject to agreement obtained under Article 14/No. S9.21.

S5.199 The bands 121.45 - 121.55 MHz and 242.95 - 243.05 MHz are also allocated to the mobile-satellite service for the reception on board satellites of emissions from emergency position-indicating radiobeacons transmitting at 121.5 MHz and 243 MHz (see Nos. 3259 and 3267/Appendix S13).

S5.200 In the band 117.975 - 136 MHz, the frequency 121.5 MHz is the aeronautical emergency frequency and, where required, the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz. Mobile stations of the maritime mobile service may communicate on these frequencies under the conditions laid down in Article N38/S31 and Article 38/Appendix S13 for distress and safety purposes with stations of the aeronautical mobile service.

S5.203 Additional allocation: the band 136 - 137 MHz is also allocated to the space operation service (space-to-Earth), meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a secondary basis (see Resolution 408 (Mob-87)).

S5.208 The use of the band 137 - 138 MHz by the mobile-satellite service is subject to coordination under Resolution 46 (Rev.WRC-95)/No. S9.11A. The power flux-density limit indicated in Annex 2 of Resolution 46 (Rev. WRC-95)/ Annex 1 of Appendix S5 shall apply until such time as a competent world radiocommunication conference revises it. Additionally, until that time, the provisions of Resolution 714 (WRC-95) apply.

S5.208A 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. For information, the threshold levels of interference detrimental to the radio astronomy service to be protected are shown in Table 1 of Recommendation ITU-R RA.769-1.

S5.209 The use of the bands 137 - 138 MHz, 148 - 149.9 MHz, 400.15 - 401 MHz, 455 - 456 MHz and 459 - 460 MHz by the mobile-satellite service and the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz by the land mobile-satellite service is limited to non-geostationary-satellite systems.

S5.210 Additional allocation: in Austria, Belgium, France, Italy, Liechtenstein, Luxembourg, Slovakia, the Czech Republic, the United Kingdom and Switzerland, 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.

S5.211 Additional allocation: in Germany, Saudi Arabia, Austria, Bahrain, Belgium, Bosnia and Herzegovina, Denmark, the United Arab Emirates, Spain, Finland, Greece, Ireland, Israel, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Liechtenstein, Luxembourg, Mali, Malta, Norway, the Netherlands, Qatar, the United Kingdom, Slovenia, Somalia, Sweden, Switzerland, Tanzania, Tunisia, Turkey and Yugoslavia, the band 138 - 144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis.

S5.218 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 Article 14/No. S9.21. The bandwidth of any individual transmission shall not exceed +/- 25 kHz.

S5.219 The use of the band 148 - 149.9 MHz by the mobile-satellite service is subject to coordination under Resolution 46 (Rev.WRC-95)/No. S9.11A. 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.

S5.220 The use of the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz by the land mobile-satellite service is subject to coordination under Resolution 46 (Rev.WRC-95)/No. S9.11A. The land 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.

S5.221 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, Brunei Darussalam, Bulgaria, Burkina Faso, Cameroon, Canada, China, Cyprus, Colombia, Congo, the Republic of Korea, Croatia, Cuba, Denmark, Egypt, the United Arab Emirates, Ecuador, Eritrea, Spain, Estonia, Ethiopia, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Honduras, Hungary, India, Indonesia, the Islamic Republic of Iran, Ireland, Iceland, Israel, Italy, Jamaica, Japan, Jordan, Kazakstan, Kenya, Kuwait, Latvia, The Former Yugoslav Republic of Macedonia, Lebanon, Libya, Liechtenstein, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, Philippines, Poland, Portugal, Qatar, Syria, Kyrgyzstan, Slovakia, Romania, the United Kingdom, Russia, Senegal, Sierra Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Suriname, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet nam, Yemen, Yugoslavia, Zambia and Zimbabwe.

S5.222 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.

S5.223 Recognizing 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 authorize such use in application of No. 342/S4.4.

S5.224 In the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz, the allocation to the land mobile-satellite service shall be on a secondary basis until 1 January 1997.

S5.226 The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service. The conditions for the use of this frequency are contained in Article N38/S31 and Article 38/Appendix S13. In the bands 156 - 156.7625 MHz, 156.8375 - 157.45 MHz, 160.6 - 160.975 MHz and 161.475 - 162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by the administration (see Articles N38/S31 and 60/S52 and Article 38/Appendix S13). Any use of frequencies in these bands by stations of other services to which they are allocated should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service. However, the frequency 156.8 MHz and the frequency bands in which priority is given to the maritime mobile service may be used for radiocommunications on inland waterways subject to agreement between interested and affected administrations and taking into account current frequency usage and existing agreements.

S5.227 In the maritime mobile VHF service the frequency 156.525 MHz is to be used exclusively for digital selective calling for distress, safety and calling (see Resolution 323 (Mob-87)). The conditions for the use of this frequency are prescribed in Articles N38/S31 and 60/S52 and Article 38/Appendix S13 and Appendix 18/S18.

S5.235 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.

S5.244 Additional allocation: in Oman, the United Kingdom and Turkey, the band 216 - 235 MHz is also allocated to the radiolocation service on a secondary basis.

S5.254 The bands 235 - 322 MHz and 335.4 - 399.9 MHz may be used by the mobile-satellite service, subject to agreement obtained under Article 14/ No. S9.21, 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.

S5.255 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 Resolution 46 (Rev.WRC-95)/No. S9.11A.

S5.256 The frequency 243 MHz is the frequency in this band for use by survival craft stations and equipment used for survival purposes (see Article 38/Appendix S13).

S5.257 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 Article 14/No. S9.21.

S5.258 The use of the band 328.6 - 335.4 MHz by the aeronautical radionavigation service is limited to Instrument Landing Systems (glide path).

S5.259 Additional allocation: in Germany, Austria, Belgium, Cyprus, Denmark, Egypt, Spain, France, Greece, Israel, Italy, Japan, Jordan, Malta, Morocco, Monaco, Norway, the Netherlands, Syria, the United Kingdom, Sweden and Switzerland, the band 328.6 - 335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under Article 14/ No. S9.21. 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 Article 14/ No. S9.21.

S5.260 Recognizing 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 authorize such use in application of No. 342/S4.4.

S5.261 Emissions shall be confined in a band of ñ 25 kHz about the standard frequency 400.1 MHz.

S5.263 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.

S5.264 The use of the band 400.15 - 401 MHz by the mobile-satellite service is subject to coordination under Resolution 46 (Rev.WRC-95)/No. S9.11A. The power flux-density limit indicated in Annex 2 of Resolution 46 (Rev. WRC-95)/Annex 1 of Appendix S5 shall apply until such time as a competent world radiocommunication conference revises it.

S5.266 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 N38/S31 and Article 38/Appendix S13).

S5.267 Any emission capable of causing harmful interference to the authorized uses of the band 406 - 406.1 MHz is prohibited.

S5.268 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.

S5.269 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. S5.33).

S5.271 Additional allocation: in Armenia, Azerbaijan, Belarus, China, Estonia, Georgia, India, Kazakstan, Latvia, Lithuania, Moldova, Uzbekistan, Kyrgyzstan, the United Kingdom, Russia, Tajikistan, Turkmenistan and Ukraine, the band 420 - 460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis.

S5.282 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. S5.43). Administrations authorizing 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. 2741/S25.11. 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.

S5.286 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 Article 14/No. S9.21.

S5.286A The use of the bands 455 - 456 MHz and 459 - 460 MHz by the mobile-satellite service is subject to coordination under Resolution 46 (Rev. WRC-95)/No. S9.11A.

S5.286B Stations in the mobile-satellite service in the bands 455 - 456 MHz and 459 - 460 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services.

S5.286C Stations in the mobile-satellite service in the bands 455 - 456 MHz and 459 - 460 MHz shall not constrain the development and use of the fixed and mobile services.

S5.287 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. 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.

S5.289 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.

S5.296 Additional allocation: in Germany, Austria, Belgium, Cyprus, Denmark, Spain, Finland, France, Ireland, Israel, Italy, Libya, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, Syria, the United Kingdom, Sweden, Switzerland, Swaziland, Tunisia and Turkey, 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 mentioned in this footnote, shall not cause harmful interference to existing or planned stations operating in accordance with the Table of Frequency Allocations in countries other than those listed in this footnote.

S5.302 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.

S5.306 Additional allocation: in Region 1, except in the African Broadcasting Area (see Nos. S5.10 to S5.13), and in Region 3, the band 608 - 614 MHz is also allocated to the radio astronomy service on a secondary basis.

S5.311 Within the frequency band 620 - 790 MHz, assignments may be made to television stations using frequency modulation in the broadcasting-satellite service subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Resolutions 33 and 507). Such stations shall not produce a power flux-density in excess of the value -129 dB(W/m2) for angles of arrival less than 20o (see Recommendation 705) within the territories of other countries without the consent of the administrations of those countries.

S5.314 Additional allocation: in Austria, Italy, the United Kingdom and Swaziland, the band 790 - 862 MHz is also allocated to the land mobile service on a secondary basis.

S5.322 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. S5.10 to S5.13) excluding Algeria, Egypt, Spain, Libya and Morocco, subject to agreement obtained under Article 14/No. S9.21.

