



Turks and Caicos Islands Table of Frequency Allocations 88 MHz to 59 GHz

First Publication January 2011

(Incorporating the Decisions of the 2007 World Radiocommunication Conference)

The Turks and Caicos Islands *Table of Frequency Allocations*
is available electronically on the Internet
at the following address:

<http://www.telecommission.tc/>

or can be obtained in hard copy, for a fee from:

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FOREWORD

This Turks and Caicos Islands Table of Frequency Allocations indicates the assignment for the radio frequency spectrum between 88 MHz and 59 GHz. It is based on the provisions of the *Final Acts* resulting from the various *World Radio Conferences (WRC)* convened by the *International Telecommunication Union (ITU)*, including the 2007 WRC.

Spectrum other than 88 MHz to 59 GHz in the range 9 KHz to 400 GHz will be addressed subsequently, but until that time, the latest allocations of ITU-R Region 2 should be followed wherever possible.

The Table is intended to respond to specific Turks and Caicos Islands domestic spectrum requirements; consequently it reflects spectrum allocation and utilization policies developed through public consultation by the Telecommunications Commission of Turks and Caicos Islands. It should be noted, therefore, that the Turks and Caicos Islands Table differs, where necessary, from the ITU Table.

Portions of this Table and the associated general information will, from time to time, need to be revised. Such revisions will of necessity occur when changes to the ITU Table are made as a result of future World Radiocommunication Conferences convened by the International Telecommunication Union. At an opportune time, the Turks and Caicos Islands Table of Frequency Allocations will also be revised to reflect these international changes and to take into account domestic requirements to achieve a balanced, efficient and effective management and use of the spectrum.

Information on the Turks and Caicos Islands Table of Frequency Allocations and its interpretation with respect to various spectrum utilization policies can best be obtained by contacting TCITC's office at:

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Definitions

The following is a list of those terms and definitions which are relevant to the *Turks and Caicos Islands Table of Frequency Allocations*. These terms and definitions are extracted from the International Radio Regulations of the International Telecommunication Union. The regulations should be consulted for a more comprehensive listing.

1 – General Terms

Administration: Any governmental department or service responsible for discharging the obligations undertaken in the Convention of the International Telecommunication Union and the Regulations.

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

Allotment (of a radio frequency or radio frequency channel): Entry of a designated frequency channel in an agreed plan, adopted by a competent conference, for use by one or more administrations for a terrestrial or space radiocommunication service in one or more identified countries or geographical areas and under specified conditions.

Assignment (of a radio frequency or radio frequency channel): Authorization given by an administration for a radio station to use a radio frequency or radio frequency channel under specified conditions.

Radio: A general term applied to the use of radio waves.

Radio Waves or Hertzian Waves: Electromagnetic waves of frequencies arbitrarily lower than 3 000 GHz, propagated in space without artificial guide.

Radiocommunication: Telecommunication by means of radio waves.

Terrestrial Radiocommunication: Any radiocommunication other than space radiocommunication or radio astronomy.

Space Radiocommunication: Any radiocommunication involving the use of one or more space stations or the use of one or more reflecting satellites or other objects in space.

Radiodetermination: 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.

Radionavigation: Radiodetermination used for the purpose of navigation, including obstruction warnings.

Radiolocation: Radiodetermination used for purposes other than those of radionavigation.

Radio Direction-Finding: Radiodetermination using the reception of radio waves for the purpose of determining the direction of a station or object.

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

Coordinated Universal Time (UTC): Time scale, based on the second (SI), as defined and recommended by the International Radio Consultative Committee (CCIR), and maintained by the International Time Bureau (BIH). For most practical purposes associated with the Radio Regulations, UTC is equivalent to mean solar time at the prime meridian (0° longitude), formerly expressed in GMT.

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.

2 – Radio Services

Radiocommunication Service: A service as defined in this Section involving the transmission, emission and/or reception of radio waves for specific telecommunication purposes.

In these regulations, unless otherwise stated, any radiocommunication service relates to terrestrial radiocommunication.

Fixed Service: A radiocommunication service between specified fixed points.

Fixed-Satellite Service: A radiocommunication service between earth stations at given positions, when one or more satellites are used; the given position may be a specified point or any fixed point within specified areas; 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 radiocommunication services.

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

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

Space Operation Service: A radiocommunication service concerned exclusively with the operation of spacecraft, in particular space tracking, space telemetry and space telecommand. These functions will normally be provided within the service in which the space station is operating.

Mobile Service: A radiocommunication service between mobile and land stations, or between mobile stations.

Mobile-Satellite Service: A radiocommunication service:

- between mobile earth stations and one or more space stations, or between space stations used by this service; or
- between mobile earth stations by means of one or more space stations.

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

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

Land Mobile-Satellite Service: A mobile-satellite service in which mobile earth stations are located on land.

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

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

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

Aeronautical Mobile (R)¹ Service: An aeronautical mobile service reserved for communications relating to safety and regularity of flight, primarily along national or international civil air routes.

Aeronautical Mobile (OR)² Service: An aeronautical mobile service intended for communications, including those relating to flight coordination, primarily outside national or international civil air routes.

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

Aeronautical Mobile-Satellite (R)^{1a} Service: An aeronautical mobile-satellite service reserved for communications relating to safety and regularity of flights, primarily along national or international civil air routes.

Aeronautical Mobile-Satellite (OR)^{2a} Service: An aeronautical mobile-satellite service intended for communications, including those relating to flight coordination, primarily outside national and international civil air routes.

1-1a (R): route

2 - 2a (OR): off-route

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

Broadcasting-Satellite Service: A radiocommunication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public.

In the broadcasting-satellite service, the term *direct reception* shall encompass both individual reception and community reception.

Radiodetermination Service: A radiocommunication service for the purpose of radiodetermination.

Radiodetermination-Satellite Service: A radiocommunication service for the purpose of radiodetermination involving the use of one or more space stations.

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

Radionavigation Service: A radiodetermination service for the purpose of radionavigation.

Radionavigation-Satellite Service: A radiodetermination-satellite service for the purpose of radionavigation.

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

Maritime Radionavigation Service: A radionavigation service intended for the benefit and for the safe operation of ships.

Maritime Radionavigation-Satellite Service: A radionavigation-satellite service in which earth stations are located on board ships.

Aeronautical Radionavigation Service: A radionavigation service intended for the benefit and for the safe operation of aircraft.

Aeronautical Radionavigation-Satellite Service: A radionavigation-satellite service in which earth stations are located on board aircraft.

Radiolocation Service: A radiodetermination service for the purpose of radiolocation.

Radiolocation-Satellite Service: A radiodetermination-satellite service used for the purpose of radiolocation.

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

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

Earth Exploration-Satellite Service: A radiocommunication service between earth stations and one or more space stations, which may include links between space stations, in which:

- information relating to the characteristics of the Earth and its natural phenomena, 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.

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

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

Amateur Service: A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is by 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 as those of amateur service.

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

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

3 – Categories of Services

Primary and Secondary Services:

Where, in this Table, a band is indicated as allocated to more than one service, either on a worldwide or regional basis, such services are listed in the following order:

- (a) services the names of which are printed in "capitals" (example: FIXED); these are called "primary" services;
- (b) services the names of which are printed in "normal characters" (example: Mobile); these are called "secondary" services.

Additional remarks are printed in normal characters (example: MOBILE except aeronautical mobile).

Stations of a secondary service:

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

4 – Turks and Caicos Islands Table of Frequency Allocations

The table below is divided into two columns. The left column indicates the current ITU Region 2 allocations, while the right column indicates the Turks and Caicos Islands allocations.

The frequency band referred to in each allocation is indicated in the left-hand top corner of the part of the box of the Table concerned.

Footnotes contained in the International Tables of Frequency Allocations that are relevant to Turks and Caicos Islands for the frequency range 88 MHz to 59 GHz have been included. In addition, other footnotes have been developed to respond to a specific domestic requirement.

Footnote references that appear to the right of the name of a service are applicable only to that particular service.

Footnote references that appear below the allocated service or services apply to the whole of the allocation concerned.

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
88 – 108 BROADCASTING	88 – 108 BROADCASTING
108 – 117.975 AERONAUTICAL RADIONAVIGATION 5.197A	108 – 117.975 AERONAUTICAL RADIONAVIGATION
117.975 – 137 AERONAUTICAL MOBILE (R) 5.111 5.198 5.199 5.200	117.975 – 137 AERONAUTICAL MOBILE (R) 5.111 5.199 5.200
137 – 137.025 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SAT (space-to-Earth) MOBILE-SATELLITE (s-E) 5.208A 5.209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical (R) 5.208	137 – 137.025 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SAT (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth)
137.025 – 137.175 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SAT (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-satellite (s-E) 5.208 5.209 Mobile except aeronautical (R) 5.208	137.025 – 137.175 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SAT (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-satellite (space-to-Earth)
137.175 – 137.825 METEOROLOGICAL-SAT (space-to-Earth) MOBILE-SATELLITE (s-E) 5.208 5.209 SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical (R) 5.208	137.175 – 137.825 METEOROLOGICAL-SAT (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth)
137.825 – 138 METEOROLOGICAL-SAT (space-to-Earth) SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-satellite (space-to-Earth) 5.208A 5.209 Mobile except aeronautical (R) 5.208	137.825 – 138 METEOROLOGICAL-SAT (space-to-Earth) SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-satellite (space-to-Earth)

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
400.15 – 401 METEOROLOGICAL AIDS METEOROLOGICAL-SAT (s-E) MOBILE-SATELLITE (s-E) 5.208A 5.209 SPACE RESEARCH (s-E) 5.263 Space operations (s-E) 5.262 5.264	400.15 – 401 METEOROLOGICAL AIDS METEOROLOGICAL-SAT (s-E) MOBILE-SATELLITE (s-E) 5.208A 5.209 SPACE RESEARCH (s-E) 5.263 Space operations (s-E) 5.264
401 – 402 EARTH EXPLORATION-SAT (E-s) METEOROLOGICAL AIDS METEOROLOGICAL-SAT (E-s) SPACE OPERATIONS (s-E) Fixed Mobile except aeronautical mobile	401 – 402 EARTH EXPLORATION-SAT (E-s) METEOROLOGICAL AIDS METEOROLOGICAL-SAT (E-s) SPACE OPERATIONS (s-E) Fixed Mobile except aeronautical mobile
402 – 403 EARTH EXPLORATION-SAT (E-s) METEOROLOGICAL AIDS METEOROLOGICAL-SAT (E-s) Fixed Mobile except aeronautical mobile	402 – 403 EARTH EXPLORATION-SAT (E-s) METEOROLOGICAL AIDS METEOROLOGICAL-SAT (E-s) Fixed Mobile except aeronautical mobile
403 – 406 METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile	403 – 406 METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile
406 – 406.1 MOBILE-SATELLITE (Earth-to-space) 5.266 5.267	406 – 406.1 MOBILE-SATELLITE (Earth-to-space) 5.266 5.267
406.1 – 410 FIXED MOBILE except aeronautical RADIO ASTRONOMY 5.149	406.1 – 410 FIXED MOBILE except aeronautical RADIO ASTRONOMY 5.149
410 – 420 FIXED MOBILE except aeronautical SPACE RESEARCH (space-to-space)	410 – 420 FIXED MOBILE except aeronautical
420 – 430 FIXED MOBILE except aeronautical Radiolocation 5.269 5.270	420 – 430 FIXED MOBILE except aeronautical
430 – 432 RADIOLOCATION Amateur 5.276 5.277 5.278 5.279	430 – 440 RADIOLOCATION Amateur 5.282
432-438 RADIOLOCATION Amateur Earth exploration-satellite (active) 5.279A 5.276 5.277 5.278 5.279 5.281 5.282	

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
438 – 440 RADIOLOCATION Amateur 5.276 5.277 5.278 5.279	
440 – 450 FIXED MOBILE except aeronautical mobile Radiolocation 5.269 5.270 5.271 5.284 5.285 5.286	440 – 450 FIXED MOBILE except aeronautical mobile
450 – 455 FIXED MOBILE 5.209 5.286 5.286A 5.286B 5.286C 5.286D 5.286E	450 – 470 FIXED MOBILE 5.286AA T8 5.287
455 – 456 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.286A 5.286B 5.286C 5.209	
456 – 459 FIXED MOBILE 5.287 5.288	
459 – 460 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.286A 5.286B 5.286C 5.209	
460 – 470 FIXED MOBILE Meteorological-satellite (space-to-Earth) 5.287 5.288 5.289	
470 – 512 BROADCASTING Fixed Mobile 5.292 5.293	
512 – 608 BROADCASTING 5.297	512 – 608 BROADCASTING
608 – 614 RADIO ASTRONOMY Mobile-sat except aero mobile-sat (Earth-to-space)	608 – 614 RADIO ASTRONOMY

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
1 240 – 1 300 EARTH EXPLORATION-SAT (active) RADIOLOCATION RADIONAVIGATION-SAT(s-E)(s-S) 5.328B 5.329 5.329A SPACE RESEARCH (active) Amateur 5.282 5.331 5.332 5.335 5.335A	1 240 – 1 300 EARTH EXPLORATION-SAT (active) RADIOLOCATION RADIONAVIGATION-SAT(s-E) Amateur 5.282
1 300 – 1 350 AERONAUTICAL RADIONAV 5.337 RADIONAVIGATION RADIONAVIGATION-SAT (E-s) 5.149 5.337A	1 300 – 1 350 AERONAUTICAL RADIONAV 5.337 RADIONAVIGATION
1 350 – 1 400 RADIOLOCATION 5.149 5.334 5.339	1 350 – 1 400 RADIOLOCATION
1 400 – 1 427 EARTH EXPLORATION-SAT (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	1 400 – 1 427 EARTH EXPLORATION-SAT (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340
1 427 – 1 429 SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.341	1 427 – 1 429 SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.341
1 429 – 1 452 FIXED MOBILE 5.343 5.338A 5.341	1 429 – 1 452 FIXED MOBILE 5.343 5.338A 5.341
1 452 – 1 492 FIXED MOBILE 5.343 BROADCASTING 5.345 5.347 BROADCASTING-SATELLITE 5.345 5.347A 5.341 5.344	1 452 – 1 492 FIXED BROADCASTING 5.345 BROADCASTING-SATELLITE 5.345
1 492 – 1 518 FIXED MOBILE 5.343 5.341 5.344	1 492 – 1 518 FIXED MOBILE 5.343
1 518 – 1 525 FIXED MOBILE 5.343 MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.341 5.344	1 518 – 1 525 FIXED MOBILE 5.343 MOBILE-SATELLITE (space-to-Earth)

