Australian Radiofrequency Spectrum Plan 2021

The Australian Communications and Media Authority makes the following Spectrum Plan under section 30 of the *Radiocommunications Act 1992*.

Dated: 20 May 2021

James Cameron
[signed]
Member

Brendan Byrne
[signed]
~~Member~~/General Manager

Australian Communications and Media Authority

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Part 1—Introductory

1 Name of Spectrum Plan

This Spectrum Plan is the *Australian Radiofrequency Spectrum Plan 2021*.

2 Commencement

This Spectrum Plan commences at the start of the day after the day it is registered on the Federal Register of Legislation..

Note All legislative instruments and compilations are registered on the Federal Register of Legislation kept under the *Legislation Act 2003*. See http://www.legislation.gov.au.

2A Revocation

The *Australian Radiofrequency Spectrum Plan 2017* [F2016L02001] is revoked.

3 Definitions

(1) In this Spectrum Plan:

Act means the *Radiocommunications Act 1992*.

administration means a government or public authority of a country that is responsible for giving effect to the obligations of the country as an ITU member.

Note The ACMA is the Australian administration for radiocommunications.

aeronautical mobile (OR) service means an aeronautical mobile service for communications, including those relating to flight coordination, primarily outside national or international civil air routes.

aeronautical mobile (R) service means an aeronautical mobile service that is reserved for communications relating to the safety and regularity of flight, primarily along national or international civil air routes.

aeronautical mobile-satellite (OR) service means an aeronautical mobile-satellite service for communications, including those relating to flight coordination, primarily outside national and international civil air routes.

aeronautical mobile-satellite (R) service means an aeronautical mobile-satellite service that is reserved for communications relating to the safety and regularity of flight, primarily along national or international civil air routes.

Note In the definitions of ***aeronautical mobile (OR) service***, ***aeronautical mobile (R) service***, ***aeronautical mobile-satellite (OR) service*** and ***aeronautical mobile-satellite (R) service***, ***(OR)*** means off-route and ***(R)*** means route.

aeronautical mobile-satellite service means a mobile-satellite service in which:

(a) mobile earth stations are located on aircraft; and

(b) survival craft stations and emergency position-indicating radiobeacon stations may participate.

aeronautical mobile service means any of the following mobile services:

(a) a mobile service, between aeronautical stations and aircraft stations, in which:

(i) survival craft stations may participate; and

(ii) emergency position-indicating radiobeacon stations may participate on designated distress and emergency frequencies;

(b) a mobile service, between aircraft stations, in which:

(i) survival craft stations may participate; and

(ii) emergency position-indicating radiobeacon stations may participate on designated distress and emergency frequencies.

aeronautical radionavigation service means a radionavigation service for the benefit and safe operation of aircraft.

amateur-satellite service means a radiocommunication service using space stations on Earth satellites for an amateur service.

amateur service means a radiocommunication service for self-training in, intercommunication using, and technical investigation into, radiocommunications by individuals who:

(a) are licensed under the Act to do so; and

(b) do so solely with a personal aim; and

(c) do not have a pecuniary interest in doing so.

assignment means an identification by the ACMA, or a person authorised by the ACMA, of:

(a) one or more frequencies as being suitable for use by a device, subject to particular conditions; or

(b) one or more frequency channels as being suitable for use by a device, subject to particular conditions.

atmospheric and ionospheric sounder means a station that uses radio waves to determine the physical characteristics of the atmosphere and the ionosphere.

Australian footnote reference means the combination of the letters 'AUS' and a number, that refers to an item in Part 3.

broadcasting-satellite service means a broadcasting service transmitted by means of one or more space stations.

broadcasting service means a radiocommunication service that delivers radio programs or television programs to persons having equipment that may receive the service, but does not include the following services:

(a) a service (including a teletext service) that transmits data only, with or without associated still images;

(b) a service (including a teletext service) that transmits text only, with or without associated still images;

(c) a service that makes programs available on demand on a point-to-point basis, including a dial-up service;

(d) a service that the Minister determines by notice in the Gazette not to be a broadcasting service within the meaning of the *Broadcasting Services Act 1992*.

communication includes communication:

(a) between:

(i) persons; or

(ii) things; or

(iii) persons and things; and

(b) in any form, or combination of forms, including the following:

(i) speech, music or other sounds;

(ii) data;

(iii) text;

(iv) visual images, whether or not animated;

(v) signals.

earth exploration-satellite service:

(a) means a radiocommunication service (that may include links between space stations) between earth stations and one or more space stations:

(i) by which information relating to the characteristics of the Earth and its natural phenomena is obtained from active or passive sensors on Earth satellites; and

(ii) by which similar information is collected from airborne or Earth-based platforms; and

(iii) by which the information may be distributed to earth stations participating in the service; and

(iv) by which platform interrogation may be carried out; and

(b) includes any feeder link necessary for the operation of the service.

emergency position-indicating radiobeacon station means a station in the mobile service the emissions of which are intended to assist search and rescue operations.

experimental station means a station (except an amateur station) that uses radio waves in experiments for the development of science or technique.

feeder link means a radio link:

(a) that involves an earth station at a particular fixed point, or at a fixed point within a particular area; and

(b) that is for the use of a space radiocommunication service other than a fixed-satellite service; and

(c) that is:

(i) from an earth station of the kind mentioned in paragraph (a) to a space station; or

(ii) from a space station to an earth station of the kind mentioned in paragraph (a).

fixed-satellite service means a radiocommunication service, including any feeder link that is necessary for the operation of another space radiocommunication service, with the following characteristics:

(a) the service is between earth stations at particular fixed points, or at fixed points within particular areas;

(b) the service uses:

(i) one or more satellites; and

(ii) a satellite-to-satellite link (if any) that may use the inter-satellite service.

fixed service means a radiocommunication service between particular fixed points.

frequency band includes part of a frequency band that is specified in column 2 of the Table.

frequency channel means a sub-band that:

(a) is in a frequency band; and

(b) has a particular centre frequency.

harmful interference means interference that:

(a) endangers the functioning of a radionavigation service or other safety services that are operating in accordance with:

(i) the Radio Regulations; or

(ii) this Spectrum Plan; or

(b) obstructs, repeatedly interrupts or seriously degrades a radiocommunication service that is operating in accordance with:

(i) the Radio Regulations; or

(ii) this Spectrum Plan.

high altitude platform station means a station located on an object at an altitude of between 20 and 50 km, that is above a particular nominal place on the Earth's surface.

industrial, scientific and medical (ISM) applications means the operation of a device or equipment that is designed to generate and apply locally radio frequency energy, except for telecommunications.

Examples of equipment used in ISM applications for industrial, scientific, medical and domestic purposes:

- *plastic welders*
- *chemical analysis equipment*
- *medical diathermy equipment*
- *microwave ovens.*

international footnote reference means a number, or the combination of a number and a letter, that refers to an item in Part 4.

inter-satellite service means a radiocommunication service providing links between artificial satellites.

ITU means the International Telecommunication Union.

land mobile service means a mobile service:

(a) between base stations and land mobile stations; or

(b) between land mobile stations.

maritime mobile-satellite service means a mobile-satellite service in which:

(a) mobile earth stations are located on ships; and

(b) survival craft stations and emergency position-indicating radiobeacon stations may participate.

maritime mobile service means any of the following mobile services:

(a) a mobile service, between coast stations and ship stations, in which survival craft stations and emergency position-indicating radiobeacon stations may participate;

(b) a mobile service, between ship stations, in which survival craft stations and emergency position-indicating radiobeacon stations may participate;

(c) a mobile service, between associated on-board communications stations (whether or not the stations are operated on ships), in which survival craft stations and emergency position-indicating radiobeacon stations may participate.

maritime radionavigation service means a radionavigation service for the benefit and safe operation of ships.

meteorological aids service means a radiocommunication service for meteorological (including hydrological) observations and exploration.

meteorological-satellite service means an earth exploration-satellite service that is used for meteorological purposes.

mobile-satellite service means any of the following radiocommunications services, including any feeder link that is necessary for the operation of the service:

(a) a radiocommunication service between one or more mobile earth stations and one or more space stations;

(b) a radiocommunication service between space stations used by the service;

(c) a radiocommunication service between mobile earth stations by means of one or more space stations.

mobile service means a radiocommunication service:

(a) between mobile stations and land stations; or

(b) between mobile stations.

offshore area has the same meaning as in the *Offshore Minerals Act 1994*.

program, in relation to a broadcasting service, means:

(a) matter the primary purpose of which is to entertain, to educate or to inform an audience; or

(b) advertising or sponsorship matter, whether or not of a commercial kind.

public correspondence means any telecommunication:

(a) that is accepted for transmission by a station because the station is available for use by the public; or

(b) that is accepted for transmission by a person or body because the person or body is obliged to accept the telecommunication from the public for transmission.

radio astronomy means astronomy based on the reception of radio waves of cosmic origin.

radio astronomy service means a radiocommunication service that is used for radio astronomy.

radiodetermination means either or both of the following, carried out on the basis of the propagation properties of radio waves:

(a) determining the position, velocity or other characteristics of an object;

(b) obtaining information about those characteristics.

radiodetermination-satellite service:

(a) means a radiocommunication service involving the use of one or more space stations for radiodetermination; and

(b) includes any feeder link necessary for the operation of the service.

radiodetermination service means a radiocommunication service that is used for radiodetermination.

radiolocation means radiodetermination that is used for a purpose other than radionavigation.

radiolocation-satellite service:

(a) means a radiodetermination-satellite service that is used for radiolocation; and

(b) includes any feeder link necessary for the operation of the service.

radiolocation service means a radiodetermination service that is used for radiolocation.

radionavigation means radiodetermination used for navigation or obstruction warning.

radionavigation-satellite service:

(a) means a radiodetermination-satellite service used for radionavigation; and

(b) includes any feeder link necessary for the operation of the service

radionavigation service means a radiodetermination service for the purpose of radionavigation.

Radio Regulations means the document:

(a) titled 'Radio Regulations' as existing from time to time; and

(b) published by the ITU.

Note The Radio Regulations published by the ITU are not regulations made by the Governor-General under the Act.

radio waves means electromagnetic waves of frequencies less than 420 THz that are propagated in space without an artificial guide.

reflecting satellite means a satellite that is intended to reflect radiocommunication signals.

safety service means a radiocommunication service used at any time for the safeguarding of human life or property.

satellite means a body that:

(a) revolves around another body of preponderant mass; and

(b) has a motion primarily and permanently determined by the force of attraction of the other body.

service means a service mentioned in column 2 of the Table.

Note Any service mentioned in column 1 of the Table is specified in the Radio Regulations and may be defined differently to a service of the same name in column 2 of the Table.

space operation service means a radiocommunication service that operates only for purposes relating to the operation of spacecraft, in particular:

(a) space tracking; and

(b) space telemetry; and

(c) space telecommand.

Note The functions mentioned above will normally be provided within the service in which the space station is operating.

space radiocommunication means radiocommunication using one or more space stations, reflecting satellites or other objects in space.

space research service means a radiocommunication service in which spacecraft or other objects in space are used for scientific or technological research.

space station means a station on an object that is beyond, is intended to go beyond or has been beyond the major portion of the Earth's atmosphere.

specified service means a service that uses the frequency band, mentioned in column 2 of the Table, that is allocated for the service.

standard frequency and time signal-satellite service:

(a) means a standard frequency and time signal service that uses space stations on Earth satellites; and

(b) includes any feeder link necessary for the operation of the service.

standard frequency and time signal service means a radiocommunication service that involves transmission of specified frequencies or time signals of a stated high precision for general reception.

survival craft station means a mobile station in the maritime mobile service or the aeronautical mobile service that is:

(a) intended only for use for survival purposes; and

(b) located on a lifeboat, life-raft or other survival equipment.

Table means the Table of Frequency Band Allocations in Part 2.

telecommunications means communications carried by electromagnetic energy that is guided, unguided, or both guided and unguided.

terrestrial radiocommunication means radiocommunication other than space radiocommunication or radio astronomy.

tropospheric scatter system means a system of communicating using radio waves that are propagated by scattering as a result of irregularities or discontinuities in the physical properties of the troposphere.

unspecified service means a service that uses a frequency band, mentioned in column 2 of the Table, that is not allocated for the service.

(2) If an expression is defined in this Spectrum Plan, and different words are used to define the expression in the Radio Regulations, the expression is not taken to have a different meaning if the words used in both documents appear to express the same idea.

(3) If an expression is not defined in this Spectrum Plan, the expression has the meaning given by:

(a) if the expression is defined in the *Radiocommunications Regulations 1993* — those Regulations; or

(b) if the expression is defined in the *Radiocommunications (Interpretation) Determination 2015* — that Determination.

(4) In this Spectrum Plan, a reference to a radiocommunication service is a reference to a radiocommunication service for terrestrial radiocommunication, unless another kind of radiocommunication is specified.

(5) Notes to provisions of this Spectrum Plan, except the notes described as Australian or International footnotes in Part 3 or 4, are included for information only and are not part of the Spectrum Plan.

(6) In this instrument, unless the contrary intention appears, a reference to another legislative instrument is a reference to that other legislative instrument as in force from time to time.

Note 1 For references to Commonwealth Acts, see section 10 of the *Acts Interpretation Act 1901*; and see also subsection 13(1) of the *Legislation Act 2003* for the application of the *Acts Interpretation Act 1901* to legislative instruments.

Note 2 All Commonwealth Acts and legislative instruments are registered in the Federal Register of Legislation.

Note 3 Under s 314A of this Act instruments may provide for matters by reference to other instruments as in force at a particular time; or as in force from time to time.

(7) In this instrument, unless the contrary intention appears, a reference to an instrument or other writing (other than a legislative instrument) is a reference to that instrument or writing as existing from time to time.

4 Division of spectrum into frequency bands

For section 30 of the Act, the spectrum is divided into the frequency bands set out in column 2 of the Table.

Note Column 1 of the Table is the Table of Frequency Allocations set out in the Radio Regulations, and is only included in the Table to allow for comparison with column 2.

5 How the Table refers to services

(1) A primary service in a frequency band mentioned in column 2 of the Table is described by:

(a) an expression in upper case letters; and

(b) any related footnote reference.

Example

MOBILE.

(2) If the expression is followed by words in lower case letters that describe a limitation, the primary service is limited in the manner described in the limitation.

Example

MOBILE except aeronautical mobile (R).

This means that an aeronautical mobile (R) service is not part of the primary MOBILE service.

(3) A secondary service in a frequency band mentioned in column 2 of the Table is described by:

(a) an expression in lower case letters other than:

(i) a limitation to a primary service; or

(ii) words in parentheses describing an operational restriction, as mentioned in subsection (5); and

(b) any related footnote reference.

Example

Mobile.

(4) If the expression is followed by words in lower case letters that describe a limitation, the secondary service is limited in the manner described in the limitation.

Example

Mobile except aeronautical mobile (R).

This means that an aeronautical mobile (R) service is not part of the secondary mobile service.

Note Services are listed in the Table in an order consistent with the Radio Regulations. They are not listed to suggest any order of priority.

(5) If a reference to a primary or secondary service in column 2 of the Table is immediately followed by words in parentheses describing an operational restriction, the service is restricted accordingly.

6 Primary and secondary services — frequency band plans

If a frequency band is specified, in column 2 of the Table, for a primary service, the frequency band may also be specified for a secondary service in a frequency band plan.

Note See sections 5, 7 and 12 for provisions about ***primary service*** and ***secondary service***.

7 Primary services — spectrum licences

A service operating under a spectrum licence is taken to be a primary service unless the spectrum licence specifies that it is a secondary service.

8 Use of frequency bands — general

If a frequency band is part of a frequency band plan, the frequency band must be used only:

(a) for the purpose specified in the frequency band plan; and

(b) in a way mentioned in section 9 or 10.

Note A frequency band plan must not be inconsistent with the Spectrum Plan (see subsection 32(3) of the Act).

9 Use of frequency bands — spectrum licensing and class licensing

(1) A frequency band may be used for a service that:

(a) is operating in accordance with a spectrum licence; and

(b) is an unspecified service.

(2) A frequency band may be used by a device that:

(a) is operating in accordance with a class licence; and

(b) is not consistent with a service specified in column 2 of the Table for the frequency band.

10 Use of frequency bands — other circumstances

(1) A frequency band may be used for an unspecified service if the unspecified service uses the frequency band to support a specified service.

Example

A station in the land mobile service may communicate with stations of the aeronautical mobile service in a frequency band used for the aeronautical mobile service if the purpose of the station in the land mobile service is to support the aeronautical mobile service.

(2) If the major usage of a station (the first station) is for a specified service, the frequency band allocated for that service may be used for an unspecified service that is:

(a) provided by the first station; or

(b) provided by another station and in support of a function of the first station.

Example

In column 2 of the Table, a frequency band is allocated to the meteorological-satellite service. A space station in the meteorological-satellite service uses that frequency band and receives meteorological information from buoys. This is the major usage of the station.

Under paragraph 10(2)(a) the space station may also be used for radiodetermination of the positions of the buoys, although this would not be a specified service for the space station.

Under paragraph 10(2)(b), the radiodetermination function of the space station could also be used to track an animal or vehicle carrying a transmitter. The use of this transmitter would also be permitted under paragraph 10(2)(b).

(3) If a frequency band may be used, in accordance with section 8, by a fixed service or a mobile service, the frequency band may also be used for a broadcasting service that is an unspecified service.

Note It is the intention of the ACMA that a frequency band used, in accordance with subsection 10(3), for a broadcasting service will be subject to the conditions that would apply to a specified service.

(4) A frequency band may be used temporarily, or on a transitional basis, for an unspecified service, if the use of the band:

(a) is consistent with planning or preparation for a revision of this Spectrum Plan or a frequency band plan; or

(b) would assist the implementation of a frequency band plan.

(5) A frequency band may be used by an experimental station of a specified or unspecified service, but that use must not cause harmful interference to a specified service for the frequency band.

(6) A frequency band may be used by an atmospheric and ionospheric sounder of a specified or unspecified service, but that use must not cause harmful interference to a specified service for the frequency band.

(7) A frequency band may be used for an unspecified service if the use of the service is in the public interest for defence or national security.

(8) A frequency band may be used for a radio astronomy service if provision is made for that use in a frequency band plan.

(9) A frequency band may be used by an earth receive station in a frequency band allocated for the fixed-satellite service (space-to-Earth) where that station is in motion, or in a stationary position at an unspecified point on land, on water or in the air.

(10) A frequency band may be used for an unspecified service if, prior to that use, the ACMA, being satisfied that the unspecified service is unlikely to cause harmful interference to another service, has approved the unspecified service in writing and given notice of that approval on its website.

(11) Any written approval of an unspecified service given by the ACMA and published on its website under subsection 10(10) of the *Australian Radiofrequency Spectrum Plan 2017* is taken to have been approved and published under subsection 10(10) of this Spectrum Plan.

Note The ACMA's website is at: www.acma.gov.au.

11 Harmful interference — general

(1) If this Spectrum Plan provides that the use of a frequency band by a service must not cause harmful interference to another service, the first-mentioned service may not claim protection from harmful interference caused by the second-mentioned service.

Note This requirement appears in section 10 and some footnotes to the Table in Parts 3 and 4.

(2) If this Spectrum Plan provides that a service that uses a frequency band may not claim protection from harmful interference caused by another service, the first-mentioned service must not cause harmful interference to the second-mentioned service.

(3) If a frequency band is used by a service otherwise than in accordance with the Radio Regulations, the use of the frequency band by the service must not cause harmful interference to a station outside Australia operating in accordance with the Radio Regulations.

Note As well as subsection 11(3), the Radio Regulations set out requirements for the coordination or notification of services mentioned in those regulations.

(4) If a frequency band is used by a service otherwise than in accordance with the Radio Regulations, the use of the frequency band by the service must not cause harmful interference to a transmitter or radiocommunications receiver, mentioned in subsection 23(2) or (3) of the Act, operating in accordance with the Radio Regulations.

12 Harmful interference — secondary services

(1) This section applies to a secondary service that uses a frequency band.

(2) The secondary service must not cause harmful interference to a primary service using the frequency band, including a primary service that starts to use the frequency band after the secondary service starts.

(3) The secondary service must not cause harmful interference to a situation, or an activity, that is exempt, under Division 4 of Part 1.4 of the Act, from the operation of the Act.

(4) The secondary service cannot claim protection from harmful interference caused by a primary service using the frequency band, including a primary service that starts to use the frequency band after the secondary service starts.

(5) The secondary service may claim protection from harmful interference caused by another secondary service that:

(a) is using the frequency band; and

(b) was licensed after the first-mentioned secondary service.

Note 1 A service to which this Spectrum Plan applies may not claim protection from harmful interference caused by a situation, or an activity, that is exempt, under Division 4 of Part 1.4 of the Act, from the operation of the Act.

Note 2 Other levels of interference protection are, or may be, provided for under the Act.

13 Interpretation of the Table

(1) For this Spectrum Plan, a frequency band is identified by the range of numbers that:

(a) is specified in a cell in column 2 of the Table; and

(b) immediately precedes the first reference in the cell to a service.

(2) The range of numbers that identifies a frequency band:

(a) is expressed in kilohertz, megahertz or gigahertz, as the case requires; and

(b) includes the higher, but not the lower, number.

Note The units to be used with a frequency band specified in a cell are the SI units used with the frequency band shown at the head of the page of the Table on which the cell appears, that is, 'kHz', 'MHz' or 'GHz'. For example, '9-14' in column 2 of the Table:

(a) is read as 'the 9-14 kilohertz frequency band'; and

(b) refers to radio frequencies that exceed 9 kilohertz but do not exceed 14 kilohertz.

(3) If an Australian footnote reference appears in a cell immediately after the description of a service, the operation of the service is subject to the condition or restriction specified in that footnote reference as set out in Part 3.

(4) However, if an Australian footnote reference appears in a cell in another position, the use of a frequency band mentioned in the cell is subject to the condition or restriction specified in that footnote reference as set out in Part 3.

(5) If an international footnote reference appears in a cell immediately after the description of a service, the operation of the service is subject to the condition or restriction specified in that footnote reference as set out in Part 4.

(6) However, if an international footnote reference appears in a cell in another position, the use of a frequency band mentioned in the cell is subject to the condition or restriction specified in that footnote reference as set out in Part 4.

Part 2—Table of Frequency Band Allocations

kHz
8.3 – 90

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
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14 – 19.95	FIXED MARITIME MOBILE 57 55 56		**14 – 19.95** FIXED MARITIME MOBILE 57 56 AUS101
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Column 1: ITU Radio Regulations Table of Allocations			Column 2:
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kHz
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AERONAUTICAL RADIONAVIGATION
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AERONAUTICAL RADIONAVIGATION
AUS49

AUS68</td></tr>
<tr><td>255 – 283.5
BROADCASTING
AERONAUTICAL RADIONAVIGATION
70</td><td>275 – 285
AERONAUTICAL RADIONAVIGATION
Aeronautical mobile
Maritime radionavigation (radiobeacons)</td><td></td></tr>
<tr><td>283.5 – 315
AERONAUTICAL RADIONAVIGATION
MARITIME RADIONAVIGATION (radiobeacons) 73

74</td><td colspan="2">285 – 315
AERONAUTICAL RADIONAVIGATION
MARITIME RADIONAVIGATION (radiobeacons) 73</td><td>285 – 315
AERONAUTICAL RADIONAVIGATION
AUS49
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<tr><td>315 – 325
AERONAUTICAL RADIONAVIGATION
Maritime radionavigation (radiobeacons) 73

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MARITIME RADIONAVIGATION (radiobeacons) 73
Aeronautical radionavigation</td><td>315 – 325
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AERONAUTICAL RADIONAVIGATION
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AUS68</td></tr>
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kHz
325 – 505

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
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	335 – 405 AERONAUTICAL RADIONAVIGATION Aeronautical mobile		AUS68
405 – 415 RADIONAVIGATION 76	**405 – 415** RADIONAVIGATION 76 Aeronautical mobile		**405 – 415** RADIONAVIGATION 76 AUS68
415 – 435 MARITIME MOBILE 79 AERONAUTICAL RADIONAVIGATION	**415 – 472** MARITIME MOBILE 79 Aeronautical radionavigation 77 80		**415 – 472** MARITIME MOBILE 79 AERONAUTICAL RADIONAVIGATION 77 AUS49
435 – 472 MARITIME MOBILE 79 Aeronautical radionavigation 77 82	78 82		82 AUS68
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479 – 495 MARITIME MOBILE 79 79A Aeronautical radionavigation 77 82	**479 – 495** MARITIME MOBILE 79 79A Aeronautical radionavigation 77 80 82		**479 – 495** MARITIME MOBILE 79 79A AERONAUTICAL RADIONAVIGATION 77 AUS49 82 AUS68
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kHz
505 – 1 800

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<tr><td colspan="3">Column 1: ITU Radio Regulations Table of Allocations</td><td>Column 2:</td></tr>
<tr><td>Region 1</td><td>Region 2</td><td>Region 3</td><td>Australian Table of Allocations</td></tr>
<tr><td rowspan="2">505 – 526.5
MARITIME MOBILE 79
79A 84
AERONAUTICAL
RADIONAVIGATION</td><td>505 – 510
MARITIME MOBILE 79</td><td rowspan="2">505 – 526.5
MARITIME MOBILE 79
79A 84
AERONAUTICAL
RADIONAVIGATION
Aeronautical mobile
Land mobile</td><td rowspan="2">505 – 526.5
MARITIME MOBILE 79
79A 84
AERONAUTICAL
RADIONAVIGATION
AUS49

AUS68</td></tr>
<tr><td>510 – 525
MARITIME MOBILE 79A
84
AERONAUTICAL
RADIONAVIGATION</td></tr>
<tr><td rowspan="2">526.5 – 1 606.5
BROADCASTING

87 87A</td><td rowspan="3">525 – 535
BROADCASTING 86
AERONAUTICAL
RADIONAVIGATION</td><td>526.5 – 535
BROADCASTING
Mobile
88</td><td>526.5 – 535
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Fixed AUS74
Mobile</td></tr>
<tr><td>535 – 1 606.5
BROADCASTING</td><td>535 – 1 606.5
BROADCASTING AUS50
Fixed AUS74
Mobile AUS75</td></tr>
<tr><td>1 606.5 – 1 625
FIXED
MARITIME MOBILE 90
LAND MOBILE
92</td><td>1 605 – 1 625
BROADCASTING 89

90</td><td rowspan="3">1 606.5 – 1 800
FIXED
MOBILE
RADIOLOCATION
RADIONAVIGATION

91</td><td rowspan="3">1 606.5 – 1 800
FIXED
MOBILE
RADIOLOCATION
RADIONAVIGATION
AUS49</td></tr>
<tr><td>1 625 – 1 635
RADIOLOCATION
93</td><td rowspan="2">1 625 – 1 705
FIXED
MOBILE
BROADCASTING 89
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90</td></tr>
<tr><td>1 635 – 1 800
FIXED
MARITIME MOBILE 90
LAND MOBILE

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<tr><td></td><td>1 705 – 1 800
FIXED
MOBILE
RADIOLOCATION
AERONAUTICAL
RADIONAVIGATION</td><td></td><td></td></tr>
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kHz
1 800 – 2 170

<table>
<tr><td colspan="3">Column 1: ITU Radio Regulations Table of Allocations</td><td>Column 2:</td></tr>
<tr><td>Region 1</td><td>Region 2</td><td>Region 3</td><td>Australian Table of Allocations</td></tr>
<tr><td>1 800 – 1 810
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93</td><td rowspan="2">1 800 – 1 850
AMATEUR</td><td rowspan="3">1 800 – 2 000
AMATEUR
FIXED
MOBILE except aeronautical mobile
RADIONAVIGATION
Radiolocation</td><td>1 800 – 1 825
AMATEUR

97</td></tr>
<tr><td>1 810 – 1 850
AMATEUR
98 99 100</td><td>1 825 – 1 875
RADIONAVIGATION
AMATEUR
Radiolocation
97</td></tr>
<tr><td>1 850 – 2 000
FIXED
MOBILE except aeronautical mobile

92 96 103</td><td>1 850 – 2 000
AMATEUR
FIXED
MOBILE except aeronautical mobile
RADIOLOCATION
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102</td><td>97</td><td>1 875 – 1 925
FIXED
MOBILE except aeronautical mobile
RADIONAVIGATION
Radiolocation
97
1 925 – 1 975
RADIONAVIGATION
Fixed
Mobile except aeronautical mobile
Radiolocation
97
1 975 – 2 000
FIXED
MOBILE except aeronautical mobile
RADIONAVIGATION
Radiolocation
97</td></tr>
<tr><td>2 000 – 2 025
FIXED
MOBILE except aeronautical mobile (R)
92 103</td><td colspan="2" rowspan="2">2 000 – 2 065
FIXED
MOBILE</td><td>2 000 – 2 065
FIXED
MOBILE</td></tr>
<tr><td>2 025 – 2 045
FIXED
MOBILE except aeronautical mobile (R)
Meteorological aids 104
92 103</td></tr>
<tr><td rowspan="2">2 045 – 2 160
FIXED
MARITIME MOBILE
LAND MOBILE

92</td><td colspan="2">2 065 – 2 107
MARITIME MOBILE 105
106</td><td>2 065 – 2 107
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<tr><td>2 160 – 2 170
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93 107</td><td colspan="2">2 107 – 2 170
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MOBILE</td><td>2 107 – 2 170
FIXED
MOBILE</td></tr>
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kHz
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<tr><td colspan="3">Column 1: ITU Radio Regulations Table of Allocations</td><td>Column 2:</td></tr>
<tr><td>Region 1</td><td>Region 2</td><td>Region 3</td><td>Australian Table of Allocations</td></tr>
<tr><td>2 170 – 2 173.5</td><td colspan="2">MARITIME MOBILE</td><td>2 170 – 2 173.5
MARITIME MOBILE</td></tr>
<tr><td>2 173.5 – 2 190.5</td><td colspan="2">MOBILE (distress and calling)

108 109 110 111</td><td>2 173.5 – 2 190.5
MOBILE (distress and calling)
108 109 110 111</td></tr>
<tr><td>2 190.5 – 2 194</td><td colspan="2">MARITIME MOBILE</td><td>2 190.5 – 2 194
MARITIME MOBILE</td></tr>
<tr><td>2 194 – 2 300
FIXED
MOBILE except aeronautical mobile (R)
92 103 112</td><td colspan="2">2 194 – 2 300
FIXED
MOBILE

