NATIONAL SPECTRUM PLAN

AND

NATIONAL TABLE OF FREQUENCY ALLOCATION

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1.0 Preface

Based on the Federal Decree by Law No.3 of 2003 regarding the organization of the Telecommunications Sector, Decision No.3 of 2004 by the Supreme Committee for the Supervision of the Telecommunications Sector for issuing the Executive Order and Decision No. 4 of 2004 by the Supreme Committee for the Supervision of the Telecommunications Sector for establishing Coordination Committee which has developed the National Spectrum Plan and the National Table of Frequency Allocation.

This National Spectrum Plan and National Table of Frequency Allocation have been developed in conformity with the international regulations governing radio spectrum and the international or regional agreements concluded or acceded to by the State of the United Arab Emirates in conformity with the existing and future requirements of the frequencies in the State.

The objective of developing the National Spectrum Plan and National Table of Frequency Allocation is to increase spectrum efficiency and usage.

This National Spectrum Plan and National Table of Frequency Allocation give the framework for the allocation of frequencies to use radio communications equipment by all organizations whether government or non-government, civil or military.

This Plan will be amended from time to time, when the need arises.

2.0 Definitions

Allocation of a Frequency Band	Allocation of a given frequency band by the TRA for the purpose of its use by one or more terrestrial or space radio services or the radio astronomy service under specified conditions.
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 radio beacon stations may also participate in this service on designated distress and emergency frequencies.
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 radio beacon stations may also participate in this service.
Aeronautical Radio Navigation Service	A radio navigation service intended for the benefit and for the safe operation of aircraft.
Aeronautical Radio Navigation-Satellite Service	A radio navigation-satellite service in which earth stations are located on board aircraft.
Amateur Service	A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by an amateur, that are duly authorized 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 purpose and those of amateur service.
Assigned Frequency	The center of the frequency band assigned to a station.
Assigned Frequency Band	The frequency band within which the emission of a station is authorized; the width of the band equals the necessary bandwidth plus twice the absolute value of the frequency tolerance. Where space stations are concerned, the assigned frequency band includes twice the maximum Doppler shift that may occur in relation to any point of the Earth's surface.
Assignment of a Radio Frequency	Authorization given by the TRA for radio station to use a radio frequency or radio frequency channel under specified conditions.

Authorized User	User having Frequency Authorization from the TRA.
Broadcasting Service	A radio communication service in which the transmission are intended for direct reception by the general public. This service may include sound transmission, television transmission or other types of transmission.
Broadcasting-Satellite Service	A radio communication service in which signals transmitted by space stations are intended for direct reception by the general public.
Class Authorization	Wireless equipment with the same name, make and model but different serial numbers, type approved by the TRA as a Class Authorization.
Class of Emission	The set of characteristics of an emission, designated by standard symbol, e.g. type of modulation of the main carrier, modulation signal, type of information to be the transmitted, and also, if appropriate, any additional signal characteristics.
Coordinated Universal Time (UTC)	Time scale, based on the second (S I), as defined and recommended by the ITU–R, and maintained by the International Time Bureau (BIH).
Earth Exploration-Satellite Service	Radio communication 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, including data relating to the state of the environment, is obtained from active sensors or passive sensors on earth satellites; • Similar information is collected from air-borne 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.

Eligible Applicant	Any organization whether government or semi government, operator, manufacturer, importer, dealer or a person who is eligible to apply for Radio Frequency Authorization in accordance with the eligibility criteria specified by the TRA for different classes of Frequency Authorizations.
Fixed Service	A radio communication service between specified fixed points.
Fixed – Satellite Service	A radio communication service between earth stations at given positions, when one or more satellites are used; the given position may be a specific point or any fixed point within specified area; in some cases this service includes satellite-to-satellite links, which may also be operated in the inter-satellite service: the fixed-satellite service may also include feeder links for other space radio communication services.
Government	The government of the State of the United Arab Emirates.
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.
International Regulations	Regulations, rules, standards, specifications, definitions, recommendations or agreements ratified by UAE at the international level.
Inter-Satellite Service	A radio communication service providing links between artificial earth satellites.
Land Mobile Service	A mobile service between base stations and land mobile station or between land mobile stations.
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 radio beacon 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 radio beacon stations may also participate in this service.
Maritime Radio	A radio navigation service intended for the benefit and

Navigation Service	for the safe operation of ships.
Maritime Radio Navigation-Satellite Service	A radio navigation-satellite in which earth stations are located on board ships.
Meteorological Aids Service	A radio communication service used for meteorological, including hydrological, observations and exploration.
Meteorological-Satellite Service	An earth exploration-satellite service for meteorological purposes.
Mobile Service	A radio communication service between mobile and land station, or between mobile stations.
Mobile-Satellite Service	A radio communication service: Between mobile earth stations and one or more space stations, or between space stations used by this service; This service may also include feeder links necessary for its operation
National Register of Frequencies	Database maintained by the TRA that contains all the administrative and technical information, services and declarations exclusive to frequencies.
National Spectrum Plan	Frequency allocation plan for UAE issued by the TRA.
Radio Astronomy	Astronomy based on the reception of radio waves of cosmic origin.
Radio Service	A service involving the transmission, emission and/ or reception of radio waves to specific telecommunication purposes.
Radio Determination Service	A radio communication service for the determination of the position, velocity and/ or other characteristics of an object, or the obtaining of information relating to those parameters, by means of the propagation properties of radio waves.
Radio Frequencies	Electromagnetic energy in the frequency range of 9 kHz to 3000 GHz.
Radio Frequency Authorization or Frequency Authorization	An authorization issued by the TRA pursuant to the provisions of the Federal Law by Decree and its executive regulations which allows the Authorized User to use assigned frequency in accordance with the specified terms and conditions.
Radio Location	Radio Determination used for purposes other than those of radio navigation.

Radio Navigation Service	A radio determination service for the purpose of navigation, including obstruction warning.
Radio Navigation-Satellite Service	A radio determination-satellite service for the purpose of radio navigation.
Safety Service	A radiocommunication service used permanently or temporarily for the safeguarding of human life and property.
Space Operation Service	A radio communication service concerned exclusively with the operation of space craft, in particular space tracking, space telemetry and space telecommand.
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 standard frequency and time signal service. This service may also include feeder links necessary for its operation.
Supreme Committee	The Supreme Committee for the Supervision of the Telecommunications Sector.
Telecommunications Regulatory Authority (The TRA)	The General Authority for Regulating the Telecommunication Sector in UAE.
Terrestrial Radio Communication	Any radio communication other than space radio communication or radio astronomy.

3.0 Categories of Services as Primary or Secondary

Where, in this Plan, a band is indicated as allocated to more than one service, such services are listed in the following order:

Services the names of which are printed in “capital” (example: FIXED); these are called “primary” services;

Services the names of which are printed in “normal characters” (example: Mobile); these are called “secondary” services.

The Stations of secondary service:

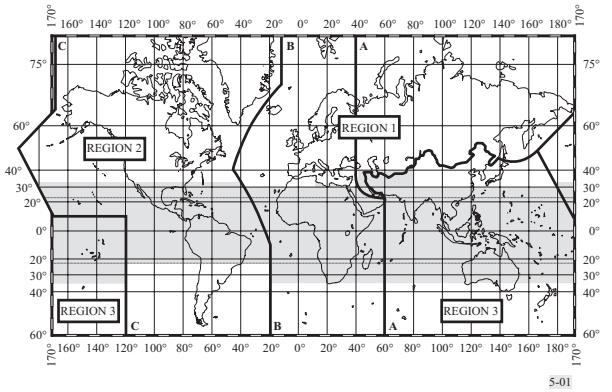
1. shall not cause harmful interference to stations of primary service to which frequencies are already assigned or to which frequencies may be assigned at a later date;

2. 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;

3. can claim protection, however, from harmful interference from stations of the same or other secondary services(s) to which frequencies may be assigned at a later date.

4.0 Regions of the world

For the allocation of frequencies, the world has been divided into three Regions (UAE is in Region 1) as shown on the following map:



5.0 National Table of Frequency Allocations

This table includes three columns representing frequency range, ITU allocation for Region 1 only and UAE allocations. The main features of this table are:

- The frequency band referred to in each page is indicated on the top centre of the Table concerned.
- ITU allocations for Region 1 only are listed to compare the allocations for Region 1 (as UAE is in Region 1) with the UAE National allocations.
- The Region 1 column has references to ITU International footnotes as given in Article 5 of Radio Regulations and shown as 5.5XXX. These international footnotes are reproduced at the end of this Table for reference purposes.
- The UAE allocations column has references to UAE National footnotes and shown as UAEXX. These National footnotes are also appended at the end of this Table.
- The UAE National footnotes are arranged in a radio service category for ease of reference and are based on additional and alternative allocations for UAE
- The UAE National footnotes also give details for certain applications like Short range devices, WLAN, etc.

0 – 129 kHz

Frequency	ITU – Region 1	UAE Allocations
0 – 9	(not allocated) 5.53, 5.54	Not used UAE1
9 – 14	RADIONAVIGATION	RADIONAVIGATION UAE9, UAE10
14 – 19.95	FIXED MARITIME MOBILE 5.57 5.55, 5.56	FIXED MARITIME MOBILE UAE9, UAE10
19.95 – 20.05	STANDARD FREQUENCY TIME SIGNALS (20 KHz)	STANDARD FREQUENCY TIME SIGNALS (20 KHz) UAE9
20.05 – 70	FIXED MARITIME MOBILE 5.57 5.56, 5.58	FIXED MARITIME MOBILE UAE9, UAE10
70 – 72	RADIONAVIGATION 5.60	RADIONAVIGATION UAE9
72 – 84	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	FIXED MARITIME MOBILE RADIONAVIGATION UAE9, UAE10
84 – 86	RADIONAVIGATION 5.60	RADIONAVIGATION UAE9
86 – 90	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56	FIXED MARITIME MOBILE RADIONAVIGATION UAE9, UAE10
90 – 110	RADIONAVIGATION 5.62 Fixed 5.64	RADIONAVIGATION Fixed UAE9, UAE10
110 – 112	FIXED MARITIME MOBILE RADIONAVIGATION 5.64	FIXED MARITIME MOBILE RADIONAVIGATION UAE9, UAE10
112 – 115	RADIONAVIGATION 5.60	RADIONAVIGATION UAE9, UAE10
115 – 117.6	RADIONAVIGATION 5.60 Fixed Maritime mobile 5.64, 5.66	RADIONAVIGATION Fixed Maritime mobile UAE9, UAE10
117.6 – 126	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION UAE9, UAE10
126 – 129	RADIONAVIGATION 5.60	RADIONAVIGATION UAE9, UAE10

129 – 1625 kHz

Frequency	ITU – Region 1	UAE Allocations
129 – 130	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION UAE9, UAE10
130 – 148.5	FIXED MARITIME MOBILE 5.64, 5.67	FIXED MARITIME MOBILE UAE9, UAE10
148.5 – 255	BROADCASTING 5.68, 5.69, 5.70	BROADCASTING UAE10
255 – 283.5	BROADCASTING AERONAUTICAL RADIONAVIGATION 5.70, 5.71	BROADCASTING AERONAUTICAL RADIONAVIGATION
283.5 – 315	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 5.73 5.72, 5.74	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) UAE10
315 – 325	AERONAUTICAL RADIONAVIGATION Maritime radionavigation (radiobeacons) 5.73 5.72, 5.75	AERONAUTICAL RADIONAVIGATION Maritime radionavigation (radiobeacons) UAE10
325 – 405	AERONAUTICAL RADIONAVIGATION 5.72	AERONAUTICAL RADIONAVIGATION
405 – 415	RADIONAVIGATION 5.76 5.72	RADIONAVIGATION UAE10
415 – 435	MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION 5.72	MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION
435 – 495	MARITIME MOBILE 5.79, 5.79A Aeronautical Radionavigation 5.72, 5.82	MARITIME MOBILE Aeronautical Radionavigation UAE2
495 – 505	MOBILE (distress and calling) 5.83	MOBILE (distress and calling) UAE2
505 – 526.5	MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION 5.72	MARITIME MOBILE AERONAUTICAL RADIONAVIGATION UAE2
526.5 – 1606.5	BROADCASTING 5.87, 5.87A	BROADCASTING
1606.5 – 1625	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	FIXED MARITIME MOBILE LAND MOBILE UAE10, UAE15

1625 – 2502 kHz

Frequency	ITU – Region 1	UAE Allocations
1625 – 1635	RADIOLOCATION 5.93	RADIOLOCATION UAE10
1635 – 1800	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92, 5.96	FIXED MARITIME MOBILE LAND MOBILE UAE10, UAE15
1800 – 1810	RADIOLOCATION 5.93	RADIOLOCATION
1810 – 1850	AMATEUR 5.98, 5.99, 5.100, 5.101	AMATEUR
1850 – 2000	FIXED MOBILE except Aeronautical Mobile 5.92, 5.96, 5.103	FIXED MOBILE except Aeronautical Mobile UAE15, UAE18, UAE19
2000 – 2025	FIXED MOBILE except Aeronautical Mobile (R) 5.92, 5.103	FIXED MOBILE except Aeronautical Mobile (R) UAE15, UAE18, UAE19
2025 – 2045	FIXED MOBILE except Aeronautical Mobile (R) Meteorological Aids 5.104 5.92, 5.103	FIXED MOBILE except Aeronautical Mobile (R) Meteorological Aids UAE15, UAE16, UAE18, UAE19
2045 – 2160	FIXED MARITIME MOBILE LAND MOBILE 5.92	FIXED MARITIME MOBILE LAND MOBILE UAE15, UAE18, UAE19
2160 – 2170	RADIOLOCATION 5.93, 5.107	RADIOLOCATION
2170 – 2173.5	MARITIME MOBILE	MARITIME MOBILE
2173.5 – 2190.5	MOBILE (distress and calling) 5.108, 5.109, 5.110, 5.111	MOBILE (distress and calling) UAE2
2190.5 – 2194	MARITIME MOBILE	MARITIME MOBILE
2194 – 2300	FIXED MOBILE except Aeronautical Mobile (R) 5.92, 5.103, 5.112	FIXED MOBILE except Aeronautical Mobile (R) UAE15, UAE18, UAE19
2300 – 2498	FIXED MOBILE except Aeronautical Mobile (R) BROADCASTING 5.113 5.103	FIXED MOBILE except Aeronautical Mobile (R) BROADCASTING UAE18, UAE19, UAE24
2498 – 2501	STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)
2501 – 2502	STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research

2502 – 3900 kHz

Frequency	ITU – Region 1	UAE Allocations
2502 – 2625	FIXED MOBILE except Aeronautical Mobile (R) 5.92, 5.103, 5.114	FIXED MOBILE except Aeronautical Mobile (R) UAE15, UAE18, UAE19
2625 – 2650	MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	MARITIME MOBILE MARITIME RADIONAVIGATION UAE15, UAE19
2650 – 2850	FIXED MOBILE except Aeronautical Mobile (R) 5.92, 5.103	FIXED MOBILE except Aeronautical Mobile (R) UAE15, UAE18, UAE19
2850 – 3025	AERONAUTICAL MOBILE (R) 5.111, 5.115	AERONAUTICAL MOBILE (R) UAE2, UAE8, UAE15
3025 – 3155	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) UAE8
3155 – 3200	FIXED MOBILE except aeronautical mobile (R) 5.116, 5.117	FIXED MOBILE except aeronautical mobile (R) UAE8
3200 – 3230	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116	FIXED MOBILE except aeronautical mobile (R) BROADCASTING UAE2, UAE8, UAE24
3230 – 3400	FIXED MOBILE except aeronautical mobile BROADCASTING 5.113 5.116, 5.118	FIXED MOBILE except aeronautical mobile (R) BROADCASTING UAE8, UAE24
3400 – 3500	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R) UAE8, UAE15
3500 – 3800	AMATEUR FIXED MOBILE except aeronautical mobile 5.92	AMATEUR FIXED MOBILE except aeronautical mobile UAE8, UAE15
3800 – 3900	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE UAE8, UAE15

3900 – 5450 kHz

Frequency	ITU – Region 1	UAE Allocations
3900 – 3950	AERONAUTICAL MOBILE (OR) 5.123	AERONAUTICAL MOBILE (OR) UAE8
3950 – 4000	FIXED BROADCASTING	FIXED BROADCASTING UAE8, UAE24
4000 – 4063	FIXED MARITIME MOBILE 5.127 5.126	FIXED MARITIME MOBILE UAE10
4063 – 4438	MARITIME MOBILE 5.79A, 5.109, 5.110 5.130, 5.131, 5.132, 5.128, 5.129	MARITIME MOBILE FIXED UAE2, UAE8, UAE18
4438 – 4650	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile UAE10, UAE18
4650 – 4700	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R) UAE10
4700 – 4750	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) UAE10
4750 – 4850	FIXED AERONAUTICAL MOBILE (OR) BROADCASTING 5.113 LAND MOBILE	FIXED AERONAUTICAL MOBILE (OR) BROADCASTING 5.113 LAND MOBILE UAE10, UAE24
4850 – 4995	FIXED LAND MOBILE BROADCASTING 5.113	FIXED LAND MOBILE BROADCASTING 5.113 UAE10, UAE24
4995 – 5003	STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz) UAE10
5003 – 5005	STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research UAE10
5005 – 5060	FIXED BROADCASTING 5.113	FIXED BROADCASTING 5.113 UAE10, UAE24
5060 – 5250	FIXED Mobile except aeronautical mobile 5.133	FIXED Mobile except aeronautical mobile UAE10
5250 – 5450	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile UAE10

5450 – 8100 kHz

Frequency	ITU – Region 1	UAE Allocations
5450 – 5480	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE UAE10
5480 – 5680	AERONAUTICAL MOBILE (R) 5.111, 5.115	AERONAUTICAL MOBILE (R) UAE10
5680 – 5730	AERONAUTICAL MOBILE (OR) 5.111, 5.115	AERONAUTICAL MOBILE (OR) UAE2, UAE10
5730 – 5900	FIXED LAND MOBILE	FIXED LAND MOBILE UAE18
5900 – 5950	BROADCASTING 5.134 5.136	BROADCASTING UAE18, UAE24
5950 – 6200	BROADCASTING	BROADCASTING UAE18, UAE24
6200 – 6525	MARITIME MOBILE 5.109, 5.110, 5.130, 5.132	MARITIME MOBILE UAE2, UAE10, UAE18
6525 – 6685	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
6685 – 6765	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) UAE8, UAE19
6765 – 7000	FIXED MOBILE except aeronautical mobile (R) 5.138, 5.138A, 5.139	FIXED MOBILE except aeronautical mobile (R) UAE8, UAE9, UAE10, UAE19
7000 – 7100	AMATEUR AMATEUR – SATELLITE 5.140, 5.141, 5.141A	AMATEUR AMATEUR – SATELLITE
7100 – 7200	AMATEUR 5.141A, 5.141B, 5.141C, 5.142	AMATEUR FIXED MOBILE except aeronautical mobile (R) UAE10, UAE18, UAE19
7200 – 7300	BROADCASTING	BROADCASTING UAE24
7300 – 7400	BROADCASTING 5.134 5.143, 5.143A, 5.143B, 5.143C, 5.143D	BROADCASTING FIXED UAE9, UAE18, UAE24
7400 – 7450	BROADCASTING 5.143B, 5.143C	BROADCASTING FIXED UAE9, UAE18
7450 – 8100	FIXED MOBILE except aeronautical mobile (R) 5.143E, 5.144	FIXED MOBILE except aeronautical mobile (R) UAE9, UAE10

8100 - 13260 kHz

Frequency	ITU – Region 1	UAE Allocations
8100 – 8195	FIXED MARITIME MOBILE	FIXED MARITIME MOBILE UAE9, UAE10
8195 – 8815	MARITIME MOBILE 5.109, 5.110, 5.132, 5.145, 5.111	MARITIME MOBILE UAE2, UAE9, UAE10
8815 – 8965	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
8965 – 9040	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)
9040 – 9400	FIXED	FIXED UAE18
9400 – 9500	BROADCASTING 5.134 5.146	BROADCASTING UAE18, UAE24
9500 – 9900	BROADCASTING 5.147	BROADCASTING UAE24
9900 – 9995	FIXED	FIXED UAE18
9995 – 10003	STANDARD FREQUENCY AND TIME SIGNAL (10000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (10000 kHz) UAE2
10003 – 10005	STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space research UAE2
10005 – 10100	AERONAUTICAL MOBILE (R) 5.111	AERONAUTICAL MOBILE (R)
10100 – 10150	FIXED Amateur	FIXED Amateur
10150 – 11175	FIXED Mobile except aeronautical mobile (R)	FIXED
11175 – 11275	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)
11275 – 11400	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
11400 – 11600	FIXED	FIXED UAE18
11600 – 12100	BROADCASTING 5.134, 5.146, 5.147	BROADCASTING UAE18, UAE24
12100 – 12230	FIXED	FIXED UAE18
12230 – 13200	MARITIME MOBILE 5.109, 5.110, 5.132 5.145	MARITIME MOBILE UAE2, UAE10
13200 – 13260	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)

13260 – 17410 kHz

Frequency	ITU – Region 1	UAE Allocations
13260 – 13360	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
13360 – 13410	FIXED RADIO ASTRONOMY 5.149	FIXED RADIO ASTRONOMY UAE5
13410 – 13570	FIXED Mobile except aeronautical mobile (R) 5.150	FIXED Mobile except aeronautical mobile (R) UAE8, UAE9, UAE10, UAE18
13570 – 13600	BROADCASTING 5.134 5.151	BROADCASTING UAE18, UAE24
13600 – 13800	BROADCASTING	BROADCASTING UAE18, UAE24
13800 – 13870	BROADCASTING 5.134 5.151	BROADCASTING UAE18, UAE24
13870 – 14000	FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)
14000 – 14250	AMATEUR AMATEUR – SATELLITE	AMATEUR AMATEUR – SATELLITE
14250 – 14350	AMATEUR 5.152	AMATEUR
14350 – 14990	FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except a UAE10eronautical mobile (R)
14990 – 15005	STANDARD FREQUENCY AND TIME SIGNAL (15000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (15000 kHz) UAE2, UAE10
15005 – 15010	STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research
15010 – 15100	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)
15100 – 15600	BROADCASTING	BROADCASTING UAE24
15600 – 15800	BROADCASTING 5.134 5.146	BROADCASTING UAE18, UAE24
15800 – 16360	FIXED 5.153	FIXED UAE18
16360 – 17410	MARITIME MOBILE 5.109, 5.110 5.132, 5.145	MARITIME MOBILE UAE2, UAE10

17410 – 20010 kHz

Frequency	ITU – Region 1	UAE Allocations
17410 – 17480	FIXED	FIXED UAE24
17480 – 17550	BROADCASTING 5.134 5.146	BROADCASTING UAE18, UAE24
17550 – 17900	BROADCASTING	BROADCASTING UAE24
17900 – 17970	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
17970 – 18030	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)
18030 – 18052	FIXED	FIXED
18052 – 18068	FIXED Space research	FIXED Space research
18068 – 18168	AMATEUR AMATEUR – SATELLITE 5.154	AMATEUR AMATEUR – SATELLITE
18168 – 18780	FIXED Mobile except aeronautical mobile	FIXED
18780 – 18900	MARITIME MOBILE	MARITIME MOBILE UAE10
18900 – 19020	BROADCASTING 5.134 5.146	BROADCASTING UAE18, UAE24
19020 – 19680	FIXED	FIXED
19680 – 19800	MARITIME MOBILE 5.132	MARITIME MOBILE UAE2, UAE10
19800 – 19990	FIXED	FIXED
19990 – 19995	STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space research UAE2
19995 – 20010	STANDARD FREQUENCY AND TIME SIGNAL (20000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (20000 kHz)

20010 – 25210 kHz

Frequency	ITU – Region 1	UAE Allocations
20010 – 21000	FIXED Mobile	FIXED Mobile
21000 – 21450	AMATEUR AMATEUR – SATELLITE	AMATEUR AMATEUR – SATELLITE
21450 – 21850	BROADCASTING	BROADCASTING
21850 - 21870	FIXED 5.155A 5.155	FIXED UAE3
21870 - 21924	FIXED 5.155B	FIXED UAE3
21924 – 22000	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
22000 – 22855	MARITIME MOBILE 5.132 5.156	MARITIME MOBILE UAE2, UAE10
22855 – 23000	FIXED 5.156	FIXED
23000 – 23200	FIXED Mobile except aeronautical mobile (R) 5.156	FIXED MOBILE except aeronautical mobile (R) UAE10
23200 – 23350	FIXED 5.156A AERONAUTICAL MOBILE (OR)	FIXED 5.156A AERONAUTICAL MOBILE (OR) UAE3
23350 – 24000	FIXED Mobile except aeronautical mobile 5.157	FIXED Mobile except aeronautical mobile UAE10
24000 – 24890	FIXED LAND MOBILE	FIXED LAND MOBILE
24890 – 24990	AMATEUR AMATEUR – SATELLITE	AMATEUR AMATEUR – SATELLITE
24990 – 25005	STANDARD FREQUENCY AND TIME SIGNAL (25000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (25000 kHz)
25005 – 25010	STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research
25010 – 25070	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile UAE10
25070 – 25210	MARITIME MOBILE	MARITIME MOBILE UAE10

25210 – 40020 kHz

Frequency	ITU – Region 1	UAE Allocations
25210 – 25550	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile UAE5, UAE10
25550 – 25670	RADIO ASTRONOMY 5.149	RADIO ASTRONOMY UAE5, UAE10
25670 – 26100	BROADCASTING	BROADCASTING UAE5, UAE10
26100– 26175	MARITIME MOBILE 5.132	MARITIME MOBILE UAE2, UAE10
26175 – 27500	FIXED MOBILE except aeronautical mobile 5.150	FIXED MOBILE except aeronautical mobile UAE8, UAE9, UAE10
27500 – 28000	METEOROLOGICAL AIDS FIXED MOBILE	METEOROLOGICAL AIDS FIXED MOBILE
28000 – 29700	AMATEUR AMATEUR – SATELLITE	AMATEUR AMATEUR – SATELLITE
29700 – 30005	FIXED MOBILE	FIXED MOBILE
30005 – 30010	SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH	SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH
30010– 37500	FIXED MOBILE	FIXED MOBILE UAE5
37500– 38250	FIXED MOBILE Radio astronomy 5.149	FIXED MOBILE Radio astronomy UAE5
3825– 39986	FIXED MOBILE	FIXED MOBILE UAE5
39986 – 40020	FIXED MOBILE Space research	FIXED MOBILE Space research

40.02 – 137.025 MHz

Frequency	ITU – Region 1	UAE Allocations
40.02 – 40.98	FIXED MOBILE 5.150	FIXED MOBILE UAE8, UAE9
40.98 – 41.015	FIXED MOBILE Space research 5.160, 5.161	FIXED MOBILE Space research
41.015 – 44	FIXED MOBILE 5.160, 5.161	FIXED MOBILE
44 – 47	FIXED MOBILE 5.162, 5.162A	FIXED MOBILE
47 – 68	BROADCASTING 5.162A, 5.163, 5.164, 5.165, 5.169, 5.171	BROADCASTING
68 – 74.8	FIXED MOBILE except aeronautical mobile 5.149, 5.174, 5.175, 5.177, 5.179	FIXED MOBILE except aeronautical mobile UAE5
74.8 – 75.2	AERONAUTICAL RADIONAVIGATION 5.180, 5.181	AERONAUTICAL RADIONAVIGATION UAE3
75.2 – 87.5	FIXED MOBILE except aeronautical mobile 5.175, 5.179, 5.184, 5.187	FIXED MOBILE except aeronautical mobile
87.5 – 100	BROADCASTING 5.190	BROADCASTING
100 – 108	BROADCASTING 5.192, 5.194	BROADCASTING
108 – 117.975	AERONAUTICAL RADIONAVIGATION 5.197, 5.197A	AERONAUTICAL RADIONAVIGATION UAE11
117.975 – 136	AERONAUTICAL MOBILE (R) 5.111, 5.198, 5.199, 5.200, 5.201, 5.202, 5.203, 5.203A, 5.203B	AERONAUTICAL MOBILE (R) UAE2
136 – 137	AERONAUTICAL MOBILE (R) 5.111, 5.198, 5.199, 5.200, 5.201, 5.202, 5.203, 5.203A, 5.203B	AERONAUTICAL MOBILE (R) AERONAUTICAL MOBILE (OR) UAE2, UAE11
137 – 137.025	SPACE OPERATION (Space-to-Earth) METEOROLOGICAL – SATELLITE (Space – to – Earth) MOBILE – SATELLITE (Space-to- Earth) 5.208A, 5.209 SPACE RESEARCH (Space-to- Earth) Fixed Mobile except aeronautical mobile (R) 5.204, 5.205, 5.206, 5.207, 5.208	SPACE OPERATION (Space-to-Earth) METEOROLOGICAL – SATELLITE (Space – to – Earth) MOBILE – SATELLITE (Space-to-Earth) SPACE RESEARCH (Space-to-Earth) FIXED MOBILE except aeronautical mobile (R) UAE28

137.025 – 146 MHz

Frequency	ITU – Region 1	UAE Allocations
137.025 – 137.175	SPACE OPERATION (Space-to-Earth) METEOROLOGICAL – SATELLITE (Space – to – Earth) SPACE RESEARCH (Space-to-Earth) Fixed Mobile except aeronautical mobile (R) Mobile Satellite (Space-to- Earth) 5.204, 5.205, 5.206, 5.207, 5.208	SPACE OPERATION (Space-to-Earth) METEOROLOGICAL – SATELLITE (Space – to – Earth) SPACE RESEARCH (Space-to-Earth) FIXED MOBILE except aeronautical mobile (R) Mobile Satellite (Space-to- Earth) UAE28
137.175 – 137.825	SPACE OPERATION (Space-to-Earth) METEOROLOGICAL – SATELLITE (Space – to – Earth) MOBILE – SATELLITE (Space-to- Earth) 5.208A, 5.209 SPACE RESEARCH (Space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.204, 5.205, 5.206, 5.207, 5.208	SPACE OPERATION (Space-to-Earth) METEOROLOGICAL – SATELLITE (Space – to – Earth) MOBILE – SATELLITE (Space-to- Earth) SPACE RESEARCH (Space-to-Earth) FIXED MOBILE except aeronautical mobile (R)
137.825 – 138	SPACE OPERATION (Space-to-Earth) METEOROLOGICAL – SATELLITE (Space – to – Earth) SPACE RESEARCH (Space-to-Earth) Fixed Mobile except aeronautical mobile (R) Mobile Satellite (Space-to- Earth) 5.204, 5.205, 5.206, 5.207, 5.208	SPACE OPERATION (Space-to-Earth) METEOROLOGICAL – SATELLITE (Space – to – Earth) SPACE RESEARCH (Space-to-Earth) FIXED MOBILE except aeronautical mobile (R) Mobile Satellite (Space-to- Earth) UAE19 , UAE28
138 – 143.6	AERONAUTICAL MOBILE (OR) 5.210, 5.211, 5.212, 5.214	AERONAUTICAL MOBILE (OR) MARITIME MOBILE LAND MOBILE UAE19
143.6 – 143.65	AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space to earth) 5.211, 5.212, 5.214	AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space to earth) MARITIME MOBILE LAND MOBILE UAE19
143.65 – 144	AERONAUTICAL MOBILE (OR) 5.210, 5.211, 5.212, 5.214	AERONAUTICAL MOBILE (OR) MARITIME MOBILE LAND MOBILE UAE19
144 – 146	AMATEUR AMATEUR - SATELLITE 5.216	AMATEUR AMATEUR - SATELLITE

146 – 235 MHz

Frequency	ITU – Region 1	UAE Allocations
146 – 148	FIXED MOBILE except aeronautical mobile (R)	FIXED MOBILE except aeronautical mobile (R) UAE19
148 – 149.9	FIXED MOBILE except aeronautical mobile (R) MOBILE – SATELLITE (Earth – to – space) 5.209 5.218, 5.219, 5.221	FIXED MOBILE except aeronautical mobile (R) MOBILE – SATELLITE (Earth – to – space) UAE19, UAE28
149.9 – 150.05	MOBILE – SATELLITE (Earth – to – space) 5.209 5.224A RADIONAVIGATION – SATELLITE 5.224B 5.220, 5.222, 5.223	MOBILE – SATELLITE (Earth – to – space) RADIONAVIGATION – SATELLITE UAE5, UAE28
150.05 – 153	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY UAE5, UAE19
153 – 154	FIXED MOBILE except aeronautical mobile (R) Meteorological Aids	FIXED MOBILE except aeronautical mobile (R) UAE5, UAE19
154 – 156.7625	FIXED MOBILE except aeronautical mobile (R) 5.226, 5.227	FIXED MOBILE except aeronautical mobile (R) UAE19
156.7625 – 156.8375	MARITIME MOBILE (Distress and calling) 5.111, 5.226	MARITIME MOBILE (Distress and calling) UAE2, UAE19
156.8375 – 174	FIXED MOBILE except aeronautical mobile 5.226, 5.229	FIXED MOBILE except aeronautical mobile UAE19
174 – 223	BROADCASTING 5.235, 5.237, 5.243	BROADCASTING
223 – 230	BROADCASTING Fixed, Mobile 5.243, 5.246, 5.247	BROADCASTING AERONAUTICAL RADIONAVIGATION Fixed, Mobile UAE12
230 - 235	FIXED MOBILE 5.247, 5.251, 5.252	FIXED MOBILE AERONAUTICAL RADIONAVIGATION UAE12, UAE18

235 – 400.05 MHz

Frequency	ITU – Region 1	UAE Allocations
235 – 267	FIXED MOBILE 5.111, 5.199, 5.252, 5.254, 5.256, 5.256A	FIXED MOBILE UAE2, UAE18, UAE28
267 – 272	FIXED MOBILE Space Operation (Space-to- Earth) 5.254, 5.257	FIXED MOBILE UAE18, UAE28
272 – 273	SPACE OPERATION (Space-to-Earth) FIXED MOBILE 5.254	SPACE OPERATION (Space-to-Earth) FIXED MOBILE UAE18, UAE28
273 – 312	FIXED MOBILE 5.254	FIXED MOBILE UAE18, UAE28
312 – 315	FIXED MOBILE Mobile – satellite (Earth-to- Space) 5.254, 5.255	FIXED MOBILE UAE18, UAE28
315 – 322	FIXED MOBILE 5.254	FIXED MOBILE UAE5, UAE18, UAE28
322 – 328.6	FIXED MOBILE RADIO ASTRONOMY 5.149	FIXED MOBILE RADIO ASTRONOMY UAE5, UAE18. UAE28
328.6 – 335.4	AERONAUTICAL RADIONAVIGATION 5.258, 5.259	AERONAUTICAL RADIONAVIGATION UAE3, UAE5, UAE18
335.4 – 387	FIXED MOBILE 5.254	FIXED MOBILE UAE18, UAE28
387 – 390	FIXED MOBILE Mobile – satellite (Earth-to- Space) 5.208A, 5.254, 5.255	FIXED MOBILE UAE18, UAE28
390 – 399.9	FIXED MOBILE 5.254	FIXED MOBILE UAE18, UAE28
399.9 – 400.05	MOBILE – SATELLITE (Earth – to – space) 5.209, 5.224A RADIONAVIGATION – SATELLITE 5.222, 5.224B, 5.260 5.220	MOBILE-SATELLITE (Earth-to-space) RADIONAVIGATION – SATELLITE UAE28