S5.328 The band 960 - 1 215 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 facilities.

S5.329 Use of the radionavigation-satellite service in the band 1 215 - 1 260 MHz shall be subject to the condition that no harmful interference is caused to the radionavigation service authorized under No. S5.331.

S5.333 In the bands 1 215 - 1 300 MHz, 3 100 - 3 300 MHz, 5 250 - 5 350 MHz, 8 550 - 8 650 MHz, 9 500 - 9 800 MHz and 13.4 - 14.0 GHz, radiolocation stations installed on spacecraft may also be employed for the earth exploration-satellite and space research services on a secondary basis.

S5.337 The use of the bands 1 300 - 1 350 MHz, 2 700 - 2 900 MHz and 9 000 - 9200 MHz by the aeronautical radionavigation service is restricted to ground-based radars and to associated airborne transponders which transmit only on frequencies in these bands and only when actuated by radars operating in the same band.

S5.339 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.

S5.340 All emissions are prohibited in the following bands:
1 400 - 1 427 MHz, 2 690 - 2 700 MHz except those provided for by Nos. S5.421 and S5.422, 10.68 - 10.7 GHz except those provided for by No. S5.483, 15.35 - 15.4 GHz except those provided for by No. S5.511, 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, 51.4 - 54.25 GHz, 58.2 - 59 GHz, 64 - 65 GHz, 86 - 92 GHz, 105 - 116 GHz, 140.69 - 140.98 GHz from airborne stations and from space stations in the space-to-Earth direction, 182 - 185 GHz except those provided for by No. S5.563, 217 - 231 GHz.

S5.341 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.

S5.345 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).

S5.347 Different category of service: in Bangladesh, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Colombia, Cuba, Denmark, Egypt, Spain, Greece, Hungary, Ireland, Italy, Jordan, Kenya, The Former Yugoslav Republic of Macedonia, Malawi, Mozambique, Panama, Portugal, Sri Lanka, Sweden, Swaziland, Yemen, Yugoslavia and Zimbabwe, the allocation of the band 1 452 - 1 492 MHz to the broadcasting-satellite service and the broadcasting service is on a secondary basis until 1 April 2007.

S5.348 The use of the band 1 492 - 1 525 MHz by the mobile-satellite service is subject to coordination under Resolution 46 (Rev.WRC-95)/ No. S9.11A. However, no coordination threshold in Article S21 for space stations of the mobile-satellite service with respect to terrestrial services shall apply to the situation referred to in No. S5.343. With respect to the situation referred to in No. S5.343, the requirement for coordination in the band 1 492 - 1 525 MHz will be determined by band overlap.

S5.348A In the band 1 492 - 1 525 MHz, the coordination threshold in terms of the power flux-density levels at the surface of the Earth in application of Resolution 46 (Rev.WRC-95)/S.9.11A for space stations in the mobile-satellite (space-to-Earth) service, with respect to the land mobile service use for specialized mobile radios or used in conjunction with public switched telecommunication networks (PSTN) operating within the territory of Japan, shall be -150 dB(W/m2) in any 4 kHz band for all angles of arrival, instead of those given in Annex 2 to Resolution 46 (Rev.WRC-95)/Table S5-2 of Appendix S5. The above threshold level of the power flux-density shall apply until it is changed by a competent world radiocommunication conference.

S5.351 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 authorized by an administration to communicate via space stations using these bands.

S5.352 The use of the bands 1 525 - 1 530 MHz, 1 533 - 1 544 MHz, 1 626.5 - 1 631.5 MHz and 1 634.5 - 1 645.5 MHz by the land mobile-satellite service is limited to non-speech low bit-rate data transmissions.

S5.354 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 Resolution 46 (Rev. WRC-95)/No. S9.11A.

S5.356 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 N38/S31).

S5.357 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 authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links.

S5.358 Notwithstanding any other provisions of the Radio Regulations relating to restrictions in the use of the bands allocated to the aeronautical mobile-satellite (R) service for public correspondence, the bands 1 545 - 1 555 MHz and 1 646.5 - 1 656.5 MHz may be authorized by administrations for public correspondence with aircraft earth stations. Such communications must cease immediately, if necessary, to permit transmission of messages with priority 1 to 6 in Article 51/S44.

S5.360 In the bands 1 555 - 1 559 MHz and 1 656.5 - 1 660.5 MHz administrations may also authorize aircraft earth stations and ship earth stations to communicate with space stations in the land mobile-satellite service (see Resolution 208 (Mob-87)).

S5.364 The use of the band 1 610 - 1 626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to coordination under Resolution 46 (Rev.WRC-95)/ No. S9.11A. 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. S5.366 (to which No. 953/S4.10 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. S5.366 and stations in the fixed service operating in accordance with the provisions of No. S5.359. 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. S5.366.

S5.365 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 Resolution 46 (Rev. WRC-95)/No. S9.11A.

S5.366 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 Article 14/No. S9.21.

S5.367 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 Article 14/No. S9.21.

S5.368 With respect to the radiodetermination-satellite and mobile-satellite services the provisions of No. 953/S4.10 do not apply in the band 1 610 - 1 626.5 MHz, with the exception of the aeronautical radionavigation-satellite service.

S5.371 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 Article 14/No. S9.21.

S5.372 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. 2904/S29.13 applies).

S5.374 Land earth stations and ship 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. S5.359.

S5.375 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 N38/S31).

S5.376 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 authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.

S5.377 In the band 1 675 - 1 710 MHz, stations in the mobile-satellite service shall not cause harmful interference to, nor constrain the development of, the meteorological-satellite and meteorological aids services (see Resolution 213 (Rev.WRC-95)) and the use of this band shall be subject to coordination under Resolution 46 (Rev.WRC-95)/No. S9.11A.

S5.379A 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.

S5.380 The bands 1 670 - 1 675 MHz and 1 800 - 1 805 MHz are intended for use, on a worldwide basis, by administrations wishing to implement aeronautical public correspondence. The use of the band 1 670 - 1 675 MHz by stations in the systems for public correspondence with aircraft is limited to transmissions from aeronautical stations and the use of the band 1 800 - 1 805 MHz is limited to transmissions from aircraft stations.

S5.385 Additional allocation: the bands 1 718.8 - 1 722.2 MHz, 150 - 151 GHz, 174.42 - 175.02 GHz, 177 - 177.4 GHz, 178.2 - 178.6 GHz, 181 - 181.46 GHz, 186.2 - 186.6 GHz and 257.5 - 258 GHz are also allocated to the radio astronomy service on a secondary basis for spectral line observations.

S5.388 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 the future public land mobile telecommunication systems (FPLMTS). Such use does not preclude the use of these bands by other services to which these bands are allocated. The bands should be made available for FPLMTS in accordance with Resolution 212 (Rev.WRC-95).

S5.389A 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 Resolution 46 (Rev.WRC-95)/No. S9.11A and to the provisions of Resolution 716 (WRC-95). The use of these bands shall not commence before 1 January 2000; however the use of the band 1 980 - 1 990 MHz in Region 2 shall not commence before 1 January 2005.

S5.389C The use of the bands 2 010 - 2 025 MHz and 2 160 - 2 170 MHz in Region 2 by the mobile-satellite service shall not commence before 1 January 2005 and is subject to coordination under Resolution 46 (Rev.WRC-95)/ No. S9.11A and to the provisions of Resolution 716 (WRC-95).

S5.389E 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.

S5.391 In making assignments to the mobile service in the bands 2 025 - 2 110 MHz and 2 200 - 2 290 MHz, administrations shall take into account Resolution 211 (WARC-92).

S5.392 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.

S5.396 Space stations of the broadcasting-satellite service in the band 2 310 -2 360 MHz operating in accordance with No. S5.393 that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution 33. Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use.

S5.398 In respect of the radiodetermination-satellite service in the band 2 483.5 -2 500 MHz, the provisions of No. 953/S4.10 do not apply.

S5.399 In Region 1, in countries other than those listed in No. S5.400, 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.

S5.402 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 Resolution 46 (Rev.WRC-95)/No. S9.11A. 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.

S5.403 Subject to agreement obtained under Article 14/No. S9.21, the band 2 520 - 2 535 MHz (until 1 January 2005 the band 2 500 - 2 535 MHz) may also be used for the mobile-satellite (space-to-Earth), except aeronautical mobile-satellite, service for operation limited to within national boundaries. The provisions of Resolution 46 (Rev.WRC-95)/No. S9.11A apply.

S5.408 Additional allocation: in the United Kingdom, the band 2 500 -2 600 MHz is also allocated to the radiolocation service on a secondary basis.

S5.409 Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in the band 2 500 - 2 690 MHz.

S5.410 The band 2 500 - 2 690 MHz may be used for tropospheric scatter systems in Region 1, subject to agreement obtained under Article 14/No. S9.21.

S5.411 When planning new tropospheric scatter radio-relay links in the band 2 500 - 2 690 MHz, all possible measures shall be taken to avoid directing the antennae of these links towards the geostationary-satellite orbit.

S5.413 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.

S5.414 The allocation of the frequency band 2 500 - 2 520 MHz to the mobile-satellite service (space-to-Earth) shall be effective on 1 January 2005 and is subject to coordination under Resolution 46 (Rev.WRC-95)/No. S9.11A.