112</td><td>2 194 – 2 300
FIXED
MOBILE</td></tr>
<tr><td rowspan="2">2 300 – 2 498
FIXED
MOBILE except aeronautical mobile (R)
BROADCASTING 113
103</td><td colspan="2">2 300 – 2 495
FIXED
MOBILE
BROADCASTING 113</td><td>2 300 – 2 495
FIXED
MOBILE
BROADCASTING 113</td></tr>
<tr><td colspan="2" rowspan="2">2 495 – 2 501
STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)</td><td rowspan="2">2 495 – 2 501
STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)</td></tr>
<tr><td>2 498 – 2 501
STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)</td></tr>
<tr><td>2 501 – 2 502</td><td colspan="2">STANDARD FREQUENCY AND TIME SIGNAL
Space research</td><td>2 501 – 2 502
STANDARD FREQUENCY AND TIME SIGNAL
Space research</td></tr>
<tr><td rowspan="4">2 502 – 2 625
FIXED
MOBILE except aeronautical mobile (R)
92 103 114</td><td colspan="2">2 502 – 2 505
STANDARD FREQUENCY AND TIME SIGNAL</td><td>2 502 – 2 505
STANDARD FREQUENCY AND TIME SIGNAL</td></tr>
<tr><td colspan="2" rowspan="3">2 505 – 2 850
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MOBILE</td><td rowspan="3">2 505 – 2 850
FIXED
MOBILE</td></tr>
<tr><td>2 625 – 2 650
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92</td></tr>
<tr><td>2 650 – 2 850
FIXED
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92 103</td></tr>
<tr><td>2 850 – 3 025</td><td colspan="2">AERONAUTICAL MOBILE (R)

111 115</td><td>2 850 – 3 025
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111 115</td></tr>
<tr><td>3 025 – 3 155</td><td colspan="2">AERONAUTICAL MOBILE (OR)</td><td>3 025 – 3 155
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kHz
3 155 – 4 000

<table>
<tr><td colspan="3">Column 1: ITU Radio Regulations Table of Allocations</td><td>Column 2:</td></tr>
<tr><td>Region 1</td><td>Region 2</td><td>Region 3</td><td>Australian Table of Allocations</td></tr>
<tr><td>3 155 – 3 200</td><td colspan="2">FIXED
MOBILE except aeronautical mobile (R)

116 117</td><td>3 155 – 3 200
FIXED
MOBILE except aeronautical mobile (R)
116 AUS57</td></tr>
<tr><td>3 200 – 3 230</td><td colspan="2">FIXED
MOBILE except aeronautical mobile (R)
BROADCASTING 113

116</td><td>3 200 – 3 230
FIXED
MOBILE except aeronautical mobile (R)
BROADCASTING 113
116</td></tr>
<tr><td>3 230 – 3 400</td><td colspan="2">FIXED
MOBILE except aeronautical mobile
BROADCASTING 113

116 118</td><td>3 230 – 3 400
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MOBILE except aeronautical mobile (R) AUS7
BROADCASTING 113
Radiolocation
116</td></tr>
<tr><td>3 400 – 3 500</td><td colspan="2">AERONAUTICAL MOBILE (R)</td><td>3 400 – 3 500
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<tr><td rowspan="2">3 500 – 3 800
AMATEUR
FIXED
MOBILE except aeronautical mobile

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AMATEUR

119</td><td rowspan="3">3 500 – 3 900
AMATEUR
FIXED
MOBILE</td><td>3 500 – 3 700
AMATEUR</td></tr>
<tr><td rowspan="3">3 750 – 4 000
AMATEUR
FIXED
MOBILE except aeronautical mobile (R)</td><td>3 700 – 3 776
FIXED
MOBILE
AUS57</td></tr>
<tr><td>3 776 – 3 800
AMATEUR
AUS57</td></tr>
<tr><td>3 800 – 3 900
FIXED
AERONAUTICAL MOBILE (OR)
LAND MOBILE</td><td>3 800 – 3 900
FIXED
MOBILE

AUS57</td></tr>
<tr><td>3 900 – 3 950
AERONAUTICAL MOBILE (OR)
123</td><td>3 900 – 3 950
AERONAUTICAL MOBILE
BROADCASTING</td><td>3 900 – 3 950
AERONAUTICAL MOBILE (OR) AUS52
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<tr><td>3 950 – 4 000
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BROADCASTING</td><td>122 125</td><td>3 950 – 4 000
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126</td><td>3 950 – 4 000
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126 AUS57</td></tr>
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kHz
4 000 – 5 060

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
4 000 – 4 063	FIXED MARITIME MOBILE 127 126		**4 000 – 4 063** FIXED MARITIME MOBILE 127 126 AUS57
4 063 – 4 438	MARITIME MOBILE 79A 109 110 130 131 132 128		**4 063 – 4 438** MARITIME MOBILE 79A 109 110 130 131 132 AUS53 AUS59 128 AUS9 AUS57
4 438 – 4 488 FIXED MOBILE except aeronautical mobile (R) Radiolocation 132A 132B	**4 438 – 4 488** FIXED MOBILE except aeronautical mobile (R) RADIOLOCATION 132A	**4 438 – 4 488** FIXED MOBILE except aeronautical mobile Radiolocation 132A	**4 438 – 4 488** FIXED MOBILE except aeronautical mobile (R) AUS7 Radiolocation 132A AUS57
4 488 – 4 650 FIXED MOBILE except aeronautical mobile (R)		**4 488 – 4 650** FIXED MOBILE except aeronautical mobile	**4 488 – 4 650** FIXED MOBILE except aeronautical mobile (R) AUS7 AUS57
4 650 – 4 700	AERONAUTICAL MOBILE (R)		**4 650 – 4 700** AERONAUTICAL MOBILE (R) AUS51
4 700 – 4 750	AERONAUTICAL MOBILE (OR)		**4 700 – 4 750** AERONAUTICAL MOBILE (OR) AUS52 AUS57 AUS58 AUS101
4 750 – 4 850 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 113	**4 750 – 4 850** FIXED MOBILE except aeronautical mobile (R) BROADCASTING 113	**4 750 – 4 850** FIXED BROADCASTING 113 Land mobile	**4 750 – 4 850** FIXED BROADCASTING 113 Land mobile
4 850 – 4 995	FIXED LAND MOBILE BROADCASTING 113		**4 850 – 4 995** FIXED LAND MOBILE BROADCASTING 113
4 995 – 5 003	STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)		**4 995 – 5 003** STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)
5 003 – 5 005	STANDARD FREQUENCY AND TIME SIGNAL Space research		**5 003 – 5 005** STANDARD FREQUENCY AND TIME SIGNAL Space research
5 005 – 5 060	FIXED BROADCASTING 113		**5 005 – 5 060** FIXED BROADCASTING 113

kHz
5 060 – 5 900

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
5 060 – 5 250 FIXED Mobile except aeronautical mobile 133			**5 060 – 5 250** FIXED Mobile except aeronautical mobile (R) AUS10 AUS57
5 250 – 5 275 FIXED MOBILE except aeronautical mobile Radiolocation 132A 133A	**5 250 – 5 275** FIXED MOBILE except aeronautical mobile RADIOLOCATION 132A	**5 250 – 5 275** FIXED MOBILE except aeronautical mobile Radiolocation 132A	**5 250 – 5 275** FIXED MOBILE except aeronautical mobile (R) AUS7 Radiolocation 132A AUS57
5 275 – 5 351.5 FIXED MOBILE except aeronautical mobile			**5 275 – 5 351.5** FIXED MOBILE except aeronautical mobile (R) AUS7 AUS57
5 351.5 – 5 366.5 FIXED MOBILE except aeronautical mobile Amateur 133B			**5 351.5 – 5 366.5** FIXED MOBILE except aeronautical mobile (R) AUS7 Amateur 133B AUS57
5 366.5 – 5 450 FIXED MOBILE except aeronautical mobile			**5 366.5 – 5 450** FIXED MOBILE except aeronautical mobile (R) AUS7 AUS57
5 450 – 5 480 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	**5 450 – 5 480** AERONAUTICAL MOBILE (R)	**5 450 – 5 480** FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	**5 450 – 5 480** FIXED AERONAUTICAL MOBILE (OR) AUS52 AUS101A LAND MOBILE AUS57 AUS58
5 480 – 5 680 AERONAUTICAL MOBILE (R) 111 115			**5 480 – 5 680** AERONAUTICAL MOBILE (R) AUS51 111 115
5 680 – 5 730 AERONAUTICAL MOBILE (OR) 111 115			**5 680 – 5 730** AERONAUTICAL MOBILE (OR) AUS52 111 115 AUS57 AUS58 AUS101
5 730 – 5 900 FIXED LAND MOBILE	**5 730 – 5 900** FIXED MOBILE except aeronautical mobile (R)	**5 730 – 5 900** FIXED Mobile except aeronautical mobile (R)	**5 730 – 5 900** FIXED Mobile except aeronautical mobile (R) AUS57

kHz
5 900 – 8 100

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
5 900 – 5 950	BROADCASTING 134 136		**5 900 – 5 950** BROADCASTING 134 FIXED Mobile except aeronautical mobile (R) 136 AUS57
5 950 – 6 200	BROADCASTING		**5 950 – 6 200** BROADCASTING AUS54
6 200 – 6 525	MARITIME MOBILE 109 110 130 132 137		**6 200 – 6 525** MARITIME MOBILE 109 110 130 132 AUS53 AUS59 137 AUS9 AUS57
6 525 – 6 685	AERONAUTICAL MOBILE (R)		**6 525 – 6 685** AERONAUTICAL MOBILE (R) AUS51
6 685 – 6 765	AERONAUTICAL MOBILE (OR)		**6 685 – 6 765** AERONAUTICAL MOBILE (OR) AUS52 AUS57 AUS58 AUS101
6 765 – 7 000	FIXED MOBILE except aeronautical mobile (R) 138 138A 139		**6 765 – 7 000** FIXED Land mobile 138 138A AUS57
7 000 – 7 100	AMATEUR AMATEUR–SATELLITE 140 141 141A		**7 000 – 7 100** AMATEUR AMATEUR–SATELLITE
7 100 – 7 200	AMATEUR 141A 141B 141C 142		**7 100 – 7 200** FIXED MOBILE except aeronautical mobile (R) Amateur AUS12 141B 141C 142
7 200 – 7 300 BROADCASTING	**7 200 – 7 300** AMATEUR 142	**7 200 – 7 300** BROADCASTING	**7 200 – 7 300** BROADCASTING AUS54 Amateur AUS12
7 300 – 7 400	BROADCASTING 134 143 143A 143B 143C 143D		**7 300 – 7 350** BROADCASTING 134 FIXED Land mobile 143 AUS57
7 400 – 7 450 BROADCASTING 143B 143C	**7 400 – 7 450** FIXED MOBILE except aeronautical mobile (R)	**7 400 – 7 450** BROADCASTING 143A 143C	**7 350 – 8 100** FIXED Land mobile
7 450 – 8 100	FIXED MOBILE except aeronautical mobile (R) 143E 144		144 AUS57

kHz
8 100 – 10 005

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
8 100 – 8 195	FIXED MARITIME MOBILE		**8 100 – 8 195** FIXED MARITIME MOBILE AUS73 AUS57
8 195 – 8 815	MARITIME MOBILE 109 110 132 145 111		**8 195 – 8 815** MARITIME MOBILE 109 110 132 145 AUS53 AUS59 111 AUS9 AUS57
8 815 – 8 965	AERONAUTICAL MOBILE (R)		**8 815 – 8 965** AERONAUTICAL MOBILE (R) AUS51
8 965 – 9 040	AERONAUTICAL MOBILE (OR)		**8 965 – 9 040** AERONAUTICAL MOBILE (OR) AUS52 AUS57 AUS58 AUS101
9 040 – 9 305 FIXED	**9 040 – 9 400** FIXED	**9 040 – 9 305** FIXED	**9 040 – 9 305** FIXED Mobile AUS75 AUS57
9 305 – 9 355 FIXED Radiolocation 145A 145B		**9 305 – 9 355** FIXED Radiolocation 145A	**9 305 – 9 355** FIXED Mobile AUS75 Radiolocation 145A AUS57
9 355 – 9 400 FIXED		**9 355 – 9 400** FIXED	**9 355 – 9 400** FIXED Mobile AUS75 AUS57
9 400 – 9 500	BROADCASTING 134 146		**9 400 – 9 500** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57
9 500 – 9 900	BROADCASTING 147		**9 500 – 9 900** BROADCASTING AUS54 147 AUS57
9 900 – 9 995	FIXED		**9 900 – 9 995** FIXED AUS57
9 995 – 10 003	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 111		**9 995 – 10 003** STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 111
10 003 – 10 005	STANDARD FREQUENCY AND TIME SIGNAL Space research 111		**10 003 – 10 005** STANDARD FREQUENCY AND TIME SIGNAL Space research 111

kHz
10 005 – 13 260

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
10 005 – 10 100	AERONAUTICAL MOBILE (R) 111		**10 005 – 10 100** AERONAUTICAL MOBILE (R) AUS51 111
10 100 – 10 150	FIXED Amateur		**10 100 – 10 150** FIXED Amateur AUS57
10 150– 11 175	FIXED Mobile except aeronautical mobile (R)		**10 150 – 11 175** FIXED Mobile except aeronautical mobile (R) AUS57
11 175 – 11 275	AERONAUTICAL MOBILE (OR)		**11 175 – 11 275** AERONAUTICAL MOBILE (OR) AUS52 AUS57 AUS58 AUS101
11 275 – 11 400	AERONAUTICAL MOBILE (R)		**11 275 – 11 400** AERONAUTICAL MOBILE (R) AUS51
11 400 – 11 600	FIXED		**11 400 – 11 600** FIXED Mobile AUS75 AUS57
11 600 – 11 650	BROADCASTING 134 146		**11 600 – 11 650** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57
11 650 – 12 050	BROADCASTING 147		**11 650 – 12 050** BROADCASTING AUS54 147 AUS57
12 050 – 12 100	BROADCASTING 134 146		**12 050 – 12 100** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57
12 100 – 12 230	FIXED		**12 100 – 12 230** FIXED Mobile AUS75 AUS57
12 230 – 13 200	MARITIME MOBILE 109 110 132 145		**12 230 – 13 200** MARITIME MOBILE 109 110 132 145 AUS53 AUS59 AUS9 AUS57
13 200 – 13 260	AERONAUTICAL MOBILE (OR)		**13 200 – 13 260** AERONAUTICAL MOBILE (OR) AUS52 AUS57 AUS58 AUS101

kHz
13 260 – 14 350

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
13 260 – 13 360	AERONAUTICAL MOBILE (R)		**13 260 – 13 360** AERONAUTICAL MOBILE (R) AUS51
13 360 – 13 410	FIXED RADIO ASTRONOMY 149		**13 360 – 13 410** FIXED RADIO ASTRONOMY 149 AUS57
13 410 – 13 450	FIXED Mobile except aeronautical mobile (R)		**13 410 – 13 450** FIXED Mobile except aeronautical mobile (R) AUS57
13 450 – 13 550 FIXED Mobile except aeronautical mobile (R) Radiolocation 132A 149A	**13 450 – 13 550** FIXED Mobile except aeronautical mobile (R) Radiolocation 132A		**13 450 – 13 550** FIXED Mobile except aeronautical mobile (R) Radiolocation 132A AUS57
13 550 – 13 570	FIXED Mobile except aeronautical mobile (R) 150		**13 550 – 13 570** FIXED Mobile except aeronautical mobile (R) 150 AUS57
13 570 – 13 600	BROADCASTING 134 151		**13 570 – 13 600** BROADCASTING 134 FIXED Mobile except aeronautical mobile (R) 151 AUS57
13 600 – 13 800	BROADCASTING		**13 600 – 13 800** BROADCASTING AUS54 AUS57
13 800 – 13 870	BROADCASTING 134 151		**13 800 – 13 870** BROADCASTING 134 FIXED Mobile except aeronautical mobile (R) 151 AUS57
13 870 – 14 000	FIXED Mobile except aeronautical mobile (R)		**13 870 – 14 000** FIXED Mobile except aeronautical mobile (R) AUS57
14 000 – 14 250	AMATEUR AMATEUR–SATELLITE		**14 000 – 14 250** AMATEUR AMATEUR–SATELLITE
14 250 – 14 350	AMATEUR 152		**14 250 – 14 350** AMATEUR

kHz
14 350 – 17 480

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
14 350 – 14 990	FIXED Mobile except aeronautical mobile (R)		**14 350 – 14 990** FIXED Mobile except aeronautical mobile (R) AUS57
14 990 – 15 005	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 111		**14 990 – 15 005** STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 111
15 005 – 15 010	STANDARD FREQUENCY AND TIME SIGNAL Space research		**15 005 – 15 010** STANDARD FREQUENCY AND TIME SIGNAL Space research
15 010 – 15 100	AERONAUTICAL MOBILE (OR)		**15 010 – 15 100** AERONAUTICAL MOBILE (OR) AUS52 AUS57 AUS58 AUS101
15 100 – 15 600	BROADCASTING		**15 100 – 15 600** BROADCASTING AUS54 AUS57
15 600 – 15 800	BROADCASTING 134 146		**15 600 – 15 800** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57
15 800 – 16 100	FIXED 153		**15 800 – 16 100** FIXED Mobile AUS75 153 AUS57
16 100 – 16 200 FIXED Radiolocation 145A 145B	**16 100 – 16 200** FIXED RADIOLOCATION 145A	**16 100 – 16 200** FIXED Radiolocation 145A	**16 100 – 16 200** FIXED Mobile AUS75 Radiolocation 145A AUS57
16 200 – 16 360	FIXED		**16 200 – 16 360** FIXED Mobile AUS75 AUS57
16 360 – 17 410	MARITIME MOBILE 109 110 132 145		**16 360 – 17 410** MARITIME MOBILE 109 110 132 145 AUS53 AUS59 AUS9 AUS57
17 410 – 17 480	FIXED		**17 410 – 17 480** FIXED Mobile AUS75 AUS57

kHz
17 480 – 19 990

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
17 480 – 17 550	BROADCASTING 134 146		**17 480 – 17 550** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57
17 550 – 17 900	BROADCASTING		**17 550 – 17 900** BROADCASTING AUS54 AUS57
17 900 – 17 970	AERONAUTICAL MOBILE (R)		**17 900 – 17 970** AERONAUTICAL MOBILE (R) AUS51
17 970 – 18 030	AERONAUTICAL MOBILE (OR)		**17 970 – 18 030** AERONAUTICAL MOBILE (OR) AUS52 AUS57 AUS58 AUS101
18 030 – 18 052	FIXED		**18 030 – 18 052** FIXED AUS57
18 052 – 18 068	FIXED Space research		**18 052 – 18 068** FIXED Space research AUS57
18 068 – 18 168	AMATEUR AMATEUR–SATELLITE 154		**18 068 – 18 168** AMATEUR AMATEUR–SATELLITE
18 168 – 18 780	FIXED Mobile except aeronautical mobile		**18 168 – 18 780** FIXED Mobile except aeronautical mobile AUS57
18 780 – 18 900	MARITIME MOBILE		**18 780 – 18 900** MARITIME MOBILE AUS53 AUS59 AUS9 AUS57
18 900 – 19 020	BROADCASTING 134 146		**18 900 – 19 020** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57
19 020 – 19 680	FIXED		**19 020 – 19 680** FIXED Mobile AUS75 AUS57
19 680 – 19 800	MARITIME MOBILE 132		**19 680 – 19 800** MARITIME MOBILE 132 AUS53 AUS57
19 800 – 19 990	FIXED		**19 800 – 19 990** FIXED AUS57

kHz
19 990 – 23 350

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
19 990 – 19 995	STANDARD FREQUENCY AND TIME SIGNAL Space research 111		**19 990 – 19 995** STANDARD FREQUENCY AND TIME SIGNAL Space research 111
19 995 – 20 010	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 111		**19 995 – 20 010** STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 111
20 010 – 21 000	FIXED Mobile		**20 010 – 21 000** FIXED Mobile AUS57
21 000 – 21 450	AMATEUR AMATEUR–SATELLITE		**21 000 – 21 450** AMATEUR AMATEUR–SATELLITE
21 450 – 21 850	BROADCASTING		**21 450 – 21 850** BROADCASTING AUS54 AUS57
21 850 – 21 870	FIXED 155A 155		**21 850 – 21 870** FIXED AUS57
21 870 – 21 924	FIXED 155B		**21 870 – 21 924** FIXED 155B AUS57
21 924 – 22 000	AERONAUTICAL MOBILE (R)		**21 924 – 22 000** AERONAUTICAL MOBILE (R) AUS51
22 000 – 22 855	MARITIME MOBILE 132 156		**22 000 – 22 855** MARITIME MOBILE 132 AUS53 AUS59 AUS9 AUS57
22 855 – 23 000	FIXED 156		**22 855 – 23 000** FIXED Mobile AUS75 AUS57
23 000 – 23 200	FIXED Mobile except aeronautical mobile (R) 156		**23 000 – 23 200** FIXED Mobile except aeronautical mobile (R) AUS57
23 200 – 23 350	FIXED 156A AERONAUTICAL MOBILE (OR)		**23 200 – 23 350** FIXED 156A AERONAUTICAL MOBILE (OR) AUS52 AUS57 AUS58 AUS101

kHz
23 350– 26 100

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
23 350 – 24 000 FIXED MOBILE except aeronautical mobile 157			**23 350 – 24 000** FIXED MOBILE except aeronautical mobile (R) 157 AUS7 AUS57
24 000 – 24 450 FIXED LAND MOBILE			**24 000 – 24 450** FIXED LAND MOBILE AUS57
24 450 – 24 600 FIXED LAND MOBILE Radiolocation 132A 158	**24 450 – 24 650** FIXED LAND MOBILE RADIOLOCATION 132A	**24 450 – 24 600** FIXED LAND MOBILE Radiolocation 132A	**24 450 – 24 600** FIXED LAND MOBILE Radiolocation 132A AUS57
24 600 – 24 890 FIXED LAND MOBILE	**24 650 – 24 890** FIXED LAND MOBILE	**24 600 – 24 890** FIXED LAND MOBILE	**24 600 – 24 890** FIXED LAND MOBILE AUS57
24 890 – 24 990 AMATEUR AMATEUR–SATELLITE			**24 890 – 24 990** AMATEUR AMATEUR–SATELLITE
24 990 – 25 005 STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)			**24 990 – 25 005** STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)
25 005 – 25 010 STANDARD FREQUENCY AND TIME SIGNAL Space research			**25 005 – 25 010** STANDARD FREQUENCY AND TIME SIGNAL Space research
25 010 – 25 070 FIXED MOBILE except aeronautical mobile			**25 010 – 25 070** FIXED MOBILE except aeronautical mobile (R) AUS7 AUS57
25 070 – 25 210 MARITIME MOBILE			**25 070 – 25 210** MARITIME MOBILE AUS53 AUS59 AUS9 AUS57
25 210 – 25 550 FIXED MOBILE except aeronautical mobile			**25 210 – 25 550** FIXED MOBILE except aeronautical mobile (R) AUS7 AUS57
25 550 – 25 670 RADIO ASTRONOMY 149			**25 550 – 25 670** RADIO ASTRONOMY 149
25 670 – 26 100 BROADCASTING			**25 670 – 26 100** BROADCASTING AUS54

kHz
26 100 – 30 010

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<tr><td colspan="3">Column 1: ITU Radio Regulations Table of Allocations</td><td>Column 2:</td></tr>
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<tr><td>26 100 – 26 175</td><td colspan="2">MARITIME MOBILE 132</td><td>26 100 – 26 175
MARITIME MOBILE 132
AUS53
AUS57</td></tr>
<tr><td>26 175 – 26 200</td><td colspan="2">FIXED
MOBILE except aeronautical mobile</td><td>26 175 – 26 200
FIXED
MOBILE except aeronautical mobile (R)
AUS7 AUS57</td></tr>
<tr><td rowspan="2">26 200 – 26 350
FIXED
MOBILE except aeronautical mobile
Radiolocation 132A
133A</td><td rowspan="2">26 200 – 26 420
FIXED
MOBILE except aeronautical mobile
RADIOLOCATION 132A</td><td rowspan="2">26 200 – 26 350
FIXED
MOBILE except aeronautical mobile
Radiolocation 132A</td><td rowspan="2">26 200 – 26 350
FIXED
MOBILE except aeronautical mobile (R)
Radiolocation 132A
AUS7 AUS57</td></tr>
<tr><td rowspan="2">26 350 – 27 500
FIXED
MOBILE except aeronautical mobile

150</td><td rowspan="2">26 350 – 27 500
FIXED
MOBILE except aeronautical mobile

150</td><td rowspan="2">26 350 – 27 500
FIXED
MOBILE except aeronautical mobile (R)

150 AUS7 AUS57</td></tr>
<tr><td>26 420 – 27 500
FIXED
MOBILE except aeronautical mobile
150</td></tr>
<tr><td>27 500 – 28 000</td><td colspan="2">METEOROLOGICAL AIDS
FIXED
MOBILE</td><td>27 500 – 28 000
METEOROLOGICAL AIDS
FIXED
MOBILE
AUS57</td></tr>
<tr><td>28 000 – 29 700</td><td colspan="2">AMATEUR
AMATEUR–SATELLITE</td><td>28 000 – 29 700
AMATEUR
AMATEUR–SATELLITE</td></tr>
<tr><td>29 700 – 30 005</td><td colspan="2">FIXED
MOBILE</td><td>29 700 – 30 005
FIXED
MOBILE
AUS57</td></tr>
<tr><td>30 005 – 30 010</td><td colspan="2">SPACE OPERATION (satellite identification)
FIXED
MOBILE
SPACE RESEARCH</td><td>30 005 – 30 010
SPACE OPERATION (satellite identification)
FIXED
MOBILE
SPACE RESEARCH
AUS57</td></tr>
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MHz
30.01 – 38.25

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
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			32 – 33 FIXED MOBILE AUS57 AUS100
			33 – 34 FIXED MOBILE AUS57
			34 – 35 FIXED MOBILE AUS57 AUS100
			35 – 37.5 FIXED MOBILE AUS57
37.5 – 38.25	FIXED MOBILE Radio astronomy		**37.5 – 38** FIXED MOBILE Radio astronomy 149 AUS57
	149		**38 – 38.25** FIXED MOBILE Radio astronomy 149 AUS57 AUS100

MHz
38.25 – 44

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<tr><td>Region 1</td><td>Region 2</td><td>Region 3</td><td>Australian Table of Allocations</td></tr>
<tr><td>38.25 – 39
FIXED
MOBILE</td><td rowspan="3">38.25 – 39.986
FIXED
MOBILE</td><td>38.25 – 39.5
FIXED
MOBILE</td><td>38.25 – 39
FIXED
MOBILE
AUS57 AUS100</td></tr>
<tr><td>39 – 39.5
FIXED
MOBILE
Radiolocation 132A
159</td><td>39 – 39.5
FIXED
MOBILE

AUS57</td></tr>
<tr><td>39.5 – 39.986
FIXED
MOBILE</td><td>39.5 – 39.986
FIXED
MOBILE
RADIOLOCATION 132A</td><td>39.5 – 40
FIXED
MOBILE
RADIOLOCATION 132A</td></tr>
<tr><td colspan="2" rowspan="2">39.986 – 40.02
FIXED
MOBILE
Space research</td><td>39.986 – 40
FIXED
MOBILE
RADIOLOCATION 132A
Space research</td><td>AUS57</td></tr>
<tr><td>40 – 40.02
FIXED
MOBILE
Space research</td><td>40 – 40.02
FIXED
MOBILE
AUS57</td></tr>
<tr><td>40.02 – 40.98</td><td colspan="2">FIXED
MOBILE
150</td><td rowspan="2">40.02 – 41
FIXED
MOBILE
150 AUS57</td></tr>
<tr><td>40.98 – 41.015</td><td colspan="2">FIXED
MOBILE
Space research
160 161</td></tr>
<tr><td>41.015 – 42</td><td colspan="2">FIXED
MOBILE

160 161 161A</td><td>41 – 42
FIXED
MOBILE

AUS57 AUS100</td></tr>
<tr><td>42 – 42.5
FIXED
MOBILE
Radiolocation 132A
160 161B</td><td colspan="2">42 – 42.5
FIXED
MOBILE

161</td><td>42 – 43
FIXED
MOBILE

AUS57</td></tr>
<tr><td>42.5 – 44</td><td colspan="2">FIXED
MOBILE

160 161 161A</td><td>43 – 44
FIXED
MOBILE
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MHz
44 – 75.2

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<tr><td>Region 1</td><td>Region 2</td><td>Region 3</td><td>Australian Table of Allocations</td></tr>
<tr><td rowspan="2">44 – 47</td><td colspan="2" rowspan="2">FIXED
MOBILE

162 162A</td><td>44 – 45
FIXED
MOBILE
AUS57</td></tr>
<tr><td rowspan="3">45 – 50
BROADCASTING
FIXED AUS100A
MOBILE AUS100A

162</td></tr>
<tr><td>47 – 50
BROADCASTING

162A 163 164 165</td><td>47 – 50
FIXED
MOBILE</td><td>47 – 50
FIXED
MOBILE
BROADCASTING
162A</td></tr>
<tr><td>50 – 52
BROADCASTING
Amateur 166A 166B 166C 166D 166E 169 169A 169B

162A 164 165</td><td colspan="2" rowspan="2">50 – 54
AMATEUR

162A 167 167A 168 170</td><td>50 – 52
BROADCASTING
Amateur

168</td></tr>
<tr><td rowspan="3">52 – 68
BROADCASTING

162A 163 164 165 169 169A 169B 171</td><td>52 – 54
AMATEUR</td></tr>
<tr><td>54 – 68
BROADCASTING
Fixed
Mobile

172</td><td>54 – 68
FIXED
MOBILE
BROADCASTING

162A</td><td>54 – 56
FIXED
MOBILE
RADIOLOCATION AUS89</td></tr>
<tr><td>56 – 70
BROADCASTING
FIXED AUS101A
MOBILE AUS101A