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
1 525 – 1 530 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.347A 5351A Earth exploration-sat Fixed Mobile 5.343 <div style="text-align: right;">5.341 5.351 5.354</div>	1 525 – 1 530 MOBILE-SATELLITE (space-to-Earth) Earth exploration-sat
1 530 – 1 535 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.351A 5.353A Earth exploration-sat Fixed Mobile 5.343 <div style="text-align: right;">5.341 5.351 5.354</div>	1 530 – 1 535 MOBILE-SATELLITE (space-to-Earth) MARITIME MOBILE-SAT (space-to-Earth) 5.353A Mobile (aeronautical telemetry)
1 535 – 1 559 MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A <div style="text-align: right;">5.341 5.351 5.353A 5.354 5.356 5.357 5.357A 5.362A</div>	1 535 – 1 544 MOBILE-SATELLITE (space-to-Earth) MARITIME MOBILE-SAT (space-to-Earth) 5.353A <hr/> 1544 – 1559 MOBILE-SATELLITE (space-to-Earth) <div style="text-align: right;">5.356 5.357 5.357A</div>
1 559 – 1 610 AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SAT (space-to-Earth) (space-to-space) 5.328B 5.329A <div style="text-align: right;">5.341</div>	1 559 – 1 610 AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SAT (space-to-Earth)
1 610 – 1 610.6 AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space) 5.351A RADIODETERMINATION-SAT (Earth-to-space) <div style="text-align: right;">5.341 5.364 5.366 5.367 5.368 5.370 5.372</div>	1 610 – 1 610.6 AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space)
1 610.6 – 1 613.8 AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIODETERMINATION-SAT (Earth-to-space) 5.351A <div style="text-align: right;">5.149 5.341 5.364 5.366 5.367 5.368 5.370 5.372</div>	1 610.6 – 1 613.8 AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space)
1 613.8 – 1 626.5 AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space) 5.351A RADIODETERMINATION-SAT (Earth-to-space) Mobile-satellite (space-to-Earth) 5.347A <div style="text-align: right;">5.341 5.364 5.365 5.366 5.367 5.368 5.370 5.372</div>	1 613.8 – 1 626.5 AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space) Mobile-satellite (space-to-Earth)

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
1 626.5 – 1 660 MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.357A 5.362A 5.374 5.375 5.376	1 626.5 – 1 645.5 MOBILE-SATELLITE (Earth-to-space) MARITIME MOBILE-SAT (Earth-to-space) 5.353A
1 660 – 1 660.5 MOBILE SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149 5.341 5.351 5.354 5.362A 5.376A	1 645.5 – 1 660.5 MOBILE-SATELLITE (Earth-to-space) 5.357A 5.375 5.376
1 660.5 – 1 668 RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379A	1 660.5 – 1 668 RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149
1 668 – 1 668.4 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 5.379A	1 668 – 1 668.4 MOBILE-SATELLITE (Earth-to-space) 5.348C RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149
1 668.4 – 1 670 FIXED METEOROLOGICAL AIDS MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY 5.149 5.341 5.389D 5.379E	1 668.4 – 1 670 FIXED METEOROLOGICAL AIDS MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to space) 5.351A RADIO ASTRONOMY 5.149
1 670 – 1 675 FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SAT (space-to-Earth) MOBILE 5.380 MOBILE-SATELLITE (Earth-to space) 5.351A 5.397B 5.341 5.379D 5.379E 5.380A	1 670 – 1 675 FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SAT (space-to-Earth) MOBILE 5.380 MOBILE -SATELLITE (Earth - to space) 5.351A
1 675-1 690 FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SAT (space-to-Earth) MOBILE except aeronautical mobile 5.341	1 675 – 1 690 FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SAT (space-to-Earth) MOBILE except aeronautical mobile
1 690-1 700 METEOROLOGICAL AIDS METEOROLOGICAL-SAT (space-to-Earth) 5.289 5.341 5.381	1 690 -1 700 METEOROLOGICAL AIDS METEOROLOGICAL-SAT (space-to-Earth)

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
1 700 – 1 710 FIXED METEOROLOGICAL–SAT (space-to-Earth) MOBILE except aeronautical mobile 5.289 5.341	1 700 – 1 710 FIXED METEOROLOGICAL–SAT (space-to-Earth) MOBILE except aeronautical mobile
1 710 - 1 930 FIXED MOBILE 5.384A 5.388A 5.149 5.341 5.385 5.386 5.387 5.388	1 710 - 1 850 FIXED MOBILE 5.384A T3 5.388
1 930–1 980 FIXED MOBILE 5.388A Mobile-satellite (Earth-to-space) (1930-1970 MHz) 5.388	1 850 – 1 990 FIXED MOBILE T4 T5 5.384A 5.388
1 980–2 010 FIXED MOBILE MOBILE–SATELLITE (Earth–to-space) 5.351A 5.388 5.389A 5.389B 5.389F	1 990 – 2 025 FIXED MOBILE MOBILE–SATELLITE (Earth–to-space) 5.388 5.389B 5.390
2 010–2 025 FIXED MOBILE MOBILE–SATELLITE (Earth–to-space) 5.388 5.389C 5.389E	
2 025–2 110 FIXED EARTH EXPLOR-SAT (Earth-to-space) (s-s) MOBILE 5.391 SPACE OPERATION (Earth-to-space) (s-s) SPACE RESEARCH (Earth-to-space) (s-s) 5.392	2 025–2 110 FIXED
2 110–2 120 FIXED MOBILE SPACE RESEARCH (deep space) (E-s) 5.388	2 110–2 160 FIXED MOBILE T5 5.388
2 120–2 160 FIXED MOBILE 5.388A 5.388B Mobile-satellite (s-E) 5.388	
2 160 – 2 170 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.388 5.389C 5.389E	2 160 – 2 200 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.388

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
2 170 – 2 200 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.388 5.389A	
2 200 – 2 290 EARTH EXPLORATION-SAT (s-E) (s-s) FIXED MOBILE 5.391 SPACE OPERATION (s-E) (s-s) SPACE RESEARCH (s-E) (s-s) 5.392	2 200 – 2 300 FIXED 5.392
2 290 – 2 300 FIXED MOBILE except aeronautical SPACE RESEARCH (deep space) (s-E)	
2 300 – 2 450 FIXED MOBILE 5.384A RADIOLOCATION Amateur 5.150 5.282 5.393 5.394 5.396	2 300 – 2 450 FIXED MOBILE 5.384A RADIOLOCATION Amateur T6 5.150 5.282
2 450 – 2 483.5 FIXED MOBILE RADIOLOCATION 5.150 5.394	2 450 – 2 483.5 FIXED MOBILE RADIOLOCATION T9 T10 T11 5.150
2 483.5 – 2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIOLOCATION RADIODETERMINATION-SAT (s-E) 5.150 5.402	2 483.5 – 2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) T9 T10 T11 5.150
2 500 – 2 520 FIXED 5.409 5.411 FIXED-SATELLITE (space-to-Earth) 5.415 MOBILE except aeronautical mobile 5.384A 5.404 5.407 5.414 5.415A	2 500 – 2 690 FIXED MOBILE except aeronautical mobile 5.384A
2 520 – 2 655 BROADCASTING-SATELLITE 5.413 5.416 FIXED FIXED-SATELLITE (space-to-Earth) 5.415 MOBILE except aeronautical 5.384A 5.339 5.417C 5.417D 5.418B 5.418C	

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
2 655 – 2 670 FIXED 5.409 5.411 FIXED-SATELLITE (E-s) (s-E) 5.347A 5.415 MOBILE except aeronautical mobile 5.384A BROADCASTING-SAT 5.347A 5.413 5.416 Earth exploration-sat (passive) Radio astronomy Space research (passive)	
5.149	
2 670 – 2 690 FIXED FIXED-SATELLITE (E-s) (s-E) 5.347A 5.415 MOBILE except aeronautical mobile 5.384 Earth exploration-sat (passive) Radio astronomy Space research (passive)	
5.149	
2 690 – 2 700 EARTH EXPLORATION-SAT (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	2 690 – 2 700 EARTH EXPLORATION-SAT (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
5.340	5.340
2 700 – 2 900 AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation	2 700 – 2 900 AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation
5.423 5.424	5.423
2 900 – 3 100 RADIONAVIGATION 5.426 RADIOLOCATION 5.424A	2 900 – 3 100 RADIONAVIGATION 5.426 Radiolocation
5.425 5.427	5.425 5.427
3 100 – 3 300 RADIOLOCATION Earth exploration-satellite (active) Space research (active)	3 100 – 3 300 RADIOLOCATION
5.149 5.428	5.149
3 300 – 3 400 RADIOLOCATION Amateur Fixed Mobile	3 300 – 3 400 RADIOLOCATION Amateur
5.149	5.149
3 400 – 3 500 FIXED FIXED-SATELLITE (space-to-Earth) Amateur Mobile Radiolocation 5.433	3 400 – 3 500 FIXED FIXED-SATELLITE (space-to-Earth) Amateur
5.282	T7 T8 5.282

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
3 500 – 3 700 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical Radiolocation 5.433	3 500 – 3 700 FIXED FIXED-SATELLITE (space-to-Earth) T7 T8
3 700 – 4 200 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical	3 700 – 4 200 FIXED FIXED-SATELLITE (space-to-Earth)
4 200 – 4 400 AERONAUTICAL RADIONAVIGATION 5.438 5.440	4 200 – 4 400 AERONAUTICAL RADIONAVIGATION 5.438 5.440
4 400 – 4 500 FIXED MOBILE 5.440A	4 400 – 4 500 FIXED MOBILE
4 500 – 4 800 FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE 5.440A	4 500 – 4 800 FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE
4 800 – 4 990 FIXED MOBILE 5.440A 5.442 Radio astronomy 5.443 5.149 5.339	4 800 – 5 000 FIXED MOBILE 5.442
4 990 – 5 000 FIXED MOBILE except aeronautical RADIO ASTRONOMY Space research (passive) 5.149	 5.149
5 000 – 5 010 AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (Earth-to-space) 5.367	5 000 – 5 150 AERONAUTICAL RADIONAVIGATION
5 010 – 5 030 AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to Earth) (space-to-space) 5.328B 5.443B 5.367	
5 030 – 5 150 AERONAUTICAL RADIONAVIGATION 5.367 5.444 5.444A	
5 150 – 5 250 AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except aeronautical mobile 5.446A 5.446B 5.446 5.447B 5.447C	5 150 – 5 250 AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except aeronautical 5.446A 5.446B 5.447B

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
5 250 – 5 255 EARTH EXPLORATION-SAT (active) RADIOLOCATION SPACE RESEARCH 5.447D MOBILE except aeronautical mobile 5.446A 5.447F <div style="text-align: right;">5.44E 5.448 5.448A</div>	5 250 – 5 350 EARTH EXPLORATION-SAT (active) RADIOLOCATION MOBILE except aeronautical mobile 5.446A 5.447F
5 255 – 5 350 EARTH EXPLORATION-SAT (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 5.446A 5.447F <div style="text-align: right;">5.448A</div>	
5 350 – 5 460 AERONAUTICAL RADIONAVIGATION 5.449 EARTH EXPLORATION-SATELLITE (active) 5.448B SPACE RESEARCH (active) 5.448C RADIOLOCATION 5.448D	5 350 – 5 460 AERONAUTICAL RADIONAVIGATION 5.449 EARTH EXPLORATION-SATELLITE (active) 5.448B RADIOLOCATION 5.448D
5 460 – 5 470 EARTH EXPLORATION-SATELLITE (active) RADIONAVIGATION 5.449 RADIOLOCATION 5.448D SPACE RESEARCH (active) <div style="text-align: right;">5.448B</div>	5 460 – 5 470 EARTH EXPLORATION-SATELLITE (active) RADIONAVIGATION 5.449 RADIOLOCATION 5.448D <div style="text-align: right;">5.448B</div>
5 470 – 5 570 EARTH EXPLORATION-SATELLITE (active) MARITIME RADIONAVIGATION MOBILE except aeronautical 5.446A 5.450A RADIOLOCATION 5.450B SPACE RESEARCH (active) <div style="text-align: right;">5.448B</div>	5 470 – 5 570 EARTH EXPLORATION-SATELLITE (active) MARITIME RADIONAVIGATION MOBILE except aeronautical 5.446A 5.450A RADIOLOCATION 5.450B <div style="text-align: right;">5.448B</div>
5 570 – 5 650 MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 5.446A 5.450A RADIOLOCATION 5.450B <div style="text-align: right;">5.452</div>	5 570 – 5 650 MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 5.446A 5.450A RADIOLOCATION 5.450B <div style="text-align: right;">5.452</div>
5 650 – 5 725 RADIOLOCATION MOBILE except aeronautical mobile 5.446A 5.450A Amateur Space research (deep space) <div style="text-align: right;">5.282</div>	5 650 – 5 725 RADIOLOCATION MOBILE except aeronautical 5.446A 5.450A Amateur <div style="text-align: right;">5.282</div>
5 725 – 5 830 RADIOLOCATION Amateur <div style="text-align: right;">5.150</div>	5 725 – 5 830 RADIOLOCATION Amateur <div style="text-align: right;">T9 T10 T11 5.150</div>

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
7 550 - 7 750 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	7 550 - 7 750 FIXED FIXED-SATELLITE (space-to-Earth)
7 750 - 7 850 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 5.461 B MOBILE except aeronautical	7 750 - 7 850 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 5.461 B
7 850 - 7 900 FIXED MOBILE except aeronautical mobile	7 850 - 7 900 FIXED
7 900 - 8 025 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 5.461	7 900 - 8 025 FIXED FIXED-SATELLITE (space-to-Earth) 5.461
8 025 - 8 175 EARTH EXPLORATION-SAT (space-to-Earth) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 5.463	8 025 - 8 175 EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (space-to-Earth)
8 175 - 8 215 EARTH EXPLORATION-SAT (space-to-Earth) FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SAT (Earth-to-space) MOBILE 5.463	8 175 - 8 215 EARTH EXPLORATION-SAT (space-to-Earth) FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SAT (Earth-to-space)
8 215 - 8 400 EARTH EXPLORATION-SAT (space-to-Earth) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 5.463	8 215 - 8 400 EARTH EXPLORATION-SAT (space-to-Earth) FIXED FIXED-SATELLITE (space-to-Earth)
8 400 - 8 500 FIXED MOBILE except aeronautical SPACE RESEARCH (space-to-Earth) 5.465	8 400 - 8 500 FIXED
8 500 - 8 550 RADIOLOCATION 5.468 5.469	8 500 - 8 750 RADIOLOCATION
8 550 - 8 650 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.469A	

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations MHz	Turks & Caicos Allocations MHz
8 650-8 750 RADIOLOCATION	
8 750 - 8 850 AERONAUTICAL RADIONAVIGATION 5.470 RADIOLOCATION	8 750 - 8 850 AERONAUTICAL RADIONAVIGATION 5.470 RADIOLOCATION
8 850 - 9 000 MARITIME RADIONAVIGATION 5.472 RADIOLOCATION	8 850 - 9 000 MARITIME RADIONAVIGATION 5.472 RADIOLOCATION
9 000 - 9 200 AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.473A	9 000 - 9 200 AERONAUTICAL RADIONAVIGATION 5.337
9 200 - 9 300 MARITIME RADIONAVIGATION 5.472 RADIOLOCATION 5.474	9 200 - 9 300 MARITIME RADIONAVIGATION 5.472 RADIOLOCATION 5.474
9 300 - 9 500 RADIONAVIGATION 5.476 Radiolocation 5.427 5.474 5.475 5.475A 5.475B 5.476A	9 300 - 9 500 RADIONAVIGATION 5.476 5.427 5.474 5.475
9 500 - 9 800 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.476A	9 500 - 9 800 RADIOLOCATION RADIONAVIGATION
9 800 – 9 900 RADIOLOCATION Earth exploration-satellite (active) Space research (active) Fixed 5.477 5.478 5.479	9 800 - 10 000 RADIOLOCATION Fixed
9 900-10 000 RADIOLOCATION Fixed 5.477 5.479	
10 -10.45 GHz RADIOLOCATION Amateur 5.479 5.480	10 -10.45 GHz RADIOLOCATION Amateur 5.479
10.45 – 10.5 GHz RADIOLOCATION Amateur Amateur-satellite 5.481	10.45 -10.5 GHz RADIOLOCATION Amateur Amateur-satellite
10.5 – 10.55 GHz FIXED MOBILE RADIOLOCATION	10.5 – 10.55 GHz FIXED RADIOLOCATION