S5.415 The use of the bands 2 500 - 2 690 MHz in Region 2 and 2 500 -2 535 MHz and 2 655 - 2 690 MHz in Region 3 by the fixed-satellite service is limited to national and regional systems, subject to agreement obtained under Article 14/No. S9.21, giving particular attention to the broadcasting-satellite service in Region 1. In the direction space-to-Earth, the power flux-density at the Earth's surface shall not exceed the values given in Article S21, Table S21-4.

S5.416 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 Article 14/No. S9.21. The power flux-density at the Earth's surface shall not exceed the values given in Article S21, Table S21-4.

S5.419 The allocation of the frequency band 2 670 - 2 690 MHz to the mobile-satellite service shall be effective from 1 January 2005. When introducing systems of the mobile-satellite service in this band, administrations shall take all necessary steps to protect the satellite systems operating in this band prior to 3 March 1992. The coordination of mobile-satellite systems in the band shall be in accordance with Resolution 46 (Rev.WRC-95)/No. S9.11A.

S5.420 The band 2 655 - 2 670 MHz (until 1 January 2005 the band 2 655 -2 690 MHz) may also be used for the mobile-satellite (Earth-to-space), except aeronautical mobile-satellite, service for operation limited to within national boundaries, subject to agreement obtained under Article 14/No. S9.21. The coordination under Resolution 46 (Rev.WRC-95)/No. S9.11A applies.

S5.423 In the band 2 700 - 2 900 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the aeronautical radionavigation service.

S5.425 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.

S5.426 The use of the band 2 900 - 3 100 MHz by the aeronautical radionavigation service is limited to ground-based radars.

S5.427 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. 347/S4.9 of these Regulations.

S5.431 Additional allocation: in Germany, Israel, Nigeria and the United Kingdom, the band 3 400 - 3 475 MHz is also allocated to the amateur service on a secondary basis.

S5.434 In Denmark, Norway and the United Kingdom, the fixed, radiolocation and fixed-satellite services operate on a basis of equality of rights in the band 3 400 - 3 600 MHz. However, these Administrations operating radiolocation systems in this band are urged to cease operations by 1985. After this date, these Administrations shall take all practicable steps to protect the fixed-satellite service and coordination requirements shall not be imposed on the fixed-satellite service.

S5.438 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 authorized in this band on a secondary basis (no protection is provided by the radio altimeters).

S5.440 The standard frequency and time signal-satellite service may be authorized to use the frequency 4 202 MHz for space-to-Earth transmissions and the frequency 6 427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of +/- 2 MHz of these frequencies, subject to agreement obtained under Article 14/No. S9.21.

S5.441 The use of the bands 4 500 - 4 800 MHz (space-to-Earth), 6 725 -7 025 MHz (Earth-to-space), 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 the fixed-satellite service shall be in accordance with the provisions of Appendix 30B/S30B.

S5.442 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.

S5.444 The band 5 000 - 5 150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. The requirements of this system shall take precedence over other uses of this band. For the use of this band, No. S5.444A and Resolution 114 (WRC-95) apply.

S5.444A 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 and is subject to coordination under Resolution 46 (Rev.WRC-95)/No. S9.11A. In the band 5 091 - 5 150 MHz, the following conditions also apply:

- prior to 1 January 2010, 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 (WRC-95);
- prior to 1 January 2010, 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 2008, no new assignments shall be made to stations providing feeder links of non-geostationary mobile-satellite systems;
- after 1 January 2010, the fixed-satellite service will become secondary to the aeronautical radionavigation service.

S5.446 Additional allocation: in the countries listed in Nos. S5.369 and S5.400, 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 Article 14/No. S9.21. 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. S5.369 and S5.400, 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 dBW/m2 in any 4 kHz band for all angles of arrival.

S5.447 Additional allocation: in Germany, Austria, Belgium, Denmark, Spain, Finland, France, Greece, Israel, Italy, Japan, Jordan, Lebanon, Liechtenstein, Luxembourg, Malta, Morocco, Norway, Pakistan, the Netherlands, Portugal, Syria, the United Kingdom, Sweden, Switzerland 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 Article 14/No. S9.21.

S5.447A 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 Resolution 46 (Rev.WRC-95)/ No. S9.11A.

S5.447B Additional allocation: the band 5 150 - 5 216 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. This allocation is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to provisions of Resolution 46 (Rev.WRC-95)/ No. S9.11A. The power flux-density at the Earth's surface produced by space stations of the fixed-satellite service operating in the space-to-Earth direction in the band 5 150 - 5 216 MHz shall in no case exceed -164 dB(W/m2) in any 4 kHz band for all angles of arrival.

S5.447C Administrations responsible for fixed-satellite service networks in the band 5 150 - 5 250 MHz operated under Nos. S5.447A and S5.447B shall coordinate on an equal basis in accordance with Resolution 46 (Rev. WRC-95)/No. S9.11A with administrations responsible for non-geostationary-satellite networks operated under No. S5.446 and brought into use prior to 17 November 1995. Satellite networks operated under No. S5.446 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. S5.447A and S5.447B.

S5.449 The use of the band 5 350 - 5 470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

S5.451 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. S21.2, S21.3, S21.4 and S21.5 shall apply in the band 5 725 - 5 850 MHz.

S5.452 Between 5 600 MHz and 5 650 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the maritime radionavigation service.

S5.458 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.

S5.458A 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.

S5.458B 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 Resolution 46 (Rev.WRC-95)/No. S9.11A. 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 S22.2.

S5.458C 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.

S5.459 Additional allocation: in Region 2, the band 7 125 - 7 155 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under Article 14/No. S9.21.

S5.460 Additional allocation: the band 7 145 - 7 235 MHz is also allocated to the space research (Earth-to-space) service on a primary basis, subject to agreement obtained under Article 14/No. S9.21. The use of the band 7 145 -7 190 MHz is restricted to deep space; no emissions to deep space shall be effected in the band 7 190 - 7 235 MHz.

S5.461 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 Article 14/ No. S9.21.

S5.462 In the band 8 025 - 8 400 MHz, the power flux-density limits specified in Article S21, Table S21-4, shall apply in Regions 1 and 3 to the earth exploration-satellite service.

S5.463 In Region 2, aircraft stations are not permitted to transmit in the band 8 025 - 8 400 MHz.

S5.465 In the space research service, the use of the band 8 400 - 8 450 MHz is limited to deep space.

S5.467 Alternative allocation: in the United Kingdom, the band 8 400 - 8 500 MHz is allocated to the radiolocation and space research services on a primary basis.

S5.470 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.

S5.472 In the bands 8 850 - 9 000 MHz and 9 200 - 9 225 MHz, the maritime radionavigation service is limited to shore-based radars.

S5.474 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 N38/S31).

S5.475 The use of the band 9 300 - 9 500 MHz by the aeronautical radionavigation service is limited to airborne weather radars and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band 9 300 - 9 320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. In the band 9 300 - 9 500 MHz, ground-based radars used for meteorological purposes have priority over other radiolocation devices.

S5.476 In the band 9 300 - 9 320 MHz in the radionavigation service, the use of shipborne radars, other than those existing on 1 January 1976, is not permitted until 1 January 2001.

S5.479 The band 9 975 - 10 025 MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars.

S5.482 In the band 10.6 - 10.68 GHz, stations of the fixed and mobile, except aeronautical mobile, services shall be limited to a maximum equivalent isotropically radiated power of 40 dBW and the power delivered to the antenna shall not exceed -3 dBW. These limits may be exceeded subject to agreement obtained under Article 14/No. S9.21. However, in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, China, the United Arab Emirates, Georgia, India, Indonesia, the Islamic Republic of Iran, Iraq, Japan, Kazakstan, Kuwait, Latvia, Lebanon, Moldova, Nigeria, Uzbekistan, Pakistan, the Philippines, Qatar, Syria, Kyrgyzstan, Russia, Tajikistan, Turkmenistan and Ukraine, the restrictions on the fixed and mobile, except aeronautical mobile, services are not applicable.

S5.484 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.

S5.487 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 broadcasting-satellite stations operating in accordance with the provisions of Appendix 30/S30.

S5.497 The use of the band 13.25 - 13.4 GHz by the aeronautical radionavigation service is limited to Doppler navigation aids.

S5.498 The band 13.25 - 13.4 GHz may also be used in the space research service (Earth-to-space) on a secondary basis, subject to agreement obtained under Article 14/No. S9.21.

S5.501 Additional allocation: in Armenia, Austria, Azerbaijan, Belarus, Bulgaria, Georgia, Hungary, Japan, Kazakstan, Moldova, Mongolia, Kyrgyzstan, Romania, the United Kingdom, Russia, Tajikistan, Turkmenistan and Ukraine, the band 13.4 - 14 GHz is also allocated to the radionavigation service on a primary basis.

S5.502 In the band 13.75 - 14 GHz, the e.i.r.p. of any emission from an earth station in the fixed-satellite service shall be at least 68 dBW, and should not exceed 85 dBW, with a minimum antenna diameter of 4.5 metres. In addition the e.i.r.p., averaged over one second, radiated by a station in the radiolocation or radionavigation services towards the geostationary-satellite orbit shall not exceed 59 dBW.