176</td></tr>
<tr><td rowspan="4">68 – 74.8
FIXED
MOBILE except aeronautical mobile

149 175 177 179</td><td>68 – 72
BROADCASTING
Fixed
Mobile
173</td><td rowspan="4">68 – 74.8
FIXED
MOBILE

149 176 179</td><td rowspan="4">70 – 74.8
FIXED
MOBILE

176 149</td></tr>
<tr><td>72 – 73
FIXED
MOBILE</td></tr>
<tr><td>73 – 74.6
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<tr><td>74.6 – 74.8
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<tr><td>74.8 – 75.2</td><td colspan="2">AERONAUTICAL RADIONAVIGATION

180 181</td><td>74.8 – 75.2
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180 AUS25</td></tr>
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MHz
75.2 – 137.025

<table>
<tr><th colspan="3">Column 1: ITU Radio Regulations Table of Allocations</th><th>Column 2:</th></tr>
<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th><th>Australian Table of Allocations</th></tr>
<tr><td rowspan="4">75.2 – 87.5
FIXED
MOBILE except aeronautical mobile

175 179 187</td><td colspan="2">75.2 – 75.4
FIXED
MOBILE
179</td><td>75.2 – 75.4
FIXED
MOBILE</td></tr>
<tr><td>75.4 – 76
FIXED
MOBILE</td><td rowspan="3">75.4 – 87
FIXED
MOBILE

182 183 188</td><td>75.4 – 85
FIXED
MOBILE
AUS103</td></tr>
<tr><td rowspan="2">76 – 88
BROADCASTING
Fixed
Mobile

185</td><td>85 – 87.5
BROADCASTING 188
Fixed
Mobile
AUS24 AUS103</td></tr>
<tr><td rowspan="2">87.5 – 100
BROADCASTING

190</td><td>87 – 100
FIXED
MOBILE
BROADCASTING</td><td rowspan="2">87.5 – 108
BROADCASTING
Fixed
Mobile

AUS103</td></tr>
<tr><td>88 – 100
BROADCASTING</td><td></td></tr>
<tr><td>100 – 108</td><td colspan="2">BROADCASTING
192 194</td></tr>
<tr><td>108 – 117.975</td><td colspan="2">AERONAUTICAL RADIONAVIGATION

197 197A</td><td>108 – 117.975
AERONAUTICAL RADIONAVIGATION
197A AUS25 AUS103</td></tr>
<tr><td>117.975 – 137</td><td colspan="2">AERONAUTICAL MOBILE (R)

111 200 201 202</td><td>117.975 – 137
AERONAUTICAL MOBILE (R)
111 200 AUS25 AUS103</td></tr>
<tr><td>137 – 137.025</td><td colspan="2">SPACE OPERATION (space-to-Earth) 203C
METEOROLOGICAL–SATELLITE (space-to-Earth)
MOBILE–SATELLITE (space-to-Earth) 208A 208B 209
SPACE RESEARCH (space-to-Earth)
Fixed
Mobile except aeronautical mobile (R)

204 205 206 207 208</td><td>137 – 137.025
BROADCASTING 207 AUS26
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METEOROLOGICAL–SATELLITE (space-to-Earth)
MOBILE–SATELLITE (space-to-Earth) 208A 208B 209
SPACE RESEARCH (space-to-Earth)
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Mobile except aeronautical mobile (R)
208 AUS103</td></tr>
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MHz
137.025 – 138

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
137.025 – 137.175	SPACE OPERATION (space-to-Earth) 203C METEOROLOGICAL–SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) Mobile–satellite (space-to-Earth) 208A 208B 209 204 205 206 207 208		**137.025 – 137.175** BROADCASTING 207 AUS26 SPACE OPERATION (space-to-Earth) 203C METEOROLOGICAL–SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) Mobile–satellite (space-to-Earth) 208A 208B 209 208 AUS103
137.175 – 137.825	SPACE OPERATION (space-to-Earth) 203C 209A METEOROLOGICAL–SATELLITE (space-to-Earth) MOBILE–SATELLITE (space-to-Earth) 208A 208B 209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 204 205 206 207 208		**137.175 – 137.825** BROADCASTING 207 AUS26 SPACE OPERATION (space-to-Earth) 203C 209A METEOROLOGICAL–SATELLITE (space-to-Earth) MOBILE–SATELLITE (space-to-Earth) 208A 208B 209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 208 AUS103
137.825 – 138	SPACE OPERATION (space-to-Earth) 203C METEOROLOGICAL–SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) Mobile–satellite (space-to-Earth) 208A 208B 209 204 205 206 207 208		**137.825 – 138** BROADCASTING 207 AUS26 SPACE OPERATION (space-to-Earth) 203C METEOROLOGICAL–SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile–satellite (space-to-Earth) 208A 208B 209 Mobile except aeronautical mobile (R) 208 AUS103

MHz
138 – 149.9

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
138 – 143.6 AERONAUTICAL MOBILE (OR) 210 211 212 214	**138 – 143.6** FIXED MOBILE RADIOLOCATION Space research (space-to-Earth)	**138 – 143.6** FIXED MOBILE Space research (space-to-Earth) 207 213	**138 – 143.6** BROADCASTING 207 AUS26 FIXED MOBILE Space research (space-to-Earth) AUS103
143.6 – 143.65 AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space-to-Earth) 211 212 214	**143.6 – 143.65** FIXED MOBILE RADIOLOCATION SPACE RESEARCH (space-to-Earth)	**143.6 – 143.65** FIXED MOBILE SPACE RESEARCH (space-to-Earth) 207 213	**143.6 – 143.65** BROADCASTING 207 AUS26 FIXED MOBILE SPACE RESEARCH (space-to-Earth) AUS103
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144 – 146	AMATEUR AMATEUR–SATELLITE 216		**144 – 146** AMATEUR AMATEUR–SATELLITE AUS103
146 – 148 FIXED MOBILE except aeronautical mobile (R)	**146 – 148** AMATEUR 217	**146 – 148** AMATEUR FIXED MOBILE 217	**146 – 148** AMATEUR AUS103
148 – 149.9 FIXED MOBILE except aeronautical mobile (R) MOBILE–SATELLITE (Earth-to-space) 209 218 218A 219 221	**148 – 149.9** FIXED MOBILE MOBILE–SATELLITE (Earth-to-space) 209 218 218A 219 221		**148 – 149.9** FIXED MOBILE MOBILE–SATELLITE (Earth-to-space) 209 218 218A 219 221 AUS103

MHz
149.9 – 156.7625

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
149.9 – 150.05	MOBILE–SATELLITE (Earth-to-space) 209 220		**149.9 – 150.05** MOBILE–SATELLITE (Earth-to-space) 209 220 AUS103
150.05 – 153 FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 149	**150.05 – 154** FIXED MOBILE		**150.05 – 153** FIXED MOBILE RADIO ASTRONOMY 225 AUS66 AUS103
153 – 154 FIXED MOBILE except aeronautical mobile (R) Meteorological aids	225		**153 – 154** FIXED MOBILE AUS103
154 – 156.4875 FIXED MOBILE except aeronautical mobile (R) 225A 226	**154 – 156.4875** FIXED MOBILE 226	**154 – 156.4875** FIXED MOBILE 225A 226	**154 – 156.4875** FIXED MOBILE 226 AUS103
156.4875 – 156.5625	MARITIME MOBILE (distress and calling via DSC) 111 226 227		**156.4875 – 156.5625** MARITIME MOBILE (distress and calling via DSC) 111 226 227 AUS103
156.5625 – 156.7625 FIXED MOBILE except aeronautical mobile (R) 226	**156.5625 – 156.7625** FIXED MOBILE 225 226		**156.5625 – 156.7625** FIXED MOBILE 226 AUS103

MHz
156.7625 – 162.0375

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
156.7625 – 156.7875 MARITIME MOBILE Mobile–satellite (Earth-to-space) 111 226 228	**156.7625 – 156.7875** MARITIME MOBILE MOBILE–SATELLITE (Earth-to-space) 111 226 228	**156.7625 – 156.7875** MARITIME MOBILE Mobile–satellite (Earth-to-space) 111 226 228	**156.7625 – 156.7875** MARITIME MOBILE Mobile–satellite (Earth-to-space) 111 226 228 AUS103
156.7875 – 156.8125 MARITIME MOBILE (distress and calling) 111 226			**156.7875 – 156.8125** MARITIME MOBILE (distress and calling) 111 226 AUS103
156.8125 – 156.8375 MARITIME MOBILE Mobile–satellite (Earth-to-space) 111 226 228	**156.8125 – 156.8375** MARITIME MOBILE MOBILE–SATELLITE (Earth-to-space) 111 226 228	**156.8125 – 156.8375** MARITIME MOBILE Mobile–satellite (Earth-to-space) 111 226 228	**156.8125 – 156.8375** MARITIME MOBILE Mobile–satellite (Earth-to-space) 111 226 228 AUS103
156.8375 – 157.1875 FIXED MOBILE except aeronautical mobile 226	**156.8375 – 157.1875** FIXED MOBILE 226		**156.8375 – 157.1875** FIXED MOBILE 226 AUS103
157.1875 – 157.3375 FIXED MOBILE except aeronautical mobile Maritime mobile–satellite 208A 208B 228AB 228AC 226	**157.1875 – 157.3375** FIXED MOBILE Maritime mobile–satellite 208A 208B 228AB 228AC 226		**157.1875 – 157.3375** FIXED MOBILE Maritime mobile–satellite 208A 208B 228AB 228AC 226 AUS103
157.3375 – 161.7875 FIXED MOBILE except aeronautical mobile 226	**157.3375 – 161.7875** FIXED MOBILE 226		**157.3375 – 161.7875** FIXED MOBILE 226 AUS103
161.7875 – 161.9375 FIXED MOBILE except aeronautical mobile Maritime mobile–satellite 208A 208B 228AB 228AC 226	**161.7875 – 161.9375** FIXED MOBILE Maritime mobile–satellite 208A 208B 228AB 228AC 226		**161.7875 – 161.9375** FIXED MOBILE Maritime mobile–satellite 208A 208B 228AB 228AC 226 AUS103
161.9375 – 161.9625 FIXED MOBILE except aeronautical mobile Maritime mobile–satellite (Earth-to-space) 228AA 226	**161.9375 – 161.9625** FIXED MOBILE Maritime mobile–satellite (Earth-to-space) 228AA 226		**161.9375 – 161.9625** FIXED MOBILE Maritime mobile–satellite (Earth-to-space) 228AA 226 AUS103

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
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161.9875 – 162.0125 FIXED MOBILE except aeronautical mobile Maritime mobile–satellite (Earth-to-space) 228AA 226 229	**161.9875 – 162.0125** FIXED MOBILE Maritime mobile–satellite (Earth-to-space) 228AA 226		**161.9875 – 162.0125** FIXED MOBILE Maritime mobile–satellite (Earth-to-space) 228AA 226 AUS103
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MHz
162.0375 – 273

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<tr><td>Region 1</td><td>Region 2</td><td>Region 3</td><td>Australian Table of Allocations</td></tr>
<tr><td>162.0375 – 174
FIXED
MOBILE except aeronautical mobile
226 229</td><td colspan="2">162.0375 – 174
FIXED
MOBILE

226 230 231</td><td>162.0375 – 174
FIXED
MOBILE

226 AUS103</td></tr>
<tr><td rowspan="3">174 – 223
BROADCASTING

235 237 243</td><td>174 – 216
BROADCASTING
Fixed
Mobile</td><td rowspan="3">174 – 223
FIXED
MOBILE
BROADCASTING

233 238 240 245</td><td rowspan="3">174 – 225
BROADCASTING
Fixed
Mobile

AUS92 AUS103</td></tr>
<tr><td>216 – 220
FIXED
MARITIME MOBILE
Radiolocation 241
242</td></tr>
<tr><td>220 – 225
AMATEUR
FIXED
MOBILE
Radiolocation 241</td></tr>
<tr><td>223 – 230
BROADCASTING
Fixed
Mobile

243 246 247</td><td rowspan="3">225 – 235
FIXED
MOBILE</td><td>223 – 230
FIXED
MOBILE
BROADCASTING
AERONAUTICAL RADIONAVIGATION
Radiolocation
250</td><td>225 – 230
BROADCASTING
Fixed AUS101A
Mobile AUS101A

AUS103</td></tr>
<tr><td>230 – 235
FIXED
MOBILE

247 251 252</td><td>230 – 235
FIXED
MOBILE
AERONAUTICAL RADIONAVIGATION
250</td><td>230 – 235
FIXED
MOBILE
AERONAUTICAL RADIONAVIGATION
AUS100 AUS103</td></tr>
<tr><td>235 – 267</td><td colspan="2">FIXED
MOBILE

111 252 254 256 256A</td><td>235 – 267
FIXED
MOBILE
111 254 256 AUS100 AUS103</td></tr>
<tr><td>267 – 272</td><td colspan="2">FIXED
MOBILE
Space operation (space-to-Earth)

254 257</td><td>267 – 272
FIXED
MOBILE
Space operation (space-to-Earth)
254 257 AUS100 AUS103</td></tr>
<tr><td>272 – 273</td><td colspan="2">SPACE OPERATION (space-to-Earth)
FIXED
MOBILE

254</td><td>272 – 273
SPACE OPERATION (space-to-Earth)
FIXED
MOBILE
254 AUS100 AUS103</td></tr>
</table>

MHz
273 – 399.9

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
273 – 312	FIXED MOBILE 254		**273 – 312** FIXED MOBILE 254 AUS100 AUS103
312 – 315	FIXED MOBILE Mobile–satellite (Earth-to-space) 254 255		**312 – 315** FIXED MOBILE Mobile–satellite (Earth-to-space) 254 255 AUS100
315 – 322	FIXED MOBILE 254		**315 – 322** FIXED MOBILE 254 AUS100
322 – 328.6	FIXED MOBILE RADIO ASTRONOMY 149		**322 – 328.6** FIXED MOBILE RADIO ASTRONOMY 149 AUS100
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387 – 390	FIXED MOBILE Mobile–satellite (space-to-Earth) 208A 208B 254 255		**387 – 390** FIXED MOBILE Mobile–satellite (space-to-Earth) 208A 208B 254 255 AUS101
390 – 399.9	FIXED MOBILE 254		**390 – 399.9** FIXED MOBILE 254 AUS101

MHz
399.9 – 402

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
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MHz
402 – 430

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
402 – 403	METEOROLOGICAL AIDS EARTH EXPLORATION–SATELLITE (Earth-to-space) METEOROLOGICAL–SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile 264A 264B		**402 – 403** EARTH EXPLORATION–SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL–SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile (R) Radiolocation AUS29 AUS101A 264A 264B
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MHz
430 – 460

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
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432 – 438 AMATEUR RADIOLOCATION Earth exploration–satellite (active) 279A 138 271 276 277 280 281 282	**432 – 438** RADIOLOCATION Amateur Earth exploration–satellite (active) 279A 271 276 277 278 279 281 282		**432 – 438** RADIOLOCATION AUS101A Amateur Earth exploration–satellite (active) 279A 282 AUS95
438 – 440 AMATEUR RADIOLOCATION 271 274 275 276 277 283	**438 – 440** RADIOLOCATION Amateur 271 276 277 278 279		**438 – 440** RADIOLOCATION AUS101A Amateur AUS95
440 – 450	FIXED MOBILE except aeronautical mobile Radiolocation 269 270 271 284 285 286		**440 – 450** RADIOLOCATION AUS90 AUS101A Amateur Fixed AUS101A Mobile AUS101A 269 270 286
450 – 455	FIXED MOBILE 286AA 209 271 286 286A 286B 286C 286D 286E		**450 – 460** FIXED MOBILE 286AA
455 – 456 FIXED MOBILE 286AA 209 271 286A 286B 286C 286E	**455 – 456** FIXED MOBILE 286AA MOBILE–SATELLITE (Earth-to-space) 286A 286B 286C 209	**455 – 456** FIXED MOBILE 286AA 209 271 286A 286B 286C 286E	
456 – 459	FIXED MOBILE 286AA 271 287 288		
459 – 460 FIXED MOBILE 286AA 209 271 286A 286B 286C 286E	**459 – 460** FIXED MOBILE 286AA MOBILE–SATELLITE (Earth-to-space) 286A 286B 286C 209	**459 – 460** FIXED MOBILE 286AA 209 271 286A 286B 286C 286E	286 286A 287 AUS98

MHz
460 – 890

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<tr><td>Region 1</td><td>Region 2</td><td>Region 3</td><td>Australian Table of Allocations</td></tr>
<tr><td>460 – 470</td><td colspan="2">FIXED
MOBILE 286AA
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MOBILE 286AA
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<tr><td rowspan="5">470 – 694
BROADCASTING

149 291A 294 296 300 304 306 312</td><td>470 – 512
BROADCASTING
Fixed
Mobile
292 293 295</td><td>470 – 585
FIXED
MOBILE 296A
BROADCASTING

291 298</td><td>470 – 520
FIXED
MOBILE</td></tr>
<tr><td>512 – 608
BROADCASTING
295 297</td><td rowspan="2">585 – 610
FIXED
MOBILE 296A
BROADCASTING
RADIONAVIGATION
149 305 306 307</td><td>520 – 694
BROADCASTING
Fixed
Mobile

149 306 AUS103 AUS104</td></tr>
<tr><td>608 – 614
RADIO ASTRONOMY
Mobile–satellite except aeronautical mobile–satellite (Earth-to-space)</td></tr>
<tr><td>614 – 698
BROADCASTING
Fixed
Mobile
293 308 308A 309</td><td rowspan="3">610 – 890
FIXED
MOBILE 296A 313A 317A
BROADCASTING

149 305 306 307 320</td></tr>
<tr><td>694 – 790
MOBILE except aeronautical mobile 312A 317A
BROADCASTING
300 312</td><td>698 – 806
MOBILE 317A
BROADCASTING
Fixed
293 309</td><td rowspan="2">694 – 850
FIXED
MOBILE 313A 317A

320 AUS103</td></tr>
<tr><td>790 – 862
FIXED
MOBILE except aeronautical mobile 316B 317A
BROADCASTING

312 319</td><td>806 – 890
FIXED
MOBILE 317A
BROADCASTING

317 318</td></tr>
<tr><td>862 – 890
FIXED
MOBILE except aeronautical mobile 317A
BROADCASTING 322
319 323</td><td>850 – 890
FIXED
MOBILE 317A
Radiolocation AUS29 AUS101A

320 AUS103</td></tr>
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MHz
890 – 1 215

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<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th><th>Australian Table of Allocations</th></tr>
<tr><td rowspan="4">890 – 942
FIXED
MOBILE except aeronautical mobile 317A
BROADCASTING 322
Radiolocation

323</td><td>890 – 902
FIXED
MOBILE except aeronautical mobile 317A
Radiolocation
318 325</td><td rowspan="4">890 – 942
FIXED
MOBILE 317A
BROADCASTING
Radiolocation

327</td><td rowspan="2">890 – 915
FIXED
MOBILE 317A
Radiolocation AUS29 AUS101A

AUS103</td></tr>
<tr><td rowspan="2">902 – 928
FIXED
Amateur
Mobile except aeronautical mobile 325A
Radiolocation
150 325 326</td></tr>
<tr><td>915 – 928
RADIOLOCATION 327 AUS101A
Fixed
Mobile
AUS32 AUS103</td></tr>
<tr><td>928 – 942
FIXED
MOBILE except aeronautical mobile 317A
Radiolocation
325</td><td>928 – 942
FIXED
MOBILE 317A
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<tr><td>942 – 960
FIXED
MOBILE except aeronautical mobile 317A
BROADCASTING 322
323</td><td>942 – 960
FIXED
MOBILE 317A</td><td>942 – 960
FIXED
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320 AUS103</td></tr>
<tr><td>960 – 1 164</td><td colspan="2">AERONAUTICAL MOBILE (R) 327A
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328AA</td><td>960 – 1 164
AERONAUTICAL MOBILE (R) 327A
AERONAUTICAL RADIONAVIGATION 328
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<tr><td>1 164 – 1 215</td><td colspan="2">AERONAUTICAL RADIONAVIGATION 328
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AERONAUTICAL RADIONAVIGATION 328
RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B
328A AUS25 AUS64 AUS87 AUS103</td></tr>
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MHz
1 215 – 1 427

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
1 215 – 1 240	EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active) 330 331 332		**1 215 – 1 240** EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active) 331 332 AUS87 AUS103
1 240 – 1 300	EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active) Amateur 282 330 331 332 335 335A		**1 240 – 1 300** EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION AUS90 RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active) Amateur 282 331 332 335A AUS1A AUS87 AUS101 AUS103
1 300 – 1 350	AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION RADIONAVIGATION–SATELLITE (Earth-to-space) 149 337A		**1 300 – 1 350** AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION RADIONAVIGATION–SATELLITE (Earth-to-space) 149 337A AUS87 AUS101 AUS103
1 350 – 1 400 FIXED MOBILE RADIOLOCATION 149 338 338A 339	**1 350 – 1 400** RADIOLOCATION 338A 149 334 339		**1 350 – 1 400** RADIOLOCATION AUS100A Fixed Mobile 149 338A 339 AUS87 AUS103
1 400 – 1 427	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341		**1 400 – 1 427** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341 AUS87 AUS103

MHz
1 427 – 1 530

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
1 427 – 1 429 SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 341A 341B 341C 338A 341			**1 427 – 1 429** SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 341C 338A 341 AUS87 AUS103
1 429 – 1 452 FIXED MOBILE except aeronautical mobile 341A 338A 341 342	**1 429 – 1 452** FIXED MOBILE 341B 341C 343 338A 341		**1 429 – 1 452** FIXED MOBILE 341C AUS3 338A 341 AUS87 AUS103
1 452 – 1 492 FIXED MOBILE except aeronautical mobile 346 BROADCASTING BROADCASTING–SATELLITE 208B 341 342 345	**1 452 – 1 492** FIXED MOBILE 341B 343 346A BROADCASTING BROADCASTING–SATELLITE 208B 341 344 345		**1 452 – 1 492** BROADCASTING BROADCASTING–SATELLITE 208B FIXED MOBILE 346A AUS3 341 345 AUS87 AUS103
1 492 – 1 518 FIXED MOBILE except aeronautical mobile 341A 341 342	**1 492 – 1 518** FIXED MOBILE 341B 343 341 344	**1 492 – 1 518** FIXED MOBILE 341C 341	**1 492 – 1 518** FIXED MOBILE 341C AUS3 341 AUS87 AUS103
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1 525 – 1 530 SPACE OPERATION (space-to-Earth) FIXED MOBILE–SATELLITE (space-to-Earth) 208B 351A Earth exploration–satellite Mobile except aeronautical mobile 349 341 342 350 351 352A 354	**1 525 – 1 530** SPACE OPERATION (space-to-Earth) MOBILE–SATELLITE (space-to-Earth) 208B 351A Earth exploration–satellite Fixed Mobile 343 341 351 354	**1 525 – 1 530** SPACE OPERATION (space-to-Earth) FIXED MOBILE–SATELLITE (space-to-Earth) 208B 351A Earth exploration–satellite Mobile 349 341 351 352A 354	**1 525 – 1 530** SPACE OPERATION (space-to-Earth) FIXED MOBILE–SATELLITE (space-to-Earth) 208B 351A Earth exploration–satellite Mobile 349 AUS3 341 351 354 AUS87 AUS103

MHz
1 530 – 1 613.8

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
1 530 – 1 535 SPACE OPERATION (space-to-Earth) MOBILE–SATELLITE (space-to-Earth) 208B 351A 353A Earth exploration–satellite Fixed Mobile except aeronautical mobile 341 342 351 354	**1 530 – 1 535** SPACE OPERATION (space-to-Earth) MOBILE–SATELLITE (space-to-Earth) 208B 351A 353A Earth exploration–satellite Fixed Mobile 343 341 351 354		**1 530 – 1 535** SPACE OPERATION (space-to-Earth) MOBILE–SATELLITE (space-to-Earth) 208B 351A 353A Earth exploration–satellite Fixed Mobile AUS3 341 351 354 AUS87 AUS103
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1 559 – 1 610 AERONAUTICAL RADIONAVIGATION RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 208B 328B 329A 341			**1 559 – 1 610** AERONAUTICAL RADIONAVIGATION RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 208B 328B 329A 341 AUS87 AUS103
1 610 – 1 610.6 MOBILE–SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION 341 355 359 364 366 367 368 369 371 372	**1 610 – 1 610.6** MOBILE–SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION RADIODETERMINATION–SATELLITE (Earth-to-space) 341 364 366 367 368 370 372	**1 610 – 1 610.6** MOBILE–SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION Radiodetermination–satellite (Earth-to-space) 341 355 359 364 366 367 368 369 372	**1 610 – 1 610.6** MOBILE–SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION RADIODETERMINATION–SATELLITE (Earth-to-space) 341 364 366 367 368 369 372 AUS87 AUS103
1 610.6 – 1 613.8 MOBILE–SATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 149 341 355 359 364 366 367 368 369 371 372	**1 610.6 – 1 613.8** MOBILE–SATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION RADIODETERMINATION–SATELLITE (Earth-to-space) 149 341 364 366 367 368 370 372	**1 610.6 – 1 613.8** MOBILE–SATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION Radiodetermination–satellite (Earth-to-space) 149 341 355 359 364 366 367 368 369 372	**1 610.6 – 1 613.8** MOBILE–SATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION RADIODETERMINATION–SATELLITE (Earth-to-space) 149 341 364 366 367 368 369 372 AUS87 AUS103

MHz
1 613.8 – 1 660.5

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
1 613.8 – 1 621.35 MOBILE–SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION Mobile–satellite (space-to-Earth) 208B 341 355 359 364 365 366 367 368 369 371 372	**1 613.8 – 1 621.35** MOBILE–SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION RADIODETERMINATION–SATELLITE (Earth-to-space) Mobile–satellite (space-to-Earth) 208B 341 364 365 366 367 368 370 372	**1 613.8 – 1 621.35** MOBILE–SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION Mobile–satellite (space-to-Earth) 208B Radiodetermination–satellite (Earth-to-space) 341 355 359 364 365 366 367 368 369 372	**1 613.8 – 1 621.35** MOBILE–SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION RADIODETERMINATION–SATELLITE (Earth-to-space) Mobile–satellite (space-to-Earth) 208B 341 364 365 366 367 368 369 372 AUS87 AUS103
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1 626.5 – 1 660	MOBILE–SATELLITE (Earth-to-space) 351A 341 351 353A 354 355 357A 359 362A 374 375 376		**1 626.5 – 1 660** MOBILE–SATELLITE (Earth-to-space) 351A 341 351 353A 354 357A 375 376 AUS87 AUS103
1 660 – 1 660.5	MOBILE–SATELLITE (Earth-to-space) 351A RADIO ASTRONOMY 149 341 351 354 362A 376A		**1 660 – 1 660.5** MOBILE–SATELLITE (Earth-to-space) 351A AUS65 RADIO ASTRONOMY 149 341 351 354 376A AUS87 AUS103

MHz
1 660.5 – 1 668.4

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
1 660.5 – 1 668 149 341 379 379A	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile		**1 660.5 – 1 668** RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149 341 379A AUS87 AUS103
1 668 – 1 668.4 149 341 379 379A	MOBILE–SATELLITE (Earth-to-space) 351A 379B 379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile		**1 668 – 1 668.4** MOBILE–SATELLITE (Earth-to-space) 351A 379B 379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149 341 379A AUS87 AUS103

MHz
1 668.4 – 1 710

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
1 668.4 – 1 670 METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE–SATELLITE (Earth-to-space) 351A 379B 379C RADIO ASTRONOMY 149 341 379D 379E			**1 668.4 – 1 670** METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE–SATELLITE (Earth-to-space) 351A 379B 379C RADIO ASTRONOMY 149 341 379D 379E AUS87 AUS103
1 670 – 1 675 METEOROLOGICAL AIDS FIXED METEOROLOGICAL–SATELLITE (space-to-Earth) MOBILE MOBILE–SATELLITE (Earth-to-space) 351A 379B 341 379D 379E 380A			**1 670 – 1 675** METEOROLOGICAL AIDS FIXED METEOROLOGICAL–SATELLITE (space-to-Earth) MOBILE MOBILE–SATELLITE (Earth-to-space) 351A 379B 341 379D 379E 380A AUS87 AUS103
1 675 – 1 690 METEOROLOGICAL AIDS FIXED METEOROLOGICAL–SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 341			**1 675 – 1 690** METEOROLOGICAL AIDS FIXED METEOROLOGICAL–SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 341 AUS87 AUS103
1 690 – 1 700 METEOROLOGICAL AIDS METEOROLOGICAL–SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile 289 341 382	**1 690 – 1 700** METEOROLOGICAL AIDS METEOROLOGICAL–SATELLITE (space-to-Earth) 289 341 381		**1 690 – 1 700** METEOROLOGICAL AIDS METEOROLOGICAL–SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile 289 341 AUS87 AUS103
1 700 – 1 710 FIXED METEOROLOGICAL–SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 289 341		**1 700 – 1 710** FIXED METEOROLOGICAL–SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 289 341 384	**1 700 – 1 710** FIXED METEOROLOGICAL–SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 289 341 AUS87 AUS103