400.05 – 410 MHz

Frequency	ITU – Region 1	UAE Allocations
400.05 – 400.15	STANDARD FREQUENCY AND TIME SIGNAL – SATELLITE (400.1 MHz) 5.261, 5.262	STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz) FIXED MOBILE UAE18, UAE19, UAE28
400.15 – 401	METEOROLOGICAL AIDS METEOROLOGICAL – SATELLITE (Space – to – Earth) MOBILE – SATELLITE (Space – to – Earth) 5.208A, 5.209 SPACE RESEARCH (Space – to – Earth) 5.263 Space Operation (Space – to – Earth) 5.262, 5.264	METEOROLOGICAL AIDS METEOROLOGICAL – SATELLITE (Space-to-Earth) MOBILE-SATELLITE (Space-to-Earth) SPACE RESEARCH (Space-to-Earth) FIXED MOBILE UAE18, UAE19, UAE28
401 – 402	METEOROLOGICAL AIDS SPACE OPERATION (Space – to – Earth) EARTH EXPLORATION – SATELLITE (Earth – to – space) METEOROLOGICAL – SATELLITE (Earth – to – space) Fixed Mobile except aeronautical mobile	METEOROLOGICAL AIDS SPACE OPERATION (Space – to – Earth) EARTH EXPLORATION – SATELLITE (Earth – to – space) METEOROLOGICAL – SATELLITE (Earth – to – space) Fixed Mobile except aeronautical mobile UAE8, UAE19
402 – 403	METEOROLOGICAL AIDS EARTH EXPLORATION – SATELLITE (Earth – to –space) METEOROLOGICAL – SATELLITE (Earth – to –space) Fixed Mobile except aeronautical mobile	METEOROLOGICAL AIDS EARTH EXPLORATION – SATELLITE (Earth – to –space) METEOROLOGICAL – SATELLITE (Earth – to –space) Fixed Mobile except aeronautical mobile UAE8, UAE19
403 – 406	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile UAE8, UAE19
406 – 406.1	MOBILE – SATELLITE (Earth-to-space) 5.266, 5.267	MOBILE – SATELLITE (Earth-to-space) UAE2, UAE5, UAE19
406.1 – 410	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY UAE5, UAE19

410 – 470 MHz

Frequency	ITU – Region 1	UAE Allocations
410 – 420	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (Space-to-space) 5.268	FIXED MOBILE except aeronautical mobile Space Research (Space-to-space) UAE5, UAE19
420 – 430	FIXED MOBILE except aeronautical mobile Radiolocation 5.269, 5.270, 5.271	FIXED MOBILE except aeronautical mobile UAE19
430 – 432	AMATEUR RADIOLOCATION 5.271, 5.272, 5.273, 5.274, 5.275, 5.276, 5.277	AMATEUR RADIOLOCATION FIXED MOBILE UAE19
432 – 438	AMATEUR RADIOLOCATION Earth exploration-satellite (active) 5.279A 5.138, 5.271, 5.272, 5.276, 5.277, 5.280, 5.281, 5.282	AMATEUR RADIOLOCATION FIXED MOBILE UAE8, UAE9, UAE19
438 – 440	AMATEUR RADIOLOCATION 5.271, 5.273, 5.274, 5.275, 5.276, 5.277, 5.283	AMATEUR RADIOLOCATION FIXED MOBILE UAE19
440 – 450	FIXED MOBILE except aeronautical mobile Radiolocation 5.269, 5.270, 5.271, 5.284, 5.285, 5.286	FIXED MOBILE except aeronautical mobile UAE19
450 – 455	FIXED MOBILE 5.269, 5.271, 5.286, 5.286A, 5.286B, 5.286C, 5.286D, 5.286E	FIXED MOBILE UAE19, UAE28
455 – 456	FIXED MOBILE 5.209, 5.271, 5.286A, 5.286B, 5.286C, 5.286E	FIXED MOBILE UAE19, UAE28
456 – 459	FIXED MOBILE 5.271, 5.287, 5.288	FIXED MOBILE UAE10, UAE19
459 – 460	FIXED MOBILE 5.209, 5.271, 5.286A, 5.286B, 5.286C, 5.286E	FIXED MOBILE UAE19, UAE28
460 – 470	FIXED MOBILE Meteorological – satellite (space-to-earth) 5.287, 5.288, 5.289, 5.290	FIXED MOBIL UAE19

470 – 1300 MHz

Frequency	ITU – Region 1	UAE Allocations
470 – 790	BROADCASTING 5.149, 5.291A, 5.294, 5.296, 5.300, 5.302, 5.304, 5.306, 5.311, 5.312	BROADCASTING UAE5, UAE24
790 – 862	FIXED BROADCASTING 5.312, 5.314, 5.315, 5.316, 5.319, 5.321	FIXED BROADCASTING UAE18, UAE24
862 – 890	FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 5.319, 5.323	MOBILE except aeronautical mobile UAE9, UAE18, UAE19
890 – 942	FIXED MOBILE except aeronautical mobile BROADCASTING 5.322 Radiolocation 5.323	MOBILE except aeronautical mobile UAE18 , UAE19
942 – 960	FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 5.323	MOBILE except aeronautical mobile UAE6, UAE18, UAE19
960-1164	AERONAUTICAL RADIONAVIGATION 5.328	AERONAUTICAL RADIONAVIGATION UAE6
1164 – 1215	AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (space-to-earth) (space-to-space) 5.328B 5.328A	AERONAUTICAL RADIONAVIGATION Radionavigation-satellite (space-to-earth) (space-to-space) UAE6
1215 – 1240	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION RADIONAVIGATION – SATELLITE (space-to-earth) (space-to-space) 5.328B, 5.329, 5.329A SPACE RESEARCH (active) 5.330, 5.331, 5.332	RADIOLOCATION FIXED MOBILE RADIONAVIGATION Earth Exploration – Satellite (active) Space Research (active) Radionavigation-satellite (space-to-earth) (space-to-space) UAE6, UAE13, UAE18, UAE19
1240 – 1300	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION RADIONAVIGATION – SATELLITE (space-to-earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) Amateur 5.282, 5.330, 5.331, 5.332, 5.335, 5.335A	RADIOLOCATION FIXED MOBILE RADIONAVIGATION Earth Exploration – Satellite (active) Space Research (active) Radionavigation-satellite (space-to-earth) (space-to-space) UAE13, UAE18, UAE19

1300 –1530MHz

Frequency	ITU – Region 1	UAE Allocations
1300 – 1350	AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION RADIONAVIGATION – SATELLITE (Earth-to-space) 5.149, 5.337A	AERONAUTICAL RADIONAVIGATION RADIOLOCATION RADIONAVIGATION – SATELLITE (Earth-to-space) UAE5, UAE12
1350 – 1400	FIXED MOBILE RADIOLOCATION 5.149, 5.338, 5.339, 5.339A	FIXED MOBILE RADIOLOCATION UAE5
1400 – 1427	EARTH EXPLORATION – SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	EARTH EXPLORATION – SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5
1427 – 1429	SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.341	SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile UAE23
1429 – 1452	FIXED MOBILE except aeronautical mobile 5.339A, 5.341, 5.342	FIXED MOBILE except aeronautical mobile UAE23
1452 – 1492	FIXED MOBILE except aeronautical mobile BROADCASTING 5.345 5.347 BROADCASTING – SATELLITE 5.345, 5.347, 5.347A 5.341, 5.342	FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING – SATELLITE UAE23, UAE24
1492 – 1518	FIXED MOBILE except aeronautical mobile 5.341, 5.342	FIXED MOBILE except aeronautical mobile UAE23
1518 – 1525	FIXED MOBILE except aeronautical mobile MOBILE - SATELLITE (Space-to-earth) 5.348, 5.348A, 5.348B, 5.348C 5.341, 5.342	FIXED MOBILE except aeronautical mobile MOBILE - SATELLITE (Space-to-earth) UAE23, UAE25, UAE28
1525 – 1530	SPACE OPERATION (Space-to-earth) FIXED MOBILE-SATELLITE (Space-to-earth) 5.347A, 5.351A Earth exploration – satellite Mobile except aeronautical mobile 5.349 5.341, 5.342, 5.350, 5.351, 5.352A, 5.354	MOBILE-SATELLITE (Space-to-earth) UAE28

1530 – 1660.5 MHz

Frequency	ITU – Region 1	UAE Allocations
1530 – 1535	SPACE OPERATION (Space – to – earth) MOBILE-SATELLITE (Space to Earth) 5.347A, 5.351A, 5.353A Earth exploration – satellite Fixed Mobile except aeronautical mobile 5.341, 5.342, 5.351, 5.354	MOBILE-SATELLITE (Space to Earth) 5.347A, 5.351A, 5.353A UAE2, UAE28
1535 – 1559	MOBILE – SATELLITE (Space – to – earth) 5.347A, 5.351A 5.341, 5.351, 5.353A, 5.354, 5.355, 5.356 5.357, 5.357A, 5.359, 5.362A	MOBILE - SATELLITE (Space – to – earth) UAE2, UAE11, UAE28
1559 - 1610	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION – SATELLITE (Space-to-earth) (Space-to-space) 5.328B 5.329A 5.341, 5.362B, 5.362C, 5.363	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION – SATELLITE (Space-to-earth) (Space-to-space) UAE6
1610 – 1610.6	MOBILE – SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION 5.341, 5.355, 5.359, 5.363, 5.364, 5.366, 5.367, 5.368, 5.369, 5.371, 5.372	MOBILE – SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION UAE5, UAE6, UAE28
1610.6 – 1613.8	MOBILE – SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 5.149, 5.341, 5.355, 5.359, 5.363, 5.364 5.366, 5.367, 5.368, 5.369, 5.371, 5.372	MOBILE – SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION UAE5, UAE6, UAE28
1613.8 – 1626.5	MOBILE – SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION Mobile – satellite (Space-to-earth) 5.347A 5.341, 5.355, 5.359, 5.363, 5.364, 5.365, 5.366, 5.367, 5.368, 5.369, 5.371, 5.372	MOBILE – SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION UAE2, UAE5, UAE6, UAE28
1626.5 – 1660	MOBILE – SATELLITE (Earth-to-space) 5.341, 5.351, 5.353A, 5.354, 5.355, 5.357A, 5.359, 5.362A, 5.374, 5.375, 5.376	MOBILE – SATELLITE (Earth-to-space) UAE2, UAE5, UAE6, UAE11, UAE28
1660 – 1660.5	MOBILE –SATELLITE (Earth – to – space) 5.351A RADIO ASTRONOMY 5.149, 5.341, 5.351, 5.354, 5.362A, 5.376A	MOBILE –SATELLITE (Earth – to – space) RADIO ASTRONOMY UAE5, UAE28

1660.5 – 1980 MHz

Frequency	ITU – Region 1	UAE Allocations
1660.5 – 1668	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149, 5.341, 5.379, 5.379A	RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5, UAE16
1668 – ١٦٦٨,٤	MOBILE –SATELLITE (Earth-to-space) 5.348C, 5.379B, 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149, 5.341, 5.379, 5.379A, 5.379D	MOBILE –SATELLITE (Earth-to-space) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5, UAE16, UAE28
1668٤. – ١٦٧٠	METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE –SATELLITE (Earth-to-space) 5.348C, 5.379B, 5.379C RADIO ASTRONOMY 5.149, 5.341, 5.379, 5.379A, 5.379D	FIXED MOBILE except aeronautical mobile MOBILE –SATELLITE (Earth-to-space) RADIO ASTRONOMY UAE4, UAE5, UAE16, UAE28
1670 – 1675	METEOROLOGICAL AIDS FIXED METEOROLOGICAL – SATELLITE (space-to-earth) MOBILE 5.380 MOBILE-SATELLITE (earth-to-space) 5.348C, 5.379B 5.341, 5.379D, 5.379E, 5.380A	FIXED MOBILE MOBILE-SATELLITE (earth-to-space) UAE5, UAE11, UAE16, UAE28
1675 – 1690	METEOROLOGICAL AIDS FIXED METEOROLOGICAL – SATELLITE (Space – to – earth) MOBILE except aeronautical mobile 5.341	METEOROLOGICAL AIDS FIXED METEOROLOGICAL – SATELLITE (Space – to – earth) MOBILE except aeronautical mobile UAE18, UAE19
1690 – 1700	METEOROLOGICAL AIDS METEOROLOGICAL – SATELLITE (Space – to – earth) Fixed Mobile except Aeronautical Mobile 5.289, 5.341, 5.382	METEOROLOGICAL AIDS METEOROLOGICAL – SATELLITE (Space – to – earth) FIXED MOBILE except Aeronautical Mobile UAE18, UAE19
1700 – 1710	FIXED METEOROLOGICAL – SATELLITE (Space – to – earth) MOBILE except aeronautical mobile 5.289, 5.341	FIXED METEOROLOGICAL – SATELLITE (Space – to – earth) MOBILE except aeronautical mobile UAE18, UAE19
1710 – 1930	FIXED MOBILE 5.380, 5.384A, 5.388A, 5.388B 5.149, 5.341, 5.385, 5.386, 5.387, 5.388	FIXED MOBILE UAE5, UAE18, UAE19, UAE20
1930 – 1980	FIXED MOBILE 5.388A, 5.388B 5.388	FIXED MOBILE UAE18, UAE19

1980 – 2450 MHz

Frequency	ITU – Region 1	UAE Allocations
1980 – 2010	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388, 5.389A, 5.389B, 5.389F	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) UAE18, UAE19, UAE28
2010 – 2025	FIXED MOBILE 5.388A, 5.388B 5.388	FIXED MOBILE UAE18, UAE19
2025 – 2110	SPACE OPERATION (Earth – to space) (Space – to space) EARTH EXPLORATION – SATELLITE (Earth – to space) (Space – to space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth – to space) (Space – to space) 5.392	FIXED UAE18, UAE19
2110 – 2120	FIXED MOBILE 5.388A, 5.388B SPACE RESEARCH (Deep space) (Earth – to space) 5.388	FIXED MOBILE UAE18, UAE19
2120 – 2170	FIXED MOBILE 5.388A, 5.388B 5.388, 5.392A	FIXED MOBILE UAE18, UAE19
2170 – 2200	FIXED MOBILE MOBILE – SATELLITE (Space-to-earth) 5.351A 5.388, 5.389A, 5.389F, 5.392A	FIXED MOBILE MOBILE – SATELLITE (Space-to-earth) UAE18, UAE19, UAE28
2200 – 2290	SPACE OPERATION (Space-to-earth) (Space – to space) EARTH EXPLORATION – SATELLITE (Space – to - earth) (Space – to space) FIXED MOBILE 5.391 SPACE RESEARCH (Space – to Earth) (Space – to space) 5.392	FIXED UAE18, UAE19
2290 – 2300	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (Deep space) (Space – to Earth)	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (Deep space) (Space – to Earth) UAE18, UAE19
2300 – 2450	FIXED MOBILE Amateur Radiolocation 5.150, 5.282, 5.395	FIXED MOBILE UAE8, UAE9, UAE18, UAE19, UAE20, UAE21, UAE23

2450 – 2900 MHz

Frequency	ITU – Region 1	UAE Allocations
2450 – 2483.5	FIXED MOBILE Radiolocation 5.150, 5.397	FIXED MOBILE UAE8, UAE9, UAE18, UAE19, UAE20, UAE21
2483.5 – 2500	FIXED MOBILE MOBILE - SATELLITE (Space – to – earth) 5.351A Radiolocation 5.150, 5.371, 5.397, 5.398, 5.399, 5.400, 5.402	FIXED MOBILE MOBILE - SATELLITE (Space – to – earth) UAE8, UAE9, UAE18, UAE19, UAE28
2500 – 2520	FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile MOBILE – SATELLITE (Space – to – earth) 5.351A, 5.403 5.405, 5.407, 5.412, 5.414	FIXED MOBILE except aeronautical mobile MOBILE – SATELLITE (Space – to – earth) UAE8, UAE18, UAE19, UAE28
2520 – 2655	FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile 5.384A BROADCASTING – SATELLITE 5.413, 5.416 5.339, 5.403, 5.405, 5.412, 5.417C, 5.417D, 5.418B, 5.418C	FIXED MOBILE except aeronautical mobile BROADCASTING – SATELLITE UAE6, UAE6, UAE18, UAE19, UAE25
2655 – 2670	FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile BROADCASTING – SATELLITE Earth exploration – satellite (passive) Radio astronomy Space research (passive) 5.419, 5.412, 5.420	FIXED MOBILE except aeronautical mobile BROADCASTING – SATELLITE UAE6, UAE5, UAE18, UAE19, UAE25, UAE28
2670 – 2690	FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile 5.384A MOBILE – SATELLITE (Earth – to – space) 5.351A Earth exploration – satellite (passive) Radio astronomy Space research (passive) 5.419, 5.412, 5.419, 5.420	FXED MOBILE except aeronautical mobile MOBILE – SATELLITE (Earth – to – space) UAE5, UAE18, UAE19, UAE28
2690 – 2700	EARTH EXPLORATION – SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.422	FIXED EARTH EXPLORATION – SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5, UAE18, UAE19
2700 – 2900	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423 5.424	AERONAUTICAL RADIONAVIGATION Radiolocation UAE12, UAE16

2900 – 5030 MHz

Frequency	ITU – Region 1	UAE Allocations
2900 – 3100	RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425, 5.427	RADIOLOCATION RADIONAVIGATION UAE10
3100 – 3300	RADIOLOCATION Earth exploration-satellite (active) Space research (active) 5.149, 5.428	RADIOLOCATION UAE5
3300 – 3400	RADIOLOCATION 5.149, 5.429, 5.430	RADIOLOCATION FIXED MOBILE UAE5, UAE18, UAE19
3400 – 3600	FIXED FIXED-SATELLITE (Space-to-earth) Mobile Radiolocation 5.431	FIXED FIXED-SATELLITE (Space-to-earth) Mobile Radiolocation UAE18, UAE19
3600 – 4200	FIXED FIXED-SATELLITE (Space-to-earth) Mobile	FIXED FIXED-SATELLITE (Space-to-earth) Mobile UAE23
4200 – 4400	AERONAUTICAL RADIONAVIGATION 5.438, 5.439, 5.440	AERONAUTICAL RADIONAVIGATION UAE12
4400 – 4500	FIXED MOBILE	FIXED MOBILE
4500 – 4800	FIXED FIXED – SATELLITE (Space-to-earth) 5.441 MOBILE	FIXED FIXED – SATELLITE (Space-to-earth) MOBILE UAE26
4800 – 4990	FIXED MOBILE 5.442 Radio astronomy 5.149, 5.339, 5.443	FIXED MOBILE UAE5, UAE19
4990 – 5000	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (Passive) 5.149	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY UAE5, UAE19
5000 – 5010	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (earth-to-space) 5.367	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (earth-to-space) UAE5
5010 – 5030	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-earth) (space-space) 5.328B, 5.443B 5.367	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-earth) (space-space) UAE14

5030 – 5725 MHz

Frequency	ITU – Region 1	UAE Allocations
5030 – 5150	AERONAUTICAL RADIONAVIGATION 5.367, 5.444, 5.444A	AERONAUTICAL RADIONAVIGATION UAE3
5150 – 5250	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (earth-to-space) 5.447A MOBILE except aeronautical mobile 5.446A, 5.446B 5.446, 5.447, 5.447B, 5.447C	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (earth-to-space) MOBILE except aeronautical mobile UAE19, UAE26
5250 – 5255	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.447D MOBILE except aeronautical mobile 5.446A, 5.447F 5.447E, 5.448, 5.448A	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.447D MOBILE except aeronautical mobile UAE19
5255 – 5350	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 5.446A, 5.447F 5.447E, 5.448, 5.448A	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile UAE19
5350 – 5460	EARTH EXPLORATION – SATELLITE (active) 5.448B SPACE RESEARCH (active) 5.448C AERONAUTICAL RADIONAVIGATION 5.449 RADIOLOCATION 5.448D	EARTH EXPLORATION – SATELLITE (active) SPACE RESEARCH (active) AERONAUTICAL RADIONAVIGATION UAE12, UAE19
5460 – 5470	RADIONAVIGATION 5.449 EARTH EXPLORATION SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.448D 5.448B	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION RADIOLOCATION EARTH EXPLORATION SATELLITE (active) SPACE RESEARCH (active) UAE12, UAE15, UAE19
5470 – 5570	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile EARTH EXPLORATION SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.450B 5.448B, 5.450, 5.451	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile RADIOLOCATION UAE15, UAE19, UAE22
5570 – 5650	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 5.446A, 5.450A RADIOLOCATION 5.450B 5.450, 5.451, 5.452	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile RADIOLOCATION UAE15, UAE19, UAE22
5650 – 5725	RADIOLOCATION MOBILE except aeronautical mobile 5.446A, 5.450A Amateur Space research (deep space) 5.282, 5.451, 5.453, 5.454, 5.455	RADIOLOCATION MOBILE FIXED UAE8, UAE9, UAE18, UAE19, UAE22

5725 – 7450 MHz

Frequency	ITU – Region 1	UAE Allocations
5725 – 5830	FIXED – SATELLITE (Earth-to-Space) RADIOLOCATION Amateur 5.150, 5.451, 5.453, 5.455, 5.456	FIXED – SATELLITE (Earth-to-Space) RADIOLOCATION FIXED MOBILE UAE8, UAE9, UAE18, UAE19, UAE21, UAE22
5830 – 5850	FIXED – SATELLITE (Earth-to-Space) RADIOLOCATION Amateur Amateur-satellite (space-to-earth) 5.150, 5.451, 5.453, 5.455, 5.456	FIXED – SATELLITE (Earth-to-Space) RADIOLOCATION FIXED MOBILE UAE8, UAE9, UAE18, UAE19, UAE21, UAE22
5850 – 5925	FIXED FIXED – SATELLITE (Earth-to-Space) MOBILE 5.150	FIXED FIXED – SATELLITE (Earth-to-Space) MOBILE UAE8, UAE9, UAE18, UAE19, UAE21
5925 – 6700	FIXED FIXED – SATELLITE (Earth-to-Space) 5.457A, 5.457B MOBILE 5.149, 5.440, 5.458	FIXED FIXED – SATELLITE (Earth-to-Space) MOBILE UAE5, UAE26
6700 – 7075	FIXED FIXED – SATELLITE (Earth-to-Space) (Space-to-earth) 5.441 MOBILE 5.458, 5.458A, 5.458B, 5.458C	FIXED FIXED – SATELLITE (Earth-to-Space) (Space-to-earth) MOBILE UAE5, UAE24, UAE26
7075 – 7145	FIXED MOBILE 5.458, 5.459	FIXED MOBILE UAE5, UAE24
7145 – 7235	FIXED MOBILE SPACE RESEARCH(Earth-to-Space) 5.460 5.4 58, 5.459	FIXED MOBILE SPACE RESEARCH(Earth-to-Space) UAE5, UAE17, UAE24
7235 – 7250	FIXED MOBILE 5.458	FIXED MOBILE UAE5, UAE24
7250 – 7300	FIXED FIXED-SATELLITE (Space-to-earth) MOBILE 5.461	FIXED FIXED-SATELLITE (Space-to-earth) MOBILE UAE5, UAE24,UAE28
7300 – 7450	FIXED FIXED-SATELLITE (Space-to-earth) MOBILE except aeronautical mobile 5.461	FIXED FIXED-SATELLITE (Space-to-earth) MOBILE except aeronautical mobile UAE24,UAE28

7450 – 8215 MHz

Frequency	ITU – Region 1	UAE Allocations
7450 – 7550	FIXED FIXED-SATELLITE (Space-to-earth) METEOROLOGICAL – SATELLITE (Space – to – earth) MOBILE except aeronautical mobile 5.461A	FIXED FIXED-SATELLITE (Space-to-earth) METEOROLOGICAL – SATELLITE (Space – to – earth) MOBILE except aeronautical mobile
7550 – 7750	FIXED FIXED-SATELLITE (Space-to-earth) MOBILE except aeronautical mobile	FIXED FIXED-SATELLITE (Space-to-earth) MOBILE except aeronautical mobile
7750 – 7850	FIXED METEOROLOGICAL – SATELLITE (Space – to – earth) 5.416B MOBILE except aeronautical mobile	FIXED METEOROLOGICAL – SATELLITE (Space – to – earth) 5.416B MOBILE except aeronautical mobile
7850 – 7900	FIXED MOBILE except aeronautical	FIXED MOBILE except aeronautical
7900 – 8025	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.461	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE UAE28
8025 – 8175	EARTH EXPLORATION – SATELLITE (Space – to – earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	EARTH EXPLORATION – SATELLITE (Space – to – earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE UAE4
8175 – 8215	EARTH EXPLORATION – SATELLITE (Space – to – earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL – SATELLITE (Earth – to – space) MOBILE 5.463 5.462A	EARTH EXPLORATION – SATELLITE (Space – to – earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL – SATELLITE (Earth – to – space) MOBILE UAE4

8.215 – 9.8 GHz

Frequency	ITU – Region 1	UAE Allocations
8.215 – 8.40	EARTH EXPLORATION – SATELLITE (Space – to – earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	EARTH EXPLORATION – SATELLITE (Space – to – earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE UAE4
8.4 – 8.5	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (Space – to – earth) 5.465, 5.466	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (Space – to – earth) UAE17, UAE18, UAE19
8.5 – 8.55	RADIOLOCATION 5.468, 5.469	RADIOLOCATION FIXED MOBILE UAE18, UAE19
8.55 – 8.65	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.468, 5.469, 5.469A	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) FIXED MOBILE UAE17, UAE18, UAE19
8.65 – 8.75	RADIOLOCATION 5.468, 5.469	RADIOLOCATION FIXED MOBILE UAE18, UAE19
8.75 – 8.85	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470 5.471	RADIOLOCATION AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION UAE12, UAE15
8.85 – 9.0	RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473	RADIOLOCATION MARITIME RADIONAVIGATION
9.0– 9.2	AERONAUTICAL RADIONAVIGATION Radiolocation 5.471	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION UAE12, UAE15
9.2 – 9.3	RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473, 5.474	RADIOLOCATION MARITIME RADIONAVIGATION UAE2
9.3 – 9.5	RADIONAVIGATION 5.476 Radiolocation 5.427, 5.474, 5.475	RADIONAVIGATION UAE2, UAE16
9.5 – 9.8	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.476A	RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) UAE15

9.8 – 12.5 GHz

Frequency	ITU – Region 1	UAE Allocations
9.8 – 10.0	RADIOLOCATION Fixed 5.477, 5.478, 5.479	RADIOLOCATION FIXED UAE16, UAE18
10.0 – 10.45	FIXED MOBILE RADIOLOCATION Amateur 5.479	FIXED MOBILE RADIOLOCATION UAE16, UAE18
10.45 – 10.5	RADIOLOCATION Amateur Amateur – satellite 5.481	RADIOLOCATION Amateur Amateur – satellite
10.5 – 10.55	FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation
10.55 – 10.6	FIXED MOBILE except aeronautical mobile Radiolocation	FIXED MOBILE except aeronautical mobile Radiolocation UAE5
10.6 – 10.68	EARTH EXPLORATION – SATELLITE (Passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149, 5.482	EARTH EXPLORATION – SATELLITE (Passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation UAE5, UAE18, UAE19
10.68 – 10.7	EARTH EXPLORATION – SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.483	EARTH EXPLORATION – SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (passive) FIXED MOBILE except aeronautical mobile UAE4, UAE5, UAE18, UAE19
10.7 – 11.7	FIXED FIXED – SATELLITE (Space– to –earth) 5.441 5.484A (Earth– to – space) 5.484 MOBILE except aeronautical mobile	FIXED FIXED – SATELLITE (Space– to –earth) (Earth– to – space) MOBILE except aeronautical mobile UAE18, UAE19, UAE23, UAE24, UAE26
11.7 – 12.5	FIXED BROADCASTING BROADCASTING – SATELLITE Mobile except aeronautical mobile 5.487, 5.487A, 5.492	FIXED BROADCASTING BROADCASTING – SATELLITE Mobile except aeronautical mobile UAE18, UAE19, UAE24

12.5 – 14.3 GHz

Frequency	ITU – Region 1	UAE Allocations
12.5 – 12.75	FIXED - SATELLITE (Space– to– earth) 5.484A (Earth – to – space) 5.494, 5.495, 5.496	FIXED - SATELLITE (Space-to-earth) (Earth-to-space) FIXED MOBILE except aeronautical mobile UAE18, UAE19, UAE24, UAE26
12.75 – 13.25	FIXED FIXED-SATELLITE (Earth-to-space) 5.441 MOBILE Space research (Deep space) (Space-to-earth)	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Space research (Deep space) (Space-to-earth) UAE18, UAE19, UAE24, UAE26
13.25 – 13.4	EARTH EXPLORATION – SATELLITE (active) AERONAUTICAL RADIONAVIGATION 5.497 SPACE RESEARCH (active) 5.498A, 5.499	EARTH EXPLORATION – SATELLITE (active) AERONAUTICAL RADIONAVIGATION SPACE RESEARCH (active) UAE12, UAE24
13.4 – 13.75	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A Standard frequency and time signal – satellite (Earth – to – space) 5.499, 5.500, 5.501, 5.501B	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION SPACE RESEARCH FIXED MOBILE Standard frequency and time signal – satellite (Earth – to – space) UAE17, UAE18, UAE19
13.75 – 14	FIXED – SATELLITE (Earth – to – space) 5.484A RADIOLOCATION Standard frequency and time signal – satellite (Earth – to – space) Space research 5.499, 5.500, 5.501, 5.502, 5.503	FIXED – SATELLITE (Earth – to – space) RADIOLOCATION FIXED MOBILE Standard frequency and time signal – satellite (Earth – to – space) Space research UAE18, UAE19, UAE26
14 – 14.25	FIXED – SATELLITE (Earth – to – space) 5.457A, 5.457B 5.484A, 5.506, 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.504C, 5.506A Space research 5.504A, 5.505	FIXED FIXED – SATELLITE (Earth – to – space) RADIONAVIGATION Mobile-satellite (Earth-to-space) Space research UAE18, UAE26, UAE29
14.25 – 14.3	FIXED – SATELLITE (Earth – to – space) 5.457A, 5.457B, 5.484A, 5.506, 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.506A, 5.508A Space research 5.504A, 5.505, 5.508, 5.509	FIXED FIXED – SATELLITE (Earth – to – space) RADIONAVIGATION Mobile-satellite (Earth-to-space) Space research UAE18, UAE26, UAE29

14.3 – 15.4 GHz

Frequency	ITU – Region 1	UAE Allocations
14.3 – 14.4	FIXED FIXED – SATELLITE (Earth – to – space) 5.457A, 5.457B 5.484A, 5.506, 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.506A, 5.509A Radio navigation – satellite 5.504A	FIXED FIXED – SATELLITE (Earth – to – space) MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) Radio navigation – satellite UAE18, UAE26, UAE29
14.4 – 14.47	FIXED FIXED – SATELLITE (Earth – to – space) 5.457A, 5.457B, 5.484A, 5.506, 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.506A, 5.509A Space research (space – to – earth) 5.504A	FIXED FIXED – SATELLITE (Earth – to – space) MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) Space research (space – to – earth) UAE5, UAE26, UAE29
14.47 – 14.5	FIXED FIXED – SATELLITE (Earth – to – space) 5.457A, 5.457B, 5.484A, 5.506, 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.504B, 5.506A, 5.509A Radio astronomy 5.149, 5.504A	FIXED FIXED – SATELLITE (Earth – to – space) MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) Radio astronomy UAE5, UAE26, UAE29
14.5 – 14.8	FIXED FIXED – SATELLITE (Earth – to – space) 5.510 MOBILE Space research	FIXED FIXED – SATELLITE (Earth – to – space) MOBILE Space research UAE5, UAE26
14.8 – 15.35	FIXED MOBILE Space research 5.339	FIXED MOBILE Space research
15.35 – 15.4	EARTH EXPLORATION – SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.511	EARTH EXPLORATION – SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4

15.4 – 18.4 GHz

Frequency	ITU – Region 1	UAE Allocations
15.4 – 15.43	AERONAUTICAL RADIONAVIGATION 5.511D	AERONAUTICAL RADIONAVIGATION
15.43 – 15.63	FIXED SATELLITE (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C	FIXED SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION UAE26
15.63 – 15.7	AERONAUTICAL RADIONAVIGATION 5.511D	AERONAUTICAL RADIONAVIGATION
15.7 – 16.6	RADIOLOCATION 5.512, 5.513	FIXED RADIOLOCATION MOBILE UAE18, UAE19
16.6 – 17.1	RADIOLOCATION Space research (Deep space) (Earth-to-space) 5.512, 5.513	FIXED RADIOLOCATION MOBILE Space research (Deep space) (Earth-to-space) UAE18, UAE19
17.1 – 17.2	RADIOLOCATION 5.512, 5.513	FIXED RADIOLOCATION MOBILE UAE18, UAE19
17.2 – 17.3	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.512, 5.513, 5.513A	FIXED MOBILE EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) UAE18, UAE19
17.3 – 17.7	FIXED – SATELLITE (Earth –to – space) 5.516 (Space –to – earth) 5.516A 5.516B Radiolocation 5.514	FIXED FIXED – SATELLITE (Earth-to-space) (Space-to-earth) Radiolocation UAE18, UAE26
17.7 – 18.1	FIXED FIXED – SATELLITE (Space – to – earth) 5.484A (Earth – to – space) 5.516B MOBILE	FIXED FIXED – SATELLITE (Space – to – earth) (Earth – to – space) MOBILE UAE18, UAE19, UAE26
18.1 – 18.4	FIXED FIXED – SATELLITE (Space – to – earth) 5.484A 5.516B (Earth – to – space) 5.520 MOBILE 5.519 5.521	FIXED FIXED – SATELLITE (Space – to – earth) (Earth – to – space) MOBILE UAE16, UAE18, UAE19, UAE26