S5.503 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. The e.i.r.p. density of emissions from any earth station in the fixed-satellite service shall not exceed 71 dBW in any 6 MHz band in the frequency range 13.772 - 13.778 GHz 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. Automatic power control may be used to increase the e.i.r.p. density above 71 dBW in any 6 MHz band in this frequency range 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 of an e.i.r.p. of 71 dBW in any 6 MHz band in clear sky conditions.

S5.503A Until 1 January 2000, stations in the fixed-satellite service shall not cause harmful interference to non-geostationary space stations in the space research and Earth exploration-satellite services. After that date, these non-geostationary space stations will operate on a secondary basis in relation to the fixed-satellite service. Additionally, when planning earth stations in the fixed-satellite service to be brought into service between 1 January 2000 and 1 January 2001, in order to accommodate the needs of spaceborne precipitation radars operating in the band 13.793 - 13.805 GHz, advantage should be taken of the consultation process and the information given in Recommendation ITU-R SA.1071.

S5.504 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 (see Recommendation 708).

S5.506 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.

S5.508 Additional allocation: in Germany, Austria, Belgium, Bosnia and Herzegovina, Denmark, Spain, France, Greece, Ireland, Iceland, Italy, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, Luxembourg, Norway, Portugal, the United Kingdom, Slovenia, Switzerland, Turkey and Yugoslavia, the band 14.25 - 14.3 GHz is also allocated to the fixed service on a primary basis.

S5.510 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.

S5.511A Use of the band 15.4 - 15.7 GHz by the fixed-satellite service (space-to-Earth) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under Resolution 46 (Rev. WRC-95)/No. S9.11A. Emissions from a non-geostationary space station shall not exceed the power flux-density limits at the Earth's surface of -146 dB(W/m^2/MHz) in the bands 15.4 - 15.45 GHz and 15.65 - 15.7 GHz, and -111 dB(W/m^2/MHz) in the band 15.45 - 15.65 GHz, for all angles of arrival. These limits relate to the power flux-density which would be obtained under assumed free-space propagation conditions. In the band 15.45 - 15.65 GHz, where an administration plans emissions from a non-geostationary space station that exceed -146 dB(W/m^2/MHz) for all angles of arrival, it shall coordinate with affected administrations. Moreover, harmful interference shall not be caused to stations of the radio astronomy service using the band 15.35 - 15.4 GHz. The threshold levels of interference and associated power flux-density limits which are detrimental to the radio astronomy service are given in Recommendation ITU-R RA. 769. The power flux-density limits and coordination threshold in this footnote shall apply, subject to review by ITU-R and based on the studies referred to in resolution 116 (WRC-95), until changed by a future competent world radiocommunication conference.

S5.511B Aircraft stations are not permitted to transmit in the band 15.45 - 15.65 GHz.

S5.511C Additional allocation: the band 15.45 - 15.65 GHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis. Such use is limited to feeder links of non-geostationary systems in the mobile-satellite service and is subject to coordination under Resolution 46 (Rev. WRC-95)/ No. S9.11A. Until such time as the studies called for in Resolution 117 (WRC-95) are completed: 1) administrations operating stations in the aeronautical radionavigation service are urged to limit the average e.i.r.p. to 42 dBW; 2) stations in the fixed-satellite service shall not cause harmful interference to stations in the aeronautical radionavigation service (No. 953/ S4.10 applies).

S5.515 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 section 1 of Annex 4 of Appendix 30/S30A.

S5.516 The use of the band 17.3 - 18.1 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. For the use of the band 17.3 - 17.8 GHz in Region 2 by the feeder links for the broadcasting-satellite service in the band 12.2 - 12.7 GHz, see Article 15A/S11.

S5.517 In Region 2, the allocation to the broadcasting-satellite service in the band 17.3 - 17.8 GHz shall come into effect on 1 April 2007. After that date, use of the fixed-satellite (space-to-Earth) service in the band 17.7 - 17.8 GHz shall not claim protection from and shall not cause harmful interference to operating systems in the broadcasting-satellite service.

S5.518 Different category of service: in Region 2, the allocation of the band 17.7 - 17.8 GHz to the mobile service is on a primary basis until 31 March 2007.

S5.519 Additional allocation: the band 18.1 - 18.3 GHz is also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Its use is limited to geostationary satellites and shall be in accordance with the provisions of Article S21, Table S21-4.

S5.520 The use of the band 18.1 - 18.4 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service.

S5.521 Alternative allocation: in Germany, Denmark, the United Arab Emirates, Greece, Poland, Slovakia, the Czech Republic and the United Kingdom, the band 18.1 - 18.4 GHz is allocated to the fixed, fixed-satellite (space-to-Earth) and mobile services on a primary basis. The provisions of No. S5.519 also apply.

S5.522 In making assignments to stations in the fixed and mobile services, administrations are invited to take account of passive sensors in the earth-exploration satellite and space research services operating in the band 18.6 - 18.8 GHz. In this band, administrations should endeavour to limit as far as possible both the power delivered by the transmitter to the antenna and the e.i.r.p. in order to reduce the risk of interference to passive sensors to the minimum.

S5.523 In assigning frequencies to stations in the fixed-satellite service in the direction space-to-Earth, administrations are requested to limit as far as practicable the power flux-density at the Earth's surface in the band 18.6 - 18.8 GHz, in order to reduce the risk of interference to passive sensors in the earth exploration-satellite and space research services.

S5.523A The use of the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz by the FSS shall be in accordance with Resolution 118 (WRC-95).

S5.523B The use of the band 19.3 - 19.6 GHz (Earth-to-space) by the FSS is limited to feeder links for non-GSO systems in the MSS. Such use is subject to the application of the provisions of Resolution 46 (Rev.WRC-95)/ No. S9.11A, and No. S22.2 does not apply.

S5.523C The use of the bands 19.3 - 19.7 GHz and 29.1 - 29.5 GHz by the FSS shall be in accordance with Resolution 120 (WRC-95).

S5.523D The use of the band 19.3 - 19.6 GHz (space-to-Earth) by GSO/FSS systems and by the feeder links for non-geostationary satellite systems in the MSS is subject to the application of the provisions of Resolution 46 (Rev.WRC-95)/No. S9.11A, but not subject to the provisions of No. S22.2. The use of this band for other non-GSO/FSS systems is not subject to the provisions of Resolution 46 (Rev.WRC-95)/No. S9.11A and shall continue to be subject to Articles 11/S9 (except No. S9.11A) and 13/S11 procedures, and to the provisions of No. S22.2.

S5.525 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.

S5.526 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.

S5.527 In the bands 19.7 - 20.2 GHz and 29.5 - 30 GHz, the provisions of No. 953/S4.10 do not apply with respect to the mobile-satellite service.

S5.528 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. S5.524.

S5.530 In Regions 1 and 3, the allocation to the broadcasting-satellite service in the band 21.4 - 22 GHz shall come into effect on 1 April 2007. The use of this band by the broadcasting-satellite service after that date and on an interim basis prior to that date is subject to the provisions of Resolution 525 (WARC-92).

S5.532 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.

S5.533 The inter-satellite service shall not claim protection from harmful interference from airport surface detection equipment stations of the radionavigation service.

S5.535 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.

S5.535 A The use of the band 29.1 - 29.4 GHz (Earth-to-space) by the FSS is limited to GSO satellite systems and feeder links to non-GSO satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of Resolution 46 (Rev.WRC-95)/No. S9.11A, but not subject to the provisions of No. S22.2.

S5.536 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.

S5.537 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. S22.2.

S5.538 Additional allocation: the bands 27.500 - 27.501 GHz and 29.999 - 30.000 GHz are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis for the beacon transmissions intended for up-link power control. Such space-to-Earth transmissions shall not exceed an equivalent isotropically radiated power (e.i.r.p.) of +10 dBW in the direction of adjacent satellites on the geostationary-satellite orbit. In the band 27.500 - 27.501 GHz, such space-to-Earth transmissions shall not produce a power flux-density in excess of the values specified in Article S21, Table S21-4 on the Earth's surface.

S5.539 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.

S5.540 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.

S5.541 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.

S5.541A Feeder links of non-GSO/MSS networks and GSO/FSS networks operating in the band 29.1 - 29.4 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 S4 coordination information is considered as having been received by the Bureau after 17 May 1996 and until it is changed by a future competent world radiocommunication conference. Administrations submitting Appendix S4 information for coordination before this date are encouraged to utilize these techniques to the extent practicable. These methods are also subject to review by the ITU-R (see Resolution 121 (WRC-95)).

S5.543 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.

S5.544 In the band 31 - 31.3 GHz the power flux-density limits specified in Article S21, Table S21-4 shall apply to the space research service.

S5.548 In designing systems for the inter-satellite and radionavigation services 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).

S5.551 Radars located on spacecraft may be operated on a primary basis in the band 35.5 - 35.6 GHz.

S5.552 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.

S5.553 In the bands 43.5 - 47 GHz, 66 - 71 GHz, 95 - 100 GHz, 134 - 142 GHz, 190 - 200 GHz and 252 - 265 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. S5.43).