MHz
1 710 – 2 120

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
1 710 – 1 930 FIXED MOBILE 384A 388A 388B 149 341 385 386 387 388			**1 710 – 1 930** FIXED MOBILE 384A 388A 149 341 385 386 388 AUS87 AUS103
1 930 – 1 970 FIXED MOBILE 388A 388B 388	**1 930 – 1 970** FIXED MOBILE 388A 388B Mobile–satellite (Earth-to-space) 388	**1 930 – 1 970** FIXED MOBILE 388A 388B 388	**1 930 – 1 970** FIXED MOBILE 388A 388
1 970 – 1 980 FIXED MOBILE 388A 388B 388			**1 970 – 1 980** FIXED MOBILE 388A 388
1 980 – 2 010 FIXED MOBILE MOBILE–SATELLITE (Earth-to-space) 351A 388 389A 389B 389F			**1 980 – 2 010** FIXED MOBILE MOBILE–SATELLITE (Earth-to-space) 351A 388 389A
2 010 – 2 025 FIXED MOBILE 388A 388B 388	**2 010 – 2 025** FIXED MOBILE MOBILE–SATELLITE (Earth-to-space) 388 389C 389E	**2 010 – 2 025** FIXED MOBILE 388A 388B 388	**2 010 – 2 025** FIXED MOBILE 388A 388
2 025 – 2 110 SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION–SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 391 SPACE RESEARCH (Earth-to-space) (space-to-space) 392			**2 025 – 2 110** SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION–SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 391 SPACE RESEARCH (Earth-to-space) (space-to-space) 392 AUS106
2 110 – 2 120 FIXED MOBILE 388A 388B SPACE RESEARCH (deep space) (Earth-to-space) 388			**2 110 – 2 120** FIXED MOBILE 388A SPACE RESEARCH (deep space) (Earth-to-space) 388

MHz
2 120 – 2 483.5

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
2 120 – 2 160 FIXED MOBILE 388A 388B 388	**2 120 – 2 160** FIXED MOBILE 388A 388B Mobile–satellite (space-to-Earth) 388	**2 120 – 2 160** FIXED MOBILE 388A 388B 388	**2 120 – 2 170** FIXED MOBILE 388A
2 160 – 2 170 FIXED MOBILE 388A 388B 388	**2 160 – 2 170** FIXED MOBILE MOBILE–SATELLITE (space-to-Earth) 388 389C 389E	**2 160 – 2 170** FIXED MOBILE 388A 388B 388	388
2 170 – 2 200	FIXED MOBILE MOBILE–SATELLITE (space-to-Earth) 351A 388 389A 389F		**2 170 – 2 200** FIXED MOBILE MOBILE–SATELLITE (space-to-Earth) 351A 388 389A
2 200 – 2 290	SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION–SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 391 SPACE RESEARCH (space-to-Earth) (space-to-space) 392		**2 200 – 2 290** SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION–SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 391 SPACE RESEARCH (space-to-Earth) (space-to-space) 392 AUS87 AUS106A
2 290 – 2 300	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)		**2 290 – 2 300** FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth) AUS87 AUS93 AUS106A
2 300 – 2 450 FIXED MOBILE 384A Amateur Radiolocation 150 282 395	**2 300 – 2 450** FIXED MOBILE 384A RADIOLOCATION Amateur 150 282 393 394		**2 300 – 2 450** FIXED MOBILE 384A RADIOLOCATION Amateur 150 282 AUS87
2 450 – 2 483.5 FIXED MOBILE Radiolocation 150	**2 450 – 2 483.5** FIXED MOBILE RADIOLOCATION 150		**2 450 – 2 483.5** FIXED MOBILE RADIOLOCATION 150 AUS87

MHz
2 483.5 – 2 655

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
2 483.5 – 2 500 FIXED MOBILE MOBILE–SATELLITE (space-to-Earth) 351A RADIODETERMINATION–SATELLITE (space-to-Earth) 398 Radiolocation 398A 150 399 401 402	**2 483.5 – 2 500** FIXED MOBILE MOBILE–SATELLITE (space-to-Earth) 351A RADIOLOCATION RADIODETERMINATION–SATELLITE (space-to-Earth) 398 150 402	**2 483.5 – 2 500** FIXED MOBILE MOBILE–SATELLITE (space-to-Earth) 351A RADIOLOCATION RADIODETERMINATION–SATELLITE (space-to-Earth) 398 150 401 402	**2 483.5 – 2 500** FIXED MOBILE MOBILE–SATELLITE (space-to-Earth) 351A RADIOLOCATION RADIODETERMINATION–SATELLITE (space-to-Earth) 398 150 401 402 AUS87
2 500 – 2 520 FIXED 410 MOBILE except aeronautical mobile 384A 412	**2 500 – 2 520** FIXED 410 FIXED–SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A 404	**2 500 – 2 520** FIXED 410 FIXED–SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A MOBILE–SATELLITE (space-to-Earth) 351A 407 414 414A 404 415A	**2 500 – 2 520** FIXED 410 FIXED–SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A MOBILE–SATELLITE (space-to-Earth) 351A 407 414 414A AUS87
2 520 – 2 655 FIXED 410 MOBILE except aeronautical mobile 384A BROADCASTING–SATELLITE 413 416 339 412 418B 418C	**2 520 – 2 655** FIXED 410 FIXED–SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTING–SATELLITE 413 416 339 418B 418C	**2 520 – 2 535** FIXED 410 FIXED–SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTING–SATELLITE 413 416 403 414A 415A	**2 520 – 2 535** FIXED 410 FIXED–SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTING–SATELLITE 413 416 403 AUS87
		2 535 – 2 655 FIXED 410 MOBILE except aeronautical mobile 384A BROADCASTING–SATELLITE 413 416 339 418 418A 418B 418C	**2 535 – 2 655** FIXED 410 MOBILE except aeronautical mobile 384A BROADCASTING–SATELLITE 413 416 339 418B 418C AUS87

MHz
2 655 – 3 100

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
2 655 – 2 670 FIXED 410 MOBILE except aeronautical mobile 384A BROADCASTING–SATELLITE 208B 413 416 Earth exploration–satellite (passive) Radio astronomy Space research (passive) 149 412	**2 655 – 2 670** FIXED 410 FIXED–SATELLITE (Earth-to-space) (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTING–SATELLITE 413 416 Earth exploration–satellite (passive) Radio astronomy Space research (passive) 149 208B	**2 655 – 2 670** FIXED 410 FIXED–SATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A BROADCASTING–SATELLITE 413 416 Earth exploration–satellite (passive) Radio astronomy Space research (passive) 149 208B 420	**2 655 – 2 670** FIXED 410 FIXED–SATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A BROADCASTING–SATELLITE 413 416 Earth exploration–satellite (passive) Radio astronomy Space research (passive) 149 208B 420 AUS87
2 670 – 2 690 FIXED 410 MOBILE except aeronautical mobile 384A Earth exploration–satellite (passive) Radio astronomy Space research (passive) 149 412	**2 670 – 2 690** FIXED 410 FIXED–SATELLITE (Earth-to-space) (space-to-Earth) 208B 415 MOBILE except aeronautical mobile 384A Earth exploration–satellite (passive) Radio astronomy Space research (passive) 149	**2 670 – 2 690** FIXED 410 FIXED–SATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A MOBILE–SATELLITE (Earth-to-space) 351A 419 Earth exploration–satellite (passive) Radio astronomy Space research (passive) 149	**2 670 – 2 690** FIXED 410 FIXED–SATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A MOBILE–SATELLITE (Earth-to-space) 351A 419 Earth exploration–satellite (passive) Radio astronomy Space research (passive) 149 AUS87
2 690 – 2 700	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 422		**2 690 – 2 700** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 AUS87
2 700 – 2 900	AERONAUTICAL RADIONAVIGATION 337 Radiolocation 423 424		**2 700 – 2 900** AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION AUS105 423
2 900 – 3 100	RADIOLOCATION 424A RADIONAVIGATION 426 425 427		**2 900 – 3 100** RADIOLOCATION 424A RADIONAVIGATION 426 425 427

MHz
3 100 – 4 400

<table>
<tr><td colspan="3">Column 1: ITU Radio Regulations Table of Allocations</td><td>Column 2:</td></tr>
<tr><td>Region 1</td><td>Region 2</td><td>Region 3</td><td>Australian Table of Allocations</td></tr>
<tr><td>3 100 – 3 300</td><td colspan="2">RADIOLOCATION
Earth exploration–satellite (active)
Space research (active)

149 428</td><td>3 100 – 3 300
RADIOLOCATION
AUS100A
Earth exploration–satellite (active)
Space research (active)
Fixed
Mobile
149</td></tr>
<tr><td>3 300 – 3 400
RADIOLOCATION

149 429 429A 429B 430</td><td>3 300 – 3 400
RADIOLOCATION
Amateur
Fixed
Mobile

149 429C 429D</td><td>3 300 – 3 400
RADIOLOCATION
Amateur

149 429 429E 429F</td><td>3 300 – 3 400
RADIOLOCATION
AUS100A
Amateur
Fixed
Mobile
149</td></tr>
<tr><td rowspan="2">3 400 – 3 600
FIXED
FIXED–SATELLITE (space-to-Earth)
MOBILE except aeronautical mobile 430A
Radiolocation

431</td><td>3 400 – 3 500
FIXED
FIXED–SATELLITE (space-to-Earth)
MOBILE except aeronautical mobile 431A 431B
Amateur
Radiolocation 433
282</td><td>3 400 – 3 500
FIXED
FIXED–SATELLITE (space-to-Earth)
Amateur
Mobile 432 432B
Radiolocation 433

282 432A</td><td rowspan="2">3 400 – 3 600
FIXED
MOBILE 432B 433A
RADIOLOCATION 433
AUS101A
Amateur
Fixed–satellite (space-to-Earth)

282</td></tr>
<tr><td>3 500 – 3 600
FIXED
FIXED–SATELLITE (space-to-Earth)
MOBILE except aeronautical mobile 431B
Radiolocation 433</td><td>3 500 – 3 600
FIXED
FIXED–SATELLITE (space-to-Earth)
MOBILE except aeronautical mobile 433A
Radiolocation 433</td></tr>
<tr><td rowspan="2">3 600 – 4 200
FIXED
FIXED–SATELLITE (space-to-Earth)
Mobile</td><td>3 600 – 3 700
FIXED
FIXED–SATELLITE (space-to-Earth)
MOBILE except aeronautical mobile 434
Radiolocation 433</td><td>3 600 – 3 700
FIXED
FIXED–SATELLITE (space-to-Earth)
MOBILE except aeronautical mobile
Radiolocation
435</td><td rowspan="2">3 600 – 4 200
FIXED
FIXED–SATELLITE (space-to-Earth)
MOBILE except aeronautical mobile</td></tr>
<tr><td colspan="2">3 700 – 4 200
FIXED
FIXED–SATELLITE (space-to-Earth)
MOBILE except aeronautical mobile</td></tr>
<tr><td>4 200 – 4 400</td><td colspan="2">AERONAUTICAL MOBILE (R) 436
AERONAUTICAL RADIONAVIGATION 438

437 439 440</td><td>4 200 – 4 400
AERONAUTICAL MOBILE (R) 436
AERONAUTICAL RADIONAVIGATION 438
437 440 AUS87</td></tr>
</table>

MHz
4 400 – 5 030

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
4 400 – 4 500	FIXED MOBILE 440A		**4 400 – 4 500** FIXED MOBILE 440A AUS67 AUS87 AUS101
4 500 – 4 800	FIXED FIXED–SATELLITE (space-to-Earth) 441 MOBILE 440A		**4 500 – 4 800** FIXED FIXED–SATELLITE (space-to-Earth) 441 MOBILE 440A AUS67 AUS87 AUS101
4 800 – 4 990	FIXED MOBILE 440A 441A 441B 442 Radio astronomy		**4 800 – 4 940** FIXED AUS101A MOBILE 440A 442 AUS101A Radio astronomy 149 443 AUS67 AUS87
	149 339 443		**4 940 – 4 990** FIXED AUS102A MOBILE 442 AUS102A Radio astronomy 149 339 443 AUS67 AUS87
4 990 – 5 000	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive) 149		**4 990 – 5 000** FIXED AUS101A MOBILE except aeronautical mobile AUS101A RADIO ASTRONOMY Space research (passive) 149 AUS67 AUS87
5 000 – 5 010	AERONAUTICAL MOBILE–SATELLITE (R) 443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION–SATELLITE (Earth-to-space)		**5 000 – 5 010** AERONAUTICAL MOBILE–SATELLITE (R) 443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION–SATELLITE (Earth-to-space) AUS25 AUS87
5 010 – 5 030	AERONAUTICAL MOBILE–SATELLITE (R) 443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B 443B		**5 010 – 5 030** AERONAUTICAL MOBILE–SATELLITE (R) 443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B 443B AUS25 AUS87

MHz
5 030 – 5 350

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
5 030 – 5 091	AERONAUTICAL MOBILE (R) 443C AERONAUTICAL MOBILE–SATELLITE (R) 443D AERONAUTICAL RADIONAVIGATION 444		**5 030 – 5 091** AERONAUTICAL MOBILE (R) 443C AERONAUTICAL MOBILE–SATELLITE (R) 443D AERONAUTICAL RADIONAVIGATION 444 AUS25 AUS87
5 091 – 5 150	FIXED–SATELLITE (Earth-to-space) 444A AERONAUTICAL MOBILE 444B AERONAUTICAL MOBILE–SATELLITE (R) 443AA AERONAUTICAL RADIONAVIGATION 444		**5 091 – 5 150** FIXED–SATELLITE (Earth-to-space) 444A AERONAUTICAL MOBILE–SATELLITE (R) 443AA AERONAUTICAL RADIONAVIGATION AERONAUTICAL MOBILE 444B 444 AUS25 AUS87
5 150 – 5 250	AERONAUTICAL RADIONAVIGATION FIXED–SATELLITE (Earth-to-space) 447A MOBILE except aeronautical mobile 446A 446B 446 446C 446D 447 447B 447C		**5 150 – 5 250** AERONAUTICAL RADIONAVIGATION FIXED–SATELLITE (Earth-to-space) 447A MOBILE except aeronautical mobile 446A 446B 446 447B 447C AUS25 AUS87
5 250 – 5 255	EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH 447D MOBILE except aeronautical mobile 446A 447F 447E 448 448A		**5 250 – 5 255** EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH 447D MOBILE except aeronautical mobile 446A 447F 447E 448A AUS87 AUS101
5 255 – 5 350	EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 446A 447F 447E 448 448A		**5 255 – 5 350** EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 446A 447F 447E 448A AUS87 AUS101

MHz
5 350 – 5 725

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
5 350 – 5 460	EARTH EXPLORATION–SATELLITE (active) 448B SPACE RESEARCH (active) 448C AERONAUTICAL RADIONAVIGATION 449 RADIOLOCATION 448D		**5 350 – 5 460** EARTH EXPLORATION–SATELLITE (active) 448B SPACE RESEARCH (active) 448C AERONAUTICAL RADIONAVIGATION 449 RADIOLOCATION 448D AUS87
5 460 – 5 470	RADIONAVIGATION 449 EARTH EXPLORATION–SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 448D 448B		**5 460 – 5 470** RADIONAVIGATION 449 EARTH EXPLORATION–SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 448D 448B AUS87
5 470 – 5 570	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A EARTH EXPLORATION–SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 450B 448B 450 451		**5 470 – 5 570** MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A EARTH EXPLORATION–SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 450B 448B AUS87
5 570 – 5 650	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A RADIOLOCATION 450B 450 451 452		**5 570 – 5 650** MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A RADIOLOCATION 450B 452 AUS87
5 650 – 5 725	RADIOLOCATION MOBILE except aeronautical mobile 446A 450A Amateur Space research (deep space) 282 451 453 454 455		**5 650 – 5 725** RADIOLOCATION AUS101A MOBILE except aeronautical mobile 446A 450A Amateur Space research (deep space) 282 AUS87

MHz
5 725 – 7 190

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
5 725 – 5 830 FIXED–SATELLITE (Earth-to-space) RADIOLOCATION Amateur 150 451 453 455	**5 725 – 5 830** RADIOLOCATION Amateur 150 453 455		**5 725 – 5 830** RADIOLOCATION AUS101A Amateur 150 AUS87 AUS96
5 830 – 5 850 FIXED–SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur–satellite (space-to-Earth) 150 451 453 455	**5 830 – 5 850** RADIOLOCATION Amateur Amateur–satellite (space-to-Earth) 150 453 455		**5 830 – 5 850** RADIOLOCATION AUS101A Amateur Amateur–satellite (space-to-Earth) 150 AUS87 AUS96
5 850 – 5 925 FIXED FIXED–SATELLITE (Earth-to-space) MOBILE 150	**5 850 – 5 925** FIXED FIXED–SATELLITE (Earth-to-space) MOBILE Amateur Radiolocation 150	**5 850 – 5 925** FIXED FIXED–SATELLITE (Earth-to-space) MOBILE Radiolocation 150	**5 850 – 5 925** FIXED FIXED–SATELLITE (Earth-to-space) MOBILE Radiolocation 150 AUS87
5 925 – 6 700	FIXED 457 FIXED–SATELLITE (Earth-to-space) 457A 457B MOBILE 457C 149 440 458		**5 925 – 6 700** FIXED 457 FIXED–SATELLITE (Earth-to-space) 457A MOBILE 149 440 458 AUS87
6 700 – 7 075	FIXED FIXED–SATELLITE (Earth-to-space) (space-to-Earth) 441 MOBILE 458 458A 458B		**6 700 – 7 075** FIXED FIXED–SATELLITE (Earth-to-space) (space-to-Earth) 441 MOBILE 458 458A 458B
7 075 – 7 145	FIXED MOBILE 458 459		**7 075 – 7 145** FIXED MOBILE 458
7 145 – 7 190	FIXED MOBILE SPACE RESEARCH (deep space) (Earth-to-space) 458 459		**7 145 – 7 190** FIXED MOBILE SPACE RESEARCH (deep space) (Earth-to-space) 458

MHz
7 190 – 7 550

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
7 190 – 7 235	EARTH EXPLORATION–SATELLITE (Earth-to-space) 460A 460B FIXED MOBILE SPACE RESEARCH (Earth-to-space) 460 458 459		**7 190 – 7 235** EARTH EXPLORATION–SATELLITE (Earth-to-space) 460A 460B FIXED MOBILE SPACE RESEARCH (Earth-to-space) 460 458
7 235 – 7 250	EARTH EXPLORATION–SATELLITE (Earth-to-space) 460A FIXED MOBILE 458		**7 235 – 7 250** EARTH EXPLORATION–SATELLITE 460A FIXED MOBILE 458
7 250 – 7 300	FIXED FIXED–SATELLITE (space-to-Earth) MOBILE 461		**7 250 – 7 375** FIXED–SATELLITE (space-to-Earth) MOBILE–SATELLITE (space-to-Earth) Fixed 461 AUS100
7 300 – 7 375	FIXED FIXED–SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 461		
7 375 – 7 450	FIXED FIXED–SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MARITIME MOBILE–SATELLITE (space-to-Earth) 461AA 461AB		**7 375 – 7 450** FIXED FIXED–SATELLITE (space-to-Earth) AUS100A MARITIME MOBILE–SATELLITE (space-to-Earth) 461AA 461AB AUS100A Mobile except aeronautical mobile
7 450 – 7 550	FIXED FIXED–SATELLITE (space-to-Earth) METEOROLOGICAL–SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MARITIME MOBILE–SATELLITE (space-to-Earth) 461AA 461AB 461A		**7 450 – 7 550** FIXED FIXED–SATELLITE (space-to-Earth) AUS100A METEOROLOGICAL–SATELLITE (space-to-Earth) MARITIME MOBILE–SATELLITE (space-to-Earth) 461AA 461AB AUS100A Mobile except aeronautical mobile 461A

MHz
7 550 – 8 215

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
7 550 – 7 750	FIXED FIXED–SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MARITIME MOBILE–SATELLITE (space-to-Earth) 461AA 461AB		**7 550 – 7 750** FIXED FIXED–SATELLITE (space-to-Earth) AUS100A MOBILE except aeronautical mobile MARITIME MOBILE–SATELLITE (space-to-Earth) 461AA 461AB AUS100A
7 750 – 7 900	FIXED METEOROLOGICAL–SATELLITE (space-to-Earth) 461B MOBILE except aeronautical mobile		**7 750 – 7 900** FIXED METEOROLOGICAL–SATELLITE (space-to-Earth) 461B MOBILE except aeronautical mobile
7 900 – 8 025	FIXED FIXED–SATELLITE (Earth-to-space) MOBILE		**7 900 – 7 975** FIXED FIXED–SATELLITE (Earth-to-space) AUS100A MOBILE–SATELLITE (Earth-to-space) AUS100A 461
	461		**7 975 – 8 025** FIXED–SATELLITE (Earth-to-space) MOBILE–SATELLITE (Earth-to-space) 461 AUS87 AUS100
8 025 – 8 175	EARTH EXPLORATION–SATELLITE (space-to-Earth) FIXED FIXED–SATELLITE (Earth-to-space) MOBILE 463		**8 025 – 8 175** EARTH EXPLORATION–SATELLITE (space-to-Earth) FIXED FIXED–SATELLITE (Earth-to-space) AUS100A MOBILE 463
	462A		462A AUS87
8 175 – 8 215	EARTH EXPLORATION–SATELLITE (space-to-Earth) FIXED FIXED–SATELLITE (Earth-to-space) METEOROLOGICAL–SATELLITE (Earth-to-space) MOBILE 463		**8 175 – 8 215** EARTH EXPLORATION–SATELLITE (space-to-Earth) FIXED FIXED–SATELLITE (Earth-to-space) AUS100A METEOROLOGICAL–SATELLITE (Earth-to-space) MOBILE 463
	462A		462A AUS87

MHz
8 215 – 9 200

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
8 215 – 8 400	EARTH EXPLORATION–SATELLITE (space-to-Earth) FIXED FIXED–SATELLITE (Earth-to-space) MOBILE 463 462A		**8 215 – 8 400** EARTH EXPLORATION–SATELLITE (space-to-Earth) FIXED FIXED–SATELLITE (Earth-to-space) AUS100A MOBILE 463 462A AUS87
8 400 – 8 500	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 465 466		**8 400 – 8 500** FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 465 AUS87
8 500 – 8 550	RADIOLOCATION 468 469		**8 500 – 8 550** RADIOLOCATION AUS87 AUS100
8 550 – 8 650	EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 468 469 469A		**8 550 – 8 650** RADIOLOCATION SPACE RESEARCH (active) EARTH EXPLORATION–SATELLITE (active) 469A AUS87 AUS101
8 650 – 8 750	RADIOLOCATION 468 469		**8 650 – 8 750** RADIOLOCATION AUS87 AUS100
8 750 – 8 850	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 470 471		**8 750 – 8 850** RADIOLOCATION AERONAUTICAL RADIONAVIGATION 470 AUS87
8 850 – 9 000	RADIOLOCATION MARITIME RADIONAVIGATION 472 473		**8 850 – 9 000** RADIOLOCATION MARITIME RADIONAVIGATION 472 AUS87
9 000 – 9 200	AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION 471 473A		**9 000 – 9 200** AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION 473A AUS87

GHz
9.2 – 10

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
9.2 – 9.3	EARTH EXPLORATION–SATELLITE (active) 474A 474B 474C RADIOLOCATION MARITIME RADIONAVIGATION 472 473 474 474D		**9.2 – 9.3** EARTH EXPLORATION–SATELLITE (active) 474A 474B 474C RADIOLOCATION AUS101A MARITIME RADIONAVIGATION 472 474 474D AUS87
9.3 – 9.5	EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION RADIONAVIGATION 475 SPACE RESEARCH (active) 427 474 475A 475B 476A		**9.3 – 9.5** RADIONAVIGATION 475 EARTH EXPLORATION–SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 427 474 475A 475B 476A AUS87
9.5 – 9.8	EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 476A		**9.5 – 9.8** EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION AUS102A RADIONAVIGATION SPACE RESEARCH (active) Fixed Mobile 476A AUS87
9.8 – 9.9	RADIOLOCATION Earth exploration–satellite (active) Space research (active) Fixed 477 478 478A 478B		**9.8 – 9.9** RADIOLOCATION AUS101A Earth exploration–satellite (active) Space research (active) Fixed AUS101A Mobile AUS101A 478A 478B AUS87
9.9 – 10	EARTH EXPLORATION–SATELLITE (active) 474A 474B 474C RADIOLOCATION Fixed 474D 477 478 479		**9.9 – 10** EARTH EXPLORATION–SATELLITE (active) 474A 474B 474C RADIOLOCATION AUS101A Fixed AUS101A Mobile AUS101A 474D 479 AUS87

GHz
10 – 10.68

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
10 – 10.4 EARTH EXPLORATION–SATELLITE (active) 474A 474B 474C FIXED MOBILE RADIOLOCATION Amateur 474D 479	**10 – 10.4** EARTH EXPLORATION–SATELLITE (active) 474A 474B 474C RADIOLOCATION Amateur 474D 479 480	**10 – 10.4** EARTH EXPLORATION–SATELLITE (active) 474A 474B 474C FIXED MOBILE RADIOLOCATION Amateur 474D 479	**10 – 10.4** EARTH EXPLORATION–SATELLITE (active) 474A 474B 474C FIXED AUS101A MOBILE AUS101A RADIOLOCATION AUS101A Amateur 474D 479
10.4 – 10.45 FIXED MOBILE RADIOLOCATION Amateur	**10.4 – 10.45** RADIOLOCATION Amateur 480	**10.4 – 10.45** FIXED MOBILE RADIOLOCATION Amateur	**10.4 – 10.45** FIXED AUS101A MOBILE AUS101A RADIOLOCATION AUS101A Amateur
10.45 – 10.5	RADIOLOCATION Amateur Amateur–satellite 481		**10.45 – 10.5** RADIOLOCATION AUS101A Amateur Amateur–satellite
10.5 – 10.55 FIXED MOBILE Radiolocation	**10.5 – 10.55** FIXED MOBILE RADIOLOCATION		**10.5 – 10.55** FIXED MOBILE RADIOLOCATION
10.55 – 10.6	FIXED MOBILE except aeronautical mobile Radiolocation		**10.55 – 10.6** FIXED MOBILE except aeronautical mobile Radiolocation
10.6 – 10.68	EARTH EXPLORATION–SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 149 482 482A		**10.6 – 10.68** EARTH EXPLORATION–SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 149 482 482A

GHz
10.68 – 11.7

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
10.68 – 10.7 EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 483			**10.68 – 10.7** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
10.7 – 10.95 FIXED FIXED–SATELLITE (space-to-Earth) 441 (Earth-to-space) 484 MOBILE except aeronautical mobile	**10.7 – 10.95** FIXED FIXED–SATELLITE (space-to-Earth) 441 MOBILE except aeronautical mobile		**10.7 – 10.95** FIXED FIXED–SATELLITE (space-to-Earth) 441 MOBILE except aeronautical mobile
10.95 – 11.2 FIXED FIXED–SATELLITE (space-to-Earth) 484A 484B (Earth-to-space) 484 MOBILE except aeronautical mobile	**10.95 – 11.2** FIXED FIXED–SATELLITE (space-to-Earth) 484A 484B MOBILE except aeronautical mobile		**10.95 – 11.2** FIXED FIXED–SATELLITE (space-to-Earth) 484A 484B MOBILE except aeronautical mobile
11.2 – 11.45 FIXED FIXED–SATELLITE (space-to-Earth) 441 (Earth-to-space) 484 MOBILE except aeronautical mobile	**11.2 – 11.45** FIXED FIXED–SATELLITE (space-to-Earth) 441 MOBILE except aeronautical mobile		**11.2 – 11.45** FIXED FIXED–SATELLITE (space-to-Earth) 441 MOBILE except aeronautical mobile
11.45 – 11.7 FIXED FIXED–SATELLITE (space-to-Earth) 484A 484B (Earth-to-space) 484 MOBILE except aeronautical mobile	**11.45 – 11.7** FIXED FIXED–SATELLITE (space-to-Earth) 484A 484B MOBILE except aeronautical mobile		**11.45 – 11.7** FIXED FIXED–SATELLITE (space-to-Earth) 484A 484B MOBILE except aeronautical mobile

GHz
11.7 – 13.4

<table>
<tr><td colspan="3">Column 1: ITU Radio Regulations Table of Allocations</td><td>Column 2:</td></tr>
<tr><td>Region 1</td><td>Region 2</td><td>Region 3</td><td>Australian Table of Allocations</td></tr>
<tr><td rowspan="2">11.7 – 12.5
FIXED
MOBILE except aeronautical mobile
BROADCASTING
BROADCASTING–SATELLITE 492

487 487A</td><td>11.7 – 12.1
FIXED 486
FIXED–SATELLITE (space-to-Earth) 484A 484B 488
Mobile except aeronautical mobile
485</td><td rowspan="2">11.7 – 12.2
FIXED
MOBILE except aeronautical mobile
BROADCASTING
BROADCASTING–SATELLITE 492

487 487A</td><td>11.7 – 12.2
BROADCASTING–SATELLITE 492
Broadcasting
Fixed
Mobile except aeronautical mobile

487 487A</td></tr>
<tr><td>12.1 – 12.2
FIXED–SATELLITE (space-to-Earth) 484A 484B 488
485 489</td></tr>
<tr><td rowspan="2">12.2 – 12.7
FIXED
MOBILE except aeronautical mobile
BROADCASTING
BROADCASTING–SATELLITE 492

487A 488 490</td><td rowspan="2">12.2 – 12.5
FIXED
FIXED–SATELLITE (space-to-Earth) 484B
MOBILE except aeronautical mobile
BROADCASTING

484A 487</td><td>12.2 – 12.5
FIXED–SATELLITE (space-to-Earth) 484B
Broadcasting
Fixed
Mobile except aeronautical mobile
484A 487 AUS88</td></tr>
<tr><td>12.5 – 12.75
FIXED–SATELLITE (space-to-Earth) 484A 484B (Earth-to-space)

494 495 496</td><td>12.7 – 12.75
FIXED
FIXED–SATELLITE (Earth-to-space)
MOBILE except aeronautical mobile</td><td>12.5 – 12.75
FIXED
FIXED–SATELLITE (space-to-Earth) 484A 484B
MOBILE except aeronautical mobile
BROADCASTING–SATELLITE 493</td><td>12.5 – 12.75
FIXED–SATELLITE (space-to-Earth) 484A 484B
BROADCASTING–SATELLITE 493
Fixed
Mobile except aeronautical mobile</td></tr>
<tr><td>12.75 – 13.25</td><td colspan="2">FIXED
FIXED–SATELLITE (Earth-to-space) 441
MOBILE
Space research (deep space) (space-to-Earth)</td><td>12.75 – 13.25
FIXED
FIXED–SATELLITE (Earth-to-space) 441
MOBILE
Space research (deep space) (space-to-Earth)</td></tr>
<tr><td>13.25 – 13.4</td><td colspan="2">EARTH EXPLORATION–SATELLITE (active)
AERONAUTICAL RADIONAVIGATION 497
SPACE RESEARCH (active)