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations GHz	Turks & Caicos Allocations GHz
10.55 – 10.6 FIXED MOBILE except aeronautical Radiolocation	10.55 – 10.6 FIXED
10.6 – 10.68 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482 5.482A	10.6 – 10.68 EARTH EXPLORATION-SATELLITE (passive) FIXED RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.482
10.68 – 10.7 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.483	10.68 – 10.7 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340
10.7 – 11.7 FIXED FIXED-SATELLITE(s-E) 5.441 5.484A MOBILE except aeronautical mobile	10.7 – 11.7 FIXED FIXED-SATELLITE(s-E) 5.441 5.484A MOBILE except aeronautical mobile
11.7-12.1 FIXED 5.486 FIXED-SATELLITE (space-to-Earth) 5.484A Mobile except aeronautical mobile 5.485 5.488	11.7-12.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A Mobile except aeronautical mobile 5.488
12.1-12.2 FIXED-SATELLITE (space-to-Earth) 5.484A 5.485 5.488 5.489	12.1-12.2 FIXED-SATELLITE (space-to-Earth) 5.484A 5.488
12.2-12.7 BROADCASTING BROADCASTING-SATELLITE 5.492 FIXED MOBILE except aeronautical 5.487A 5.488 5.490	12.2-12.7 BROADCASTING BROADCASTING-SATELLITE 5.492 FIXED 5.487A 5.488
12.7-12.75 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical	12.7-13.25 FIXED FIXED-SATELLITE (Earth-to-space)
12.75 – 13.25 FIXED FIXED-SATELLITE (Earth-to-space) 5.441 MOBILE except aeronautical Space research (deep space) (space-to-Earth)	

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations GHz	Turks & Caicos Allocations GHz
13.25 – 13.4 AERONAUTICAL RADIONAVIGATION 5.497 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) <div style="text-align: right;">5.498A</div>	13.25 – 13.4 AERONAUTICAL RADIONAVIGATION 5.497 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) <div style="text-align: right;">5.498A</div>
13.4 – 13.75 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.501A Standard frequency and time signal-satellite (Earth-to-space) <div style="text-align: right;">5.501B</div>	13.4 – 13.75 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.501A <div style="text-align: right;">5.501 B</div>
13.75 – 14 FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Standard frequency and time signal-satellite (Earth-to-space) Space research Earth exploration-satellite <div style="text-align: right;">5.502 5.503</div>	13.75 – 14 FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION
14 – 14.3 FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) except aeronautical mobile-satellite 5.506A Space research	14 – 14.3 FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A RADIONAVIGATION 5.504
14.3 – 14.4 FIXED-SATELLITE (E-s) 5.484A 5.506 Mobile-satellite (Earth-to-space) Radionavigation-satellite <div style="text-align: right;">5.504A</div>	14.3 – 14.4 FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 <div style="text-align: right;">5.504A</div>
14.4 – 14.47 FIXED FIXED-SATELLITE (E-s) 5.484A 5.506 5.457A 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) Space research (space-to-Earth) <div style="text-align: right;">5.504A</div>	14.4 – 14.5 FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.506 5.457A <div style="text-align: right;">5.149 5.504A</div>
14.47 – 14.5 FIXED FIXED-SATELLITE (E-s) 5.484A 5.506 5.457A MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) Space research (space-to-Earth) Radioastronomy <div style="text-align: right;">5.149 5.504A</div>	

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations GHz	Turks & Caicos Allocations GHz
14.5 – 14.8 FIXED FIXED-SATELLITE (Earth-to-space) 5.510 MOBILE Space research	14.5 – 14.8 FIXED FIXED-SATELLITE (Earth-to-space) 5.510
14.8 – 15.35 FIXED MOBILE Space research 5.339	14.8 – 15.35 FIXED
15.35 – 15.4 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	15.35 – 15.4 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340
15.4 – 15.43 AERONAUTICAL RADIONAVIGATION 5.511C 5.511 D	15.4 – 15.43 AERONAUTICAL RADIONAVIGATION 5.511C
15.43 – 15.63 FIXED-SATELLITE (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C	15.43 – 15.63 FIXED-SATELLITE (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C
15.63 – 15.7 AERONAUTICAL RADIONAVIGATION 5.511C 5.511D	15.63 – 15.7 AERONAUTICAL RADIONAVIGATION 5.511C
15.7 – 16.6 RADIOLOCATION 5.512	15.7 – 17.3 RADIOLOCATION
16.6 – 17.1 RADIOLOCATION Space research (deep space) (Earth-to-space) 5.512	
17.1 – 17.2 RADIOLOCATION 5.512	
17.2 – 17.3 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.512 5.513A	
17.3 – 17.7 FIXED-SATELLITE (Earth-to-space) 5.516 BROADCASTING-SATELLITE Radiolocation 5.514 5.515	

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations GHz	Turks & Caicos Allocations GHz
17.7 – 17.8 FIXED FIXED-SATELLITE (space-to-Earth)(Earth-to-space) 5.516 5.517 BROADCASTING-SATELLITE Mobile 5.518 <div style="text-align: right;">5.515</div>	17.7 – 17.8 FIXED FIXED-SATELLITE (space-to-Earth)(Earth-to-space) 5.516 5.517 BROADCASTING-SATELLITE <div style="text-align: right;">5.515</div>
17.8 – 18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE <div style="text-align: right;">5.519</div>	17.8 – 18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516
18.1 – 18.4 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B (Earth-to-space) 5.520 MOBILE <div style="text-align: right;">5.519</div>	18.1 – 18.4 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B (Earth-to-space) 5.520 <div style="text-align: right;">5.519</div>
18.4 – 18.6 FIXED FIXED-SATELLITE (s-E) 5.484A 5.516B MOBILE	18.4 – 18.6 FIXED FIXED-SATELLITE (s-E) 5.484A 5.516B
18.6 – 18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (s-E) 5.523 5.516B MOBILE except aeronautical mobile SPACE RESEARCH (passive) <div style="text-align: right;">5.522A</div>	18.6 – 18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (s-E) 5.523 5.516B SPACE RESEARCH (passive) <div style="text-align: right;">5.522A</div>
18.8 – 19.3 FIXED FIXED-SATELLITE (s-E) 5.516B 5.523A MOBILE	18.8 – 19.7 FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.523A
19.3 – 19.7 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to space) 5.523B 5.523C 5.523D .5.523E MOBILE	
19.7 – 20.2 FIXED-SATELLITE (s-E) 5.584A 5.516B MOBILE-SATELLITE (space-to-Earth) <div style="text-align: right;">5.524 5.525 5.526 5.527 5.528 5.529</div>	19.7 – 21.2 FIXED-SATELLITE (space-to-Earth) 5.584A MOBILE-SATELLITE (space-to-Earth)
20.2 – 21.2 FIXED-SATELLITE (space-to-Earth) 5.584A MOBILE-SATELLITE (space-to-Earth) Standard frequency and time signal-satellite (space-to-Earth) <div style="text-align: right;">5.524</div>	

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations GHz	Turks & Caicos Allocations GHz
21.2 – 21.4 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	21.2 – 21.4 EARTH EXPLORATION-SATELLITE (passive) FIXED SPACE RESEARCH (passive)
21.4 – 22 FIXED MOBILE	21.4 – 22.21 FIXED 5.149
22 – 22.21 FIXED MOBILE except aeronautical 5.149	
22.21 – 22.5 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.532	22.21 – 22.5 EARTH EXPLORATION-SATELLITE (passive) FIXED RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.532
22.5 – 22.55 FIXED MOBILE	22.5 – 23.6 FIXED 5.149
22.55 – 23.55 FIXED INTER-SATELLITE MOBILE 5.149	
23.55 – 23.6 FIXED MOBILE	
23.6 – 24 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	23.6 – 24 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340
24 – 24.05 AMATEUR AMATEUR-SATELLITE 5.150	24 – 24.05 AMATEUR AMATEUR-SATELLITE 5.150
24.05 – 24.25 RADIOLOCATION Amateur Earth exploration-satellite (active) 5.150	24.05 – 24.25 RADIOLOCATION Amateur 5.150

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations GHz	Turks & Caicos Allocations GHz
24.25 – 24.45 RADIONAVIGATION	24.25 – 24.65 RADIONAVIGATION
24.45 – 24.65 INTER-SATELLITE RADIONAVIGATION 5.533	
24.65 – 24.75 INTER-SATELLITE RADIOLOCATION-SATELLITE (Earth-to-space)	24.65 – 24.75 RADIOLOCATION-SATELLITE (Earth-to-space)
24.75 – 25.25 FIXED-SATELLITE (Earth-to-space) 5.535	24.75 – 25.25 FIXED-SATELLITE (Earth-to-space) 5.535
25.25 – 25.5 FIXED INTER-SATELLITE MOBILE Standard frequency and time signal-satellite (E-s)	25.25 – 27 FIXED MOBILE
25.5 – 27 EARTH EXPLORATION-SATELLITE (space-to-Earth) 5.536A 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (s-E) 5.536A 5.536C Standard frequency and time signal-satellite (E-s)	
27 – 27.5 FIXED FIXED-SATELLITE (Earth-to-space) INTER-SATELLITE 5.536 5.537 MOBILE	27 – 29.5 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE
27.5 – 28.5 FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 MOBILE 5.538 5.540	
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	
29.1 – 29.5 FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.523C 5.523E 5.535A 5.539 5.541A MOBILE Earth exploration-satellite (Earth-to-space) 5.541 5.540	

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations GHz	Turks & Caicos Allocations GHz
29.5 – 29.9 FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 MOBILE-SATELLITE (Earth-to-space) Earth exploration-satellite (Earth-to-space) 5.541 <p style="text-align: right;">5.525 5.526 5.527 5.529 5.540</p>	29.5 – 31 FIXED-SATELLITE (Earth-to-space) 5.484A MOBILE-SATELLITE (Earth-to-space)
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 <p style="text-align: right;">5.525 5.526 5.527 5.538 5.540</p>	
30 – 31 FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal-satellite (s-E)	
31 – 31.3 FIXED 5.338A MOBILE Space research 5.544 Standard frequency and time signal-satellite (s-E) <p style="text-align: right;">5.149</p>	31 – 31.3 FIXED MOBILE <p style="text-align: right;">5.149</p>
31.3 – 31.8 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) <p style="text-align: right;">5.340</p>	31.3 – 31.8 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) <p style="text-align: right;">5.340</p>
31.8 – 32 FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (s-E) <p style="text-align: right;">5.547 5.547B 5.548</p>	31.8 – 33.4 FIXED 5.547A RADIONAVIGATION
32 – 32.3 FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (s-E) <p style="text-align: right;">5.547 5.547C 5.548</p>	
32.3 – 33 FIXED 5.547A INTER-SATELLITE RADIONAVIGATION <p style="text-align: right;">5.547 5.547D 5.548</p>	
33 – 33.4 FIXED 5.547A RADIONAVIGATION <p style="text-align: right;">5.547 5.547E</p>	
33 – 33.4 FIXED 5.547A RADIONAVIGATION <p style="text-align: right;">5.547 5.547E</p>	

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations GHz	Turks & Caicos Allocations GHz
33.4 – 34.2 RADIOLOCATION	33.4 – 35.2 RADIOLOCATION
34.2 – 34.7 RADIOLOCATION SPACE RESEARCH (deep space) (E-s)	
34.7 – 35.2 RADIOLOCATION Space research 5.550	
35.2 – 35.5 METEOROLOGICAL AIDS RADIOLOCATION	35.2 – 35.5 METEOROLOGICAL AIDS RADIOLOCATION
35.5 – 36 EARTH EXPLORATION-SATELLITE (active) METEOROLOGICAL AIDS RADIOLOCATION SPACE RESEARCH (active) 5.549A	35.5 – 36 EARTH EXPLORATION-SATELLITE (active) METEOROLOGICAL AIDS RADIOLOCATION SPACE RESEARCH (active)
36 – 37 EARTH EXPLORATION-SATELLITE (Passive) FIXED MOBILE SPACE RESEARCH (Passive) 5.149 5.550A	36 – 37.5 FIXED MOBILE 5.149
37 - 37.5 FIXED MOBILE SPACE RESEARCH (space-to-Earth) 5.547	
37.5 – 38 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547	37.5 – 39.5 FIXED FIXED-SATELLITE (space-to-Earth)
38 – 39.5 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration-satellite (space-to-Earth) 5.547	

TURKS AND CAICOS ISLANDS TABLE OF FREQUENCY ALLOCATIONS

ITU Region 2 Allocations GHz	Turks & Caicos Allocations GHz
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	39.5 – 40.5 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)
40 – 40.5 EARTH EXPLORATION-SATELLITE (E-s) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth)	
40.5 - 41 BROADCASTING BROADCASTING-SATELLITE FIXED FIXED-SATELLITE (space-to-Earth) 5.516B Mobile Mobile-satellite (space-to-Earth) 5.547	40.5 – 42.5 BROADCASTING-SATELLITE FIXED FIXED-SATELLITE (space-to-Earth)
41 - 42.5 BROADCASTING BROADCASTING-SATELLITE FIXED FIXED-SATELLITE (space-to-Earth) 5.516B Mobile 5.547 5.551 H 5.551 I	
42.5 – 43.5 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIO ASTRONOMY 5.149 5.547	42.5 – 43.5 FIXED FIXED-SATELLITE (space-to-Earth) RADIO ASTRONOMY 5.149 5.547
43.5 – 47 MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.544	43.5 – 47 MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.544
47 – 47.2 AMATEUR AMATEUR-SATELLITE	47 – 47.2 AMATEUR AMATEUR-SATELLITE
47.2 – 50.2 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 5.516B MOBILE 5.149 5.340 5.552A 5.555	47.2 – 50.2 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 5.516B MOBILE 5.149 5.340 5.552A 5.555

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

ITU Region 2 Allocations GHz	Turks & Caicos Allocations GHz
50.2 – 50.4 EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	50.2 – 50.4 EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340
50.4 – 51.4 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE	50.4 – 51.4 FIXED MOBILE FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE
51.4 – 52.6 FIXED MOBILE 5.547 5.556	51.4 – 52.6 FIXED MOBILE 5.547 5.556
52.6 – 54.25 EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	52.6 – 55.78 EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556
54.25 – 55.78 EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.556A SPACE RESEARCH (passive)	
55.78 – 56.9 EARTH EXPLORATION-SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	55.78 – 59 EARTH EXPLORATION-SATELLITE (passive) FIXED 5.557A MOBILE 5.558 SPACE RESEARCH (passive) 5.547
56.9 – 57 EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	
57 – 58.2 EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	
58.2 – 59 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547 5.556	

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.111** The carrier frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz and the frequencies 121.5 MHz, 156.525 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles. The conditions for the use of the frequencies are prescribed in Article 31. The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of ± 3 kHz about the frequency. (WRC-07)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

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

13 360-13 410 kHz,
25 550-25 670 kHz,
37.5-38.25 MHz,
73-74.6 MHz in Regions 1 and 3,
150.05-153 MHz in Region 1,
322-328.6 MHz,
406.1-410 MHz,
608-614 MHz in Regions 1 and 3,
1 330-1 400 MHz,
1 610.6-1 613.8 MHz,
1 660-1 670 MHz,
1 718.8-1 722.2 MHz,
2 655-2 690 MHz,
3 260-3 267 MHz,
3 332-3 339 MHz,
3 345.8-3 352.5 MHz,
4 825-4 835 MHz,
4 950-4 990 MHz,
4 990-5 000 MHz,
6 650-6 675.2 MHz,
10.6-10.68 GHz,
14.47-14.5 GHz,
22.01-22.21 GHz,
22.21-22.5 GHz,
22.81-22.86 GHz,
23.07-23.12 GHz,
31.2-31.3 GHz,
31.5-31.8 GHz in Regions 1 and 3,
36.43-36.5 GHz,
42.5-43.5 GHz,
48.94-49.04 GHz,
76-86 GHz
92-94 GHz
94.1-100 GHz,
102-109.5 GHz,
111.8-114.25 GHz,
128.33-128.59 GHz,
129.23-129.49 GHz,
130-134 GHz,
136-148.5 GHz,
151.5-158.5 GHz,
168.59-168.93 GHz,
171.11-171.45 GHz,
172.31-172.65 GHz,
173.52-173.85 GHz,
195.75-196.15 GHz,
209-226 GHz,
241-250 GHz,
252-275 GHz

are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from spaceborne or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. **4.5** and **4.6** and Article **29**). (WRC-07)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

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**.

