

Canadian Table of Frequency Allocations

(2014 Edition)

Foreword

The Canadian Table of Frequency Allocations (Canadian Table) assigns the electromagnetic spectrum and establishes the frequency allocations available for radio services in Canada. The Canadian Table is based on the provisions of the Final Acts resulting from the various World Radiocommunication Conferences (WRC), including the 2012 WRC, convened by the International Telecommunication Union (ITU).

The Canadian Table and the associated general information will, from time to time, need to be revised. Such revisions occur when changes to the ITU Table of Frequency Allocations (ITU Table) are made as a result of World Radiocommunication Conferences or particular Canadian radio service requirements. The Canadian Table reflects international changes while taking into account Canadian requirements to ensure that government, commercial and private users have full flexibility to develop new radio applications and systems.

The Canadian Table is intended to respond to Canadian domestic spectrum requirements, and consequently reflects Industry Canada's spectrum allocation and utilization policies developed through public consultation. It should be noted, therefore, that the Canadian Table differs, where necessary, from the ITU Table.

Canadian radio systems and spectrum utilization policies set the necessary elements for the use of frequency bands and/or radio services. Spectrum policies have traditionally designated the use of a radio service to certain applications in a particular frequency band, or bands. The spectrum designations are intended to accommodate diverse applications and users. Examples include designating the use of a mobile radio application for public safety applications or designating a fixed allocation to point-to-multipoint systems.

In some cases the use of a band, or the use of a service in a band, is withheld pending the development of a spectrum utilization policy. In cases where no spectrum utilization policy provisions exist in a given band, and there is no footnote withholding use, spectrum access may be available on a case-by-case basis.

Spectrum utilization policies developed in recent years have given more attention to defining the relationship between co-primary services in the same band. In some cases however, spectrum utilization policy provisions exist for one service but not another co-primary service allocated in a given band. This is particularly true where the implementation of the co-primary service is infrequent. In this case, coordination and authorization of systems within the service are generally handled on a case-by-case basis, taking into account the use designations for the other service.

Information on the Canadian Table of Frequency Allocations and its interpretation with respect to various spectrum utilization policies issued by Industry Canada can best be obtained by contacting:

Engineering, Planning and Standards Branch
Industry Canada
300 Slater Street
Ottawa, Ontario K1A 0C8
Canada
Email: spectrum.engineering@ic.gc.ca

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Definitions

The following is a list of those terms and definitions which are relevant to the Canadian Table of Frequency Allocations. These terms and definitions are extracted from the Radio Regulations of the International Telecommunication Union. The Radio 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 Constitution of the International Telecommunication Union, in the Convention of the International Telecommunication Union and in the Administrative 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 also applies 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 these parameters, by means of the propagation properties of radio waves.

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

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 in Recommendation ITU-R TF.460-6.

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

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

Aeronautical Mobile (R)Footnote ** 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-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 (OR) Service: An aeronautical mobile-satellite service intended for communications, including those relating to flight coordination, primarily outside national and international civil air routes.

Aeronautical Mobile-Satellite (R) 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 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.

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 the amateur service.

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

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

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

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 airborne or Earth-based platforms;

such information may be distributed to earth stations within the system concerned;

platform interrogation may be included.

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

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.

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

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.

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.

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

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

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.

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

Radiocommunication Service: A service involving the transmission, emission and/or reception of radio waves for specific telecommunication purposes. Unless otherwise stated, any radiocommunication service relates to terrestrial radiocommunication.

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.

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.

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

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

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

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

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.

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

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

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

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

3 - Categories of Services

Primary and Secondary Services:

In the Canadian Table, where a band is indicated as allocated to more than one service, services are listed in the following order:

primary services are printed in “all capital letters” (example: FIXED); and

secondary services are printed in “upper and lower case letters” (example: Amateur).

Additional remarks are printed in “upper and lower case letters” (example: MOBILE except aeronautical mobile).

For each category, services are listed in alphabetical order but that order does not indicate relative priority.

Stations of a Secondary Service:

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;

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; and

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.

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

The footnote references that appear in the Table below the allocated service or services apply to more than one of the allocated services, or the whole of the allocation concerned.

The footnote references to the right of the name of a service are applicable only to that particular service.

Footnotes

Footnote *

(OR): off-route

Return to footnote * referrer

Footnote **

(R): route

Return to footnote ** referrer

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Canadian Table of Frequency Allocations

Canadian Table of Frequency Allocations — kHz	
kHz	Frequency Allocations
0 - 8.3	(not allocated) C1 C2

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
8.3 - 9	primary serviceMETEOROLOGICAL AIDSend primary service 5.54A
9 - 11.3	primary serviceMETEOROLOGICAL AIDSend primary service 5.54A primary serviceRADIONAVIGATIONEnd primary service
11.3 - 14	primary serviceRADIONAVIGATIONEnd primary service
14 - 19.95	primary serviceFIXEDEnd primary service primary serviceMARITIME MOBILEEnd primary service 5.57 5.56
19.95 - 20.05	primary serviceSTANDARD FREQUENCY AND TIME SIGNALEnd primary service (20 kHz)
20.05 - 70	primary serviceFIXEDEnd primary service primary serviceMARITIME MOBILEEnd primary service 5.57 5.56
70 - 90	primary serviceFIXEDEnd primary service primary serviceMARITIME MOBILEEnd primary service 5.57 primary serviceRADIONAVIGATIONEnd primary service 5.60 Radiolocation 5.61
90 - 110	primary serviceRADIONAVIGATIONEnd primary service Fixed 5.64
110 - 130	primary serviceFIXEDEnd primary service primary serviceMARITIME MOBILEEnd primary service primary serviceMARITIME RADIONAVIGATIONEnd primary service 5.60 Radiolocation 5.61 5.64
130 - 135.7	primary serviceFIXEDEnd primary service primary serviceMARITIME MOBILEEnd primary service 5.64
135.7 - 137.8	primary serviceFIXEDEnd primary service primary serviceMARITIME MOBILEEnd primary service Amateur 5.67A

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
	5.64
137.8 - 160	primary serviceFIXEDend primary service primary serviceMARITIME MOBILEend primary service 5.64
160 - 190	primary serviceFIXEDend primary service
190 - 200	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service
200 - 285	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service Aeronautical Mobile
285 - 315	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service primary serviceMARITIME RADIONAVIGATIONend primary service (radiobeacons) 5.73
315 - 325	primary serviceMARITIME RADIONAVIGATIONend primary service (radiobeacons) 5.73 Aeronautical Radionavigation
325 - 335	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service Aeronautical Mobile Maritime Radionavigation (radiobeacons)
335 - 405	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service Aeronautical Mobile
405 - 415	primary serviceRADIONAVIGATIONend primary service 5.76 Aeronautical Mobile
415 - 472	primary serviceMARITIME MOBILEend primary service 5.79 5.82
472 - 479	primary serviceMARITIME MOBILEend primary service 5.79 Amateur 5.80A 5.82
479 - 495	primary serviceMARITIME MOBILEend primary service 5.79 5.79A 5.82
495 - 505	primary serviceMARITIME MOBILEend primary service

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
505 - 510	primary serviceMARITIME MOBILEEnd primary service 5.79
510 - 525	primary serviceAERONAUTICAL RADIONAVIGATIONEnd primary service primary serviceMARITIME MOBILEEnd primary service 5.79A 5.84
525 - 535	primary serviceAERONAUTICAL RADIONAVIGATIONEnd primary service primary serviceBROADCASTINGEnd primary service 5.86
535 - 1 605	primary serviceBROADCASTINGEnd primary service
1 605 - 1 705	primary serviceBROADCASTINGEnd primary service 5.89 5.90
1 705 - 1 800	primary serviceAERONAUTICAL RADIONAVIGATIONEnd primary service primary serviceFIXEDEnd primary service primary serviceMOBILEEnd primary service primary serviceRADIOLOCATIONEnd primary service
1 800 - 1 850	primary serviceAMATEUREnd primary service
1 850 - 2 000	primary serviceAMATEUREnd primary service primary serviceRADIOLOCATIONEnd primary service primary serviceRADIONAVIGATIONEnd primary service
2 000 - 2 065	primary serviceFIXEDEnd primary service primary serviceMOBILEEnd primary service
2 065 - 2 107	primary serviceMARITIME MOBILEEnd primary service 5.105 C3
2 107 - 2 170	primary serviceFIXEDEnd primary service primary serviceMOBILEEnd primary service
2 170 - 2 173.5	primary serviceMARITIME MOBILEEnd primary service
2 173.5 - 2 190.5	primary serviceMOBILEEnd primary service (distress and calling) 5.108 5.109 5.110 5.111
2 190.5 - 2 194	primary serviceMARITIME MOBILEEnd primary service

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
2 194 - 2 495	primary serviceFIXEDend primary service primary serviceMOBILEend primary service
2 495 - 2 501	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service (2 500 kHz)
2 501 - 2 502	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service Space Research
2 502 - 2 505	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service
2 505 - 2 850	primary serviceFIXEDend primary service primary serviceMOBILEend primary service
2 850 - 3 025	primary serviceAERONAUTICAL MOBILEend primary service (R) 5.111 5.115
3 025 - 3 155	primary serviceAERONAUTICAL MOBILEend primary service (primary serviceOREnd primary service) C5
3 155 - 3 230	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile (R) 5.116
3 230 - 3 400	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile Radiolocation 5.116
3 400 - 3 500	primary serviceAERONAUTICAL MOBILEend primary service (R)
3 500 - 4 000	primary serviceAMATEUREnd primary service
4 000 - 4 063	primary serviceFIXEDend primary service primary serviceMARITIME MOBILEend primary service 5.127
4 063 - 4 438	primary serviceMARITIME MOBILEend primary service 5.79A 5.109 5.110 5.130 5.131 5.132 5.128

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
4 438 - 4 488	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile (R) primary serviceRADIOLOCATIONend primary service 5.132A
4 488 - 4 650	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile (R)
4 650 - 4 700	primary serviceAERONAUTICAL MOBILEend primary service (R)
4 700 - 4 750	primary serviceAERONAUTICAL MOBILEend primary service (primary serviceOREnd primary service) C5
4 750 - 4 850	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile (R)
4 850 - 4 995	primary serviceFIXEDend primary service primary serviceLAND MOBILEend primary service
4 995 - 5 003	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service (5 000 kHz)
5 003 - 5 005	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service Space Research
5 005 - 5 060	primary serviceFIXEDend primary service
5 060 - 5 250	primary serviceFIXEDend primary service Mobile except aeronautical mobile
5 250 - 5 275	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile primary serviceRADIOLOCATIONend primary service 5.132A
5 275 - 5 450	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile C21
5 450 - 5 480	primary serviceAERONAUTICAL MOBILEend primary service (R)
5 480 - 5 680	primary serviceAERONAUTICAL MOBILEend primary service (R)

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
	5.111 5.115
5 680 - 5 730	primary serviceAERONAUTICAL MOBILEEnd primary service (primary serviceORend primary service) 5.111 5.115 C5
5 730 - 5 900	primary serviceFIXEDend primary service primary serviceMOBILEEnd primary service except aeronautical mobile (R)
5 900 - 5 950	primary serviceBROADCASTINGend primary service 5.134 primary serviceFIXEDend primary service primary serviceMOBILEEnd primary service except aeronautical mobile (R) 5.136 C9
5 950 - 6 200	primary serviceBROADCASTINGend primary service
6 200 - 6 525	primary serviceMARITIME MOBILEEnd primary service 5.109 5.110 5.130 5.132 C4
6 525 - 6 685	primary serviceAERONAUTICAL MOBILEEnd primary service (R)
6 685 - 6 765	primary serviceAERONAUTICAL MOBILEEnd primary service (R)
6 765 - 7 000	primary serviceFIXEDend primary service primary serviceMOBILEEnd primary service except aeronautical mobile (R) 5.138
7 000 - 7 100	primary serviceAMATEURend primary service primary serviceAMATEUR-SATELLITEend primary service
7 100 - 7 300	primary serviceAMATEURend primary service 5.142
7 300 - 7 400	primary serviceBROADCASTINGend primary service 5.134 primary serviceFIXEDend primary service primary serviceMOBILEEnd primary service except aeronautical mobile (R) 5.143 5.143D C9
7 400 - 8 100	primary serviceFIXEDend primary service primary serviceMOBILEEnd primary service except aeronautical mobile (R)

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
8 100 - 8 195	primary serviceFIXEDend primary service primary serviceMARITIME MOBILEend primary service
8 195 - 8 815	primary serviceMARITIME MOBILEend primary service 5.109 5.110 5.132 5.145 5.111
8 815 - 8 965	primary serviceAERONAUTICAL MOBILEend primary service (R)
8 965 - 9 040	primary serviceAERONAUTICAL MOBILEend primary service (primary serviceORend primary service) C5
9 040 - 9 400	primary serviceFIXEDend primary service
9 400 - 9 500	primary serviceBROADCASTINGend primary service 5.134 primary serviceFIXEDend primary service 5.146 C9
9 500 - 9 900	primary serviceBROADCASTINGend primary service 5.147
9 900 - 9 995	primary serviceFIXEDend primary service
9 995 - 10 003	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service (10 000 kHz) 5.111
10 003 - 10 005	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service Space Research 5.111
10 005 - 10 100	primary serviceAERONAUTICAL MOBILEend primary service (R) 5.111
10 100 - 10 150	primary serviceAMATEURend primary service C6
10 150 - 11 175	primary serviceFIXEDend primary service Mobile except aeronautical mobile (R)
11 175 - 11	primary serviceAERONAUTICAL MOBILEend primary service (primary serviceORend primary service)

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
275	C5
11 275 - 11 400	primary serviceAERONAUTICAL MOBILEend primary service (R)
11 400 - 11 600	primary serviceFIXEDend primary service
11 600 - 11 650	primary serviceBROADCASTINGend primary service 5.134 primary serviceFIXEDend primary service 5.146 C9
11 650 - 12 050	primary serviceBROADCASTINGend primary service 5.147
12 050 - 12 100	primary serviceBROADCASTINGend primary service 5.134 primary serviceFIXEDend primary service 5.146 C9
12 100 - 12 230	primary serviceFIXEDend primary service
12 230 - 13 200	primary serviceMARITIME MOBILEend primary service 5.109 5.110 5.132 5.145
13 200 - 13 260	primary serviceAERONAUTICAL MOBILEend primary service (primary serviceOREnd primary service) C5
13 260 - 13 360	primary serviceAERONAUTICAL MOBILEend primary service (R)
13 360 - 13 410	primary serviceFIXEDend primary service primary serviceRADIO ASTRONOMYend primary service 5.149
13 410 - 13 450	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile (R)
13 450 - 13 550	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile (R)

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
	primary serviceRADIOLOCATIONend primary service 5.132A
13 550 - 13 570	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile (R) 5.150
13 570 - 13 600	primary serviceBROADCASTINGend primary service 5.134 primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile (R) 5.151 C9
13 600 - 13 800	primary serviceBROADCASTINGend primary service
13 800 - 13 870	primary serviceBROADCASTINGend primary service 5.134 primary serviceFIXEDend primary service Mobile except aeronautical mobile (R) 5.151 C9
13 870 - 14 000	primary serviceFIXEDend primary service Mobile except aeronautical mobile (R)
14 000 - 14 250	primary serviceAMATEURend primary service primary serviceAMATEUR-SATELLITEend primary service
14 250 - 14 350	primary serviceAMATEURend primary service
14 350 - 14 990	primary serviceFIXEDend primary service Mobile except aeronautical mobile (R)
14 990 - 15 005	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service (15 000 kHz) 5.111
15 005 - 15 010	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service Space Research
15 010 - 15 100	primary serviceAERONAUTICAL MOBILEend primary service (primary serviceORend primary service)