498A 499</td><td>13.25 – 13.4
AERONAUTICAL RADIONAVIGATION 497
EARTH EXPLORATION–SATELLITE (active)
SPACE RESEARCH (active)
498A</td></tr>
</table>

GHz
13.4 – 14.3

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
13.4 – 13.65 EARTH EXPLORATION–SATELLITE (active) FIXED–SATELLITE (space-to-Earth) 499A 499B RADIOLOCATION SPACE RESEARCH 499C 499D Standard frequency and time signal–satellite (Earth-to-space) 499E 500 501 501B	**13.4 – 13.65** EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH 499C 499D Standard frequency and time signal–satellite (Earth-to-space) 499 500 501 501B		**13.4 – 13.65** EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION AUS101A SPACE RESEARCH 499C 499D Standard frequency and time signal–satellite (Earth-to-space) 501B
13.65 – 13.75	EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH 501A Standard frequency and time signal–satellite (Earth-to-space) 499 500 501 501B		**13.65 – 13.75** EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION AUS101A SPACE RESEARCH 501A Standard frequency and time signal–satellite (Earth-to-space) 501B
13.75 – 14	FIXED–SATELLITE (Earth-to-space) 484A RADIOLOCATION Earth exploration–satellite Standard frequency and time signal–satellite (Earth-to-space) Space research 499 500 501 502 503		**13.75 – 14** RADIOLOCATION AUS100A FIXED–SATELLITE (Earth-to-space) 484A Earth exploration–satellite Standard frequency and time signal–satellite (Earth-to-space) Space research 502 503
14 – 14.25	FIXED–SATELLITE (Earth-to-space) 457A 457B 484A 484B 506 506B RADIONAVIGATION 504 Mobile–satellite (Earth-to-space) 504B 504C 506A Space research 504A 505		**14 – 14.3** FIXED–SATELLITE (Earth-to-space) 457A 484A 484B 506 RADIONAVIGATION 504 Mobile–satellite (Earth-to-space) 506A Space research 504A
14.25 – 14.3	FIXED–SATELLITE (Earth-to-space) 457A 457B 484A 484B 506 506B RADIONAVIGATION 504 Mobile–satellite (Earth-to-space) 504B 506A 508A Space research 504A 505 508		

GHz
14.3 – 14.75

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
14.3 – 14.4 FIXED FIXED–SATELLITE (Earth-to-space) 457A 457B 484A 484B 506 506B MOBILE except aeronautical mobile Mobile–satellite (Earth-to-space) 504B 506A 509A Radionavigation–satellite 504A	**14.3 – 14.4** FIXED–SATELLITE (Earth-to-space) 457A 484A 484B 506 506B Mobile–satellite (Earth-to-space) 506A Radionavigation–satellite 504A	**14.3 – 14.4** FIXED FIXED–SATELLITE (Earth-to-space) 457A 484A 484B 506 506B MOBILE except aeronautical mobile Mobile–satellite (Earth-to-space) 504B 506A 509A Radionavigation–satellite 504A	**14.3 – 14.4** FIXED–SATELLITE (Earth-to-space) 457A 484A 484B 506 Fixed Mobile except aeronautical mobile Mobile–satellite (Earth-to-space) 506A Radionavigation–satellite 504A
14.4 – 14.47	FIXED FIXED–SATELLITE (Earth-to-space) 457A 457B 484A 484B 506 506B MOBILE except aeronautical mobile Mobile–satellite (Earth-to-space) 504B 506A 509A Space research (space-to-Earth) 504A		**14.4 – 14.47** FIXED–SATELLITE (Earth-to-space) 457A 484A 484B 506 Fixed Mobile except aeronautical mobile Mobile–satellite (Earth-to-space) 506A Space research (space-to-Earth) 504A
14.47 – 14.5	FIXED FIXED–SATELLITE (Earth-to-space) 457A 457B 484A 506 506B MOBILE except aeronautical mobile Mobile–satellite (Earth-to-space) 504B 506A 509A Radio astronomy 149 504A		**14.47 – 14.5** FIXED–SATELLITE (Earth-to-space) 457A 484A 506 Fixed Mobile except aeronautical mobile Mobile–satellite (Earth-to-space) 506A Radio astronomy 149 504A
14.5 – 14.75	FIXED FIXED–SATELLITE (Earth-to-space) 509B 509C 509D 509E 509F 510 MOBILE Space research 509G		**14.5 – 14.7145** FIXED FIXED–SATELLITE (Earth-to-space) 509B 509C 509D 509E 509F 510 MOBILE Space research 509G
			14.7145 – 14.75 FIXED FIXED–SATELLITE (Earth-to-space) 509B 509C 509D 509E 509F 510 MOBILE Space research 509G AUS101

GHz
14.75 – 16.6

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
14.75 – 14.8 FIXED FIXED–SATELLITE (Earth-to-space) 510 MOBILE Space research 509G		**14.75 – 14.8** FIXED FIXED–SATELLITE (Earth-to-space) 509B 509C 509D 509E 509F 510 MOBILE Space research 509G	**14.75 – 14.8** FIXED FIXED–SATELLITE (Earth-to-space) 509B 509C 509D 509E 509F 510 MOBILE Space research 509G AUS101
14.8 – 15.35	FIXED MOBILE Space research 339		**14.8 – 15.1365** FIXED MOBILE Space research AUS101
			15.1365 – 15.35 FIXED MOBILE Space research 339 AUS58
15.35 – 15.4	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 511		**15.35 – 15.4** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
15.4 – 15.43	RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION		**15.4 – 15.43** RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION
15.43 – 15.63	FIXED–SATELLITE (Earth-to-space) 511A RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION 511C		**15.43 – 15.63** FIXED–SATELLITE (Earth-to-space) 511A RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION 511C
15.63 – 15.7	RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION		**15.63 – 15.7** RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION
15.7 – 16.6	RADIOLOCATION 512 513		**15.7 – 16.6** RADIOLOCATION AUS87 AUS101

GHz
16.6 – 18.4

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
16.6 – 17.1 RADIOLOCATION Space research (deep space) (Earth-to-space) 512 513			**16.6 – 17.1** RADIOLOCATION AUS101A Space research (deep space) (Earth-to-space) AUS87
17.1 – 17.2 RADIOLOCATION 512 513			**17.1 – 17.2** RADIOLOCATION AUS87 AUS101
17.2 – 17.3 EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 512 513 513A			**17.2 – 17.3** EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION AUS101A SPACE RESEARCH (active) 513A AUS87
17.3 – 17.7 FIXED–SATELLITE (Earth-to-space) 516 (space-to-Earth) 516A 516B Radiolocation 514	**17.3 – 17.7** FIXED–SATELLITE (Earth-to-space) 516 BROADCASTING–SATELLITE Radiolocation 514 515	**17.3 – 17.7** FIXED–SATELLITE (Earth-to-space) 516 Radiolocation 514	**17.3 – 17.7** FIXED–SATELLITE (Earth-to-space) 516 Radiolocation AUS87
17.7 – 18.1 FIXED FIXED–SATELLITE (space-to-Earth) 484A 517A (Earth-to-space) 516 MOBILE	**17.7 – 17.8** FIXED FIXED–SATELLITE (space-to-Earth) 517 517A (Earth-to-space) 516 BROADCASTING–SATELLITE Mobile 515 **17.8 – 18.1** FIXED FIXED–SATELLITE (space-to-Earth) 484A 517A (Earth-to-space) 516 MOBILE 519	**17.7 – 18.1** FIXED FIXED–SATELLITE (space-to-Earth) 484A 517A (Earth-to-space) 516 MOBILE	**17.7 – 18.1** FIXED FIXED–SATELLITE (space-to-Earth) 484A 517A (Earth-to-space) 516 MOBILE AUS87
18.1 – 18.4 FIXED FIXED–SATELLITE (space-to-Earth) 484A 516B 517A (Earth-to-space) 520 MOBILE 519 521			**18.1 – 18.4** FIXED FIXED–SATELLITE (space-to-Earth) 484A 516B 517A (Earth-to-space) 520 MOBILE 519 AUS87

GHz
18.4 – 20.2

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
18.4 – 18.6	FIXED FIXED–SATELLITE (space-to-Earth) 484A 516B 517A MOBILE		**18.4 – 18.6** FIXED FIXED–SATELLITE (space-to-Earth) 484A 516B 517A MOBILE AUS87
18.6 – 18.8 EARTH EXPLORATION–SATELLITE (passive) FIXED FIXED–SATELLITE (space-to-Earth) 517A 522B MOBILE except aeronautical mobile Space research (passive) 522A 522C	**18.6 – 18.8** EARTH EXPLORATION–SATELLITE (passive) FIXED FIXED–SATELLITE (space-to-Earth) 516B 517A 522B MOBILE except aeronautical mobile SPACE RESEARCH (passive) 522A	**18.6 – 18.8** EARTH EXPLORATION–SATELLITE (passive) FIXED FIXED–SATELLITE (space-to-Earth) 517A 522B MOBILE except aeronautical mobile Space research (passive) 522A	**18.6 – 18.8** EARTH EXPLORATION–SATELLITE (passive) FIXED FIXED–SATELLITE (space-to-Earth) 517A 522B MOBILE except aeronautical mobile Space research (passive) 522A AUS87
18.8 – 19.3	FIXED FIXED–SATELLITE (space-to-Earth) 516B 517A 523A MOBILE		**18.8 – 19.3** FIXED FIXED–SATELLITE (space-to-Earth) 516B 517A 523A MOBILE AUS87
19.3 – 19.7	FIXED FIXED–SATELLITE (space-to-Earth) (Earth-to-space) 517A 523B 523C 523D 523E MOBILE		**19.3 – 19.7** FIXED FIXED–SATELLITE (space-to-Earth) (Earth-to-space) 517A 523B 523C 523D 523E MOBILE AUS87
19.7 – 20.1 FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A Mobile–satellite (space-to-Earth) 524	**19.7 – 20.1** FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A MOBILE–SATELLITE (space-to-Earth) 524 525 526 527 528 529	**19.7 – 20.1** FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A Mobile–satellite (space-to-Earth) 524	**19.7 – 20.1** FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A Mobile–satellite (space-to-Earth) AUS87
20.1 – 20.2	FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A MOBILE–SATELLITE (space-to-Earth) 524 525 526 527 528		**20.1 – 20.2** FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A MOBILE–SATELLITE (space-to-Earth) 525 526 527 528 AUS87

GHz
20.2– 23.15

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
20.2 – 21.2 FIXED–SATELLITE (space-to-Earth) MOBILE–SATELLITE (space-to-Earth) Standard frequency and time signal (space-to-Earth) 524			**20.2 – 21.2** FIXED–SATELLITE (space-to-Earth) MOBILE–SATELLITE (space-to-Earth) Standard frequency and time signal (space-to-Earth) AUS87 AUS100
21.2 – 21.4 EARTH EXPLORATION–SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)			**21.2 – 21.4** EARTH EXPLORATION–SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) AUS87
21.4 – 22 FIXED MOBILE BROADCASTING–SATELLITE 208B 530A 530B	**21.4 – 22** FIXED 530E MOBILE 530A	**21.4 – 22** FIXED MOBILE BROADCASTING–SATELLITE 208B 530A 530B 531	**21.4 – 22** FIXED MOBILE BROADCASTING–SATELLITE 208B 530A 530B AUS87
22 – 22.21 FIXED MOBILE except aeronautical mobile 149			**22 – 22.21** FIXED MOBILE except aeronautical mobile 149 AUS87
22.21 – 22.5 EARTH EXPLORATION–SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 149 532			**22.21 – 22.5** EARTH EXPLORATION–SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 149 532 AUS87
22.5 – 22.55 FIXED MOBILE			**22.5 – 22.55** FIXED MOBILE AUS87
22.55 – 23.15 FIXED INTER–SATELLITE 338A MOBILE SPACE RESEARCH (Earth-to-space) 532A 149			**22.55 – 23.15** FIXED INTER–SATELLITE 338A MOBILE SPACE RESEARCH (Earth-to-space) 532A 149 AUS87

GHz
23.15 – 24.75

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
23.15 – 23.55 FIXED INTER–SATELLITE 338A MOBILE			**23.15 – 23.55** FIXED INTER–SATELLITE 338A MOBILE AUS87
23.55 – 23.6 FIXED MOBILE			**23.55 – 23.6** FIXED MOBILE AUS87
23.6 – 24 EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340			**23.6 – 24** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 AUS87
24 – 24.05 AMATEUR AMATEUR–SATELLITE 150			**24 – 24.05** AMATEUR AMATEUR–SATELLITE 150 AUS87
24.05 – 24.25 RADIOLOCATION Amateur Earth exploration–satellite (active) 150			**24.05 – 24.25** RADIOLOCATION AUS102A Amateur Earth exploration–satellite (active) 150 AUS87
24.25 – 24.45 FIXED MOBILE except aeronautical mobile 338A 532AB	**24.25 – 24.45** FIXED 532AA MOBILE except aeronautical mobile 338A 532AB RADIONAVIGATION	**24.25 – 24.45** FIXED MOBILE 338A 532AB RADIONAVIGATION	**24.25 – 24.45** FIXED MOBILE 338A 532AB RADIONAVIGATION AUS87
24.45 – 24.65 FIXED INTER–SATELLITE MOBILE except aeronautical mobile 338A 532AB	**24.45 – 24.65** FIXED 532AA INTER–SATELLITE MOBILE except aeronautical mobile 338A 532AB RADIONAVIGATION 533	**24.45 – 24.65** FIXED INTER–SATELLITE MOBILE 338A 532AB RADIONAVIGATION 533	**24.45 – 24.65** FIXED INTER–SATELLITE MOBILE 338A 532AB RADIONAVIGATION 533 AUS87
24.65 – 24.75 FIXED FIXED–SATELLITE (Earth-to-space) 532B INTER–SATELLITE MOBILE except aeronautical mobile 338A 532AB	**24.65 – 24.75** FIXED 532AA INTER–SATELLITE MOBILE except aeronautical mobile 338A 532AB RADIOLOCATION–SATELLITE (Earth-to-space)	**24.65 – 24.75** FIXED FIXED–SATELLITE (Earth-to-space) 532B INTER–SATELLITE MOBILE 338A 532AB	**24.65 – 24.75** FIXED FIXED–SATELLITE (Earth-to-space) 532B INTER–SATELLITE MOBILE 338A 532AB AUS87

GHz
24.75 – 29.1

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
24.75 – 25.25 FIXED FIXED–SATELLITE (Earth-to-space) 532B MOBILE except aeronautical mobile 338A 532AB	**24.75 – 25.25** FIXED 532AA FIXED–SATELLITE (Earth-to-space) 535 MOBILE except aeronautical mobile 338A 532AB	**24.75 – 25.25** FIXED FIXED–SATELLITE (Earth-to-space) 535 MOBILE 338A 532AB	**24.75 – 25.25** FIXED FIXED–SATELLITE (Earth-to-space) 535 MOBILE 338A 532AB AUS87
25.25 – 25.5	FIXED 534A INTER–SATELLITE 536 MOBILE 338A 532AB Standard frequency and time signal–satellite (Earth-to-space)		**25.25 – 25.5** FIXED INTER–SATELLITE 536 MOBILE 338A 532AB Standard frequency and time signal–satellite (Earth-to-space) AUS87
25.5 – 27	EARTH EXPLORATION–SATELLITE (space-to-Earth) 536B FIXED 534A INTER–SATELLITE 536 MOBILE 338A 532AB SPACE RESEARCH (space-to-Earth) 536C Standard frequency and time signal–satellite (Earth-to-space) 536A		**25.5 – 27** EARTH EXPLORATION–SATELLITE (space-to-Earth) FIXED INTER–SATELLITE 536 MOBILE 338A 532AB SPACE RESEARCH (space-to-Earth) Standard frequency and time signal–satellite (Earth-to-space) 536A AUS87
27 – 27.5 FIXED INTER–SATELLITE 536 MOBILE 338A 532AB	**27 – 27.5** FIXED 534A FIXED–SATELLITE (Earth-to-space) INTER–SATELLITE 536 537 MOBILE 338A 532AB		**27 – 27.5** FIXED FIXED–SATELLITE (Earth-to-space) INTER–SATELLITE 536 537 MOBILE 338A 532AB
27.5 – 28.5	FIXED 537A FIXED–SATELLITE (Earth-to-space) 484A 516B 517A 539 MOBILE 538 540		**27.5 – 28.5** FIXED FIXED–SATELLITE (Earth-to-space) 484A 516B 517A 539 MOBILE 538 540
28.5 – 29.1	FIXED FIXED–SATELLITE (Earth-to-space) 484A 516B 517A 523A 539 MOBILE Earth exploration–satellite (Earth-to-space) 541 540		**28.5 – 29.1** FIXED FIXED–SATELLITE (Earth-to-space) 484A 516B 517A 523A 539 MOBILE Earth exploration–satellite (Earth-to-space) 541 540

GHz
29.1 – 31.3

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
29.1 – 29.5 FIXED FIXED–SATELLITE (Earth-to-space) 516B 517A 523C 523E 535A 539 541A MOBILE Earth exploration–satellite (Earth-to-space) 541 540			**29.1 – 29.5** FIXED FIXED–SATELLITE (Earth-to-space) 516B 517A 523C 523E 535A 539 541A MOBILE Earth exploration–satellite (Earth-to-space) 541 540
29.5 – 29.9 FIXED–SATELLITE (Earth-to-space) 484A 484B 516B 527A 539 Earth exploration–satellite (Earth-to-space) 541 Mobile–satellite (Earth-to-space) 540 542	**29.5 – 29.9** FIXED–SATELLITE (Earth-to-space) 484A 484B 516B 527A 539 MOBILE–SATELLITE (Earth-to-space) Earth exploration–satellite (Earth-to-space) 541 525 526 527 529 540	**29.5 – 29.9** FIXED–SATELLITE (Earth-to-space) 484A 484B 516B 527A 539 Earth exploration–satellite (Earth-to-space) 541 Mobile–satellite (Earth-to-space) 540 542	**29.5 – 29.9** FIXED–SATELLITE (Earth-to-space) 484A 484B 516B 527A 539 Earth exploration–satellite (Earth-to-space) 541 Mobile–satellite (Earth-to-space) 540
29.9 – 30 FIXED–SATELLITE (Earth-to-space) 484A 484B 516B 527A 539 MOBILE–SATELLITE (Earth-to-space) Earth exploration–satellite (Earth-to-space) 541 543 525 526 527 538 540 542			**29.9 – 30** FIXED–SATELLITE (Earth-to-space) 484A 484B 516B 527A 539 MOBILE–SATELLITE (Earth-to-space) Earth exploration–satellite (Earth-to-space) 541 543 525 526 527 538 540
30 – 31 FIXED–SATELLITE (Earth-to-space) 338A MOBILE–SATELLITE (Earth-to-space) Standard frequency and time signal–satellite (space-to-Earth) 542			**30 – 31** FIXED–SATELLITE (Earth-to-space) 338A MOBILE–SATELLITE (Earth-to-space) Standard frequency and time signal–satellite (space-to-Earth) AUS87 AUS100
31 – 31.3 FIXED 338A 543B MOBILE Standard frequency and time signal–satellite (space-to-Earth) Space research 544 545 149			**31 – 31.3** FIXED 338A 543B MOBILE Standard frequency and time signal–satellite (space-to-Earth) Space research 544 149 AUS87

GHz
31.3 – 34.2

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
31.3 – 31.5 EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340			**31.3 – 31.5** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 AUS87
31.5 – 31.8 EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149 546	**31.5 – 31.8** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340	**31.5 – 31.8** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149	**31.5 – 31.8** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149 AUS87
31.8 – 32 FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 547 547B 548			**31.8 – 32** FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 547 548 AUS87
32 – 32.3 FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 547 547C 548			**32 – 32.3** FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 547 548 AUS87
32.3 – 33 FIXED 547A INTER–SATELLITE RADIONAVIGATION 547 547D 548			**32.3 – 33** FIXED 547A INTER–SATELLITE RADIONAVIGATION 547 548 AUS87
33 – 33.4 FIXED 547A RADIONAVIGATION 547 547E			**33 – 33.4** FIXED 547A RADIONAVIGATION 547 AUS87
33.4 – 34.2 RADIOLOCATION 549			**33.4 – 34.2** RADIOLOCATION FIXED–SATELLITE (space-to-Earth) AUS87 AUS101

GHz
34.2 – 37.5

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
34.2 – 34.7	RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) 549		**34.2 – 34.7** RADIOLOCATION AUS102A SPACE RESEARCH (deep space) (Earth-to-space) FIXED–SATELLITE (space-to-Earth) AUS101A AUS87
34.7 – 35.2	RADIOLOCATION Space research 550 549		**34.7 – 35.2** RADIOLOCATION FIXED–SATELLITE (space-to-Earth) Space research AUS87 AUS101
35.2 – 35.5	METEOROLOGICAL AIDS RADIOLOCATION 549		**35.2 – 35.5** METEOROLOGICAL AIDS RADIOLOCATION AUS101A FIXED–SATELLITE (space-to-Earth) AUS101A AUS87
35.5 – 36	METEOROLOGICAL AIDS EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 549 549A		**35.5 – 36** METEOROLOGICAL AIDS EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) FIXED–SATELLITE (space-to-Earth) AUS101A 549A AUS87
36 – 37	EARTH EXPLORATION–SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 149 550A		**36 – 37** EARTH EXPLORATION–SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 149 550A AUS87 AUS101
37 – 37.5	FIXED MOBILE except aeronautical mobile 550B SPACE RESEARCH (space-to-Earth) 547		**37 – 37.5** FIXED MOBILE except aeronautical mobile 550B SPACE RESEARCH (space-to-Earth) 547 AUS87 AUS101

GHz
37.5 – 40.5

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
37.5 – 38	FIXED FIXED–SATELLITE (space-to-Earth) 550C MOBILE except aeronautical mobile 550B SPACE RESEARCH (space-to-Earth) Earth exploration–satellite (space-to-Earth) 547		**37.5 – 38** FIXED FIXED–SATELLITE (space-to-Earth) 550C MOBILE except aeronautical mobile 550B SPACE RESEARCH (space-to-Earth) Earth exploration–satellite (space-to-Earth) 547 AUS87
38 – 39.5	FIXED 550D FIXED–SATELLITE (space-to-Earth) 550C MOBILE 550B Earth exploration–satellite (space-to-Earth) 547		**38 – 39.5** FIXED 550D FIXED–SATELLITE (space-to-Earth) 550C MOBILE 550B Earth exploration–satellite (space-to-Earth) 547 AUS87
39.5 – 40	FIXED FIXED–SATELLITE (space-to-Earth) 516B 550C MOBILE 550B MOBILE–SATELLITE (space-to-Earth) Earth exploration–satellite (space-to-Earth) 547 550E		**39.5 – 40** FIXED FIXED–SATELLITE (space-to-Earth) 550C MOBILE 550B MOBILE–SATELLITE (space-to-Earth) Earth exploration–satellite (space-to-Earth) 547 550E AUS87
40 – 40.5	EARTH EXPLORATION–SATELLITE (Earth-to-space) FIXED FIXED–SATELLITE (space-to-Earth) 516B 550C MOBILE 550B MOBILE–SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration–satellite (space-to-Earth) 550E		**40 – 40.5** EARTH EXPLORATION–SATELLITE (Earth-to-space) FIXED FIXED–SATELLITE (space-to-Earth) 516B 550C MOBILE 550B MOBILE–SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration–satellite (space-to-Earth) 550E AUS87

GHz
40.5 – 47.5

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
40.5 – 41 FIXED FIXED–SATELLITE (space-to-Earth) 550C LAND MOBILE 550B BROADCASTING BROADCASTING–SATELLITE Aeronautical mobile Maritime mobile 547	**40.5 – 41** FIXED FIXED–SATELLITE (space-to-Earth) 516B 550C LAND MOBILE 550B BROADCASTING BROADCASTING–SATELLITE Aeronautical mobile Maritime mobile Mobile–satellite (space-to-Earth) 547	**40.5 – 41** FIXED FIXED–SATELLITE (space-to-Earth) 550C LAND MOBILE 550B BROADCASTING BROADCASTING–SATELLITE Aeronautical mobile Maritime mobile 547	**40.5 – 41** FIXED FIXED–SATELLITE (space-to-Earth) 550C LAND MOBILE 550B BROADCASTING BROADCASTING–SATELLITE Aeronautical mobile Maritime mobile 547 AUS87
41 – 42.5	FIXED FIXED–SATELLITE (space-to-Earth) 516B 550C LAND MOBILE 550B BROADCASTING BROADCASTING–SATELLITE Aeronautical mobile Maritime mobile 547 551F 551H 551I		**41 – 42.5** FIXED FIXED–SATELLITE (space-to-Earth) 550C LAND MOBILE 550B BROADCASTING BROADCASTING–SATELLITE Aeronautical mobile Maritime mobile 547 551F 551H 551I AUS87
42.5 – 43.5	FIXED FIXED–SATELLITE (Earth-to-space) 552 MOBILE except aeronautical mobile 550B RADIO ASTRONOMY 149 547		**42.5 – 43.5** FIXED FIXED–SATELLITE (Earth-to-space) 552 MOBILE except aeronautical mobile 550B RADIO ASTRONOMY 149 547 AUS87
43.5 – 47	MOBILE 553 553A MOBILE–SATELLITE RADIONAVIGATION RADIONAVIGATION–SATELLITE 554		**43.5 – 47** MOBILE 553 MOBILE–SATELLITE RADIONAVIGATION RADIONAVIGATION–SATELLITE 554 AUS62 AUS87
47 – 47.2	AMATEUR AMATEUR–SATELLITE		**47 – 47.2** AMATEUR AMATEUR–SATELLITE AUS87
47.2 – 47.5	FIXED FIXED–SATELLITE (Earth-to-space) 550C 552 MOBILE 553B 552A		**47.2 – 47.5** FIXED FIXED–SATELLITE (Earth-to-space) 550C 552 MOBILE 553B 552A AUS87

GHz
47.5 – 51.4

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
47.5 – 47.9 FIXED FIXED–SATELLITE (Earth-to-space) 550C 552 (space-to-Earth) 516B 554A MOBILE 553B	**47.5 – 47.9** FIXED FIXED–SATELLITE (Earth-to-space) 550C 552 MOBILE 553B		**47.5 – 47.9** FIXED FIXED–SATELLITE (Earth-to-space) 550C 552 MOBILE 553B AUS87
47.9 – 48.2	FIXED FIXED–SATELLITE (Earth-to-space) 550C 552 MOBILE 553B 552A		**47.9 – 48.2** FIXED FIXED–SATELLITE (Earth-to-space) 550C 552 MOBILE 553B 552A AUS87
48.2 – 48.54 FIXED FIXED–SATELLITE (Earth-to-space) 550C 552 (space-to-Earth) 516B 554A 555B MOBILE	**48.2 – 50.2** FIXED FIXED–SATELLITE (Earth-to-space) 338A 516B 550C 552 MOBILE		**48.2 – 50.2** FIXED FIXED–SATELLITE (Earth-to-space) 338A 550C 552 MOBILE
48.54 – 49.44 FIXED FIXED–SATELLITE (Earth-to-space) 550C 552 MOBILE 149 340 555			
49.44 – 50.2 FIXED FIXED–SATELLITE (Earth-to-space) 338A 550C 552 (space-to-Earth) 516B 554A 555B MOBILE	149 340 555		149 340 555 AUS87
50.2 – 50.4	EARTH EXPLORATION–SATELLITE (passive) SPACE RESEARCH (passive) 340		**50.2 – 50.4** EARTH EXPLORATION–SATELLITE (passive) SPACE RESEARCH (passive) 340
50.4 – 51.4	FIXED FIXED–SATELLITE (Earth-to-space) 338A 550C MOBILE Mobile–satellite (Earth-to-space)		**50.4 – 51.4** FIXED FIXED–SATELLITE (Earth-to-space) 338A 550C MOBILE Mobile–satellite (Earth-to-space)

GHz
51.4 – 58.2

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
51.4 – 52.4	FIXED FIXED–SATELLITE (Earth-to-space) 555C MOBILE 338A 547 556		**51.4 – 52.4** FIXED FIXED–SATELLITE (Earth-to-space) 555C MOBILE RADIO ASTRONOMY 338A 547
52.4 – 52.6	FIXED 338A MOBILE 547 556		**52.4 – 52.6** FIXED 338A MOBILE RADIO ASTRONOMY 547
52.6 – 54.25	EARTH EXPLORATION–SATELLITE (passive) SPACE RESEARCH (passive) 340 556		**52.6 – 54.25** EARTH EXPLORATION–SATELLITE (passive) SPACE RESEARCH (passive) RADIO ASTRONOMY 340
54.25 – 55.78	EARTH EXPLORATION–SATELLITE (passive) INTER–SATELLITE 556A SPACE RESEARCH (passive) 556B		**54.25 – 55.78** EARTH EXPLORATION–SATELLITE (passive) INTER–SATELLITE 556A SPACE RESEARCH (passive)
55.78 – 56.9	EARTH EXPLORATION–SATELLITE (passive) FIXED 557A INTER–SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive) 547 557		**55.78 – 56.9** EARTH EXPLORATION–SATELLITE (passive) FIXED 557A INTER–SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive) 547
56.9 – 57	EARTH EXPLORATION–SATELLITE (passive) FIXED INTER–SATELLITE 558A MOBILE 558 SPACE RESEARCH (passive) 547 557		**56.9 – 57** EARTH EXPLORATION–SATELLITE (passive) FIXED INTER–SATELLITE 558A MOBILE 558 SPACE RESEARCH (passive) 547
57 – 58.2	EARTH EXPLORATION–SATELLITE (passive) FIXED INTER–SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive) 547 557		**57 – 58.2** EARTH EXPLORATION–SATELLITE (passive) FIXED INTER–SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive) 547