18.4 – 22 GHz

Frequency	ITU – Region 1	UAE Allocations
18.4 – 18.6	FIXED FIXED – SATELLITE (Space – to - earth) 5.484A 5.516B MOBILE	FIXED FIXED-SATELLITE (Space-to-earth) MOBILE, UAE18, UAE26
18.6 – 18.8	EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED – SATELLITE (Space – to – earth) 5.522B MOBILE except aeronautical mobile Space research (passive) 5.522A, 5.522C	EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (Space-to-earth) MOBILE except aeronautical mobile Space research (passive) UAE26
18.8 – 19.3	FIXED FIXED – SATELLITE (Space – to – earth) 5.516B, 5.523A MOBILE	FIXED FIXED-SATELLITE (Space-to-earth) MOBILE UAE26
19.3 – 19.7	FIXED FIXED – SATELLITE (Space – to – earth) (Earth-to-space) 5.523B, 5.523C, 5.523D 5.523E MOBILE	FIXED FIXED-SATELLITE (Space-to-earth) (Earth-to-space) MOBILE UAE18, UAE19, UAE26
19.7 – 20.1	FIXED – SATELLITE (Space – to – earth) 5.484A, 5.516B Mobile –satellite (Space – to – earth) 5.524	FIXED MOBILE FIXED-SATELLITE (Space-to-earth) Mobile –satellite (Space – to – earth) UAE18, UAE19, UAE26
20.1 – 20.2	FIXED – SATELLITE (Space – to – earth) 5.484A, 5.516B MOBILE – SATELLITE (Space-to-earth) 5.524, 5.525, 5.526, 5.527, 5.528	FIXED MOBILE FIXED-SATELLITE (Space-to-earth) MOBILE – SATELLITE (Space-to-earth) UAE18, UAE19, UAE26, UAE28
20.2 – 21.2	FIXED-SATELLITE (Space-to-earth) MOBILE – satellite (Space – to – earth) Standard frequency and Time Signal-satellite (Space – to – earth) 5.524	FIXED MOBILE FIXED-SATELLITE (Space-to-earth) MOBILE – SATELLITE (Space-to-earth) Standard frequency and Time Signal-satellite (Space – to – earth) UAE18, UAE19, UAE26
21.2 – 21.4	EARTH EXPLORATION – SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	EARTH EXPLORATION – SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) UAE19
21.4 – 22	FIXED MOBILE BROADCASTING – SATELLITE 5.347A 5.530	FIXED MOBILE BROADCASTING – SATELLITE UAE25

22 – 25.5 GHz

Frequency	ITU – Region 1	UAE Allocations
22 – 22.21	FIXED MOBILE except aeronautical mobile 5.149	FIXED MOBILE except aeronautical mobile UAE5
22.21 – 22.5	EARTH EXPLORATION – SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149, 5.532	EARTH EXPLORATION – SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) UAE5, UAE17
22.5 – 22.55	FIXED MOBILE	FIXED MOBILE UAE5
22.55 – 23.55	FIXED INTER – SATELLITE MOBILE 5.149	FIXED INTER – SATELLITE MOBILE UAE5
23.55 – 23.6	FIXED MOBILE	FIXED MOBILE
23.6 – 24	EARTH EXPLORATION – SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION – SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 UAE4, UAE8
24 – 24.05	AMATEUR AMATEUR – SATELLITE 5.150	AMATEUR AMATEUR – SATELLITE UAE8
24.05 – 24.25	RADIOLOCATION Amateur Earth exploration – satellite (active) 5.150	RADIOLOCATION Amateur Earth exploration – satellite (active) UAE8
24.25 – 24.45	FIXED	FIXED UAE8
24.45 – 24.75	FIXED INTER – SATELLITE	FIXED INTER – SATELLITE UAE23
24.75 – 25.25	FIXED	FIXED UAE23
25.25 – 25.5	FIXED INTER – SATELLITE 5.536 MOBILE Standard frequency and time signal – satellite (Earth –to- space)	FIXED INTER – SATELLITE MOBILE Standard frequency and time signal – satellite (Earth –to- space) UAE23

25.5 – 31 GHz

Frequency	ITU – Region 1	UAE Allocations
25.5 – 27	EARTH EXPLORATION – SATELLITE (Space -to- earth) 5.536A, 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (space-to-earth) 5.536A, 5.536C Standard frequency and time signal-satellite (Earth-to-space)	EARTH EXPLORATION – SATELLITE (Space -to- earth) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (space-to-earth) Standard frequency and time signal-satellite (Earth-to-space) UAE17, UAE23
27 – 27.5	FIXED INTER-SATELLITE 5.536 MOBILE	FIXED INTER-SATELLITE MOBILE
27.5 – 28.5	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A, 5.516B, 5.539 MOBILE 5.538, 5.540	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE UAE26
28.5 – 29.1	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A, 5.516B, 5.523A 5.539 MOBILE Earth exploration-satellite (Earth-to-space) 5.541 5.540	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Earth exploration-satellite (Earth-to-space) UAE17, UAE26
29.1 – 29.5	FIXED FIXED-SATELLITE (Earth-to-space) 5.516B, 5.523C, 5.523E, 5.535A, 5.539, 5.541A MOBILE Earth exploration-satellite (Earth-to-space) 5.541 5.540	FIXED FIXED-SATELLITE (Earth-to-space0 MOBILE Earth exploration-satellite (Earth-to-space) UAE17, UAE26
29.5 – 29.9	FIXED-SATELLITE (Earth-to-space) 5.484A, 5.516B, 5.539 Earth exploration-satellite (Earth-to-space) 5.541 Mobile-satellite (Earth-to-space) 5.540, 5.542	FIXED-SATELLITE (Earth-to-space) Earth exploration-satellite (Earth-to-space) Mobile-satellite (Earth-to-space) UAE17, UAE26, UAE28
29.9 – 30	FIXED-SATELLITE (Earth-to-space) 5.484A, 5.516B, 5.539 MOBILE-SATELLITE (Earth-to-space) Earth exploration-satellite (Earth-to-space) 5.541 5.543 5.525, 5.526, 5.527, 5.538, 5.540, 5.542	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Earth exploration-satellite (Earth-to-space) UAE17, UAE26, UAE27, UAE28
30 – 31	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal-satellite (space-to-earth) 5.542	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal-satellite (space-to-earth) UAE26, UAE28

31 – 35.2GHz

Frequency	ITU – Region 1	UAE Allocations
31 – 31.3	FIXED 5.543A MOBILE Standard frequency and time signal-satellite (space-to-earth) Space research 5.544, 5.545 5.149	FIXED MOBILE Standard frequency and time signal-satellite (space-to-earth) Space research UAE17
31.3 – 31.5	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5
31.5 – 31.8	EARTH EXPLORATION – SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149, 5.546	FIXED EARTH EXPLORATION – SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) MOBILE except aeronautical mobile UAE5, UAE18, UAE19
31.8 – 32	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547, 5.547B, 5.548	FIXED RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) UAE5, UAE13, UAE18
32 – 32.3	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547, 5.547C, 5.548	FIXED RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) UAE13, UAE18
32.3 – 33	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547, 5.547D, 5.548	FIXED INTER-SATELLITE RADIONAVIGATION UAE13, UAE18
33 – 33.4	FIXED 5.547A RADIONAVIGATION 5.547 5.547E	FIXED RADIONAVIGATION UAE13, UAE18
33.4 – 34.2	RADIOLOCATION 5.549	FIXED MOBILE RADIOLOCATION UAE18, UAE19
34.2 – 34.7	RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) 5.549	FIXED MOBILE RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) UAE18, UAE19
34.7 – 35.2	RADIOLOCATION Space research 5.550 5.549	FIXED MOBILE RADIOLOCATION Space research UAE18, UAE19

35.2 – 40.5 GHz

Frequency	ITU – Region 1	UAE Allocations
35.2 – 35.5	METEOROLOGICAL IDS RADIOLOCATION 5.549	FIXED MOBILE METEOROLOGICAL AIDS RADIOLOCATION UAE18, UAE19
35.5 – 36	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.549, 5.549A	FIXED MOBILE METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) UAE17, UAE18, UAE19
36 – 37	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.149	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) UAE5, UAE18, UAE19
37 – 37.5	FIXED MOBILE SPACE RESEARCH (space-to-Earth) 5.547	FIXED MOBILE SPACE RESEARCH (space-to-Earth) UAE18
37.5 – 38	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) UAE18
38 – 39.5	FIXED FIXED-SATELLITE (space-to-earth) MOBILE Earth exploration-satellite (space-to-Earth) 5.547	FIXED FIXED-SATELLITE (space-to-earth) MOBILE Earth exploration-satellite (space-to-Earth) UAE18, UAE26
39.5 – 40	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) UAE18, UAE26
40 – 40.5	EARTH EXPLORATION –SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-Space) Earth exploration-satellite (Earth-to-Space)	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-Space) Earth exploration-satellite (Earth-to-Space) UAE18, UAE26

40.5 – 48.54 GHz

Frequency	ITU – Region 1	UAE Allocations
40.5 – 41	FIXED FIXED-SATELLITE (space-to-earth) BROADCASTING BROADCASTING - SATELLITE Mobile 5.547	FIXED FIXED-SATELLITE (space-to-earth) BROADCASTING BROADCASTING - SATELLITE Mobile UAE18, UAE26
41 – 42.5	FIXED FIXED-SATELLITE (Earth-to-space) 5.516B BROADCASTING BROADCASTING - SATELLITE Mobile 5.547, 5.551F, 5.551H, 5.551I	FIXED FIXED-SATELLITE (Earth-to-space) BROADCASTING BROADCASTING - SATELLITE Mobile UAE5, UAE18, UAE23, UAE26
42.5 – 43.5	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149, 5.547	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile RADIO ASTRONOMY UAE5, UAE18, UAE19, UAE23, UAE26
43.5 – 47	MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE UAE5 , UAE18, UAE19
47 – 47.2	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE
47.2 – 47.5	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE UAE26
47.5 – 47.9	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-earth) 5.516B 5.554A, 5.555B MOBILE	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-earth) MOBILE UAE26
47.9 – 48.2	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE UAE26
48.2 – 48.54	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-earth) 5.516B 5.554A, 5.555B MOBILE	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-earth) MOBILE UAE26

48.54 – 57 GHz

Frequency	ITU – Region 1	UAE Allocations
48.54 – 49.44	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-earth) 5.516B MOBILE 5.149, 5.340, 5.555	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-earth) MOBILE UAE4, UAE5, UAE7, UAE26
49.44– 50.2	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-earth) 5.516B MOBILE	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-earth) MOBILE UAE26
50.2 – 50.4	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH 5.340	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH UAE4
50.4 – 51.4	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Mobile-satellite (Earth-to-space)	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Mobile-satellite (Earth-to-space) UAE7, UAE18
51.4 – 52.6	FIXED MOBILE 5.547, 5.556	FIXED MOBILE UAE7
52.6 – 54.25	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340, 5.556	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) UAE4, UAE7, UAE18
54.25 – 55.78	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.556A SPACE RESEARCH (passive) 5.556B	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE SPACE RESEARCH (passive) UAE7, UAE27
55.78 – 56.9	EARTH EXPLORATION-SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547, 5.557	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (passive) UAE17, UAE18, UAE27
56.9 – 57	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.558A MOBILE SPACE RESEARCH (passive) 5.547, 5.557	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (passive) UAE18, UAE27

57 – 74 GHz

Frequency	ITU – Region 1	UAE Allocations
57 – 58.2	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547, 5.557	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (passive) UAE7, UAE18, UAE27
58.2 – 59	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547, 5.556	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) UAE7, UAE18
59 – 59.3	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE RADIOLOCATION SPACE RESEARCH (passive) UAE7, UAE15, UAE18, UAE27
59.3 – 64	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	FIXED INTER-SATELLITE MOBILE RADIOLOCATION UAE8, UAE15, UAE18, UAE27
64 – 65	FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.547, 5.556	FIXED INTER-SATELLITE MOBILE except aeronautical mobile UAE18
65 – 66	EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 5.547	EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH UAE18, UAE19
66 – 71	INTER-SATELLITE MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	INTER-SATELLITE MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE UAE19
71 – 74	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space)	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) UAE19

74 – 92 GHz

Frequency	ITU – Region 1	UAE Allocations
74 – 76	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE BROADCASTING BROADCASTING-SATELLITE Space research (space-to-Earth) 5.559A, 5.561	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE BROADCASTING BROADCASTING-SATELLITE Space research (space-to-Earth) UAE5, UAE9
76 – 77.5	RADIOASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	RADIOASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) UAE5, UAE9
77.5 – 78	AMATEUR AMATEUR-SATELLITE Radio Astronomy Space research (space-to-Earth) 5.149	AMATEUR AMATEUR-SATELLITE Radio Astronomy Space research (space-to-Earth) UAE5, UAE9
78 – 79	RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 5.149, 5.560	RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) UAE5, UAE9, UAE15
79 – 81	RADIOASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	RADIOASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) UAE5, UAE9
81 – 84	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) RADIOASTRONOMY Space research (space-to-Earth) 5.149, 5.561A	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) RADIOASTRONOMY Space research (space-to-Earth) UAE5, UAE9
84 – 86	FIXED FIXED-SATELLITE (Earth-to-space) 5.561B MOBILE RADIO ASTRONOMY 5.149	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY UAE5
86 – 92	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5

92 – 111.8 GHz

Frequency	ITU – Region 1	UAE Allocations
92 – 94	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION UAE5
94 – 94.1	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.562, 5.562A	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy UAE5, UAE17
94.1 – 95	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION UAE5
95 – 100	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149, 5.554	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE UAE5
100- 102	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5
102 – 105	FIXED MOBILE RADIO ASTRONOMY 5.149, 5.341	FIXED MOBILE RADIO ASTRONOMY UAE5, UAE7
105 – 109.5	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149, 5.341	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) UAE5, UAE7
109.5 – 111.8	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5, UAE7

111.8 – 141 GHz

Frequency	ITU – Region 1	UAE Allocations
111.8 – 114.25	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.340, 5.341	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) UAE5, UAE7
114.25– 116	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE5, UAE7
116 – 119.98	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.341	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE SPACE RESEARCH (passive) UAE27
119.98 – 122.25	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138, 5.341	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE SPACE RESEARCH (passive) UAE8, UAE27
122.25– 123	FIXED INTER-SATELLITE MOBILE 5.558 Amateur 5.138	FIXED INTER-SATELLITE MOBILE Amateur UAE8, UAE27
123– 130	FIXED-SATELLITE (space-to-earth) MOBILE-SATELLITE (space-to-earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.562D 5.149, 5.554	FIXED-SATELLITE (space-to-earth) MOBILE-SATELLITE (space-to-earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy UAE5 UAE8
130 – 134	EARTH EXPLORATION-SATELLITE (active) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149, 5.562A	EARTH EXPLORATION-SATELLITE (active) FIXED INTER-SATELLITE MOBILE RADIO ASTRONOMY UAE5,UAE17
134 – 136	AMATEUR AMATEUR-SATELLITE Radio astronomy	AMATEUR AMATEUR-SATELLITE Radio astronomy UAE5
136 – 141	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite UAE5

141 – 182 GHz

Frequency	ITU – Region 1	UAE Allocations
141 – 148.5	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION UAE5
148.5 – 151.5	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5
151.5 – 155.5	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION UAE5, UAE7
155.5 – 158.5	EARTH EXPLORATION-SATELLITE (passive) 5.562F FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.262B 5.149, 5.562G	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) UAE5, UAE7, UAE17
158.5 – 164	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) UAE5, UAE7
164 – 167	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4
167 – 174.5	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149, 5.562D	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE UAE5
174.5 – 174.8	FIXED INTER-SATELLITE MOBILE	FIXED INTER-SATELLITE MOBILE UAE27
174.8 – 182	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE SPACE RESEARCH (passive) UAE27

182 – 231.5 GHz

Frequency	ITU – Region 1	UAE Allocations
182 – 185	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4
185 – 190	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE SPACE RESEARCH (passive) UAE27
190 – 191.8	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) UAE4
191.8 – 200	FIXED INTER-SATELLITE MOBILE 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149, 5.341, 5.554	FIXED INTER-SATELLITE MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE UAE5
200 – 209	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341, 5.563A	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5, UAE16
209 – 217	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149, 5.341	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY UAE5, UAE7
217 – 226	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149, 5.341	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) UAE5, UAE7
226 – 231.5	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5, UAE7

231.5 – 1000 GHz

Frequency	ITU – Region 1	UAE Allocations
231.5 – 232	FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation
232 – 235	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation
235 – 238	EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 5.563A, 5.563B	EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) UAE16, UAE17
238 – 240	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE
240 – 241	FIXED MOBILE RADIOLOCATION	FIXED MOBILE RADIOLOCATION UAE5
241 – 248	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite 5.138, 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-Satellite UAE5, UAE8
248 – 250	AMATEUR AMATEUR – SATELLITE Radio Astronomy 5.149	AMATEUR AMATEUR – SATELLITE Radio Astronomy UAE5
250 – 252	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.563A	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) UAE4, UAE5, UAE16
252 – 265	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149, 5.554	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE UAE5
265 – 275	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149, 5.563A	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY UAE5, UAE16
275 – 1000	Not allocated 5.565	Not allocated 5.565 UAE5, UAE7, UAE17

UAE FOOTNOTES

UAE 1 Assignment and allocation of frequencies can be made below **9 kHz** with adequate protection to services allocated frequencies above **9 kH**z in accordance with this Plan. . (Refer RR 5.53 and 5.54)

UAE 2 **Distress and emergency frequencies**:

490 kHz, 518 kHz, 4209.5 kHz for NAVTEX in GMDSS (Refer RR 5.79A)

490 kHz and 4209.5 kHz are 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. (Refer RR 5.82 and 5.131)

500 kHz is an international distress and calling frequency for Morse radiotelegraphy. (Refer RR 5.83)

518 kHz is the supplementary frequency for **500 kHz** by the maritime mobile service are prescribed in Articles 31 and 52 and in Appendix 13. (Refer RR 5.84)

2182 kHz is an international distress and calling frequency for radiotelephony. (Refer RR 5.108)

2187.5 kHz, 4207.5 kHz, 6312 kHz, 8414.5 kHz, 12577 kHz, 16804.5 kHz and 156.525 MHz are international distress frequencies for digital selective calling (Refer RR 5.109 and 5.227)

2174.5 kHz, 4177.5 kHz, 6268 kHz, 8376.5 kHz, 12520 kHz and 16695 kHz are international distress frequencies for narrow-band direct-printing telegraphy (Refer RR 5.110)

2182 kHz, 3023 kHz, 5680 kHz, 8364 kHz, 10003 kHz, 14993 kHz and 19993 kHz and the frequencies 121.5 MHz, 156.8 MHz and 243 MHz may also be used, for search and rescue operations concerning manned space vehicles (Refer RR 5.111)

3023 kHz, 4125 kHz, 5680 kHz, 6215 kHz, 8291 kHz, 12290 kHz and 16420 kHz frequencies may also be used, by stations of the maritime mobile service engaged in coordinated search and rescue operations (Refer RR 5.115, 5.130 and 5.145)

4210 kHz, 6314 kHz, 8416.5 kHz, 12579 kHz, 16806.5 kHz, 19680.5 kHz, 22376 kHz and 26100.5 kHz are the international frequencies for the transmission of maritime safety information (MSI) (Refer RR 5.132)

121.5 MHz is the aeronautical emergency frequency and **123.1 MHz** is the auxiliary to **121.5 MHz**. Mobile stations of the maritime mobile service may communicate on these frequencies for distress and safety purposes with stations of the aeronautical mobile service. (Refer RR 5.200)

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

156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service (Refer RR 5.226)

243 MHz is the frequency for use by survival craft stations and equipment used for survival purposes (Refer RR 5.256)

406-406.1 MHz by the mobile-satellite service is limited to low power satellite emergency position-indicating radiobeacons (EPIRB) (Refer RR 5.266 and 5.267)

1530-1544 MHz and 1626.5-1645.5 MHz bands shall have priority to accommodate the spectrum requirements for Maritime mobile-satellite distress, urgency and safety communications of the Global Maritime Distress and Safety System (GMDSS). (Refer RR 5.353A)

1544-1545 MHz by the mobile-satellite service (space-to-Earth) is limited to distress and safety communications (Refer RR 5.356).

1645.5-1646.5 MHz by the mobile-satellite service (Earth-to-space) and for inter-satellite links is limited to distress and safety communications (Refer RR 5.375)

9200-9500 MHz, search and rescue transponders (SART) may be used (Refer RR 5.474)

UAE 3 Aircraft Flight safety

The bands **21870-21924 kHz and 23200-23350 kHz** are used by the fixed service for provision of services related to aircraft flight safety. (Refer RR 5.155B and 5.156A)

The frequency **75 MHz** is assigned to marker beacons and needs protection in the frequency range of **74.8 MHz** and 75.2 MHz. (Refer RR 5.180)

The use of the band **328.6-335.4** MHz by the aeronautical radionavigation service is limited to Instrument Landing Systems (glide path) (Refer RR 5.258)

5030-5150 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, RR 5.444A and Resolution 114 (Rev.WRC-03) apply. (WRC-03) (Refer RR 5.444)

UAE 4 Prohibited ranges for transmitting

To protect the passive services, all emissions are prohibited in the following bands:

1400-1427 MHz,
2690-2700 MHz, except those provided for by No. 5.422,
10.68-10.7 GHz, except those provided for by No. 5.483,
15.35-15.4 GHz, except those provided for by No. 5.511,
23.6-24 GHz,
31.3-31.5 GHz,
48.94-49.04 GHz, from airborne stations
50.2-50.4 GHz,
52.6-54.25 GHz,
86-92 GHz,
100-102 GHz,
109.5-111.8 GHz,
114.25-116 GHz,
148.5-151.5 GHz,
164-167 GHz,
182-185 GHz,
190-191.8 GHz,
200-209 GHz,
226-231.5 GHz,
250-252 GHz. (WRC-03) (Refer RR 5.340)

Aircraft transmissions are prohibited in the following bands:

1664.4-1668.4 MHz for air to ground transmissions (Refer RR 5.379A)

8025-8400 MHz (Refer RR 5.463)

UAE 5 Restrictive use

To protect Radio Astronomy, due attention shall be made while assigning frequencies in the following bands

13360-13410 kHz, 25550-25670 kHz,

37.5-38.25 MHz, 73-74.6 MHz 150.05-153 MHz, 322-328.6 MHz, 406.1-410 MHz, 608-614 MHz, 1330-1400 MHz, 1610.6-1613.8 MHz, 1660-1670 MHz, 1718.8-1722.2 MHz, 2655-2690 MHz, 3260-3267 MHz, 3332-3339 MHz, 3345.8-3352.5 MHz, 4825-4835 MHz, 4950-4990 MHz, 4990-5000 MHz, 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, 36.43-36.5 GHz, 42.5-43.5 GHz, 42.77-42.87 GHz, 43.07-43.17 GHz, 43.37-43.47 GHz, 48.94-49.04 GHz, 76-86 GHz, 92-94 GHz, 94.1-100 GHz, 102-109.5 GHz, 111.8-114.25 GHz, 128.33-128.59 GHz, 129.23-129.49 GHz, 130-134 GHz, 136-148.5 GHz, 151.5-158.5 GHz, 168.59-168.93 GHz, 171.11-171.45 GHz, 172.31-172.65 GHz, 173.52-173.85 GHz, 195.75-196.15 GHz, 209-226 GHz, 241-250 GHz, 252-275 GHz (Refer RR 5.149, 5.458A)

The following frequency bands are used for passive measurements which need protection. Due attention shall be made while assigning frequencies in these bands.

6425-7025 MHz and 7075-7250 MHz bands are used for passive microwave sensor measurements by Earth exploration-satellite (passive) and space research (passive) services. (Refer RR 5.458)

6650-6675.2 MHz band is used by Radio Astronomy for spectral line observations and needs protection from Space Stations of Fixed Satellite Service in **6700-7075 MHz** (Refer RR 5.458A)

UAE 6 Exclusive use

960-1215 MHz by the aeronautical radionavigation service is reserved on a worldwide basis for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities. (WRC-2000) (Refer RR 5.328)

1610-1626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under No. 9.21. (Refer RR 5.366)

UAE 7 Radio Astronomy

48.94-49.04 GHz is also allocated to the radio astronomy service on a primary basis. (Refer RR 5.555)

51.4-54.25 GHz, 58.2-59 GHz and 64-65 GHz, radio astronomy observations may be carried out under national arrangements. (Refer RR 5.556)

105-109.5 GHz, 111.8-114.25 GHz, 155.5-158.5 GHz and 217-226 GHz, the use of this allocation is limited to space-based radio astronomy only (Refer RR 5.562B)

275-1000 GHz band portions, as given in RR 5.565, are identified for various active and passive services which need protection.

UAE 8 Industrial, Scientific and Medical (ISM) use

The following bands are allocated for ISM applications on priority. The technical conditions as given in the TRA Policy on ISM shall apply.

6765-6795 kHz	(centre frequency **6 780 kHz**), (Refer RR 5.138)
13 553-13 567 kHz	(centre frequency **13 560 kHz**), (Refer RR 5.150 and RR 15.13)
26957-27283 kHz	(centre frequency **27 120 kHz**), (Refer RR 5.150 and RR 15.13)
40.66-40.70 MHz	(centre frequency **40.68 MHz**), (Refer RR 5.150 and RR 15.13)
433.05-434.79 MHz	(centre frequency **433.92 MHz**), (Refer RR 5.138)
2400-2500 MHz	(centre frequency **2 450 MHz**), (Refer RR 5.150 and RR 15.13)
5725-5875 MHz	(centre frequency **5 800 MHz**), (Refer RR 5.150 and RR 15.13)
24-24.25 GHz	(centre frequency **24.125 GHz**), (Refer RR 5.150 and RR 15.13)
61-61.5 GHz	(centre frequency **61.25 GHz**), (Refer RR 5.138)
122-123 GHz	(centre frequency **122.5 GHz**), (Refer RR 5.138)
244-246 GHz	(centre frequency **245 GHz**) (Refer RR 5.138)

3000 kHz to 4000 kHz shall be used for **low power wireless hearing aids** on priority with exclusive use of the frequency band **3155-3195 kHz** (Refer RR 5.116)
402-405 MHz for low power active medical implants

UAE 9 Short range and low power devices use

The following frequency bands can be assigned by the TRA for Short range and low power devices based on the TRA policy for the same:
9-135 kHz for inductive applications with power constraints
6765-6795 kHz for inductive applications with power constraints
7400-8800 kHz for inductive applications with power constraints
13.553-13.567 MHz for inductive applications and RFID with power constraints
26.957-27.283 MHz for inductive applications with power constraints
26.995, 27.045, 27.095, 27.145, 27.195, 40.665, 40.675, 40.685, 40.695 (all MHz) with less than 100 mW effective radiated power for Model control
433.05-434.79 MHz, non-specific with power constraints
863-865 MHz for wireless audio with power constraints
868-875.4 MHz, non-specific with power constraints (RFID up to 4 Watts)
2400-2483.5 MHz, non-specific with power constraints
5725-5875 MHz, non-specific with power constraints
76-77 GHz for vehicular long range radar systems with limits on mean power density
77-81 GHz for automotive short range radars with limits on mean power density

UAE 10 Maritime

14-19.95 kHz, 20.05-70 kHz, 72-84 kHz, 86-90 kHz and 90-160 kHz by the maritime mobile service is limited to coast radiotelegraph stations (A1A and F1B only) and exceptionally J2B or J7B. (Refer RR 5.57 and 5.64)

283.5-325 kHz use by narrow-band techniques shall not cause harmful interference to radiobeacon stations. (WRC-97) (Refer RR 5.73)

410 kHz (406.5-413.5 kHz band) for radio direction-finding has priority among other uses of radionavigation services in the same band. (Refer RR 5.76)

1605-1705 kHz, the service area of the maritime mobile stations in Region 1 shall be limited to protect broadcasting station of Region 2 by ground-wave propagation. (Refer RR 5.90)

4000-4063 kHz band is limited to ship stations using radiotelephony (Refer RR 5.127, RR 52.220 and Appendix 17 of RR)

4000-27500 kHz band for use by Coast radiotelegraph stations and ship stations shall be in accordance with provisions of Article 52 of RR.

23350-24000 kHz band is limited to inter-ship radiotelegraphy. (Refer RR 5.157)

457.525 MHz, 457.550 MHz, 457.575 MHz, 467.525 MHz, 467.550 MHz and 467.575 MHz may be assigned for use by on-board communication stations of the ships in territorial waters of UAE subject to the TRA policy for Maritime. The characteristics of the equipment used shall conform to those specified in ITU-R Recommendation M.1174 (see Resolution 341 (WRC-97). (Refer RR 5.287)

2930 -2950 MHz may be assigned for use by ship borne interrogator-transponder (SIT) system (Refer RR 5.425)

UAE 11 Aeronautical

108-117.975 MHz by the aeronautical mobile (R) service is limited to navigational information in support of air navigation and surveillance functions in accordance with Resolution 413 (WRC-03) and recognized international aviation standards. Such use shall not cause harmful interference to nor claim protection from stations operating in the aeronautical radionavigation service (Refer RR 5.197A)

136-137 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis, but needs account of the frequencies assigned to stations in the aeronautical mobile (R) service. (WRC-2000) (Refer RR 5.202)

1545-1555 MHz and 1646.5-1656.5 MHz bands may be used for assignments to allow communications between terrestrial aeronautical stations and aircraft stations, or between aircraft stations, when such transmissions are used to extend or supplement the satellite-to-aircraft links. (Refer RR 5.357 and 5.376)

1670-1675 MHz (from aeronautical stations) and **1800-1805 MHz** (from aircraft stations) bands may be used for assignments to allow aeronautical public correspondence. (Refer RR 5.380)

UAE 12 Aeronautical Radionavigation

223-235 MHz band also allocated to the aeronautical radionavigation service on a primary basis (Refer RR 5.247)

1300-1350 MHz band assignments for aeronautical-radionavigation service shall have priority over earth stations in the radionavigation-satellite service and stations in the radiolocation service. **1300-1350 MHz** band assignments for 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. (Refer RR 5.337, 5.337A) (WRC-2000)

2700-2900 MHz and 9000-9200 MHz band assignments for 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. (Refer RR 5.337)

4200-4400 MHz by the aeronautical radionavigation service is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground (Refer RR 5.438)

5350-5470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons and shall have priority over stations in the radiolocation service in the same band. (Refer RR 5.448D and 5.449)

8750-8850 MHz and 13.25-13.4 GHz by the aeronautical radionavigation service is limited to airborne Doppler navigation aids. **13.25-13.4 GHz** band assignments for

aeronautical-radionavigation service shall have priority over Earth exploration-satellite (active) and space research (active) services (Refer RR 5.470, 5.497 and 5.498A)

Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340. The minimum coordination distance required to protect the aeronautical radionavigation stations (No. 4.10 applies) from harmful interference from feeder-link earth stations and the maximum e.i.r.p. transmitted towards the local horizontal plane by a feeder-link earth station shall be in accordance with Recommendation ITU-R S.1340. (WRC-97) (Refer RR 5.511C)

UAE 13 Radionavigation

1215-1300 MHz band is also allocated to the radionavigation service on a primary basis and shall have priority over active spaceborne sensors in the Earth exploration-satellite and space research services (Refer RR 5.331, 5.332 and 5.335A)

Airport surface detection equipment stations of the radionavigation service shall have priority over inter-satellite service (Refer RR 5.533)

32-33 GHz band assignments for radionavigation service shall have priority over inter-satellite service and space research service (deep space) bearing in mind the safety aspects of the radionavigation service (Refer RR 5.548 and Recommendation 707).

31.8-33.4 GHz band assignments need interference analysis between airborne radar systems in radionavigation and fixed service. (WRC-2000) (Refer RR 5.547A)

UAE 14 Radionavigation-satellite

5010-5030 MHz band assignments for radionavigation-satellite service system (space-to-Earth) shall not cause harmful interference to microwave landing system operating above 5030 MHz by limiting the aggregate power flux-density produced at the Earth's surface less than –124.5 dB(W/m^2) in a **150 kHz** band and comply with limits defined in Resolution 741 to protect Radio Astronomy in the band **4990-5000 MHz** (WRC-03). (Refer RR 5.443B)

UAE 15 Radiodetermination, Radiolocation, Radars

Radiodetermination systems in the bands **1606.5-1625 kHz, 1635-1800 kHz, 1850-2160 kHz, 2194-2300 kHz, 2502-2850 kHz and 3500-3800 kHz**, require coordination agreement under RR 9.21 and the radiated mean power shall not exceed 50 W. (Refer RR 5.92)

5470-5650 MHz band assignments for Radar systems in the maritime radionavigation service and Ground-based meteorological radars (5600-5650 MHz) shall have priority over Mobile service limited to interference criteria specified in ITU-R Recommendation M.1638. (Refer RR 5.450A, 5.450B and 5.452)

9500-9800 MHz and 78-79 GHz radars have priority over stations in the Earth exploration-satellite service (active) and space research service (active) (Refer RR 5.476A and 5.560)

8825-8850 MHz and 9000-9200 MHz bands are also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars only. (Refer RR 5.471 and 5.472)

59-64 GHz airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (Refer RR 5.43 and 5.559).

UAE 16 Meteorological

2025-2045 kHz band assignments for meteorological aids service are limited to oceanographic buoy stations (Refer RR 5.104).

1668.4-1675 MHz band shall not be used for meteorological aids service (Refer RR 5.379E).

2700-2900 MHz, ground-based meteorological radars have equal priority with stations of the aeronautical radionavigation service (Refer RR 5.423).

9300-9500 MHz band assignments for aeronautical radionavigation service are limited to airborne weather radars and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band **9300-9320 MHz** on condition that harmful interference is not caused to the maritime radionavigation service. In the band **9300-9500 MHz**, ground-based radars used for meteorological purposes have priority over other radiolocation devices. (Refer RR 5.475).

9975-10025 MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars (Refer RR 5.479).

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

200-209 GHz, 235-238 GHz, 250-252 GHz and 265-275 GHz bands are also used for ground-based passive atmospheric sensing, to monitor atmospheric constituents. (WRC-2000) (Refer RR 5.563A).