S5.554 In the bands 43.5 - 47 GHz, 66 - 71 GHz, 95 -100 GHz, 134 - 142 GHz, 190 - 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.

S5.555 Additional allocation: the bands 48.94 - 49.04 GHz, 97.88 - 98.08 GHz, 140.69 - 140.98 GHz, 144.68 - 144.98 GHz, 145.45 - 145.75 GHz, 146.82 - 147.12 GHz, 250 - 251 GHz and 262.24 - 262.76 GHz are also allocated to the radio astronomy service on a primary basis.

S5.556 In the bands 51.4 - 54.25 GHz, 58.2 - 59 GHz, 64 - 65 GHz, 72.77 - 72.91 GHz and 93.07 - 93.27 GHz, radio astronomy observations may be carried out under national arrangements.

S5.557 Additional allocation: in Japan and the United Kingdom, the band 54.25 - 58.2 GHz is also allocated to the radiolocation service on a primary basis.

S5.558 In the bands 54.25 - 58.2 GHz, 59 - 64 GHz, 116 - 134 GHz, 170 - 182 GHz and 185 - 190 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the inter-satellite service (see No. S5.43).

S5.559 In the bands 59 - 64 GHz and 126 - 134 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (see No. S5.43).

S5.560 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.

S5.561 In the band 84 - 86 GHz, stations in the fixed, mobile and broadcasting services shall not cause harmful interference to broadcasting-satellite stations operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting-satellite service.

S5.563 Additional allocation: in the United Kingdom, the band 182 - 185 GHz is also allocated to the fixed and mobile services on a primary basis.

S5.565 The frequency band 275 - 400 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: 278 - 280 GHz and 343 - 348 GHz;
- space research service (passive) and earth exploration-satellite service (passive): 275 - 277 GHz, 300 - 302 GHz, 324 - 326 GHz, 345 - 347 GHz, 363 - 365 GHz and 379 - 381 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 next competent world radio conference.

Annex 2

Glossary of Terms and Definitions

Key to Abbreviations

AM	Amplitude Modulation
Appendix 16	Appendix 16 of the Radio Regulations: Channelling of the maritime mobile radiotelephone bands between 4000 kHz and 23 000 kHz.
Appendix 18	Appendix 18 of the Radio Regulations: Table of Transmitting frequencies in the band 156-174 MHz for stations in the maritime mobile service.
Appendix 27 aer2	Appendix 27 aer2 of the Radio Regulations: Frequency allotment plan for the aeronautical mobile (R) service and related information between 2850 kHz and 22 000 kHz.
Appendix 30	Appendix 30 of the Radio Regulations: Provisions for all services and associated plans for the broadcast-satellite service in frequency bands 11.7-12.2 GHz (in Region 3), 11.7-12.5 GHz (in Region 1), and 12.2-12.7 GHz (in Region 2).
Appendix 30A	Appendix 30A of the Radio Regulations: Provisions and associated plans for feeder links for the broadcasting-satellite services.
AVI	Automatic Vehicle Identification.
CEPT	European Conference of Postal and Telecommunications Administrations.
CT2	European Analogue cordless telephone system (second generation) (I-ETS 300 131)
DAB	Digital Audio Broadcasting.
DCS1800	Digital Communications System, 1800 MHz band.
DECCA	A Radionavigation system (of the DECCA company)
DECT	Digital European Cordless Telecommunications a pan-European standard for short-range cordless telephones.
DGPS	Differential Global Positioning System.
DSI	Detailed Spectrum Investigation (as conducted by CEPT/ERO)
Earth - space	Earth to space direction of transmission.
EESS	Earth Exploration Satellite Service.
EGSM	Extended Global System for Mobile Communications (see GSM)
ENG/OB	Electronic News Gathering/Outside Broadcast.
EPIRB	Emergency Position-Indicating RadioBeacon.
ERC	European Radiocommunications Committee - A committee of CEPT responsible for radio matters.
ERC/DEC/	ERC Decision.
ERC/REC/	ERC Recommendation.

ERO European Radiocommunications Office - A permanent office within CEPT dealing with radio matters.

ERMES Enhanced Radio Message Service.

e.r.p. Equivalent radiated power.

e.i.r.p. Equivalent isotropically radiated power.

ETACS Extended Total Access Communications System.

ETS European Telecommunication Standard.

ETSI European Telecommunication Standards Institute.

EUTELSAT European Telecommunications Satellite Organisation.

FDDA Field Disturbance and Doppler Apparatus (Motion Detectors)

FM Frequency Modulation.

FSS Fixed Satellite Service.

GHz Gigahertz - 1,000,000,000 Hertz.

GLONASS Global Satellite Navigation System (Russian Federation)

GMDSS Global Maritime Distress and Safety System.

GPS Global Positioning System.

GSM Global System for Mobile Communications (Public mobile cellular system in the 900 MHz band.)

GSO Geostationary Orbit.

HDTV High Definition Television.

Hz Hertz, The unit of frequency measurement,
(1 kHz = 1000 Hz, 1 MHz = 1000,000 Hz, 1GHz = 1000,000,000 Hertz)

HIPERLAN HIgh PErformance Radio Local Area Network.

INTELSAT International Telecommunications Satellite Organisation.

INMARSAT International Maritime Satellite Organisation.

ITU International Telecommunications Union.

ITU-R Radiocommunication Sector of the ITU.

ITU Geneva Plan for the assignment of frequencies to broadcasting stations in the medium frequency.

75 Plan bands in Regions 1 and 3 and in the low frequency bands in Region 1.

ITU Geneva Frequency assignment plan for FM sound broadcasting stations in Region 1 and part of

84 Plan Region 3 in the band 87.5-108 Mhz.

ITU Geneva 85 Plan
- Frequency assignment plan (Region 1) for stations of the maritime mobile service in the bands 85 415-495 kHz 505-kHz 1606.5-1625 kHz 1635-1800 kHz 2045-2160 kHz.
- Frequency assignment plan (Region 1) for stations of the aeronautical radionavigation service (radiobeacons) in the band 415-435 kHz and 510-526.5kHz
- Frequency assignment plan for stations of the radionavigation service (radiobeacons) for the European Maritime Area in the band 283.5-315 kHz.

ITU Stockholm 61 Plan Plans annexed to the Regional agreement for the European Broadcasting Area concerning the use of frequencies by the broadcasting services in the VHF and UHF bands.

kHz Kilohertz - 1000 Hertz.

LAN Local Area Network.

LORAN C Radionavigation System.

LPD Low Power Device (Low power radio transmitters used for general data telemetry and telecommand).

MHz Megahertz - 1,000,000 Hertz.

MLS Microwave Landing System.

MSS Mobile Satellite Service.

MVDS Microwave Video Distribution System.

N-GSO Non-Geostationary Orbit.

Primary Where a band is indicated as allocated to more than one service and the name of the service is printed in “Capitals” (e.g. MOBILE) these are called “primary” services. Within a band, Primary services shall have prior choice of frequencies. (also see secondary services). Where a band is indicated in a footnote of the Table as allocated to a service “on a primary basis” in an area smaller than a region or in a particular country, this is a primary service in that country.

PMR Band Private Mobile Radio Band (Frequency band mainly used for business radio purposes)

RACON Radar Beacon.

RLAN Radio Local Area Network.

RTTS Road Transport Telematics Systems.

SAR Search and Rescue.

S-DAB Satellite Digital Audio Broadcasting.

Sat. ENG Satellite Electronic News Gathering.

S-PCS Satellite Personal Communications System.

Secondary Where a band is indicated as allocated to more than one service and the name of the service is printed in normal characters (e.g. Mobile) these are called secondary services. Stations of a secondary service:

- shall not cause harmful interference to stations of primary services to which the frequencies are already assigned or to which stations may be assigned at a later date
- cannot claim protection from harmful interference from stations of a primary service to which frequencies are already assigned or may be assigned at a later date;
- can claim protection, however, from harmful interference from stations of the same or other secondary service(s) to which frequencies may be assigned at a later date.

Where a band is indicated in a footnote of the Table as allocated to a service "on a secondary basis" in an area smaller than a region or in a particular country, this is a secondary service.

space - Earth space to Earth direction of transmission.

S.I. Statutory Instrument (National Legislation)

STL Studio to Transmitter Link.

SYLEDIS A Position Fixing System.

T-DAB Terrestrial Digital Audio Broadcasting.

TACS Total Access Communications System (Analogue)

TETRA Trans-European Trunked Radio (Digital)

TFTS Terrestrial Flight Telephone System.

UIC Union International Chemin de Fer (International railways)

UMTS Universal Mobile Telecommunications Systems.

VSAT Very Small Aperture Terminal.

WARC World Administrative Radio Conference.

WRC World Radiocommunication Conference

Terms and Definitions:

Allocation:
Entry in the Table of Frequency Allocations of a given frequency band for the purpose of its use by one or more terrestrial or space radiocommunication services or the radio astronomy service under specified conditions. This term shall also be applied to the frequency band concerned.

Aeronautical Mobile Service:
A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate; emergency position-indicating radiobeacon stations may also participate in this service on designated distress and emergency frequencies.