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
	C5
15 100 - 15 600	primary serviceBROADCASTINGend primary service
15 600 - 15 800	primary serviceBROADCASTINGend primary service 5.134 primary serviceFIXEDend primary service 5.146 C9
15 800 - 16 100	primary serviceFIXEDend primary service
16 100 - 16 200	primary serviceFIXEDend primary service primary serviceRADIOLOCATIONend primary service 5.145A
16 200 - 16 360	primary serviceFIXEDend primary service
16 360 - 17 410	primary serviceMARITIME MOBILEend primary service 5.109 5.110 5.132 5.145
17 410 - 17 480	primary serviceFIXEDend primary service
17 480 - 17 550	primary serviceBROADCASTINGend primary service 5.134 primary serviceFIXEDend primary service 5.146 C9
17 550 - 17 900	primary serviceBROADCASTINGend primary service
17 900 - 17 970	primary serviceAERONAUTICAL MOBILEend primary service (R)
17 970 - 18 030	primary serviceAERONAUTICAL MOBILEend primary service (primary serviceOREnd primary service) C5
18 030 - 18 052	primary serviceFIXEDend primary service
18 052 - 18	primary serviceFIXEDend primary service

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
068	Space Research
18 068 - 18 168	primary serviceAMATEURend primary service primary serviceAMATEUR-SATELLITEend primary service
18 168 - 18 780	primary serviceFIXEDend primary service
18 780 - 18 900	primary serviceMARITIME MOBILEend primary service
18 900 - 19 020	primary serviceBROADCASTINGend primary service 5.134 primary serviceFIXEDend primary service 5.146 C9
19 020 - 19 680	primary serviceFIXEDend primary service
19 680 - 19 800	primary serviceMARITIME MOBILEend primary service 5.132
19 800 - 19 990	primary serviceFIXEDend primary service
19 990 - 19 995	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service Space Research 5.111
19 995 - 20 010	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service (20 000 kHz) 5.111
20 010 - 21 000	primary serviceFIXEDend primary service Mobile
21 000 - 21 450	primary serviceAMATEURend primary service primary serviceAMATEUR-SATELLITEend primary service
21 450 - 21 850	primary serviceBROADCASTINGend primary service

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
21 850 - 21 870	primary serviceFIXEDend primary service
21 870 - 21 924	primary serviceFIXEDend primary service 5.155B
21 924 - 22 000	primary serviceAERONAUTICAL MOBILEend primary service (R)
22 000 - 22 855	primary serviceMARITIME MOBILEend primary service 5.132
22 855 - 23 000	primary serviceFIXEDend primary service
23 000 - 23 200	primary serviceFIXEDend primary service Mobile except aeronautical mobile (R)
23 200 - 23 350	primary serviceAERONAUTICAL MOBILEend primary service (primary serviceOREnd primary service) C5
23 350 - 24 000	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.157
24 000 - 24 450	primary serviceFIXEDend primary service primary serviceLAND MOBILEend primary service
24 450 - 24 650	primary serviceFIXEDend primary service primary serviceLAND MOBILEend primary service primary serviceRADIOLOCATIONend primary service 5.132A
24 650 - 24 890	primary serviceFIXEDend primary service primary serviceLAND MOBILEend primary service
24 890 - 24 990	primary serviceAMATEURend primary service primary serviceAMATEUR-SATELLITEend primary service
24 990 - 25 005	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service (25 000 kHz)
25 005 - 25	primary serviceSTANDARD FREQUENCY AND TIME SIGNALend primary service

Canadian Table of Frequency Allocations — kHz

kHz	Frequency Allocations
010	Space Research
25 010 - 25 070	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile
25 070 - 25 210	primary serviceMARITIME MOBILEend primary service
25 210 - 25 550	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile
25 550 - 25 670	primary serviceRADIO ASTRONOMYend primary service 5.149

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
25.67 - 26.1	primary serviceBROADCASTINGend primary service
26.1 - 26.175	primary serviceMARITIME MOBILEend primary service 5.132
26.175 - 26.2	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile
26.2 - 26.42	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile primary serviceRADIOLOCATIONend primary service 5.132A
26.42 - 27.5	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.150
27.5 - 28	primary serviceMOBILEend primary service Fixed
28 - 29.7	primary serviceAMATEURend primary service primary serviceAMATEUR-SATELLITEend primary service
29.7 - 30.005	primary serviceMOBILEend primary service

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	Fixed
30.005 - 30.01	primary serviceMOBILEend primary service primary serviceSPACE RESEARCHend primary service Fixed
30.01 - 37.5	primary serviceMOBILEend primary service Fixed
37.5 - 38.25	primary serviceMOBILEend primary service Fixed Radio Astronomy 5.149
38.25 - 39.986	primary serviceMOBILEend primary service Fixed
39.986 - 40.02	primary serviceMOBILEend primary service Fixed Space Research
40.02 - 40.98	primary serviceMOBILEend primary service Fixed 5.150
40.98 - 41.015	primary serviceMOBILEend primary service Fixed Space Research
41.015 - 50	primary serviceMOBILEend primary service Fixed
50 - 54	primary serviceAMATEURend primary service
54 - 72	primary serviceBROADCASTINGend primary service
72 - 73	primary serviceFIXEDend primary service primary serviceMOBILEend primary service
73 - 74.6	primary serviceRADIO ASTRONOMYend primary service

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
74.6 - 74.8	primary serviceFIXEDend primary service primary serviceMOBILEend primary service
74.8 - 75.2	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.180
75.2 - 76	primary serviceFIXEDend primary service primary serviceMOBILEend primary service
76 - 108	primary serviceBROADCASTINGend primary service
108 - 117.975	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.197A
117.975 - 137	primary serviceAERONAUTICAL MOBILEend primary service (R) 5.111 5.200
137 - 138	primary serviceMETEOROLOGICAL-SATELLITEend primary service (space-to-Earth) primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) 5.208A 5.208B 5.209 primary serviceSPACE OPERATIONend primary service (space-to-Earth) primary serviceSPACE RESEARCHend primary service (space-to-Earth) 5.208
138 - 144	primary serviceFIXEDend primary service primary serviceLAND MOBILEend primary service Space Research (space-to-Earth)
144 - 146	primary serviceAMATEURend primary service primary serviceAMATEUR-SATELLITEend primary service
146 - 148	primary serviceAMATEURend primary service
148 - 149.9	primary serviceFIXEDend primary service primary serviceLAND MOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.209 C26 5.218 5.219
149.9 - 150.05	primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.209 5.224A primary serviceRADIONAVIGATION-SATELLITEend primary service 5.224B

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	5.220 5.222 5.223
150.05 - 156.4875	primary serviceMOBILEend primary service Fixed 5.226
156.4875 - 156.5625	primary serviceMARITIME MOBILEend primary service (distress and calling via primary serviceDSCend primary service) 5.111 5.226 C32
156.5625 - 156.7625	primary serviceMOBILEend primary service Fixed 5.226
156.7625 - 156.7875	primary serviceMARITIME MOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.111 5.226 5.228
156.7875 - 156.8125	primary serviceMARITIME MOBILEend primary service (distress and calling) 5.111 5.226
156.8125 - 156.8375	primary serviceMARITIME MOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.111 5.226 5.228
156.8375 - 161.9625	primary serviceMOBILEend primary service Fixed 5.226
161.9625 - 161.9875	primary serviceAERONAUTICAL MOBILEend primary service (primary serviceOREnd primary service) primary serviceMARITIME MOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.228C 5.228D C53
161.9875 - 162.0125	primary serviceMOBILEend primary service Fixed 5.226
162.0125 -	primary serviceAERONAUTICAL MOBILEend primary service (primary serviceOREnd primary service)

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
162.0375	primary serviceMARITIME MOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.228C 5.228D C53
162.0375 - 174	primary serviceMOBILEend primary service Fixed 5.226
174 - 216	primary serviceBROADCASTINGend primary service
216 - 220	primary serviceFIXEDend primary service primary serviceLAND MOBILEend primary service 5.242 primary serviceMARITIME MOBILEend primary service Amateur C11
220 - 222	primary serviceFIXEDend primary service primary serviceMOBILEend primary service Amateur C11
222 - 225	primary serviceAMATEURend primary service
225 - 312	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.111 5.254 5.256 C5
312 - 315	primary serviceFIXEDend primary service primary serviceMOBILEend primary service Mobile-Satellite (Earth-to-space) 5.254 5.255 C5
315 - 328.6	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.254 C5
328.6 - 335.4	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.258
335.4 - 387	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.254 C5

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
387 - 390	primary serviceFIXEDend primary service primary serviceMOBILEend primary service Mobile-Satellite (space-to-Earth) 5.208A 5.208B 5.254 5.255 C5
390 - 399.9	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.254 C5
399.9 - 400.05	primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.209 5.224A primary serviceRADIONAVIGATION-SATELLITEend primary service 5.222 5.224B 5.260 5.220 C19
400.05 - 400.15	primary serviceSTANDARD FREQUENCY AND TIME SIGNAL-SATELLITEend primary service (400.1 MHz) 5.261
400.15 - 401	primary serviceMETEOROLOGICAL AIDSend primary service primary serviceMETEOROLOGICAL-SATELLITEend primary service (space-to-Earth) primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) 5.208A 5.208B 5.209 primary serviceSPACE RESEARCHend primary service (space-to-Earth) 5.263 Space Operation (space-to-Earth) 5.264
401 - 402	primary serviceEARTH EXPLORATION-SATELLITEend primary service (Earth-to-space) primary serviceMETEOROLOGICAL AIDSend primary service primary serviceMETEOROLOGICAL-SATELLITEend primary service (Earth-to-space) primary serviceSPACE OPERATIONend primary service (space-to-Earth) Fixed Mobile except aeronautical mobile
402 - 403	primary serviceEARTH EXPLORATION-SATELLITEend primary service (Earth-to-space) primary serviceMETEOROLOGICAL AIDSend primary service primary serviceMETEOROLOGICAL-SATELLITEend primary service (Earth-to-space) Fixed Mobile except aeronautical mobile
403 - 406	primary serviceMETEOROLOGICAL AIDSend primary service Fixed

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	Mobile except aeronautical mobile
406 - 406.1	primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.266 5.267
406.1 - 410	primary serviceMOBILEend primary service except aeronautical mobile primary serviceRADIO ASTRONOMYend primary service Fixed 5.149
410 - 414	primary serviceMOBILEend primary service except aeronautical mobile primary serviceSPACE RESEARCHend primary service (space-to-space) 5.268 Fixed
414 - 415	primary serviceFIXEDend primary service primary serviceSPACE RESEARCHend primary service (space-to-space) 5.268 Mobile except aeronautical mobile
415 - 419	primary serviceMOBILEend primary service except aeronautical mobile primary serviceSPACE RESEARCHend primary service (space-to-space) 5.268 Fixed
419 - 420	primary serviceFIXEDend primary service primary serviceSPACE RESEARCHend primary service (space-to-space) 5.268 Mobile except aeronautical mobile
420 - 430	primary serviceMOBILEend primary service except aeronautical mobile Fixed C10
430 - 432	primary serviceRADIOLOCATIONend primary service Amateur
432 - 438	primary serviceRADIOLOCATIONend primary service Amateur Earth Exploration-Satellite (active) 5.279A 5.282
438 - 450	primary serviceRADIOLOCATIONend primary service 5.285 Amateur 5.284

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	5.286
450 - 455	primary serviceMOBILEend primary service 5.286primary serviceAAend primary service C23 Fixed 5.209 5.286 5.286A 5.286B 5.286C 5.286D C26A C26B
455 - 456	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.286primary serviceAAend primary service C23 primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.209 5.286A 5.286B 5.286C C26A C26B
456 - 459	primary serviceMOBILEend primary service 5.286primary serviceAAend primary service 5.287 C23 Fixed
459 - 460	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.286primary serviceAAend primary service C23 primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.209 5.286A 5.286B 5.286C C26A C26B
460 - 470	primary serviceMOBILEend primary service 5.286primary serviceAAend primary service 5.287 C23 Fixed 5.289
470 - 608	primary serviceBROADCASTINGend primary service 5.293 5.297 C24
608 - 614	primary serviceRADIO ASTRONOMYend primary service Mobile-Satellite except aeronautical mobile-satellite (Earth-to-space)
614 - 698	primary serviceBROADCASTINGend primary service 5.293 C24
698 - 806	primary serviceBROADCASTINGend primary service primary serviceFIXEDend primary service

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	primary serviceMOBILEend primary service 5.317A C7 5.293
806 - 890	primary serviceMOBILEend primary service 5.317A C7 Fixed 5.317 5.318
890 - 902	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.317A C7 Radiolocation C5A 5.318
902 - 928	primary serviceFIXEDend primary service primary serviceRADIOLOCATIONend primary service C5A Amateur Mobile except aeronautical mobile 5.150
928 - 929	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.317A C7 Radiolocation C5A
929 - 932	primary serviceMOBILEend primary service except aeronautical mobile 5.317A C7 Fixed Radiolocation C5A
932 - 932.5	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.317A C7 Radiolocation C5A
932.5 - 935	primary serviceFIXEDend primary service Mobile except aeronautical mobile 5.317A C7 Radiolocation C5A
935 - 941	primary serviceMOBILEend primary service except aeronautical mobile 5.317A C7 Fixed Radiolocation C5A
941 - 941.5	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.317A C7

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	Radiolocation C5A
941.5 - 942	primary serviceFIXEDend primary service Mobile except aeronautical mobile 5.317A C7 Radiolocation C5A
942 - 944	primary serviceFIXEDend primary service Mobile 5.317A C7
944 - 952	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.317A C7
952 - 956	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.317A C7
956 - 960	primary serviceFIXEDend primary service Mobile 5.317A C7
960 - 1 164	primary serviceAERONAUTICAL MOBILEend primary service (R) 5.327A primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.328
1 164 - 1 215	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.328 primary serviceRADIONAVIGATION-SATELLITEend primary service (space-to-Earth)(space-to-space) 5.328B 5.328A
1 215 - 1 240	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceRADIOLOCATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A primary serviceSPACE RESEARCHend primary service (active) 5.332
1 240 - 1 300	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceRADIOLOCATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service (space-to-Earth)(space-to-space) 5.328B 5.329 5.329A primary serviceSPACE RESEARCHend primary service (active)

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	Amateur 5.282 5.331 5.332 5.335 5.335A
1 300 - 1 350	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.337 primary serviceRADIOLOCATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service (Earth-to-space) 5.149 5.337A
1 350 - 1 390	primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceRADIOLOCATIONend primary service 5.149 5.334 5.338A 5.339 C5 C27
1 390 - 1 400	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.149 5.339 C27B
1 400 - 1 427	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340 5.341
1 427 - 1 429	primary serviceFIXEDend primary service primary serviceSPACE OPERATIONend primary service (Earth-to-space) 5.338A 5.341
1 429 - 1 452	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.338A 5.341
1 452 - 1 492	primary serviceBROADCASTINGend primary service primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.343 5.341 5.345
1 492 - 1 525	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.341
1 525 - 1 530	primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) 5.208B 5.351A Earth Exploration-Satellite