UAE 17 Earth Exploration and Space Research

7145-7190 MHz and 8400-8450 MHz by the space research service (Earth-to-space) is restricted to deep space; no emissions to deep space shall be effected in the band **7190-7235 MHz**. (Refer RR 5.460 and 5.465)

Geostationary satellites in the space research service operating in the band **7190-7235 MHz** shall not claim protection from existing and future stations of the fixed and mobile services and No. 5.43A does not apply. (Refer RR 5.460)

8550-8650 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radiolocation service. (Refer RR 5.469A)

13.4-13.75 GHz band assignments to Earth exploration-satellite (active) and space research (active) services shall not cause harmful interference to, or constrain the use and development of, the radiolocation service to the space research service. Use by space research (active) service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis (Refer RR 5.501A and 5.501B)

22.21-22.5 GHz and **25.5-27 GHz** band assignments for Earth exploration-satellite (passive) and space research (passive) services shall not impose constraints upon the fixed and mobile, except aeronautical mobile, services (Refer RR 5.532, 5.536B, 5.536C)

Earth stations in the Earth exploration-satellite service or the space research service shall not claim protection from stations in the fixed and mobile services (Refer RR 5.536A)

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. (Refer RR 5.541)

31-31.3 GHz, for the space research service power flux-density limits specified in Article 21, Table 21-4 shall apply (Refer RR 5.544)

In the band **35.5-36.0 GHz**, the mean power flux-density at the Earth's surface, generated by any spaceborne sensor in the Earth exploration-satellite service (active) or space research service (active), for any angle greater than 0.8° from the beam centre shall not exceed –73.3 dB(W/m^2) in this band. (Refer RR 5.549A)

In the band **55.78-56.26 GHz**, in order to protect stations in the Earth exploration-satellite service (passive), the maximum power density delivered by a transmitter to the antenna of a fixed service station is limited to -26 dB (W/MHz). (Refer RR 5.557A)

In the bands **94-94.1 GHz** and 130-134 GHz, transmissions from space stations of the Earth exploration-satellite service (active) that are directed into the main beam of a radio astronomy antenna have the potential to damage some radio astronomy receivers. Space agencies operating the transmitters and the radio astronomy stations concerned should mutually plan their operations so as to avoid such occurrences to the maximum extent possible. (Refer RR 5.562A)

The allocation to the Earth exploration-satellite service (active) is limited to the band **133.5-134 GHz**. (Refer RR 5.562E)

In the band **155.5-158.5 GHz**, the allocation to the Earth exploration-satellite (passive) and space research (passive) services shall terminate on 1 January 2018. (Refer RR 5.562F)

The band **237.9-238 GHz** is also allocated to the Earth exploration-satellite service (active) and the space research service (active) for spaceborne cloud radars only. (Refer RR 5.563B)

The frequency band **275-1000 GHz** may be used by administrations for experimentation with, and development of, various active and passive services. In this band a need has been identified for the following spectral line measurements for passive services:

- Radio astronomy service: **275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz and 926-945 GHz;**
- Earth exploration-satellite service (passive) and space research service (passive): **275-277 GHz, 294-306 GHz, 316-334 GHz, 342-349 GHz, 363-365 GHz, 371-389 GHz, 416-434 GHz, 442-444 GHz, 496-506 GHz, 546-568 GHz, 624-629 GHz, 634-654 GHz, 659-661 GHz, 684-692 GHz, 730-732 GHz, 851-853 GHz and 951-956 GHz.**

Future research in this largely unexplored spectral region may yield additional spectral lines and continuum bands of interest to the passive services. Administrations are urged to take all practicable steps to protect these passive services from harmful interference until the date when the allocation Table is established in the above-mentioned frequency band. (Refer RR 5.565)

UAE 18 Fixed

The following bands can also be assigned by the TRA for fixed service in UAE based on the TRA Policy:
7100-7200 kHz from 29 March 2009 (Refer RR 5.141B)
7350-7400 kHz from 29 March 2009 (Refer RR 5.143 C)
7400-7450 kHz from 29 March 2009 (Refer RR 5.143C)
400.05-401 MHz (Refer RR 5.262)
1215-1300 MHz (Refer RR 5.330)
1690-1700 MHz (Refer RR 5.382)
2690-2700 MHz (Refer RR 5.422) equipment in operation by 1 January 1985
3300-3400 MHz (Refer RR 5.429)
5 650-5 850 MHz (Refer RR 5.453)
8500-8750 MHz (Refer RR 5.468)
9800-10000 MHz (Refer RR 5.477)
10.68-10.7 GHz (Refer RR 5.483) equipment in operation by 1 January 1985
12.5-12.75 GHz (Refer RR 5.494)

13.4-14 GHz (Refer RR 5.500)
14-14.3 GHz (Refer RR 5.505)
15.7-17.3 GHz (Refer RR 5.512)
17.3-17.7 GHz, power limits given in Nos. 21.3 and 21.5 shall apply (Refer RR 5.514)
18.1-18.4 GHz, provisions of 5.519 apply (Refer RR 5.521)
19.7-21.2 GHz, with no constraints on Mobile-satellite service (Refer RR 5.524)
31.5-31.8 GHz (Refer RR 5.546)
33.4-36 GHz (Refer RR 5.549)

The following bands can be assigned by the TRA for fixed service within UAE based on the TRA Policy and restrictions as follows:
4063-4123 kHz (mean power < 50 W), no interference to Maritime (Refer RR 5.129)
4130-4438 kHz (mean power < 50 W), no interference to Maritime (Refer RR 5.129)
5900-5950 kHz and not to cause interference to Broadcasting (Refer RR 5.136)
6200-6213.5 kHz (mean power < 50 W), no interference to Maritime (Refer RR 5.137)
6220.5-6525 kHz (mean power < 50 W), no interference to Maritime (Refer RR 5.137)
7300-7350 kHz and not to cause interference to Broadcasting (Refer RR 5.143)
7350-7450 kHz (mean power < 24 dBW), no interference to Broadcasting (Refer RR 5.143B)
9400-9500 kHz, Res 21 applies, and no interference to Broadcasting (Refer RR 5.146)
9775-9900 kHz (mean power <24 dBW), no interference to Broadcasting (Refer RR 5.151)
11600-11650 kHz, Res 21 applies, no interference to Broadcasting (Refer RR 5.146)
11650-11700 kHz (mean power <24 dBW), no interference to Broadcasting (Refer RR 5.151)
11975-12050 (mean power <24 dBW), no interference to Broadcasting (Refer RR 5.151)
12050-12100 kHz, Res 21 applies, no interference to Broadcasting (Refer RR 5.146)
13570-13600 kHz, Res 21 applies, no interference to Broadcasting (Refer RR 5.151)
13800-13870 kHz, Res 21 applies, no interference to Broadcasting (Refer RR 5.151)
15600-15800 kHz, Res 21 applies, no interference to Broadcasting (Refer RR 5.146)
17480-17550 kHz, Res 21 applies, no interference to Broadcasting (Refer RR 5.146)
18900-19020 kHz, Res 21 applies, no interference to Broadcasting (Refer RR 5.146)

1850-2045 kHz, 2194-2498 kHz, 2502-2625 kHz and 2650-2850 kHz, assignments for fixed should be made with due consideration of the **special requirements** of the maritime mobile service. (Refer RR 5.103)

Troposcatter systems in the following bands shall be subject to:
2500-2690 MHz, no future allocations (Refer RR 5.409)
2500-2690 MHz, require agreement under RR 9.21 and must avoid directing towards Geo-satellites (Refer RR 5.410 and 5.411)

High density applications for fixed service
31.8-33.4 GHz, 37-40 GHz, 40.5-43.5 GHz, 51.4-52.6 GHz, 55.78-59 GHz and **64-66 GHz** are available for high-density applications in the fixed service and have priority over high-density applications in the fixed-satellite service in the bands **39.5-40 GHz and 40.5-42 GHz** (Refer Resolutions 75 and 79, RR 5.516B, RR 5.547).

Vacation of frequencies by fixed service:

All assignments for the fixed service in the bands **230-399.9 MHz, 862-960 MHz, 1700-2700 MHz** (except allocations made in accordance with ITU-R Rec F1098) shall be vacated to accommodate the mobile service on priority. Portions of the band may be vacated at the dates decided by the TRA.

UAE 19 Mobile

The following bands can also be assigned by the TRA for mobile service in UAE based on the TRA Policy:
6765-7000 kHz except aeronautical mobile (R) from 29 March 2009 (Refer RR 5.138A)
7100-7200 kHz except aeronautical mobile (R) from 29 March 2009 (Refer RR 5.141B)
138-144 MHz allocated to the maritime mobile and land mobile services
400.05-401 MHz (Refer RR 5.262)
1215-1300 MHz (Refer RR 5.330)
1690-1700 MHz except aeronautical mobile (Refer RR 5.382)
2690-2700 MHz (Refer RR 5.422) equipment in operation by 1 January 1985
3300-3400 MHz (Refer RR 5.429)
5 650-5 850 MHz (Refer RR 5.453)
8500-8750 MHz (Refer RR 5.468)
10.68-10.7 GHz (Refer RR 5.483) equipment in operation by 1 January 1985
12.5-12.75 GHz except aeronautical mobile (Refer RR 5.494)
13.4-14 GHz (Refer RR 5.500)
15.7-17.3 GHz (Refer RR 5.512)
17.3-17.7 GHz, power limits given in RR 21.3 and 21.5 shall apply (Refer RR 5.514)
18.1-18.4 GHz, provisions of 5.519 apply (Refer RR 5.521)
19.7-21.2 GHz, with no constraints on Mobile-satellite service (Refer RR 5.524)
31.5-31.8 GHz except aeronautical mobile (Refer RR 5.546)
33.4-36 GHz (Refer RR 5.549)
43.5-47 GHz, land mobile allowed only and not to cause interference to space services (Refer RR 5.43 and 5.549)
66-71 GHz, land mobile allowed only and not to cause interference to space services (Refer RR 5.43 and 5.549)

1850-2045 kHz, **2194-2498 kHz, 2502-2625 kHz and 2650-2850 kHz**, assignments for mobile should be made with due consideration of the **special requirements** of the maritime mobile service. (Refer RR 5.103)

Mobile systems shall have restrictive use in the following bands:
2025-2110 MHz, no high-density mobile systems allowed (Refer RR 5.391)
2200-2290 MHz, no high-density mobile systems allowed (Refer RR 5.391)
4825-4835 MHz restricted to mobile except aeronautical mobile (Refer RR 5.442)
4950-4990 MHz, restricted to mobile except aeronautical mobile (Refer RR 5.442)
5150-5350 MHz, RR Resolution 229 shall apply (Refer RR 5.446A)
5470-5725 MHz, RR Resolution 229 shall apply (Refer RR 5.446A)
5150-5250 MHz, no protection from earth stations in the fixed-satellite (Refer RR 5.446B)
5250-5350 MHz, sharing with radiolocation service, Earth exploration-satellite service (active) and space research service (active) under ITU-R M.1638 and ITU-R SA.1632 (Refer RR 5.447F)

Cellular and IMT-2000 systems may be allowed in the following bands based on the TRA policy and portions or whole may be assigned to the licensed operators:
862-960 MHz (Refer Resolution 224 and RR 5.317A)
1710-1885 MHz (Refer Resolution 223 and RR 5.384A)
1885-2025 MHz (Refer Resolution 221 and 223 and RR 5.388)
2110-2200 MHz (Refer Resolution 221 and 223 and RR 5.388)
2520-2670 MHz (Refer Resolution 223 and RR 5.384A)

IMT-2000 systems using High Altitude Platform Systems (HAPS) may be allowed in the following bands based on the TRA policy and co-channel power flux-density less than -127 dB(W/(m^2 · MHz)) at the Earth's surface outside UAE borders:
1885-1980 MHz (Refer Resolution 221 and RR 5.388A, 5.388B)
2010-2025 MHz (Refer Resolution 221 and RR 5.388A, 5.388B)
2110-2170 MHz (Refer Resolution 221 and RR 5.388A, 5.388B)

Radio Trunking: The following bands have been identified for use
380-399.9 MHz for Public safety and Government use
410-430 MHz for commercial use of Radio Trunking with PMR

Government use: The bands of **230-328.6 MHz, 335.4-380 MHz, 380-399.9 MHz and 450-470 MHz** shall have priority of assignment for Government use

Private and Public Mobile: Portions of the frequency ranges **138-174 MHz** and **400-450 MHz** shall be assigned for the public and private mobile applications (PMR). Within **138-174 MHz**, the frequency range of **156-164 MHz** shall have a priority assignment for Maritime applications. The TRA policy for such use shall determine the technical conditions for these applications.

UAE 20 Cordless Telephones

The following frequency ranges are identified for indoor usage of Cordless Telephones subject to the TRA Policy
1880-1900 MHz, DECT based systems with maximum power output limited to 250 mW
2400-2483.5 MHz with maximum power output limited to 100 mW

UAE 21 Wireless Local Area Network (WLAN)

The following frequency ranges are identified for indoor usage of Wireless Local Area Networks (WLAN)
2400 – 2483.5 MHz, provided that the Max. Mean EIRP (Effective Isotropic Radiated Power) shall not exceed 100 mW.
5725 – 5875 MHz, provided that the Max. Mean EIRP shall not exceed 200 mW.

UAE 22 Radio Local Area Network (RLAN)

The following frequency ranges are identified for RLAN subject to adequate protection for other primary radio services in the same band
5150-5350 MHz: Max Mean EIRP 1W. Transmit Power Control (TPC) and Dynamic Frequency Selection (DFS) is mandatory and allowed for fixed and mobile (Wireless access systems) applications. Provisions of RR Resolution 229 apply.
5470-5725 MHz: Max Mean EIRP 1W. Transmit Power Control (TPC) and Dynamic Frequency Selection (DFS) is mandatory and allowed for fixed and mobile (Wireless access systems) applications. Provisions of RR Resolution 229 apply.
5725-5850 MHz: Max Mean EIRP 2W. Transmit Power Control (TPC) and Dynamic Frequency Selection (DFS) is mandatory and allowed for fixed applications.

UAE 23 Fixed Wireless Access (FWA) and Broadband Networks

The following frequency ranges are identified for FWA and Broadband Networks
1427-1525 MHz (WLL and PMP)
2300-2400 MHz (PMP, WIMAX) to be made available by end 2007
3400-3600 MHz (PMP, WIMAX)
3600-3800 MHz (PMP, WIMAX) to be made available by end 2007
10.7-11.7 GHz (Broadband)
24.5-26.5 GHz (Broadband)
41-43.5 GHz (Broadband)

UAE 24 Broadcasting

2300- 4950 kHz (**2498 kHz** in Region 1), **3200-3400 kHz**, **4750-4995 kHz** and **5005-5060 kHz** bands by the broadcasting service, are subject to provisions RR 23.3 to 23.10. (Refer RR 5.113)

5900-5950 kHz, **7300-7350 kHz**, **9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz and 18900-19020 kHz** bands for the broadcasting service as from 1 April 2007 are subject to the application of the procedure of RR Article 12. These bands are preferred to use digitally modulated emissions in accordance with the provisions of RR Resolution 517 (Refer RR 5.134)

620-790 MHz, assignments of television stations using frequency modulation in the broadcasting-satellite service shall not produce a power flux-density in excess of the value –129 dB (W/m^2) for angles of arrival less than 20° within the territories of other countries without the consent of the administrations of those countries. (Refer RR Res 545, Rec 705 and RR 5.311)

1452-1492 MHz by the broadcasting-satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of RR Resolution 528 (Refer RR 5.345)

The OB Vans assignments shall be contained within **7.0-7.4 GHz** and **10.9-13.3 GHz**

UAE 25 Broadcasting satellite

2310-2360 MHz operating in accordance with No. 5.393 that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution 33. Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use. (Refer RR 5.396)

2500 MHz and 2690 MHz band Broadcasting-satellite service, shall protect the radio astronomy service in the band **2690-2700 MHz** (Refer RR 5.413)

2520-2670 MHz band broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under No. 9.21. (Refer RR 5.416)

2605-2630 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.417A, for which complete Appendix 4 coordination information, or notification information, has been received after 4 July 2003, is subject to the application of the provisions of No. 9.12. (Refer RR 5.417C, 417D)

2630-2655 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.418, for which complete Appendix 4 coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. 9.12. (Refer RR 5.41B, 418C)

Assignments to stations of the broadcasting-satellite service which are in conformity with the appropriate regional Plan or included in the Regions 1 and 3 List in Appendix 30 may also be used for transmissions in the fixed-satellite service (space-to-Earth), provided that such transmissions do not cause more interference, or require more protection from interference, than the broadcasting-satellite service transmissions operating in conformity with the Plan or the List, as appropriate. (Refer RR 5.492)

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 (Refer RR 5.530).

The following bands shall not be used for Feeder links of any service:
1525-1544 MHz, 1545-1559 MHz, 1626.5-1645.5 MHz and 1646.5-1660.5 MHz bands (Refer RR 5.351)

UAE 26 Fixed satellite service (FSS)

The use of the following bands for FSS shall be in accordance with RR Appendix 30B and RR 9.12:
4500-4800 MHz (space-to-Earth) (Refer RR 5.441)
6725-7025 MHz (Earth-to-space) (Refer RR 5.441)
10.7-10.95 GHz (space-to-Earth) (Refer RR 5.441)
11.2-11.45 GHz (space-to-Earth) (Refer RR 5.441)
12.75-13.25 GHz (Earth-to-space) (Refer RR 5.441)

The use of the following bands shall be limited to Feeder links:
5091-5150 MHz (Feeder link for NGSO MSS) (Refer RR 5.444A)
5150-5216 MHz (Feeder link for NGSO MSS) (Refer RR 9.11A, 5.447B and 5.447C)
6700-7075 MHz (space-to-Earth) Feeder link for NGSO MSS (Refer RR 9.11A, 5.458B)
10.7-11.7 GHz (Earth-to-space) Feeder link for BSS (Refer RR 5.484)
14.5-14.8 GHz (Earth-to-space) Feeder link for BSS (Refer RR 5.510)
15.43-15.63 GHz (Earth-to-space & Space-to-earth) Feeder link for NGSO MSS (Refer RR 5.511A and its provisions apply)
18.1-18.4 GHz (Earth-to-space) Feeder link for BSS (Refer RR 5.520)
17.3-18.1 GHz (Earth-to-space) Feeder link for BSS (Refer RR 5.516 and its provisions)
19.3-19.6 GHz (Earth-to-space) Feeder link for NGSO MSS (Refer RR 5.523B and its provisions)

The following bands may also be used for Feeder links:
14-14.5 GHz (Earth-to-space) Feeder link for BSS (Refer RR 5.506)
27.5-30 GHz (Earth-to-space) Feeder link for BSS (Refer RR 5.539)
47.2-49.2 GHz (Earth-to-space) Feeder link for BSS (Refer RR 5.552)

The following bands shall not be used for Feeder links of any service:
1525-1544 MHz, 1545-1559 MHz, 1626.5-1645.5 MHz and 1646.5-1660.5 MHz bands (Refer RR 5.351)

The use of the following FSS bands shall be subject to the provisions as given in RR:

2025-2110 MHz and **2200-2290 MHz**, bands shall have priority for uplink, downlink and between geostationary and non-geostationary satellites over space-to-space transmissions of space research, space operations and Earth exploration-satellite services. (Refer RR 5.392).

11.7-12.5 GHz, not to cause interference to BSS AP30 Plan (Refer RR 5.487)

12.5-12.75 GHz (space-to-Earth), GSO has priority over NGSO, NGSO coordination under RR 9.12 (Refer RR 5.484A)

13.75-14.5 GHz (Earth-to-space) GSO has priority over NGSO, NGSO coordination under RR 9.12, GSO Earth station Antenna minimum diameter of 1.2 m with constraints on pfd, NGSO Earth station Antenna minimum diameter of 4.5 m with constraints on pfd, GSO of space research same priority as FSS, (Refer RR 5.484A, 5.502, 5.503)

14-14.5 GHz, aircraft earth stations in the secondary aeronautical mobile-satellite service may also communicate with space stations in the fixed-satellite service. The provisions of Nos. 5.29, 5.30 and 5.31 apply. (Refer 5.504A)

17.3-17.7 GHz, sharing with BSS in accordance with Annex 4 of AP 30A and earth stations of FSS (space-to-Earth) shall not claim protection from BSS feeder-link earth stations operating under AP 30A (Refer 5.515 and 5.516A)

17.8-18.6 GHz (space-to-Earth), GSO has priority over NGSO, NGSO coordination under RR 9.12 (Refer RR 5.484A and 5.521)

18.6-18.8 GHz, limited to geostationary systems and systems with an orbit of apogee greater than 20000 km, limits as given in RR21.16.2 apply (Refer RR 5.522A, 5.522B and 5.522C)

19.3-19.7 GHz, feeder links for NGSO MSS subject to RR 9.11A, but not subject to the provisions of RR 22.2 and use for other NGSO is not subject to the provisions of RR. 9.11A and shall continue to be subject to RR Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of RR. 22.2. (Refer RR 5.523D and 5.523E)

19.7-20.2 GHz (space-to-Earth), GSO has priority over NGSO, NGSO coordination under RR 9.12 (Refer RR 5.484A)

27.5-30 GHz (space-to-Earth), GSO has priority over NGSO, NGSO coordination under RR 9.12, beacon transmissions intended for up-link power control (Refer RR 5.484A, 5.538, 5.540 and 5.541A)

42.5-43.5 GHz (space-to-Earth) with equivalent power flux-density (epfd) constraints to protect Radio Astronomy. (Refer RR 5.551H, 5.551I)

47.5-47.9 GHz, 48.2-48.54 GHz and 49.44-50.2 GHz bands limited to geostationary satellites with constraints on pfd (Refer RR 5.554A and 5.555B)

The following bands are identified without priority for use by high-density applications in the fixed-satellite service (Refer RR 5.516B and Resolution 143):

17.3-17.7 GHz	(space-to-Earth),
19.7-20.2 GHz	(space-to-Earth),
39.5-40 GHz	(space-to-Earth),
40-40.5 GHz	(space-to-Earth),
47.5-47.9 GHz	(space-to-Earth),
48.2-48.54 GHz	(space-to-Earth),
49.44-50.2 GHz	(space-to-Earth),
27.5-27.82 GHz	(Earth-to-space),
28.45-28.94 GHz	(Earth-to-space),
29.46-30 GHz	(Earth-to-space)

UAE 27 Inter satellite service (ISS)

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 (Refer RR 5.536)

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 (Refer RR 5.543)

54.25-56.9 GHz, 57-58.2 GHz and 59-59.3 GHz use of ISS limited to GSO with pfd limits. (Refer RR 5.556A)

56.9-57 GHz use of ISS limited to GSO and HEO NGSO with pfd limits. (Refer RR 5.558A)

116-122.25 GHz, 174.8-182 GHz and 185-190 GHz use of ISS limited to GSO with pfd limits. (Refer RR 5.562C and 5.562H)

UAE 28 Mobile satellite service (MSS)

The use of the following MSS bands shall be subject to the provisions as given in RR:

137-138 MHz for NGSO subject to coordination under 9.11A and shall provide adequate protection to Radio Astronomy (Refer RR 5.208, 5.208A, 5.209)

148-150.05 MHz for NGSO shall not cause interference to Fixed and Mobile services (Refer RR 5.209, 5.221, 5.224A)

235-322 MHz subject to coordination under 9.21 and shall not cause interference to other services (Refer RR 5.254, 5.255)

335.4-399.9 MHz subject to coordination under 9.21 and shall not cause interference to other services (Refer RR 5.208A, 5.254, 5.255)

399.9-400.05 MHz for NGSO land mobile (Earth-to-space) (Refer RR 5.209, 5.224A)

400.05-401 MHz for NGSO subject to coordination under 9.11A and shall provide adequate protection to Radio Astronomy (Refer RR 5.208A, 5.209, 5.264)

454-456 MHz for NGSO subject to coordination under 9.11A (Refer RR 5.209, 5.286A)

459-460 MHz for NGSO subject to coordination under 9.11A (Refer RR 5.209, 5.286A)

608-614 MHz shall provide adequate protection to Radio Astronomy (Refer RR 5.208A)

1518-1525 MHz subject to coordination under 9.11A and shall not cause interference to other services (Refer RR 5.348, 5.348A, 5.348B, 5.348C)

1525-1559 MHz subject to coordination under 9.11A and shall not cause interference to other services. RR Resolution 212 and 225 apply (Refer RR 5.351A, 5.354)

1610-1626.5 MHz subject to coordination under 9.11A and shall not cause interference to other services. RR Resolution 212 and 225 apply. The MSS use for aeronautical and radio navigation is subject to agreement under RR 9.21 (Refer RR 5.351A, 5.364, 5.365, 5.366, 5.367, 5.368)

1626.5-1660.5 MHz subject to coordination under 9.11A. RR Resolution 212 and 225 apply. (Refer RR 5.351A, 5.354, 5.374)

1668-1675 MHz subject to coordination under 9.11A and shall provide adequate protection to Radio Astronomy and earth stations of meteorological satellites. RR Resolutions 225 and 744 apply. (Refer RR 5.348C, 5.379B, 5.379C, 5.379D, 5.380A)

1980-2010 MHz subject to coordination under 9.11A. RR Resolutions 212, 225 and 716 apply. (Refer RR 5.351A, 5.389A, 5.389B)

2170-2200 MHz subject to coordination under 9.11A. RR Resolutions 212, 225 and 716 apply. (Refer RR 5.351A, 5.389A)

2483.5-2520 MHz subject to coordination under 9.11A. RR Resolutions 212 and 225 apply. (Refer RR 5.351A, 5.402, 5.407, 5.414)

2655-2690 MHz subject to coordination under 9.11A and agreement under 9.21. The operation is limited to National boundaries. (Refer RR 5.419, 5.420)

7250-7375 MHz subject to agreement under 9.21(Refer RR 5.461)

7900-8025 MHz subject to agreement under 9.21(Refer RR 5.461)

20.1-20.2 GHz for use by networks using narrow spot beam antennas and protection for fixed and mobile service (Refer RR 5.527 and 5.528)

29.9-31 GHz Fixed satellite service has a priority over MSS (Refer RR 5.525, 5.526, 5.527 and 5.529)

The following bands shall not be used for Feeder links of any service:
1525-1544 MHz, 1545-1559 MHz, 1626.5-1645.5 MHz and 1646.5-1660.5 MHz bands (Refer RR 5.351)

UAE 29 Earth Stations on board vessels (ESV)

5925-6425 MHz and **14-14.5 GHz**, earth stations located on board vessels may communicate with space stations of the fixed-satellite service on a secondary basis. Such use shall be in accordance with Resolution 902 (WRC-03). In the band **14-14.5 GHz**, ship earth stations with an e.i.r.p. greater than 21 dBW shall operate under the same conditions as earth stations located on board vessels, as provided in Resolution 902 (Refer RR 5.457A, 5.457B, 5.506A, 5.506B)

INTERNATIONAL FOOTNOTES

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

5.54 Administrations conducting scientific research using frequencies below 9 kHz are urged to advise other administrations that may be concerned in order that such research may be afforded all practicable protection from harmful interference.

5.55 *Additional allocation:* in Armenia, Azerbaijan, Bulgaria, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the band 14-17 kHz is also allocated to the radionavigation service on a primary basis. (WRC-2000)

5.56 The stations of services to which the bands 14-19.95 kHz and 20.05-70 kHz and in Region 1 also the bands 72-84 kHz and 86-90 kHz are allocated may transmit standard frequency and time signals. Such stations shall be afforded protection from harmful interference. In Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Mongolia, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan and Turkmenistan, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-03)

5.57 The use of the bands 14-19.95 kHz, 20.05-70 kHz and 70-90 kHz (72-84 kHz and 86-90 kHz in Region 1) by the maritime mobile service is limited to coast radiotelegraph stations (A1A and F1B only). Exceptionally, the use of class J2B or J7B emissions is authorized subject to the necessary bandwidth not exceeding that normally used for class A1A or F1B emissions in the band concerned.

5.58 *Additional allocation:* in Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, the band 67-70 kHz is also allocated to the radionavigation service on a primary basis. (WRC-2000)

5.59 *Different category of service:* in Bangladesh and Pakistan, the allocation of the bands 70-72 kHz and 84-86 kHz to the fixed and maritime mobile services is on a primary basis (see No. 5.33). (WRC-2000)

5.60 In the bands 70-90 kHz (70-86 kHz in Region 1) and 110-130 kHz (112-130 kHz in Region 1), pulsed radionavigation systems may be used on condition that they do not cause harmful interference to other services to which these bands are allocated.

5.61 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 No. 9.21 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.

5.62 Administrations, which operate stations in the radionavigation service in the band 90-110 kHz, are urged to coordinate technical and operating characteristics in such a way as to avoid harmful interference to the services provided by these stations.

5.63 (SUP - WRC-97)

5.64 Only classes A1A or F1B, A2C, A3C, F1C or F3C emissions are authorized for stations of the fixed service in the bands allocated to this service between 90 kHz and 160 kHz (148.5 kHz in Region 1) and for stations of the maritime mobile service in the bands allocated to this service between 110 kHz and 160 kHz (148.5 kHz in Region 1). Exceptionally, class J2B or J7B emissions are also authorized in the bands between 110 kHz and 160 kHz (148.5 kHz in Region 1) for stations of the maritime mobile service.

5.65 *Different category of service:* in Bangladesh, the allocation of the bands 112-117.6 kHz and 126-129 kHz to the fixed and maritime mobile services is on a primary basis (see No. 5.33). (WRC-2000)

5.66 *Different category of service:* in Germany, the allocation of the band 115-117.6 kHz to the fixed and maritime mobile services is on a primary basis (see No. 5.33) and to the radionavigation service on a secondary basis (see No. 5.32).

5.67 *Additional allocation:* in Azerbaijan, Bulgaria, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 130-148.5 kHz is also allocated to the radionavigation service on a secondary basis. Within and between these countries this service shall have an equal right to operate. (WRC-2000)

5.68 *Alternative allocation:* in Angola, Burundi, Congo (Rep. of the), Malawi, the Dem. Rep. of the Congo, Rwanda and South Africa, the band 160-200 kHz is allocated to the fixed service on a primary basis. (WRC-03)

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

5.70 *Alternative allocation:* in Angola, Botswana, Burundi, Cameroon, the Central African Rep., Congo (Rep. of the), Ethiopia, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, the Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Tanzania, Chad, Zambia and Zimbabwe, the band 200-283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. (WRC-03)

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

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

5.73 The band 285-325 kHz (283.5-325 kHz in Region 1) in the maritime radionavigation service may be used to transmit supplementary navigational information using narrow-band techniques, on condition that no harmful interference is caused to radiobeacon stations operating in the radionavigation service. (WRC-97)

5.74 *Additional Allocation:* in Region 1, the frequency band 285.3-285.7 kHz is also allocated to the maritime radionavigation service (other than radiobeacons) on a primary basis.

5.75 *Different category of service:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Moldova, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine and the Black Sea areas of Bulgaria and Romania, the allocation of the band 315-325 kHz to the maritime radionavigation service is on a primary basis under the condition that in the Baltic Sea area, the assignment of frequencies in this band to new stations in the maritime or aeronautical radionavigation services shall be subject to prior consultation between the administrations concerned. (WRC-2000)

5.76 The frequency 410 kHz is designated for radio direction-finding in the maritime radionavigation service. The other radionavigation services to which the band 405-415 kHz is allocated shall not cause harmful interference to radio direction-finding in the band 406.5-413.5 kHz.

5.77 *Different category of service:* in Australia, China, the French Overseas Territories of Region 3, India, Indonesia (until 1 January 2005), Iran (Islamic Republic of), Japan, Pakistan, Papua New Guinea and Sri Lanka, the allocation of the band 415-495 kHz to the aeronautical radionavigation service is on a primary basis. Administrations in these countries shall take all practical steps necessary to ensure that aeronautical radionavigation stations in the band 435-495 kHz do not cause interference to reception by coast stations of ship stations transmitting on frequencies designated for ship stations on a worldwide basis (see No. 52.39). (WRC-2000)

5.78 *Different category of service:* in Cuba, the United States of America and Mexico, the allocation of the band 415-435 kHz to the aeronautical radionavigation service is on a primary basis.

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

5.79A When establishing coast stations in the NAVTEX service on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organization (IMO) (see Resolution 339 (Rev.WRC-97)). (WRC-97)

5.80 In Region 2, the use of the band 435-495 kHz by the aeronautical radionavigation service is limited to non-directional beacons not employing voice transmission.

5.81 (SUP - WRC-2000)

5.82 In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution 331 (Rev.WRC-97))*, to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles 31 and 52. In using the band 415-495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz. (WRC-97)

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

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

5.85 Not used.

5.86 In Region 2, in the band 525-535 kHz the carrier power of broadcasting stations shall not exceed 1 kW during the day and 250 W at night.

5.87 *Additional allocation:* in Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland and Zimbabwe, the band 526.5-535 kHz is also allocated to the mobile service on a secondary basis. (WRC-03)

5.87A *Additional allocation:* in Uzbekistan, the band 526.5-1 606.5 kHz is also allocated to the radionavigation service on a primary basis. Such use is subject to agreement obtained under No. 9.21 with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-97)

5.88 *Additional allocation:* in China, the band 526.5-535 kHz is also allocated to the aeronautical radionavigation service on a secondary basis.

5.89 In Region 2, the use of the band 1 605-1 705 kHz by stations of the broadcasting service is subject to the Plan established by the Regional Administrative Radio Conference (Rio de Janeiro, 1988).

The examination of frequency assignments to stations of the fixed and mobile services in the band 1625-1705 kHz shall take account of the allotments appearing in the Plan established by the Regional Administrative Radio Conference (Rio de Janeiro, 1988).

5.90 In the band 1 605-1 705 kHz, in cases where a broadcasting station of Region 2 is concerned, the service area of the maritime mobile stations in Region 1 shall be limited to that provided by ground-wave propagation.

5.91 *Additional allocation:* in the Philippines and Sri Lanka, the band 1606.5-1705 kHz is also allocated to the broadcasting service on a secondary basis. (WRC-97)

5.92 Some countries of Region 1 use radiodetermination systems in the bands 1606.5-1625 kHz, 1635-1800 kHz, 1850-2160 kHz, 2194-2300 kHz, 2502-2850 kHz and 3500-3800 kHz, subject to agreement obtained under No. 9.21. The radiated mean power of these stations shall not exceed 50 W.

5.93 *Additional allocation:* in Angola, Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Nigeria,

Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan, Chad, Turkmenistan and Ukraine, the bands 1 625-1 635 kHz, 1 800-1 810 kHz and 2 160-2 170 kHz and, in Bulgaria, the bands 1 625-1 635 kHz and 1 800-1 810 kHz, are also allocated to the fixed and land mobile services on a primary basis, subject to agreement obtained under No. 9.21. (WRC-2000)

5.94 Not used.

5.95 Not used.

5.96 In Germany, Armenia, Austria, Azerbaijan, Belarus, Denmark, Estonia, the Russian Federation, Finland, Georgia, Hungary, Ireland, Iceland, Israel, Kazakhstan, Latvia, Liechtenstein, Lithuania, Malta, Moldova, Norway, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., the United Kingdom, Sweden, Switzerland, Tajikistan, Turkmenistan and Ukraine, administrations may allocate up to 200 kHz to their amateur service in the bands 1715-1800 kHz and 1850-2000 kHz. However, when allocating the bands within this range to their amateur service, administrations shall, after prior consultation with administrations of neighboring countries, take such steps as may be necessary to prevent harmful interference from their amateur service to the fixed and mobile services of other countries. The mean power of any amateur station shall not exceed 10 W. (WRC-03)

5.97 In Region 3, the Loran system operates either on 1850 kHz or 1950 kHz, the bands occupied being 1 825-1 875 kHz and 1 925-1 975 kHz respectively. Other services to which the band 1 800-2 000 kHz is allocated may use any frequency therein on condition that no harmful interference is caused to the Loran system operating on 1850 kHz or 1950 kHz.

5.98 *Alternative allocation:* in Angola, Armenia, Azerbaijan, Belarus, Belgium, Bulgaria, Cameroon, Congo (Rep. of the), Denmark, Egypt, Eritrea, Spain, Ethiopia, the Russian Federation, Georgia, Greece, Italy, Kazakhstan, Lebanon, Lithuania, Moldova, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Tunisia, Turkmenistan, Turkey and Ukraine, the band 1810-1830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.99 *Additional allocation:* in Saudi Arabia, Austria, Bosnia and Herzegovina, Iraq, the Libyan Arab Jamahiriya, Uzbekistan, Slovakia, Romania, Serbia and Montenegro. Slovenia, Chad, and Togo, the band 1810-1830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.100 In Region 1, the authorization to use the band 1810-1830 kHz by the amateur service in countries situated totally or partially north of 40° N shall be given only after consultation with the countries mentioned in Nos. 5.98 and 5.99 to define the necessary steps to be taken to prevent harmful interference between amateur stations and stations of other services operating in accordance with Nos. 5.98 and 5.99.