Aeronautical Fixed Service:
A radiocommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular efficient and economical operation of air transport.

Aeronautical Mobile - Satellite Service:
A mobile satellite service in which mobile earth stations are located on board aircraft; survival craft stations and emergency position indicating radiobeacon stations may also participate in this service.

Amateur Service:
A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

Amateur - Satellite Service:
A radiocommunication service using space stations on earth satellites for the same purposes as those of the amateur service.

Broadcasting Service:
A radiocommunication service in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, television transmissions or other types of transmission.

Broadcasting - Satellite Service:
A radiocommunication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public. In the broadcasting satellite service the term “direct reception” shall encompass both individual reception and community reception.

Deep Space:
Space at a distance from the Earth approximately equal to, or greater than, the distance between the earth and the moon.

Earth Exploration - Satellite Service:
A radiocommunication service between earth stations and one or more space stations which may include links between space stations, in which:
- information relating to the characteristics of the earth and its natural phenomena is obtained from active sensors or passive sensors on earth satellites;
- similar information is collected from airborne or earth based platforms;
- such information may be distributed to earth stations within the system concerned;
- platform interrogation may be included.

This service may also include feeder links necessary for its operation.

Emergency Position - Indicating Radiobeacon Station:
A station in the mobile service the emissions of which are intended to facilitate search and rescue operations.

Fixed Service:
A radiocommunication service between specified fixed points.

Fixed - Satellite Service:
A radiocommunication service between earth stations at specified fixed points when one or more satellites are used; in some cases this service includes satellite-to-satellite links, which may also be effected in the inter-satellite service; the fixed-satellite service may also include feeder links for other space radiocommunication services.

Inductive Loop Systems:
Systems which operate by producing a controlled magnetic field within which a predetermined recognisable signal is formed.

Industrial, Scientific and Medical (ISM) applications (of radio frequency energy):
Operation of equipment or appliances designed to generate and use locally, radio frequency energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of telecommunications.

Instrument Landing System (ILS):
A radionavigation system which provides aircraft with horizontal and vertical guidance just before and during landing and, at certain fixed points, indicates the distance to the reference point of landing.

Inter - Satellite Service:
A radiocommunication service providing links between artificial earth satellites.

Meteorological Aids Service:
A radiocommunication service used for meteorological, including hydrological, observations and exploration.

Meteorological - Satellite Service:
An earth exploration satellite service for meteorological purposes.

Land Mobile Service:
A mobile radiocommunications service between base stations and land mobile stations or between land mobile stations.

Mobile - Satellite Service:
A radiocommunication service between mobile earth stations and one or more space stations, or between space stations used by this service or between mobile earth stations by means of one or more space stations. This service may also include feeder links necessary for its operation.

Maritime Mobile Service:
A mobile service between coast stations and ship stations, or between ship stations, or between associated on board communication stations; survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.

Maritime Mobile - Satellite Service:
A mobile satellite service in which mobile earth stations are located on board ships; survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.

Radar:
A radiodetermination system based on the comparison of reference signals with radio signals reflected, or retransmitted, from the position to be determined.

Radar Beacon (Racon):
A transmitter-receiver associated with a fixed navigational mark which, when triggered by a radar, automatically returns a distinctive signal which can appear on the display of the triggering radar, providing range, bearing and identification information.

Radio Astronomy:
Astronomy based on the reception of radio waves of cosmic origin.

Radio Astronomy Service:
A service involving the use of radio astronomy.

Radiocommunications Service:
A service involving the transmission, emission and/or reception of radio waves for specific telecommunications purposes.

Radiodetermination:
The determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to these parameters, by means of the propagation properties of radio waves.

Radionavigation:
Radiodetermination used for the purposes of radionavigation, including obstruction warning.

Radiolocation:
Radiodetermination used for purposes other than radionavigation.

Radiosonde:
An automatic radio transmitter in the meteorological aids service usually carried on an aircraft, free balloon, kite or parachute, and which transmits meteorological data.

Safety Service:
Any radiocommunication service used permanently or temporarily for the safeguarding of human life and property.

Space Research Service:
A radiocommunication service in which spacecraft or other objects in space are used for scientific or technological research purposes.

Standard frequency and Time Signal Service:
A radiocommunication service for scientific, technical and other purposes, providing the transmission of specified frequencies, time signals or both, of stated high precision, intended for general reception.

Standard Frequency and Time Signal - Satellite Service:
A radiocommunication service using space stations on earth satellites for the same purpose as those of the standard frequency and time signal service.

This service may also include feeder links necessary for its operation.

Annex 3

Other Relevant Documentation

The documents listed below can be sourced from the relevant organisations, see Annex 4 for the addresses.

EC Directives and National Transpositions thereof:

Reference is made to the Following EC Directives/National transpositions thereof in the Table of Frequency Allocations.

87/372/EEC On the frequency bands to be reserved for the co-ordinated introduction of public Pan-European cellular digital land-based mobile communications in the community.

90/543/EEC On the co-ordinated introduction of public Pan-European land-based public radio paging in the community.

91/287/EEC On the frequency bands to be designated for the co-ordinated introduction of digital European cordless telecommunication (DECT) into the community.

CEPT Decisions and Recommendations:

Reference is made to the following CEPT Decisions and Recommendations in the Table of Frequency Allocations.

CEPT Decisions:

CEPT/ERC/DEC(92)01
ERC Decision of 22 October 1992 on the frequency bands to be designated for the co-ordinated introduction of the Terrestrial Flight Telecommunications System 1992 Edition.

CEPT/ERC/DEC(92)02
ERC Decision of 22 October 1992 on the frequency bands to be designated for the co-ordinated introduction of Road Transport Telematic Systems1992 Edition.

CEPT/ERC/DEC(95)02
ERC Decision of 1st December 1995 on the adoption of national type approval regulations for equipment to be used in the land mobile service using angle modulation based on the European Telecommunications Standard (ETS) 300 0861995 Edition.

CEPT/ERC/DEC(95)03
ERC Decision of 1 December 1995 on the frequency bands to be designated for the introduction of DCS 1800

CEPT/ERC/DEC(96)01
ERC Decision of 7 March 1996 on the harmonised frequency band to be designated for the introduction of the Digital Land Mobile System for the Emergency ServicesTurku 1996.

CEPT/ERC/DEC(96)02
ERC Decision of 7 March 1996 on the harmonised frequency band to be designated for CEPT PR 27 radio equipment and on the implementation of the technical standard for this equipmentTurku 1996

CEPT/ERC/DEC(96)03
ERC Decision of 7 March 1996 on the harmonised frequency band to be designated for the introduction of HIgh PErformance Radio Local Area Networks (HIPERLANs)Turku 1996.

CEPT/ERC/DEC(96)04
ERC Decision of 7 March 1996 on the frequency bands for the introduction of the Trans European Trunked Radio System (TETRA)Turku 1996.

CEPT/ERC/DEC(96)05
ERC Decision of 7 March 1996 on the harmonised frequency band to be designated for the introduction of the Multipoint Video Distribution Systems (MVDS)Turku 1996.

CEPT/ERC/DEC(96)07
ERC Decision of 1 November 1996 on the adoption of approval regulations for radio equipment to be used in the land mobile service intended for the transmission of data (and speech) and having an antenna connector, based on the European Telecommunications Standard (ETS) 300 113Vienna 1996.

CEPT/ERC/DEC(96)08
ERC Decision of 1 November 1996 on the adoption of approval regulations for equipment to be used for radio relay systems operating in the fixed service for the transmission of digital signals and analogue video signals operating between 37 GHz and 39.5 GHz, based on the European Telecommunications Standard (ETS) 300 197 Vienna 1996.

CEPT/ERC/DEC(96)09
ERC Decision of 1 November 1996 on the adoption of approval regulations for equipment to be used for radio relay systems operating in the fixed service for the transmission of digital signals and analogue video signals operating between 27.2 GHz and 23.6 GHz based on the European Telecommunications Standard (ETS) 300 198Vienna 1996.

CEPT/ERC/DEC(96)10
ERC Decision of 1 November 1996 on the adoption of approval regulations for radio equipment to be used in the land mobile service for transmitting signals to initiate a specific response in the receiver based on the Interim European Telecommunications Standard (I-ETS) 300 219Vienna 1996.

CEPT/ERC/DEC(96)11
ERC Decision of 1 November 1996 on the adoption of approval regulations for radio equipment to be used in the land mobile service using an integral antenna intended primarily for analogue speech based on the European Telecommunications Standard (ETS) 300 296Vienna 1996.

CEPT/ERC/DEC(96)12
ERC Decision of 1 November 1996 on the adoption of approval regulations for radio equipment to be used in the land mobile service using an integral antenna transmitting signals to initiate a specific response in the receiver based on the European Telecommunications Standard (ETS) 300 341 Vienna 1996.

CEPT/ERC/DEC(96)13
ERC Decision of 1 November 1996 on the adoption of approval regulations for very high frequency (VHF), frequency modulated, sound broadcasting transmitters based on the European Telecommunications Standard (ETS) 300 384Vienna 1996

CEPT/ERC/DEC(96)14
ERC Decision of 1 November 1996 on the adoption of approval regulations for radio equipment to be used in the land mobile service for the transmission of data (and speech) and using an integral antenna based on the European Telecommunications Standard (ETS) 300 390Vienna 1996.