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	Space Operation (space-to-Earth) 5.341 5.351 5.354
1 530 - 1 535	primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) 5.208B 5.351A 5.353A Earth Exploration-Satellite 5.341 5.351 5.354
1 535 - 1 559	primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.353A 5.354 5.356 5.357 5.357A
1 559 - 1 610	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service (space-to-Earth) (space-to-space) 5.208B 5.328B 5.329A 5.341
1 610 - 1 610.6	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.351A 5.341 5.364 5.366 5.367 5.368 5.372
1 610.6 - 1 613.8	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.351A primary serviceRADIO ASTRONOMYend primary service 5.149 5.341 5.364 5.366 5.367 5.368 5.372
1 613.8 - 1 626.5	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.351A Mobile-Satellite (space-to-Earth) 5.208B 5.341 5.364 5.365 5.366 5.367 5.368 5.372
1 626.5 - 1 660	primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.357A 5.374 5.375 5.376
1 660 - 1 660.5	primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.351A primary serviceRADIO ASTRONOMYend primary service 5.149 5.341 5.351 5.354 5.376A
1 660.5 - 1 668	primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) Fixed

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	5.149 5.341 5.379A
1 668 - 1 668.4	primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) Fixed 5.149 5.341 5.379A
1 668.4 - 1 670	primary serviceFIXEDend primary service primary serviceMETEOROLOGICAL AIDSend primary service primary serviceRADIO ASTRONOMYend primary service 5.149 5.341 5.379D 5.379E
1 670 - 1 675	primary serviceFIXEDend primary service primary serviceMETEOROLOGICAL AIDSend primary service primary serviceMETEOROLOGICAL-SATELLITEend primary service (space-to-Earth) primary serviceMOBILEend primary service (except aeronautical mobile) 5.341 5.379D 5.379E
1 675 - 1 700	primary serviceMETEOROLOGICAL AIDSend primary service primary serviceMETEOROLOGICAL-SATELLITEend primary service (space-to-Earth) 5.289 5.341
1 700 - 1 710	primary serviceFIXEDend primary service primary serviceMETEOROLOGICAL-SATELLITEend primary service (space-to-Earth) 5.289 5.341
1 710 - 1755	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.384A 5.149 5.341 5.385 5.386
1 755 - 1 850	primary serviceFIXEDend primary service Mobile 5.384A C5 5.386 C37
1 850 - 2 000	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.384A 5.388A 5.388 5.389B C35
2 000 - 2 020	primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.351A

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	5.388 5.389A 5.389C 5.389E C36
2 020 - 2 025	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.388 C37
2 025 - 2 110	primary serviceEARTH EXPLORATION-SATELLITEend primary service (Earth-to-space)(space-to-space) primary serviceFIXEDend primary service primary serviceSPACE OPERATIONend primary service (Earth-to-space) (space-to-space) primary serviceSPACE RESEARCHend primary service (Earth-to-space) (space-to-space) Mobile 5.391 C5 5.392
2 110 - 2 120	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.388A primary serviceSPACE RESEARCHend primary service (deep space) (Earth-to-space) 5.388
2 120 - 2 180	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.388A 5.388 C37
2 180 - 2 200	primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) 5.351A 5.388 5.389A C36
2 200 - 2 290	primary serviceEARTH EXPLORATION-SATELLITEend primary service (space-to-Earth)(space-to-space) primary serviceFIXEDend primary service primary serviceSPACE OPERATIONend primary service (space-to-Earth) (space-to-space) primary serviceSPACE RESEARCHend primary service (space-to-Earth) (space-to-space) Mobile 5.391 C5 5.392
2 290 - 2 300	primary serviceFIXEDend primary service primary serviceSPACE RESEARCHend primary service (deep space) (space-to-Earth)

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	Mobile C5
2 300 - 2 450	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.384A 5.394 C34 primary serviceRADIOLOCATIONend primary service Amateur 5.150 5.282 5.393 5.396 C12 C13 C13A C17
2 450 - 2 483.5	primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceRADIOLOCATIONend primary service 5.150
2 483.5 - 2 500	primary serviceFIXEDend primary service C38 primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) 5.351A primary serviceRADIODETERMINATION-SATELLITEend primary service (space-to-Earth) 5.398 primary serviceRADIOLOCATIONend primary service 5.150 5.402
2 500 - 2 596	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.384A C38A 5.416
2 596 - 2 655	primary serviceBROADCASTINGend primary service primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.384A C38A 5.339 5.416
2 655 - 2 686	primary serviceBROADCASTINGend primary service primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.384A C38A Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149 5.416
2 686 - 2 690	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.384A C38A Earth Exploration-Satellite (passive)

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	Radio Astronomy Space Research (passive) 5.149
2 690 - 2 700	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340
2 700 - 2 900	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.337 Radiolocation 5.423 5.424 C14 C54
2 900 - 3 100	primary serviceRADIOLOCATIONend primary service 5.424A primary serviceRADIONAVIGATIONend primary service 5.426 5.425 5.427
3 100 - 3 300	primary serviceRADIOLOCATIONend primary service Earth Exploration-Satellite (active) Space Research (active) 5.149
3 300 - 3 450	primary serviceRADIOLOCATIONend primary service 5.433 C5 Amateur 5.149 5.282
3 450 - 3 500	primary serviceFIXEDend primary service C18 primary serviceRADIOLOCATIONend primary service 5.433 Amateur C15
3 500 - 3 650	primary serviceFIXEDend primary service C18 primary serviceFIXED-SATELLITEend primary service (space-to-Earth) C20
3 650 - 3 700	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) primary serviceMOBILEend primary service C33

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
3 700 - 4 200	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth)
4 200 - 4 400	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.438 5.440
4 400 - 4 500	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.440A C25
4 500 - 4 800	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.441 primary serviceMOBILEend primary service 5.440A C16A C25
4 800 - 4 825	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.440A Radio Astronomy C25
4 825 - 4 835	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.440A 5.442 5.149 5.443 C25
4 835 - 4 950	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.440A Radio Astronomy C25
4 950 - 4 990	primary serviceFIXEDend primary service primary serviceMOBILEend primary service 5.442 5.149 5.339 5.443
4 990 - 5 000	primary serviceFIXEDend primary service primary serviceRADIO ASTRONOMYend primary service Space Research (passive) 5.149
5 000 - 5 010	primary serviceAERONAUTICAL MOBILE-SATELLITEend primary service (R) 5.443primary serviceAAend primary service primary serviceAERONAUTICAL RADIONAVIGATIONend primary service

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	primary serviceRADIONAVIGATION-SATELLITEend primary service (Earth-to-space)
5 010 - 5 030	primary serviceAERONAUTICAL MOBILE-SATELLITEend primary service (R) 5.443 primary serviceAAend primary service primary serviceAERONAUTICAL RADIONAVIGATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service (Earth-to-space)(space-to-space) 5.328B 5.443B
5 030 - 5 091	primary serviceAERONAUTICAL MOBILEend primary service (R) 5.443C primary serviceAERONAUTICAL MOBILE-SATELLITEend primary service (R) 5.443D primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.444
5 091 - 5 150	primary serviceAERONAUTICAL MOBILEend primary service 5.444B primary serviceAERONAUTICAL MOBILE-SATELLITEend primary service (R) 5.443 primary serviceAAend primary service primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.444 5.444A
5 150 - 5 250	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.447A primary serviceMOBILEend primary service except aeronautical mobile 5.446A 5.446B C39B 5.446 5.447B 5.447C
5 250 - 5 255	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceMOBILEend primary service except aeronautical mobile 5.446A 5.447F C39B primary serviceRADIOLOCATIONend primary service primary serviceSPACE RESEARCHend primary service 5.447D 5.448A
5 255 - 5 350	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceMOBILEend primary service except aeronautical mobile 5.446A 5.447F C39B primary serviceRADIOLOCATIONend primary service primary serviceSPACE RESEARCHend primary service (active) 5.448A

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
5 350 - 5 460	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.449 primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) 5.448B primary serviceRADIOLOCATIONend primary service 5.448D primary serviceSPACE RESEARCHend primary service (active) 5.448C
5 460 - 5 470	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceRADIOLOCATIONend primary service 5.448D primary serviceRADIONAVIGATIONend primary service 5.449 primary serviceSPACE RESEARCHend primary service (active) 5.448B
5 470 - 5 570	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceMARITIME RADIONAVIGATIONend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.446A 5.450A C39B primary serviceRADIOLOCATIONend primary service 5.450B primary serviceSPACE RESEARCHend primary service (active) 5.448B
5 570 - 5 650	primary serviceMARITIME RADIONAVIGATIONend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.446A 5.450A C39B primary serviceRADIOLOCATIONend primary service 5.450B 5.452
5 650 - 5 725	primary serviceMOBILEend primary service except aeronautical mobile 5.446A 5.450A C39B primary serviceRADIOLOCATIONend primary service Amateur Space Research (deep space) 5.282
5 725 - 5 850	primary serviceRADIOLOCATIONend primary service Amateur 5.150 C39A
5 850 - 5 925	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) primary serviceMOBILEend primary service Amateur

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	Radiolocation 5.150 C39C
5 925 - 6 700	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.457A C39D 5.149 5.440 5.458
6 700 - 7 075	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) (space-to-Earth) 5.441 C40 5.458 5.458A 5.458B 5.458C
7 075 - 7 145	primary serviceFIXEDend primary service 5.458
7 145 - 7 235	primary serviceFIXEDend primary service primary serviceSPACE RESEARCHend primary service (Earth-to-space) 5.460 5.458
7 235 - 7 250	primary serviceFIXEDend primary service 5.458
7 250 - 7 300	primary serviceFIXED-SATELLITEend primary service (space-to-Earth) C49 5.461 C50
7 300 - 7 450	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) C49 5.461 C50
7 450 - 7 550	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) C49 primary serviceMETEOROLOGICAL-SATELLITEend primary service (space-to-Earth) 5.461A
7 550 - 7 750	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) C49
7 750 - 7 900	primary serviceFIXEDend primary service primary serviceMETEOROLOGICAL-SATELLITEend primary service (space-to-Earth) 5.461B

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
7 900 - 7 975	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) C49 5.461
7 975 - 8 025	primary serviceFIXED-SATELLITEend primary service (Earth-to-space) C49 5.461 C50
8 025 - 8 175	primary serviceEARTH EXPLORATION-SATELLITEend primary service (space-to-Earth) primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) C49
8 175 - 8 215	primary serviceEARTH EXPLORATION-SATELLITEend primary service (space-to-Earth) primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) C49 primary serviceMETEOROLOGICAL-SATELLITEend primary service (Earth-to-space)
8 215 - 8 400	primary serviceEARTH EXPLORATION-SATELLITEend primary service (space-to-Earth) primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) C49
8 400 - 8 500	primary serviceFIXEDend primary service primary serviceSPACE RESEARCHend primary service (space-to-Earth) 5.465
8 500 - 8 550	primary serviceRADIOLOCATIONend primary service
8 550 - 8 650	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceRADIOLOCATIONend primary service primary serviceSPACE RESEARCHend primary service (active) 5.469A
8 650 - 8 750	primary serviceRADIOLOCATIONend primary service
8 750 - 8 850	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.470 primary serviceRADIOLOCATIONend primary service
8 850 - 9 000	primary serviceMARITIME RADIONAVIGATIONend primary service 5.472 primary serviceRADIOLOCATIONend primary service
9 000 - 9 200	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.337 primary serviceRADIOLOCATIONend primary service

Canadian Table of Frequency Allocations — MHz

MHz	Frequency Allocations
	5.473A
9 200 - 9 300	primary serviceMARITIME RADIONAVIGATIONend primary service 5.472 primary serviceRADIOLOCATIONend primary service 5.474
9 300 - 9 500	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceRADIOLOCATIONend primary service primary serviceRADIONAVIGATIONend primary service primary serviceSPACE RESEARCHend primary service (active) 5.427 5.474 5.475 5.475A 5.475B 5.476A
9 500 - 9 800	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceRADIOLOCATIONend primary service primary serviceRADIONAVIGATIONend primary service primary serviceSPACE RESEARCHend primary service (active) 5.476A
9 800 - 9 900	primary serviceRADIOLOCATIONend primary service Earth Exploration-Satellite (active) Fixed Space Research (active) 5.478A 5.478B
9 900 - 10 000	primary serviceRADIOLOCATIONend primary service Fixed 5.479

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
10 - 10.45	primary serviceRADIOLOCATIONend primary service Amateur 5.479
10.45 - 10.5	primary serviceRADIOLOCATIONend primary service Amateur

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	Amateur-Satellite
10.5 - 10.55	primary serviceFIXEDend primary service primary serviceRADIOLOCATIONend primary service
10.55 - 10.6	primary serviceFIXEDend primary service
10.6 - 10.68	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXEDend primary service primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.149 5.482 5.482A
10.68 - 10.7	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340
10.7 - 11.7	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.441 5.484A C16C C16I C16 C16H C16J
11.7 - 12.2	primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.484A C16I C16J 5.485 5.488
12.2 - 12.7	primary serviceBROADCASTINGend primary service primary serviceBROADCASTING-SATELLITEend primary service 5.492 C43 primary serviceFIXEDend primary service 5.487A 5.488 5.490
12.7 - 12.75	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space)
12.75 - 13.25	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.441 C16C
13.25 - 13.4	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service 5.497 primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceSPACE RESEARCHend primary service (active)

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	5.498A
13.4 - 13.75	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceRADIOLOCATIONend primary service primary serviceSPACE RESEARCHend primary service (active) 5.501A Standard Frequency and Time Signal-Satellite (Earth-to-space) 5.501B
13.75 - 14	primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.484A C16I primary serviceRADIOLOCATIONend primary service Earth Exploration-Satellite Standard Frequency and Time Signal-Satellite (Earth-to-space) 5.502 5.503 C16J
14 - 14.47	primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.457A 5.484A 5.506 C16I Mobile-Satellite (Earth-to-space) 5.506A C41A 5.504A C16J C39D
14.47 - 14.5	primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.457A 5.484A 5.506 C16I Mobile-Satellite (Earth-to-space) 5.506A C41A Radio Astronomy 5.149 5.504A C16J C39D
14.5 - 14.66	primary serviceFIXEDend primary service Mobile C5
14.66 - 14.82	primary serviceFIXEDend primary service primary serviceMOBILEend primary service C5 C41
14.82 - 15.135	primary serviceFIXEDend primary service Mobile C5
15.135 - 15.295	primary serviceFIXEDend primary service primary serviceMOBILEend primary service C5 5.339 C41
15.295 -	primary serviceFIXEDend primary service Mobile C5

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
15.35	5.339
15.35 - 15.4	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340
15.4 - 15.43	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service primary serviceRADIOLOCATIONend primary service 5.511E 5.511F
15.43 - 15.63	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.511A primary serviceRADIOLOCATIONend primary service 5.511E 5.511F 5.511C
15.63 - 15.7	primary serviceAERONAUTICAL RADIONAVIGATIONend primary service primary serviceRADIOLOCATIONend primary service 5.511E 5.511F
15.7 - 16.6	primary serviceRADIOLOCATIONend primary service C42
16.6 - 17.1	primary serviceRADIOLOCATIONend primary service Space Research (deep space)(Earth-to-space)
17.1 - 17.2	primary serviceRADIOLOCATIONend primary service
17.2 - 17.3	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceRADIOLOCATIONend primary service primary serviceSPACE RESEARCHend primary service (active) 5.513A
17.3 - 17.7	primary serviceBROADCASTING-SATELLITEend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.516 C43 Radiolocation 5.515 C44
17.7 - 17.8	primary serviceBROADCASTING-SATELLITEend primary service C46 primary serviceFIXEDend primary service C45 primary serviceFIXED-SATELLITEend primary service (space-to-Earth) (Earth-to-space) 5.516 5.517 C43