5.101 *Alternative allocation:* in Burundi and Lesotho, the band 1810-1850 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.102 *Alternative allocation:* in Argentina, Bolivia, Chile, Mexico, Paraguay, Peru, Uruguay and Venezuela, the band 1850-2000 kHz is allocated to the fixed, mobile except aeronautical mobile, radiolocation and radionavigation services on a primary basis.

5.103 In Region 1, in making assignments to stations in the fixed and mobile services in the bands 1850-2045 kHz, 2194-2498 kHz, 2502-2625 kHz and 2650-2850 kHz, administrations should bear in mind the special requirements of the maritime mobile service.

5.104 In Region 1, the use of the band 2025-2045 kHz by the meteorological aids service is limited to oceanographic buoy stations.

5.105 In Region 2, except in Greenland, coast stations and ship stations using radiotelephony in the band 2065-2107 kHz shall be limited to class J3E emissions and to a peak envelope power not exceeding 1 kW. Preferably, the following carrier frequencies should be used: 2065.0 kHz, 2079.0 kHz, 2082.5 kHz, 2086.0 kHz, 2093.0 kHz,

2096.5 kHz, 2100.0 kHz and 2103.5 kHz. In Argentina and Uruguay, the carrier frequencies 2068.5 kHz and 2075.5 kHz are also used for this purpose, while the frequencies within the band 2072-2075.5 kHz are used as provided in No. 52.165.

5.106 In Regions 2 and 3, provided no harmful interference is caused to the maritime mobile service, the frequencies between 2065 kHz and 2107 kHz may be used by stations of the fixed service communicating only within national borders and whose mean power does not exceed 50 W. In notifying the frequencies, the attention of the Bureau should be drawn to these provisions.

5.107 *Additional allocation:* in Saudi Arabia, Eritrea, Ethiopia, Iraq, the Libyan Arab Jamahiriya, Lesotho, Somalia and Swaziland, the band 2160-2170 kHz is also allocated to the fixed and mobile, except aeronautical mobile(R), services on a primary basis. The mean power of stations in these services shall not exceed 50 W. (WRC-03)

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

5.109 The frequencies 2187.5 kHz, 4207.5 kHz, 6312 kHz, 8414.5 kHz, 12577 kHz and 16804.5 kHz are international distress frequencies for digital selective calling. The conditions for the use of these frequencies are prescribed in Article 31.

5.110 The frequencies 2174.5 kHz, 4177.5 kHz, 6268 kHz, 8376.5 kHz, 12520 kHz and 16695 kHz are international distress frequencies for narrow-band direct-printing telegraphy. The conditions for the use of these frequencies are prescribed in Article 31.

5.111 The carrier frequencies 2182 kHz, 3023 kHz, 5680 kHz, 8364 kHz and the frequencies 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles. The conditions for the use of the frequencies are prescribed in Article 31 and in Appendix 13.

The same applies to the frequencies 10003 kHz, 14993 kHz and 19993 kHz, but in each of these cases emissions must be confined in a band of □ 3 kHz about the frequency.

5.112 *Alternative allocation:* in Bosnia and Herzegovina, Denmark, Malta, Serbia and Montenegro. and Sri Lanka, the band 2194-2300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.113 For the conditions for the use of the bands 2 300-2 495 kHz (2 498 kHz in Region 1), 3200-3400 kHz, 4750-4995 kHz and 5005-5060 kHz by the broadcasting service, see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10.

5.114 *Alternative allocation:* in Bosnia and Herzegovina, Denmark, Iraq, Malta, and Serbia and Montenegro, the band 2502-2625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.115 The carrier (reference) frequencies 3023 kHz and 5680 kHz may also be used, in accordance with Article 31 and Appendix 13 by stations of the maritime mobile service engaged in coordinated search and rescue operations.

5.116 Administrations are urged to authorize the use of the band 3155-3195 kHz to provide a common worldwide channel for low power wireless hearing aids. Additional channels for these devices may be assigned by administrations in the bands between 3155 kHz and 3400 kHz to suit local needs.

It should be noted that frequencies in the range 3000 kHz to 4000 kHz are suitable for hearing aid devices, which are designed to operate over short distances within the induction field.

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

5.118 *Additional allocation:* in the United States, Mexico, Peru and Uruguay, the band 3 230-3 400 kHz is also allocated to the radiolocation service on a secondary basis. (WRC-03)

5.119 *Additional allocation:* in Honduras, Mexico, Peru and Venezuela, the band 3 500-3 750 kHz is also allocated to the fixed and mobile services on a primary basis.

5.120 (SUP - WRC-2000)

5.121 Not used.

5.122 *Alternative allocation:* in Argentina, Bolivia, Chile, Ecuador, Paraguay, Peru and Uruguay, the band 3 750-4 000 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.123 *Additional allocation:* in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the band 3 900-3 950 kHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21.

5.124 (SUP - WRC-2000)

5.125 *Additional allocation:* in Greenland, the band 3 950-4 000 kHz is also allocated to the broadcasting service on a primary basis. The power of the broadcasting stations operating in this band shall not exceed that necessary for a national service and shall in no case exceed 5 kW.

5.126 In Region 3, the stations of those services to which the band 3 995-4 005 kHz is allocated may transmit standard frequency and time signals.

5.127 The use of the band 4 000-4 063 kHz by the maritime mobile service is limited to ship stations using radiotelephony (see No. 52.220 and Appendix 17).

5.128 In Afghanistan, Argentina, Armenia, Azerbaijan, Belarus, Botswana, Burkina Faso, the Central African Rep., China, the Russian Federation, Georgia, India, Kazakhstan, Mali, Niger, Kyrgyzstan, Tajikistan, Chad, Turkmenistan and Ukraine, in the bands 4063-4123 kHz, 4130-4133 kHz and 4408-4438 kHz, stations of limited power in the fixed service which are situated at least 600 km from the coast may operate on condition that harmful interference is not caused to the maritime mobile service. (WRC-97)

5.129 On condition that harmful interference is not caused to the maritime mobile service, the frequencies in the bands 4063-4123 kHz and 4130-4438 kHz may be used exceptionally by stations in the fixed service communicating only within the boundary of the country in which they are located with a mean power not exceeding 50 W.

5.130 The conditions for the use of the carrier frequencies 4125 kHz and 6215 kHz are prescribed in Articles 31 and 52 and in Appendix 13.

5.131 The frequency 4209.5 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques. (WRC-97)

5.132 The frequencies 4210 kHz, 6314 kHz, 8416.5 kHz, 12579 kHz, 16806.5 kHz, 19680.5 kHz, 22376 kHz and 26100.5 kHz are the international frequencies for the transmission of maritime safety information (MSI) (see Appendix 17).

5.133 *Different category of service:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 5 130-5 250 kHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33).

5.134 The use of the bands 5900-5950 kHz, 7300-7350 kHz, 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz and 18900-19020 kHz by the broadcasting service as from 1 April 2007 is subject to the application of the procedure of Article 12. Administrations are encouraged to use these bands to facilitate the introduction of digitally modulated emissions in accordance with the provisions of Resolution 517 (Rev.WRC-03).

5.135 (SUP - WRC-97)

5.136 The band 5900-5950 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis, as well as to the following services: in Region 1 to the land mobile service on a primary basis, in Region 2 to the mobile except aeronautical mobile (R) service on a primary basis, and in Region 3 to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

5.137 On condition that harmful interference is not caused to the maritime mobile service, the bands 6200-6213.5 kHz and 6220.5-6525 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W. At the time of notification of these frequencies, the attention of the Bureau will be drawn to the above conditions.

5.138 The following bands:

6 765-6 795 kHz	(centre frequency 6 780 kHz),
433.05-434.79 MHz	(centre frequency 433.92 MHz) in Region 1
	except in the countries mentioned in No. 5.280,
61-61.5 GHz	(centre frequency 61.25 GHz),
122-123 GHz	(centre frequency 122.5 GHz), and
244-246 GHz	(centre frequency 245 GHz)

are designated for industrial, scientific and medical (ISM) applications. The use of these frequency bands for ISM applications shall be subject to special 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.

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

5.139 *Different category of service:* until 29 March 2009, in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 6765-7000 kHz to the land mobile service is on a primary basis (see No. 5.33). (WRC-03)

5.140 *Additional allocation:* in Angola, Iraq, Kenya, Rwanda, Somalia and Togo, the band 7000-7050 kHz is also allocated to the fixed service on a primary basis. (WRC-03)

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

5.141A *Additional allocation:* in Uzbekistan and Kyrgyzstan, the bands 7000-7100 kHz and 7100-7200 kHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-03)

5.141B *Additional allocation:* after 29 March 2009, in Algeria, Saudi Arabia, Australia, Bahrain, Botswana, Brunei Darussalam, China, Comoros, Korea (Rep. of), Diego Garcia, Djibouti, Egypt, United Arab Emirates, Eritrea, Indonesia, Iran (Islamic Republic of), Japan, Jordan, Kuwait, the Libyan Arab Jamahiriya, Morocco, Mauritania, New Zealand, Oman, Papua New Guinea, Qatar, the Syrian Arab Republic, Singapore, Su-

dan, Tunisia, Vietnam and Yemen, the band 7 100-7 200 kHz is also allocated to the fixed and the mobile, except aeronautical mobile (R), services on a primary basis. (WRC-03)

5.141C In Regions 1 and 3, the band 7100-7200 kHz is allocated to the broadcasting service until 29 March 2009 on a primary basis. (WRC-03)

5.142 Until 29 March 2009, the use of the band 7100-7300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. After 29 March 2009 the use of the band 7200-7300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. (WRC-03)

5.143 The band 7300-7350 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis and to the land mobile service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

5.143A In Region 3, the band 7350-7450 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, 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. (WRC-03)

5.143B In Region 1, the band 7350-7450 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, on condition that harmful interference is not caused to the broadcasting service, frequencies in the band 7350-7450 kHz may be used by stations in the fixed and land mobile services communicating only within the boundary of the country in which they are located, each station using a total radiated power that shall not exceed 24 dBW. (WRC-03)

5.143C Additional allocation: after 29 March 2009 in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, Jordan, Kuwait, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, Tunisia and Yemen, the bands 7 350-7 400 kHz and 7 400-7 450 kHz are also allocated to the fixed service on a primary basis. (WRC-03)

5.143D In Region 2, the band 7 350-7 400 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, 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. (WRC-03)

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

5.144 In Region 3, the stations of those services to which the band 7 995-8 005 kHz is allocated may transmit standard frequency and time signals.

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

5.146 The bands 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 15600-15800 kHz, 17480-17550 kHz and 18900-19020 kHz are allocated to the fixed service on a primary basis until 1 April 2007, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in these bands may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

5.147 On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9775-9900 kHz, 11650-11700 kHz and 11975-12050 kHz may be used by stations in the fixed service communicating only within the boundary of the country in which they are located, each station using a total radiated power not exceeding 24 dBW.

5.148 (SUP - WRC-97)

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

13360-13410 kHz, 25550-25670 kHz, 37.5-38.25 MHz, 73-74.6 MHz in Regions 1 and 3, 150.05-153 MHz in Region 1, 322-328.6 MHz, 406.1-410 MHz, 608-614 MHz in Regions 1 and 3, 1330-1400 MHz, 1610.6-1613.8 MHz, 1660-1670 MHz, 1718.8-1722.2 MHz, 2655-2690 MHz, 3260-3267 MHz, 3332-3339 MHz, 3345.8-3352.5 MHz, 4825-4835 MHz, 4950-4990 MHz, 4990-5000 MHz, 6 650-6 675.2 MHz, 10.6-10.68 GHz, 14.47-14.5 GHz, 22.01-22.21 GHz, 22.21-22.5 GHz, 22.81-22.86 GHz, 23.07-23.12 GHz, 31.2-31.3 GHz, 31.5-31.8 GHz in Regions 1 and 3, 36.43-36.5 GHz, 42.5-43.5 GHz, 42.77-42.87 GHz, 43.07-43.17 GHz, 43.37-43.47 GHz, 48.94-49.04 GHz, 76-86 GHz, 92-94 GHz, 94.1-100 GHz, 102-109.5 GHz, 111.8-114.25 GHz, 128.33-128.59 GHz, 129.23-129.49 GHz, 130-134 GHz, 136-148.5 GHz, 151.5-158.5 GHz, 168.59-168.93 GHz, 171.11-171.45 GHz, 172.31-172.65 GHz, 173.52-173.85 GHz, 195.75-196.15 GHz, 209-226 GHz, 241-250 GHz, 252-275 GHz

are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space borne or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 4.5 and 4.6 and Article 29). (WRC-2000)

5.150 The following bands:

13 553-13 567 kHz	(centre frequency 13 560 kHz),
26 957-27 283 kHz	(centre frequency 27 120 kHz),
40.66-40.70 MHz	(centre frequency 40.68 MHz),
902-928 MHz	in Region 2 (centre frequency 915 MHz),
2 400-2 500 MHz	(centre frequency 2 450 MHz),
5 725-5 875 MHz	(centre frequency 5 800 MHz), and
24-24.25 GHz	(centre frequency 24.125 GHz)

are also designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within these bands must accept harmful interference, which may be caused by these applications. ISM equipment operating in these bands is subject to the provisions of No. 15.13.

5.151 The bands 13570-13600 kHz and 13800-13870 kHz are allocated, until 1 April 2007, to the fixed service on a primary basis and to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in these bands may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies in these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

5.152 *Additional allocation:* in Armenia, Azerbaijan, China, Côte d'Ivoire, the Russian Federation, Georgia, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 14250-14350 kHz is also allocated to the fixed service on a primary basis. Stations of the fixed service shall not use a radiated power exceeding 24 dBW. (WRC-03)

5.153 In Region 3, the stations of those services to which the band 15995-16005 kHz is allocated may transmit standard frequency and time signals.

5.154 *Additional allocation:* in Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 18068-18168 kHz is also allocated to the fixed service on a primary basis for use within their boundaries, with a peak envelope power not exceeding 1 kW. (WRC-03)

5.155 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan, Turkmenistan and Ukraine, the band 21850-21870 kHz is also allocated to the aeronautical mobile (R) services on a primary basis. (WRC-03)

5.155A In Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan, Turkmenistan and Ukraine, the use of the band 21850-21870 kHz by the fixed service is limited to provision of services related to aircraft flight safety. (WRC-2000)

5.155B The band 21870-21924 kHz is used by the fixed service for provision of services related to aircraft flight safety.

5.156 *Additional allocation:* in Nigeria, the band 22720-23200 kHz is also allocated to the meteorological aids service (radiosondes) on a primary basis.

5.156A The use of the band 23200-23350 kHz by the fixed service is limited to provision of services related to aircraft flight safety.

5.157 The use of the band 23350-24000 kHz by the maritime mobile service is limited to inter-ship radiotelegraphy.

5.158 Not used.

5.159 Not used.

5.160 *Additional allocation:* in Botswana, Burundi, Lesotho, Malawi, Dem. Rep. of the Congo, Rwanda and Swaziland, the band 41-44 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-2000)

5.161 *Additional allocation:* in Iran (Islamic Republic of) and Japan, the band 41-44 MHz is also allocated to the radiolocation service on a secondary basis.

5.162 *Additional allocation:* in Australia and New Zealand, the band 44-47 MHz is also allocated to the broadcasting service on a primary basis.

5.162A *Additional allocation:* in Germany, Austria, Belgium, Bosnia and Herzegovina, China, Vatican, Denmark, Spain, Estonia, the Russian Federation, Finland, France, Ireland, Iceland, Italy, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Luxembourg, Moldova, Monaco, Norway, the Netherlands, Poland, Portugal, Slovakia, the Czech Rep., the United Kingdom, Sweden and Switzerland the band 46-68 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution 217 (WRC-97). (WRC-2000)

5.163 *Additional allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan, Turkmenistan and Ukraine, the bands 47-48.5 MHz and 56.5-58 MHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-03)

5.164 *Additional allocation:* in Albania, Germany, Austria, Belgium, Bosnia and Herzegovina, Botswana, Bulgaria, Côte d'Ivoire, Denmark, Spain, Estonia, Finland, France, Gabon, Greece, Ireland, Israel, Italy, the Libyan Arab Jamahiriya, Jordan, Lebanon,

Liechtenstein, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Nigeria, Norway, the Netherlands, Poland, Syrian Arab Republic, the United Kingdom, Serbia and Montenegro, Slovenia, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 47-68 MHz, in Romania the band 47-58 MHz, in South Africa the band 47-50 MHz, and in the Czech Rep. the band 66-68 MHz, are also allocated to the land mobile service on a primary basis. However, stations of the land mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations of countries other than those mentioned in connection with the band. (WRC-03)

5.165 *Additional allocation:* in Angola, Cameroon, Congo (Rep. of the), Madagascar, Mozambique, Somalia, Sudan, Tanzania and Chad, the band 47-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.166 *Alternative allocation:* in New Zealand, the band 50-51 MHz is allocated to the fixed, mobile and broadcasting services on a primary basis; the band 53-54 MHz is allocated to the fixed and mobile services on a primary basis.

5.167 *Alternative allocation:* in Bangladesh, Brunei Darussalam, India, Indonesia, Iran (Islamic Republic of), Malaysia, Pakistan, Singapore and Thailand, the band 50-54 MHz is allocated to the fixed, mobile and broadcasting services on a primary basis.

5.168 *Additional allocation:* in Australia, China and the Dem. People's Rep. of Korea, the band 50-54 MHz is also allocated to the broadcasting service on a primary basis.

5.169 *Alternative allocation:* in Botswana, Burundi, Lesotho, Malawi, Namibia, the Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 50-54 MHz is allocated to the amateur service on a primary basis.

5.170 *Additional allocation:* in New Zealand, the band 51-53 MHz is also allocated to the fixed and mobile services on a primary basis.

5.171 *Additional allocation:* in Botswana, Burundi, Lesotho, Malawi, Mali, Namibia, Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland and Zimbabwe, the band 54-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.172 *Different category of service:* in the French Overseas Departments in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 54-68 MHz to the fixed and mobile services is on a primary basis (see No. 5.33).

5.173 *Different category of service:* in the French Overseas Departments in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 68-72 MHz to the fixed and mobile services is on a primary basis (see No. 5.33).

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

5.175 *Alternative allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 68-73 MHz and 76-87.5 MHz are allocated to the broadcasting service on a primary basis. The services to which these bands are allocated in other countries and the broadcasting service in the countries listed above are subject to agreements with the neighbouring countries concerned. (WRC-2000)

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

5.177 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Latvia, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 73-74 MHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-03)

5.178 *Additional allocation:* in Colombia, Costa Rica, Cuba, El Salvador, Guatemala, Guyana, Honduras and Nicaragua, the band 73-74.6 MHz is also allocated to the fixed and mobile services on a secondary basis.

5.179 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, China, the Russian Federation, Georgia, Kazakhstan, Lithuania, Moldova, Mongolia, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the bands 74.6-74.8 MHz and 75.2-75.4 MHz are also allocated to the aeronautical radionavigation service, on a primary basis, for ground-based transmitters only. (WRC-03)

5.180 The frequency 75 MHz is assigned to marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services, which, because of their power or geographical position, might cause harmful interference or otherwise place a constraint on marker beacons.

Every effort should be made to improve further the characteristics of airborne receivers and to limit the power of transmitting stations close to the limits 74.8 MHz and 75.2 MHz.

5.181 *Additional allocation:* in Egypt, Israel and the Syrian Arab Republic, the band 74.8-75.2 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. 9.21. (WRC-03)

5.182 *Additional allocation:* in Western Samoa, the band 75.4-87 MHz is also allocated to the broadcasting service on a primary basis.

5.183 *Additional allocation:* in China, Korea (Rep. of), Japan, the Philippines and the Dem. People's Rep. of Korea, the band 76-87 MHz is also allocated to the broadcasting service on a primary basis.

5.184 *Additional allocation:* in Bulgaria and Romania, the band 76-87.5 MHz is also allocated to the broadcasting service on a primary basis and used in accordance with the decisions contained in the Final Acts of the Special Regional Conference (Geneva, 1960). (WRC-97)

5.185 *Different category of service:* in the United States, the French Overseas Departments in Region 2, Guyana, Jamaica, Mexico and Paraguay, the allocation of the band 76-88 MHz to the fixed and mobile services is on a primary basis (see No. 5.33).

5.186 (SUP - WRC-97)

5.187 *Alternative allocation:* in Albania, the band 81-87.5 MHz is allocated to the broadcasting service on a primary basis and used in accordance with the decisions contained in the Final Acts of the Special Regional Conference (Geneva, 1960).

5.188 *Additional allocation:* in Australia, the band 85-87 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service in Australia is subject to special agreements between the administrations concerned.

5.189 Not used.

5.190 *Additional allocation:* in Monaco, the band 87.5-88 MHz is also allocated to the land mobile service on a primary basis, subject to agreement obtained under No. 9.21 (WRC-97)

5.191 Not used.

5.192 *Additional allocation:* in China and Korea (Rep. of), the band 100-108 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-97)

5.193 Not used.

5.194 *Additional allocation:* in Azerbaijan, Lebanon, the Syrian Arab Republic, Kyrgyzstan, Somalia and Turkmenistan, the band 104-108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-97)

5.195 and 5.196 Not used.

5.197 *Additional allocation:* in Japan, Pakistan and the Syrian Arab Republic, the band 108-111.975 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedures invoked under No. 9.21 (WRC-2000)

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

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

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

5.200 In the band 117.975-136 MHz, the frequency 121.5 MHz is the aeronautical emergency frequency and, where required, the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz. Mobile stations of the maritime mobile service may communicate on these frequencies under the conditions laid down in Article 31 and Appendix 13 for distress and safety purposes with stations of the aeronautical mobile service.

5.201 *Additional allocation:* in Angola, Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Latvia, Moldova, Mongolia, Mozambique, Uzbekistan, Papua New Guinea, Poland, Kyrgyzstan, Slovakia, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 132-136 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service. (WRC-97)

5.202 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Belarus, Bulgaria, the United Arab Emirates, the Russian Federation, Georgia, Iran (Islamic Republic of), Jordan, Latvia, Moldova, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Slovakia, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 136-137 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service. (WRC-2000)

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

5.203A *Additional allocation:* in Israel, Mauritania, Qatar and Zimbabwe, the band 136-137 MHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a secondary basis until 1 January 2005. (WRC-97)

5.203B *Additional allocation:* in Saudi Arabia, United Arab Emirates, Oman and Syrian Arab Republic, the band 136-137 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis until 1 January 2005. (WRC-03)

5.204 *Different category of service:* in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Bosnia and Herzegovina, Brunei Darussalam, China, Cuba, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Malaysia, Oman, Pakistan, the Philippines, Qatar, Serbia and Montenegro, Singapore, Thailand and Yemen, the band 137-138 MHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis (see No. 5.33). (WRC-03)

5.205 *Different category of service:* in Israel and Jordan, the allocation of the band 137-138 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33).

5.206 *Different category of service:* in Armenia, Azerbaijan, Belarus, Bulgaria, Egypt, the Russian Federation, Finland, France, Georgia, Greece, Kazakhstan, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Syrian Arab Republic, Slovakia, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 137-138 MHz to the aeronautical mobile (OR) service is on a primary basis (see No. 5.33). (WRC-2000)

5.207 *Additional allocation:* in Australia, the band 137-144 MHz is also allocated to the broadcasting service on a primary basis until that service can be accommodated within regional broadcasting allocations.

5.208 The use of the band 137-138 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. (WRC-97)

5.208A In making assignments to space stations in the mobile-satellite service in the bands 137-138 MHz, 387-390 MHz and 400.15-401 MHz, administrations shall take all practicable steps to protect the radio astronomy service in the bands 150.05-153 MHz, 322-328.6 MHz, 406.1-410 MHz and 608-614 MHz from harmful interference from unwanted emissions. The threshold levels of interference detrimental to the radio astronomy service are shown in Table-1 of Recommendation ITU-R RA.769-1 (WRC-97)

5.209 The use of the bands 137-138 MHz, 148-150.05 MHz, 399.9-400.05 MHz, 400.15-401 MHz, 454-456 MHz and 459-460 MHz by the mobile-satellite service is limited to non-geostationary-satellite systems. (WRC-97)

5.210 *Additional allocation:* in France, Italy, the Czech Rep. and the United Kingdom, the bands 138-143.6 MHz and 143.65-144 MHz are also allocated to the space research service (space-to-Earth) on a secondary basis. (WRC-03)

5.211 *Additional allocation:* in Germany, Saudi Arabia, Austria, Bahrain, Belgium, Bosnia and Herzegovina, Denmark, the United Arab Emirates, Spain, Finland, Greece, Ireland, Israel, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Liechtenstein, Luxembourg, Mali, Malta, Norway, the Netherlands, Qatar, the United Kingdom, Serbia and Montenegro, Somalia, Sweden, Switzerland, Tanzania, Tunisia and Turkey, the band 138-144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis. (WRC-2000)

5.212 *Alternative allocation:* in Angola, Botswana, Burundi, Cameroon, the Central African Rep., Congo (Rep. of the), Gabon, Gambia, Ghana, Guinea, Iraq, Libyan Arab Jamahiriya, Jordan, Lesotho, Liberia, Malawi, Mozambique, Namibia, Oman, Uganda, the Dem. Rep. of the Congo, Rwanda, Sierra Leone, South Africa, Swaziland, Chad, Togo, Zambia and Zimbabwe, the band 138-144 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.213 *Additional allocation:* in China, the band 138-144 MHz is also allocated to the radiolocation service on a primary basis.

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

5.215 Not used.

5.216 *Additional allocation:* in China, the band 144-146 MHz is also allocated to the aeronautical mobile (OR) service on a secondary basis.

5.217 *Alternative allocation:* in Afghanistan, Bangladesh, Cuba, Guyana and India, the band 146-148 MHz is allocated to the fixed and mobile services on a primary basis.

5.218 *Additional allocation:* the band 148-149.9 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. 9.21. The bandwidth of any individual transmission shall not exceed ± 25 kHz.

5.219 The use of the band 148-149.9 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The mobile-satellite service shall not constrain the development and use of the fixed, mobile and space operation services in the band 148-149.9 MHz.

5.220 The use of the bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The mobile-satellite service shall not constrain the development and use of the radionavigation-satellite service in the bands 149.9-150.05 MHz and 399.9-400.05 MHz. (WRC-97)

5.221 Stations of the mobile-satellite service in the band 148-149.9 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations in the following countries: Albania, Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bosnia and Herzegovina, Botswana, Brunei Darussalam, Bulgaria, Cameroon, China, Cyprus, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Croatia, Cuba, Denmark, Egypt, the United Arab Emirates, Eritrea, Spain, Estonia, Ethiopia, the Russian Federation, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, Iran (Islamic Republic of), Ireland, Iceland, Israel, Italy, the Libyan Arab Jamahiriya, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, the Philippines, Poland, Portugal, Qatar, the Syrian Arab Republic, Kyrgyzstan, Slovakia, Romania, the United Kingdom, Senegal, Serbia and Montenegro, Sierra Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia, and Zimbabwe. (WRC-03)

5.222 Emissions of the radionavigation-satellite service in the bands 149.9-150.05 MHz and 399.9-400.05 MHz may also be used by receiving earth stations of the space research service.

5.223 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. 4.4.

5.224 (SUP - WRC-97)

5.224A The use of the bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service (Earth-to-space) is limited to the land mobile-satellite service (Earth-to-space) until 1 January 2015. (WRC-97)

5.224B The allocation of the bands 149.9-150.05 MHz and 399.9-400.05 MHz to the radionavigation-satellite service shall be effective until 1 January 2015. (WRC-97)

5.225 *Additional allocation:* in Australia and India, the band 150.05-153 MHz is also allocated to the radio astronomy service on a primary basis.

5.226 The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service. The conditions for the use of this frequency are contained in Article 31 and Appendix 13.

In the bands 156-156.7625 MHz, 156.8375-157.45 MHz, 160.6-160.975 MHz and 161.475-162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by the administration (see Articles 31 and 52, and Appendix 13).

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

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

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

5.228 Not used.

5.229 *Alternative allocation:* in Morocco, the band 162-174 MHz is allocated to the broadcasting service on a primary basis. The use of this band shall be subject to agreement with administrations having services, operating or planned, in accordance with the Table, which are likely to be affected. Stations in existence on 1 January 1981, with their technical characteristics as of that date, are not affected by such agreement.

5.230 *Additional allocation:* in China, the band 163-167 MHz is also allocated to the space operation service (space-to-Earth) on a primary basis, subject to agreement obtained under No. 9.21.

5.231 *Additional allocation:* in Afghanistan, China and Pakistan, the band 167-174 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service into this band shall be subject to agreement with the neighbouring countries in Region 3 whose services are likely to be affected.

5.232 *Additional allocation:* in Japan, the band 170-174 MHz is also allocated to the broadcasting service on a primary basis.

5.233 *Additional allocation:* in China, the band 174-184 MHz is also allocated to the space research (space-to-Earth) and the space operation (space-to-Earth) services on a primary basis, subject to agreement obtained under No. 9.21. These services shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations.

5.234 *Different category of service:* in Mexico, the allocation of the band 174-216 MHz to the fixed and mobile services is on a primary basis (see No. 5.33).

5.235 *Additional allocation:* in Germany, Austria, Belgium, Denmark, Spain, Finland, France, Israel, Italy, Liechtenstein, Malta, Monaco, Norway, the Netherlands, the United Kingdom, Sweden and Switzerland, the band 174-223 MHz is also allocated to the land mobile service on a primary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, broadcasting stations, existing or planned, in countries other than those listed in this footnote.

5.236 Not used.

5.237 *Additional allocation:* in Congo (Rep. of the), Eritrea, Ethiopia, Gambia, Guinea, the Libyan Arab Jamahiriya, Malawi, Mali, Sierra Leone, Somali, Chad and Zimbabwe, the band 174-223 MHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-03)

5.238 *Additional allocation:* in Bangladesh, India, Pakistan and the Philippines, the band 200-216 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

5.239 Not used.

5.240 *Additional allocation:* in China and India, the band 216-223 MHz is also allocated to the aeronautical radionavigation service on a primary basis and to the radiolocation service on a secondary basis.

5.241 In Region 2, no new stations in the radiolocation service may be authorized in the band 216-225 MHz. Stations authorized prior to 1 January 1990 may continue to operate on a secondary basis.

5.242 *Additional allocation:* in Canada, the band 216-220 MHz is also allocated to the land mobile service on a primary basis.

5.243 *Additional allocation:* in Somalia, the band 216-225 MHz is also allocated to the aeronautical radionavigation service on a primary basis, subject to not causing harmful interference to existing or planned broadcasting services in other countries.

5.244 (SUP - WRC-97)

5.245 *Additional allocation:* in Japan, the band 222-223 MHz is also allocated to the aeronautical radionavigation service on a primary basis and to the radiolocation service on a secondary basis.

5.246 *Alternative allocation:* in Spain, France, Israel and Monaco, the band 223-230 MHz is allocated to the broadcasting and land mobile services on a primary basis (see No. 5.33) on the basis that, in the preparation of frequency plans, the broadcasting service shall have prior choice of frequencies; and allocated to the fixed and mobile, except land mobile, services on a secondary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations in Morocco and Algeria.

5.247 *Additional allocation:* in Saudi Arabia, Bahrain, the United Arab Emirates, Jordan, Oman, Qatar and Syrian Arab Republic, the band 223-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

5.248 and 5.249 Not used.

5.250 *Additional allocation*: in China, the band 225-235 MHz is also allocated to the radio astronomy service on a secondary basis.

5.251 *Additional allocation:* in Nigeria, the band 230-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis, subject to agreement obtained under No. 9.21.

5.252 *Alternative allocation:* in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the bands 230-238 MHz and 246-254 MHz are allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21.

5.253 Not used.

5.254 The bands 235-322 MHz and 335.4-399.9 MHz may be used by the mobile-satellite service, subject to agreement obtained under No. 9.21, on condition that stations in this service do not cause harmful interference to those of other services operating or planned to be operated in accordance with the Table of Frequency Allocations except for the additional allocation made in footnote No. 5.256A. (WRC-03)

5.255 The bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) in the mobile-satellite service may also be used by non-geostationary-satellite systems. Such use is subject to coordination under No. 9.11A.

5.256 The frequency 243 MHz is the frequency in this band for use by survival craft stations and equipment used for survival purposes (see Appendix 13).

5.256A *Additional allocation:* in China, the Russian Federation, Kazakhstan and Ukraine, the band 258-261 MHz is also allocated to the space research service (Earth-to-space) and space operation service (Earth-to-space) on a primary basis. Stations in the space research service (Earth-to-space) and space operation service (Earth-to-space) shall not cause harmful interference to, nor claim protection from, nor constrain the use and development of the mobile service systems and mobile-satellite service systems operating in the band. Stations in space research service (Earth-to-space) and space operation service (Earth-to-space) shall not constrain the future development of fixed service systems of other countries. (WRC-03)

5.257 The band 267-272 MHz may be used by administrations for space telemetry in their countries on a primary basis, subject to agreement obtained under No. 9.21.

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

5.259 *Additional allocation:* in Egypt, Israel, Japan, and the Syrian Arab Republic, the band 328.6-335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. 9.21. (WRC-2000)

5.260 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. 4.4.

5.261 Emissions shall be confined in a band of $\pm$ 25 kHz about the standard frequency 400.1 MHz.

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

5.263 The band 400.15-401 MHz is also allocated to the space research service in the space-to-space direction for communications with manned space vehicles. In this application, the space research service will not be regarded as a safety service.

5.264 The use of the band 400.15-401 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The power flux-density limit indicated in Annex 1 of Appendix 5 shall apply until such time as a competent world radiocommunication conference revises it.

5.265 Not used.

5.266 The use of the band 406-406.1 MHz by the mobile-satellite service is limited to low power satellite emergency position-indicating radiobeacons (see also Article 31 and Appendix 13).

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

5.268 Use of the band 410-420 MHz by the space research service is limited to communications within 5 km of an orbiting, manned space vehicle. The power flux-density at

the surface of the Earth produced by emissions from extra-vehicular activities shall not exceed –153 dB(W/m^2) for $0° \le \delta \le 5°$, -153 + 0.077 (δ – 5) dB(W/m^2) for $5° \le \delta \le 70°$ and –148 dB(W/m^2) for $70° \le \delta \le 90°$, where δ is the angle of arrival of the radio-frequency wave and the reference bandwidth is 4 kHz. No. 4.10 does not apply to extra-vehicular activities. In this frequency band the space research (space-to-space) service shall not claim protection from, nor constrain the use and development of, stations of the fixed and mobile services. (WRC-97)

5.269 *Different category of service:* in Australia, the United States, India, Japan and the United Kingdom, the allocation of the bands 420-430 MHz and 440-450 MHz to the radiolocation service is on a primary basis (see No. 5.33).