CEPT/ERC/DEC(96)17
ERC Decision of 1 November 1996 on the adoption of approval regulations for radio equipment to be used for wide band data transmission operating in the frequency range 2.4 GHz to 2.4835 GHz and using spread spectrum modulation techniques based on the European Telecommunications Standard (ETS) 300 328Vienna 1996.

CEPT/ERC/DEC(96)18
ERC Decision of 1 November 1996 on the adoption of approval regulations for radio equipment to be used for cordless telephone apparatus operating in the mobile service in the frequency range 864.1 MHz to 868.1 MHz, based on the Interim European Telecommunications Standard (I-ETS) 300 131 Vienna 1996.

CEPT/ERC/DEC(96)19
ERC Decision of 1 November 1996 on the adoption of approval regulations for radio equipment to be used for on-site paging systems, based on the European Telecommunications Standard (ETS) 300 224Vienna 1996.

CEPT/ERC/DEC(96)20
ERC Decision of 1 November 1996 on the adoption of approval regulations for radiotelephone transmitters and receivers for the maritime mobile service operating in the frequency range 156 MHz to 174 MHz based on the European Telecommunications Standard (ETS) 300 162Vienna 1996.

CEPT Recommendations:

CEPT/ERC/REC 12-02
Harmonised radio frequency channel arrangements for analogue and digital terrestrial fixed systems operating in the band 12.75 GHz to 13.25 GHzBonn 1994.

CEPT/ERC/REC 12-03 E
Harmonised radio frequency channel arrangements for digital terrestrial fixed systems operating in the band 17.7 GHz to 19.7 GHzBonn 1994.

CEPT/ERC/REC 14-01 E
Radio-frequency channel arrangements for high capacity analogue and digital radio-relay systems operating in the band 5925 MHz - 6425 MHzBonn 1995.

CEPT/ERC/REC 14-02 E
Radio-frequency channel arrangements for medium and high capacity analogue or high capacity digital radio-relay systems operating in the band 6425 MHz - 7125 MHzBonn 1995.

T/R 01-04 E
Use of Low Power Devices (LPD) using integral antennas and operating in harmonised frequency bandsOslo 1991 Revision: Madrid 1992

T/R 10-01 E
Wide band data transmission systems using spread-spectrum technology in the 2.5 GHz bandOslo 1991 Revision: Madrid 1992.

T/R 12-01 E
Harmonised radio frequency channel arrangements for analogue and digital terrestrial fixed systems operating in the band 37-39.5 GHzHelsinki 1991.

T/R 13-01 E
Preferred channel arrangements for fixed services in the range 1-3 GHzMontreux 1993.

T/R 13-02 E
Preferred channel arrangements for fixed services in the range 22.0-29.5 GHzMontreux 1993.

T/R 20-04 E
Low-power Narrow-Band Telecommand and Telemetry equipment for use outside the ISM frequency bandsMontpellier 1984.

T/R 20-08 E
Frequency planning and frequency co-ordination for the GSM systemLecce 1989.

T/R 20-09 E
PR 27 radio equipment intended to provide short range voice radiocommunication in the 27 MHz bandChester 1990.

T/R 22-03 E
Provisional recommended use of the frequency range 54.25-66 GHz by terrestrial fixed and mobile systems Athens 1990.

T/R 22-06 E
Harmonised radio frequency bands for HIgh PErformance Radio Local Area Networks (HIPERLANs) in the 5 GHz and 17 GHz frequency rangeMadrid 1992.

T/R 60-01 E
Low-power radiolocation equipment for detecting movement and for alertMalaga-Torremolinos 1975 Revision: Stockholm 1976.

CEPT Arrangements/Agreements:

Reference is made in the Table of Frequency Allocations to the following CEPT Arrangements/Agreements:

Final Acts of the CEPT T-DAB Planning Meeting Wiesbaden, 1995
Final Acts of the T-DAB Planning Meeting (2)Bonn, 7-8 November 1996
The Chester 1997 Multilateral Coordination Agreement relating to Technical Criteria, Coordination Principles and procedures for the Introduction of Terrestrial Digital Video Broadcasting (DVB-T)
Chester, 25 July 1997.

ITU-R Recommendations:

Reference is made to the following ITU-R Recommendations in the Table of Frequency Allocations, Ireland.

Rec. 283-5
Radio-frequency channel arrangements for low and medium capacity analogue or digital radio-relay systems operating in the 2 GHz bands.

Rec. ITU-R F 382-6
Radio-frequency channel arrangements for radio-relay systems operating in the 2 and 4 GHz bands.ITU-R Rep. 1055, Annex 1 Radio-frequency channel arrangements for analogue and small and medium capacity digital radio-relay systems operating in the 7 GHz band.

Rec.ITU-R F 386-4, Annex 1,3
Radio-frequency channel arrangements for radio-relay systems operating in the 8 GHz band.(Annex 1: 7725-8275 MHz (L 8 GHz Band), Annex 3: 8275-8500 MHz (U8 GHz Band))

Rec.ITU-R F 387-6, Annex 2
Radio-frequency channel arrangements for radio-relay systems operating in the 11 GHz band.

Rec. 595-3
Radio-frequency channel arrangements for radio-relay systems operating in the 18 GHz band.

Rec. 637-1 (Obsolete)
Radio-frequency channel arrangements for radio-relay systems operating in the 23 GHz band.

Rec. ITU-R F 636-3
Radio-frequency channel arrangements for radio-relay systems operating in the 15 GHz band.

Rec. 746 Annex 2
Radio-frequency channel arrangements for small and medium capacity analogue radio-relay systems or small and medium capacity digital radio-relay systems operating in the 2.3-2.5 GHz band.

Rec. 749 Annex 1
Radio-frequency channel arrangements for radio-relay systems operating in the 37.0-39.5 GHz band.

Equipment Specifications:

The following specifications are referred to, either directly or within ERC Decisions, in the Table of Frequency Allocations.

I.S./ ETS 300 086
Radio Equipment and Systems- Land Mobile Service - Technical Characteristics and Test Conditions for Radio Equipment with an Internal or External RF Connector intended Primarily for Analogue Speech.

I.S./I-ETS 300 113
Radio Equipment and Systems (RES); Land Mobile Service - Technical Characteristics and Test Conditions for Non-Speech and Combined Analogue Speech/Non-Speech Equipment with an Internal or External Antenna Connector Intended for the Transmission of Data.

X.I.S./I-ETS 300 131
Radio Equipment and Systems (RES); Common Air Interface Specification to be used for the Interworking Between Cordless Telephone Apparatus in the Frequency Band 864.1-868.1 MHz, Including Public Access services.

I.S./ETS 300 135
Radio Equipment and Systems Angle-Modulated Citizens Band Radio Equipment (CEPT PR 27 Radio Equipment) Technical Characteristics and Methods of Measurement.

I.S./ETS 300 162
Radio Equipment and Systems (RES); Radiotelephone Transmitters and Receivers for the Maritime Mobile Service Operating in the VHF Bands - Technical Characteristics and Methods of Measurement.

I.S./ETS 300 197
Transmission and Multiplexing (TM); Parameters for Radio Relay Systems for the Transmission of Digital Signals and Analogue Video Signals Operating at 38 GHz.

I.S./ETS 300 198
Transmission and Multiplexing (TM); Parameters for Radio Relay Systems for the Transmission of Digital Signals and Analogue Video Signals Operating at 23 GHz.

I.S./I-ETS 300 219
Radio Equipment and Systems (RES); Land Mobile Service - Technical Characteristics and Test Conditions for Radio Equipment Transmitting Signals to Initiate a Specific Response in the Receiver.

I.S./I-ETS 300 220
Radio Equipment and Systems (RES); Short Range Devices - Technical Characteristics and Test Methods for Radio Equipment to be used in the 25 MHz to 1000 MHz Range with Power Levels Ranging up to 500 mW.

I.S./ETS 300 224
Radio Equipment and Systems (RES); On-Site Paging Service - Technical and Functional Characteristics for On-Site Paging Systems, including Test Methods.

I.S./I-ETS 300 296
Radio Equipment and Systems (RES); Technical Characteristics and Test Conditions for Radio Equipment using Integral Antennas intended Primarily for Analogue Speech.

I.S./I-ETS 300 328
Wideband Data Transmission Systems; Technical Characteristics and Test Conditions for Data Transmission Equipment operating in the 2.4 GHz ISM band and using Spread Spectrum Modulation Techniques.

ETS 300 392
Trans-European Trunked Radio (TETRA); Voice + Data (V+D)

ETS 300 393
Trans-European Trunked Radio (TETRA); Packet Data Optimised (PDO)

ETS 300 408
Transmission and Multiplexing (TM); Parameters for Radio-Relay Systems for the Transmission of Digital Signals and Analogue Video Signals operating at around 58 GHz, which do not require Co-ordinated Frequency Planning.

ETS 300 652
Radio equipment and Systems (RES); HIgh PErformance Radio Local Area Network (HIPERLAN) Type 1; Functional Specification

Statutory Instruments:

The following S.I.s are referred to in the Table of Frequency Allocations, Ireland.