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	5.515 C44
17.8 - 18.1	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) (Earth-to-space) 5.484A 5.516 C43 5.519 C16D
18.1 - 18.4	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) (Earth-to-space) 5.484A 5.516B 5.520 C43 5.519 C16D C16E
18.4 - 18.6	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.484A 5.516B C16E
18.6 - 18.8	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.516B 5.522B primary serviceSPACE RESEARCHend primary service (passive) 5.522A C16E
18.8 - 19.3	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.516B 5.523A C16E
19.3 - 19.7	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.523C 5.523D 5.523E C46A C16D
19.7 - 20.2	primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.484A 5.516B C16I primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) 5.525 5.526 5.527 5.528 5.529 C16J
20.2 - 21.2	primary serviceFIXED-SATELLITEend primary service (space-to-Earth) C49 primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) C50 Standard Frequency and Time Signal-Satellite (space-to-Earth)
21.2 - 21.4	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXEDend primary service

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	primary serviceSPACE RESEARCHend primary service (passive) Mobile
21.4 - 22	primary serviceFIXEDend primary service Mobile 5.530A 5.530C
22 - 22.21	primary serviceFIXEDend primary service Mobile except aeronautical mobile 5.149
22.21 - 22.5	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXEDend primary service primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) Mobile except aeronautical mobile 5.149 5.532
22.5 - 22.55	primary serviceFIXEDend primary service Mobile
22.55 - 23.15	primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service 5.338A primary serviceSPACE RESEARCHend primary service (Earth-to-space) 5.532A Mobile 5.149
23.15 - 23.55	primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service 5.338A Mobile
23.55 - 23.6	primary serviceFIXEDend primary service Mobile
23.6 - 24	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340
24 - 24.05	primary serviceAMATEURend primary service primary serviceAMATEUR-SATELLITEend primary service

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	5.150
24.05 - 24.25	primary serviceRADIOLOCATIONend primary service Amateur Earth Exploration-Satellite (active) 5.150
24.25 - 24.45	primary serviceFIXEDend primary service primary serviceRADIONAVIGATIONend primary service
24.45 - 24.65	primary serviceINTER-SATELLITEend primary service primary serviceRADIONAVIGATIONend primary service
24.65 - 24.75	primary serviceINTER-SATELLITEend primary service primary serviceRADIOLOCATION-SATELLITEend primary service (Earth-to-space)
24.75 - 25.05	primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.535 C44
25.05 - 25.25	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.535 C44
25.25 - 25.5	primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service 5.536 primary serviceMOBILEend primary service Earth Exploration-Satellite (space-to-Earth) Standard Frequency and Time Signal-Satellite (Earth-to-space) C47B
25.5 - 27	primary serviceEARTH EXPLORATION-SATELLITEend primary service (space-to-Earth) primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service 5.536 primary serviceMOBILEend primary service primary serviceSPACE RESEARCHend primary service (space-to-Earth) Standard Frequency and Time Signal-Satellite (Earth-to-space) 5.536A C47B
27 - 27.5	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) primary serviceINTER-SATELLITEend primary service 5.536

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	primary serviceMOBILEend primary service C47A C47B
27.5 - 28.5	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.484A 5.516B 5.539 primary serviceMOBILEend primary service 5.538 5.540 C16F C47A
28.5 - 29.1	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.484A 5.516B 5.523A 5.539 primary serviceMOBILEend primary service 5.540 C16F
29.1 - 29.5	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.516B 5.523C 5.523E 5.535A 5.539 5.541A C48 primary serviceMOBILEend primary service 5.540 C16F C16G
29.5 - 29.9	primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.484A 5.516B 5.539 C16I primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.525 5.526 5.527 5.529 5.540 C16J
29.9 - 30	primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.484A 5.516B 5.539 C16I primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) 5.525 5.526 5.527 5.538 5.540 C16J
30 - 31	primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.338A C49 primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) C50 Standard Frequency and Time Signal-Satellite (space-to-Earth)
31 - 31.3	primary serviceFIXEDend primary service 5.338A primary serviceMOBILEend primary service Space Research 5.544 Standard Frequency and Time Signal-Satellite (space-to-Earth)

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	5.149
31.3 - 31.8	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340
31.8 - 32	primary serviceFIXEDend primary service 5.547A primary serviceRADIONAVIGATIONend primary service primary serviceSPACE RESEARCHend primary service (deep space) (space-to-Earth) 5.547 5.548
32 - 32.3	primary serviceFIXEDend primary service 5.547A primary serviceRADIONAVIGATIONend primary service primary serviceSPACE RESEARCHend primary service (deep space) (space-to-Earth) 5.547 5.548
32.3 - 33	primary serviceFIXEDend primary service 5.547A primary serviceINTER-SATELLITEend primary service primary serviceRADIONAVIGATIONend primary service 5.547 5.548
33 - 33.4	primary serviceFIXEDend primary service 5.547A primary serviceRADIONAVIGATIONend primary service 5.547
33.4 - 34.2	primary serviceRADIOLOCATIONend primary service
34.2 - 34.7	primary serviceRADIOLOCATIONend primary service primary serviceSPACE RESEARCHend primary service (deep space) (Earth-to-space)
34.7 - 35.2	primary serviceRADIOLOCATIONend primary service Space Research
35.2 - 35.5	primary serviceMETEOROLOGICAL AIDSend primary service primary serviceRADIOLOCATIONend primary service
35.5 - 36	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceMETEOROLOGICAL AIDSend primary service primary serviceRADIOLOCATIONend primary service primary serviceSPACE RESEARCHend primary service (active)

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	5.549A
36 - 37	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.149 5.550A
37 - 37.5	primary serviceFIXEDend primary service primary serviceMOBILEend primary service except aeronautical mobile primary serviceSPACE RESEARCHend primary service (space-to-Earth) 5.547
37.5 - 38	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) primary serviceMOBILEend primary service except aeronautical mobile primary serviceSPACE RESEARCHend primary service (space-to-Earth) Earth Exploration-Satellite (space-to-Earth) 5.547
38 - 39.5	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) primary serviceMOBILEend primary service Earth Exploration-Satellite (space-to-Earth) 5.547 C51
39.5 - 40	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.516B C49 primary serviceMOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) C50 Earth Exploration-Satellite (space-to-Earth) 5.547 C51
40 - 40.5	primary serviceEARTH EXPLORATION-SATELLITEend primary service (Earth-to-space) primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.516B C49 primary serviceMOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) C50 primary serviceSPACE RESEARCHend primary service (Earth-to-space)

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	Earth Exploration-Satellite (space-to-Earth)
40.5 - 41	primary serviceBROADCASTINGend primary service primary serviceBROADCASTING-SATELLITEend primary service primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.516B Mobile Mobile-Satellite (space-to-Earth) 5.547
41 - 42.5	primary serviceBROADCASTINGend primary service primary serviceBROADCASTING-SATELLITEend primary service primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) 5.516B Mobile 5.547 5.551H 5.551I
42.5 - 43.5	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.552 primary serviceMOBILEend primary service except aeronautical mobile primary serviceRADIO ASTRONOMYend primary service 5.149 5.547
43.5 - 47	primary serviceMOBILEend primary service 5.553 primary serviceMOBILE-SATELLITEend primary service C50 primary serviceRADIONAVIGATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service 5.554
47 - 47.2	primary serviceAMATEURend primary service primary serviceAMATEUR-SATELLITEend primary service
47.2 - 47.5	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.552 primary serviceMOBILEend primary service 5.552A C52
47.5 - 47.9	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.552 primary serviceMOBILEend primary service

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	C52
47.9 - 48.2	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.552 primary serviceMOBILEend primary service 5.552A C52
48.2 - 50.2	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.338A 5.516B 5.552 primary serviceMOBILEend primary service 5.149 5.340 5.555
50.2 - 50.4	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceSPACE RESEARCHend primary service (passive) 5.340
50.4 - 51.4	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) 5.338A primary serviceMOBILEend primary service Mobile-Satellite (Earth-to-space)
51.4 - 52.6	primary serviceFIXEDend primary service 5.338A primary serviceMOBILEend primary service 5.547 5.556
52.6 - 54.25	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceSPACE RESEARCHend primary service (passive) 5.340 5.556
54.25 - 55.78	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceINTER-SATELLITEend primary service 5.556A primary serviceSPACE RESEARCHend primary service (passive)
55.78 - 56.9	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXEDend primary service 5.557A primary serviceINTER-SATELLITEend primary service 5.556A primary serviceMOBILEend primary service 5.558 primary serviceSPACE RESEARCHend primary service (passive) 5.547

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
56.9 - 57	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service 5.558A primary serviceMOBILEend primary service 5.558 primary serviceSPACE RESEARCHend primary service (passive) 5.547
57 - 58.2	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service 5.556A primary serviceMOBILEend primary service 5.558 primary serviceSPACE RESEARCHend primary service (passive) 5.547
58.2 - 59	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.547 5.556
59 - 59.3	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service 5.556A primary serviceMOBILEend primary service 5.558 primary serviceRADIOLOCATIONend primary service 5.559 primary serviceSPACE RESEARCHend primary service (passive)
59.3 - 64	primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service primary serviceMOBILEend primary service 5.558 primary serviceRADIOLOCATIONend primary service 5.559 5.138
64 - 65	primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service primary serviceMOBILEend primary service except aeronautical mobile 5.547 5.556
65 - 66	primary serviceEARTH EXPLORATION-SATELLITEend primary service primary serviceFIXEDend primary service

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	primary serviceINTER-SATELLITEend primary service primary serviceMOBILEend primary service except aeronautical mobile primary serviceSPACE RESEARCHend primary service 5.547
66 - 71	primary serviceINTER-SATELLITEend primary service primary serviceMOBILEend primary service 5.553 5.558 primary serviceMOBILE-SATELLITEend primary service primary serviceRADIONAVIGATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service 5.554
71 - 74	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) primary serviceMOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (space-to-Earth)
74 - 76	primary serviceBROADCASTINGend primary service primary serviceBROADCASTING-SATELLITEend primary service primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) primary serviceMOBILEend primary service Space Research (space-to-Earth) 5.561
76 - 77.5	primary serviceRADIO ASTRONOMYend primary service primary serviceRADIOLOCATIONend primary service Amateur Amateur-Satellite Space Research (space-to-Earth) 5.149
77.5 - 78	primary serviceAMATEUREnd primary service primary serviceAMATEUR-SATELLITEend primary service Radio Astronomy Space Research (space-to-Earth) 5.149
78 - 79	primary serviceRADIOLOCATIONend primary service Amateur

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	Amateur-Satellite Radio Astronomy Space Research (space-to-Earth) 5.149 5.560
79 - 81	primary serviceRADIO ASTRONOMYend primary service primary serviceRADIOLOCATIONend primary service Amateur Amateur-Satellite Space Research (space-to-Earth) 5.149
81 - 84	primary serviceFIXEDend primary service 5.338A primary serviceFIXED-SATELLITEend primary service (Earth-to-space) primary serviceMOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) primary serviceRADIO ASTRONOMYend primary service Space Research (space-to-Earth) 5.149 5.561A
84 - 86	primary serviceFIXEDend primary service 5.338A primary serviceFIXED-SATELLITEend primary service (Earth-to-space) primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service 5.149
86 - 92	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340
92 - 94	primary serviceFIXEDend primary service 5.338A primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service primary serviceRADIOLOCATIONend primary service 5.149
94 - 94.1	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) primary serviceRADIOLOCATIONend primary service primary serviceSPACE RESEARCHend primary service (active)

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	Radio Astronomy 5.562 5.562A
94.1 - 95	primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service primary serviceRADIOLOCATIONend primary service 5.149
95 - 100	primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service primary serviceRADIOLOCATIONend primary service primary serviceRADIONAVIGATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service 5.149 5.554
100 - 102	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340 5.341
102 - 105	primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service 5.149 5.341
105 - 109.5	primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.562B 5.149 5.341
109.5 - 111.8	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340 5.341
111.8 -	primary serviceFIXEDend primary service primary serviceMOBILEend primary service

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
114.25	primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.562B 5.149 5.341
114.25 - 116	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340 5.341
116 - 122.25	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceINTER-SATELLITEend primary service 5.562C primary serviceSPACE RESEARCHend primary service (passive) 5.138 5.341
122.25 - 123	primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service primary serviceMOBILEend primary service 5.558 Amateur 5.138
123 - 130	primary serviceFIXED-SATELLITEend primary service (space-to-Earth) primary serviceMOBILE-SATELLITEend primary service (space-to-Earth) primary serviceRADIONAVIGATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service Radio Astronomy 5.149 5.554
130 - 134	primary serviceEARTH EXPLORATION-SATELLITEend primary service (active) 5.562E primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service primary serviceMOBILEend primary service 5.558 primary serviceRADIO ASTRONOMYend primary service 5.149 5.562A
134 - 136	primary serviceAMATEUREnd primary service primary serviceAMATEUR-SATELLITEend primary service Radio Astronomy
136 - 141	primary serviceRADIO ASTRONOMYend primary service primary serviceRADIOLOCATIONend primary service

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	Amateur Amateur-Satellite 5.149
141 - 148.5	primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service primary serviceRADIOLOCATIONend primary service 5.149
148.5 - 151.5	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340
151.5 - 155.5	primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service primary serviceRADIOLOCATIONend primary service 5.149
155.5 - 158.5	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.562B 5.149 5.562F 5.562G
158.5 - 164	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) primary serviceMOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (space-to-Earth)
164 - 167	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340
167 - 174.5	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth)

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	primary serviceINTER-SATELLITEend primary service primary serviceMOBILEend primary service 5.558 5.149
174.5 - 174.8	primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service primary serviceMOBILEend primary service 5.558
174.8 - 182	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceINTER-SATELLITEend primary service 5.562H primary serviceSPACE RESEARCHend primary service (passive)
182 - 185	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340
185 - 190	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceINTER-SATELLITEend primary service 5.562H primary serviceSPACE RESEARCHend primary service (passive)
190 - 191.8	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceSPACE RESEARCHend primary service (passive) 5.340
191.8 - 200	primary serviceFIXEDend primary service primary serviceINTER-SATELLITEend primary service primary serviceMOBILEend primary service 5.558 primary serviceMOBILE-SATELLITEend primary service primary serviceRADIONAVIGATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service 5.149 5.341 5.554
200 - 209	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340 5.341 5.563A
209 - 217	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space)

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service 5.149 5.341
217 - 226	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.562B 5.149 5.341
226 - 231.5	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340
231.5 - 232	primary serviceFIXEDend primary service primary serviceMOBILEend primary service Radiolocation
232 - 235	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) primary serviceMOBILEend primary service Radiolocation
235 - 238	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceFIXED-SATELLITEend primary service (space-to-Earth) primary serviceSPACE RESEARCHend primary service (passive) 5.563A 5.563B
238 - 240	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (space-to-Earth) primary serviceMOBILEend primary service primary serviceRADIOLOCATIONend primary service primary serviceRADIONAVIGATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service
240 - 241	primary serviceFIXEDend primary service primary serviceMOBILEend primary service

Canadian Table of Frequency Allocations — GHz

GHz	Frequency Allocation
	primary serviceRADIOLOCATIONend primary service
241 - 248	primary serviceRADIO ASTRONOMYend primary service primary serviceRADIOLOCATIONend primary service Amateur Amateur-Satellite 5.138 5.149
248 - 250	primary serviceAMATEURend primary service primary serviceAMATEUR-SATELLITEend primary service Radio Astronomy 5.149
250 - 252	primary serviceEARTH EXPLORATION-SATELLITEend primary service (passive) primary serviceRADIO ASTRONOMYend primary service primary serviceSPACE RESEARCHend primary service (passive) 5.340 5.563A
252 - 265	primary serviceFIXEDend primary service primary serviceMOBILEend primary service primary serviceMOBILE-SATELLITEend primary service (Earth-to-space) primary serviceRADIO ASTRONOMYend primary service primary serviceRADIONAVIGATIONend primary service primary serviceRADIONAVIGATION-SATELLITEend primary service 5.149 5.554
265 - 275	primary serviceFIXEDend primary service primary serviceFIXED-SATELLITEend primary service (Earth-to-space) primary serviceMOBILEend primary service primary serviceRADIO ASTRONOMYend primary service 5.149 5.563A
275 - 3 000	(not allocated) 5.565

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International Footnotes

The Canadian Table contains international footnotes from the ITU Table of Frequency Allocations that are deemed pertinent and thus adopted in Canada. It should be noted that some of the international footnotes applicable to Canada have been suppressed in the Canadian Table in favour of a specific

Canadian footnote which incorporates, in part, the ITU provisions and responds to specific Canadian spectrum requirements. In addition, other Canadian footnotes have been developed to respond to such domestic spectrum requirements.