5.270 *Additional allocation:* in Australia, the United States, Jamaica and the Philippines, the bands 420-430 MHz and 440-450 MHz are also allocated to the amateur service on a secondary basis.

5.271 *Additional allocation:* in Azerbaijan, Belarus, China, India, Latvia, Lithuania, Kyrgyzstan and Turkmenistan, the band 420-460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis. (WRC-03)

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

5.273 *Different category of service:* in the Libyan Arab Jamahiriya, the allocation of the bands 430-432 MHz and 438-440 MHz to the radiolocation service is on a secondary basis (see No. 5.32). (WRC-03)

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

5.275 *Additional allocation:* in Bosnia and Herzegovina, Croatia, Estonia, Finland, Libyan Arab Jamahiriya, Latvia, The Former Yugoslav Republic of Macedonia, Serbia and Montenegro and Slovenia, the bands 430-432 MHz and 438-440 MHz are also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-97)

5.276 *Additional allocation:* in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burkina Faso, Burundi, Egypt, the United Arab Emirates, Ecuador, Eritrea, Ethiopia, Greece, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Lebanon, Liechtenstein, Malaysia, Malta, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Switzerland, Tanzania, Thailand, Togo, Turkey and Yemen, the band 430-440 MHz is also allocated to the fixed service on a primary basis and the bands 430-435 MHz and 438-440 MHz are also allocated to the mobile, except aeronautical mobile, service on a primary basis. (WRC-97)

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

5.278 *Different category of service:* in Argentina, Colombia, Costa Rica, Cuba, Guyana, Honduras, Panama and Venezuela, the allocation of the band 430-440 MHz to the amateur service is on a primary basis (see No. 5.33).

5.279 *Additional allocation:* in Mexico, the bands 430-435 MHz and 438-440 MHz are also allocated on a primary basis to the land mobile service, subject to agreement obtained under No. 9.21.

5.279A The use of this band by sensors in the Earth exploration-satellite service (active) shall be in accordance with Recommendation ITU-R SA.1260-1. Additionally, the Earth exploration-satellite service (active) in the band 432-438 MHz shall not cause harmful interference to the aeronautical radionavigation service in China. The provi-

sions of this footnote in no way diminish the obligation of the Earth exploration-satellite service (active) to operate as a secondary service in accordance with Nos. 5.29 and 5.30. (WRC-03)

5.280 In Germany, Austria, Bosnia and Herzegovina, Croatia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Portugal, Serbia and Montenegro, Slovenia and Switzerland, the band 433.05-434.79 MHz (centre frequency 433.92 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services of these countries operating within this band must accept harmful interference, which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 15.13.

5.281 *Additional allocation:* in the French Overseas Departments in Region 2 and India, the band 433.75-434.25 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis. In France and in Brazil, the band is allocated to the same service on a secondary basis.

5.282 In the bands 435-438 MHz, 1260-1270 MHz, 2400-2450 MHz, 3400-3410 MHz (in Regions 2 and 3 only) and 5650-5670 MHz, the amateur-satellite service may operate subject to not causing harmful interference to other services operating in accordance with the Table (see No. 5.43). Administrations 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. 25.11. The use of the bands 1260-1270 MHz and 5650-5670 MHz by the amateur-satellite service is limited to the Earth-to-space direction.

5.283 *Additional allocation:* in Austria, the band 438-440 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.284 *Additional allocation:* in Canada, the band 440-450 MHz is also allocated to the amateur service on a secondary basis.

5.285 *Different category of service:* in Canada, the allocation of the band 440-450 MHz to the radiolocation service is on a primary basis (see No. 5.33).

5.286 The band 449.75-450.25 MHz may be used for the space operation service (Earth-to-space) and the space research service (Earth-to-space), subject to agreement obtained under No. 9.21.

5.286A The use of the bands 454-456 MHz and 459-460 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. (WRC-97)

5.286B The use of the band 454-455 MHz in the countries listed in No. 5.286D, 455-456 MHz and 459-460 MHz in Region 2, and 454-456 MHz and 459-460 MHz in the countries listed in No. 5.286E, by stations in the mobile-satellite service, shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations. (WRC-97)

5.286C The use of the band 454-455 MHz in the countries listed in No. 5.286D, 455-456 MHz and 459-460 MHz in Region 2, and 454-456 MHz and 459-460 MHz in the countries listed in No. 5.286E, by stations in the mobile-satellite service, shall not constrain the development and use of the fixed and mobile services operating in accordance with the Table of Frequency Allocations. (WRC-97)

5.286D *Additional allocation:* in Canada, the United States, Mexico and Panama, the band 454-455 MHz is also allocated to the mobile-satellite service (Earth-to-space) on a primary basis. (WRC-97)

5.286E *Additional allocation:* in Cape Verde, Indonesia, Nepal, Nigeria and Papua New Guinea, the bands 454-456 MHz and 459-460 MHz are also allocated to the mobile-satellite (Earth-to-space) service on a primary basis. (WRC-97)

5.287 In the maritime mobile service, the frequencies 457.525 MHz, 457.550 MHz, 457.575 MHz, 467.525 MHz, 467.550 MHz and 467.575 MHz may be used by on-board communication stations. Where needed, equipment designed for 12.5 kHz channel spacing using also the additional frequencies 457.5375 MHz, 457.5625 MHz, 467.5375 MHz and 467.5625 MHz may be introduced for on-board communications.

The use of these frequencies in territorial waters may be subject to the national regulations of the administration concerned. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174 (see Resolution 341 (WRC-97)). (WRC-97)

5.288 In the territorial waters of the United States and the Philippines, the preferred frequencies for use by on-board communication stations shall be 457.525 MHz, 457.550 MHz, 457.575 MHz and 457.600 MHz paired, respectively, with 467.750 MHz, 467.775 MHz, 467.800 MHz and 467.825 MHz. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174-1. (WRC-03)

5.289 Earth exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands 460-470 MHz and 1 690-1 710 MHz for space-to-Earth transmissions subject to not causing harmful interference to stations operating in accordance with the Table.

5.290 *Different category of service:* in Afghanistan, Azerbaijan, Belarus, China, the Russian Federation, Japan, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 460-470 MHz to the meteorological-satellite service (space-to-Earth) is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21. (WRC-2000)

5.291 *Additional allocation:* in China, the band 470-485 MHz is also allocated to the space research (space-to-Earth) and the space operation (space-to-Earth) services on a primary basis subject to agreement obtained under No. 9.21 and subject to not causing harmful interference to existing and planned broadcasting stations.

5.291A *Additional allocation:* in Germany, Austria, Denmark, Estonia, Finland, Liechtenstein, Norway, Netherlands, the Czech Rep. and Switzerland, the band 470-494 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution 217 (WRC-97).

5.292 *Different category of service:* in Mexico and Venezuela, the allocation of the band 470-512 MHz to the fixed and mobile services, and in Argentina and Uruguay to the mobile service, is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21.

5.293 *Different category of service:* in Canada, Chile, Colombia, Cuba, the United States, Guyana, Honduras, Jamaica, Mexico, Panama and Peru, the allocation of the bands 470-512 MHz and 614-806 MHz to the fixed and mobile services is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21. In Argentina and Ecuador, the allocation of the band 470-512 MHz to the fixed and mobile services is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21. (WRC-2000)

5.294 *Additional allocation:* in Burundi, Cameroon, Congo (Rep. of the), Côte d'Ivoire, Ethiopia, Israel, the Libyan Arab Jamahiriya, Kenya, Lebanon, Malawi, the Syrian Arab Republic, Sudan, Chad and Yemen, the band 470-582 MHz is also allocated to the fixed service on a secondary basis. (WRC-03)

5.295 Not used.

5.296 *Additional allocation:* in Germany, Austria, Belgium, Côte d'Ivoire, Denmark, Spain, Finland, France, Ireland, Israel, Italy, the Libyan Arab Jamahiriya, Lithuania, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, the Syrian Arab Republic, the United Kingdom, Sweden, Switzerland, Swaziland and Tunisia, the band 470-790 MHz is also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting. Stations of the land mobile service in the countries listed in this footnote shall not cause harmful interference to existing or planned stations operating in accordance with the Table in countries other than those listed in this footnote. (WRC-03)

5.297 *Additional allocation:* in Costa Rica, Cuba, El Salvador, the United States, Guatemala, Guyana, Honduras, Jamaica and Mexico, the band 512-608 MHz is also allocated to the fixed and mobile services on a primary basis, subject to agreement ob-

tained under No. 9.21. (WRC-2000)

5.298 *Additional allocation:* in India, the band 549.75-550.25 MHz is also allocated to the space operation service (space-to-Earth) on a secondary basis.

5.299 Not used.

5.300 *Additional allocation:* in Israel, the Libyan Arab Jamahiriya, the Syrian Arab Republic and Sudan, the band 582-790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.

5.301 Not used.

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

5.303 Not used.

5.304 *Additional allocation:* in the African Broadcasting Area (see Nos. 5.10 to 5.13), the band 606-614 MHz is also allocated to the radio astronomy service on a primary basis.

5.305 *Additional allocation:* in China, the band 606-614 MHz is also allocated to the radio astronomy service on a primary basis.

5.306 *Additional allocation:* in Region 1, except in the African Broadcasting Area (see Nos. 5.10 to 5.13), and in Region 3, the band 608-614 MHz is also allocated to the radio astronomy service on a secondary basis.

5.307 *Additional allocation:* in India, the band 608-614 MHz is also allocated to the radio astronomy service on a primary basis.

5.308 Not used.

5.309 *Different category of service*: in Costa Rica, El Salvador and Honduras, the allocation of the band 614-806 MHz to the fixed service is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21.

5.310 (SUP - WRC-97)

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

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

5.313 (SUP - WRC-97)

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

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

5.316 *Additional allocation*: in Germany, Saudi Arabia, Bosnia and Herzegovina, Burkina Faso, Cameroon, Côte d'Ivoire, Croatia, Denmark, Egypt, Finland, Greece, Israel, the Libyan Arab Jamahiriya, Jordan, Kenya, The Former Yugoslav Republic of Macedonia, Liechtenstein, Mali, Monaco, Norway, the Netherlands, Portugal, the United Kingdom, the Syrian Arab Republic, Serbia and Montenegro, Sweden and Switzerland, the band 790-830 MHz, and in these same countries and in Spain, France, Gabon and Malta, the band 830-862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band. (WRC-03)

5.317 *Additional allocation*: in Region 2 (except Brazil and the United States), the band 806-890 MHz is also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. 9.21. The use of this service is intended for operation within national boundaries.

5.317A Administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000) may use those parts of the band 806-960 MHz which are allocated to the mobile service on a primary basis and are used or planned to be used for mobile systems (see Resolution 224 (WRC-2000)). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-2000)

5.318 *Additional allocation*: in Canada, the United States and Mexico, the bands 849-851 MHz and 894-896 MHz are also allocated to the aeronautical mobile service on a primary basis, for public correspondence with aircraft. The use of the band 849-851 MHz is limited to transmissions from aeronautical stations and the use of the band 894-896 MHz is limited to transmissions from aircraft stations.

5.319 *Additional allocation*: in Belarus, the Russian Federation and Ukraine, the bands 806-840 MHz (Earth-to-space) and 856-890 MHz (space-to-Earth) are also allocated to the mobile-satellite, except aeronautical mobile-satellite (R), service. The use of these bands by this service shall not cause harmful interference to, or claim protection from, services in other countries operating in accordance with the Table of Frequency Allocations and is subject to special agreements between the administrations concerned.

5.320 *Additional allocation*: in Region 3, the bands 806-890 MHz and 942-960 MHz are also allocated to the mobile-satellite, except aeronautical mobile-satellite (R), service on a primary basis, subject to agreement obtained under No. 9.21. The use of this service is limited to operation within national boundaries. In seeking such agreement, appropriate protection shall be afforded to services operating in accordance with the Table, to ensure that no harmful interference is caused to such services.

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

5.322 In Region 1, in the band 862-960 MHz, stations of the broadcasting service shall be operated only in the African Broadcasting Area (see Nos. 5.10 to 5.13) excluding Algeria, Egypt, Spain, the Libyan Arab Jamahiriya, Morocco, Namibia, Nigeria, South Africa, Tanzania, Zimbabwe and Zambia, subject to agreement obtained under No. 9.21. (WRC-2000)

5.323 *Additional allocation*: in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Hungary, Kazakhstan, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 862-960 MHz is also allocated to the aeronautical radionavigation service on a primary basis. Such use is subject to agreement obtained under No. 9.21 with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-03)

5.324 Not used.

5.325 *Different category of service*: in the United States, the allocation of the band 890-942

MHz to the radiolocation service is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21.

5.325A *Different category of service:* in Cuba, the allocation of the band 902-915 MHz to the land mobile service is on a primary basis. (WRC-2000)

5.326 *Different category of service*: in Chile, the band 903-905 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis, subject to agreement obtained under No. 9.21.

5.327 *Different category of service*: in Australia, the allocation of the band 915-928 MHz to the radiolocation service is on a primary basis (see No. 5.33).

5.328 The use of the band 960-1215 MHz by the aeronautical radionavigation service is reserved on a worldwide basis for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities. (WRC-2000)

5.328A Stations in the radionavigation-satellite service in the band 1164-1215 MHz shall operate in accordance with the provisions of Resolution 609 (WRC-03) and shall not claim protection from stations in the aeronautical radionavigation service in the band 960-1215 MHz. No. 5.43A does not apply. The provisions of No. 21.18 shall apply. (WRC-03)

5.328B The use of the bands 1164-1300 MHz, 1559-1610 MHz and 5010-5030 MHz by systems and networks in the radionavigation-satellite service for which complete coordination or notification information, as appropriate, is received by the Radiocommunication Bureau after 1 January 2005 is subject to the application of the provisions of Nos. 9.12, 9.12A and 9.13. Resolution 610 (WRC-03) shall also apply. (WRC-03)

5.329 Use of the radionavigation-satellite service in the band 1 215-1 300 MHz shall be subject to the condition that no harmful interference is caused to, and no protection is claimed from, the radionavigation service authorized under No. 5.331. Furthermore, the use of the radionavigation-satellite service in the band 1 215-1 300 MHz shall be subject to the condition that no harmful interference is caused to the radiolocation service. No. 5.43 shall not apply in respect of the radiolocation service. Resolution 608 (WRC-03) shall apply. (WRC-03)

5.329A Use of systems in the radionavigation-satellite service (space-to-space) operating in the bands 1215-1300 MHz and 1559-1610 MHz is not intended to provide safety service applications, and shall not impose any additional constraints on other systems or services operating in accordance with the Table. (WRC-2000)

5.330 *Additional allocation:* in Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, China, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, the Libyan Arab Jamahiriya, Japan, Jordan, Kuwait, Lebanon, Mozambique, Nepal, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Somalia, Sudan, Chad, Togo and Yemen, the band 1 215-1 300 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.331 *Additional allocation:* in Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Belarus, Belgium, Benin, Bosnia and Herzegovina, Brazil, Burkina Faso, Burundi, Cameroon, China, Korea (Rep. of), Croatia, Denmark, Egypt, the United Arab Emirates, Estonia, the Russian Federation, Finland, France, Ghana, Greece, Guinea, Equatorial Guinea, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Israel, Jordan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Mauritania, Nigeria, Norway, Oman, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Slovakia, the United Kingdom, Serbia and Montenegro, Slovenia, Somalia, Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Thailand, Togo, Turkey, Venezuela and Viet Nam, the band 1 215-1 300 MHz is also allocated to the radionavigation service on a primary basis. In Canada and the United States, the band 1 240-1 300 MHz is also allocated to the radionavigation service, and use of the radionavigation service shall be limited to the aeronautical radionavigation service. (WRC-03)

5.332 In the band 1215-1260 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, the radionavigation-satellite service and other services allocated on a primary basis. (WRC-2000)

5.333 (SUP - WRC-97)

5.334 *Additional allocation:* in Canada and the United States, the band 1350-1370 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-03)

5.335 In Canada and the United States in the band 1240-1300 MHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause interference to, claim protection from, or otherwise impose constraints on operation or development of the aeronautical radionavigation service. (WRC-97)

5.335A In the band 1260-1300 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service and other services allocated by footnotes on a primary basis. (WRC-2000)

5.336 Not used.

5.337 The use of the bands 1300-1350 MHz, 2700-2900 MHz and 9000-9200 MHz by the aeronautical radionavigation service is restricted to ground-based radars and to associated airborne transponders which transmit only on frequencies in these bands and only when actuated by radars operating in the same band.

5.337A The use of the band 1300-1350 MHz by earth stations in the radionavigation-satellite service and by stations in the radiolocation service shall not cause harmful interference to, nor constrain the operation and development of, the aeronautical-radionavigation service. (WRC-2000)

5.338 In Azerbaijan, Mongolia, Kyrgyzstan, Slovakia, the Czech Rep., Romania and Turkmenistan, existing installations of the radionavigation service may continue to operate in the band 1350-1400 MHz. (WRC-03)

5.339 The bands 1370-1400 MHz, 2640-2655 MHz, 4950-4990 MHz and 15.20-15.35 GHz are also allocated to the space research (passive) and Earth exploration-satellite (passive) services on a secondary basis.

5.339A *Additional allocation:* the band 1390-1392 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a secondary basis and the band 1430-1432 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis. These allocations are limited to use for feeder links for non-geostationary-satellite networks in the mobile-satellite service with service links below 1 GHz, and Resolution 745 (WRC-03) applies. (WRC-03)

5.340 All emissions are prohibited in the following bands:

1400-1427 MHz,	
2690-2700 MHz,	except those provided for by No. 5.422,
10.68-10.7 GHz,	except those provided for by No. 5.483,
15.35-15.4 GHz,	except those provided for by No. 5.511,
23.6-24 GHz,	
31.3-31.5 GHz,	
31.5-31.8 GHz,	in Region 2,
48.94-49.04 GHz,	from airborne stations
50.2-50.4 GHz,	
52.6-54.25 GHz,	
86-92 GHz,	
100-102 GHz,	

109.5-111.8 GHz,
114.25-116 GHz,
148.5-151.5 GHz,
164-167 GHz,
182-185 GHz,
190-191.8 GHz,
200-209 GHz,
226-231.5 GHz,
250-252 GHz. (WRC-03)

5.341 In the bands 1400-1727 MHz, 101-120 GHz and 197-220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extraterrestrial origin.

5.342 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Uzbekistan, Kyrgystan and Ukraine, the band 1429-1535 MHz is also allocated to the aeronautical mobile service on a primary basis exclusively for the purposes of aeronautical telemetry within the national territory. As of 1 April 2007, the use of the band 1452-1492 MHz is subject to agreement between the administrations concerned. (WRC-2000)

5.343 In Region 2, the use of the band 1435-1535 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service.

5.344 *Alternative allocation:* in the United States, the band 1452-1525 MHz is allocated to the fixed and mobile services on a primary basis (see also No. 5.343).

5.345 Use of the band 1452-1492 MHz by the broadcasting-satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (WARC-92).

5.346 Not used.

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

5.347A In the bands:
1452-1492 MHz,
1525-1559 MHz,
1613,8-1626,5 MHz,
2655-2670 MHz,
2670-2690 MHz,
21.4-22 GHz,
Resolution 739 (WRC-03) applies. (WRC-03)

5.348 The use of the band 1518-1525 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. In the band 1518-1525 MHz stations in the mobile-satellite service shall not claim protection from the stations in the fixed service. No. 5.43A does not apply. (WRC-03)

5.348A In the band 1518-1525 MHz, the coordination threshold in terms of the power flux-density levels at the surface of the Earth in application of No. 9.11A for space stations in the mobile-satellite (space-to-Earth) service, with respect to the land mobile service use for specialized mobile radios or used in conjunction with public switched telecommunication networks (PSTN) operating within the territory of Japan, shall be –150 dB(W/m^2) in any 4 kHz band for all angles of arrival, instead of those given in Table 5-2 of Appendix 5. In the band 1518-1525 MHz stations in the mobile-satellite service shall not claim protection from stations in the mobile service in the territory of Japan. No. 5.43A does not apply. (WRC-03)

5.348B In the band 1518-1525 MHz, stations in the mobile-satellite service shall not claim protection from aeronautical mobile telemetry stations in the mobile service in the territory of the United States (see Nos. 5.343 and 5.344) and in the countries listed in No. 5.342. No. 5.43A does not apply. (WRC-03)

5.348C For the use of the bands 1518-1525 MHz and 1668-1675 MHz by the mobile-satellite service, see Resolution 225 (Rev.WRC-03). (WRC-03)

5.349 *Different category of service:* in Saudi Arabia, Azerbaijan, Bahrain, Bosnia and Herzegovina, Cameroon, Egypt, France, Iran (Islamic Republic of), Iraq, Israel, Kazakhstan, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Morocco, Qatar, Syrian Arab Republic, Kyrgyzstan, Romania, Serbia and Montenegro, Turkmenistan and Yemen, the allocation of the band 1525-1530 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33). (WRC-2000)

5.350 *Additional allocation:* in Azerbaijan, Kyrgyzstan and Turkmenistan, the band 1525-1530 MHz is also allocated to the aeronautical mobile service on a primary basis. (WRC-2000)

5.351 The bands 1525-1544 MHz, 1545-1559 MHz, 1626.5-1645.5 MHz and 1646.5-1660.5 MHz shall not be used for feeder links of any service. In exceptional circumstances, however, an earth station at a specified fixed point in any of the mobile-satellite services may be authorized by an administration to communicate via space stations using these bands.

5.351A For the use of the bands 1525-1544 MHz, 1545-1559 MHz, 1610-1626.5 MHz, 1626.5-1645.5 MHz, 1646.5-1660.5 MHz, 1980-2010 MHz, 2170-2200 MHz, 2483.5-2500 MHz, 2500-2520 MHz and 2670-2690 MHz by the mobile-satellite service, see Resolutions 212 (Rev.WRC-97) and 225 (WRC-2000). (WRC-2000)

5.352 (SUP - WRC-97)

5.352A In the band 1525-1530 MHz, stations in the mobile-satellite service, except stations in the maritime mobile-satellite service, shall not cause harmful interference to, or claim protection from, stations of the fixed service in France and French overseas territories in Region 3, Algeria, Saudi Arabia, Egypt, Guinea, India, Israel, Italy, Jordan, Kuwait, Mali, Malta, Morocco, Mauritania, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Tanzania, Viet Nam and Yemen notified prior to 1 April 1998. (WRC-97)

5.353 (SUP - WRC-97)

5.353A In applying the procedures of Section II of Article 9 to the mobile-satellite service in the bands 1530-1544 MHz and 1626.5-1645.5 MHz, priority shall be given to accommodating the spectrum requirements for distress, urgency and safety communications of the Global Maritime Distress and Safety System (GMDSS). Maritime mobile-satellite distress, urgency and safety communications shall have priority access and immediate availability over all other mobile satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, distress, urgency and safety communications of the GMDSS. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution 222 (WRC-2000) shall apply.) (WRC-2000)

5.354 The use of the bands 1525-1559 MHz and 1626.5-1660.5 MHz by the mobile-satellite services is subject to coordination under No. 9.11A.

5.355 *Additional allocation:* in Bahrain, Bangladesh, Congo (Rep. of the), Egypt, Eritrea, Iraq, Israel, Kuwait, Lebanon, Malta, Qatar, Syrian Arab Republic, Somalia, Sudan, Chad, Togo and Yemen, the bands 1540-1559 MHz, 1610-1645.5 MHz and 1646.5-1660 MHz are also allocated to the fixed service on a secondary basis. (WRC-03)

5.356 The use of the band 1544-1545 MHz by the mobile-satellite service (space-to-Earth) is limited to distress and safety communications (see Article 31).

5.357 Transmissions in the band 1545-1555 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R)

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

5.357A In applying the procedures of Section II of Article 9 to the mobile-satellite service in the bands 1 545-1 555 MHz and 1 646.5-1 656.5 MHz, priority shall be given to accommodating the spectrum requirements of the aeronautical mobile-satellite (R) service providing transmission of messages with priority 1 to 6 in Article 44. Aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44 shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution 222 (WRC-2000) shall apply.) (WRC-2000)

5.358 (SUP - WRC-97)

5.359 *Additional allocation:* in Germany, Saudi Arabia, Armenia, Austria, Azerbaijan, Belarus, Benin, Bosnia and Herzegovina, Bulgaria, Cameroon, Spain, the Russian Federation, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, Hungary, the Libyan Arab Jamahiriya, Jordan, Kazakhstan, Kuwait, Lebanon, Lithuania, Mauritania, Moldova, Mongolia, Uganda, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Swaziland, Tajikistan, Tanzania, Tunisia, Turkmenistan and Ukraine, the bands 1550-1559 MHz, 1610-1645.5 MHz and 1646.5-1660 MHz are also allocated to the fixed service on a primary basis. Administrations are urged to make all practicable efforts to avoid the implementation of new fixed-service stations in these bands. (WRC-03)

5.360 to 5.362 (SUP - WRC-97)

5.362A In the United States, in the bands 1555-1559 MHz and 1656.5-1660.5 MHz, the aeronautical mobile-satellite (R) service shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (WRC-97)

5.362B *Additional allocation:* The band 1559-1610 MHz is also allocated to the fixed service on a primary basis until 1 January 2005 in Germany, Armenia, Azerbaijan, Belarus, Benin, Bosnia and Herzegovina, Bulgaria, Spain, the Russian Federation, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, Hungary, Kazakhstan, Lithuania, Moldova, Mongolia, Nigeria, Uganda, Uzbekistan, Pakistan, Poland, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Senegal, Swaziland, Tajikistan, Tanzania, Turkmenistan and Ukraine, and until 1 January 2010 in Saudi Arabia, Cameroon, the Libyan Arab Jamahiriya, Jordan, Kuwait, Lebanon, Mali, Mauritania, the Syrian Arab Republic and Tunisia. After these dates, the fixed service may continue to operate on a secondary basis until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and the aeronautical radionavigation service and not authorize new frequency assignments to fixed-service systems in this band. (WRC-03)

5.362C *Additional allocation:* in Bahrain, Bangladesh, Congo (Rep. of the), Egypt, Eritrea, Iraq, Israel, Jordan, Kuwait, Lebanon, Malta, Morocco, Qatar, the Syrian Arab Republic, Somalia, Sudan, Chad, Togo and Yemen, the band 1559-1610 MHz is also allocated to the fixed service on a secondary basis until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and not authorize new frequency assignments to fixed-service systems in this band. (WRC-2000)

5.363 *Alternative allocation:* in Sweden, the band 1590-1626.5 MHz is allocated to the aeronautical radionavigation service on a primary basis.

5.364 The use of the band 1610-1626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to coordination under No. 9.11A. A mobile earth station operating in either of the services in this band shall not produce a peak e.i.r.p. density in excess of -15 dB(W/4 kHz)in the part of the band used by systems operating in accordance with the provisions of No. 5.366 (to which No. 4.10 applies), unless otherwise agreed by the affected administrations. In the part of the band where such systems are not operating, the mean e.i.r.p. density of a mobile earth station shall not exceed –3 dB(W/4 kHz). Stations of the mobile-satellite service shall not claim protection from stations in the aeronautical radionavigation service, stations operating in accordance with the provisions of No. 5.366 and stations in the fixed service operating in accordance with the provisions of No. 5.359. Administrations responsible for the coordination of mobile-satellite networks shall make all practicable efforts to ensure protection of stations operating in accordance with the provisions of No. 5.366.

5.365 The use of the band 1613.8-1626.5 MHz by the mobile-satellite service (space-to-Earth) is subject to coordination under No. 9.11A.

5.366 The band 1610-1626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under No. 9.21.

5.367 *Additional allocation*: The bands 1610-1626.5 MHz and 5000-5150 MHz are also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. 9.21.

5.368 With respect to the radiodetermination-satellite and mobile-satellite services the provisions of No. 4.10 do not apply in the band 1610-1626.5 MHz, with the exception of the aeronautical radionavigation-satellite service.

5.369 *Different category of service:* in Angola, Australia, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Israel, the Libyan Arab Jamahiriya, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, the Dem. Rep. of the Congo, Sudan, Swaziland, Togo and Zambia, the allocation of the band 1610-1626.5 MHz to the radiodetermination-satellite service (Earth-to-space) is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21 from countries not listed in this provision. (WRC-03)

5.370 *Different category of service:* in Venezuela, the allocation to the radiodetermination-satellite service in the band 1610-1626.5 MHz (Earth-to-space) is on a secondary basis.

5.371 *Additional allocation:* in Region 1, the bands 1610-1626.5 MHz (Earth-to-space) and 2483.5-2500 MHz (space-to-Earth) are also allocated to the radiodetermination-satellite service on a secondary basis, subject to agreement obtained under No. 9.21.

5.372 Harmful interference shall not be caused to stations of the radio astronomy service using the band 1610.6-1613.8 MHz by stations of the radiodetermination-satellite and mobile-satellite services (No. 29.13 applies).

5.373 Not used.

5.373A (SUP - WRC-97)

5.374 Mobile earth stations in the mobile-satellite service operating in the bands 1631.5-1634.5 MHz and 1656.5-1660 MHz shall not cause harmful interference to stations in the fixed service operating in the countries listed in No. 5.359. (WRC-97)

5.375 The use of the band 1645.5-1646.5 MHz by the mobile-satellite service (Earth-to-space) and for inter-satellite links is limited to distress and safety communications (see Article 31).

5.376 Transmissions in the band 1646.5-1656.5 MHz from aircraft stations in the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.

5.376A Mobile earth stations operating in the band 1660-1660.5 MHz shall not cause harmful interference to stations in the radio astronomy service. (WRC-97)

5.377 (SUP - WRC-03)

5.378 Not used.

5.379 *Additional allocation:* in Bangladesh, India, Indonesia, Nigeria and Pakistan, the band 1660.5-1668.4 MHz is also allocated to the meteorological aids service on a secondary basis.

5.379A Administrations are urged to give all practicable protection in the band 1660.5-1668.4 MHz for future research in radio astronomy, particularly by eliminating air-to-ground transmissions in the meteorological aids service in the band 1 664.4-1 668.4 MHz as soon as practicable.

5.379B The use of the band 1668-1675 MHz by the mobile-satellite service is subject to co-ordination under No. 9.11A. (WRC-03)

5.379C In order to protect the radio astronomy service in the band 1668-1670 MHz, the aggregate power flux-density values produced by mobile earth stations in a network of the mobile-satellite service operating in this band shall not exceed –181 dB(W/m^2) in 10 MHz and –194 dB(W/m^2) in any 20 kHz at any radio astronomy station recorded in the Master International Frequency Register, for more than 2% of integration periods of 2000 s. (WRC-03)

5.379D For sharing of the band 1668-1675 MHz between the mobile-satellite service and the fixed, mobile and space research (passive) services, Resolution 744 (WRC-03) shall apply. (WRC-03)

5.379E In the band 1668.4-1675 MHz, stations in the mobile-satellite service shall not cause harmful interference to stations in the meteorological aids service in China, Iran (Islamic Republic of), Japan and Uzbekistan. In the band 1668.4-1675 MHz, administrations are urged not to implement new systems in the meteorological aids service and are encouraged to migrate existing meteorological aids service operations to other bands as soon as practicable. (WRC-03)

5.380 The bands 1670-1675 MHz and 1800-1805 MHz are intended for use, on a worldwide basis, by administrations wishing to implement aeronautical public correspondence. The use of the band 1670-1675 MHz by stations in the systems for public correspondence with aircraft is limited to transmissions from aeronautical stations and the use of the band 1800-1805 MHz is limited to transmissions from aircraft stations.

5.380A In the band 1670-1675 MHz, stations in the mobile-satellite service shall not cause harmful interference to, nor constrain the development of, existing earth stations in the meteorological-satellite service notified in accordance with Resolution 670 (WRC-03). (WRC-03)

5.381 *Additional allocation:* in Afghanistan, Costa Rica, Cuba, India, Iran (Islamic Republic of) and Pakistan, the band 1690-1700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.382 *Different category of service:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Bulgaria, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Guinea, Hungary, Iraq, Israel, Jordan, Kazakhstan, Kuwait, the Former Yugoslav Republic of Macedonia, Lebanon, Mauritania, Moldova, Mongolia, Oman, Uzbekistan, Poland, Qatar, the Syrian Arab Republic, Kyrgyzstan, Romania, Serbia and Montenegro, Somalia, Tajikistan, Tanzania, Turkmenistan, Ukraine and Yemen, the allocation of the band 1690-1700 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33), and in the Dem. People's Rep. of Korea, the allocation of the band 1690-1700 MHz to the fixed service is on a primary basis (see No. 5.33) and to the mobile, except aeronautical mobile, service on a secondary basis. (WRC-03)

5.383 Not used.

5.384 *Additional allocation:* in India, Indonesia and Japan, the band 1700-1710 MHz is also allocated to the space research service (space-to-Earth) on a primary basis. (WRC-97)

5.384A The bands, or portions of the bands, 1710-1885 MHz and 2500-2690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000) in accordance with Resolution 223 (WRC-2000). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations (WRC-2000).

5.385 *Additional allocation:* the band 1718.8-1722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. (WRC-2000)

5.386 *Additional allocation:* the band 1750-1850 MHz is also allocated to the space operation (Earth-to-space) and space research (Earth-to-space) services in Region 2, in Australia, Guam, India, Indonesia and Japan on a primary basis, subject to agreement obtained under No. 9.21, having particular regard to troposcatter systems. (WRC-03)

5.387 *Additional allocation:* in Azerbaijan, Belarus, Georgia, Kazakhstan, Mongolia, Kyrgyzstan, Slovakia, Romania, Tajikistan and Turkmenistan, the band 1770-1790 MHz is also allocated to the meteorological-satellite service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-03)

5.388 The bands 1885-2025 MHz and 2110-2200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT-2000 in accordance with Resolution 212 (Rev.WRC-97). (See also Resolution 223 (WRC-2000).) (WRC-2000)

5.388A In Regions 1 and 3, the bands 1885-1980 MHz, 2010-2025 MHz and 2110-2170 MHz and, in Region 2, the bands 1885-1980 MHz and 2110-2160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications-2000 (IMT-2000), in accordance with Resolution 221 (Rev.WRC-03). Their use by IMT-2000 applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-03)

5.388B In Algeria, Saudi Arabia, Bahrain, Benin, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, China, Cuba, Djibouti, Egypt, United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, India, Iran (Islamic Republic of), Israel, the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Mali, Morocco, Mauritania, Nigeria, Oman, Uganda, Qatar, the Syrian Arab Republic, Senegal, Singapore, Sudan, Tanzania, Chad, Togo, Tunisia, Yemen, Zambia and Zimbabwe, for the purpose of protecting fixed and mobile services, including IMT-2000 mobile stations, in their territories from co-channel interference, a high altitude platform station (HAPS) operating as an IMT-2000 base station in neighbouring countries, in the bands referred to in No. 5.388A, shall not exceed a co-channel power flux-density of -127 dB(W/($m^2 \cdot$ MHz)) at the Earth's surface outside a country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS. (WRC-03)

5.389 Not used.

5.389A The use of the bands 1980-2010 MHz and 2170-2200 MHz by the mobile-satellite service is subject to coordination under No. 9.11A and to the provisions of Resolution 716 (WRC-95). The use of these bands shall not commence before 1 January 2000; however the use of the band 1980-1990 MHz in Region 2 shall not commence before 1 January 2005.