GHz
58.2 – 71

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
58.2 – 59	EARTH EXPLORATION–SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 547 556		**58.2 – 59** EARTH EXPLORATION–SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) RADIO ASTRONOMY 547
59 – 59.3	EARTH EXPLORATION–SATELLITE (passive) FIXED INTER–SATELLITE 556A MOBILE 558 RADIOLOCATION 559 SPACE RESEARCH (passive)		**59 – 59.3** EARTH EXPLORATION–SATELLITE (passive) FIXED INTER–SATELLITE 556A MOBILE 558 RADIOLOCATION 559 SPACE RESEARCH (passive)
59.3 – 64	FIXED INTER–SATELLITE MOBILE 558 RADIOLOCATION 559 138		**59.3 – 64** FIXED INTER–SATELLITE MOBILE 558 RADIOLOCATION 559 138
64 – 65	FIXED INTER–SATELLITE MOBILE except aeronautical mobile 547 556		**64 – 65** FIXED INTER–SATELLITE MOBILE except aeronautical mobile RADIO ASTRONOMY 547
65 – 66	EARTH EXPLORATION–SATELLITE FIXED INTER–SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 547		**65 – 66** EARTH EXPLORATION–SATELLITE FIXED INTER–SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 547
66 – 71	INTER–SATELLITE MOBILE 553 558 559AA MOBILE–SATELLITE RADIONAVIGATION RADIONAVIGATION–SATELLITE 554		**66 – 71** INTER–SATELLITE MOBILE 553 558 559AA MOBILE–SATELLITE RADIONAVIGATION RADIONAVIGATION–SATELLITE 554

GHz
71 – 81

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
71 – 74	FIXED FIXED–SATELLITE (space-to-Earth) MOBILE MOBILE–SATELLITE (space-to-Earth)		**71 – 74** FIXED FIXED–SATELLITE (space-to-Earth) MOBILE MOBILE–SATELLITE (space-to-Earth)
74 – 76	FIXED FIXED–SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING–SATELLITE Space research (space-to-Earth) 561		**74 – 76** FIXED FIXED–SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING–SATELLITE Space research (space-to-Earth) 561 AUS87
76 – 77.5	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur–satellite Space research (space-to-Earth) 149		**76 – 77.5** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur–satellite Space research (space-to-Earth) 149 AUS87
77.5 – 78	AMATEUR AMATEUR–SATELLITE RADIOLOCATION 559B Radio astronomy Space research (space-to-Earth) 149		**77.5 – 78** AMATEUR AMATEUR–SATELLITE RADIOLOCATION 559B Radio astronomy Space research (space-to-Earth) 149 AUS87
78 – 79	RADIOLOCATION Amateur Amateur–satellite Radio astronomy Space research (space-to-Earth) 149 560		**78 – 79** RADIOLOCATION Amateur Amateur–satellite Radio astronomy Space research (space-to-Earth) 149 560 AUS87
79 – 81	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur–satellite Space research (space-to-Earth) 149		**79 – 81** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur–satellite Space research (space-to-Earth) 149 AUS87

GHz
81 – 95

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
81 – 84	FIXED 338A FIXED–SATELLITE (Earth-to-space) MOBILE MOBILE–SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) 149 561A		**81 – 84** FIXED 338A FIXED–SATELLITE (Earth-to-space) MOBILE MOBILE–SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) 149 561A AUS87
84 – 86	FIXED 338A FIXED–SATELLITE (Earth-to-space) 561B MOBILE RADIO ASTRONOMY 149		**84 – 86** FIXED 338A FIXED–SATELLITE (Earth-to-space) 561B MOBILE RADIO ASTRONOMY 149 AUS87
86 – 92	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340		**86 – 92** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 AUS87
92 – 94	FIXED 338A MOBILE RADIO ASTRONOMY RADIOLOCATION 149		**92 – 94** FIXED 338A MOBILE RADIO ASTRONOMY RADIOLOCATION 149 AUS87
94 – 94.1	EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 562 562A		**94 – 94.1** EARTH EXPLORATION–SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 562 562A AUS87
94.1 – 95	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149		**94.1 – 95** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149 AUS87

GHz
95 – 114.25

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
95 – 100	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION–SATELLITE 149 554		**95 – 100** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION–SATELLITE 149 554 AUS87
100 – 102	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341		**100 – 102** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341 AUS87
102 – 105	FIXED MOBILE RADIO ASTRONOMY 149 341		**102 – 105** FIXED MOBILE RADIO ASTRONOMY 149 341 AUS87
105 – 109.5	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341		**105 – 109.5** FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341 AUS87
109.5 – 111.8	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341		**109.5 – 111.8** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341 AUS87
111.8 – 114.25	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341		**111.8 – 114.25** FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341 AUS87

GHz
114.25 – 134

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
114.25 – 116	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341		**114.25 – 116** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341 AUS87
116 – 119.98	EARTH EXPLORATION–SATELLITE (passive) INTER–SATELLITE 562C SPACE RESEARCH (passive) 341		**116 – 119.98** EARTH EXPLORATION–SATELLITE (passive) INTER–SATELLITE 562C SPACE RESEARCH (passive) 341
119.98 – 122.25	EARTH EXPLORATION–SATELLITE (passive) INTER–SATELLITE 562C SPACE RESEARCH (passive) 138 341		**119.98 – 122.25** EARTH EXPLORATION–SATELLITE (passive) INTER–SATELLITE 562C SPACE RESEARCH (passive) 138 341
122.25 – 123	FIXED INTER–SATELLITE MOBILE 558 Amateur 138		**122.25 – 123** FIXED INTER–SATELLITE MOBILE 558 Amateur 138
123 – 130	FIXED–SATELLITE (space-to-Earth) MOBILE–SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION–SATELLITE Radio astronomy 562D 149 554		**123 – 130** FIXED–SATELLITE (space-to-Earth) MOBILE–SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION–SATELLITE Radio astronomy 149 554
130 – 134	EARTH EXPLORATION–SATELLITE (active) 562E FIXED INTER–SATELLITE MOBILE 558 RADIO ASTRONOMY 149 562A		**130 – 134** EARTH EXPLORATION–SATELLITE (active) 562E FIXED INTER–SATELLITE MOBILE 558 RADIO ASTRONOMY 149 562A

GHz
134 – 164

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
134 – 136	AMATEUR AMATEUR–SATELLITE Radio astronomy		**134 – 136** AMATEUR AMATEUR–SATELLITE Radio astronomy
136 – 141	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur–satellite 149		**136 – 141** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur–satellite 149
141 – 148.5	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149		**141 – 148.5** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149
148.5 – 151.5	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340		**148.5 – 151.5** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
151.5 – 155.5	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149		**151.5 – 155.5** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149
155.5 – 158.5	FIXED MOBILE RADIO ASTRONOMY 149		**155.5 – 158.5** FIXED MOBILE RADIO ASTRONOMY 149
158.5 – 164	FIXED FIXED–SATELLITE (space-to-Earth) MOBILE MOBILE–SATELLITE (space-to-Earth)		**158.5 – 164** FIXED FIXED–SATELLITE (space-to-Earth) MOBILE MOBILE–SATELLITE (space-to-Earth)

GHz
164 – 191.8

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
164 – 167	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340		**164 – 167** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
167 – 174.5	FIXED FIXED–SATELLITE (space-to-Earth) INTER–SATELLITE MOBILE 558 149 562D		**167 – 174.5** FIXED FIXED–SATELLITE (space-to-Earth) INTER–SATELLITE MOBILE 558 149
174.5 – 174.8	FIXED INTER–SATELLITE MOBILE 558		**174.5 – 174.8** FIXED INTER–SATELLITE MOBILE 558
174.8 – 182	EARTH EXPLORATION–SATELLITE (passive) INTER–SATELLITE 562H SPACE RESEARCH (passive)		**174.8 – 182** EARTH EXPLORATION–SATELLITE (passive) INTER–SATELLITE 562H SPACE RESEARCH (passive)
182 – 185	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340		**182 – 185** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
185 – 190	EARTH EXPLORATION–SATELLITE (passive) INTER–SATELLITE 562H SPACE RESEARCH (passive)		**185 – 190** EARTH EXPLORATION–SATELLITE (passive) INTER–SATELLITE 562H SPACE RESEARCH (passive)
190 – 191.8	EARTH EXPLORATION–SATELLITE (passive) SPACE RESEARCH (passive) 340		**190 – 191.8** EARTH EXPLORATION–SATELLITE (passive) SPACE RESEARCH (passive) 340

GHz
191.8 – 231.5

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
191.8 – 200	FIXED INTER–SATELLITE MOBILE 558 MOBILE–SATELLITE RADIONAVIGATION RADIONAVIGATION–SATELLITE 149 341 554		**191.8 – 200** FIXED INTER–SATELLITE MOBILE 558 MOBILE–SATELLITE RADIONAVIGATION RADIONAVIGATION–SATELLITE 149 341 554
200 – 202	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341 563A		**200 – 202** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341 563A
202 – 209	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341 563A		**202 – 209** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341 563A
209 – 217	FIXED FIXED–SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 149 341		**209 – 217** FIXED FIXED–SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 149 341
217 – 226	FIXED FIXED–SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341		**217 – 226** FIXED FIXED–SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341
226 – 231.5	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340		**226 – 231.5** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340

GHz
231.5 – 252

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
231.5 – 232	FIXED MOBILE Radiolocation		**231.5 – 232** FIXED MOBILE Radiolocation
232 – 235	FIXED FIXED–SATELLITE (space-to-Earth) MOBILE Radiolocation		**232 – 235** FIXED FIXED–SATELLITE (space-to-Earth) MOBILE Radiolocation
235 – 238	EARTH EXPLORATION–SATELLITE (passive) FIXED–SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 563A 563B		**235 – 238** EARTH EXPLORATION–SATELLITE (passive) FIXED–SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 563A 563B
238 – 240	FIXED FIXED–SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION–SATELLITE		**238 – 240** FIXED FIXED–SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION–SATELLITE
240 – 241	FIXED MOBILE RADIOLOCATION		**240 – 241** FIXED MOBILE RADIOLOCATION
241 – 248	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur–satellite 138 149		**241 – 248** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur–satellite 138 149
248 – 250	AMATEUR AMATEUR–SATELLITE Radio astronomy 149		**248 – 250** AMATEUR AMATEUR–SATELLITE Radio astronomy 149
250 – 252	EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 563A		**250 – 252** EARTH EXPLORATION–SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 563A

GHz
252 – 420 000

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
252 – 265	FIXED MOBILE MOBILE–SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION–SATELLITE 149 554		**252 – 265** FIXED MOBILE MOBILE–SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION–SATELLITE 149 554
265 – 275	FIXED FIXED–SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 149 563A		**265 – 275** FIXED FIXED–SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 149 563A
275 – 3 000	(Not allocated) 564A 565		**275 – 3 000** (Not allocated) 564A 565
			3000 – 420 000 (Not allocated)

Part 3—Australian Footnotes

AUS1A In the band 1 260–1 300 MHz it is intended to accommodate radionavigation–satellite systems on a shared basis with defence applications.

AUS3 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.

AUS7 Operation of stations of the aeronautical mobile (OR) service on a primary basis in Australia is on the condition that harmful interference is not caused to stations of services of other countries operating in accordance with the Radio Regulations.

AUS9 The bands 4 152–4 172 kHz, 6 233–6 261 kHz, 8 300–8 340 kHz, 12 368–12 420 kHz, 16 549–16 617 kHz, 18 846–18 870 kHz, 22 180–22 240 kHz and 25 121–25 161.25 kHz are designated to be used principally for the purposes of defence. The Department of Defence is normally consulted in considering non-defence use of these bands.

AUS10 Operation of stations of the aeronautical mobile (OR) service on a secondary basis in Australia is on the condition that harmful interference is not caused to stations of services of other countries operating in accordance with the Radio Regulations.

AUS12 Operation of the amateur service in the band 7 100–7 300 kHz is subject to the conditions of Radio Regulation No. **4.4**.

AUS24 The introduction of new stations of the broadcasting service in the band 85–87.5 MHz is subject to special agreements between Australia and other administrations. Television services operating in this band may be transferred to other broadcasting bands.

AUS25 Operation of the aeronautical mobile (R) service in the bands 108–117.975 MHz and 117.975–137 MHz, and of the aeronautical radionavigation service in the bands 74.8–75.2 MHz, 108–117.975 MHz, 328.6–335.4 MHz, 960–1 215 MHz and 5 000–5 250 MHz is subject to the provisions of Annex 10 to the Convention on International Civil Aviation and the Standards and Recommended Practices of the International Civil Aviation Organisation (ICAO).

AUS26 The allocation to the broadcasting service in the band 137–144 MHz will remain until existing stations of that service are transferred to other broadcasting bands. No new assignments will be made to broadcasting services in this band.

AUS29 In these bands the radiolocation service is primary in offshore areas.

AUS32 The band 918–926 MHz (centre frequency 922 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication stations operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of Radio Regulation No. **15.13**.

AUS49 The use and assignment of frequencies to non-directional beacons (NDBs) of the aeronautical radionavigation service in the bands 190–405 kHz, 415–495 kHz, 505–526.5 kHz and 1 606.5–1 800 kHz shall take account of Annex 10 to the Convention on International Civil Aviation and the Standards and Recommended Practices of the International Civil Aviation Organisation (ICAO).

AUS50 The use of the bands 526.5–535 kHz and 535–1 606.5 kHz by the broadcasting service shall take into account the provisions of the Final Acts of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975.

AUS51 Use of the bands 2 850–3 025 kHz, 3 400–3 500 kHz, 4 650–4 700 kHz, 5 480–5 680 kHz, 6 525–6 685 kHz, 8815–8 965 kHz, 10 005–10 100 kHz, 11 275–11 400 kHz, 13 260–13 360 kHz, 17 900–17 970 kHz and 21 924–22 000 kHz by the aeronautical mobile (R) service is subject to the provisions of Appendix **27** of the Radio Regulations.

AUS52 Chapter **VIII** and other provisions of the Radio Regulations are applicable to the use of the bands 3 025–3 155 kHz, 3 900–3 950 kHz, 4 700–4 750 kHz, 5 450–5 480 kHz, 5 680–5 730 kHz, 6 685–6 765 kHz, 8 965–9 040 kHz, 11 175–11 275 kHz, 13 200–13 260 kHz, 15 060–15 100 kHz, 17 970–18 030 kHz and 23 200–23 350 kHz by the aeronautical mobile (OR) service.

AUS53 The provisions of Appendix **17** and Chapter **IX** of the Radio Regulations apply to the use of the bands 4 063–4 438 kHz, 6 200–6 525 kHz, 8 195–8 815 kHz, 12 230–13 200 kHz, 16 360–17 410 kHz, 18 780–19 800 kHz, 22 000–22 855 kHz and 25 070–26 175 kHz only where allocated to the maritime mobile service.

AUS54 The use of the bands 5 950–6 200 kHz, 7 200–7 300 kHz, 9 500–9 900 kHz, 11 650–12 050 kHz, 13 600–13 800 kHz, 15 100–15 600 kHz, 17 550–17 900 kHz, 21 450–21 850 kHz and 25 670–26 100 kHz by the broadcasting service shall be in accordance with the provisions of Articles **11** and **12** of the Radio Regulations.

AUS57 This band may be used by stations of the radiolocation service for the purposes of defence, on condition that harmful interference is not caused to other services operating in accordance with this Spectrum Plan or the Radio Regulations.

AUS58 This band may be used by stations of the fixed and mobile services for the purposes of defence on condition that harmful interference is not caused to stations of other services operating in accordance with this Spectrum Plan or the Radio Regulations.

AUS59 Stations of the fixed and mobile services used for the purposes of defence may use the frequency bands specified in **AUS9** on condition that harmful interference is not caused to stations of other services operating in accordance with this Spectrum Plan or the Radio Regulations.

AUS62 Parts of this band might be used in the future for the purposes of defence.

AUS64 The band 960–1 215 MHz may be used by stations of the fixed and mobile services using spread spectrum modulation for the purposes of defence on condition that harmful interference is not caused to stations of other services operating in accordance with this Spectrum Plan or the Radio Regulations.

AUS65 Geographical and operational constraints will apply to the mobile–satellite service when observations are being made by the Australia Telescope in the 1 660 MHz–1 660.5 MHz band.

AUS66 The band 151.4125–153 MHz is also allocated to the radiodetermination service on a secondary basis.

AUS67 Tropospheric scatter systems used for the purposes of defence may operate in the bands between 4 400 and 5 000 MHz. The possible requirement to coordinate with the fixed–satellite service should be noted (see International Footnote No. **441** at Part 4 of this Spectrum Plan).

AUS68 Underground mine communications systems are authorised to operate in the bands designated by this footnote on the condition that harmful interference is not caused to stations of other services operating in accordance with this Spectrum Plan or the Radio Regulations.

AUS73 The provisions of No. **52.220** and Appendix **17** of the Radio Regulations are applicable to the use of the band 8 100–8 195 kHz by the maritime mobile service.

AUS74 The use of the bands 526.5–535 kHz and 535–1 606.5 kHz by the fixed service shall be subject to the condition that no harmful interference shall be caused to the reception of transmissions by stations of the broadcasting service operating in accordance with this Spectrum Plan or the Radio Regulations.

AUS75 Use of this service by stations shall be subject to the condition that no harmful interference is caused to stations of other services operating in accordance with this Spectrum Plan or the Radio Regulations.

AUS87 Radio astronomy facilities operated by the CSIRO at the Paul Wild Observatory Narrabri (latitude 30° 18' 46.40" S, longitude 149° 33' 0.44" E), the Parkes Observatory (latitude 32° 59' 54.25" S, longitude 148° 15' 48.65" E) and the Mopra Observatory Coonabarabran (latitude 31° 16' 04.12" S, longitude 149° 05' 58.72" E) and by the University of Tasmania at the Mount Pleasant Observatory Hobart (latitude 42° 48' 12.92" S, longitude 147° 26' 25.86" E) and the Ceduna Observatory (latitude 31° 52' 03.69" S, longitude 133° 48' 35.40" E), and at the Canberra Deep Space Communication Complex (latitude 35° 23' 54.46" S, longitude 148° 58' 39.66" E) conduct passive observations in the frequency bands 1.2–1.8 GHz, 2.2–2.7 GHz, 4.5–6.7 GHz, 8–10 GHz and 16–26 GHz using receivers that are highly sensitive to interference. The Paul Wild and Mopra observatories also operate in the bands 30–50 GHz and 75–115 GHz.

AUS88 In the band 12.2–12.5 GHz, transponders on space stations of the fixed–satellite service may be used additionally for transmissions in the broadcasting-satellite service. Such emissions shall comply with the power flux density limits prescribed for the fixed–satellite service in this band.

AUS89 Use of the band 54–56 MHz by the radiolocation service is limited to wind profiler radars (see Resolution **217** (**WRC-97**)).

AUS90 In consideration of Resolution **217** (**WRC-97**), the use by wind profiler radars is confined to the sub-bands 448–450 MHz and 1 270–1 295 MHz.

AUS91 Use of the mobile service is limited to Australian, State and Territory Government purposes. The Department of Defence is normally consulted in considering non-defence use of this service.

AUS92 The band 202.9–203.1 MHz may be used by stations of the space operation service (space-to-Earth) on condition that harmful interference is not caused to stations of the services allocated in this band.

AUS93 The band may be used by stations of the aeronautical mobile (OR) service for the purposes of defence on condition that harmful interference will not be caused to stations of the space research (deep space)(space-to-Earth) service in this band.

AUS94 The following bands are intended to be used principally for the purposes of defence:

420.8–421.2 MHz,
424.8–425.2 MHz,
427.8–428.2 MHz.

The Department of Defence is normally consulted in considering non-defence use of these bands.

AUS95 This band may be used by stations of the fixed and mobile services for the purposes of defence on condition that harmful interference is not caused to stations of other services allocated in this band.

AUS96 This band may be used by stations of the fixed service on condition that harmful interference is not caused to stations of other services operating in accordance with this Spectrum Plan or the Radio Regulations.

AUS98 The harmonised frequency ranges in the 400 MHz band are used for national security, law enforcement, and first and second responder agencies. These agencies include police, fire, ambulance, and emergency rescue. These agencies are normally consulted about use of this spectrum for government purposes via the Commonwealth, State and Territory representative arrangements established by the National Coordinating Committee for Government Radiocommunications[1]. The harmonised band comprises the following frequency ranges:

403–403.98125 MHz,
405.01875–406 MHz,
408.64375–410.54375 MHz,
412.46875–413.43125 MHz,
414.46875–415.44375 MHz,
418.09375–430 MHz,
457.50625–459.9875 MHz,
467.50625–469.9875 MHz.

[1] The National Coordinating Committee for Government Radiocommunications (NCCGR) is a standing representative committee of the National Emergency Management Committee and was established by agreement of First Ministers in 2004 and replaced the Inter-Government Spectrum Harmonisation Committee (ISHC). It was formed to support a national will to address the core issues of spectrum and inter-jurisdictional operations and to ensure that the relevant issues are considered and discussed within a national framework. The NCCGR consists of representatives from Australian jurisdictions and Australian Government Departments and has been formed with the endorsement of jurisdiction Premiers/Chief Ministers (see Preamble, Constitution of the NCCGR March 2012).

AUS99 The band 420.8–421.2 MHz is also allocated to the amateur service on a secondary basis.

AUS100 This band is designated for use by the Australian Defence Force and Department of Defence. The Department of Defence is to be consulted in considering non-defence use of this band.

AUS100A This service is designated for use by the Australian Defence Force and Department of Defence. The Department of Defence is to be consulted in considering non-defence use of this service.

AUS101 This band is designated to be used principally for the purposes of defence and national security. The Department of Defence is normally consulted in considering non-defence use of this band.

AUS101A This service is designated to be used principally for the purposes of defence and national security. The Department of Defence is normally consulted in considering non-defence use of this service.

AUS102 This band is intended to be used principally for the purposes of defence of Australia, law enforcement and emergency services.

AUS102A This service is intended to be used principally for the purposes of defence of Australia, law enforcement and emergency services.

AUS103 The Murchison Radioastronomy Observatory (MRO) (latitude 26° 42' 10.4" S, longitude 116° 39' 37.0" E) hosts the Australian Square Kilometre Array Pathfinder (ASKAP) operating in the band 700–1 800 MHz and the Murchison Widefield Array (MWA) operating in the band 80–300 MHz.

AUS104 Under subsection 31(1) of the Act parts of the radiofrequency spectrum, including the band 520–694 MHz, are designated as being primarily for broadcasting purposes and referred for planning in accordance with Part 3 of the *Broadcasting Services Act 1992*.

AUS105 This band may be used by stations of the radiolocation service for meteorological and aeronautical surveillance radar, on condition that potential harmful interference is accepted from services operating in adjacent bands in accordance with a spectrum licence.

AUS106 The band 2103.406-2109.406 MHz may be used by the space operation (space-to-Earth), space research (space-to-Earth) and Earth exploration-satellite (space-to-Earth) services to support the operation of the Bilateration Ranging Transponder System earth station facility near Alice Springs (latitude 23° 45' 25.3" S, longitude 133° 52' 58.2" E)

AUS106A The band 2284.5–2290.5 MHz may be used by the space operation (Earth-to-space), space research (Earth-to-space) and Earth exploration-satellite (Earth-to-space) services to support the operation of the Bilateration Ranging Transponder System earth station facility near Alice Springs (latitude 23° 45' 25.3" S, longitude 133° 52' 58.2" E)

Part 4—International Footnotes

Note The footnote numbers 53 to 565 contained in this Part are those listed in Article 5 of the ITU Radio Regulations, except that the '**5.**' prefix has been removed.

53 Administrations authorising the use of frequencies below 8.3 kHz shall ensure that no harmful interference is caused to services to which the bands above 8.3 kHz are allocated.

54 Administrations conducting scientific research using frequencies below 8.3 kHz are urged to advise other administrations that may be concerned in order that such research may be afforded all practicable protection from harmful interference.

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.

54B *Additional allocation*: in Algeria, Saudi Arabia, Bahrain, Egypt, the United Arab Emirates, the Russian Federation, Iran (Islamic Republic of), Iraq, Kuwait, Lebanon, Morocco, Qatar, the Syrian Arab Republic, Sudan and Tunisia, the frequency band 8.3–9 kHz is also allocated to the radionavigation, fixed and mobile services on a primary basis. (WRC-15)

54C *Additional allocation*: in China, the frequency band 8.3–9 kHz is also allocated to the maritime radionavigation and maritime mobile services on a primary basis.

55 *Additional allocation*: in Armenia, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan, and Turkmenistan, the frequency band 14–17 kHz is also allocated to the radionavigation service on a primary basis. (WRC-15)

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)

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 authorised subject to the necessary bandwidth not exceeding that normally used for class A1A or F1B emissions in the band concerned.

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

59 *Different category of service*: in Bangladesh and Pakistan, the allocation of the bands 70–72 kHz and 84–86 kHz to the fixed and maritime mobile services is on a primary basis (see No. **33**). (WRC-2000)

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.

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.

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

64 Only classes A1A or F1B, A2C, A3C, F1C or F3C emissions are authorised 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 authorised in the bands between 110 kHz and 160 kHz (148.5 kHz in Region 1) for stations of the maritime mobile service.

65 *Different category of service:* in Bangladesh, the allocation of the bands 112–117.6 kHz and 126–129 kHz to the fixed and maritime mobile services is on a primary basis (see No. **33**). (WRC-2000)

66 *Different category of service:* in Germany, the allocation of the band 115–117.6 kHz to the fixed and maritime mobile services is on a primary basis (see No. **33**) and to the radionavigation service on a secondary basis (see No. **32**).

67 *Additional allocation:* in Kyrgyzstan, and Turkmenistan, the frequency band 130–148.5 kHz is also allocated to the radionavigation service on a secondary basis. Within and between these countries this service shall have an equal right to operate. (WRC-19)

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. **67**. (WRC-07)

67B The use of the frequency band 135.7–137.8 kHz in Algeria, Egypt, Iraq, Lebanon, Syrian Arab Republic, Sudan, South Sudan and Tunisia is limited to the fixed and maritime mobile services. The amateur service shall not be used in the above-mentioned countries in the frequency band 135.7–137.8 kHz, and this should be taken into account by the countries authorising such use. (WRC-19)

68 *Alternative allocation:* in Congo (Rep. of the), the Dem. Rep. of the Congo and South Africa, the frequency band 160–200 kHz is allocated to the fixed service on a primary basis. (WRC-15)

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

70 *Alternative allocation:* in Angola, Botswana, Burundi, the Central African Rep., Congo (Rep. of the), Eswatini, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, the Dem. Rep. of the Congo, South Africa, Tanzania, Chad, Zambia and Zimbabwe, the frequency band 200–283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. (WRC-19)

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)

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

75 *Different category of service:* in Armenia, Azerbaijan, Belarus, Georgia, Moldova, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and the Black Sea areas of Romania, the allocation of the band 315–325 kHz to the maritime radionavigation service is on a primary basis under the condition that in the Baltic Sea area, the assignment of frequencies in this band to new stations in the maritime or aeronautical radionavigation services shall be subject to prior consultation between the administrations concerned. (WRC-07)

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.

77 *Different category of service*: in Australia, China, the French overseas communities of Region 3, Korea (Rep. of), India, Iran (Islamic Republic of), Japan, Pakistan, Papua New Guinea, the Dem. People's Rep. of Korea and Sri Lanka, the allocation of the

frequency band 415–495 kHz to the aeronautical radionavigation service is on a primary basis. In Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Latvia, Uzbekistan and Kyrgyzstan, the allocation of the frequency band 435–495 kHz to the aeronautical radionavigation service is on a primary basis. Administrations in all the aforementioned countries shall take all practical steps necessary to ensure that aeronautical radionavigation stations in the frequency band 435–495 kHz do not cause interference to reception by coast stations of transmissions from ship stations on frequencies designated for ship stations on a worldwide basis. (WRC-19)

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

79 In the maritime mobile service, the frequency bands 415–495 kHz and 505–526.5 kHz are limited to radiotelegraphy and may also be used for the NAVDAT system in accordance with the most recent version of Recommendation ITU-R M.2010, subject to agreement between interested and affected administrations. NAVDAT transmitting stations are limited to coast stations. (WRC-19)

79A When establishing coast stations in the NAVTEX service on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organisation (IMO) (see Resolution **339** (**Rev.WRC-07**)). (WRC-07)

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

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 on the amateur service shall not cause harmful interference to, or claim protection from, stations of the aeronautical radionavigation service.

80B The use of the frequency band 472–479 kHz in Algeria, Saudi Arabia, Azerbaijan, Bahrain, Belarus, China, Comoros, Djibouti, Egypt, United Arab Emirates, the Russian Federation, Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Mauritania, Oman, Uzbekistan, Qatar, Syrian Arab Republic, Kyrgyzstan, Somalia, Sudan, Tunisia, and Yemen is limited to the maritime mobile and aeronautical radionavigation services. The amateur service shall not be used in the above-mentioned countries in this frequency band, and this should be taken into account by the countries authorising such use.

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

82C The frequency band 495–505 kHz is used for the international NAVDAT system as described in the most recent version of Recommendation ITU-R M.2010. NAVDAT transmitting stations are limited to coast stations. (WRC-19)

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)

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.

87 *Additional allocation*: in Angola, Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia and Niger, the frequency band 526.5–535 kHz is also allocated to the mobile service on a secondary basis. (WRC-19)

87A *Additional allocation*: in Uzbekistan, the band 526.5–1 606.5 kHz is also allocated to the radionavigation service on a primary basis. Such use is subject to agreement obtained under No. **9.21** with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-97)

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

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).

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.

91 *Additional allocation*: in the Philippines and Sri Lanka, the band 1 606.5–1 705 kHz is also allocated to the broadcasting service on a secondary basis. (WRC-97)

92 Some countries of Region 1 use radiodetermination systems in the bands 1 606.5–1 625 kHz, 1 635–1 800 kHz, 1 850–2 160 kHz, 2 194–2 300 kHz, 2 502–2 850 kHz and 3 500–3 800 kHz, subject to agreement obtained under No. 9.21. The radiated mean power of these stations shall not exceed 50 W.