5.197A *Additional allocation:* the band 108-117.975 MHz is also allocated on a primary basis to the aeronautical mobile (R) service, limited to systems operating in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution **413 (Rev.WRC-07)**. The use of the band 108-112 MHz by the aeronautical mobile (R) service shall be limited to systems composed of ground-based transmitters and associated receivers that provide navigational information in support of air navigation functions in accordance with recognized international aeronautical standards. (WRC-07)

5.198 *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** for distress and safety purposes with stations of the aeronautical mobile service. (WRC-07)

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

5.208A In making assignments to space stations in the mobile-satellite service in the bands 137-138 MHz, 387-390 MHz and 400.15-401 MHz, administrations shall take all practicable steps to protect the radio astronomy service in the bands 150.05-153 MHz, 322-328.6 MHz, 406.1-410 MHz and 608-614 MHz from harmful interference from unwanted emissions. The threshold levels of interference detrimental to the radio astronomy service are shown in the relevant ITU-R Recommendation. (WRC-07)

5.208B In the bands:
137-138 MHz,
387-390 MHz,
400.15-401 MHz,
1 452-1 492 MHz,
1 525-1 610 MHz,
1 613.8-1 626.5 MHz,
2 655-2 690 MHz,
21.4-22 GHz,

Resolution **739 (Rev. WRC-07)** applies. (WRC-07)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 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)
- 5.217** *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, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, Iran (Islamic Republic of), Ireland, Iceland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Lesotho, Latvia, The Former Yugoslav Republic of Macedonia, Lebanon, Libyan Arab Jamahiriya, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Montenegro, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, the Philippines, Poland, Portugal, Qatar, Syrian Arab Republic, Kyrgyzstan, Dem. People's Rep. of Korea, Slovakia, Romania, the United Kingdom, the Russian Federation, Senegal, Serbia, Sierra Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia, and Zimbabwe. (WRC03)
- 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**.
- 5.224A** 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)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.226** The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service. The conditions for the use of this frequency and the band 156.7625-156.8375 MHz are contained in Article **31** and Appendix **18**.
- The frequency 156.525 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service using digital selective calling (DSC). The conditions for the use of this frequency and the band 156.4875-156.5625 MHz are contained in Articles **31** and **52**, and in Appendix **18**.
- In the bands 156-156.4875 MHz, 156.5625-156.7625 MHz, 156.8375-157.45 MHz, 160.6-160.975 MHz and 161.475-162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by the administration (see Articles **31** and **52**, and Appendix **18**).
- Any use of frequencies in these bands by stations of other services to which they are allocated should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service.
- However, the frequencies 156.8 MHz and 156.525 MHz and the frequency bands in which priority is given to the maritime mobile service may be used for radiocommunications on inland waterways subject to agreement between interested and affected administrations and taking into account current frequency usage and existing agreements. (WRC-07)
- 5.227** 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**.
- 5.227A** *Additional allocation:* the bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz are also allocated to the mobile-satellite service (Earth-to-space) on a secondary basis for the reception of automatic identification system (AIS) emissions from stations operating in the maritime-mobile service (see Appendix **18**). (WRC-07)
- 5.234** *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**).
- 5.241** 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.
- 5.254** 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.
- 5.255** The bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) in the mobile-satellite service may also be used by non-geostationary-satellite systems. Such use is subject to coordination under No. **9.11A**.
- 5.256** The frequency 243 MHz is the frequency in this band for use by survival craft stations and equipment used for survival purposes. (WRC-07)
- 5.257** The band 267-272 MHz may be used by administrations for space telemetry in their countries on a primary basis, subject to agreement obtained under No. **9.21**.
- 5.258** The use of the band 328.6-335.4 MHz by the aeronautical radionavigation service is limited to Instrument Landing Systems (glide path).
- 5.260** 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**.

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.261** Emissions shall be confined in a band of ± 25 kHz about the standard frequency 400.1 MHz.
- 5.262** *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Botswana, Bulgaria, Colombia, Costa Rica, Cuba, Egypt, the United Arab Emirates, Ecuador, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Liberia, Malaysia, Moldova, Uzbekistan, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Kyrgyzstan, Romania, the Russian Federation, Singapore, Somalia, Tajikistan, Turkmenistan and Ukraine, the band 400.05-401 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-07)
- 5.266** The use of the band 406-406.1 MHz by the mobile-satellite service is limited to low power satellite emergency position-indicating radiobeacons (see also Article 31). (WRC-07)
- 5.267** Any emission capable of causing harmful interference to the authorized uses of the band 406-406.1 MHz is prohibited.
- 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.
- 5.278** *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 (EESS) (active) shall be in accordance with Recommendation ITUR SA.12601. Additionally, the EESS (active) in the band 432-438 MHz shall not cause harmful interference to the aeronautical radionavigation service in China.
- The provisions of this footnote in no way diminish the obligation of the EESS (active) to operate as a secondary service in accordance with Nos. 5.29 and 5.30. (WRC03)
- 5.281** *Additional allocation:* in the French Overseas Departments in Region 2 and India, the band 433.75-434.25 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis. In France and in Brazil, the band is allocated to the same service on a secondary basis.
- 5.282** In the bands 435-438 MHz, 1 260-1 270 MHz, 2 400-2 450 MHz, 3 400-3 410 MHz (in Regions 2 and 3 only) and 5 650-5 670 MHz, the amateur-satellite service may operate subject to not causing harmful interference to other services operating in accordance with the Table (see No. 5.43). Administrations 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 1 260-1 270 MHz and 5 650-5 670 MHz by the amateur-satellite service is limited to the Earth-to-space direction.
- 5.284** *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.

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 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)
- 5.286AA** The band 450-470 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). See Resolution **224 (Rev. WRC-07)**. This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-07)
- 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, and Panama, the band 454-455 MHz is also allocated to the mobile-satellite service (Earth-to-space) on a primary basis. (WRC-07)
- 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, also using the additional frequencies 457.5375 MHz, 457.5625 MHz, 467.5375 MHz and 467.5625 MHz may be introduced for on-board communications. The use of these frequencies in territorial waters may be subject to the national regulations of the administration concerned. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174-2. (WRC-07)
- 5.288** In the territorial waters of the United States and the Philippines, the preferred frequencies for use by onboard 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 ITUR M.1174-1. (WRC03)
- 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.
- 5.292** *Different category of service:* in Mexico, the allocation of the band 470-512 MHz to the fixed and mobile services, and in Argentina, Uruguay and Venezuela to the mobile service, is on a primary basis (see No. **5.33**), subject to agreement obtained under No. **9.21**. (WRC-07)
- 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 service is on a primary basis (see No. **5.33**), subject to agreement obtained under No. **9.21**. In Canada, Chile, Colombia, Cuba, the United States, Guyana, Honduras, Jamaica, Mexico, Panama and Peru, the allocation of the bands 470-512 MHz and 614-698 MHz to the mobile service 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-07)
- 5.297** *Additional allocation:* in Canada, 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 obtained under No. **9.21**. (WRC-07)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 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**.
- 5.311A** For the frequency band 620-790 MHz, see also Resolution **549 (WRC-07)**.
- 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** Those parts of the band 698-960 MHz in Region 2 and the band 790-960 MHz in Regions 1 and 3 which are allocated to the mobile service on a primary basis are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) See Resolution **224 (Rev. WRC-07)** and Resolution **749 (WRC-07)**. This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-07)
- 5.318** *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.
- 5.325** *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**.
- 5.327A** The use of the band 960-1 164 MHz by the aeronautical mobile (R) service is limited to systems that operate in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution **417 (WRC-07)**. (WRC-07)
- 5.328** The use of the band 960-1 215 MHz by the aeronautical radionavigation service is reserved on a worldwide basis for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities. (WRC-2000)
- 5.328A** Stations in the radionavigation-satellite service in the band 1 164-1 215 MHz shall operate in accordance with the provisions of Resolution **609 (Rev. WRC-07)** and shall not claim protection from stations in the aeronautical radionavigation service in the band 960-1 215 MHz. No. **5.43A** does not apply. The provisions of No. **21.18** shall apply. (WRC07)
- 5.328B** The use of the bands 1 164-1 300 MHz, 1 559-1 610 MHz and 5 010-5 030 MHz by systems and networks in the radionavigation-satellite service for which complete coordination or notification information, as appropriate, is received by the Radiocommunication Bureau after 1 January 2005 is subject to the application of the provisions of Nos. **9.12**, **9.12A** and **9.13**. Resolution **610 (WRC-03)** shall also apply; however, in the case of radionavigation-satellite service (space-to-space) networks and systems, Resolution **610 (WRC-03)** shall only apply to transmitting space stations. In accordance with No. **5.329A**, for systems and networks in the radionavigation-satellite service (space-to-space) in the bands 1 215-1 300 MHz and 1 559-1 610 MHz, the provisions of Nos. **9.7**, **9.12**, **9.12A** and **9.13** shall only apply with respect to other systems and networks in the radionavigation-satellite service (space-to-space). (WRC-07)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 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, 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 (WRC03)** shall apply. (WRC03)
- 5.329A** Use of systems in the radionavigation-satellite service (space-to-space) operating in the bands 1 215-1 300 MHz and 1 559-1 610 MHz is not intended to provide safety service applications, and shall not impose any additional constraints on radionavigation-satellite service (space-to-Earth) systems or on other services operating in accordance with the Table of Frequency Allocations. (WRC-07)
- 5.331** *Additional allocation:* in Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Belarus, Belgium, Benin, Bosnia and Herzegovina, Brazil, Burkina Faso, Burundi, Cameroon, China, Korea (Rep. of), Croatia, Denmark, Egypt, the United Arab Emirates, Estonia, the Russian Federation, Finland, France, Ghana, Greece, Guinea, Equatorial Guinea, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Israel, Jordan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Mauritania, Montenegro, Nigeria, Norway, Oman, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Dem. Peoples Rep. of Korea, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Thailand, Togo, Turkey, Venezuela and Viet Nam, the band 1 215 - 1 300 MHz is also allocated to the radionavigation service on a primary basis. In Canada and the United States, the band 1 240-1 300 MHz is also allocated to the radionavigation service, and use of the radionavigation service shall be limited to the aeronautical radionavigation service. (WRC-07)
- 5.332** In the band 1 215-1 260 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, the radionavigation-satellite service and other services allocated on a primary basis. (WRC-2000)
- 5.334** *Additional allocation:* in Canada and the United States, the band 1 350-1 370 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 1 240-1 300 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 1 260-1 300 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service and other services allocated by footnotes on a primary basis. (WRC-2000)
- 5.337** The use of the bands 1 300-1 350 MHz, 2 700-2 900 MHz and 9 000-9 200 MHz by the aeronautical radionavigation service is restricted to ground-based radars and to associated airborne transponders which transmit only on frequencies in these bands and only when actuated by radars operating in the same band.
- 5.338A** In the bands 1 350-1 400 MHz, 1 427-1 452 MHz, 22.55-23.55 GHz, 30-31.3 GHz, 49.7-50.2 GHz, 50.4-50.9 GHz and 51.4-52.6 GHz, Resolution **750 (WRC-07)** applies.(WRC-07)
- 5.339** The bands 1 370-1 400 MHz, 2 640-2 655 MHz, 4 950-4 990 MHz and 15.20-15.35 GHz are also allocated to the space research (passive) and earth exploration-satellite (passive) services on a secondary basis.

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

5.340 All emissions are prohibited in the following bands:

1 400-1 427 MHz,
2 690-2 700 MHz, except those provided for by No. **5.422**,
10.68-10.7 GHz, except those provided for by No. **5.483**,
15.35-15.4 GHz, except those provided for by No. **5.511**,
23.6-24 GHz,
31.3-31.5 GHz,
31.5-31.8 GHz, in Region 2,
48.94-49.04 GHz, from airborne stations,
50.2-50.4 GHz²,
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. (WRC03)

5.341 In the bands 1 400-1 727 MHz, 101-120 GHz and 197-220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extraterrestrial origin.

5.343 In Region 2, the use of the band 1 435-1 535 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 1 452-1 525 MHz is allocated to the fixed and mobile services on a primary basis (see also No. **5.343**).

5.345 Use of the band 1 452-1 492 MHz by the broadcasting-satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (WARC-92).