5.389B The use of the band 1980-1990 MHz by the mobile-satellite service shall not cause harmful interference to or constrain the development of the fixed and mobile services in Argentina, Brazil, Canada, Chile, Ecuador, the United States, Honduras, Jamaica,

Mexico, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

5.389C The use of the bands 2010-2025 MHz and 2160-2170 MHz in Region 2 by the mobile-satellite service shall not commence before 1 January 2002 and is subject to coordination under No. 9.11A and to the provisions of Resolution 716 (WRC-95)*. (WRC-97)

5.389D (SUP - WRC-03)

5.389E The use of the bands 2010-2025 MHz and 2160-2170 MHz by the mobile-satellite service in Region 2 shall not cause harmful interference to or constrain the development of the fixed and mobile services in Regions 1 and 3.

5.389F In Algeria, Benin, Cape Verde, Egypt, Iran (Islamic Republic of), Mali, Syrian Arab Republic and Tunisia, the use of the bands 1980-2010 MHz and 2170-2200 MHz by the mobile-satellite service shall neither cause harmful interference to the fixed and mobile services, nor hamper the development of those services prior to 1 January 2005, nor shall the former service request protection from the latter services. (WRC-2000)

5.390 In Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Suriname and Uruguay, the use of the bands 2010-2025 MHz and 2160-2170 MHz by the mobile-satellite services shall not cause harmful interference to stations in the fixed and mobile services before 1 January 2005. After this date, the use of these bands is subject to coordination under No. 9.11A and to the provisions of Resolution 716 (WRC-95). (WRC-2000)

5.391 In making assignments to the mobile service in the bands 2025-2110 MHz and 2200-2290 MHz, administrations shall not introduce high-density mobile systems, as described in Recommendation ITU-R SA.1154, and shall take that Recommendation into account for the introduction of any other type of mobile system. (WRC-97)

5.392 Administrations are urged to take all practicable measures to ensure that space-to-space transmissions between two or more non-geostationary satellites, in the space research, space operations and Earth exploration-satellite services in the bands 2025-2110 MHz and 2 200-2 290 MHz, shall not impose any constraints on Earth-to-space, space-to-Earth and other space-to-space transmissions of those services and in those bands between geostationary and non-geostationary satellites.

5.392A *Additional allocation:* in the Russian Federation, the band 2160-2200 MHz is also allocated to the space research service (space-to-Earth) on a primary basis until 1 January 2005. Stations in the space research service shall not cause harmful interference to, or claim protection from, stations in the fixed and mobile services operating in this frequency band.

5.393 *Additional allocation:* in the United States, India and Mexico, the band 2310-2360 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial sound broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (WARC-92), with the exception of *resolves* 3 in regard to the limitation on broadcasting-satellite systems in the upper 25 MHz. (WRC-2000)

5.394 In the United States, the use of the band 2300-2390 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services. In Canada, the use of the band 2300-2483.5 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services.

5.395 In France and Turkey, the use of the band 2310-2360 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service. (WRC-03)

5.396 Space stations of the broadcasting-satellite service in the band 2310-2360 MHz operating in accordance with No. 5.393 that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution 33 (Rev.WRC-97)*. Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use.

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

5.398 In respect of the radiodetermination-satellite service in the band 2483.5-2500 MHz, the provisions of No. 4.10 do not apply.

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

5.400 *Different category of service:* in Angola, Australia, Bangladesh, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, the Dem. Rep. of the Congo, the Syrian Arab Republic, Sudan, Swaziland, Togo and Zambia, the allocation of the band 2483.5-2500 MHz to the radiodetermination-satellite service (space-to-Earth) is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21 from countries not listed in this provision. (WRC-03)

5.401 Not used.

5.402 The use of the band 2483.5-2500 MHz by the mobile-satellite and the radiodetermination-satellite services is subject to the coordination under No. 9.11A. Administrations are urged to take all practicable steps to prevent harmful interference to the radio astronomy service from emissions in the 2483.5-2500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4990-5000 MHz band allocated to the radio astronomy service worldwide.

5.403 Subject to agreement obtained under No. 9.21, the band 2520-2535 MHz (until 1 January 2005 the band 2500-2535 MHz) may also be used for the mobile-satellite (space-to-Earth), except aeronautical mobile-satellite, service for operation limited to within national boundaries. The provisions of No. 9.11A apply.

5.404 *Additional allocation:* in India and Iran (Islamic Republic of), the band 2500-2516.5 MHz may also be used for the radiodetermination-satellite service (space-to-Earth) for operation limited to within national boundaries, subject to agreement obtained under No. 9.21.

5.405 *Additional allocation:* in France, the band 2500-2550 MHz is also allocated to the radiolocation service on a primary basis. Such use is subject to agreement with the administrations having services operating or planned to operate in accordance with the Table, which may be affected.

5.406 Not used.

5.407 In the band 2500-2520 MHz, the power flux density at the surface of the Earth from space stations operating in the mobile-satellite (space-to-Earth) service shall not exceed –152 dB (W/(m^2.4 kHz)) in Argentina, unless otherwise agreed by the administrations concerned.

5.408 (SUP - WRC-2000)

5.409 Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in the band 2500-2690 MHz.

5.410 The band 2500-2690 MHz may be used for tropospheric scatter systems in Region 1, subject to agreement obtained under No. 9.21.

5.411 When planning new tropospheric scatter radio-relay links in the band 2500-2690 MHz, all possible measures shall be taken to avoid directing the antennae of these links towards the geostationary-satellite orbit.

5.412 *Alternative allocation:* in Azerbaijan, Bulgaria, Kyrgyzstan and Turkmenistan, the band 2500-2690 MHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-2000)

5.413 In the design of systems in the broadcasting-satellite service in the bands between

2500 MHz and 2690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2690-2700 MHz.

5.414 The allocation of the frequency band 2500-2520 MHz to the mobile-satellite service (space-to-Earth) shall be effective on 1 January 2005 and is subject to coordination under No. 9.11A.

5.415 The use of the bands 2500-2690 MHz in Region 2 and 2500-2535 MHz and 2655-2690 MHz in Region 3 by the fixed-satellite service is limited to national and regional systems, subject to agreement obtained under No. 9.21, 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 21, Table 21-4.

5.415A *Additional allocation*: in India and Japan, subject to agreement obtained under No. 9.21, the band 2515-2535 MHz may also be used for the aeronautical mobile-satellite service (space-to-Earth) for operation limited to within their national boundaries. (WRC-2000)

5.416 The use of the band 2520-2670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under No. 9.21. (WRC-03)

5.417 (SUP - WRC-2000)

5.417A In applying provision No. 5.418, in Korea (Rep. of) and Japan, *resolves* 3 of Resolution 528 (Rev.WRC-03) is relaxed to allow the broadcasting-satellite service (sound) and the complementary terrestrial broadcasting service to additionally operate on a primary basis in the band 2605-2630 MHz. This use is limited to systems intended for national coverage. An administration listed in this provision shall not have simultaneously two overlapping frequency assignments, one under this provision and the other under No. 5.416. The provisions of No. 5.416 and Table 21-4 of Article 21 do not apply. Use of non-geostationary-satellite systems in the broadcasting-satellite service (sound) in the band 2605-2630 MHz is subject to the provisions of Resolution 539 (Rev.WRC-03). The power flux-density at the Earth's surface produced by emissions from a geostationary broadcasting-satellite service (sound) space station operating in the band 2605-2630 MHz for which complete Appendix 4 coordination information, or notification information, has been received after 4 July 2003, for all conditions and for all methods of modulation, shall not exceed the following limits:

-130 dB $(W/(m^2 \cdot MHz))$ for $0° \le \theta \le 5°$

$-130 + 0.4\,(\theta - 5)$ dB $(W/(m^2 \cdot MHz))$ for $5° < \theta \le 25°$

-122 dB $(W/(m^2 \cdot MHz))$ for $25° < \theta \le 90°$

where θ is the angle of arrival of the incident wave above the horizontal plane, in degrees. These limits may be exceeded on the territory of any country whose administration has so agreed. In the case of the broadcasting-satellite service (sound) networks of Korea (Rep. of), as an exception to the limits above, the power flux-density value of -122 dB $(W/(m^2 \cdot MHz))$ shall be used as a threshold for coordination under No. 9.11 in an area of 1000 km around the territory of the administration notifying the broadcasting-satellite service (sound) system, for angles of arrival greater than 35°. (WRC-03)

5.417B In Korea (Rep. of) and Japan, use of the band 2605-2630 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.417A, for which complete Appendix 4 coordination information, or notification information, has been received after 4 July 2003, is subject to the application of the provisions of No. 9.12A, in respect of geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, is considered to have been received after 4 July 2003, and No. 22.2 does not apply. No. 22.2 shall continue to apply with respect to geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, is considered to have been received before 5 July 2003. (WRC-03)

5.417C Use of the band 2605-2630 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.417A, for which complete Appendix 4 coordination information, or notification information, has been received after 4 July 2003, is subject to the application of the provisions of No. 9.12. (WRC-03)

5.417D Use of the band 2605-2630 MHz by geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, has been received after 4 July 2003 is subject to the application of the provisions of No. 9.13 with respect to non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.417A, and No. 22.2 does not apply. (WRC-03)

5.418 *Additional allocation:* in Korea (Rep. of), India, Japan, Pakistan and Thailand, the band 2535-2655 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (Rev.WRC-03). The provisions of No. 5.416 and Table 21-4 of Article 21, do not apply to this additional allocation. Use of non-geostationary-satellite systems in the broadcasting-satellite service (sound) is subject to Resolution 539 (Rev.WRC-03). Geostationary broadcasting-satellite service (sound) systems for which complete Appendix 4 coordination information has been received after 1 June 2005 are limited to systems intended for national coverage. The power flux-density at the Earth's surface produced by emissions from a geostationary broadcasting-satellite service (sound) space station operating in the band 2630-2655 MHz, and for which complete

Appendix 4 coordination information has been received after 1 June 2005, shall not exceed the following limits, for all conditions and for all methods of modulation:

-130	dB $(W/(m^2 \cdot MHz))$	for $0° \le \theta \le 5°$
$-130 + 0.4\ (\theta - 5)$	dB $(W/(m^2 \cdot MHz))$	for $5° < \theta \le 25°$
-122	dB $(W/(m^2 \cdot MHz))$	for $25° < \theta \le 90°$

where θ is the angle of arrival of the incident wave above the horizontal plane, in degrees. These limits may be exceeded on the territory of any country whose administration has so agreed. As an exception to the limits above, the pfd value of –122 dB $(W/(m^2 \cdot MHz))$ shall be used as a threshold for coordination under No. 9.11 in an area of 1500 km around the territory of the administration notifying the broadcasting-satellite service (sound) system. In addition, the power flux-density value shall not exceed –100 dB $(W/(m^2 \cdot MHz))$ anywhere on the territory of the Russian Federation.

In addition, an administration listed in this provision shall not have simultaneously two overlapping frequency assignments, one under this provision and the other under No. 5.416 for systems for which complete Appendix 4 coordination information has been received after 1 June 2005. (WRC-03)

5.418A In certain Region 3 countries listed in No. 5.418, use of the band 2630-2655 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound) for which complete Appendix 4 coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. 9.12A, in respect of geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, is considered to have been received after 2 June 2000, and No. 22.2 does not apply. No. 22.2 shall continue to apply with respect to geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, is considered to have been received before 3 June 2000. (WRC-03)

5.418B Use of the band 2630-2655 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.418, for which complete Appendix 4 coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. 9.12. (WRC-03)

5.418C Use of the band 2630-2655 MHz by geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, has been received after 2 June 2000 is subject to the application of the provisions of No. 9.13

with respect to non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.418 and No. 22.2 does not apply. (WRC-03)

5.419 The allocation of the frequency band 2670-2690 MHz to the mobile-satellite service shall be effective from 1 January 2005. When introducing systems of the mobile-satellite service in this band, administrations shall take all necessary steps to protect the satellite systems operating in this band prior to 3 March 1992. The coordination of mobile-satellite systems in the band shall be in accordance with No. 9.11A.

5.420 The band 2655-2670 MHz (until 1 January 2005 the band 2655-2690 MHz) may also be used for the mobile-satellite (Earth-to-space), except aeronautical mobile-satellite, service for operation limited to within national boundaries, subject to agreement obtained under No. 9.21. The coordination under No. 9.11A applies.

5.420A *Additional allocation:* in India and Japan, subject to agreement obtained under No. 9.21, the band 2670-2690 MHz may also be used for the aeronautical mobile-satellite service (Earth-to-space) for operation limited to within their national boundaries. (WRC-2000)

5.421 (SUP - WRC-03)

5.422 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Brunei Darussalam, Congo (Rep. of the), Côte d'Ivoire, Cuba, Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Gabon, Georgia, Guinea, Guinea-Bissau, Iran (Islamic Republic of), Iraq, Israel, Jordan, Lebanon, Mauritania, Moldova, Mongolia, Nigeria, Oman, Uzbekistan, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, the Dem. Rep. of the Congo, Romania, Serbia and Montenegro, Somalia, Tajikistan, Tunisia, Turkmenistan, Ukraine and Yemen, the band 2690-2700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-03)

5.423 In the band 2700-2900 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the aeronautical radionavigation service.

5.424 *Additional allocation:* in Canada, the band 2850-2900 MHz is also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars.

5.424A In the band 2900-3100 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the radionavigation service. (WRC-03)

5.425 In the band 2900-3100 MHz, the use of the shipborne interrogator-transponder (SIT) system shall be confined to the sub-band 2930 -2950 MHz.

5.426 The use of the band 2900-3100 MHz by the aeronautical radionavigation service is limited to ground-based radars.

5.427 In the bands 2900-3100 MHz and 9300-9500 MHz, the response from radar transponders shall not be capable of being confused with the response from radar beacons (racons) and shall not cause interference to ship or aeronautical radars in the radionavigation service, having regard, however, to No. 4.9.

5.428 *Additional allocation:* in Azerbaijan, Cuba, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 3100-3300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

5.429 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, Congo (Rep. of the), Korea (Rep. of), the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, the Libyan Arab Jamahiriya, Japan, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Oman, Pakistan, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea and Yemen, the band 3300-3400 MHz is also allocated to the fixed and mobile services on a primary basis. The countries bordering the Mediterranean shall not claim protection for their fixed and mobile services from the radiolocation service. (WRC-03)

5.430 *Additional allocation:* in Azerbaijan, Cuba, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 3300-3400 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

5.431 *Additional allocation:* in Germany, Israel and the United Kingdom, the band 3400-3475 MHz is also allocated to the amateur service on a secondary basis. (WRC-03)

5.432 *Different category of service:* in Korea (Rep. of), Japan and Pakistan, the allocation of the band 3400-3500 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33). (WRC-2000)

5.433 In Regions 2 and 3, in the band 3400-3600 MHz the radiolocation service is allocated on a primary basis. However, all administrations operating radiolocation systems in this band are urged to cease operations by 1985. Thereafter, administrations shall take all practicable steps to protect the fixed-satellite service and coordination requirements shall not be imposed on the fixed-satellite service.

5.434 (SUP - WRC-97)

5.435 In Japan, in the band 3620-3700 MHz, the radiolocation service is excluded.

5.436 Not used.

5.437 (SUP - WRC-2000)

5.438 Use of the band 4200-4400 MHz by the aeronautical radionavigation service is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground. However, passive sensing in the Earth exploration-satellite and space research services may be authorized in this band on a secondary basis (no protection is provided by the radio altimeters).

5.439 *Additional allocation:* in Iran (Islamic Republic of) and Libyan Arab Jamahiriya, the band 4200-4400 MHz is also allocated to the fixed service on a secondary basis. (WRC-2000)

5.440 The standard frequency and time signal-satellite service may be authorized to use the frequency 4202 MHz for space-to-Earth transmissions and the frequency 6427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of $\pm$ 2 MHz of these frequencies, subject to agreement obtained under No. 9.21.

5.441 The use of the bands 4500-4800 MHz (space-to-Earth), 6725-7025 MHz (Earth-to-space) by the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-2000)

5.442 In the bands 4825-4835 MHz and 4950-4990 MHz, the allocation to the mobile service is restricted to the mobile, except aeronautical mobile, service.

5.443 *Different category of service:* in Argentina, Australia and Canada, the allocation of the bands 4825-4835 MHz and 4950-4990 MHz to the radio astronomy service is on a primary basis (see No. 5.33).

5.443A (SUP - WRC-03)

5.443B In order not to cause harmful interference to the microwave landing system operating above 5030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5030-5150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the band 5010-5030 MHz shall not exceed –124.5 dB(W/m^2) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4990-5000 MHz, radionavigation-satellite service systems operating in the band 5010-5030 MHz shall comply with the limits in the band 4990-5000 MHz defined in Resolution 741 (WRC-03). (WRC-03)

5.444 The band 5030-5150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. The requirements of this system shall take precedence over other uses of this band. For the use of this band, No. 5.444A and Resolution 114 (Rev.WRC-03) apply. (WRC-03)

5.444A *Additional allocation:* the band 5091-5150 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis. This allocation is limited to feeder links of non-geostationary mobile-satellite systems in the mobile-satellite service and is subject to coordination under No. 9.11A.

In the band 5091-5150 MHz, the following conditions also apply:

- prior to 1 January 2018, the use of the band 5091-5150 MHz by feeder links of non-geostationary-satellite systems in the mobile-satellite service shall be made in accordance with Resolution 114 (Rev.WRC-03);
- prior to 1 January 2018, the requirements of existing and planned international standard systems for the aeronautical radionavigation service which cannot be met in the 5000-5091 MHz band, shall take precedence over other uses of this band;
- after 1 January 2012, no new assignments shall be made to earth stations providing feeder links of non-geostationary mobile-satellite systems;
- after 1 January 2018, the fixed-satellite service will become secondary to the aeronautical radionavigation service. (WRC-03)

5.445 Not used.

5.446 *Additional allocation:* in the countries listed in Nos. 5.369 and 5.400, the band 5150-5216 MHz is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis, subject to agreement obtained under No. 9.21. In Region 2, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis. In Regions 1 and 3, except those countries listed in Nos. 5.369 and 5.400, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a secondary basis. The use by the radiodetermination-satellite service is limited to feeder links in conjunction with the radiodetermination-satellite service operating in the bands 1610-1626.5 MHz and/or 2483.5-2500 MHz. The total power flux-density at the Earth's surface shall in no case exceed –159 dB (W/m^2) in any 4 kHz band for all angles of arrival.

5.446A The use of the bands 5150-5350 MHz and 5470-5725 MHz by the stations in the mobile service shall be in accordance with Resolution 229 (WRC-03). (WRC-03)

5.446B In the band 5150-5250 MHz, stations in the mobile service shall not claim protection from earth stations in the fixed-satellite service. No. 5.43A does not apply to the mobile service with respect to fixed-satellite service earth stations. (WRC-03)

5.447 *Additional allocation:* in Israel, Lebanon, Pakistan, the Syrian Arab Republic and Tunisia, the band 5150-5250 MHz is also allocated to the mobile service, on a primary basis, subject to agreement obtained under No. 9.21. In this case, the provisions of Resolution 229 (WRC-03) do not apply. (WRC-03)

5.447A The allocation to the fixed-satellite service (Earth-to-space) is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to coordination under No. 9.11A.

5.447B *Additional allocation*: the band 5150-5216 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. This allocation is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to provisions of No. 9.11A. The power flux-density at the Earth's surface produced by space stations of the fixed-satellite service operating in the space-to-Earth direction in the band 5150-5216 MHz shall in no case exceed –164 dB(W/m^2) in any 4 kHz band for all angles of arrival.

5.447C Administrations responsible for fixed-satellite service networks in the band 5150-5250 MHz operated under Nos. 5.447A and 5.447B shall coordinate on an equal basis in accordance with No. 9.11A with administrations responsible for non-geostationary-satellite networks operated under No. 5.446 and brought into use prior to 17 November 1995. Satellite networks operated under No. 5.446 brought into use after 17 November 1995 shall not claim protection from, and shall not cause harmful interference to, stations of the fixed-satellite service operated under Nos. 5.447A and 5.447B.

5.447D The allocation of the band 5250-5255 MHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)

5.447E *Additional allocation:* The band 5250-5350 MHz is also allocated to the fixed service on a primary basis in the following countries in Region 3: Australia, Korea (Rep. of), India, Indonesia, Iran (Islamic Republic of), Japan, Malaysia, Papua New Guinea, the Philippines, Sri Lanka, Thailand and Viet Nam. The use of this band by the fixed service is intended for the implementation of fixed wireless access systems and shall comply with Recommendation ITU-R F.1613. In addition, the fixed service shall not claim protection from the radiodetermination, Earth exploration-satellite (active) and space research (active) services, but the provisions of No. 5.43A do not apply to the fixed service with respect to the Earth exploration-satellite (active) and space research (active) services. After implementation of fixed wireless access systems in the fixed service with protection for the existing radiodetermination systems, no more stringent constraints should be imposed on the fixed wireless access systems by future radiodetermination implementations. (WRC-03)

5.447F In the band 5250-5350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth exploration-satellite service (active) and the space research service (active). These services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendations ITU-R M.1638 and ITU-R SA.1632. (WRC-03)

5.448 *Additional allocation:* in Azerbaijan, Libyan Arab Jamahiriya, Mongolia, Kyrgyzstan, Slovakia, Romania and Turkmenistan, the band 5250-5350 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

5.448A The Earth exploration-satellite (active) and space research (active) services in the frequency band 5250-5350 MHz shall not claim protection from the radiolocation service. No. 5.43A does not apply. (WRC-03)

5.448B The Earth exploration-satellite service (active) operating in the band 5350-5570 MHz and space research service (active) operating in the band 5460-5570 MHz shall not cause harmful interference to the aeronautical radionavigation service in the band 5350-5460 MHz, the radionavigation service in the band 5460-5470 MHz and the maritime radionavigation service in the band 5470-5570 MHz. (WRC-03)

5.448C The space research service (active) operating in the band 5350-5460 MHz shall not cause harmful interference to nor claim protection from other services to which this band is allocated. (WRC-03)

5.448D In the frequency band 5350-5470 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the aeronautical radionavigation service operating in accordance with No. 5.449. (WRC-03)

5.449 The use of the band 5350-5470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

5.450 *Additional allocation:* in Austria, Azerbaijan, Iran (Islamic Republic of), Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 5470-5650 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-03)

5.450A In the band 5470-5725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. Radiodetermination services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITU-R M.1638. (WRC-03)

5.450B In the frequency band 5470-5650 MHz, stations in the radiolocation service, except ground-based radars used for meteorological purposes in the band 5600-5650 MHz, shall not cause harmful interference to, nor claim protection from, radar systems in the maritime radionavigation service. (WRC-03)

5.451 *Additional allocation:* in the United Kingdom, the band 5470-5850 MHz is also allocated to the land mobile service on a secondary basis. The power limits specified in Nos. 21.2, 21.3, 21.4 and 21.5 shall apply in the band 5725-5850 MHz.

5.452 Between 5600 MHz and 5650 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the maritime radionavigation service.

5.453 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Egypt, the United Arab Emirates, Gabon, Guinea, Equatorial Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, the Libyan Arab Jamahiriya, Japan, Jordan, Kenya, Kuwait, Lebanon, Madagascar, Malaysia, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Sri Lanka, Swaziland, Tanzania, Chad, Thailand, Togo, Viet Nam and Yemen, the band 5 650-5 850 MHz is also allocated to the fixed and mobile services on a primary basis. In this case, the provisions of Resolution 229 (WRC-03) do not apply. (WRC-03)

5.454 *Different category of service:* in Azerbaijan, the Russian Federation, Georgia, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 5670-5725 MHz to the space research service is on a primary basis (see No. 5.33). (WRC-03)

5.455 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 5670-5850 MHz is also allocated to the fixed service on a primary basis. (WRC-03)

5.456 *Additional allocation:* in Cameroon, the band 5755-5850 MHz is also allocated to the fixed service on a primary basis. (WRC-03)

5.457 Not used.

5.457A In the bands 5925-6425 MHz and 14-14.5 GHz, earth stations located on board vessels may communicate with space stations of the fixed-satellite service. Such use shall be in accordance with Resolution 902 (WRC-03). (WRC-03)

5.457B In the bands 5925-6425 MHz and 14-14.5 GHz, earth stations located on board vessels may operate with the characteristics and under the conditions contained in Resolution 902 (WRC-03) in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, the Libyan Arab Jamahiriya, Jordan, Kuwait, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, Tunisia and Yemen, in the maritime mobile-satellite service on a secondary basis. Such use shall be in accordance with Resolution 902 (WRC-03). (WRC-03)

5.458 In the band 6425-7075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7075-7250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration-satellite (passive) and space research (passive) services in their future planning of the bands 6425-7025 MHz and 7075-7250 MHz.

5.458A In making assignments in the band 6700-7075 MHz to space stations of the fixed-

satellite service, administrations are urged to take all practicable steps to protect spectral line observations of the radio astronomy service in the band 6650-6675.2 MHz from harmful interference from unwanted emissions.

5.458B The space-to-Earth allocation to the fixed-satellite service in the band 6700-7075 MHz is limited to feeder links for non-geostationary satellite systems of the mobile-satellite service and is subject to coordination under No. 9.11A. The use of the band 6700-7075 MHz (space-to-Earth) by feeder links for non-geostationary satellite systems in the mobile-satellite service is not subject to No. 22.2.

5.458C Administrations making submissions in the band 7025-7075 MHz (Earth-to-space) for geostationary-satellite systems in the fixed-satellite service after 17 November 1995 shall consult on the basis of relevant ITU-R Recommendations with the administrations that have notified and brought into use non-geostationary-satellite systems in this frequency band before 18 November 1995 upon request of the latter administrations. This consultation shall be with a view to facilitating shared operation of both geostationary-satellite systems in the fixed-satellite service and non-geostationary-satellite systems in this band.

5.459 *Additional allocation:* in the Russian Federation, the frequency bands 7100-7155 MHz and 7190-7235 MHz are also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. 9.21. (WRC-97)

5.460 The use of the band 7145-7190 MHz by the space research service (Earth-to-space) is restricted to deep space; no emissions to deep space shall be effected in the band 7190-7235 MHz. Geostationary satellites in the space research service operating in the band 7190-7235 MHz shall not claim protection from existing and future stations of the fixed and mobile services and No. 5.43A does not apply. (WRC-03)

5.461 Additional allocation: the bands 7250-7375 MHz (space-to-Earth) and 7900-8025 MHz (Earth-to-space) are also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. 9.21.

5.461A The use of the band 7450-7550 MHz by the meteorological-satellite service (space-to-Earth) is limited to geostationary-satellite systems. Non-geostationary meteorological-satellite systems in this band notified before 30 November 1997 may continue to operate on a primary basis until the end of their lifetime. (WRC-97)

5.461B The use of the band 7750-7850 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems. (WRC-97)

5.462 (SUP - WRC-97)

5.462A In Regions 1 and 3 (except for Japan), in the band 8025-8400 MHz, the Earth exploration-satellite service using geostationary satellites shall not produce a power flux-density in excess of the following provisional values for angles of arrival (θ), without the consent of the affected administration:

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

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

5.463 Aircraft stations are not permitted to transmit in the band 8025-8400 MHz. (WRC-97)

5.464 (SUP - WRC-97)

5.465 In the space research service, the use of the band 8400-8450 MHz is limited to deep space.

5.466 *Different category of service:* in Israel, Singapore and Sri Lanka, the allocation of the band 8400-8500 MHz to the space research service is on a secondary basis (see No. 5.32). (WRC-03)

5.467 (SUP - WRC-03)

5.468 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burundi, Cameroon, China, Congo (Rep. of the), Costa Rica, Egypt, the United Arab Emirates, Gabon, Guyana, Indonesia, Iran (Islamic Republic of), Iraq, the Libyan Arab Jamahiriya, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Senegal, Singapore, Somalia, Swaziland, Tanzania, Chad, Togo, Tunisia and Yemen, the band 8500-8750 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.469 *Additional allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Lithuania, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 8500-8750 MHz is also allocated to the land mobile and radionavigation services on a primary basis. (WRC-03)

5.469A In the band 8550-8650 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radiolocation service. (WRC-97)

5.470 The use of the band 8750-8850 MHz by the aeronautical radionavigation service is limited to airborne Doppler navigation aids on a centre frequency of 8800 MHz.

5.471 *Additional allocation:* in Algeria, Germany, Bahrain, Belgium, China, the United Arab Emirates, France, Greece, Indonesia, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, the Netherlands, Qatar and Sudan, the bands 8825-8850 MHz and 9000-9200 MHz are also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars only.

5.472 In the bands 8850-9000 MHz and 9200-9225 MHz, the maritime radionavigation service is limited to shore-based radars.

5.473 *Additional allocation:* in Armenia, Austria, Azerbaijan, Belarus, Bulgaria, Cuba, the Russian Federation, Georgia, Hungary, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the bands 8850-9000 MHz and 9200-9300 MHz are also allocated to the radionavigation service on a primary basis. (WRC-03)

5.474 In the band 9200-9500 MHz, search and rescue transponders (SART) may be used, having due regard to the appropriate ITU-R Recommendation (see also Article 31).

5.475 The use of the band 9300-9500 MHz by the aeronautical radionavigation service is limited to airborne weather radars and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band 9300-9320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. In the band 9300-9500 MHz, ground-based radars used for meteorological purposes have priority over other radiolocation devices.

5.476 In the band 9300-9320 MHz in the radionavigation service, the use of shipborne radars, other than those existing on 1 January 1976, is not permitted until 1 January 2001.

5.476A In the band 9500-9800 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radionavigation and radiolocation services. (WRC-97)

5.477 *Different category of service:* in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Japan, Jordan, Kuwait, Lebanon, Liberia, Malaysia, Nigeria, Oman, Pakistan, Qatar, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Trinidad and Tobago, and Yemen, the allocation of the band 9800-10000 MHz to the fixed service is on a primary basis (see No. 5.33). (WRC-03)

5.478 *Additional allocation:* in Azerbaijan, Bulgaria, Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 9800-10000 MHz is also allocated to the ra-

dionavigation service on a primary basis. (WRC-03)

5.479 The band 9975-10025 MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars.

5.480 *Additional allocation:* in Argentina, Brazil, Chile, Costa Rica, Cuba, El Salvador, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Peru, Uruguay and Venezuela, the band 10-10.45 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-2000)

5.481 *Additional allocation:* in Germany, Angola, Brazil, China, Costa Rica, Côte d'Ivoire, El Salvador, Ecuador, Spain, Guatemala, Hungary, Japan, Kenya, Morocco, Nigeria, Oman, Uzbekistan, Paraguay, Peru, the Dem. People's Rep. of Korea, Tanzania, Thailand and Uruguay, the band 10.45-10.5 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

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

5.483 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, China, Colombia, Korea (Rep. of), Costa Rica, Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, Mongolia, Uzbekistan, Qatar, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Serbia and Montenegro, Tajikistan, Turkmenistan and Yemen, the band 10.68-10.7 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-03)

5.484 In Region 1, the use of the band 10.7-11.7 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service.

5.484A The use of the bands 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) in Region 2, 12.2-12.75 GHz (space-to-Earth) in Region 3, 12.5-12.75 GHz (space-to-Earth) in Region 1, 13.75-14.5 GHz (Earth-to-space), 17.8-18.6 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 27.5-28.6 GHz (Earth-to-space), 29.5-30 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-2000)

5.485 In Region 2, in the band 11.7-12.2 GHz, transponders on space stations in the fixed-satellite service may be used additionally for transmissions in the broadcasting-satellite service, provided that such transmissions do not have a maximum e.i.r.p. greater than 53 dBW per television channel and do not cause greater interference or require more protection from interference than the coordinated fixed-satellite service frequency assignments. With respect to the space services, this band shall be used principally for the fixed-satellite service.

5.486 *Different category of service:* in Mexico and the United States, the allocation of the band 11.7-12.1 GHz to the fixed service is on a secondary basis (see No. 5.32).

5.487 In the band 11.7-12.5 GHz in Regions 1 and 3, the fixed, fixed-satellite, mobile, except aeronautical mobile, and broadcasting services, in accordance with their respective allocations, shall not cause harmful interference to, or claim protection from, broadcasting-satellite stations operating in accordance with the Regions 1 and 3 Plan in Appendix 30. (WRC-03)

5.487A *Additional allocation:* in Region 1, the band 11.7-12.5 GHz, in Region 2, the band 12.2-12.7 GHz and, in Region 3, the band 11.7-12.2 GHz, are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis, limited to non-geostationary systems and subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the broadcasting-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-03)

5.488 The use of the band 11.7-12.2 GHz by geostationary-satellite networks in the fixed-satellite service in Region 2 is subject to application of the provisions of No. 9.14 for coordination with stations of terrestrial services in Regions 1, 2 and 3. For the use of the band 12.2-12.7 GHz by the broadcasting-satellite service in Region 2, see Appendix 30. (WRC-03)

5.489 *Additional allocation:* in Peru, the band 12.1-12.2 GHz is also allocated to the fixed service on a primary basis.

5.490 In Region 2, in the band 12.2-12.7 GHz, existing and future terrestrial radiocommunication services shall not cause harmful interference to the space services operating in conformity with the broadcasting-satellite Plan for Region 2 contained in Appendix 30.

5.491 (SUP - WRC-03)

5.492 Assignments to stations of the broadcasting-satellite service which are in conformity with the appropriate regional Plan or included in the Regions 1 and 3 List in Appendix 30 may also be used for transmissions in the fixed-satellite service (space-to-Earth), provided that such transmissions do not cause more interference, or require more protection from interference, than the broadcasting-satellite service transmissions operating in conformity with the Plan or the List, as appropriate. (WRC-2000)

5.493 The broadcasting-satellite service in the band 12.5-12.75 GHz in Region 3 is limited to a power flux-density not exceeding –111 dB (W/(m^2 . 27 MHz)) for all conditions and for all methods of modulation at the edge of the service area. (WRC-97)

5.494 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Cameroon, the Central African Rep., Congo (Rep. of the), Côte d'Ivoire, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Iraq, Israel, the Libyan Arab Jamahiriya, Jordan, Kuwait, Lebanon, Madagascar, Mali, Morocco, Mongolia, Nigeria, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Somalia, Sudan, Chad, Togo and Yemen, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.495 *Additional allocation:* in Bosnia and Herzegovina, Croatia, France, Greece, Liechtenstein, Monaco, Uganda, Portugal, Romania, Serbia and Montenegro, Slovenia, Switzerland, Tanzania and Tunisia, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-03)

5.496 *Additional allocation:* in Austria, Azerbaijan, Kyrgyzstan and Turkmenistan, the band 12.5-12.75 GHz is also allocated to the fixed service and the mobile, except aeronautical mobile, service on a primary basis. However, stations in these services shall not cause harmful interference to fixed-satellite service earth stations of countries in Region 1 other than those listed in this footnote. Coordination of these earth stations is not required with stations of the fixed and mobile services of the countries listed in this footnote. The power flux-density limit at the Earth's surface given in Table 21-4 of Article 21, for the fixed-satellite service shall apply on the territory of the countries listed in this footnote. (WRC-2000)

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

5.498 (SUP - WRC-97)

5.498A The Earth exploration-satellite (active) and space research (active) services operating in the band 13.25-13.4 GHz shall not cause harmful interference to, or constrain the use and development of, the aeronautical radionavigation service. (WRC-97)

5.499 *Additional allocation:* in Bangladesh, India and Pakistan, the band 13.25-14 GHz is also allocated to the fixed service on a primary basis.