93 *Additional allocation*: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, Tajikistan, Chad, Turkmenistan and Ukraine, the frequency bands 1 625–1 635 kHz, 1 800–1 810 kHz and 2 160–2 170 kHz are also allocated to the fixed and land mobile services on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-15)

96 In Germany, Armenia, Austria, Azerbaijan, Belarus, Croatia, Denmark, Estonia, the Russian Federation, Finland, Georgia, Hungary, Ireland, Iceland, Israel, Kazakhstan, Latvia, Liechtenstein, Lithuania, Malta, Moldova, Norway, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., the United Kingdom, Sweden, Switzerland, Tajikistan, Turkmenistan and Ukraine, administrations may allocate up to 200 kHz to their amateur service in the frequency bands 1 715–1 800 kHz and 1 850–2 000 kHz. However, when allocating the frequency bands within this range to their amateur service, administrations shall, after prior consultation with administrations of neighbouring countries, take such steps as may be necessary to prevent harmful interference from their amateur service to the fixed and mobile services of other countries. The mean power of any amateur station shall not exceed 10 W. (WRC-15)

97 In Region 3, the Loran system operates either on 1 850 kHz or 1 950 kHz, the bands occupied being 1 825–1 875 kHz and 1 925–1 975 kHz respectively. Other services to which the band 1 800–2 000 kHz is allocated may use any frequency therein on condition that no harmful interference is caused to the Loran system operating on 1 850 kHz or 1 950 kHz.

98 *Alternative allocation*: in Armenia, Azerbaijan, Belarus, Belgium, Cameroon, Congo (Rep. of the), Denmark, Egypt, Eritrea, Spain, Ethiopia, the Russian Federation, Georgia, Greece, Italy, Kazakhstan, Lebanon, Lithuania, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Tunisia, Turkmenistan and Turkey, the frequency band 1 810–1 830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-15)

99 *Additional allocation*: in Saudi Arabia, Austria, Iraq, Libya, Uzbekistan, Slovakia, Romania, Slovenia, Chad, and Togo, the band 1 810–1 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

100 In Region 1, the authorisation to use the band 1 810–1 830 kHz by the amateur service in countries situated totally or partially north of 40° N shall be given only after consultation with the countries mentioned in Nos. **98** and **99** to define the necessary steps to be taken to prevent harmful interference between amateur stations and stations of other services operating in accordance with Nos. **98** and **99**.

102 *Alternative allocation*: in Bolivia, Chile, Paraguay and Peru, the frequency band 1 850–2 000 kHz is allocated to the fixed, mobile except aeronautical mobile, radiolocation and radionavigation services on a primary basis. (WRC-15)

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

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

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**.

106 In Regions 2 and 3, provided no harmful interference is caused to the maritime mobile service, the frequencies between 2 065 kHz and 2 107 kHz may be used by stations of the fixed service communicating only within national borders and whose mean power does not exceed 50 W. In notifying the frequencies, the attention of the Bureau should be drawn to these provisions.

107 *Additional allocation*: in Saudi Arabia, Eritrea, Eswatini, Ethiopia, Iraq, Libya and Somalia, the frequency band 2 160–2 170 kHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. The mean power of stations in these services shall not exceed 50 W. (WRC-19)

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)

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**.

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**.

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)

112 *Alternative allocation*: in Sri Lanka, the frequency band 2 194–2 300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-19)

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. **16** to **20, 21** and **23.3** to **23.10**.

114 *Alternative allocation*: in Iraq, the frequency band 2 502–2 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-19)

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)

116 Administrations are urged to authorise 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.

117 *Alternative allocation*: in Côte d'Ivoire, Egypt, Liberia, Sri Lanka and Togo, the frequency band 3 155–3 200 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-19)

118 *Additional allocation*: in the United States, Mexico and Peru, the frequency band 3 230–3 400 kHz is also allocated to the radiolocation service on a secondary basis. (WRC-19)

119 *Additional allocation*: in Peru, the frequency band 3 500–3 750 kHz is also allocated to the fixed and mobile services on a primary basis. (WRC-15)

122 *Alternative allocation*: in Bolivia, Chile, Ecuador, Paraguay and Peru, the frequency band 3 750–4 000 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-15)

123 *Additional allocation*: in Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe, the frequency band 3 900–3 950 kHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-19)

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

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

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**).

128 Frequencies in the frequency 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, 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 frequency 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-19)

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)

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)

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**).

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**).

132B *Alternative allocation*: in Armenia, Belarus, Moldova and Kyrgyzstan, the frequency band 4 438–4 488 kHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. (WRC-19)

133 *Different category of service*: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Niger, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 5 130–5 250 kHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. **33**). (WRC-12)

133A *Alternative allocation*: in Armenia, Belarus, Moldova and Kyrgyzstan, the frequency bands 5 250–5 275 kHz and 26 200–26 350 kHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-19)

133B Stations in the amateur service using the frequency band 5 351.5–5 366.5 kHz shall not exceed a maximum radiated power of 15 W (e.i.r.p.). However, in Region 2 in Mexico, stations in the amateur service using the frequency band 5 351.5–5 366.5 kHz shall not exceed a maximum radiated power of 20 W (e.i.r.p.). In the following Region 2 countries: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Dominica, El Salvador, Ecuador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela, as well as the overseas countries and territories within the Kingdom of the Netherlands in Region 2, stations in the amateur service using the frequency band 5 351.5–5 366.5 kHz shall not exceed a maximum radiated power of 25 W (e.i.r.p.). (WRC-19)

134 The use of the frequency 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 frequency bands to facilitate the introduction of digitally modulated emissions in accordance with the provisions of Resolution **517** (**Rev.WRC-19**). (WRC-19)

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

137 On condition that harmful interference is not caused to the maritime mobile service, the bands 6 200–6 213.5 kHz and 6 220.5–6 525 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W. At the time of notification of these frequencies, the attention of the Bureau will be drawn to the above conditions.

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. **280**,
61–61.5 GHz	(centre frequency 61.25 GHz),
122–123 GHz	(centre frequency 122.5 GHz), and
244–246 GHz	(centre frequency 245 GHz)

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

138A Until 29 March 2009, the band 6 765–7 000 kHz is allocated to the fixed service on a primary basis and to the land mobile service on a secondary basis. After this date, this band is allocated to the fixed and the mobile except aeronautical mobile (R) services on a primary basis. (WRC-03)

139 *Different category of service*: until 29 March 2009, in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 6 765–7 000 kHz to the land mobile service is on a primary basis (see No. **33**). (WRC-07)

140 *Additional allocation*: in Angola, Iraq, Somalia and Togo, the frequency band 7 000–7 050 kHz is also allocated to the fixed service on a primary basis. (WRC-15)

141 *Alternative allocation*: in Egypt, Eritrea, Ethiopia, Guinea, Libya, Madagascar and Niger, the band 7 000–7 050 kHz is allocated to the fixed service on a primary basis. (WRC-12)

141A *Additional allocation*: in Uzbekistan and Kyrgyzstan, the bands 7 000–7 100 kHz and 7 100–7 200 kHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-03)

141B *Additional allocation*: in Algeria, Saudi Arabia, Australia, Bahrain, Botswana, Brunei Darussalam, China, Comoros, Korea (Rep. of), Diego Garcia, Djibouti, Egypt, United Arab Emirates, Eritrea, Guinea, Indonesia, Iran (Islamic Republic of), Japan, Jordan, Kuwait, Libya, Mali, Morocco, Mauritania, Niger, New Zealand, Oman, Papua New Guinea, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Sudan, South Sudan, Tunisia, Viet Nam and Yemen, the frequency band 7 100–7 200 kHz is also allocated to the fixed and the mobile, except aeronautical mobile (R), services on a primary basis. (WRC-19)

141C In Regions 1 and 3, the band 7 100–7 200 kHz is allocated to the broadcasting service until 29 March 2009 on a primary basis. (WRC-03)

142 Until 29 March 2009, the use of the band 7 100–7 300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. After 29 March 2009 the use of the band 7 200–7 300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. (WRC-03)

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)

143A In Region 3, the band 7 350–7 450 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-03)

143B In Region 1, the band 7 350–7 450 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, on condition that harmful interference is not caused to the broadcasting service, frequencies in the band 7 350–7 450 kHz may be used by stations in the fixed and land mobile services communicating only within the boundary of the country in which they are located, each station using a total radiated power that shall not exceed 24 dBW. (WRC-03)

143C *Additional allocation*: after 29 March 2009 in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Iran (Islamic Republic of), Jordan, Kuwait, Libya, Morocco, Mauritania, Niger, Oman, Qatar, the Syrian Arab Republic, Sudan, South Sudan, Tunisia and Yemen, the bands 7 350–7 400 kHz and 7 400–7 450 kHz are also allocated to the fixed service on a primary basis. (WRC-12)

143D In Region 2, the band 7 350–7 400 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-03)

143E Until 29 March 2009, the band 7 450–8 100 kHz is allocated to the fixed service on a primary basis and to the land mobile service on a secondary basis. (WRC-03)

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

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)

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**).

145B *Alternative allocation*: in Armenia, Belarus, Moldova and Kyrgyzstan, the frequency bands 9 305–9 355 kHz and 16 100–16 200 kHz are allocated to the fixed service on a primary basis. (WRC-19)

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)

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.

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

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

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

149A *Alternative allocation*: in Armenia, Belarus, Moldova and Kyrgyzstan, the frequency band 13 450–13 550 kHz is allocated to the fixed service on a primary basis and to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-19)

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**.

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)

152 *Additional allocation:* in Armenia, Azerbaijan, China, Côte d'Ivoire, the Russian Federation, Georgia, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 14 250–14 350 kHz is also allocated to the fixed service on a primary basis. Stations of the fixed service shall not use a radiated power exceeding 24 dBW. (WRC-03)

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

154 *Additional allocation*: in Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 18 068–18 168 kHz is also allocated to the fixed service on a primary basis for use within their boundaries, with a peak envelope power not exceeding 1 kW. (WRC-03)

155 *Additional allocation*: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the band 21 850–21 870 kHz is also allocated to the aeronautical mobile (R) service on a primary basis. (WRC-07)

155A In Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the use of the band 21 850–21 870 kHz by the fixed service is limited to provision of services related to aircraft flight safety. (WRC-07)

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

156 *Additional allocation*: in Nigeria, the band 22 720–23 200 kHz is also allocated to the meteorological aids service (radiosondes) on a primary basis.

156A The use of the band 23 200–23 350 kHz by the fixed service is limited to provision of services related to aircraft flight safety.

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

158 *Alternative allocation*: in Armenia, Belarus, Moldova and Kyrgyzstan, the frequency band 24 450–24 600 kHz is allocated to the fixed and land mobile services on a primary basis. (WRC-19)

159 *Alternative allocation*: in Armenia, Belarus, Moldova and Kyrgyzstan, the frequency band 39–39.5 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-19)

160 *Additional allocation*: in Botswana, Burundi, Dem. Rep. of the Congo and Rwanda, the band 41–44 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)

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

161A *Additional allocation*: in Korea (Rep. of), the United States and Mexico, the frequency bands 41.015–41.665 MHz and 43.35–44 MHz are also allocated to the radiolocation service on a primary basis. 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-19)

161B *Alternative allocation*: in Albania, Germany, Armenia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Cyprus, Vatican, Croatia, Denmark, Spain, Estonia, Finland, France, Greece, Hungary, Ireland, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, North Macedonia, Malta, Moldova, Monaco, Montenegro, Norway, Uzbekistan, Netherlands, Portugal, Kyrgyzstan, Slovakia, Czech Rep., Romania, United Kingdom, San Marino, Slovenia, Sweden, Switzerland, Turkey and Ukraine, the frequency band 42–42.5 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-19)

162 *Additional allocation*: in Australia, the band 44–47 MHz is also allocated to the broadcasting service on a primary basis. (WRC-12)

162A *Additional allocation*: in Germany, Austria, Belgium, Bosnia and Herzegovina, China, Vatican, Denmark, Spain, Estonia, the Russian Federation, Finland, France, Ireland, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, North Macedonia, Monaco, Montenegro, Norway, the Netherlands, Poland, Portugal, the Czech Rep., the United Kingdom, Serbia, Slovenia, Sweden and Switzerland the frequency band 46–68 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution **217** (**WRC-97**). (WRC-19)

163 *Additional allocation*: in Armenia, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the frequency bands 47–48.5 MHz and 56.5–58 MHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-19)

164 *Additional allocation*: in Albania, Algeria, Germany, Austria, Belgium, Bosnia and Herzegovina, Botswana, Bulgaria, Côte d'Ivoire, Croatia, Denmark, Spain, Estonia, Eswatini, Finland, France, Gabon, Greece, Hungary, Ireland, Israel, Italy, Jordan, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Montenegro, Nigeria, Norway, the Netherlands, Poland, Syrian Arab Republic, Slovakia, Czech Rep., Romania, the United Kingdom, Serbia, Slovenia, Sweden, Switzerland, Chad, Togo, Tunisia and Turkey, the

frequency band 47–68 MHz, in South Africa the frequency band 47–50 MHz, and in Latvia the frequency bands 48.5–56.5 MHz and 58–68 MHz, are also allocated to the land mobile service on a primary basis. However, stations of the land mobile service in the countries mentioned in connection with each frequency band referred to in this footnote shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations of countries other than those mentioned in connection with the frequency band. (WRC-19)

165 *Additional allocation*: in Angola, Cameroon, Congo (Rep. of the), Egypt, Madagascar, Mozambique, Niger, Somalia, Sudan, South Sudan, Tanzania and Chad, the frequency band 47–68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-19)

166A *Different category of service*: in Austria, Cyprus, the Vatican, Croatia, Denmark, Spain, Finland, Hungary, Latvia, the Netherlands, the Czech Republic, the United Kingdom, Slovakia and Slovenia, the frequency band 50.0–50.5 MHz is allocated to the amateur service on a primary basis. Stations in the amateur service in these countries shall not cause harmful interference to, or claim protection from, stations of the broadcasting, fixed and mobile services operating in accordance with the Radio Regulations in the frequency band 50.0–50.5 MHz in the countries not listed in this provision. For a station of these services, the protection criteria in No. **169B** shall also apply. In Region 1, with the exception of those countries listed in No. **169**, wind profiler radars operating in the radiolocation service under No. **162A** are authorized to operate on the basis of equality with stations in the amateur service in the frequency band 50.0–50.5 MHz. (WRC-19)

166B In Region 1, stations in the amateur service operating on a secondary basis shall not cause harmful interference to, or claim protection from, stations of the broadcasting service. The field strength generated by an amateur station in Region 1 in the frequency band 50–52 MHz shall not exceed a calculated value of +6 dB(μV/m) at a height of 10 m above ground for more than 10% of time along the border of a country with operational analogue broadcasting stations in Region 1 and of neighbouring countries with broadcasting stations in Region 3 listed in Nos. **167** and **168**. (WRC-19)

166C In Region 1, stations in the amateur service in the frequency band 50–52 MHz, with the exception of those countries listed in No. **169**, shall not cause harmful interference to, or claim protection from, wind profiler radars operating in the radiolocation service under No. **162A**. (WRC-19)

166D *Different category of service*: in Lebanon, the frequency band 50–52 MHz is allocated to the amateur service on a primary basis. Stations in the amateur service in Lebanon shall not cause harmful interference to, or claim protection from, stations of the broadcasting, fixed and mobile services operating in accordance with the Radio Regulations in the frequency band 50–52 MHz in the countries not listed in this provision. (WRC-19)

166E In the Russian Federation, only the frequency band 50.080–50.280 MHz is allocated to the amateur service on a secondary basis. The protection criteria for the other services in the countries not listed in this provision are specified in Nos. **166B** and **169B**. (WRC-19)

167 *Alternative allocation*: in Bangladesh, Brunei Darussalam, India, Iran (Islamic Republic of), Pakistan and Singapore, the frequency band 50–54 MHz is allocated to the fixed, mobile and broadcasting services on a primary basis. (WRC-15)

167A *Additional allocation*: in Indonesia and Thailand, the frequency band 50–54 MHz is also allocated to the fixed, mobile and broadcasting services on a primary basis. (WRC-15)

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

169 *Alternative allocation*: in Botswana, Eswatini, Lesotho, Malawi, Namibia, Rwanda, South Africa, Zambia and Zimbabwe, the frequency band 50–54 MHz is allocated to the amateur service on a primary basis. In Senegal, the frequency band 50–51 MHz is allocated to the amateur service on a primary basis. (WRC-19)

169A *Alternative allocation*: in the following countries in Region 1: Angola, Saudi Arabia, Bahrain, Burkina Faso, Burundi, the United Arab Emirates, Gambia, Jordan, Kenya, Kuwait, Mauritius, Mozambique, Oman, Uganda, Qatar, South Sudan and Tanzania, the frequency band 50–54 MHz is allocated to the amateur service on a primary basis. In Guinea-Bissau, the frequency band 50.0–50.5 MHz is allocated to the amateur service on a primary basis. In Djibouti, the frequency band 50–52 MHz is allocated to the amateur service on a primary basis. With the exception of those countries listed in No. **169**, stations in the amateur service operating in Region 1 under this footnote, in all or part of the frequency band 50–54 MHz, shall not cause harmful interference to, or claim protection from, stations of other services operating in accordance with the Radio Regulations in Algeria, Egypt, Iran (Islamic Republic of), Iraq, Israel, Libya, Palestine*, the Syrian Arab Republic, the Dem. People's Republic of Korea, Sudan and Tunisia. The field strength generated by an amateur station in the frequency band 50–54 MHz shall not exceed a value of +6 dB(μV/m) at a height of 10 m above ground for more than 10% of time along the borders of listed countries requiring protection. (WRC-19)

169B Except countries listed under No. **169**, stations in the amateur service used in Region 1, in all or part of the 50–54 MHz frequency band, shall not cause harmful interference to, or claim protection from, stations of other services used in accordance with the Radio Regulations in Algeria, Armenia, Azerbaijan, Belarus, Egypt, Russian Federation, Iran (Islamic Republic of), Iraq, Kazakhstan, Kyrgyzstan, Libya, Uzbekistan, Palestine*, the Syrian Arab Republic, Sudan, Tunisia and Ukraine. The field strength generated by an amateur station in the frequency band 50–54 MHz shall

* Pursuant to Resolution **99** (Rev. Dubai, 2018) and taking into account the Israeli-Palestinian Interim Agreement of 28 September 1995.

not exceed a value of +6 dB(μV/m) at a height of 10 m above ground for more than 10% of time along the borders of the countries listed in this provision. (WRC-19)

170 *Additional allocation*: in New Zealand, the frequency band 51–54 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-15)

171 *Additional allocation*: in Botswana, Eswatini, Lesotho, Malawi, Mali, Namibia, Dem. Rep. of the Congo, Rwanda, South Africa, Zambia and Zimbabwe, the frequency band 54–68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-19)

172 *Different category of service*: in the French overseas departments and communities in Region 2 and Guyana, the allocation of the frequency band 54–68 MHz to the fixed and mobile services is on a primary basis (see No. **33**). (WRC-15)

173 *Different category of service*: in the French overseas departments and communities in Region 2 and Guyana, the allocation of the frequency band 68–72 MHz to the fixed and mobile services is on a primary basis (see No. **33**). (WRC-15)

175 *Alternative allocation*: in Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Moldova, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the bands 68–73 MHz and 76–87.5 MHz are allocated to the broadcasting service on a primary basis. In Latvia and Lithuania, the bands 68–73 MHz and 76–87.5 MHz are allocated to the broadcasting and mobile, except aeronautical mobile, services on a primary basis. The services to which these bands are allocated in other countries and the broadcasting service in the countries listed above are subject to agreements with the neighbouring countries concerned. (WRC-07)

176 *Additional allocation*: in Australia, China, Korea (Rep. of), the Philippines, the Dem. People's Rep. of Korea and Samoa, the band 68–74 MHz is also allocated to the broadcasting service on a primary basis. (WRC-07)

177 *Additional allocation*: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 73–74 MHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-07)

178 *Additional allocation*: in Colombia, Cuba, El Salvador, Guatemala, Guyana, Honduras and Nicaragua, the band 73–74.6 MHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)

179 *Additional allocation*: in Armenia, Azerbaijan, Belarus, China, the Russian Federation, Georgia, Kazakhstan, Lithuania, Mongolia, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 74.6–74.8 MHz and 75.2–75.4 MHz are also allocated to the aeronautical radionavigation service, on a primary basis, for ground-based transmitters only. (WRC-12)

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.

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

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

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

185 *Different category of service*: in the United States, the French overseas departments and communities in Region 2, Guyana and Paraguay, the allocation of the frequency band 76–88 MHz to the fixed and mobile services is on a primary basis (see No. **33**). (WRC-15)

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

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

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

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

194 *Additional allocation*: in Kyrgyzstan, Somalia, and Turkmenistan, the frequency band 104–108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-19)

197 *Additional allocation*: in the Syrian Arab Republic, the band 108–111.975 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedures invoked under No. **9.21**. (WRC-12)

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 recognised 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 recognised international aeronautical standards. (WRC-07)

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)

201 *Additional allocation*: in Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq (Republic of), Japan, Kazakhstan, Mali, Mongolia, Mozambique, Uzbekistan, Papua New Guinea, Poland, Kyrgyzstan, Romania, Senegal, Tajikistan, Turkmenistan and Ukraine, the frequency band 132–136 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service. (WRC-19)

202 *Additional allocation*: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bulgaria, the United Arab Emirates, the Russian Federation, Georgia, Iran (Islamic Republic of), Jordan, Mali, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, Senegal, Tajikistan, Turkmenistan and Ukraine, the frequency band 136–137 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service. (WRC-19)

203C The use of the space operation service (space-to-Earth) with non-geostationary satellite short-duration mission systems in the frequency band 137–138 MHz is subject to Resolution **660 (WRC-19)**. Resolution **32 (WRC-19)** applies. These systems shall not cause harmful interference to, or claim protection from, the existing services to which the frequency band is allocated on a primary basis. (WRC-19)

204 *Different category of service*: in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, Cuba, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Kuwait, Montenegro, Oman, Pakistan, the Philippines, Qatar, Singapore, Thailand and Yemen, the frequency band 137–138 MHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis (see No. **33**). (WRC-19)

205 *Different category of service*: in Israel and Jordan, the allocation of the band 137–138 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. **33**).

206 *Different category of service*: in Armenia, Azerbaijan, Belarus, Bulgaria, Egypt, Finland, France, Georgia, Greece, Kazakhstan, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Syrian Arab Republic, Slovakia, the Czech Rep., Romania, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 137–138 MHz to the aeronautical mobile (OR) service is on a primary basis (see No. **33**). (WRC-2000)

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

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

208A In making assignments to space stations in the mobile–satellite service in the frequency bands 137–138 MHz, 387–390 MHz and 400.15–401 MHz and in the maritime mobile–satellite service (space-to-Earth) in the frequency bands 157.1875–157.3375 MHz and 161.7875–161.9375 MHz, administrations shall take all practicable steps to protect the radio astronomy service in the frequency bands 150.05–153 MHz, 322–328.6 MHz, 406.1–410 MHz and 608–614 MHz from harmful interference from unwanted emissions as shown in the most recent version of Recommendation ITU-R RA.769. (WRC-19)

208B[*] In the frequency bands:

137–138 MHz,
157.1875–157.3375 MHz,
161.7875–161.9375 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,

[*] This provision was previously numbered as No. **347A**. It was renumbered to preserve the sequential order.

Resolution **739** (**Rev.WRC-19**) applies. (WRC-19)

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)

209A The use of the frequency band 137.175–137.825 MHz by non-geostationary-satellite systems in the space operation service identified as short-duration missions in accordance with Appendix **4** is not subject to No. **9.11A**. (WRC-19)

210 *Additional allocation*: in Italy, the Czech Rep. and the United Kingdom, the bands 138–143.6 MHz and 143.65–144 MHz are also allocated to the space research service (space-to-Earth) on a secondary basis. (WRC-07)

211 *Additional allocation*: in Germany, Saudi Arabia, Austria, Bahrain, Belgium, Denmark, the United Arab Emirates, Spain, Finland, Greece, Guinea, Ireland, Israel, Kenya, Kuwait, Lebanon, Liechtenstein, Luxembourg, North Macedonia, Mali, Malta, Montenegro, Norway, the Netherlands, Qatar, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sweden, Switzerland, Tanzania, Tunisia and Turkey, the frequency band 138–144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis. (WRC-19)

212 *Alternative allocation*: in Angola, Botswana, Cameroon, the Central African Rep., Congo (Rep. of the), Eswatini, Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Lesotho, Liberia, Libya, Malawi, Mozambique, Namibia, Niger, Oman, Uganda, Syrian Arab Republic, the Dem. Rep. of the Congo, Rwanda, Sierra Leone, South Africa, Chad, Togo, Zambia and Zimbabwe, the frequency band 138–144 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-19)

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

214 *Additional allocation*: in Eritrea, Ethiopia, Kenya, North Macedonia, Montenegro, Serbia, Somalia, Sudan, South Sudan and Tanzania, the frequency band 138–144 MHz is also allocated to the fixed service on a primary basis. (WRC-19)

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

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

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.

218A The frequency band 148–149.9 MHz in the space operation service (Earth-to-space) may be used by non-geostationary-satellite systems with short-duration missions. Non-geostationary-satellite systems in the space operation service used for short-duration missions in accordance with Resolution **32 (WRC-19)** of the Radio Regulations are not subject to agreement under No. **9.21**. At the stage of coordination, the provisions of Nos. **9.17** and **9.18** also apply. In the frequency band 148–149.9 MHz, non-geostationary–satellite systems with short-duration missions shall not cause unacceptable interference to, or claim protection from, existing primary services within this frequency band, or impose additional constraints on the space operation and mobile–satellite services. In addition, earth stations in non-geostationary-satellite systems in the space operation service with short-duration missions in the frequency band 148-149.9 MHz shall ensure that the power flux-density does not exceed −149 dB(W/(m^2 . 4 kHz)) for more than 1% of time at the border of the territory of the following countries: Armenia, Azerbaijan, Belarus, China, Korea (Rep. of), Cuba, Russian Federation, India, Iran (Islamic Republic of), Japan, Kazakhstan, Malaysia, Uzbekistan, Kyrgyzstan, Thailand and Viet Nam. In case this power flux-density limit is exceeded, agreement under No. **9.21** is required to be obtained from countries mentioned in this footnote. (WRC-19)

219 The use of the frequency 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 frequency band 148–149.9 MHz. The use of the frequency band 148-149.9 MHz by non-geostationary-satellite systems in the space operation service identified as short-duration mission is not subject to No. **9.11A**. (WRC-19)

220 The use of the frequency 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**. (WRC-15)

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

Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia, and Zimbabwe. (WRC-19)

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

225A *Additional allocation*: in Algeria, Armenia, Azerbaijan, Belarus, China, the Russian Federation, France, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine and Viet Nam, the frequency band 154–156 MHz is also allocated to the radiolocation service on a primary basis. The usage of the frequency band 154–156 MHz by the radiolocation service shall be limited to space-object detection systems operating from terrestrial locations. The operation of stations in the radiolocation service in the frequency band 154–156 MHz shall be subject to agreement obtained under No. **9.21**. For the identification of potentially affected administrations in Region 1, the instantaneous field-strength value of 12 dB(μV/m) for 10% of the time produced at 10 m above ground level in the 25 kHz reference frequency band at the border of the territory of any other administration shall be used. For the identification of potentially affected administrations in Region 3, the interference-to-noise ratio (I/N) value of −6 dB (N = −161 dBW/4 kHz), or −10 dB for applications with greater protection requirements, such as public protection and disaster relief (PPDR (N = −161 dBW/4 kHz)), for 1% of the time produced at 60 m above ground level at the border of the territory of any other administration shall be used. In the frequency bands 156.7625–156.8375 MHz, 156.5125–156.5375 MHz, 161.9625–161.9875 MHz, 162.0125–162.0375 MHz, out-of-band e.i.r.p. of space surveillance radars shall not exceed −16 dBW. Frequency assignments to the radiolocation service under this allocation in Ukraine shall not be used without the agreement of Moldova.

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 Article **31** and **52**, and 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)

227 *Additional allocation*: the bands 156.4875–156.5125 MHz and 156.5375–156.5625 MHz are also allocated to the fixed and land mobile services on a primary basis. The use of these bands by the fixed and land mobile services shall not cause harmful interference to nor claim protection from the maritime mobile VHF radio communication service. (WRC-07)

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.

228A The frequency bands 161.9625–161.9875 MHz and 162.0125–162.0375 MHz may be used by aircraft stations for the purpose of search and rescue operations and other safety-related communications.

228AA The use of the frequency bands 161.9375–161.9625 MHz and 161.9875–162.0125 MHz by the maritime mobile–satellite (Earth-to-space) service is limited to the systems which operate in accordance with Appendix 18. (WRC-15)

228AB The use of the frequency bands 157.1875–157.3375 MHz and 161.7875–161.9375 MHz by the maritime mobile–satellite service (Earth-to-space) is limited to non-geostationary-satellite systems operating in accordance with Appendix **18**. (WRC-19)

228AC The use of the frequency bands 157.1875–157.3375 MHz and 161.7875–161.9375 MHz by the maritime mobile–satellite service (space-to-Earth) is limited to non-geostationary-satellite systems operating in accordance with Appendix 18. Such use is subject to agreement obtained under No. **9.21** with respect to the terrestrial services in Azerbaijan, Belarus, China, Korea (Rep. of), Cuba, the Russian Federation, the Syrian Arab Republic, the Dem. People's Rep. of Korea, South Africa and Viet Nam. (WRC-19)

228B The use of the frequency bands 161.9625–161.9875 MHz and 162.0125–162.0375 MHz by the fixed and land mobile services shall not cause harmful interference to, or claim protection from, the maritime mobile service.

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.

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.

228E The use of the automatic identification system in the frequency bands 161.9625–161.9875 MHz and 162.0125–162.0375 MHz by the aeronautical mobile (OR) service is limited to aircraft stations for the purpose of search and rescue operations and other safety-related communications.

228F The use of the frequency bands 161.9625–161.9875 MHz and 162.0125–162.0375 MHz by the mobile–satellite service (Earth-to-space) is limited to the reception of automatic identification system emissions from stations operating in the maritime mobile service.