5.54A Use of the 8.3-11.3 kHz frequency band by stations in the meteorological aids service is limited to passive use only. In the band 9-11.3 kHz, meteorological aids stations shall not claim protection from stations of the radionavigation service submitted for notification to the Bureau prior to 1 January 2013. For sharing between stations of the meteorological aids service and stations in the radionavigation service submitted for notification after this date, the most recent version of Recommendation ITU-R RS.1881 should be applied. (WRC-12)

5.56 The stations of services to which the bands 14-19.95 kHz and 20.05-70 kHz and in Region 1 also the bands 72-84 kHz and 86-90 kHz are allocated may transmit standard frequency and time signals. Such stations shall be afforded protection from harmful interference. In Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-12)

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

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

5.61 In Region 2, the establishment and operation of stations in the maritime radionavigation service in the bands 70-90 kHz and 110-130 kHz shall be subject to agreement obtained under No. 9.21 with administrations whose services, operating in accordance with the Table, may be affected. However, stations of the fixed, maritime mobile and radiolocation services shall not cause harmful interference to stations in the maritime radionavigation service established under such agreements.

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

5.67A Stations in the amateur service using frequencies in the band 135.7-137.8 kHz shall not exceed a maximum radiated power of 1 W (e.i.r.p.) and shall not cause harmful interference to stations of the radionavigation service operating in countries listed in No. 5.67. (WRC-07)

5.73 The band 285-325 kHz (283.5-325 kHz in Region 1) in the maritime radionavigation service may be used to transmit supplementary navigational information using narrow-band techniques, on condition

that no harmful interference is caused to radiobeacon stations operating in the radionavigation service. (WRC-97)

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

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

5.79A When establishing coast stations in the NAVTEX service on the frequencies 490 kHz, 518 kHz and 4209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organization (IMO) (see Resolution 339 (Rev.WRC-07)). (WRC-07)

5.80A The maximum equivalent isotropically radiated power (e.i.r.p.) of stations in the amateur service using frequencies in the band 472-479 kHz shall not exceed 1 W. Administrations may increase this limit of e.i.r.p. to 5 W in portions of their territory which are at a distance of over 800 km from the borders of Algeria, Saudi Arabia, Azerbaijan, Bahrain, Belarus, China, Comoros, Djibouti, Egypt, United Arab Emirates, the Russian Federation, Iran (Islamic Republic of), Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Morocco, Mauritania, Oman, Uzbekistan, Qatar, Syrian Arab Republic, Kyrgyzstan, Somalia, Sudan, Tunisia, Ukraine and Yemen. In this frequency band, stations in the amateur service shall not cause harmful interference to, or claim protection from, stations of the aeronautical radionavigation service. (WRC-12)

5.82 In the maritime mobile service, the frequency 490 kHz is to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles 31 and 52. In using the frequency band 415-495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz. In using the frequency band 472-479 kHz for the amateur service, administrations shall ensure that no harmful interference is caused to the frequency 490 kHz. (WRC-12)

5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles 31 and 52. (WRC-07)

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

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

The examination of frequency assignments to stations of the fixed and mobile services in the band 1 625-1 705 kHz shall take account of the allotments appearing in the Plan established by the Regional Administrative Radio Conference (Rio de Janeiro, 1988).

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

5.105 In Region 2, except in Greenland, coast stations and ship stations using radiotelephony in the band 2 065-2 107 kHz shall be limited to class J3E emissions and to a peak envelope power not exceeding 1 kW. Preferably, the following carrier frequencies should be used: 2 065.0 kHz, 2 079.0 kHz, 2 082.5 kHz, 2 086.0 kHz, 2 093.0 kHz, 2 096.5 kHz, 2 100.0 kHz and 2 103.5 kHz. In Argentina and Uruguay, the carrier frequencies 2 068.5 kHz and 2 075.5 kHz are also used for this purpose, while the frequencies within the band 2 072-2 075.5 kHz are used as provided in No. 52.165.

5.108 The carrier frequency 2 182 kHz is an international distress and calling frequency for radiotelephony. The conditions for the use of the band 2 173.5-2 190.5 kHz are prescribed in Articles 31 and 52. (WRC-07)

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

5.110 The frequencies 2 174.5 kHz, 4 177.5 kHz, 6 268 kHz, 8 376.5 kHz, 12 520 kHz and 16 695 kHz are international distress frequencies for narrow-band direct-printing telegraphy. The conditions for the use of these frequencies are prescribed in Article 31.

5.111 The carrier frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz and the frequencies 121.5 MHz, 156.525 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles. The conditions for the use of the frequencies are prescribed in Article 31.

The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of ± 3 kHz about the frequency. (WRC-07)

5.113 For the conditions for the use of the bands 2 300-2 495 kHz (2 498 kHz in Region 1), 3 200-3 400 kHz, 4 750-4 995 kHz and 5 005-5 060 kHz by the broadcasting service, see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10.

5.115 The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Article 31, by stations of the maritime mobile service engaged in coordinated search and rescue operations. (WRC-07)

5.116 Administrations are urged to authorize the use of the band 3 155-3 195 kHz to provide a common worldwide channel for low power wireless hearing aids. Additional channels for these devices may be assigned by administrations in the bands between 3 155 kHz and 3 400 kHz to suit local needs.

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

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

5.128 Frequencies in the bands 4 063-4 123 kHz and 4 130-4 438 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W, on condition that harmful interference is not caused to the maritime mobile service. In addition, in Afghanistan, Argentina, Armenia, Azerbaijan, Belarus, Botswana, Burkina Faso, the Central African Rep., China, the Russian Federation, Georgia, India, Kazakhstan, Mali, Niger, Pakistan, Kyrgyzstan, Tajikistan, Chad, Turkmenistan and Ukraine, in the bands 4 063-4 123 kHz, 4 130-4 133 kHz and 4 408-4 438 kHz, stations in the fixed service, with a mean power not exceeding 1 kW, can be operated on condition that they are situated at least 600 km from the coast and that harmful interference is not caused to the maritime mobile service. (WRC-12)

5.130 The conditions for the use of the carrier frequencies 4 125 kHz and 6 215 kHz are prescribed in Articles 31 and 52. (WRC-07)

5.131 The frequency 4 209.5 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques. (WRC-97)

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

5.132A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed or mobile services. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution 612 (Rev.WRC-12). (WRC-12)

5.134 The use of the bands 5 900-5 950 kHz, 7 300-7 350 kHz, 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 13 570-13 600 kHz, 13 800-13 870 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz by the broadcasting service is subject to the application of the procedure of Article 12. Administrations are encouraged to use these bands to facilitate the introduction of digitally modulated emissions in accordance with the provisions of Resolution 517 (Rev.WRC-07). (WRC-07)

5.136 Additional allocation: frequencies in the band 5 900-5 950 kHz may be used by stations in the following services, communicating only within the boundary of the country in which they are located: fixed service (in all three Regions), land mobile service (in Region 1), mobile except aeronautical mobile (R) service (in Regions 2 and 3), on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)

5.138 The following bands:

6 765-6 795 kHz (centre frequency 6 780 kHz),

433.05-434.79 MHz (centre frequency 433.92 MHz) in Region 1 except in the countries mentioned in No. 5.280,

61-61.5 GHz (centre frequency 61.25 GHz),

122-123 GHz (centre frequency 122.5 GHz), and

244-246 GHz (centre frequency 245 GHz)

are designated for industrial, scientific and medical (ISM) applications. The use of these frequency bands for ISM applications shall be subject to special authorization by the administration concerned, in agreement with other administrations whose radiocommunication services might be affected. In applying this provision, administrations shall have due regard to the latest relevant ITU-R Recommendations.

5.142 The use of the band 7 200-7 300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. (WRC-12)

5.143 Additional allocation: frequencies in the band 7 300-7 350 kHz may be used by stations in the fixed service and in the land mobile service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)

5.143D In Region 2, frequencies in the band 7 350-7 400 kHz may be used by stations in the fixed service and in the land mobile service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-12)

5.145 The conditions for the use of the carrier frequencies 8 291 kHz, 12 290 kHz and 16 420 kHz are prescribed in Articles 31 and 52. (WRC-07)

5.145A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed service. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution 612 (Rev.WRC-12). (WRC-12)

5.146 Additional allocation: frequencies in the bands 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on

condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)

5.147 On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9 775-9 900 kHz, 11 650-11 700 kHz and 11 975-12 050 kHz may be used by stations in the fixed service communicating only within the boundary of the country in which they are located, each station using a total radiated power not exceeding 24 dBW.

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

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

4 825-4 835 MHz, 94.1-100 GHz,

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)

5.150 The following bands:

13 553-13 567 kHz (centre frequency 13 560 kHz),

26 957-27 283 kHz (centre frequency 27 120 kHz),

40.66-40.70 MHz (centre frequency 40.68 MHz),

902-928 MHz in Region 2 (centre frequency 915 MHz),

2 400-2 500 MHz (centre frequency 2 450 MHz),

5 725-5 875 MHz (centre frequency 5 800 MHz), and

24-24.25 GHz (centre frequency 24.125 GHz)

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

5.151 Additional allocation: frequencies in the bands 13 570-13 600 kHz and 13 800-13 870 kHz may be used by stations in the fixed service and in the mobile except aeronautical mobile (R) service, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies in these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)

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

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

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

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

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

5.200 In the band 117.975-137 MHz, the frequency 121.5 MHz is the aeronautical emergency frequency and, where required, the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz. Mobile stations of the maritime mobile service may communicate on these frequencies under the conditions laid down in Article 31 for distress and safety purposes with stations of the aeronautical mobile service. (WRC-07)

5.208 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)

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)

5.218 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)

5.222 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)

5.226 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.

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.

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)

5.228 The use of the frequency bands 156.7625-156.7875 MHz and 156.8125-156.8375 MHz by the mobile-satellite service (Earth-to-space) is limited to the reception of automatic identification system (AIS) emissions of long-range AIS broadcast messages (Message 27, see the most recent version of Recommendation ITU-R M.1371). With the exception of AIS emissions, emissions in these frequency bands by systems operating in the maritime mobile service for communications shall not exceed 1 W. (WRC-12)

5.228C The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the maritime mobile service and the mobile-satellite (Earth-to-space) service is limited to the automatic identification system (AIS). The use of these frequency bands by the aeronautical mobile (OR) service is limited to AIS emissions from search and rescue aircraft operations. The AIS operations in these frequency bands shall not constrain the development and use of the fixed and mobile services operating in the adjacent frequency bands. (WRC-12)

5.228D The frequency bands 161.9625-161.9875 MHz (AIS 1) and 162.0125-162.0375 MHz (AIS 2) may continue to be used by the fixed and mobile services on a primary basis until 1 January 2025, at which time this allocation shall no longer be valid. Administrations are encouraged to make all practicable efforts to discontinue the use of these bands by the fixed and mobile services prior to the transition date. During this transition period, the maritime mobile service in these frequency bands has priority over the fixed, land mobile and aeronautical mobile services. (WRC-12)

5.242 Additional allocation: in Canada, the band 216-220 MHz is also allocated to the land mobile service on a primary 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 except for the additional allocation made in footnote No. 5.256A. (WRC-03)

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

5.256 The frequency 243 MHz is the frequency in this band for use by survival craft stations and equipment used for survival purposes. (WRC-07)

5.258 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.

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

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

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

5.266 The use of the band 406-406.1 MHz by the mobile-satellite service is limited to low power satellite emergency position-indicating radiobeacons (see also Article 31). (WRC-07)

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

5.268 Use of the band 410-420 MHz by the space research service is limited to communications within 5 km of an orbiting, manned space vehicle. The power flux-density at the surface of the Earth produced by emissions from extra-vehicular activities shall not exceed -153 dB(W/m²) for $0^\circ \leq \delta \leq 5^\circ$, $-153 + 0.077 (\delta - 5)$ dB(W/m²) for $5^\circ \leq \delta \leq 70^\circ$ and -148 dB(W/m²) for $70^\circ \leq \delta \leq 90^\circ$, where δ is the angle of arrival of the radio-frequency wave and the reference bandwidth is 4 kHz. No. 4.10 does not apply to extra-vehicular activities. In this frequency band the space research (space-to-space) service shall not claim protection from, nor constrain the use and development of, stations of the fixed and mobile services. (WRC-97)

5.279A The use of this band by sensors in the Earth exploration-satellite service (active) shall be in accordance with Recommendation ITU-R SA.1260 1. Additionally, the Earth exploration-satellite service (active) in the band 432-438 MHz shall not cause harmful interference to the aeronautical radionavigation service in China. The provisions of this footnote in no way diminish the obligation of the Earth exploration-satellite service (active) to operate as a secondary service in accordance with Nos. 5.29 and 5.30. (WRC-03)

5.282 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.

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 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)

5.289 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.

5.293 Different category of service: in Canada, Chile, 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, 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-12)

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)

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 Resolutions 224 (Rev.WRC-12) and 749 (Rev.WRC-12), as appropriate. 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-12)

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.

5.327A The use of the frequency 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 (Rev.WRC-12). (WRC-12)

5.328 The use of the band 960-1 215 MHz by the aeronautical radionavigation service is reserved on a worldwide basis for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities. (WRC-2000)

5.328A Stations in the radionavigation-satellite service in the band 1 164-1 215 MHz shall operate in accordance with the provisions of Resolution 609 (Rev.WRC-07) and shall not claim protection from stations in the aeronautical radionavigation service in the band 960-1 215 MHz. No. 5.43A does not apply. The provisions of No. 21.18 shall apply. (WRC-07)

5.328B The use of the bands 1 164-1 300 MHz, 1 559-1 610 MHz and 5 010-5 030 MHz by systems and networks in the radionavigation-satellite service for which complete coordination or notification information, as appropriate, is received by the Radiocommunication Bureau after 1 January 2005 is subject to the application of the provisions of Nos. 9.12, 9.12A and 9.13. Resolution 610 (WRC-03) shall also apply; however, in the case of radionavigation-satellite service (space-to-space) networks and systems, Resolution 610 (WRC-03) shall only apply to transmitting space stations. In accordance with No.