5.347A In the bands:

137-138 MHz
387-390 MHz
400.15-401 MHz
1 452-1 492 MHz,
1 525-1 559 MHz,
1 559-1 610 MHz
1 613.8-1 626.5 MHz,
2 655-2 670 MHz,
2 670-2 690 MHz, 21.4-22.0 GHz

Resolution **739 (Rev. WRC-07)** applies. (WRC-07)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.348** The use of the band 1 518-1 525 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. In the band 1 518-1 525 MHz stations in the mobile-satellite service shall not claim protection from the stations in the fixed service. No. **5.43A** does not apply. (WRC-03)
- 5.348A** In the band 1 518-1 525 MHz, the coordination threshold in terms of the power flux-density levels at the surface of the Earth in application of No. 9.11A for space stations in the mobile-satellite (space-to-Earth) service, with respect to the land mobile service use for specialized mobile radios or used in conjunction with public switched telecommunication networks (PSTN) operating within the territory of Japan, shall be -150 dB(W/m²) in any 4 kHz band for all angles of arrival, instead of those given in Table 52 of Appendix 5. In the band 1 518-1 525 MHz stations in the mobile-satellite service shall not claim protection from stations in the mobile service in the territory of Japan. No. **5.43A** does not apply. (WRC-03)
- 5.348B** In the band 1 518-1 525 MHz, stations in the mobile-satellite service shall not claim protection from aeronautical mobile telemetry stations in the mobile service in the territory of the United States (see Nos. **5.343** and **5.344**) and in the countries listed in No. **5.342**. No. **5.43A** does not apply. (WRC-03)
- 5.351** The bands 1 525-1 544 MHz, 1 545-1 559 MHz, 1 626.5-1 645.5 MHz and 1 646.5-1 660.5 MHz shall not be used for feeder links of any service. In exceptional circumstances, however, an earth station at a specified fixed point in any of the mobile-satellite services may be authorized by an administration to communicate via space stations using these bands.
- 5.351A** For the use of the bands 1 518-1 544 MHz, 1 545-1 559 MHz, 1 610-1 626.5 MHz, 1 626.5-1 645.5 MHz, 1 646.5-1 660.5 MHz, 1 668-1 675 MHz, 1 980-2 010 MHz, 2 170-2 200 MHz, 2 483.5-2 500 MHz, 2 500-2 520 MHz and 2 670-2 690 MHz by the mobile-satellite service, see Resolutions **212 (Rev.WRC-07)** and **225 (Rev.WRC-07)**. (WRC-07)
- 5.353A** In applying the procedures of Section II of Article 9 to the mobile-satellite service in the bands 1 530-1 544 MHz and 1 626.5-1 645.5 MHz, priority shall be given to accommodate the spectrum requirements for distress, urgency and safety communications of the Global Maritime Distress and Safety System (GMDSS). Maritime mobile-satellite distress, urgency and safety communications shall have priority access and immediate availability over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, distress, urgency and safety communications of the GMDSS. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution **222 (WRC-2000)** shall apply.) (WRC-2000)
- 5.354** The use of the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz by the mobile-satellite services is subject to coordination under No. **9.11A**.
- 5.356** The use of the band 1 544-1 545 MHz by the mobile-satellite service (space-to-Earth) is limited to distress and safety communications (see Article **31**).
- 5.357** Transmissions in the band 1 545-1 555 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links.

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 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 accommodate 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 preemption 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)
- 5.362A** In the United States, in the bands 1 555-1 559 MHz and 1 656.5-1 660.5 MHz, the aeronautical mobile-satellite (R) service shall have priority access and immediate availability, by preemption 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)
- 5.364** The use of the band 1 610-1 626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to coordination under 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**.
- 5.366** The band 1 610-1 626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under No. **9.21**.
- 5.367** *Additional allocation:* The bands 1 610-1 626.5 MHz and 5 000-5 150 MHz are also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. **9.21**.
- 5.368** With respect to the radiodetermination-satellite and mobile-satellite services the provisions of No. 4.10 do not apply in the band 1 610-1 626.5 MHz, with the exception of the aeronautical radionavigation-satellite service.
- 5.370** *Different category of service:* in Venezuela, the allocation to the radiodetermination-satellite service in the band 1 610-1 626.5 MHz (Earth-to-space) is on a secondary basis.
- 5.372** Harmful interference shall not be caused to stations of the radio astronomy service using the band 1 610.6-1 613.8 MHz by stations of the radiodetermination-satellite and mobile-satellite services (No. **29.13** applies).

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.374** Mobile earth stations in the mobile-satellite service operating in the bands 1 631.5-1 634.5 MHz and 1 656.5-1 660 MHz shall not cause harmful interference to stations in the fixed service operating in the countries listed in No. **5.359**. (WRC-97)
- 5.375** The use of the band 1 645.5-1 646.5 MHz by the mobile-satellite service (Earth-to-space) and for inter-satellite links is limited to distress and safety communications (see Article **31**).
- 5.376** Transmissions in the band 1 646.5-1 656.5 MHz from aircraft stations in the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.
- 5.376A** Mobile earth stations operating in the band 1 660-1 660.5 MHz shall not cause harmful interference to stations in the radio astronomy service. (WRC-97)
- 5.377** In the band 1 675-1 710 MHz, stations in the mobile-satellite service shall not cause harmful interference to, nor constrain the development of, the meteorological-satellite and meteorological aids services (see Resolution **213 (Rev. WRC-95)**) and the use of this band shall be subject to coordination under No. **9.11A**.
- 5.379A** Administrations are urged to give all practicable protection in the band 1 660.5-1 668.4 MHz for future research in radio astronomy, particularly by eliminating air-to-ground transmissions in the meteorological aids service in the band 1 664.4-1 668.4 MHz as soon as practicable.
- 5.379B** The use of the band 1 668-1 675 MHz by the mobile-satellite service is subject to coordination under No. **9.11A**. In the band 1 668-1 668.4 MHz, Resolution **904 (Rev. WRC-07)** shall apply (WRC-07)
- 5.379C** In order to protect the radio astronomy service in the band 1 668-1 670 MHz, the aggregate power flux-density (pfd) values produced by mobile earth stations in a network of the mobile-satellite service operating in this band shall not exceed -181 dB(W/m²) in 10 MHz and -194 dB(W/m²) in any 20 kHz at any radio astronomy station recorded in the Master International Frequency Register, for more than 2% of integration periods of 2 000 s. (WRC-03)
- 5.379D** For sharing of the band 1 668-1 675 MHz between the mobile-satellite service and the fixed, mobile and space research (passive) services, Resolution **744 (Rev. WRC-07)** shall apply. (WRC-07)
- 5.379E** In the band 1 668.4-1 675 MHz, stations in the mobile-satellite service shall not cause harmful interference to stations in the meteorological aids service in China, Iran (Islamic Republic of), Japan and Uzbekistan. In the band 1 668.4-1 675 MHz, administrations are urged not to implement new systems in the meteorological aids service and are encouraged to migrate existing meteorological aids service operations to other bands as soon as practicable. (WRC-03)
- 5.380A** In the band 1 670-1 675 MHz, stations in the mobile-satellite service shall not cause harmful interference to, nor constrain the development of, existing earth stations in the meteorological-satellite service notified before 1 January 2004. Any new assignment to these earth stations in this band shall also be protected from harmful interference from stations in the mobile-satellite service. (WRC-07)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.381** *Additional allocation:* in Afghanistan, Costa Rica, Cuba, India, Iran (Islamic Republic of) and Pakistan, the band 1 690-1 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)
- 5.384A** The bands, or portions of the bands, 1 710-1 885 MHz and 2 500-2 690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000) in accordance with Resolution **223 (Rev. WRC-07)**. This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-07)
- 5.385** *Additional allocation:* the band 1 718.8-1 722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations.
- 5.386** *Additional allocation:* the band 1 750-1 850 MHz is also allocated to the space operation (Earth-to-space) and space research (Earth-to-space) services in Region 2, in Australia, Guam, India, Indonesia and Japan on a primary basis, subject to agreement obtained under No. **9.21**, having particular regard to troposcatter systems. (WRC03)
- 5.388** The bands 1 885-2 025 MHz and 2 110-2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT-2000 in accordance with Resolution **212 (Rev.WRC-97)**. (See also Resolution **223 (WRC-2000)**). (WRC-2000)
- 5.388A** In Regions 1 and 3, the bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz and, in Region 2, the bands 1 885-1 980 MHz and 2 110-2 160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications 2000 (IMT-2000), in accordance with Resolution **221 (Rev.WRC03)**. 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. (WRC03)
- 5.389A** The use of the bands 1 980-2 010 MHz and 2 170-2 200 MHz by the mobile-satellite service is subject to coordination under No. **9.11A** and to the provisions of Resolution **716 (Rev. WRC-2000)**. (WRC-07)
- 5.389B** The use of the band 1 980-1 990 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 2 010-2 025 MHz and 2 160-2 170 MHz in Region 2 by the mobile-satellite service is subject to coordination under No. **9.11A** and to the provisions of Resolution **716 (WRC-2000)**. (WRC-07)
- 5.389E** The use of the bands 2 010-2 025 MHz and 2 160-2 170 MHz by the mobile-satellite service in Region 2 shall not cause harmful interference to or constrain the development of the fixed and mobile services in Regions 1 and 3.

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.391** In making assignments to the mobile service in the bands 2 025-2 110 MHz and 2 200-2 290 MHz, administrations shall not introduce high-density mobile systems, as described in Recommendation ITU-R SA.1154, and shall take that Recommendation into account for the introduction of any other type of mobile system. (WRC-97)
- 5.392** Administrations are urged to take all practicable measures to ensure that space-to-space transmissions between two or more non-geostationary satellites, in the space research, space operations and Earth exploration-satellite services in the bands 2 025-2 110 MHz and 2 200-2 290 MHz, shall not impose any constraints on Earth-to-space, space-to-Earth and other space-to-space transmissions of those services and in those bands between geostationary and non-geostationary satellites.
- 5.393** *Additional allocation:* in Canada, the United States, India and Mexico, the band 2 310-2 360 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 (Rev. WRC-03)**, with the exception of *resolves* 3 in regard to the limitation on broadcasting-satellite systems in the upper 25 MHz. (WRC-07)
- 5.394** In the United States, the use of the band 2 300-2 390 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services. In Canada, the use of the band 2 360-2 400 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services. (WRC-07)
- 5.396** Space stations of the broadcasting-satellite service in the band 2 310-2 360 MHz operating in accordance with No. 5.393 that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution **33 (Rev. WRC-97)**. Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use.
- 5.402** The use of the band 2 483.5-2 500 MHz by the mobile-satellite and the radiodetermination-satellite services is subject to the coordination under No. 9.11A. Administrations are urged to take all practicable steps to prevent harmful interference to the radio astronomy service from emissions in the 2 483.5-2 500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4 990-5 000 MHz band allocated to the radio astronomy service worldwide.
- 5.403** Subject to agreement obtained under No. **9.21**, the band 2 520-2 535 MHz may also be used for the mobile-satellite (space-to-Earth), except aeronautical mobile-satellite, service for operation limited to within national boundaries. The provisions of No. **9.11A** apply. (WRC-07)
- 5.407** In the band 2 500-2 520 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/ m² / 4 kHz) in Argentina, unless otherwise agreed by the administrations concerned.
- 5.413** In the design of systems in the broadcasting-satellite service in the bands between 2 500 MHz and 2 690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690-2 700 MHz.
- 5.414** The allocation of the frequency band 2 500-2 520 MHz to the mobile-satellite service (space-to-Earth) is subject to coordination under No. **9.11A**. (WRC-07)
- 5.415** The use of the bands 2 500-2 690 MHz in Region 2 and 2 500-2 535 MHz and 2 655-2 690 MHz in Region 3 by the fixed-satellite service is limited to national and regional systems, subject to agreement obtained under No. **9.21**, giving particular attention to the broadcasting-satellite service in Region 1. (WRC-07)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.416** The use of the band 2 520-2 670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under No. **9.21**. The provisions of No. **9.19** shall be applied by administrations in this band in their bilateral and multilateral negotiations (WRC-07)
- 5.418B** Use of the band 2 605-2 630 MHz by nongeostationary-satellite systems in the *bis* broadcasting-satellite service (sound), pursuant to No. **5.418bis**, 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**. (WRC03)
- 5.418C** Use of the band 2 605-2 630 MHz by geostationary-satellite networks for which complete *bis* 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 nongeostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. **5.418bis**, and No. **22.2** does not apply. (WRC03)
- 5.419** When introducing systems of the mobile-satellite service in the band 2670-2690 MHz, administrations shall take all necessary steps to protect the satellite systems operating in this band prior to 3 March 1992. The coordination of mobile-satellite systems in the band shall be in accordance with No. **9.11A**. (WRC-07)
- 5.420** The band 2 655-2 670 MHz may also be used for the mobile-satellite (Earth-to-space), except aeronautical mobile-satellite, service for operation limited to within national boundaries, subject to agreement obtained under No. **9.21**. The coordination under No. **9.11A** applies. (WRC-07)
- 5.423** In the band 2 700-2 900 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the aeronautical radionavigation service.
- 5.424** Additional allocation: in Canada, the band 2 850-2 900 MHz is also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars.
- 5.424A** In the band 2 900-3 100 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the radionavigation service. (WRC03)
- 5.425** In the band 2 900-3 100 MHz, the use of the shipborne interrogator-transponder system (SIT) shall be confined to the sub-band 2 930 -2 950 MHz.
- 5.426** The use of the band 2 900-3 100 MHz by the aeronautical radionavigation service is limited to ground-based radars.
- 5.427** In the bands 2 900-3 100 MHz and 9 300-9 500 MHz, the response from radar transponders shall not be capable of being confused with the response from radar beacons (racons) and shall not cause interference to ship or aeronautical radars in the radionavigation service, having regard, however, to No. **4.9**.
- 5.433** In Regions 2 and 3, in the band 3 400-3 600 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.
- 5.438** Use of the band 4 200-4 400 MHz by the aeronautical radionavigation service is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground. However, passive sensing in the earth exploration-satellite and space research services may be authorized in this band on a secondary basis (no protection is provided by the radio altimeters).

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.440** The standard frequency and time signal-satellite service may be authorized to use the frequency 4 202 MHz for space-to-Earth transmissions and the frequency 6 427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of ± 2 MHz of these frequencies, subject to agreement obtained under No. **9.21**.
- 5.440A** In Region 2 (except Brazil, Cuba, French Overseas Departments and Communities, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4 400-4 940 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. **1.83**). Such use shall be in accordance with Resolution **416 (WRC-07)** and shall not cause harmful interference to, nor claim protection from, the fixed-satellite and fixed services. Any such use does not preclude the use of these bands by other mobile service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)
- 5.441** The use of the bands 4 500-4 800 MHz (space-to-Earth), 6 725-7 025 MHz (Earth-to-space) by the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7- 10.95 GHz (space-to- Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Appendix **30B**. The use of the bands 10.7- 10.95 GHz (space-to Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75- 13.25 GHz (Earth-to-space) by a nongeostationary- 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 4 825-4 835 MHz and 4 950-4 990 MHz, the allocation to the mobile service is restricted to the mobile, except aeronautical mobile, service. In Region 2 (except Brazil, Cuba, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4 825-4 835 MHz is also allocated to the aeronautical mobile service, limited to aeronautical mobile telemetry for flight testing by aircraft stations. Such use shall be in accordance with Resolution **416 (WRC-07)** and shall not cause harmful interference to the fixed service. (WRC-07)
- 5.443** *Different category of service:* in Argentina, Australia and Canada, the allocation of the bands 4 825- 4 835 MHz and 4 950-4 990 MHz to the radio astronomy service is on a primary basis (see No.**5.33**).
- 5.443B** In order not to cause harmful interference to the microwave landing system operating above 5 030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5 030-5 150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the band 5 010-5 030 MHz shall not exceed -124.5 dB (W/m^2) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4 990-5 000 MHz, radionavigation-satellite service systems operating in the band 5 010-5 030 MHz shall comply with the limits in the band 4 990-5 000 MHz defined in Resolution **741 (WRC03)**. (WRC03)
- 5.444** The band 5 030-5 150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. In the band 5 030-5 091 MHz, the requirements of this system shall take precedence over other uses of this band. For the use of the band 5 091-5 150 MHz, No. **5.444A** and Resolution **114 (Rev.WRC03)** apply. (WRC-07)

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5.444A *Additional allocation:* the band 5 091-5 150 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis. This allocation is limited to feeder links of nongeostationary mobile-satellite systems in the mobile-satellite service and is subject to coordination under No. **9.11A**.