5.500 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Madagascar, Malaysia, Mali, Malta, Morocco, Mauritania, Nigeria, Pakistan, Qatar, the Syrian Arab Republic, Singapore, Sudan, Chad and Tunisia, the band 13.4-14 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

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

5.501A The allocation of the band 13.4-13.75 GHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)

5.501B In the band 13.4-13.75 GHz, the Earth exploration-satellite (active) and space research (active) services shall not cause harmful interference to, or constrain the use and development of, the radiolocation service. (WRC-97)

5.502 In the band 13.75-14 GHz, an earth station of a geostationary fixed-satellite service network shall have a minimum antenna diameter of 1.2 m and an earth station of a non-geostationary fixed-satellite service system shall have a minimum antenna diameter of 4.5 m. In addition, the e.i.r.p., averaged over one second, radiated by a station in the radiolocation or radionavigation services shall not exceed 59 dBW for elevation angles above 2° and 65 dBW at lower angles. Before an administration brings into use an earth station in a geostationary-satellite network in the fixed-satellite service in this band with an antenna size smaller than 4.5 m, it shall ensure that the power flux density produced by this earth station does not exceed:

- –115 dB (W/(m^2 · 10 MHz)) for more than 1% of the time produced at 36 m above sea level at the low water mark, as officially recognized by the coastal State;
- –115 dB (W/(m^2 · 10 MHz)) for more than 1% of the time produced 3 m above ground at the border of the territory of an administration deploying or planning to deploy land mobile radars in this band, unless prior agreement has been obtained.

For earth stations within the fixed-satellite service having an antenna diameter greater than or equal to 4.5 m, the e.i.r.p. of any emission should be at least 68 dBW and should not exceed 85 dBW. (WRC-03)

5.503 In the band 13.75-14 GHz, geostationary space stations in the space research ser-

vice for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the fixed-satellite service; after that date, new geostationary space stations in the space research service will operate on a secondary basis. Until those geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this band:

- in the band 13.77-13.78 GHz, the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in geostationary-satellite orbit shall not exceed:

  i) 4.7*D* + 28 dB (W/40 kHz), where *D* is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 1.2 m and less than 4.5 m;

  ii) 49.2 + 20 log (*D*/4.5) dB(W/40 kHz), where *D* is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 4.5 m and less than 31.9 m;

  iii) 66.2 dB (W/40 kHz) for any fixed-satellite service earth station for antenna diameters (m) equal to or greater than 31.9 m;

  iv) 56.2 dB (W/4 kHz) for narrow-band (less than 40 kHz of necessary bandwidth) fixed-satellite service earth station emissions from any fixed-satellite service earth station having an antenna diameter of 4.5 m or greater;

- the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in non-geostationary-satellite orbit shall not exceed 51 dBW in the 6 MHz band from 13.772 to 13.778 GHz.

Automatic power control may be used to increase the e.i.r.p. density in these frequency ranges to compensate for rain attenuation, to the extent that the power flux-density at the fixed-satellite service space station does not exceed the value resulting from use by an earth station of an e.i.r.p. meeting the above limits in clear-sky conditions. (WRC-03)

5.503A (SUP - WRC-03)

5.504 The use of the band 14-14.3 GHz by the radionavigation service shall be such as to provide sufficient protection to space stations of the fixed-satellite service.

5.504A In the band 14-14.5 GHz, aircraft earth stations in the secondary aeronautical mobile-satellite service may also communicate with space stations in the fixed-satellite service. The provisions of Nos. 5.29, 5.30 and 5.31 apply. (WRC-03)

5.504B Aircraft earth stations operating in the aeronautical mobile-satellite service in the band 14-14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643, with respect to any radio astronomy station performing observations in the 14.47-14.5 GHz band located on the territory of Spain, France, India, Italy, the United Kingdom and South Africa. (WRC-03)

5.504C In the band 14-14.25 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Botswana, Côte d'Ivoire, Egypt, Guinea, India, Iran (Islamic Republic of), Kuwait, Lesotho, Nigeria, Oman, the Syrian Arab Republic and Tunisia by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-03)

5.505 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Botswana, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lesotho, Lebanon, Malaysia, Mali, Morocco, Mauritania, Oman, Pakistan, the Philippines, Qatar, the Syrian

Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Swaziland, Tanzania, Chad and Yemen, the band 14-14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-03)

5.506 The band 14-14.5 GHz may be used, within the fixed-satellite service (Earth-to-space), for feeder links for the broadcasting-satellite service, subject to coordination with other networks in the fixed-satellite service. Such use of feeder links is reserved for countries outside Europe.

5.506A In the band 14-14.5 GHz, ship earth stations with an e.i.r.p. greater than 21 dBW shall operate under the same conditions as earth stations located on board vessels, as provided in Resolution 902 (WRC-03). This footnote shall not apply to ship earth stations for which the complete Appendix 4 information has been received by the Bureau prior to 5 July 2003. (WRC-03)

5.506B Earth stations located on board vessels communicating with space stations in the fixed-satellite service may operate in the frequency band 14-14.5 GHz without the need for prior agreement from Cyprus, Greece and Malta, within the minimum distance given in Resolution 902 (WRC-03) from these countries. (WRC-03)

5.507 Not used.

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

5.508A In the band 14.25-14.3 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Botswana, China, Côte d'Ivoire, Egypt, France, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Lesotho, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom and Tunisia by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-03)

5.509 *Additional allocation:* in Japan the band 14.25-14.3 GHz is also allocated to the mobile, except aeronautical mobile, service on a primary basis. (WRC-2000)

5.509A In the band 14.3-14.5 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Botswana, Cameroon, China, Côte d'Ivoire, Egypt, France, Gabon, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Lesotho, Morocco, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom, Sri Lanka, Tunisia and Viet Nam by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-03)

5.510 The use of the band 14.5-14.8 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. This use is reserved for countries outside Europe.

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

5.511A The band 15.43-15.63 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. Use of the band 15.43-15.63 GHz by the fixed-satellite service (space-to-Earth and Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under No. 9.11A. The use of the frequency band 15.43-15.63 GHz by the fixed-satellite service (space-to-Earth) is limited to feeder links of non-geostationary systems in the

mobile-satellite service for which advance publication information has been received by the Bureau prior to 2 June 2000. In the space-to-Earth direction, the minimum earth station elevation angle above and gain towards the local horizontal plane and the minimum coordination distances to protect an earth station from harmful interference shall be in accordance with Recommendation ITU-R S.1341. In order to protect the radio astronomy service in the band 15.35-15.4 GHz, the aggregate power flux-density radiated in the 15.35-15.4 GHz band by all the space stations within any feeder-link of a non-geostationary system in the mobile-satellite service (space-to-Earth) operating in the 15.43-15.63 GHz band shall not exceed the level of –156 dB (W/m^2) in a 50 MHz bandwidth, into any radio astronomy observatory site for more than 2% of the time. (WRC-2000)

5.511B (SUP - WRC-97)

5.511C Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340. The minimum coordination distance required to protect the aeronautical radionavigation stations (No. 4.10 applies) from harmful interference from feeder-link earth stations and the maximum e.i.r.p. transmitted towards the local horizontal plane by a feeder-link earth station shall be in accordance with Recommendation ITU-R S.1340. (WRC-97)

5.511D Fixed-satellite service systems for which complete information for advance publication has been received by the Bureau by 21 November 1997 may operate in the bands 15.4-15.43 GHz and 15.63-15.7 GHz in the space-to-Earth direction and 15.63-15.65 GHz in the Earth-to-space direction. In the bands 15.4-15.43 GHz and 15.65-15.7 GHz, emissions from a non-geostationary space station shall not exceed the power flux-density limits at the Earth's surface of –146 dB ($W/(m^2 . MHz)$) for any angle of arrival. In the band 15.63-15.65 GHz, where an administration plans emissions from a non-geostationary space station that exceed –146 dB ($W/(m^2 . MHz)$) for any angle of arrival, it shall coordinate under No. 9.11A with the affected administrations. Stations in the fixed-satellite service operating in the band 15.63-15.65 GHz in the Earth-to-space direction shall not cause harmful interference to stations in the aeronautical radionavigation service (No. 4.10 applies). (WRC-97)

5.512 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Brunei Darussalam, Cameroon, Congo (Rep. of the), Costa Rica, Egypt, El Salvador, the United Arab Emirates, Eritrea, Finland, Guatemala, India, Indonesia, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Malaysia, Mali, Morocco, Mauritania, Mozambique, Nepal, Nicaragua, Oman, Pakistan, Qatar, Serbia and Montenegro, Singapore, Slovenia, Somalia, Sudan, Swaziland, Tanzania, Chad, Togo and Yemen, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.513 *Additional allocation:* in Israel, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. These services shall not claim protection from or cause harmful interference to services operating in accordance with the Table in countries other than those included in No. 5.512.

5.513A Spaceborne active sensors operating in the band 17.2-17.3 GHz shall not cause harmful interference to, or constrain the development of, the radiolocation and other services allocated on a primary basis. (WRC-97)

5.514 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Cameroon, Costa Rica, El Salvador, the United Arab Emirates, Finland, Guatemala, India, Iran (Islamic Republic of), Iraq, Israel, Italy, the Libyan Arab Jamahiriya, Japan, Jordan, Kuwait, Lithuania, Nepal, Nicaragua, Nigeria, Oman, Uzbekistan, Pakistan, Qatar, Kyrgyzstan, Serbia and Montenegro, Slovenia and Sudan, the band 17.3-17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. 21.3 and 21.5 shall apply. (WRC-03)

5.515 In the band 17.3-17.8 GHz, sharing between the fixed-satellite service (Earth-to-space) and the broadcasting-satellite service shall also be in accordance with the provisions of § 1 of Annex 4 of Appendix 30A.

5.516 The use of the band 17.3-18.1 GHz by geostationary-satellite systems in the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. The use of the band 17.3-17.8 GHz in Region 2 by systems in the fixed-satellite service (Earth-to-space) is limited to geostationary satellites. For the use of the band 17.3-17.8 GHz in Region 2 by feeder links for the broadcasting-satellite service in the band 12.2-12.7 GHz, see Article 11. The use of the bands 17.3-18.1 GHz (Earth-to-space) in Regions 1 and 3 and 17.8-18.1 GHz (Earth-to-space) in Region 2 by non-geostationary-satellite systems in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-2000)

5.516A In the band 17.3-17.7 GHz, earth stations of the fixed-satellite service (space-to-Earth) in Region 1 shall not claim protection from the broadcasting-satellite service feeder-link earth stations operating under Appendix 30A, nor put any limitations or restrictions on the locations of the broadcasting-satellite service feeder-link earth stations anywhere within the service area of the feeder link. (WRC-03)

5.516B The following bands are identified for use by high-density applications in the fixed-satellite service:

17.3-17.7 GHz (space-to-Earth) in Region 1,
18.3-19.3 GHz (space-to-Earth) in Region 2,
19.7-20.2 GHz (space-to-Earth) in all Regions,
39.5-40 GHz(space-to-Earth) in Region 1,
40-40.5 GHz(space-to-Earth) in all Regions,
40.5-42 GHz(space-to-Earth) in Region 2,
47.5-47.9 GHz (space-to-Earth) in Region 1,
48.2-48.54 GHz (space-to-Earth) in Region 1,
49.44-50.2 GHz (space-to-Earth) in Region 1,
and
27.5-27.82 GHz (Earth-to-space) in Region 1,
28.35-28.45 GHz (Earth-to-space) in Region 2,
28.45-28.94 GHz (Earth-to-space) in all Regions,
28.94-29.1 GHz (Earth-to-space) in Region 2 and 3,
29.25-29.46 GHz (Earth-to-space) in Region 2,
29.46-30 GHz (Earth-to-space) in all Regions,
48.2-50.2 GHz (Earth-to-space) in Region 2.

This identification does not preclude the use of these bands by other fixed-satellite service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in these Radio Regulations among users of the bands. Administrations should take this into account when considering regulatory provisions in relation to these bands. See Resolution 143 (WRC-03). (WRC-03)

5.517 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.

5.518 *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.

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

5.520 The use of the band 18.1-18.4 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links of geostationary-satellite systems in the broadcasting-satellite service. (WRC-2000)

5.521 *Alternative allocation:* in Germany, Denmark, the United Arab Emirates and Greece, the band 18.1-18.4 GHz is allocated to the fixed, fixed-satellite (space-to-Earth) and mobile services on a primary basis (see No. 5.33). The provisions of No. 5.519 also apply. (WRC-03)

5.522 (SUP - WRC-2000)

5.522A The emissions of the fixed service and the fixed-satellite service in the band 18.6-18.8 GHz are limited to the values given in Nos. 21.5A and 21.16.2, respectively. (WRC-2000)

5.522B The use of the band 18.6-18.8 GHz by the fixed-satellite service is limited to geostationary systems and systems with an orbit of apogee greater than 20000 km. (WRC-2000)

5.522C In the band 18.6-18.8 GHz, in Algeria, Saudi Arabia, Bahrain, Egypt, the United Arab Emirates, the Libyan Arab Jamahiriya, Jordan, Lebanon, Morocco, Oman, Qatar, the Syrian Arab Republic, Tunisia and Yemen, fixed-service systems in operation at the date of entry into force of the Final Acts of WRC-2000 are not subject to the limits of No. 21.5A. (WRC-2000)

5.523 (SUP - WRC-2000)

5.523A The use of the bands 18.8-19.3 GHz (space-to-Earth) and 28.6-29.1 GHz (Earth-to-space) by geostationary and non-geostationary fixed-satellite service networks is subject to the application of the provisions of No. 9.11A and No. 22.2 does not apply. Administrations having geostationary-satellite networks under coordination prior to 18 November 1995 shall cooperate to the maximum extent possible to coordinate pursuant to No. 9.11A with non-geostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view to reaching results acceptable to all the parties concerned. Non-geostationary-satellite networks shall not cause unacceptable interference to geostationary fixed-satellite service networks for which complete Appendix 4-notification information is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

5.523B The use of the band 19.3-19.6 GHz (Earth-to-space) by the fixed-satellite service is limited to feeder links for non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, and No. 22.2 does not apply.

5.523C No. 22.2 shall continue to apply in the bands 19.3-19.6 GHz and 29.1-29.4 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

5.523D The use of the band 19.3-19.7 GHz (space-to-Earth) by geostationary fixed-satellite service systems and by feeder links for non-geostationary-satellite systems in the mobile-satellite service is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2. The use of this band for other non-geostationary fixed-satellite service systems, or for the cases indicated in Nos. 5.523C and 5.523E, is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. 22.2. (WRC-97)

5.523E No. 22.2 shall continue to apply in the bands 19.6-19.7 GHz and 29.4-29.5 GHz, be-

tween feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau by 21 November 1997. (WRC-97)

5.524 *Additional allocation:* in Afghanistan, Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Tanzania, Chad, Togo and Tunisia, the band 19.7-21.2 GHz is also allocated to the fixed and mobile services on a primary basis. This additional use shall not impose any limitation on the power flux-density of space stations in the fixed-satellite service in the band 19.7-21.2 GHz and of space stations in the mobile-satellite service in the band 19.7-20.2 GHz where the allocation to the mobile-satellite service is on a primary basis in the latter band. (WRC-2000)

5.525 In order to facilitate interregional coordination between networks in the mobile-satellite and fixed-satellite services, carriers in the mobile-satellite service that are most susceptible to interference shall, to the extent practicable, be located in the higher parts of the bands 19.7-20.2 GHz and 29.5-30 GHz.

5.526 In the bands 19.7-20.2 GHz and 29.5-30 GHz in Region 2, and in the bands 20.1-20.2 GHz and 29.9-30 GHz in Regions 1 and 3, networks which are both in the fixed-satellite service and in the mobile-satellite service may include links between earth stations at specified or unspecified points or while in motion, through one or more satellites for point-to-point and point-to-multipoint communications.

5.527 In the bands 19.7-20.2 GHz and 29.5-30 GHz, the provisions of No. 4.10 do not apply with respect to the mobile-satellite service.

5.528 The allocation to the mobile-satellite service is intended for use by networks, which use narrow spot-beam antennas and other advanced technology at the space stations. Administrations operating systems in the mobile-satellite service in the band 19.7-20.1 GHz in Region 2 and in the band 20.1-20.2 GHz shall take all practicable steps to ensure the continued availability of these bands for administrations operating fixed and mobile systems in accordance with the provisions of No. 5.524.

5.529 The use of the bands 19.7-20.1 GHz and 29.5-29.9 GHz by the mobile-satellite service in Region 2 is limited to satellite networks which are both in the fixed-satellite service and in the mobile-satellite service as described in No. 5.526.

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

5.531 *Additional allocation:* in Japan, the band 21.4-22 GHz is also allocated to the broadcasting service on a primary basis.

5.532 The use of the band 22.21-22.5 GHz by the Earth exploration-satellite (passive) and space research (passive) services shall not impose constraints upon the fixed and mobile, except aeronautical mobile, services.

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

5.534 (SUP - WRC-03)

5.535 In the band 24.75-25.25 GHz, feeder links to stations of the broadcasting-satellite service shall have priority over other uses in the fixed-satellite service (Earth-to-space). Such other uses shall protect and shall not claim protection from existing and future operating feeder-link networks to such broadcasting satellite stations.

5.535A The use of the band 29.1-29.5 GHz (Earth-to-space) by the fixed-satellite service is limited to geostationary-satellite systems and feeder links to non-geostationary-

satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2, except as indicated in Nos. 5.523C and 5.523E where such use is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. 22.2. (WRC-97)

5.536 Use of the 25.25-27.5 GHz band by the inter-satellite service is limited to space research and Earth exploration-satellite applications, and also transmissions of data originating from industrial and medical activities in space.

5.536A Administrations operating earth stations in the Earth exploration-satellite service or the space research service shall not claim protection from stations in the fixed and mobile services operated by other administrations. In addition, earth stations in the Earth exploration-satellite service or in the space research service should be operated taking into account Recommendations ITU-R SA.1278 and ITU-R SA.1625, respectively. (WRC-03)

5.536B In Germany, Saudi Arabia, Austria, Belgium, Brazil, Bulgaria, China, Korea (Rep. of), Denmark, Egypt, United Arab Emirates, Spain, Estonia, Finland, France, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, Italy, the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Lebanon, Liechtenstein, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, the Syrian Arab Republic, Slovakia, the Czech Rep., Romania, the United Kingdom, Singapore, Sweden, Switzerland, Tanzania, Turkey, Viet Nam and Zimbabwe, earth stations operating in the Earth exploration-satellite service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-97)

5.536C In Algeria, Saudi Arabia, Bahrain, Botswana, Brazil, Cameroon, Comoros, Cuba, Djibouti, Egypt, United Arab Emirates, Estonia, Finland, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Lithuania, Malaysia, Morocco, Nigeria, Oman, Qatar, Syrian Arab Republic, Somalia, Sudan, Tanzania, Tunisia, Uruguay, Zambia and Zimbabwe, earth stations operating in the space research service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services.(WRC-03)

5.537 Space services using non-geostationary satellites operating in the inter-satellite service in the band 27-27.5 GHz are exempt from the provisions of No. 22.2.

5.537A In Bhutan, Korea (Rep. of), the Russian Federation, Indonesia, Iran (Islamic Republic of), Japan, Kazakhstan, Lesotho, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 27.5-28.35 GHz may also be used by high altitude platform stations (HAPS). The use of HAPS within the band 27.5-28.35 GHz is limited, within the territory of the countries listed above, to a single 300 MHz sub-band. Such use of 300 MHz of the fixed-service allocation by HAPS in the above countries is further limited to operation in the HAPS-to-ground direction and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems or other co-primary services. Furthermore, the development of these other services shall not be constrained by HAPS. See Resolution 145 (WRC-03). (WRC-03)

5.538 *Additional allocation:* the bands 27.500-27.501 GHz and 29.999-30.000 GHz are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis for the beacon transmissions intended for up-link power control. Such space-to-Earth transmissions shall not exceed an equivalent isotropically radiated power (e.i.r.p.) of +10 dBW in the direction of adjacent satellites on the geostationary-satellite orbit. In the band 27.500-27.501 GHz, such space-to-Earth transmissions shall not produce a power flux density in excess of the values specified in Article 21, Table 21-4 on the Earth's surface.

5.539 The band 27.5-30 GHz may be used by the fixed-satellite service (Earth-to-space) for the provision of feeder links for the broadcasting-satellite service.

5.540 *Additional allocation:* the band 27.501-29.999 GHz is also allocated to the fixed-

satellite service (space-to-Earth) on a secondary basis for beacon transmissions intended for up-link power control.

5.541 In the band 28.5-30 GHz, the earth exploration-satellite service is limited to the transfer of data between stations and not to the primary collection of information by means of active or passive sensors.

5.541A Feeder links of non-geostationary networks in the mobile-satellite service and geostationary networks in the fixed-satellite service operating in the band 29.1-29.5 GHz (Earth-to-space) shall employ uplink adaptive power control or other methods of fade compensation, such that the earth station transmissions shall be conducted at the power level required to meet the desired link performance while reducing the level of mutual interference between both networks. These methods shall apply to networks for which Appendix 4 coordination information is considered as having been received by the Bureau after 17 May 1996 and until they are changed by a future competent world radiocommunication conference. Administrations submitting Appendix 4 information for coordination before this date are encouraged to utilize these techniques to the extent practicable. (WRC-2000)

5.542 *Additional allocation:* in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, India, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Pakistan, Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Somalia, Sudan, Sri Lanka and Chad, the band 29.5-31 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. 21.3 and 21.5 shall apply. (WRC-2000)

5.543 The band 29.95-30 GHz may be used for space-to-space links in the Earth exploration-satellite service for telemetry, tracking, and control purposes, on a secondary basis.

5.543A In Bhutan, Korea (Rep. of), the Russian Federation, Indonesia, Iran (Islamic Republic of), Japan, Kazakhstan, Lesotho, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 31-31.3 GHz may also be used by systems using high altitude platform stations (HAPS) in the ground-to-HAPS direction. The use of the band 31-31.3 GHz by systems using HAPS is limited to the territory of the countries listed above and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems, systems in the mobile service and systems operated under No. 5.545. Furthermore, the development of these services shall not be constrained by HAPS. Systems using HAPS in the band 31-31.3 GHz shall not cause harmful interference to the radio astronomy service having a primary allocation in the band 31.3-31.8 GHz, taking into account the protection criterion as given in Recommendation ITU-R RA.769. In order to ensure the protection of satellite passive services, the level of unwanted power density into a HAPS ground station antenna in the band 31.3-31.8 GHz shall be limited to -106 dB(W/MHz) under clear-sky conditions, and may be increased up to -100 dB(W/MHz) under rainy conditions to take account of rain attenuation, provided the effective impact on the passive satellite does not exceed the impact under clear-sky conditions as given above. See Resolution 145 (WRC-03). (WRC-03)

5.544 In the band 31-31.3 GHz the power flux-density limits specified in Article 21, Table 21-4 shall apply to the space research service.

5.545 *Different category of service:* in Armenia, Azerbaijan, Georgia, Mongolia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 31-31.3 GHz to the space research service is on a primary basis (see No. 5.33). (WRC-03)

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

the band 31.5-31.8 GHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33). (WRC-03)

5.547 The bands 31.8-33.4 GHz, 37-40 GHz, 40.5-43.5 GHz, 51.4-52.6 GHz, 55.78-59 GHz and 64-66 GHz are available for high-density applications in the fixed service (see Resolutions 75 (WRC-2000) and 79 (WRC-2000)). Administrations should take this into account when considering regulatory provisions in relation to these bands. Because of the potential deployment of high-density applications in the fixed-satellite service in the bands 39.5-40 GHz and 40.5-42 GHz (see No. 5.516B), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate. (WRC-03)

5.547A Administrations should take practical measures to minimize the potential interference between stations in the fixed service and airborne stations in the radionavigation service in the 31.8-33.4 GHz band, taking into account the operational needs of the airborne radar systems. (WRC-2000)

5.547B *Alternative allocation*: in the United States, the band 31.8-32 GHz is allocated to the radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-97)

5.547C *Alternative allocation*: in the United States, the band 32-32.3 GHz is allocated to the radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-03)

5.547D *Alternative allocation*: in the United States, the band 32.3-33 GHz is allocated to the inter-satellite and radionavigation services on a primary basis. (WRC-97)

5.547E *Alternative allocation*: in the United States, the band 33-33.4 GHz is allocated to the radionavigation service on a primary basis. (WRC-97)

5.548 In designing systems for the inter-satellite service in the band 32.3-33 GHz, for the radionavigation service in the band 32-33 GHz, and for the space research service (deep space) in the band 31.8-32.3 GHz, administrations shall take all necessary measures to prevent harmful interference between these services, bearing in mind the safety aspects of the radionavigation service (see Recommendation 707). (WRC-03)

5.549 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, the Libyan Arab Jamahiriya, Jordan, Kuwait, Lebanon, Malaysia, Mali, Malta, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Singapore, Somalia, Sudan, Sri Lanka, Togo, Tunisia and Yemen, the band 33.4-36 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.549A In the band 35.5-36.0 GHz, the mean power flux-density at the Earth's surface, generated by any spaceborne sensor in the Earth exploration-satellite service (active) or space research service (active), for any angle greater than 0.8° from the beam centre shall not exceed –73.3 dB(W/m^2) in this band. (WRC-03)

5.550 *Different category of service:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 34.7-35.2 GHz to the space research service is on a primary basis (see No. 5.33). (WRC-03)

5.551 (SUP - WRC-97)

5.551A (SUP - WRC-03)

5.551AA (SUP - WRC-03)

5.551B (SUP - WRC-2000)

5.551C (SUP - WRC-2000)

5.551D (SUP - WRC-2000)

5.551E (SUP - WRC-2000)

5.551F *Different category of service*: in Japan, the allocation of the band 41.5-42.5 GHz to the mobile service is on a primary basis (see No. 5.33). (WRC-97)

5.551G (SUP - WRC-03)

5.551H The equivalent power flux-density (epfd) produced in the band 42.5-43.5 GHz by all space stations in any non-geostationary-satellite system in the fixed-satellite service (space-to-Earth), or in the broadcasting-satellite service (space-to-Earth) operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station for more than 2% of the time:

- –230 dB(W/m^2) in 1 GHz and –246 dB(W/m^2) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and
- –209 dB(W/m^2) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.

These epfd values shall be evaluated using the methodology given in Recommendation ITU-R S.1586 and the reference antenna pattern and the maximum gain of an antenna in the radio astronomy service given in Recommendation ITU-R RA.1631 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle θ_{min} of the radiotelescope (for which a default value of 5° should be adopted in the absence of notified information).

These values shall apply at any radio astronomy station that either:

- was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or
- was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply.

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution 743 (WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-03)

5.551I The power flux-density in the band 42.5-43.5 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth), or the broadcasting-satellite service (space-to-Earth) operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station:

- –137 dB(W/m2) in 1 GHz and –153 dB(W/m2) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and
- –116 dB(W/m2) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.

These values shall apply at the site of any radio astronomy station that either:

- was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or
- was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply.

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution

743 (WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-03)

5.552 The allocation of the spectrum for the fixed-satellite service in the bands 42.5-43.5 GHz and 47.2-50.2 GHz for Earth-to-space transmission is greater than that in the band 37.5-39.5 GHz for space-to-Earth transmission in order to accommodate feeder links to broadcasting satellites. Administrations are urged to take all practicable steps to reserve the band 47.2-49.2 GHz for feeder links for the broadcasting-satellite service operating in the band 40.5-42.5 GHz.

5.552A The allocation to the fixed service in the bands 47.2-47.5 GHz and 47.9-48.2 GHz is designated for use by high altitude platform stations. The use of the bands 47.2-47.5 GHz and 47.9-48.2 GHz is subject to the provisions of Resolution 122 (WRC-97). (WRC-97)

5.553 In the bands 43.5-47 GHz and 66-71 GHz, stations in the land mobile service may be operated subject to not causing harmful interference to the space radiocommunication services to which these bands are allocated (see No. 5.43). (WRC-2000)

5.554 In the bands 43.5-47 GHz, 66-71 GHz, 95-100 GHz, 123-130 GHz, 191.8-200 GHz and 252-265 GHz, satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service. (WRC-2000)

5.554A The use of the bands 47.5-47.9 GHz, 48.2-48.54 GHz and 49.44-50.2 GHz by the fixed-satellite service (space-to-Earth) is limited to geostationary satellites. (WRC-03)

5.555 *Additional allocation:* the band 48.94-49.04 GHz is also allocated to the radio astronomy service on a primary basis. (WRC-2000)

5.555A (SUP - WRC-03)

5.555B The power flux-density in the band 48.94-49.04 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth) operating in the bands 48.2-48.54 GHz and 49.44-50.2 GHz shall not exceed –151.8 dB (W/m^2) in any 500 kHz band at the site of any radio astronomy station. (WRC-03)

5.556 In the bands 51.4-54.25 GHz, 58.2-59 GHz and 64-65 GHz, radio astronomy observations may be carried out under national arrangements. (WRC-2000)

5.556A Use of the bands 54.25-56.9 GHz, 57-58.2 GHz and 59-59.3 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, shall not exceed -147 dB ($W/(m^2 . 100\ MHz)$) for all angles of arrival. (WRC-97)

5.556B *Additional allocation:* in Japan, the band 54.25-55.78 GHz is also allocated to the mobile service on a primary basis for low-density use. (WRC-97)

5.557 *Additional allocation:* in Japan, the band 55.78-58.2 GHz is also allocated to the radiolocation service on a primary basis. (WRC-97)

5.557A In the band 55.78-56.26 GHz, in order to protect stations in the Earth exploration-satellite service (passive), the maximum power density delivered by a transmitter to the antenna of a fixed service station is limited to -26 dB (W/MHz). (WRC-2000)

5.558 In the bands 55.78-58.2 GHz, 59-64 GHz, 66-71 GHz, 122.25-123 GHz, 130-134 GHz, 167-174.8 GHz and 191.8-200 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 5.43). (WRC-2000)

5.558A Use of the band 56.9-57 GHz by inter-satellite systems is limited to links between satellites in geostationary-satellite orbit and to transmissions from non-geostationary satellites in high-Earth orbit to those in low-Earth orbit. For links between satellites in the geostationary-satellite orbit, the single entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface, for all conditions and for all meth-

ods of modulation, shall not exceed –147 dB (W/(m^2. 100 MHz)) for all angles of arrival. (WRC-97)

5.559 In the band 59-64 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 5.43). (WRC-2000)

5.559A The band 75.5-76 GHz is also allocated to the amateur and amateur-satellite services on a primary basis until the year 2006. (WRC-2000)

5.560 In the band 78-79 GHz radars located on space stations may be operated on a primary basis in the Earth exploration-satellite service and in the space research service.

5.561 In the band 74-76 GHz, stations in the fixed, mobile and broadcasting services shall not cause harmful interference to stations of the fixed-satellite service or stations of the broadcasting-satellite service operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting-satellite service. (WRC-2000)

5.561A The 81-81.5 GHz band is also allocated to the amateur and amateur-satellite services on a secondary basis. (WRC-2000)

5.561B In Japan, use of the band 84-86 GHz, by the fixed-satellite service (Earth-to-space) is limited to feeder links in the broadcasting-satellite service using the geostationary-satellite orbit. (WRC-2000)

5.562 The use of the band 94-94.1 GHz by the Earth exploration-satellite (active) and space research (active) services is limited to spaceborne cloud radars. (WRC-97)

5.562A In the bands 94-94.1 GHz and 130-134 GHz, transmissions from space stations of the Earth exploration-satellite service (active) that are directed into the main beam of a radio astronomy antenna have the potential to damage some radio astronomy receivers. Space agencies operating the transmitters and the radio astronomy stations concerned should mutually plan their operations so as to avoid such occurrences to the maximum extent possible. (WRC-2000)

5.562B In the bands 105-109.5 GHz, 111.8-114.25 GHz, 155.5-158.5 GHz and 217-226 GHz, the use of this allocation is limited to space-based radio astronomy only. (WRC-2000)

5.562C Use of the band 116-122.25 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 km to 1 000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed –148 dB (W/($m^2 \cdot$ MHz)) for all angles of arrival. (WRC-2000)

5.562D *Additional allocation*: In Korea (Rep. of), the bands 128-130 GHz, 171-171.6 GHz, 172.2-172.8 GHz and 173.3-174 GHz are also allocated to the radio astronomy service on a primary basis until 2015. (WRC-2000)

5.562E The allocation to the Earth exploration-satellite service (active) is limited to the band 133.5-134 GHz. (WRC-2000)

5.562F In the band 155.5-158.5 GHz, the allocation to the Earth exploration-satellite (passive) and space research (passive) services shall terminate on 1 January 2018. (WRC-2000)

5.562G The date of entry into force of the allocation to the fixed and mobile services in the band 155.5-158.5 GHz shall be 1 January 2018. (WRC-2000)

5.562H Use of the bands 174.8-182 GHz and 185-190 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 to 1000 km above the Earth's surface

and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed -144 dB (W/($m^2 \cdot$ MHz)) for all angles of arrival. (WRC-2000)

5.563 (SUP - WRC-03)

5.563A In the bands 200-209 GHz, 235-238 GHz, 250-252 GHz and 265-275 GHz, ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents. (WRC-2000)

5.563B The band 237.9-238 GHz is also allocated to the Earth exploration-satellite service (active) and the space research service (active) for spaceborne cloud radars only. (WRC-2000)

5.564 (SUP - WRC-2000)

5.565 The frequency band 275-1000 GHz may be used by administrations for experimentation with, and development of, various active and passive services. In this band a need has been identified for the following spectral line measurements for passive services:

- Radio astronomy service: 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz and 926-945 GHz;
- Earth exploration-satellite service (passive) and space research service (passive): 275-277 GHz, 294-306 GHz, 316-334 GHz, 342-349 GHz, 363-365 GHz, 371-389 GHz, 416-434 GHz, 442-444 GHz, 496-506 GHz, 546-568 GHz, 624-629 GHz, 634-654 GHz, 659-661 GHz, 684-692 GHz, 730-732 GHz, 851-853 GHz and 951-956 GHz.

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