S.I. 28 (1995)
European Communities (pan-European Land-based Public Radio Paging Service - ERMES) Regulations, 1995.

S.I. 39 (1989)
Wireless Telegraphy (Television Programme Retransmission) Regulations, 1989.

S.I. 252 (1991)
Wireless Telegraphy (Television Programme Retransmission and Relay) Regulations, 1991.

S.I. 168 (1994)
European Communities (Digital European Cordless Telecommunications - DECT) Regulations, 1994.

S.I. 416 (1994)
European Communities (Co-ordinated Introduction of pan-European Cellular Digital Land-based Mobile Communications-GSM) Regulations, 1994.

Note 1: Legislation to licence exempt certain short range devices is planned. These devices will not be protected from harmful interference and must not cause interference to licensed apparatus for wireless telegraphy. The devices to be licence exempted are detailed in schedule A on the following pages.

Note 2: Legislation to licence exempt certain short range business radio is planned. These devices will not be protected from harmful interference and must not cause interference to licensed apparatus for wireless telegraphy.

Schedule A

Licence Exempt Short Range Devices

Designated Frequency Band	Designated Class of Device	Designated Field Strength Limits mW eirp/ mW erp/dbµA/m	Designated Standard
9 - 135 KHz	Inductive Loop System [1]	72 dbµA/m	I-ETS 300330
135 - 148 KHz	Inductive Loop System	38 dbµA/m	I-ETS 300330
285 - 400 KHz	Inductive Loop System	38 dbµA/m	I-ETS 300330
1650 - 1950 KHz	Inductive Loop System	-8 dbµA/m	I-ETS 300330
1800 - 2200 KHz	Inductive Loop System	-8 dbµA/m	I-ETS 300330
2540 - 3560 KHz	Inductive Loop System	-8 dbµA/m	I-ETS 300330
7400 - 8900 KHz	Inductive Loop System	-8 dbµA/m	I-ETS 300330
6.765 - 6.795 MHz	Inductive Loop System	42 dbµA/m	I-ETS 300330
13.553 - 13. 567 MHz	Inductive Loop System	42 dbµA/m	I-ETS 300330
26.957 - 27.283 MHz	LPD [2]	10 mW erp	I-ETS 300220
26.957 - 27.283 MHz	Low Power Radio Transmitters [3]	10 mW erp	I-ETS 300220
26.96 - 27.28 MHz	Surface Model Control [4]	100 mW erp	I-ETS 300220
35.01 - 35.25 MHz	Exclusively Aircraft Model Control	100 mW erp	I-ETS 300220
40.66 - 40.7 MHz	Surface Model Control	100 mW erp	I-ETS 300220
40.66 - 40.7 MHz	LPD	10 mW erp	I-ETS 300220
49.82 - 49.98 MHz*	Baby Monitors [5]	10 mW erp	I-ETS 300220
49.82 - 49.98 MHz*	Low Power Radio transmitters	10 mW erp	I-ETS 300220
173.225 - 173.275 MHz	LPD	10 mW erp	I-ETS 300220
173.7 - 175.1 MHz*	Wireless Microphone [6]	10 mW erp	I-ETS 300422
433.05 - 434.7 MHz	LPD	10 mW erp	I-ETS 3002202
400 - 2483.5 MHz	LPD	10 mW eirp	I-ETS 3004402
400 - 2483.5 MHz	Wideband Data Transmission Systems [7]	100 mW eirp	I-ETS 300328

Designated Frequency Band	Designated Class of Device	Designated Field Strength Limits mW eirp/ mW erp/dbµA/m	Designated Standard
2400 - 2483.5 MHz	FDDA [8]	25 mW eirp	I-ETS 300440
2400 - 2483.5 MHz	Video Surveillance [9]	25 mW eirp	I-ETS 300440
2446 - 2454 MHz	AVI for railways [10]	500 mW eirp	I-ETS 300761
5150 - 5250 MHz	HIPERLAN [11]	1W eirp	I-ETS 300652
5250 - 5300 MHz	HIPERLAN	1W eirp	I-ETS 300652
5725 - 5875 MHz	LPD	25 mW eirp	I-ETS 300440
5795 - 5805 Mhz	RTT [12]	2 W eirp	I-ETS 300674
5805 - 5825 MHz	RTT	2 W eirp	I-ETS 300674
9200 - 9500 MHz	FDDA	25 mW eirp	I-ETS 300440
9500 - 9975 MHz	FDDA	25 mW eirp	I-ETS 300440
10.5 - 10.6 GHz	FDDA	500 mW eirp	I-ETS 300440
13.4 - 14 GHz	FDDA	25 mW eirp	I-ETS 300440
17.1 - 17.3 GHz	HIPERLAN	100 mW eirp	I-ETS 300652

* When operating short range devices on these frequencies in close proximity to domestic television receivers care must be taken as the domestic television receivers may suffer interference.

Notes to Schedule A table:

1 **Inductive Loop Systems** are systems which operate by producing a controlled magnetic field within which a predetermined recognisable signal is formed.

2 **Low Power Devices (LPD)** are apparatus for wireless telegraphy which are not described elsewhere in this schedule, have a low duty cycle and are used for general data telemetry and telecommand.

3 **Low Power Radio Transmitters** are apparatus for wireless telegraphy used for short range two-way voice communication.

4 **Model Control apparatus** is apparatus for wireless telegraphy used to control the movement of the model in the air, on land or over or under the water surface.

5 **Baby Monitors** are apparatus for wireless telegraphy used to transmit sound to a remote receiver. This device is commonly used to monitor the sound or movement of infants.

6 **Wireless Microphones** are apparatus for wireless telegraphy which transmit speech or music over short distances to a remote receiver.

7 **Wideband Data Transmission Systems e.g. RLAN** means a Radio Local Area Network which uses apparatus for wireless telegraphy, utilising spread spectrum modulation techniques, to link the nodes of the network.

8 **FDDA** means field disturbance and doppler apparatus. This is apparatus for wireless telegraphy which operates by producing a radiated field and responding to any disturbance of that field caused by an intrusion or movement within the field by other devices, objects or persons. In this way it can detect or monitor the movement of such external entities.

9 **Video Surveillance Equipment** means apparatus for wireless telegraphy designed for the transmission of visual images or sound.

10 **AVI for Railways** means automatic vehicle identification for railways and apparatus for wireless telegraphy used to track and identify railway vehicles.

11 **HIPERLAN** means a High Performance Radio Local Area Network intended for indoor use which uses apparatus for wireless telegraphy, utilising spread spectrum modulation techniques, to link the nodes of the network.

12 **RTT** means Road Transport Telematics. This is apparatus for wireless telegraphy used for traffic management. Applications include automatic road toll collection, route guidance systems, vehicle or container identification, instant traffic information, parking management, advance incident warning and on-vehicle anti-collision radar.

Annex 4

Sources of Further Information

The International Telecommunications Union

This organisation is responsible for the publication of the Radio Regulations which includes the International Table of Frequency Allocations. The Radio Regulations also detail the footnotes, appendices and describe the different categories of service referred to in the Table of Frequency Allocations, Ireland.

Publications of the International Telecommunications Union (ITU) can be obtained from:

Sales and Marketing Service,
International Telecommunications Union,
Place Des Nations,Ch-1211,
Geneva 20,
Switzerland.

Tel: +41 22 730 61 41
Fax: +41 22 730 51 94
Email: sales@itu.ch

CEPT Documentation, including ERC Decisions and Recommendations, and Publications of the European Radiocommunications Office (ERO) can be obtained from:

The European Radiocommunications Office,
Midtermolen 1,
DK 2100 Copenhagen,
Denmark.

Tel: +45 35 25 03 00
Fax: +45 35 25 03 30
E-mail: ero@ero.dk
Web Site: http://www.ero.dk

Publications of the European Telecommunications Standards Institute (ETSI) can be obtained from:

The Sales Office,
ETSI,
Sofia Antipolis,
Nice,
France
Tel: +33 92 94 42 41
Fax: +33 93 95 81 33
Email: secretariat@etsi.fr
Web Site: http://www.etsi.fr/

Irish Equipment Standards (Including ETSI transposed standards) can be obtained from the National Standards Authority of Ireland at the address below:

Sales Office,
NSAI,Glasnevin,
Dublin 9,

Tel: 01 807 3877 / 3878
Fax: 01 807 3841

Irish Government Publications, including Statutory Instruments, can be obtained from:

The Government Publications Office,
4/5 Harcourt Road,
Dublin 2.

Tel: 01 661 3111
Fax: 01 475 2760

EC directives can be obtained from:

The European Commission Representation in Ireland,
European Union House,
18 Dawson Street,
Dublin 2.

Tel: 01 662 5113
Fax: 01 662 5118

General queries regarding radio or licensing matters can be directed to:

The Office of the Director of Telecommunications Regulation,
Abbey Court,
Irish Life Centre,
Lower Abbey Street,
Dublin 1.

Tel: 01 804 9600
Fax: 01 804 9680

Comments Form

Comments would be very useful to us in preparing the next edition. Thank you.

Page	Frequency Band	Comments on Specific Entries

Other Comments