In the band 5 091-5 150 MHz, the following conditions also apply:

- prior to 1 January 2018, the use of the band 5 091-5 150 MHz by feeder links of nongeostationary-satellite systems in the mobile-satellite service shall be made in accordance with Resolution **114 (Rev.WRC-03)**;
- prior to 1 January 2018, the requirements of existing and planned international standard systems for the aeronautical radionavigation service which cannot be met in the 5 000-5 091 MHz band, shall take precedence over other uses of this band;
- after 1 January 2012, no new assignments shall be made to earth stations providing feeder links of non-geostationary mobile-satellite systems;
- after 1 January 2018, the fixed-satellite service will become secondary to the aeronautical radionavigation service. (WRC-07)

5.444B The use of the band 5 091-5 150 MHz by the aeronautical mobile service is limited to:

- systems operating in the aeronautical mobile (R) service and in accordance with international aeronautical standards, limited to surface applications at airports. Such use shall be in accordance with Resolution **748 (WRC-07)**;
- aeronautical telemetry transmissions from aircraft stations (see No. **1.83**) in accordance with Resolution **418 (WRC-07)**;
- aeronautical security transmissions. Such use shall be in accordance with Resolution **419 (WRC-07)**. (WRC-07)

5.446 *Additional allocation:* in the countries listed in Nos. **5.369** and **5.400**, the band 5 150-5 216 MHz is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis, subject to agreement obtained under No. **9.21**. In Region 2, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis. In Regions 1 and 3, except those countries listed in Nos. **5.369** and **5.400**, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a secondary basis. The use by the radiodetermination-satellite service is limited to feeder links in conjunction with the radiodetermination-satellite service operating in the bands 1 610-1 626.5 MHz and/or 2 483.5-2 500 MHz. The total power flux-density at the Earth's surface shall in no case exceed

-159 dBW/m² in any 4 kHz band for all angles of arrival.

5.446A The use of the bands 5 150-5 350 MHz and 5 470-5 725 MHz by the stations in the mobile, except aeronautical mobile, service shall be in accordance with Resolution **229 (WRC03)**. (WRC-07)

5.446B In the band 5 150-5 250 MHz, stations in the mobile service shall not claim protection from earth stations in the fixed-satellite service. Number **5.43A** does not apply to the mobile service with respect to FSS earth stations. (WRC03)

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**.

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- 5.447B** Additional allocation: the band 5 150-5 216 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. This allocation is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to provisions of No. **9.11A**. The power flux-density at the Earth's surface produced by space stations of the fixed-satellite service operating in the space-to-Earth direction in the band 5 150-5 216 MHz shall in no case exceed $-164 \text{ dB(W/m}^2\text{)}$ in any 4 kHz band for all angles of arrival.
- 5.447C** Administrations responsible for fixed-satellite service networks in the band 5 150-5 250 MHz operated under Nos. **5.447A** and **5.447B** shall coordinate on an equal basis in accordance with No. **9.11A** with administrations responsible for non-geostationary-satellite networks operated under No. **5.446** and brought into use prior to 17 November 1995. Satellite networks operated under No. **5.446** brought into use after 17 November 1995 shall not claim protection from, and shall not cause harmful interference to, stations of the fixed-satellite service operated under Nos. **5.447A** and **5.447B**.
- 5.447D** In the frequency band 5 350-5 470 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the aeronautical radionavigation service operating in accordance with No. **5.449**. (WRC03)
- 5.447F** In the band 5 250-5 350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth exploration-satellite service (active) and the space research service (active). These services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendations ITUR M.1638 and ITUR SA.1632. (WRC03)
- 5.448A** The Earth exploration-satellite (active) and space research (active) services in the frequency band 5 250-5 350 MHz shall not claim protection from the radiolocation service. Number **5.43A** does not apply. (WRC-03)
- 5.448B** The Earth exploration-satellite service (active) operating in the band 5 350-5 570 MHz and space research service (active) operating in the band 5 460-5 570 MHz shall not cause harmful interference to the aeronautical radionavigation service in the band 5 350-5 460 MHz, the radionavigation service in the band 5 460-5 470 MHz and the maritime radionavigation service in the band 5 470-5 570 MHz. (WRC03)
- 5.448C** The space research service (active) operating in the band 5 350-5 460 MHz shall not cause harmful interference to nor claim protection from other services to which this band is allocated. (WRC03)
- 5.449** The use of the band 5 350-5 470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.
- 5.450A** In the band 5 470-5 725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. Radiodetermination services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITUR M.1638. (WRC03)
- 5.450B** In the frequency band 5 470-5 650 MHz, stations in the radiolocation service, except ground-based radars used for meteorological purposes in the band 5 600-5 650 MHz, shall not cause harmful interference to, nor claim protection from, radar systems in the maritime radionavigation service. (WRC03)
- 5.452** Between 5 600 MHz and 5 650 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the maritime radionavigation service.

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- 5.455** *Additional allocation:* in Armenia, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 5 670-5 850 MHz is also allocated to the fixed service on a primary basis. (WRC-07)
- 5.457A** In the bands 5 925-6 425 MHz and 14-14.5 GHz, earth stations on board vessels may communicate with space stations of the fixed-satellite service. Such use shall be in accordance with Resolution 902 (WRC03). (WRC-03)
- 5.457C** In Region 2 (except Brazil, Cuba, French overseas departments and communities, Guatemala, Paraguay, Uruguay and Venezuela), the band 5 925-6 700 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. **1.83**). Such use shall be in accordance with Resolution **416 (WRC-07)** and shall not cause harmful interference to, nor claim protection from, the fixed-satellite and fixed services. Any such use does not preclude the use of these bands by other mobile service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)
- 5.458** In the band 6 425-7 075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7 075-7 250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration-satellite (passive) and space research (passive) services in their future planning of the bands 6 425-7 075 MHz and 7 075-7 250 MHz.
- 5.458A** In making assignments in the band 6 700-7 075 MHz to space stations of the fixed-satellite service, administrations are urged to take all practicable steps to protect spectral line observations of the radio astronomy service in the band 6 650-6 675.2 MHz from harmful interference from unwanted emissions.
- 5.458B** The space-to-Earth allocation to the fixed-satellite service in the band 6 700-7 075 MHz is limited to feeder links for non-geostationary satellite systems of the mobile-satellite service and is subject to coordination under No. **9.11A**. The use of the band 6 700-7 075 MHz (space-to-Earth) by feeder links for non-geostationary satellite systems in the mobile-satellite service is not subject to No. **22.2**.
- 5.458C** Administrations making submissions in the band 7 025-7 075 MHz (Earth-to-space) for geostationary-satellite systems in the fixed-satellite service after 17 November 1995 shall consult on the basis of relevant ITU-R Recommendations with the administrations that have notified and brought into use non-geostationary-satellite systems in this frequency band before 18 November 1995 upon request of the latter administrations. This consultation shall be with a view to facilitating shared operation of both geostationary-satellite systems in the fixed-satellite service and non-geostationary-satellite systems in this band.
- 5.460** The use of the band 7 145-7 190 MHz by the space research service (Earth-to-space) is restricted to deep space; no emissions to deep space shall be effected in the band 7 190-7 235 MHz. Geostationary satellites in the space research service operating in the band 7 190-7 235 MHz shall not claim protection from existing and future stations of the fixed and mobile services and No. **5.43A** does not apply. (WRC03)
- 5.461** *Additional allocation:* the bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space) are also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. **9.21**.

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- 5.461A** The use of the band 7 450-7 550 MHz by the meteorological-satellite service (space-to-Earth) is limited to geostationary-satellite systems. Non-geostationary meteorological-satellite systems in this band notified before 30 November 1997 may continue to operate on a primary basis until the end of their lifetime. (WRC-97)
- The use of the band 7 750-7 850 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems. (WRC-97)
- 5.463** Aircraft stations are not permitted to transmit in the band 8 025-8 400 MHz. (WRC-97)
- 5.465** In the space research service, the use of the band 8 400-8 450 MHz is limited to deep space.
- 5.469A** In the band 8 550-8 650 MHz, stations in the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radiolocation service. (WRC-97)
- 5.470** The use of the band 8 750-8 850 MHz by the aeronautical radionavigation service is limited to airborne Doppler navigation aids on a centre frequency of 8 800 MHz.
- 5.472** In the bands 8 850-9 000 MHz and 9 200-9 225 MHz, the maritime radionavigation service is limited to shore-based radars.
- 5.473A** In the band 9 000-9 200 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, systems identified in No. **5.337** operating in the aeronautical radionavigation service, or radar systems in the maritime radionavigation service operating in this band on a primary basis in the countries listed in No. **5.471**. (WRC-07)
- 5.474** In the band 9 200-9 500 MHz, search and rescue transponders (SART) may be used, having due regard to the appropriate ITU-R Recommendation (see also Article **31**).
- 5.475** The use of the band 9 300-9 500 MHz by the aeronautical radionavigation service is limited to airborne weather radars and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band 9 300-9 320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. (WRC-07)
- 5.475A** The use of the band 9 300-9 500 MHz by the Earth exploration-satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 300 MHz that cannot be fully accommodated within the 9 500-9 800 MHz band. (WRC-07)
- 5.475B** In the band 9 300-9 500 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, radars operating in the radionavigation service in conformity with the Radio Regulations. Ground-based radars used for meteorological purposes have priority over other radiolocation uses. (WRC-07)
- 5.476A** In the band 9 300-9 800 MHz, stations in the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, nor claim protection from, stations of the radionavigation and radiolocation services. (WRC-07)
- 5.477** *Different category of service:* in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Japan, Jordan, Kuwait, Lebanon, Liberia, Malaysia, Nigeria, Oman, Pakistan, Qatar, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Trinidad and Tobago, and Yemen, the allocation of the band 9 800-10 000 MHz to the fixed service is on a primary basis (see No. **5.33**). (WRC-07)

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- 5.478** *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burundi, Cameroon, China, the Congo, Costa Rica, Egypt, the United Arab Emirates, Gabon, Guyana, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Libyan Arab Jamahiriya, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, Qatar, Syrian Arab Republic, Dem. People's Rep. of Korea, Senegal, Singapore, Somalia, Swaziland, Tanzania, Chad, Togo, Tunisia and Yemen, the band 8 500-8 750 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)
- 5.478A** The use of the band 9 800-9 900 MHz by the Earth exploration-satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 500 MHz that cannot be fully accommodated within the 9 300-9 800 MHz band. (WRC-07)
- 5.478B** In the band 9 800-9 900 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, nor claim protection from stations of the fixed service to which this band is allocated on a secondary basis. (WRC-07)
- 5.479** The band 9 975-10 025 MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars.
- 5.480** *Additional allocation:* in Argentina, Brazil, Chile, Costa Rica, Cuba, El Salvador, Ecuador, Guatemala, Honduras, Mexico, Paraguay, the Netherlands Antilles, Peru and Uruguay, the band 10-10.45 GHz is also allocated to the fixed and mobile services on a primary basis. In Venezuela, the band 10-10.45 GHz is also allocated to the fixed service on a primary basis. (WRC-07)
- 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, Sweden, Tanzania, Thailand and Uruguay, the band 10.45-10.5 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-07)
- 5.482** In the band 10.6-10.68 GHz, the power delivered to the antenna of stations of the fixed and mobile, except aeronautical mobile, services shall not exceed -3 dBW. This limit may be exceeded, subject to agreement obtained under No. **9.21**. However, in Algeria, Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Egypt, the United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Jordan, Libyan Arab Jamahiriya, Kazakhstan, Kuwait, Lebanon, Morocco, Mauritania, Moldova, Nigeria, Oman, Uzbekistan, Pakistan, Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, Singapore, Tajikistan, Tunisia, Turkmenistan and Viet Nam., this restriction on the fixed and mobile, except aeronautical mobile, services is not applicable. (WRC-07)
- 5.482A** For sharing of the band 10.6-10.68 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile, except aeronautical mobile, services, Resolution **751 (WRC-07)** applies. (WRC-07)
- 5.483** *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, China, Colombia, Korea (Rep. of), Costa Rica, Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, Mongolia, Qatar, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Tajikistan, Turkmenistan and Yemen, the band 10.68-10.7 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-07)

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- 5.484A** The use of the bands 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7- 12.2 GHz (space-to- Earth) in Region 2, 12.2-12.75 GHz (space-to-Earth) in Region 3, 12.5-12.75 GHz (space-to-Earth) in Region 1, 13.75-14.5 GHz (Earth-to-space), 17.8-18.6 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 27.5-28.6 GHz (Earth-to-space), 29.5-30 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. **5.43A** does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-2000)
- 5.485** 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**).
- 5.487A** *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 nongeostationary systems and subject to application of the provisions of No. 9.12 for coordination with other nongeostationary-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. Nongeostationary-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. (WRC03)
- 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. (WRC03)
- 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**.
- 5.492** 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)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.497** The use of the band 13.25-13.4 GHz by the aeronautical radionavigation service is limited to Doppler navigation aids.
- 5.498A** The Earth exploration-satellite (active) and space research (active) services operating in the band 13.25-13.4 GHz shall not cause harmful interference to, or constrain the use and development of, the aeronautical radionavigation service. (WRC-97)
- 5.501A** 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 (active)** In the band 13.4-13.75 GHz, the Earth exploration-satellite (active) and space research 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 nongeostationary 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 diameter smaller than 4.5 m, it shall ensure that the power flux-density produced by this earth station does not exceed:
- –115 dB(W/(m² · 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/(m² · 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-07)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

5.503 In the band 13.75-14 GHz, geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to

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

- in the band 13.770-13.780 GHz, the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in geostationary-satellite orbit shall not exceed:
 - i) $4.7D + 28 \text{ dB(W/40 kHz)}$, where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 1.2 m and less than 4.5 m;
 - ii) $49.2 + 20 \log(D/4.5) \text{ dB(W/40 kHz)}$, where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 4.5 m and less than 31.9 m;
 - iii) 66.2 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 fluxdensity 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. (WRC03)

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. (WRC03)

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 on board vessels, as provided in Resolution **902 (WRC03)**. This footnote shall not apply to ship earth stations for which the complete Appendix 4 information has been received by the Radiocommunication Bureau prior to 5 July 2003. (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.