5.329A, for systems and networks in the radionavigation satellite service (space-to-space) in the bands 1 215-1 300 MHz and 1 559-1 610 MHz, the provisions of Nos. 9.7, 9.12, 9.12A and 9.13 shall only apply with respect to other systems and networks in the radionavigation-satellite service (space-to-space).(WRC-07)

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

5.329A Use of systems in the radionavigation-satellite service (space-to-space) operating in the bands 1 215-1 300 MHz and 1 559-1 610 MHz is not intended to provide safety service applications, and shall not impose any additional constraints on radionavigation-satellite service (space-to-Earth) systems or on other services operating in accordance with the Table. (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, Pakistan, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sudan, South 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-12)

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.

5.337A The use of the band 1 300-1 350 MHz by earth stations in the radionavigation-satellite service and by stations in the radiolocation service shall not cause harmful interference to, nor constrain the operation and development of, the aeronautical-radionavigation service. (WRC-2000)

5.338A 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, 51.4-52.6 GHz, 81-86 GHz and 92-94 GHz, Resolution 750 (Rev.WRC-12) applies. (WRC-12)

5.339 The bands 1 370-1 400 MHz, 2 640-2 655 MHz, 4 950-4 990 MHz and 15.20-15.35 GHz are also allocated to the space research (passive) and earth exploration-satellite (passive) services on a secondary basis.

5.340 All emissions are prohibited in the following bands:

1 400-1 427 MHz,

2 690-2 700 MHz, except those provided for by No. 5.422,

10.68-10.7 GHz, except those provided for by No. 5.483,

15.35-15.4 GHz, except those provided for by No. 5.511,

23.6-24 GHz,

31.3-31.5 GHz,

31.5-31.8 GHz, in Region 2,

48.94-49.04 GHz, from airborne stations,

50.2-50.4 GHzFootnote 1,

52.6-54.25 GHz,

86-92 GHz,
100-102 GHz,
109.5-111.8 GHz,
114.25-116 GHz,
148.5-151.5 GHz,
164-167 GHz,
182-185 GHz,
190-191.8 GHz,
200-209 GHz,
226-231.5 GHz,
250-252 GHz. (WRC-03)

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

5.343 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.

5.345 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).

5.351 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, 1 610-1 645.5 MHz, 1 646.5-1 660.5 MHz, 1 668-1 675 MHz, 1 980-2 010 MHz, 2 170-2 200 MHz, 2 483.5-2 520 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.

5.357A In applying the procedures of Section II of Article 9 to the mobile-satellite service in the frequency 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 pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution 222 (Rev.WRC-12) shall apply.) (WRC-12)

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.

5.365 The use of the band 1 613.8-1 626.5 MHz by the mobile-satellite service (space-to-Earth) is subject to coordination under No. 9.11A.

5.366 The band 1 610-1 626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under No. 9.21.

5.367 Additional allocation: The frequency band 1 610-1 626.5 MHz is also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-12)

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.

5.372 Harmful interference shall not be caused to stations of the radio astronomy service using the band 1 610.6-1 613.8 MHz by stations of the radiodetermination-satellite and mobile-satellite services (No. 29.13 applies).

5.374 Mobile earth stations in the mobile-satellite service operating in the bands 1 631.5-1 634.5 MHz and 1 656.5-1 660 MHz shall not cause harmful interference to 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)

5.379A 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.

5.379D For sharing of the band 1 668.4-1 675 MHz between the mobile-satellite service and the fixed and mobile services, Resolution 744 (Rev.WRC-07) shall apply. (WRC-07)

5.379E In the band 1 668.4-1 675 MHz, stations in the mobile-satellite service shall not cause harmful interference to stations in the meteorological aids service in China, Iran (Islamic Republic of), Japan and Uzbekistan. In the band 1 668.4-1 675 MHz, administrations are urged not to implement new systems in the meteorological aids service and are encouraged to migrate existing meteorological aids service operations to other bands as soon as practicable. (WRC-03)

5.384A The bands, or portions of the bands, 1 710-1 885 MHz, 2 300-2 400 MHz and 2 500-2 690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev. WRC-07). This identification does

not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-07)

5.385 Additional allocation: the band 1 718.8-1 722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. (WRC-2000)

5.386 Additional allocation: the band 1 750-1 850 MHz is also allocated to the space operation (Earth-to-space) and space research (Earth-to-space) services in Region 2, in Australia, Guam, India, Indonesia and Japan on a primary basis, subject to agreement obtained under No. 9.21, having particular regard to troposcatter systems. (WRC-03)

5.388 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 (IMT). 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 in accordance with Resolution 212 (Rev.WRC-07). (See also Resolution 223 (Rev.WRC-07)). (WRC-12)

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 (IMT), in accordance with Resolution 221 (Rev.WRC-07). Their use by IMT applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-12)

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 (Rev.WRC-2000). (WRC-07)

5.389E The use of the bands 2 010-2 025 MHz and 2 160-2 170 MHz by the mobile-satellite service in Region 2 shall not cause harmful interference to or constrain the development of the fixed and mobile services in Regions 1 and 3.

5.391 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.

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

5.402 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.

5.416 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)

5.423 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. (WRC-03)

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

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

5.427 In the bands 2 900-3 100 MHz and 9 300-9 500 MHz, the response from radar transponders shall not be capable of being confused with the response from radar beacons (racons) and shall not cause interference to ship or aeronautical radars in the radionavigation service, having regard, however, to No. 4.9.

5.433 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).

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 this band by other mobile service applications or by other services to which this band is allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)

5.441 The use of the bands 4 500-4 800 MHz (space-to-Earth), 6 725-7 025 MHz (Earth-to-space) by the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-

geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite 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).

5.443AA In the frequency bands 5 000-5 030 MHz and 5 091-5 150 MHz, the aeronautical mobile-satellite (R) service is subject to agreement obtained under No. 9.21. The use of these bands by the aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems. (WRC-12)

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/m²) 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 (Rev.WRC-12). (WRC-12)

5.443C The use of the frequency band 5 030-5 091 MHz by the aeronautical mobile (R) service is limited to internationally standardized aeronautical systems. Unwanted emissions from the aeronautical mobile (R) service in the frequency band 5 030-5 091 MHz shall be limited to protect RNSS system downlinks in the adjacent 5 010-5 030 MHz band. Until such time that an appropriate value is established in a relevant ITU-R Recommendation, the e.i.r.p. density limit of -75 dBW/MHz in the frequency band 5 010-5 030 MHz for any AM(R)S station unwanted emission should be used. (WRC-12)

5.443D In the frequency band 5 030-5 091 MHz, the aeronautical mobile-satellite (R) service is subject to coordination under No. 9.11A. The use of this frequency band by the aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems. (WRC-12)

5.444 The frequency 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 frequency band 5 030-5 091 MHz, the requirements of this system shall have priority over other uses of this band. For the use of the band 5 091-5 150 MHz, No. 5.444A and Resolution 114 (Rev.WRC-12) apply. (WRC-12)

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

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

- prior to 1 January 2018, the use of the band 5 091-5 150 MHz by feeder links of non-geostationary-satellite systems in the mobile-satellite service shall be made in accordance with Resolution 114 (Rev.WRC-03);
- after 1 January 2016, no new assignments shall be made to earth stations providing feeder links of non-geostationary mobile-satellite systems;
- after 1 January 2018, the fixed-satellite service will become secondary to the aeronautical radionavigation service. (WRC-07)

5.444B The use of the frequency 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 (Rev.WRC-12);
- aeronautical telemetry transmissions from aircraft stations (see No. 1.83) in accordance with Resolution 418 (Rev.WRC-12). (WRC-12)

5.446 Additional allocation: in the countries listed in Nos. 5.369, 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 Bangladesh, 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. (WRC-12)

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 (Rev.WRC-12). (WRC-12)

5.446B In the band 5 150-5 250 MHz, stations in the mobile service shall not claim protection from earth stations in the fixed-satellite service. No. 5.43A does not apply to the mobile service with respect to FSS earth stations. (WRC-03)

5.447A The allocation to the fixed-satellite service (Earth-to-space) in the band 5 150-5 250 MHz is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to coordination under No. 9.11A. (WRC-12)

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 The allocation of the band 5 250-5 255 MHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)

5.447F In the band 5 250-5 350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth exploration-satellite service (active) and the space research service (active). These services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendations ITU-R M.1638 and ITU-R SA.1632. (WRC-03)

5.448A The Earth exploration-satellite (active) and space research (active) services in the frequency band 5 250-5 350 MHz shall not claim protection from the radiolocation service. No. 5.43A does not apply. (WRC-03)

5.448B The Earth exploration-satellite service (active) operating in the band 5 350-5 570 MHz and space research service (active) operating in the band 5 460-5 570 MHz shall not cause harmful interference to the aeronautical radionavigation service in the band 5 350-5 460 MHz, the radionavigation service in the band 5 460-5 470 MHz and the maritime radionavigation service in the band 5 470-5 570 MHz. (WRC-03)

5.448C The space research service (active) operating in the band 5 350-5 460 MHz shall not cause harmful interference to nor claim protection from other services to which this band is allocated. (WRC-03)

5.448D In the frequency band 5 350-5 470 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the aeronautical radionavigation service operating in accordance with No. 5.449. (WRC-03)

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

5.450A In the band 5 470-5 725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. Radiodetermination services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITU-R M.1638. (WRC-03)

5.450B In the frequency band 5 470-5 650 MHz, stations in the radiolocation service, except ground-based radars used for meteorological purposes in the band 5 600-5 650 MHz, shall not cause harmful interference to, nor claim protection from, radar systems in the maritime radionavigation service. (WRC-03)

5.452 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.

5.457A In the bands 5 925-6 425 MHz and 14-14.5 GHz, earth stations located on board vessels may communicate with space stations of the fixed-satellite service. Such use shall be in accordance with Resolution 902 (WRC-03). (WRC-03)

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. (WRC-03)

5.461 Additional allocation: the bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space) are also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. 9.21.

5.461A The use of the band 7 450-7 550 MHz by the meteorological-satellite service (space-to-Earth) is limited to geostationary-satellite systems. Non-geostationary meteorological-satellite systems in this band notified before 30 November 1997 may continue to operate on a primary basis until the end of their lifetime. (WRC-97)

5.461B The use of the band 7 750-7 900 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems. (WRC-12)

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)

5.478A 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.

5.482 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 13 dBW. This limit may be exceeded, subject to agreement obtained under No. 9.21. However, in Algeria, Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Egypt, United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Jordan, Libyan Arab Jamahiriya, Kazakhstan, Kuwait, Lebanon, Morocco, Mauritania, Moldova, Nigeria, Oman, Uzbekistan, Pakistan, Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, Singapore, Tajikistan, Tunisia, Turkmenistan and Viet Nam, this restriction on the fixed and mobile, except aeronautical mobile, 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)

5.484A 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.

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

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

5.490 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)

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

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

- $-115 \text{ dB(W/(m}^2 \cdot 10 \text{ MHz))}$ for more than 1% of the time produced at 36 m above sea level at the low water mark, as officially recognized by the coastal state;

- $-115 \text{ dB(W/(m}^2 \cdot 10 \text{ MHz))}$ for more than 1% of the time produced 3 m above ground at the border of the territory of an administration deploying or planning to deploy land mobile radars in this band, unless prior agreement has been obtained.

For earth stations within the fixed-satellite service having an antenna diameter greater than or equal to 4.5 m, the e.i.r.p. of any emission should be at least 68 dBW and should not exceed 85 dBW. (WRC-07)

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

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

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

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

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

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

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

5.511A The band 15.43-15.63 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. Use of the band 15.43-15.63 GHz by the fixed-satellite service (space-to-Earth and Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under No. 9.11A. The use of the frequency band 15.43-15.63 GHz by the fixed-satellite service (space-to-Earth) is limited to feeder links of non-geostationary systems in the mobile-satellite service for which advance publication information has been received by the Bureau prior to 2 June 2000. In the space-to-Earth direction, the minimum earth station elevation angle above and gain towards the local horizontal plane and the minimum coordination distances to protect an earth station from harmful interference shall be in accordance with Recommendation ITU-R S.1341. In order to protect the radio astronomy service in the band 15.35-15.4 GHz, the aggregate power flux-density radiated in the 15.35-

15.4 GHz band by all the space stations within any feeder-link of a non-geostationary system in the mobile-satellite service (space-to-Earth) operating in the 15.43-15.63 GHz band shall not exceed the level of -156 dB(W/m²) in a 50 MHz bandwidth, into any radio astronomy observatory site for more than 2% of the time. (WRC-2000)

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

5.511E In the frequency band 15.4-15.7 GHz, stations operating in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the aeronautical radionavigation service. (WRC-12)

5.511F In order to protect the radio astronomy service in the frequency band 15.35-15.4 GHz, radiolocation stations operating in the frequency band 15.4-15.7 GHz shall not exceed the power flux-density level of -156 dB(W/m²) in a 50 MHz bandwidth in the frequency band 15.35-15.4 GHz, at any radio astronomy observatory site for more than 2 per cent of the time. (WRC-12)

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)

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

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

5.516B The following bands are identified for use by high-density applications in the fixed-satellite service (HDFSS):

17.3-17.7 GHz (space-to-Earth) in Region 1,
18.3-19.3 GHz (space-to-Earth) in Region 2,
19.7-20.2 GHz (space-to-Earth) in all Regions,
39.5-40 GHz (space-to-Earth) in Region 1,
40-40.5 GHz (space-to-Earth) in all Regions,
40.5-42 GHz (space-to-Earth) in Region 2,
47.5-47.9 GHz (space-to-Earth) in Region 1,
48.2-48.54 GHz (space-to-Earth) in Region 1,
49.44-50.2 GHz (space-to-Earth) in Region 1
and

27.5-27.82 GHz (Earth-to-space) in Region 1,
28.35-28.45 GHz (Earth-to-space) in Region 2,
28.45-28.94 GHz (Earth-to-space) in all Regions,
28.94-29.1 GHz (Earth-to-space) in Region 2 and 3,
29.25-29.46 GHz (Earth-to-space) in Region 2,
29.46-30 GHz (Earth-to-space) in all Regions,
48.2-50.2 GHz (Earth-to-space) in Region 2.

This identification does not preclude the use of these bands by other fixed-satellite service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in these Regulations among users of the bands. Administrations should take this into account when considering regulatory provisions in relation to these bands. See Resolution 143 (WRC-03). (WRC-03)

5.517 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)

5.519 Additional allocation: the bands 18-18.3 GHz in Region 2 and 18.1-18.4 GHz in Regions 1 and 3 are also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Their use is limited to geostationary satellites. (WRC-07)

5.520 The use of the band 18.1-18.4 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links of geostationary-satellite systems in the broadcasting-satellite service. (WRC-2000)

5.522A The emissions of the fixed service and the fixed-satellite service in the band 18.6-18.8 GHz are limited to the values given in Nos. 21.5A and 21.16.2, respectively. (WRC-2000)

5.522B The use of the band 18.6-18.8 GHz by the fixed-satellite service is limited to geostationary systems and systems with an orbit of apogee greater than 20 000 km. (WRC-2000)

5.523A The use of the bands 18.8-19.3 GHz (space-to-Earth) and 28.6-29.1 GHz (Earth-to-space) by geostationary and non-geostationary fixed-satellite service networks is subject to the application of the provisions of No. 9.11A and No. 22.2 does not apply. Administrations having geostationary-satellite networks under coordination prior to 18 November 1995 shall cooperate to the maximum extent possible to coordinate pursuant to No. 9.11A with non-geostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view to reaching results acceptable to all the parties concerned. Non-geostationary-satellite networks shall not cause unacceptable interference to geostationary fixed-satellite service networks for which complete Appendix 4 notification information is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

5.523C No. 22.2 of the Radio Regulations shall continue to apply in the bands 19.3-19.6 GHz and 29.1-29.4 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

5.523D The use of the band 19.3-19.7 GHz (space-to-Earth) by geostationary fixed-satellite service systems and by feeder links for non-geostationary-satellite systems in the mobile-satellite service is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2. The use of this band for other non-geostationary fixed-satellite service systems, or for the cases indicated in Nos. 5.523C and 5.523E, is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. 22.2. (WRC-97)

5.523E No. 22.2 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)

5.525 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.