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 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 non-GSO MSS feeder-link (space-to-Earth) system operating in the 15.43-15.63 GHz band shall not exceed the level of $-156 \text{ dB(W/m}^2\text{)}$ in a 50 MHz bandwidth, into any radio astronomy observatory site for more than 2% of the time.
- 5.511C** Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340. The minimum coordination distance required to protect the aeronautical radionavigation stations (No. **4.10** applies) from harmful interference from feeder-link earth stations and the maximum e.i.r.p. transmitted towards the local horizontal plane by a feeder-link earth station shall be in accordance with Recommendation ITU-R S.1340. (WRC-97)
- 5.511D** Fixed-satellite service systems for which complete information for advance publication has been received by the Bureau by 21 November 1997 may operate in the bands 15.4-15.43 GHz and 15.63-15.7 GHz in the space-to-Earth direction and 15.63-15.65 GHz in the Earth-to-space direction. In the bands 15.4-15.43 GHz and 15.65-15.7 GHz, emissions from a non-geostationary space station shall not exceed the power flux-density limits at the Earth's surface of $-146 \text{ dB(W/m}^2\text{/MHz)}$ for any angle of arrival. In the band 15.63-15.65 GHz, where an administration plans emissions from a non-geostationary space station that exceed $-146 \text{ dB(W/m}^2\text{/MHz)}$ for any angle of arrival, it shall coordinate under No. 9.11A with the affected administrations. Stations in the fixed-satellite service operating in the band 15.63-15.65 GHz in the Earth-to-space direction shall not cause harmful interference to stations in the aeronautical radionavigation service (No. **4.10** applies). (WRC-97)
- 5.512** *Additional allocation:* in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Congo (Rep. of the), Costa Rica, Egypt, El Salvador, the United Arab Emirates, Eritrea, Finland, Guatemala, India, Indonesia, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Montenegro, Mozambique, Nepal, Nicaragua, Oman, Pakistan, Qatar, Syrian Arab Republic, Serbia, Singapore, Somalia, Sudan, Swaziland, Tanzania, Chad, Togo and Yemen, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-07)
- 5.513A** Spaceborne active sensors operating in the band 17.2-17.3 GHz shall not cause harmful interference to, or constrain the development of, the radiolocation and other services allocated on a primary basis. (WRC-97)
- 5.514** *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, Costa Rica, El Salvador, the United Arab Emirates, Guatemala, India, Iran (Islamic Republic of), Iraq, Israel, Italy, the Libyan Arab Jamahiriya, Japan, Jordan, Kuwait, Lithuania, Nepal, Nicaragua, Nigeria, Oman, Uzbekistan, Pakistan, Qatar, Kyrgyzstan, and Sudan, the band 17.3-17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. **21.3** and **21.5** shall apply. (WRC-07)
- 5.515** In the band 17.3-17.8 GHz, sharing between the fixed-satellite service (Earth-to-space) and the broadcasting-satellite service shall also be in accordance with the provisions of § 1 of Annex 4 of Appendix **30A/30A**.

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 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 nongeostationary-satellite systems in the fixed-satellite service is subject to application of the provisions of No. **9.12** for coordination with other nongeostationary-satellite systems in the fixed-satellite service. Nongeostationary-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-GSO FSS systems and of the complete coordination or notification information, as appropriate, for the GSO networks, and No. **5.43A** does not apply. Nongeostationary-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.
- 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. (WRC03)
- 5.516B** The following bands are identified for use by high-density applications in the fixed-satellite service (HDFSS):

17.3-17.7 GHz	(space-to-Earth) in Region 1
18.3-19.3 GHz	(space-to-Earth) in Region 2
19.7-20.2 GHz	(space-to-Earth) in all Regions
39.5-40 GHz	(space-to-Earth) in Region 1
40-40.5 GHz	(space-to-Earth) in all Regions
40.5-42 GHz	(space-to-Earth) in Region 2
47.5-47.9 GHz	(space-to-Earth) in Region 1
48.2-48.54 GHz	(space-to-Earth) in Region 1
49.44-50.2 GHz	(space-to-Earth) in Region 1 and
27.5-27.82 GHz	(Earth-to-space) in Region 1
28.35-28.45 GHz	(Earth-to-space) in Region 2
28.45-28.94 GHz	(Earth-to-space) in all Regions
28.94-29.1 GHz	(Earth-to-space) in Region 2 and 3
29.25-29.46 GHz	(Earth-to-space) in Region 2
29.46-30 GHz	(Earth-to-space) in all Regions
48.2-50.2 GHz	(Earth-to-space) in Region 2

This identification does not preclude the use of these bands by other fixed-satellite service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in these Regulations among users of the bands. Administrations should take this into account when considering regulatory provisions in relation to these bands. See Resolution **143 (WRC03)**. (WRC03)

- 5.517** In Region 2, use of the fixed-satellite (space-to-Earth) service in the band 17.7- 17.8 GHz shall not cause harmful interference to nor claim protection from assignments in the broadcasting-satellite service operating in conformity with the Radio Regulations. (WRC-07)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.519** *Additional allocation:* the bands 18.0-18.3 GHz in Region 2 and 18.1-18.4 GHz in Regions 1 and 3 are also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Their use is limited to geostationary satellites.) (WRC-07)
- 5.520** The use of the band 18.1-18.4 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links of geostationary-satellite systems in the broadcasting-satellite service.
- 5.522A** The emissions of the fixed service and the fixed-satellite service in the band 18.618.8 GHz are limited to the values given in Nos. **21.5A** and **21.16.2**, respectively.
- 5.522B** The use of the band 18.6-18.8 GHz by the fixed-satellite service is limited to geostationary systems and systems with an orbit of apogee greater than 20 000 km.
- 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 nongeostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view to reaching results acceptable to all the parties concerned. Non-geostationary-satellite networks shall not cause unacceptable interference to geostationary fixed-satellite service networks for which complete Appendix **4** notification information is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)
- 5.523B** The use of the band 19.3-19.6 GHz (Earth-to-space) by the fixed-satellite service is limited to feeder links for non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. **9.11A**, and No. **22.2** does not apply.
- 5.523C** No. **22.2** of the Radio Regulations shall continue to apply in the bands 19.3-19.6 GHz and 29.1-29.4 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix **4** coordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)
- 5.523D** The use of the band 19.3-19.7 GHz (space-to-Earth) by geostationary fixed-satellite service systems and by feeder links for non-geostationary-satellite systems in the mobile-satellite service is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2. The use of this band for other nongeostationary 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** of the Radio Regulations shall continue to apply in the bands 19.6-19.7 GHz and 29.4-29.5 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix **4** coordination information, or notification information, is considered as having been received by the Bureau by 21 November 1997. (WRC-97)
- 5.524** *Additional allocation:* in Afghanistan, Algeria, Angola, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Tanzania, Chad, Togo and Tunisia, the band 19.721.2 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.

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 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**.
- 5.532** The use of the band 22.21-22.5 GHz by the Earth exploration-satellite (passive) and space research (passive) services shall not impose constraints upon the fixed and mobile, except aeronautical mobile, services.
- 5.533** The inter-satellite service shall not claim protection from harmful interference from airport surface detection equipment stations of the radionavigation service.
- 5.535** In the band 24.75-25.25 GHz, feeder links to stations of the broadcasting-satellite service shall have priority over other uses in the fixed-satellite service (Earth-to-space). Such other uses shall protect and shall not claim protection from existing and future operating feederlink 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 ITUR SA.1278 and ITUR SA.1625, respectively. (WRC03)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 5.536B** In Germany, Saudi Arabia, Austria, Belgium, Brazil, Bulgaria, China, the Republic of Korea, Denmark, Egypt, United Arab Emirates, Spain, Estonia, Finland, France, Hungary, India, Islamic Republic of Iran, Ireland, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, Libya, Liechtenstein, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, Syria, Slovakia, Czech Republic, Romania, the United Kingdom, Singapore, Sweden, Switzerland, Tanzania, Turkey, Viet Nam and Zimbabwe, earth stations operating in the Earth exploration-satellite service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-97)
- 5.536C** In Algeria, Saudi Arabia, Bahrain, Botswana, Brazil, Cameroon, Comoros, Cuba, Djibouti, Egypt, United Arab Emirates, Estonia, Finland, Iran (Islamic Rep. of), Israel, Jordan, Kenya, Kuwait, Lithuania, Malaysia, Morocco, Nigeria, Oman, Qatar, 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. (WRC03)
- 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**.
- 5.538** *Additional allocation:* the bands 27.500-27.501 GHz and 29.999-30.000 GHz are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis for the beacon transmissions intended for up-link power control. Such space-to-Earth transmissions shall not exceed an equivalent isotropically radiated power (e.i.r.p.) of 10 dBW in the direction of adjacent satellites on the geostationary-satellite orbit. (WRC-07)
- 5.539** The band 27.5-30 GHz may be used by the fixed-satellite service (Earth-to-space) for the provision of feeder links for the broadcasting-satellite service.
- 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.
- 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.
- 5.544** 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.

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

- 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 (WRC2000)**). Administrations should take this into account when considering regulatory provisions in relation to these bands. Because of the potential deployment of high-density applications in the fixed-satellite service in the bands 39.5-40 GHz and 40.5-42 GHz (see No. **5.516B**), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate. (WRC-07)
- 5.547A** Administrations should take practical measures to minimize the potential interference between stations in the fixed service and airborne stations in the radionavigation service in the 31.8-33.4 GHz band, taking into account the operational needs of the airborne radar systems.
- 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)
- 5.549A** 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 $-73.3 \text{ dB(W/m}^2\text{)}$ in this band. (WRC03)
- 5.550A** For sharing of the band 36-37 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile services, Resolution **752 (WRC-07)** shall apply. (WRC-07)

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

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/m²) in 1 GHz and –246 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

– 209 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 epfd values shall be evaluated using the methodology given in Recommendation ITUR S.1586-1 and the reference antenna pattern and the maximum gain of an antenna in the radio astronomy service given in Recommendation ITUR RA.1631 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle *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 the end of WRC03 and has been notified to ITU before 4 January 2004; or
- was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply.

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution **743 (WRC-03)** shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-07)

5.551I The power flux-density in the band 42.5-43.5 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth), or the broadcasting-satellite service (space-to-Earth) operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station:

– 137 dB(W/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 ITU 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**

RELEVANT INTERNATIONAL FOOTNOTES (ITU)

(WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-07)

- 5.552** The allocation of the spectrum for the fixed-satellite service in the bands 42.5-43.5 GHz and 47.2-50.2 GHz for Earth-to-space transmission is greater than that in the band 37.5-39.5 GHz for space-to-Earth transmission in order to accommodate feeder links to broadcasting satellites. Administrations are urged to take all practicable steps to reserve the band 47.2-49.2 GHz for feeder links for the broadcasting-satellite service operating in the band 40.5-42.5 GHz.
- 5.552A** The allocation to the fixed service in the bands 47.2-47.5 GHz and 47.9-48.2 GHz is designated for use by high altitude platform stations. The use of the bands 47.2-47.5 GHz and 47.9-48.2 GHz is subject to the provisions of Resolution **122 (Rev. WRC-07)**. (WRC-07)
- 5.553** In the bands 43.5-47 GHz and 66-71 GHz, stations in the land mobile service may be operated subject to not causing harmful interference to the space radiocommunication services to which these bands are allocated (see No. **5.43**).
- 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.
- 5.555** *Additional allocation:* the band 48.94-49.04 GHz is also allocated to the radio astronomy service on a primary basis.
- 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.
- 5.556A** Use of the bands 54.2556.9 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 fluxdensity 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/m²/100 MHz) for all angles of arrival. (WRC-97)
- 5.557A** In the band 55.78-56.26 GHz, in order to protect stations in the Earth exploration-satellite service (passive), the maximum power density delivered by a transmitter to the antenna of a fixed service station is limited to -26 dB(W/MHz).
- 5.558** In the bands 55.78-58.2 GHz, 59-64 GHz, 66-71 GHz, 122.25123 GHz, 130-134 GHz, 167-174.8 GHz and 191.8200 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the intersatellite service (see No. **5.43**).

TURKS AND CAICOS ISLANDS FOOTNOTES

- T1** The bands 824-847.4 MHz and 869-892.4 MHz are designated for public telecommunications services. See Channelling Plans. See also International Footnote 5.317A.
- T2** The bands 894.6-904.4 MHz and 939.6-949.4 MHz are designated for public telecommunications services. See Channelling Plans. See also International Footnote 5.317A.
- T3** The bands 1 710-1 750 MHz and 1805-1845 MHz are designated for public telecommunications services. See Channelling Plans. See also International Footnote 5.384A.
- T4** The bands 1 870-1 905.2 MHz and 1 950-1 985.2 MHz are designated for public telecommunications services. See Channelling Plans. See also International Footnotes 5.384A and 5.388.
- T5** The bands 1 920-1 950 MHz and 2 110-2 140 MHz are designated for implementation of third-generation public telecommunications services. See Channelling Plans. See also International Footnote 5.388.
- T6** The band 2 300-2 450 MHz is designated for Wireless Communications Systems Applications and may include point to point applications.
- T7** Fixed wireless access systems, including WiMAX, may be licensed in the frequency range 3 400-3 600 MHz
- T8** The bands 163-173 MHz, 453-458 MHz, 3 480-3 500 MHz and 3580-3600 MHz have been identified for Public Safety and Government use. Additional bands may be included on an as needed basis.
- T9** The following bands 905-928 MHz, 2 400-2 4835 MHz and 5 725-5 850 MHz have been identified for industrial, scientific and medical (ISM) applications, and have been designated in the plan to be operated by certain low power and short-range devices.
- T10** The spectrum bands referred to in T9 are allocated to point to multipoint broadband services. Mobility is permitted as long as there is no handover of services between base stations.
- T11** In the bands referred to in T9, cellular mobile services are prohibited

CHANNELLING PLANS

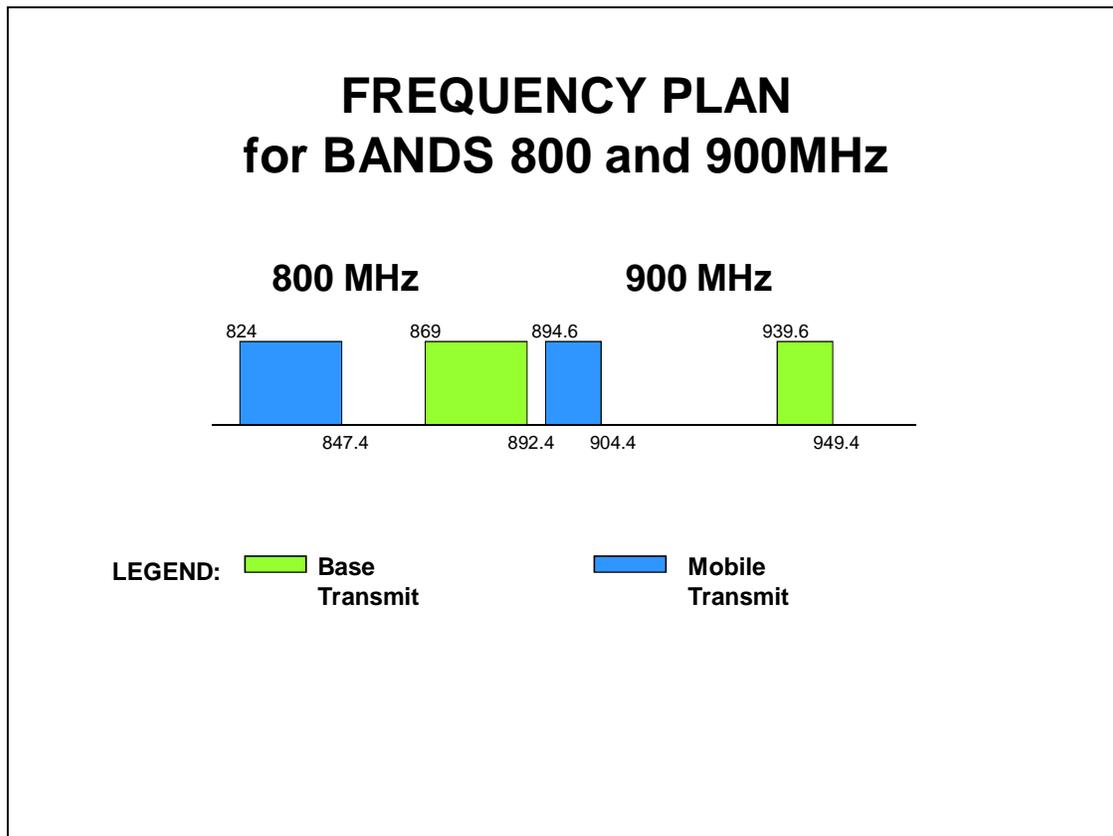
Band Plan for 850 and 900 MHz Public Telecommunications Services

The band plan for **800 MHz** is based on the North American cellular band plan modified to permit operation of the European GSM900 band in the same geographic area. The frequency ranges are as follows:

Base transmit: 869 – 892.4MHz
Mobile transmit: 824 – 847.4 MHz.

The band plan for **900 MHz** is based on the European GSM band plan, with a slight downward extension to provide up to two operators, while avoiding operation in most of the 902-928 MHz band where ISM devices as well as unlicensed radios operate in ITU Region 2 (the Americas). The frequency ranges are as follows:

Base transmit: 939.6 to 949.4 MHz
Mobile transmit: 894.6 to 904.4 MHz.



CHANNELLING PLANS

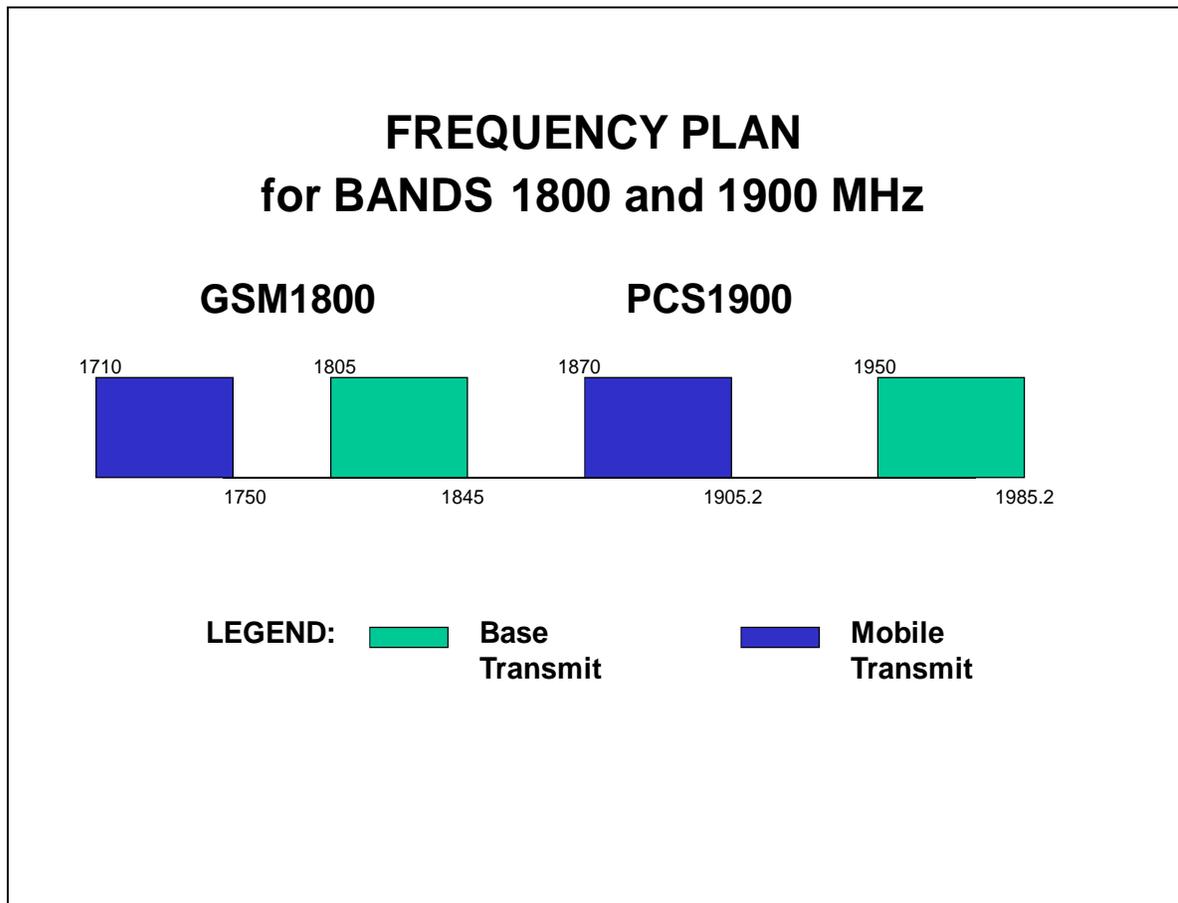
Band Plan for 1800, 1900 and 2000 MHz Public Telecommunications Services

The band plan for 1800 MHz is based on the GSM1800 band plan, as used in Europe and many other parts of the world. The plan avoids overlap with the PCS band plan, while still providing 40+40 MHz of spectrum. The frequency ranges are as follows:

Base transmit: 1805 to 1845 MHz
Mobile transmit: 1710 to 1750 MHz

The band plan for 1900 MHz is based on the North American PCS plan. The specific frequencies have been chosen to provide for a future implementation of IMT-2000, while still providing 35+35 MHz of spectrum. The frequency ranges are as follows:

Base transmit: 1950 to 1985.2 MHz
Mobile transmit: 1870 to 1905.2 MHz



CHANNELLING PLANS

The band plan for 2000 MHz is based on the UMTS plan adopted in Europe and in other portions of the world for third generation mobile telecommunications services. The frequency ranges are as follows:

Base transmit: 2110 to 2140 MHz
Mobile transmit: 1920 to 1950 MHz.

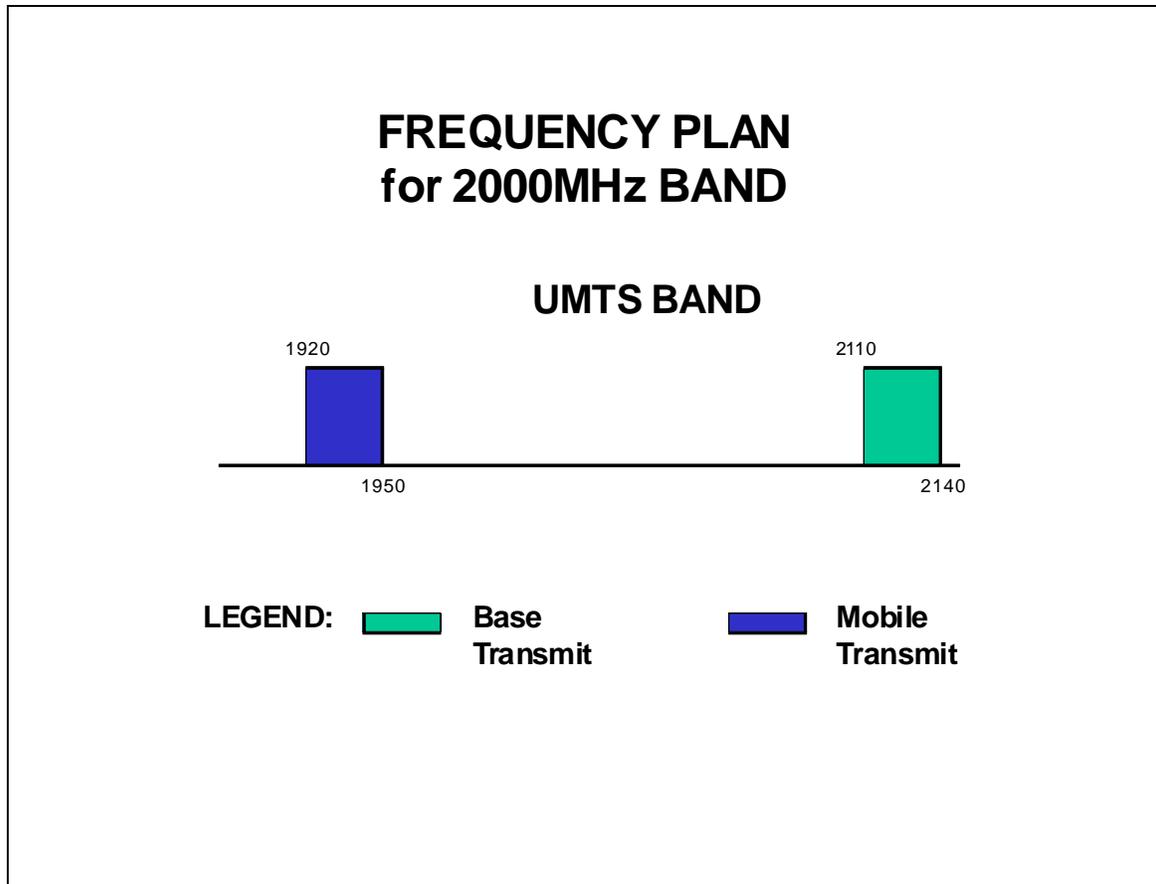
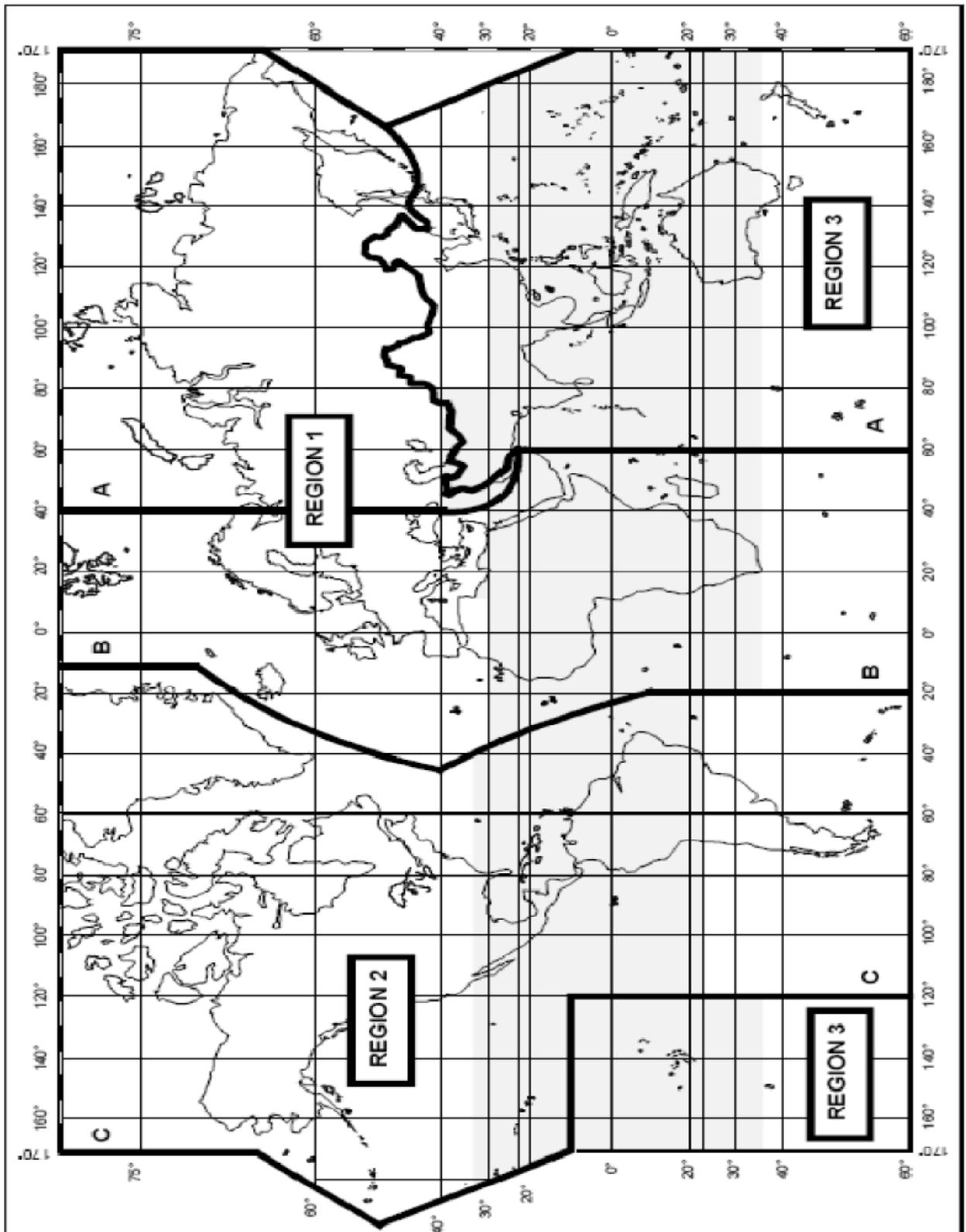


Chart of ITU Regions



Technical Planning Tools

The Spectrum plan is the principal technical document providing authority to the information on the allocation of frequency bands to the different types of services used in radiocommunication. The Plan in its formulation takes into account the policy and objectives related to the future use of radio frequency in the Turks and Caicos Islands. The Spectrum Plan provides valuable information for radio system planning and implementation within the Turks and Caicos Islands. System designers must consult the Commission prior to any system designs utilizing spectrum resource as there are critical elements which are integral in the spectrum management process within the TCI.

With this plan the Commission objective is to address market expectations and user requirements for allocations, allotment and assignments of the spectrum to promote efficient spectrum use, minimize risks of interference, maximize economic benefits and sustainable competition; and conform, as necessary to relevant spectrum plans in the region.

Spectrum Exemption

A Spectrum Exemption would be issued when the spectrum to be used falls under section 31 (2) of the Telecommunications Ordinance 2004, and in accordance with the National Spectrum Plan, for services used by certain groups such as the Royal Turks and Caicos Islands Police Force, the Civil Aviation Department, providers of emergency services and some use of spectrum on board marine vessels and aircrafts. These are statutory exemptions.

The Spectrum bands identified as ISM bands and designated in the plan to be operated by specific spread spectrum, low power, point to point, point to multipoint applications and short-range devices are licence – exempt. These low power and short-range devices includes various types of devices such as toys, remote control devices, and some Wi-Fi devices such as wireless routers intended for in-home use and Bluetooth devices. The exempt devices would generally be used for self-provision and would carry a certification from an approved jurisdiction. At this time, the Commission only accepts the USA FCC and Industry Canada Certification. Not all certified low power devices are authorized for use in the Turks and Caicos Islands. Persons are required to verify that the frequency and technical specifications comply with TCITC technical standards which will be published and updated from time to time.

Length of term for Spectrum

The Commission, with respect to a Spectrum licence under part IV of the Ordinance, and regards to the Spectrum plan may, on such terms and conditions as it thinks fit, grant the licence to the applicant.

A Spectrum licence shall continue in force for the period specified in the licence, unless previously revoked under the Ordinance or under a condition contained in the licence.