5.530A Unless otherwise agreed between the administrations concerned, any station in the fixed or mobile services of an administration shall not produce a power flux-density in excess of $-120.4 \text{ dB(W/(m}^2 \cdot \text{MHz))}$ at 3 m above the ground of any point of the territory of any other administration in Regions 1 and 3 for more than 20% of the time. In conducting the calculations, administrations should use the most recent version of Recommendation ITU-R P.452 (see Recommendation ITU-R BO.1898). (WRC-12)

5.530C The use of the band 21.4-22 GHz is subject to the provisions of Resolution 755 (WRC-12). (WRC-12)

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.

5.532A The location of earth stations in the space research service shall maintain a separation distance of at least 54 km from the respective border(s) of neighbouring countries to protect the existing and future deployment of fixed and mobile services unless a shorter distance is otherwise agreed between the corresponding administrations. Nos. 9.17 and 9.18 do not apply. (WRC-12)

5.535 In the band 24.75-25.25 GHz, feeder links to stations of the broadcasting-satellite service shall have priority over other uses in the fixed-satellite service (Earth-to-space). Such other uses shall protect and shall not claim protection from existing and future operating feeder-link networks to such broadcasting satellite stations.

5.535A The use of the band 29.1-29.5 GHz (Earth-to-space) by the fixed-satellite service is limited to geostationary-satellite systems and feeder links to non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2, except as indicated in Nos. 5.523C and 5.523E where such use is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. 22.2. (WRC-97)

5.536 Use of the 25.25-27.5 GHz band by the inter-satellite service is limited to space research and Earth exploration-satellite applications, and also transmissions of data originating from industrial and medical activities in space.

5.536A Administrations operating earth stations in the Earth exploration-satellite service or the space research service shall not claim protection from stations in the fixed and mobile services operated by other administrations. In addition, earth stations in the Earth exploration-satellite service or in the space research service should be operated taking into account the most recent version of Recommendation ITU-R SA.1862. (WRC-12)

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.

5.541A Feeder links of non-geostationary networks in the mobile-satellite service and geostationary networks in the fixed-satellite service operating in the band 29.1-29.5 GHz (Earth-to-space) shall employ uplink adaptive power control or other methods of fade compensation, such that the earth station transmissions shall be conducted at the power level required to meet the desired link performance while reducing the level of mutual interference between both networks. These methods shall apply to networks for which Appendix 4 coordination information is considered as having been received by the Bureau after 17 May 1996 and until they are changed by a future competent world radiocommunication conference. Administrations submitting Appendix 4 information for coordination before this date are encouraged to utilize these techniques to the extent practicable. (WRC-2000)

5.544 In the band 31-31.3 GHz the power flux-density limits specified in Article 21, Table 21-4 shall apply to the space research service.

5.547 The bands 31.8-33.4 GHz, 37-40 GHz, 40.5-43.5 GHz, 51.4-52.6 GHz, 55.78-59 GHz and 64-66 GHz are available for high-density applications in the fixed service (see Resolution 75 (WRC-2000)).

Administrations should take this into account when considering regulatory provisions in relation to these bands. Because of the potential deployment of high-density applications in the fixed-satellite service in the bands 39.5-40 GHz and 40.5-42 GHz (see No. 5.516B), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate. (WRC-07)

5.547A Administrations should take practical measures to minimize the potential interference between stations in the fixed service and airborne stations in the radionavigation service in the 31.8-33.4 GHz band, taking into account the operational needs of the airborne radar systems. (WRC-2000)

5.548 In designing systems for the inter-satellite service in the band 32.3-33 GHz, for the radionavigation service in the band 32-33 GHz, and for the space research service (deep space) in the band 31.8-32.3 GHz, administrations shall take all necessary measures to prevent harmful interference between these services, bearing in mind the safety aspects of the radionavigation service (see Recommendation 707). (WRC-03)

5.549A In the band 35.5-36.0 GHz, the mean power flux-density at the Earth's surface, generated by any spaceborne sensor in the Earth exploration-satellite service (active) or space research service (active), for any angle greater than 0.8° from the beam centre shall not exceed -73.3 dB(W/m²) in this band. (WRC-03)

5.550A For sharing of the band 36-37 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile services, Resolution 752 (WRC-07) shall apply. (WRC-07)

5.551H The equivalent power flux-density (epfd) produced in the band 42.5-43.5 GHz by all space stations in any non-geostationary-satellite system in the fixed-satellite service (space-to-Earth), or in the broadcasting-satellite service 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 ITU-R S.1586-1 and the reference antenna pattern and the maximum gain of an antenna in the radio astronomy service given in Recommendation ITU-R RA.1631 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle θ_{\min} of the radiotelescope (for which a default value of 5° should be adopted in the absence of notified information).

These values shall apply at any radio astronomy station that either:

- was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or
- was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply.

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution 743 (WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-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 operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station:

- 137 dB(W/m²) in 1 GHz and –153 dB(W/m²) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and
- 116 dB(W/m²) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.

These values shall apply at the site of any radio astronomy station that either:

- was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or
- was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply.

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

5.552 The allocation of the spectrum for the fixed-satellite service in the bands 42.5-43.5 GHz and 47.2-50.2 GHz for Earth-to-space transmission is greater than that in the band 37.5-39.5 GHz for space-to-Earth transmission in order to accommodate feeder links to broadcasting satellites. Administrations are urged to take all practicable steps to reserve the band 47.2-49.2 GHz for feeder links for the broadcasting-satellite service operating in the band 40.5-42.5 GHz.

5.552A The allocation to the fixed service in the bands 47.2-47.5 GHz and 47.9-48.2 GHz is designated for use by high altitude platform stations. The use of the bands 47.2-47.5 GHz and 47.9-48.2 GHz is subject to the provisions of Resolution 122 (Rev.WRC-07). (WRC-07)

5.553 In the bands 43.5-47 GHz and 66-71 GHz, stations in the land mobile service may be operated subject to not causing harmful interference to the space radiocommunication services to which these bands are allocated (see No. 5.43). (WRC-2000)

5.554 In the bands 43.5-47 GHz, 66-71 GHz, 95-100 GHz, 123-130 GHz, 191.8-200 GHz and 252-265 GHz, satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service. (WRC-2000)

5.555 Additional allocation: the band 48.94-49.04 GHz is also allocated to the radio astronomy service on a primary basis. (WRC-2000)

5.556 In the bands 51.4-54.25 GHz, 58.2-59 GHz and 64-65 GHz, radio astronomy observations may be carried out under national arrangements. (WRC-2000)

5.556A Use of the bands 54.25-56.9 GHz, 57-58.2 GHz and 59-59.3 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, shall not exceed $-147 \text{ dB (W/m}^2 \cdot 100 \text{ MHz)}$ for all angles of arrival. (WRC-97)

5.557A In the band 55.78-56.26 GHz, in order to protect stations in the Earth exploration-satellite service (passive), the maximum power density delivered by a transmitter to the antenna of a fixed service station is limited to -26 dB(W/MHz) . (WRC-2000)

5.558 In the bands 55.78-58.2 GHz, 59-64 GHz, 66-71 GHz, 122.25-123 GHz, 130-134 GHz, 167-174.8 GHz and 191.8-200 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 5.43). (WRC-2000)

5.558A Use of the band 56.9-57 GHz by inter-satellite systems is limited to links between satellites in geostationary-satellite orbit and to transmissions from non-geostationary satellites in high-Earth orbit to those in low-Earth orbit. For links between satellites in the geostationary-satellite orbit, the single entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface, for all conditions and for all methods of modulation, shall not exceed $-147 \text{ dB (W/m}^2 \cdot 100 \text{ MHz)}$ for all angles of arrival. (WRC-97)

5.559 In the band 59-64 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 5.43). (WRC-2000)

5.560 In the band 78-79 GHz radars located on space stations may be operated on a primary basis in the Earth exploration-satellite service and in the space research service.

5.561 In the band 74-76 GHz, stations in the fixed, mobile and broadcasting services shall not cause harmful interference to stations of the fixed-satellite service or stations of the broadcasting-satellite service operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting-satellite service. (WRC-2000)

5.561A The 81-81.5 GHz band is also allocated to the amateur and amateur-satellite services on a secondary basis. (WRC-2000)

5.562 The use of the band 94-94.1 GHz by the Earth exploration-satellite (active) and space research (active) services is limited to spaceborne cloud radars. (WRC-97)

5.562A In the bands 94-94.1 GHz and 130-134 GHz, transmissions from space stations of the Earth exploration-satellite service (active) that are directed into the main beam of a radio astronomy antenna have the potential to damage some radio astronomy receivers. Space agencies operating the transmitters and the radio astronomy stations concerned should mutually plan their operations so as to avoid such occurrences to the maximum extent possible. (WRC-2000)

5.562B In the bands 105-109.5 GHz, 111.8-114.25 GHz, 155.5-158.5 GHz and 217-226 GHz, the use of this allocation is limited to space-based radio astronomy only. (WRC-2000)

5.562C Use of the band 116-122.25 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 km to 1 000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed $-148 \text{ dB(W/(m}^2 \cdot \text{MHz))}$ for all angles of arrival. (WRC-2000)

5.562E The allocation to the Earth exploration-satellite service (active) is limited to the band 133.5-134 GHz. (WRC-2000)

5.562F In the band 155.5-158.5 GHz, the allocation to the Earth exploration-satellite (passive) and space research (passive) services shall terminate on 1 January 2018. (WRC-2000)

5.562G The date of entry into force of the allocation to the fixed and mobile services in the band 155.5-158.5 GHz shall be 1 January 2018. (WRC-2000)

5.562H Use of the bands 174.8-182 GHz and 185-190 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 to 1 000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed $-144 \text{ dB(W/(m}^2 \cdot \text{MHz))}$ for all angles of arrival. (WRC-2000)

5.563A In the bands 200-209 GHz, 235-238 GHz, 250-252 GHz and 265-275 GHz, ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents. (WRC-2000)

5.563B The band 237.9-238 GHz is also allocated to the Earth exploration-satellite service (active) and the space research service (active) for spaceborne cloud radars only. (WRC-2000)

5.565 The following frequency bands in the range 275-1 000 GHz are identified for use by administrations for passive service applications:

- radio astronomy service: 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz and 926-945 GHz;

- Earth exploration-satellite service (passive) and space research service (passive): 275-286 GHz, 296-306 GHz, 313-356 GHz, 361-365 GHz, 369-392 GHz, 397-399 GHz, 409-411 GHz, 416-434 GHz, 439-467 GHz, 477-502 GHz, 523-527 GHz, 538-581 GHz, 611-630 GHz, 634-654 GHz, 657-692 GHz, 713-718 GHz, 729-733 GHz, 750-754 GHz, 771-776 GHz, 823-846 GHz, 850-854 GHz, 857-862 GHz, 866-882 GHz, 905-928 GHz, 951-956 GHz, 968-973 GHz and 985-990 GHz.

The use of the range 275-1 000 GHz by the passive services does not preclude use of this range by active services. Administrations wishing to make frequencies in the 275-1 000 GHz range available for active service applications are urged to take all practicable steps to protect these passive services from harmful interference until the date when the Table of Frequency Allocations is established in the above-mentioned 275-1 000 GHz frequency range.

All frequencies in the range 1 000-3 000 GHz may be used by both active and passive services. (WRC-12)

Footnotes

Footnote 1

The allocation to the Earth exploration-satellite service (passive) and the space research service (passive) in the band 50.2-50.4 GHz should not impose undue constraints on the use of the adjacent bands by the primary allocated services in those bands. (WRC 97)

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Canadian Footnotes

The complete set of Canadian footnotes to the Canadian Table of Frequency Allocations is listed hereafter. New footnotes and any modification or suppression of footnotes are identified by the indicator (CAN-[year]).

C1 (CAN-14) Users of frequencies below 8.3 kHz shall ensure that no harmful interference is caused to the services to which the bands above 8.3 kHz are allocated.

C2 (CAN-14) Scientific researchers using frequencies below 8.3 kHz are urged to advise the Department in order that such research may be afforded all practicable protection from harmful interference.

C3 Additional allocation: In the band 2065-2107 kHz, the fixed service is also allocated on a primary basis provided that no harmful interference is caused to the maritime mobile service, stations of the fixed service communicate only within Canada's national borders, and they employ a mean power not exceeding 50 watts.

C4 Additional allocation: In the bands 6 200-6 213.5 kHz and 6 220.5-6 525 kHz, the fixed service is allocated on a primary basis and can be used on an exceptional basis provided that no harmful interference is caused to the maritime mobile service, stations of the fixed service communicate only within Canada's national borders, and they employ a mean power not exceeding 50 watts.

C5 For the exclusive use of the Government of Canada.

C5A The use of the radiolocation service is limited to Government of Canada shipborne radar operations. These operations are not permitted on inland waters of Canada.

C6 The use of the band 10 100-10 150 kHz by the amateur service in Canada is not in accordance with the international frequency allocations. Canadian amateur operations shall not cause interference to fixed service operations of other administrations and if such interference should occur, the amateur service may be required to cease operations. The amateur service in Canada may not claim protection from interference by the fixed service operations of other administrations.

C7 (CAN-12) International Footnote 5.317A provides administrations with the flexibility to implement International Mobile Telecommunications (IMT) in the parts of the band 698-960 MHz that are allocated to the mobile service on a primary basis. The application of 5.317A is limited to the bands designated for cellular mobile radio systems, cellular mobile telephony and trunked mobile systems. The bands 698-758 MHz and 776-788 MHz, 824-849 MHz and 869-894 MHz are designated for cellular mobile radio systems, cellular telephony services and the bands 806-821 MHz, 851-866 MHz, 896-902 MHz and 935-941 MHz are designated for trunked mobile services and, as such, can evolve to accommodate IMT service capabilities.

C8 (CAN-14) SUP

C9 In the bands 5 900-5 950 kHz, 7 300-7 350 kHz, 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 13 570-13 600 kHz, 13 800-13 870 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz, existing services may continue to operate after 1 April 2007 communicating only within national borders, provided that harmful interference is not caused to existing or planned broadcasting services.

C10 Additional allocation: In the band 420-430 MHz, the radiolocation service is also allocated on a secondary basis. The Department may authorize this use of the radiolocation service in coastal and off-shore regions of Canada where such radiolocation operations cannot be fully accommodated in the band 430-450 MHz.

C11 (CAN-09) In the band 219-220 MHz, the amateur service is permitted on a secondary basis. In the band 220-222 MHz, the amateur service may be permitted in exceptional circumstances on a secondary basis to assist in disaster relief efforts.

C12 (CAN-03) The band 2 360-2 400 MHz is designated for Aeronautical Mobile TelemetryFootnote *** (AMT) applications. The Government of Canada has priority on the use of this band. Access to spectrum by other entities for AMT may be permitted subject to coordination with the Government of Canada systems.

C13 (CAN-03) The bands 2 305-2 320 MHz and 2 345-2 360 MHz are designated for Wireless Communication Service (WCS) applications under the fixed and mobile service allocations. Use of these bands is subject to domestic spectrum utilization policy.

C13A (CAN-09) Additional allocation: The band 2 320-2 345 MHz is also designated to the broadcasting-satellite service (sound) and complementary terrestrial broadcasting service on a primary basis. Spectrum utilization policies provide the inter-service relationship with respect to broadcasting service operation.

C14 In the band 2 850-2 900 MHz, operations of the maritime radionavigation service are limited to shore based radars.

C15 (CAN-03) In the band 3 450-3 500 MHz, in certain locations in Canada the radiolocation service has priority over the fixed service. The Department will identify through spectrum policy the general area of radiolocation system operation.

C16 In the band 10.7-10.95 GHz, users of the fixed-satellite service are urged, in their planning of operations, to give all practicable protection to the passive operations in the adjacent band 10.6-10.7 GHz.

C16A (CAN-04) In the band 4500-4800 MHz the use of the fixed and mobile services by the Government of Canada in the vicinity of major military bases has priority over the use of the fixed-satellite service. The use of the fixed-satellite service in this band shall be limited to applications that pose minimal constraints on the deployment of fixed and mobile service systems by the Government of Canada in the vicinity of major military bases.

C16B (CAN-14) SUP

C16C (CAN-00) The use of the bands 10.7-10.95 GHz in the space-to-Earth direction and 13.0-13.15 GHz and 13.2-13.25 GHz in the Earth-to-space direction by the fixed-satellite service, includes feeder links for mobile-satellite space stations.

C16D (CAN-05) In the bands 17.8-18.3 GHz and 19.3-19.7 GHz the use of spectrum for the fixed service has priority over the use of the fixed-satellite service. Use of the spectrum for fixed-satellite service shall be limited to applications that pose minimal constraints on the deployment of fixed services. Earth stations that comply with these requirements will be coordinated and may be granted radio authorization on a case-by-case basis.

C16E (CAN-04) In the band 18.3-19.3 GHz use of the fixed-satellite service has priority over use of the fixed service. Use of the fixed service in this band shall be limited to applications that pose minimal constraints on the deployment of fixed-satellite services. Domestic implementation of fixed-satellite services in the band 18.8-19.3 GHz will be governed by spectrum utilization policies to be developed. These policies will take regional developments into consideration in the designation and authorization of spectrum for particular systems and technologies.

C16F (CAN-04) In the bands 28.35-29.1 GHz and 29.25-29.5 GHz use of the fixed-satellite service has priority over use of the fixed service. Use of the fixed service in this band shall be limited to applications that pose minimal constraints on the deployment of fixed-satellite services. Domestic implementation of fixed-satellite services in the band 28.6-29.1 GHz will be governed by spectrum utilization policies to be developed. These policies will take regional developments into consideration in the designation and authorization of spectrum for particular systems and technologies.

C16G (CAN-04) In the band 29.1-29.25 GHz use of the fixed service has priority over use of the fixed-satellite service. Use of the fixed-satellite service in this band shall be limited to applications that pose minimal constraints on the deployment of fixed services. An example of such an application would be the use of a small number of large aperture earth stations, taking into account existing and potential service areas for ubiquitous deployment of fixed service systems.

C16H (CAN-14) The bands 11.075-11.2 GHz and 11.575-11.7 GHz are available to provide Direct-to-Home satellite broadcasting services in Canada until January 1, 2028. Industry Canada will not license new fixed service systems in these bands until January 1, 2026. See Canada Gazette notice DGTP-013-09 for complete details of the spectrum policy decision.

C16I (CAN-14) Geostationary orbit networks principally providing domestic fixed-satellite services utilizing the conventional bands 11.45-12.2 GHz and 19.7-20.2 GHz in the space-to-Earth direction are paired respectively with the bands 13.75-14.50 GHz and 29.5-30.0 GHz in the Earth-to-space direction.

C16J (CAN-14) Domestic implementation of non-geostationary fixed-satellite services in the bands 11.45-12.2 GHz, 13.75-14.5 GHz, 19.7-20.2 GHz and 29.5-30.0 GHz will be required to conform to the applicable ITU Radio Regulations and operating criteria for sharing between services and systems in these bands.

C17 (CAN-03) In the band 2 300-2 360 MHz, mobile aeronautical telemetry services may be authorized on a secondary basis on certain military bases and vicinities where it does not constrain the implementation of wireless communication services and other services.

C18 (CAN-03) The band 3 450-3 650 MHz is designated for fixed wireless access applications under the fixed service allocation.

C19 Additional allocation: In the band 399.9-400.05 MHz, the fixed and mobile services are allocated on a secondary basis and their use is limited to low-power operations.

C20 (CAN-03) In the band 3 500-3 650 MHz, the fixed-satellite earth-stations will be located in areas so as not to constrain the implementation of fixed wireless access systems.

C21 (CAN-14) Amateur service operators may transmit on the following five centre frequencies: 5332 kHz, 5348 kHz, 5358.5 kHz, 5373 kHz, and 5405 kHz. Amateur stations are allowed to operate with a maximum effective radiated power of 100 W PEP and are restricted to the following emission modes and designators: telephony (2K80J3E), data (2K80J2D), RTTY (60H0J2B) and CW (150HA1A).

Transmissions may not occupy more than 2.8 kHz centred on these five frequencies. Such use is not in

accordance with international frequency allocations. Canadian amateur operations shall not cause interference to fixed and mobile operations in Canada or in other countries and, if such interference occurs, the amateur service may be required to cease operations. The amateur service in Canada may not claim protection from interference by the fixed and mobile operations of other countries.

C22 (CAN-12) SUP

C23 (CAN-09) In Canada, the band 450-470 MHz is not generally available for use by broadband systems (e.g., IMT) due to the extensive use by conventional and trunked mobile radio systems.

C24 (CAN-12) In the bands 470-608 MHz and 614-806 MHz, international footnotes 5.293 and 5.297 have raised the fixed and mobile services to a co-primary status with the broadcasting service. In Canada, the fixed and mobile services have primary allocations only in the 698-806 MHz range. Industry Canada will carry out public consultation in the future in order to consider adopting the other service allocation provisions of international footnotes 5.293 and 5.297 in the frequency bands 470-608 MHz and 614-698 MHz.

C25 (CAN-04) The band 4 400-4 940 MHz is allocated to the fixed and mobile services on a primary basis, for the exclusive use of the Government of Canada.

C26 In the band 148-149.9 MHz, applicants for a licence to provide mobile-satellite service in Canada must demonstrate that they have adopted measures to avoid causing harmful interference to the fixed and mobile services.

C26A (CAN-00) In the bands 454-456 MHz and 459-460 MHz, applicants for a licence to provide mobile-satellite service in Canada must demonstrate that they have adopted measures to avoid causing harmful interference to the fixed and mobile services.

C26B (CAN-00) In the bands 454-456 MHz and 459-460 MHz, stations of the mobile service have assignment priority over stations of the fixed service regarding access to spectrum.

C27 (CAN-05) In the band 1 370-1 390 MHz, high-power stations of the radiolocation service have priority over the fixed and mobile services.

C27B (CAN-09) In the band 1 390-1 400 MHz existing radiolocation operations licensed prior to October 1, 2005 may continue to operate.

C28 (CAN-12) SUP

C29 (CAN-12) SUP

C30 (CAN-12) SUP

C31 (CAN-12) SUP

C32 (CAN-09) Additional allocation: the bands 156.4875-156.5125 MHz and 156.5375-156.5625 MHz are also allocated to the land mobile service on a primary basis and to the fixed service on a secondary

basis. The use of these bands by the land mobile and fixed services shall not cause harmful interference to nor claim protection from the maritime mobile VHF radiocommunication service.

C33 (CAN-14) As of June 11, 2009, in the band 3650-3700 MHz, new fixed-satellite service earth stations are only authorized to operate on a secondary basis so as not to constrain the implementation of wireless broadband services.

C34 (CAN-09) In the band 2 300-2 400 MHz, the portions of the band identified for IMT in Canada are 2 305-2 320 and 2 345-2 360 MHz.

C35 (CAN-04) In the band 1 850-1 990 MHz, stations of the mobile service have priority over those of the fixed service with displacement of fixed assignments governed by the appropriate spectrum utilization policy.

C36 (CAN-06) In the bands 2 000-2 020 MHz and 2 180-2 200 MHz, the mobile-satellite service has priority over the fixed service. A moratorium is placed on the licensing of new systems in the fixed service. Specific fixed service stations will be displaced, according to the transition policy, to enable the implementation of mobile-satellite service systems in certain sub-bands.

C37 (CAN-06) The designation of the bands 1 755-1 780 MHz, 2 020-2 025 MHz and 2 155-2 180 MHz for Advanced Wireless Services may be the subject of a future public consultation.

C38 (CAN-04) In the band 2 483.5-2 500 MHz, the fixed service has been reduced to secondary status with the implementation of the Low Earth Orbital (LEO) mobile-satellite service in Canada.

C38A (CAN-12) SUP

C39A (CAN-05) The band 5 725-5 825 MHz is designated for use by licence-exempt wireless local area networks and devices with established maximum power levels and based upon not interfering with, or claiming protection from, licensed services.

C39B (CAN-05) The use of the bands 5 150-5 250 MHz, 5 250-5 350 MHz and 5 470-5 725 MHz by the mobile service is in accordance with spectrum policy and technical and operational limits established for the implementation of wireless local area networks and devices.

C39C (CAN-05) In the band 5 850-5 925 MHz the use of the fixed and mobile services has priority over the use of the fixed-satellite service. The use of the fixed-satellite service in this band shall be limited to applications that pose minimal constraints on the deployment of fixed and mobile service systems. An example of such an application would be the use of a small number of large aperture earth stations, taking into account existing and potential service areas for ubiquitous deployment of fixed and mobile service systems.

C39D (CAN-04) In the bands 5 925-6 425 MHz and 14-14.5 GHz, a technical and operational procedure will be developed in accordance with Resolution 902 (WRC-03) in order to facilitate the operation of earth stations located on board vessels in Canada.

C40 (CAN-12) Use of the fixed-satellite (Earth-to-space) allocation in the 7 025-7 075 MHz band is limited to general inter-Regional fixed-satellite networks.

C41 (CAN-09) The use of the bands 14.66-14.82 GHz and 15.135-15.295 GHz is designated for government-exclusive aeronautical mobile applications in the mobile service. Prior to October 1, 2013, government-exclusive aeronautical mobile applications shall not cause harmful interference into fixed service systems. Beginning on October 1, 2013, fixed service systems may continue to operate, but shall not claim protection from government systems operating in the aeronautical mobile service. Beginning on October 1, 2017, fixed service systems may continue to operate in these bands, but shall not cause harmful interference to government systems operating in the aeronautical mobile service.

C41A (CAN-04) In the band 14-14.5 GHz, the use of mobile-satellite allocation, on a secondary basis, shall be limited to those mobile earth stations which operate with space stations in the fixed-satellite service. Such use will be governed by spectrum utilization policies which will be formulated in the future.

C42 Additional allocation: The band 15.7-16.2 GHz is also allocated on a primary basis to the radionavigation service, the use of which is limited to Airport Surface Detection Equipment (ASDE).

C43 In the bands 17.3-17.8 GHz and 17.9-18.4 GHz, the fixed-satellite service (Earth-to-space) is limited to feeder links to broadcasting-satellite space stations operating in the 12.2-12.7 GHz band.

C44 (CAN-14) The use of spectrum for the fixed service has priority over the use of the fixed-satellite service in the band 25.05-25.25 GHz. Fixed-satellite service implementation in the band 25.05-25.25 GHz will be limited to applications which will impose minimal constraints upon the deployment of fixed service systems, such as those using a small number of large antennas for feeder links to the broadcasting-satellite service and/or for gateway applications in the fixed-satellite service.

C45 In the band 17.7-17.8 GHz, Canadian stations in the fixed service shall not claim protection from and shall not cause harmful interference to Canadian stations operating in the broadcasting-satellite service after 1 April 2007. In addition, to protect broadcasting-satellite receiving stations in Canada and in the United States, the aggregate power flux-density from fixed systems of one country shall not be greater than -109 dB (W/m²) over any 1 MHz band in any area within the other country where the broadcasting-satellite service is used.

C46 (CAN-14) In the band 17.7-17.8 GHz, Canadian broadcasting-satellite space stations shall not radiate into the territory of the United States a power flux-density greater than that specified in the ITU Radio Regulations, Article 21, Table 21-4, for geostationary-satellite space stations in the fixed-satellite service operating within this same band. Similarly, to protect Canadian fixed systems, transmissions from broadcasting-satellite space stations of United States operators can be expected to be limited in the same way in Canadian territory.

C46A (CAN-04) The use of the band 19.3-19.7 GHz for fixed-satellite services (space-to-Earth) is limited to feeder links for the mobile-satellite service.

C47A (CAN-14) In the band 27.35-28.35 GHz, use of spectrum for fixed service systems will be given priority over fixed-satellite service systems sharing this spectrum on a co-primary basis. Fixed-satellite service implementation in this band will be limited to applications which will pose minimal constraints upon the deployment of fixed service systems, such as a small number of large antennas for feeder links.

C47B (CAN-14) Recommendations are under development within the ITU-R on sharing between fixed service systems and the inter-satellite service in the band 25.35-27.5 GHz.

C48 (CAN-04) The use of the band 29.1-29.25 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the mobile-satellite service.

C49 In the bands 7 250-7 750 MHz and 7 900-8 400 MHz and, in all or a portion of, the bands 20.2-21.2 GHz, 30-31 GHz and 39.5-40.5 GHz as required, the use of the fixed-satellite service is limited to the Government of Canada.

C50 In the bands 7 250-7 375 MHz, 7 975-8 025 MHz, and 43.5-45.5 GHz and, in all or a portion of, the bands 20.2 -21.2 GHz, 30-31 GHz and 39.5-40.5 GHz as required, the use of the mobile-satellite service is limited to the Government of Canada.

C51 (CAN-00) The band 38.6-40 GHz is being licensed for high density applications in the fixed service operating on an area basis (point-to-multipoint), which will be given priority over fixed-satellite service systems sharing this spectrum on a co-primary basis. Fixed-satellite service implementation in this spectrum will be limited to applications which will pose minimal constraints upon the deployment of fixed service systems, such as a small number of large antennas for feeder links.

C52 (CAN-00) Use of the band 47.2-48.2 GHz by High Altitude Platform Systems (HAPS) will be governed by spectrum utilization policies which will be formulated in the future.

C53 (CAN-14) In the bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz, a moratorium is placed on the authorization of new stations in the land mobile and fixed services. Existing stations, not used for automatic identification systems (AIS) purposes, will be displaced according to a future transition policy to enable full implementation of AIS.

C54 (CAN-14) The band 2750-2850 MHz is used for the operation of the 10.7 cm solar radio flux monitoring programme at the Dominion Radio Astrophysical Observatory (DRAO) located near Penticton, British Columbia. Other users of the band are urged to give all practicable protection to this passive operation.

Footnotes

Footnote ***

Formerly known as Mobile Aeronautical Telemetry Systems (MATS)

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Figure 1 — Chart of ITU Regions

For the purposes of international frequency allocation, the world has been divided into three Regions as shown on the following map. Article 5 of ITU Radio Regulations provides a detailed description of these Regions. The shaded part represents the Tropical Zones as defined in Nos. 5.16 to 5.20 and 5.21 of the ITU Radio Regulations.

Figure 1 — Chart of ITU Regions