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

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

231 *Additional allocation*: in Afghanistan and China, the band 167–174 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service into this band shall be subject to agreement with the neighbouring countries in Region 3 whose services are likely to be affected. (WRC-12)

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

235 *Additional allocation*: in Germany, Austria, Belgium, Denmark, Spain, Finland, France, Israel, Italy, Liechtenstein, Malta, Monaco, Norway, the Netherlands, the United Kingdom, Sweden and Switzerland, the band 174–223 MHz is also allocated

to the land mobile service on a primary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, broadcasting stations, existing or planned, in countries other than those listed in this footnote.

237 *Additional allocation*: in Congo (Rep. of the), Egypt, Eritrea, Ethiopia, Gambia, Guinea, Libya, Mali, Sierra Leone, Somalia and Chad, the band 174–223 MHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)

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

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

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

242 *Additional allocation*: in Canada and Mexico, the frequency band 216–220 MHz is also allocated to the land mobile service on a primary basis. (WRC-19)

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

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

246 *Alternative allocation*: in Spain, France, Israel and Monaco, the band 223–230 MHz is allocated to the broadcasting and land mobile services on a primary basis (see No. **33**) on the basis that, in the preparation of frequency plans, the broadcasting service shall have prior choice of frequencies; and allocated to the fixed and mobile, except land mobile, services on a secondary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations in Morocco and Algeria.

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

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

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

252 *Alternative allocation*: in Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe, the bands 230–238 MHz and 246–254 MHz are allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-19)

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. **256A**. (WRC-03)

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**.

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)

256A *Additional allocation*: in China, the Russian Federation and Kazakhstan, the frequency band 258–261 MHz is also allocated to the space research service (Earth-to-space) and space operation service (Earth-to-space) on a primary basis. Stations in the space research service (Earth-to-space) and space operation service (Earth-to-space) shall not cause harmful interference to, or claim protection from, or constrain the use and development of, the mobile service systems and mobile–satellite service systems operating in the frequency band. Stations in the space research service (Earth-to-space) and space operation service (Earth-to-space) shall not constrain the future development of fixed service systems of other countries. (WRC-15)

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

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

259 *Additional allocation*: in Egypt and the Syrian Arab Republic, the band 328.6–335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. **9.21**. (WRC-12)

260A In the frequency band 399.9–400.05 MHz, the maximum e.i.r.p. of any emission of earth stations in the mobile–satellite service shall not exceed 5 dBW in any 4 kHz

band and the maximum e.i.r.p. of each earth station in the mobile–satellite service shall not exceed 5 dBW in the whole 399.9–400.05 MHz frequency band. Until 22 November 2022, this limit shall not apply to satellite systems for which complete notification information has been received by the Radiocommunication Bureau by 22 November 2019 and that have been brought into use by that date. After 22 November 2022, these limits shall apply to all systems within the mobile–satellite service operating in this frequency band.
In the frequency band 399.99–400.02 MHz, the e.i.r.p. limits as specified above shall apply after 22 November 2022 to all systems within the mobile–satellite service. Administrations are requested that their mobile–satellite service satellite links in the 399.99–400.02 MHz frequency band comply with the e.i.r.p. limits as specified above, after 22 November 2019. (WRC-19)

260B In the frequency band 400.02-400.05 MHz, the provisions of No. **260A** are not applicable for telecommand uplinks within the mobile–satellite service. (WRC-19)

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

262 *Additional allocation*: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Botswana, Colombia, Cuba, Egypt, the United Arab Emirates, Ecuador, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Liberia, Malaysia, Moldova, Oman, Uzbekistan, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Kyrgyzstan, Singapore, Somalia, Tajikistan, Chad, Turkmenistan and Ukraine, the band 400.05–401 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)

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.

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.

264A In the frequency band 401–403 MHz, the maximum e.i.r.p. of any emission of each earth station in the meteorological-satellite service and the Earth exploration-satellite service shall not exceed 22 dBW in any 4 kHz band for geostationary-satellite systems and non-geostationary-satellite systems with an orbit of apogee equal or greater than 35 786 km.
The maximum e.i.r.p. of any emission of each earth station in the meteorological-satellite service and the Earth exploration-satellite service shall not exceed 7 dBW in any 4 kHz band for non-geostationary-satellite systems with an orbit of apogee lower than 35 786 km.
The maximum e.i.r.p. of each earth station in the meteorological-satellite service and the Earth exploration-satellite service shall not exceed 22 dBW for geostationary-satellite systems and non-geostationary-satellite systems with an orbit of apogee equal

or greater than 35 786 km in the whole 401-403 MHz frequency band. The maximum e.i.r.p. of each earth station in the meteorological-satellite service and the Earth exploration-satellite service shall not exceed 7 dBW for non-geostationary-satellite systems with an orbit of apogee lower than 35 786 km in the whole 401-403 MHz frequency band.
Until 22 November 2029, these limits shall not apply to satellite systems for which complete notification information has been received by the Radiocommunication Bureau by 22 November 2019 and that have been brought into use by that date. After 22 November 2029, these limits shall apply to all systems within the meteorological-satellite service and the Earth exploration-satellite service operating in this frequency band. (WRC-19)

264B Non-geostationary-satellite systems in the meteorological-satellite service and the Earth exploration-satellite service for which complete notification information has been received by the Radiocommunication Bureau before 28 April 2007 are exempt from provisions of No. **264A** and may continue to operate in the frequency band 401.898–402.522 MHz on a primary basis without exceeding a maximum e.i.r.p. level of 12 dBW. (WRC-19)

265 In the frequency band 403–410 MHz, Resolution **205** (**Rev.WRC-19**) applies. (WRC-19)

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)

267 Any emission capable of causing harmful interference to the authorised uses of the band 406–406.1 MHz is prohibited.

268 Use of the frequency band 410–420 MHz by the space research service is limited to space-to-space communication links with an orbiting, manned space vehicle. The power flux-density at the surface of the Earth produced by emissions from transmitting stations of the space research service (space-to-space) in the frequency band 410–420 MHz shall not exceed -153 dB(W/m^2) for $0° \le \delta \le 5°$, $-153 + 0.077\ (\delta - 5)$ dB(W/m^2) for $5° \le \delta \le 70°$ and -148 dB(W/m^2) for $70° \le \delta \le 90°$, where δ is the angle of arrival of the radio-frequency wave and the reference bandwidth is 4 kHz. In this frequency band, stations of the space research service (space-to-space) shall not claim protection from, nor constrain the use and development of, stations of the fixed and mobile services. No. **4.10** does not apply. (WRC-15)

269 *Different category of service*: in Australia, the United States, India, Japan and the United Kingdom, the allocation of the bands 420–430 MHz and 440–450 MHz to the radiolocation service is on a primary basis (see No. **33**).

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

271 *Additional allocation*: in Belarus, China, India, Kyrgyzstan and Turkmenistan, the band 420–460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis. (WRC-07)

274 *Alternative allocation*: in Denmark, Norway Sweden and Chad, the bands 430–432 MHz and 438–440 MHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

275 *Additional allocation*: in Croatia, Estonia, Finland, Libya, North Macedonia, Montenegro and Serbia, the frequency bands 430–432 MHz and 438–440 MHz are also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-19)

276 *Additional allocation*: in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burkina Faso, Djibouti, Egypt, the United Arab Emirates, Ecuador, Eritrea, Ethiopia, Greece, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, Jordan, Kenya, Kuwait, Libya, Malaysia, Niger, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Switzerland, Thailand, Togo, Turkey and Yemen, the frequency band 430–440 MHz is also allocated to the fixed service on a primary basis and the frequency bands 430–435 MHz and 438–440 MHz are also allocated, except in Ecuador, to the mobile, except aeronautical mobile, service on a primary basis. (WRC-15)

277 *Additional allocation*: in Angola, Armenia, Azerbaijan, Belarus, Cameroon, Congo (Rep. of the), Djibouti, the Russian Federation, Georgia, Hungary, Israel, Kazakhstan, Mali, Uzbekistan, Poland, the Dem. Rep. of the Congo, Kyrgyzstan, Slovakia, Romania, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the frequency band 430–440 MHz is also allocated to the fixed service on a primary basis. (WRC-19)

278 *Different category of service*: in Argentina, Brazil, Colombia, Costa Rica, Cuba, Guyana, Honduras, Panama, Paraguay, Uruguay and Venezuela, the allocation of the frequency band 430–440 MHz to the amateur service is on a primary basis (see No. **33**). (WRC-19)

279 *Additional allocation*: in Mexico, the frequency bands 430–435 MHz and 438–440 MHz are also allocated on a primary basis to the mobile, except aeronautical mobile, service, and on a secondary basis to the fixed service, subject to agreement obtained under No. **9.21**. (WRC-19)

279A The use of the frequency band 432–438 MHz by sensors in the Earth exploration–satellite service (active) shall be in accordance with Recommendation ITU-R RS.1260–2. Additionally, the Earth exploration–satellite service (active) in the frequency 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. **29** and **30**. (WRC-19)

280 In Germany, Austria, Bosnia and Herzegovina, Croatia, Liechtenstein, North Macedonia, Montenegro, Portugal, Serbia, Slovenia and Switzerland, the frequency band 433.05–434.79 MHz (centre frequency 433.92 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services of these countries operating within this frequency band must accept harmful interference which may be caused by these applications. ISM equipment operating in this frequency band is subject to the provisions of No. **15.13**. (WRC-19)

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

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. **43**). Administrations authorising such use shall ensure that any harmful interference caused by emissions from a station in the amateur–satellite service is immediately eliminated in accordance with the provisions of No. **25.11**. The use of the bands 1 260–1 270 MHz and 5 650–5 670 MHz by the amateur–satellite service is limited to the Earth-to-space direction.

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

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

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. **33**).

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**.

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)

286AA The frequency band 450–470 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) — see Resolution **224** (**Rev.WRC-19**). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-19)

286B The use of the band 454–455 MHz in the countries listed in **286D**, 455–456 MHz and 459–460 MHz in Region 2, and 454–456 MHz and 459–460 MHz in the countries listed in **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)

286C The use of the band 454–455 MHz in the countries listed in **286D**, 455–456 MHz and 459–460 MHz in Region 2, and 454–456 MHz and 459–460 MHz in the countries listed in **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)

286D *Additional allocation*: in Canada, the United States and Panama, the band 454–455 MHz is also allocated to the mobile–satellite service (Earth-to-space) on a primary basis. (WRC-07)

286E *Additional allocation*: in Cape Verde, Nepal and Nigeria, the bands 454–456 MHz and 459–460 MHz are also allocated to the mobile–satellite (Earth-to-space) service on a primary basis. (WRC-07)

287 Use of the frequency bands 457.5125–457.5875 MHz and 467.5125–467.5875 MHz by the maritime mobile service is limited to on-board communication stations. The characteristics of the equipment and the channelling arrangement shall be in accordance with Recommendation ITU-R M.1174-4. The use of these frequency bands in territorial waters is subject to the national regulations of the administration concerned. (WRC-19)

288 In the territorial waters of the United States and the Philippines, the preferred frequencies for use by on-board communication stations shall be 457.525 MHz, 457.550 MHz, 457.575 MHz and 457.600 MHz paired, respectively, with 467.750 MHz, 467.775 MHz, 467.800 MHz and 467.825 MHz. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174-4. (WRC-19)

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.

290 *Different category of service*: in Afghanistan, Azerbaijan, Belarus, China, the Russian Federation, Japan, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 460–470 MHz to the meteorological–satellite service (space-to-Earth) is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21**. (WRC-12)

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

291A *Additional allocation*: in Germany, Austria, Denmark, Estonia, Liechtenstein, the Czech Rep., Serbia and Switzerland, the frequency band 470–494 MHz is also

allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution **217** (**WRC-97**). (WRC-15)

292 *Different category of service*: in Argentina, Uruguay and Venezuela, the allocation of the frequency band 470–512 MHz to the mobile service is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21**. (WRC-15)

293 *Different category of service*: in Canada, Chile, Cuba, the United States, Guyana, Jamaica and Panama, the allocation of the frequency bands 470–512 MHz and 614–806 MHz to the fixed service is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21**. In the Bahamas, Barbados, Canada, Chile, Cuba, the United States, Guyana, Jamaica, Mexico and Panama, the allocation of the frequency bands 470–512 MHz and 614–698 MHz to the mobile service is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21**. In Argentina and Ecuador, the allocation of the frequency band 470–512 MHz to the fixed and mobile services is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21**. (WRC-15)

294 *Additional allocation*: in Saudi Arabia, Cameroon, Côte d'Ivoire, Egypt, Ethiopia, Israel, Libya, the Syrian Arab Republic, Chad and Yemen, the frequency band 470–582 MHz is also allocated to the fixed service on a secondary basis. (WRC-15)

295 In the Bahamas, Barbados, Canada, the United States and Mexico, the frequency band 470–608 MHz, or portions thereof, is identified for International Mobile Telecommunications (IMT) – see Resolution **224** (**Rev.WRC-19**). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Mobile service stations of the IMT system within the frequency band are subject to agreement obtained under No. **9.21** and shall not cause harmful interference to, or claim protection from, the broadcasting service of neighbouring countries. Nos. **43** and **43A** apply. (WRC-19)

296 *Additional allocation*: in Albania, Germany, Angola, Saudi Arabia, Austria, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Burundi, Cameroon, Vatican, Congo (Rep. of the), Côte d'Ivoire, Croatia, Denmark, Djibouti, Egypt, United Arab Emirates, Spain, Estonia, Eswatini, Finland, France, Gabon, Georgia, Ghana, Hungary, Iraq, Ireland, Iceland, Israel, Italy, Jordan, Kenya, Kuwait, Lesotho, Latvia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, North Macedonia, Malawi, Mali, Malta, Morocco, Mauritius, Mauritania, Moldova, Monaco, Mozambique, Namibia, Niger, Nigeria, Norway, Oman, Uganda, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Slovakia, the Czech Republic, Romania, the United Kingdom, Rwanda, San Marino, Serbia, Sudan, South Africa, Sweden, Switzerland, Tanzania, Chad, Togo, Tunisia, Turkey, Ukraine, Zambia and Zimbabwe, the frequency band 470–694 MHz is also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting and programme-making. Stations of the land mobile service in the countries listed in this footnote shall not cause harmful interference to existing or

planned stations operating in accordance with the Table in countries other than those listed in this footnote. (WRC-19)

296A In Micronesia, the Solomon Islands, Tuvalu and Vanuatu, the frequency band 470–698 MHz, or portions thereof, and in Bangladesh, Maldives and New Zealand, the frequency band 610–698 MHz, or portions thereof, are identified for use by these administrations wishing to implement International Mobile Telecommunications (IMT) – see Resolution **224** (**Rev.WRC-19**). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. The mobile allocation in this frequency band shall not be used for IMT systems unless subject to agreement obtained under No. **9.21** and shall not cause harmful interference to, or claim protection from, the broadcasting service of neighbouring countries. Nos. **43** and **43A** apply. (WRC-19)

297 *Additional allocation*: in Canada, Costa Rica, Cuba, El Salvador, the United States, Guatemala, Guyana and Jamaica, the frequency 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**. In the Bahamas, Barbados and Mexico, the frequency band 512–608 MHz is also allocated to the mobile service on a primary basis, subject to agreement obtained under No. **9.21**. In Mexico, the frequency band 512–608 MHz is also allocated on a secondary basis to the fixed service (see No. **32**). (WRC-19)

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

300 *Additional allocation*: in Saudi Arabia, Cameroon, Egypt, United Arab Emirates, Israel, Jordan, Libya, Oman, Qatar, the Syrian Arab Republic and Sudan, the frequency band 582–790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-15)

304 *Additional allocation*: in the African Broadcasting Area (see Nos. **10** to **13**), the band 606–614 MHz is also allocated to the radio astronomy service on a primary basis.

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

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

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

308 *Additional allocation*: in Belize, Colombia and Guatemala, the frequency band 614–698 MHz is also allocated to the mobile service on a primary basis. Stations of the mobile service within the frequency band are subject to agreement obtained under No. **9.21**. (WRC-19)

308A In the Bahamas, Barbados, Belize, Canada, Colombia, the United States, Guatemala and Mexico, the frequency band 614–698 MHz, or portions thereof, is identified for International Mobile Telecommunications (IMT) − see Resolution **224** (**Rev.WRC-19**). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Mobile service stations of the IMT system within the frequency band are subject to agreement obtained under No. **9.21** and shall not cause harmful interference to, or claim protection from, the broadcasting service of neighbouring countries. Nos. **43** and **43A** apply. (WRC-19)

309 *Different category of service*: in El Salvador, the allocation of the frequency band 614–806 MHz to the fixed service is on a primary basis, (see No. **33**), subject to agreement obtained under No. **9.21**. (WRC-15)

312 *Additional allocation*: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the frequency band 645–862 MHz, and in Bulgaria the frequency bands 646–686 MHz, 726–753 MHz, 778–811 MHz and 822–852 MHz, are also allocated to the aeronautical radionavigation service on a primary basis. (WRC-19)

312A In Region 1, the use of the frequency band 694–790 MHz by the mobile, except aeronautical mobile, service is subject to the provisions of Resolution **760** (**WRC-19**). See also Resolution **224** (**Rev.WRC-19**). (WRC-19)

313A The frequency band, or portions of the frequency band 698–790 MHz, in Australia, Bangladesh, Brunei Darussalam, Cambodia, China, Korea (Rep. of), Fiji, India, Indonesia, Japan, Kiribati, Lao P.D.R., Malaysia, Myanmar (Union of), New Zealand, Pakistan, Papua New Guinea, the Philippines, the Dem. People's Rep. of Korea, Solomon Islands, Samoa, Singapore, Thailand, Tonga, Tuvalu, Vanuatu and Viet Nam, are identified for use by these administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-19)

316B In Region 1, the allocation to the mobile, except aeronautical mobile, service in the frequency band 790–862 MHz is subject to agreement obtained under No. **9.21** with respect to the aeronautical radionavigation service in countries mentioned in No. **312**. For countries party to the GE06 Agreement, the use of stations of the mobile service is also subject to the successful application of the procedures of that Agreement. Resolutions **224** (**Rev.WRC-19**) and **749** (**Rev.WRC-19**) shall apply, as appropriate. (WRC-19)

317 *Additional allocation*: in Region 2 (except Brazil, the United States and Mexico), the frequency 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. (WRC-15)

317A The parts of the frequency band 698–960 MHz in Region 2 and the frequency bands 694–790 MHz in Region 1 and 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-19**), **760** (**Rev.WRC-19**) and **749** (**Rev.WRC-19**), where applicable. This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-19)

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.

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

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

322 In Region 1, in the band 862–960 MHz, stations of the broadcasting service shall be operated only in the African Broadcasting Area (see Nos. **10** to **13**) excluding Algeria, Burundi, Egypt, Spain, Lesotho, Libya, Morocco, Malawi, Namibia, Nigeria, South Africa, Tanzania, Zimbabwe and Zambia, subject to agreement obtained under No. **9.21**. (WRC-12)

323 *Additional allocation*: in Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the frequency band 862–960 MHz, in Bulgaria the frequency bands 862–880 MHz and 915–925 MHz, and in Romania the frequency bands 862–880 MHz and 915–925 MHz, are also allocated to the aeronautical radionavigation service on a primary basis. Such use is subject to agreement obtained under No. **9.21** with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-19)

325 *Different category of service*: in the United States, the allocation of the band 890–942 MHz to the radiolocation service is on a primary basis, (see No. **33**), subject to agreement obtained under No. **9.21**.

325A *Different category of service*: in Argentina, Brazil, Costa Rica, Cuba, Dominican Republic, El Salvador, Ecuador, the French overseas departments and communities in Region 2, Guatemala, Paraguay, Uruguay and Venezuela, the frequency band 902–928 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis. In Colombia, the frequency band 902–905 MHz is allocated to the land mobile service on a primary basis. (WRC-19)

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

327 *Different category of service*: in Australia, the allocation of the band 915–928 MHz to the radiolocation service is on a primary basis (see No. **33**).

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 recognised international aeronautical standards. Such use shall be in accordance with Resolution **417** (**Rev.WRC-15**). (WRC-15)

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)

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. **43A** does not apply. The provisions of No. **21.18** shall apply. (WRC-07)

328AA The frequency band 1 087.7–1 092.3 MHz is also allocated to the aeronautical mobile–satellite (R) service (Earth-to-space) on a primary basis, limited to the space station reception of Automatic Dependent Surveillance-Broadcast (ADS-B) emissions from aircraft transmitters that operate in accordance with recognised international aeronautical standards. Stations operating in the aeronautical mobile–satellite (R) service shall not claim protection from stations operating in the aeronautical radionavigation service. Resolution **425** (**WRC-19**) shall apply. (WRC-19)

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. **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)

329 Use of the radionavigation–satellite service in the frequency 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. **331**. Furthermore, the use of the radionavigation–satellite service in the frequency band 1 215–1 300 MHz shall be subject to the condition that no harmful interference is caused to the radiolocation service. No. **43** shall not apply in respect of the radiolocation service. Resolution **608** (**WRC-19**) shall apply. (WRC-19)

329A Use of systems in the radionavigation–satellite service (space-to-space) operating in the bands 1 215–1 300 MHz and 1 559–1 610 MHz is not intended to provide safety service applications, and shall not impose any additional constraints on radionavigation–satellite service (space-to-Earth) systems or on other services operating in accordance with the Table of Frequency Allocations. (WRC-07)

330 *Additional allocation*: in Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, China, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Nepal, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the band 1 215–1 300 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)

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, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, North Macedonia, Madagascar, Mali, Mauritania, Montenegro, Nigeria, Norway, Oman, Pakistan, the Kingdom of 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 frequency band 1 215–1 300 MHz is also allocated to the radionavigation service on a primary basis. In Canada and the United States, the frequency 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-19)

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)

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)

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)

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)

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.

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)

338 In Kyrgyzstan, Slovakia and Turkmenistan, existing installations of the radionavigation service may continue to operate in the band 1 350–1 400 MHz. (WRC-12)

338A In the frequency bands 1 350–1 400 MHz, 1 427–1 452 MHz, 22.55–23.55 GHz, 24.25–27.5 GHz, 30–31.3 GHz, 49.7–50.2 GHz, 50.4–50.9 GHz, 51.4–52.4 GHz, 52.4–52.6 GHz, 81–86 GHz and 92–94 GHz, Resolution **750** (**Rev.WRC-19**) applies. (WRC-19)

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.

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. **422**,
10.68–10.7 GHz, except those provided for by No. **483**,
15.35–15.4 GHz, except those provided for by No. **511**,
23.6–24 GHz,
31.3–31.5 GHz,
31.5–31.8 GHz, in Region 2,
48.94–49.04 GHz, from airborne stations,

50.2–50.4 GHz[2],
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)

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.

341A In Region 1, the frequency bands 1 427–1 452 MHz and 1 492–1 518 MHz are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223** (**Rev.WRC-15**). This identification does not preclude the use of these frequency bands by any other applications of the services to which it is allocated and does not establish priority in the Radio Regulations. The use of IMT stations is subject to agreement obtained under No. **9.21** with respect to the aeronautical mobile service used for aeronautical telemetry in accordance with No. **342**. (WRC-15)

341B In Region 2, the frequency band 1 427–1 518 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223** (**Rev.WRC-15**). This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-15)

341C The frequency bands 1 427–1 452 MHz and 1 492–1 518 MHz are identified for use by administrations in Region 3 wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223** (**Rev.WRC-15**). The use of these frequency bands by the above administrations for the implementation of IMT in the frequency bands 1 429–1 452 MHz and 1 492–1 518 MHz is subject to agreement obtained under No. **9.21** from countries using stations of the aeronautical mobile service. This identification does not preclude the use of these frequency bands

[2] 340.1 The allocation to the Earth exploration-satellite (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).

by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-15)

342 *Additional allocation*: in Armenia, Azerbaijan, Belarus, the Russian Federation, Uzbekistan, Kyrgyzstan and Ukraine, the frequency band 1 429–1 535 MHz is also allocated to the aeronautical mobile service on a primary basis, exclusively for the purposes of aeronautical telemetry within the national territory. As of 1 April 2007, the use of the frequency band 1 452–1 492 MHz is subject to agreement between the administrations concerned. (WRC-15)

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.

344 *Alternative allocation*: in the United States, the band 1 452–1 525 MHz is allocated to the fixed and mobile services on a primary basis. (See also No. **343**.)

345 Use of the frequency 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** (**Rev.WRC-19**). (WRC-19)

346 In Algeria, Angola, Saudi Arabia, Bahrain, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Congo (Rep. of the), Côte d'Ivoire, Djibouti, Egypt, United Arab Emirates, Eswatini Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Kenya, Kuwait, Lesotho, Lebanon, Liberia, Madagascar, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Palestine[3], Qatar, Dem. Rep. of the Congo, Rwanda, Senegal, Seychelles, Sudan, South Sudan, South Africa, Tanzania, Chad, Togo, Tunisia, Zambia, and Zimbabwe, the frequency band 1 452–1 492 MHz is identified for use by administrations listed above wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223** (**Rev.WRC-19).** This identification does not preclude the use of this frequency band by any other application of the services to which it is allocated and does not establish priority in the Radio Regulations. The use of this frequency band for the implementation of IMT is subject to agreement obtained under No. **9.21** with respect to the aeronautical mobile service used for aeronautical telemetry in accordance with No. **342**. See also Resolution **761** (**WRC-19**). (WRC-19)

346A The frequency band 1 452–1 492 MHz is identified for use by administrations in Region 3 wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223** (**Rev.WRC-19**) and Resolution **761** (**WRC-19**). The use of this frequency band by the above administrations for the implementation of IMT is subject to agreement obtained under No. **9.21** from countries using stations of the aeronautical mobile service. This identification does not preclude the use of this

[3] The use by Palestine of the allocation to the mobile service in the frequency band 1 452–1 492 MHz identified for IMT is noted, pursuant to Resolution **99** (Rev. Dubai, 2018) and taking into account the Israeli-Palestinian Interim Agreement of 28 September 1995.

frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-19)

348 The use of the band 1 518–1 525 MHz by the mobile–satellite service is subject to coordination under No. **9.11A**. In the band 1 518–1 525 MHz stations in the mobile–satellite service shall not claim protection from the stations in the fixed service. No. **43A** does not apply. (WRC-03)

348A In the band 1 518–1 525 MHz, the coordination threshold in terms of the power flux-density levels at the surface of the Earth in application of No. **9.11A** for space stations in the mobile–satellite (space-to-Earth) service, with respect to the land mobile service use for specialised mobile radios or used in conjunction with public switched telecommunication networks (PSTN) operating within the territory of Japan, shall be −150 dB(W/m^2) in any 4 kHz band for all angles of arrival, instead of those given in Table 5–2 of Appendix 5. In the band 1 518–1 525 MHz stations in the mobile–satellite service shall not claim protection from stations in the mobile service in the territory of Japan. No. **43A** does not apply. (WRC-03)

348B In the band 1 518–1 525 MHz, stations in the mobile–satellite service shall not claim protection from aeronautical mobile telemetry stations in the mobile service in the territory of the United States (see Nos. **343** and **344**) and in the countries listed in No. **342**. No. **43A** does not apply. (WRC-03)

349 *Different category of service*: in Saudi Arabia, Azerbaijan, Bahrain, Cameroon, Egypt, Iran (Islamic Republic of), Iraq, Israel, Kazakhstan, Kuwait, Lebanon, North Macedonia, Morocco, Qatar, Syrian Arab Republic, Kyrgyzstan, Turkmenistan and Yemen, the allocation of the frequency band 1 525–1 530 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. **33**). (WRC-19)

350 *Additional allocation*: in Kyrgyzstan and Turkmenistan, the frequency band 1 525–1 530 MHz is also allocated to the aeronautical mobile service on a primary basis. (WRC-19)

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.

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, 1 668–1675 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)

352A In the frequency band 1 525–1 530 MHz, stations in the mobile–satellite service, except stations in the maritime mobile–satellite service, shall not cause harmful interference to, or claim protection from, stations of the fixed service in Algeria, Saudi Arabia, Egypt, Guinea, India, Israel, Italy, Jordan, Kuwait, Mali, Morocco,

Mauritania, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Viet Nam and Yemen notified prior to 1 April 1998. (WRC-19)

353A In applying the procedures of Section II of Article **9** to the mobile–satellite service in the bands 1 530–1 544 MHz and 1 626.5–1 645.5 MHz, priority shall be given to accommodating the spectrum requirements for distress, urgency and safety communications of the Global Maritime Distress and Safety System (GMDSS). Maritime mobile–satellite distress, urgency and safety communications shall have priority access and immediate availability over all other mobile satellite communications operating within a network. Mobile–satellite systems shall not cause unacceptable interference to, or claim protection from, distress, urgency and safety communications of the GMDSS. Account shall be taken of the priority of safety-related communications in the other mobile–satellite services (the provisions of Resolution **222 (WRC-2000)** shall apply). (WRC-2000)

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.**

355 *Additional allocation*: in Bahrain, Bangladesh, Congo (Rep. of the), Djibouti, Egypt, Eritrea, Iraq, Israel, Kuwait, Qatar, Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the bands 1 540–1 559 MHz, 1 610–1 645.5 MHz and 1 646.5–1 660 MHz are also allocated to the fixed service on a secondary basis. (WRC-12)

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**).

357 Transmissions in the band 1 545–1 555 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorised when such transmissions are used to extend or supplement the satellite-to-aircraft links.

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 accommodating the spectrum requirements of the aeronautical mobile–satellite (R) service providing transmission of messages with priority 1 to 6 in Article **44**. Aeronautical mobile–satellite (R) service communications with priority 1 to 6 in Article **44** shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article **44**. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services (the provisions of Resolution **222** (**WRC-12**) shall apply). (WRC-12)

359 *Additional allocation*: in Germany, Saudi Arabia, Armenia, Azerbaijan, Belarus, Cameroon, the Russian Federation, Georgia, Guinea, Guinea-Bissau, Jordan, Kazakhstan, Kuwait, Lithuania, Mauritania, Uganda, Uzbekistan, Pakistan, Poland,

the Syrian Arab Republic, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Tajikistan, Tunisia, Turkmenistan and Ukraine, the frequency bands 1 550–1 559 MHz, 1 610–1 645.5 MHz and 1 646.5–1 660 MHz are also allocated to the fixed service on a primary basis. Administrations are urged to make all practicable efforts to avoid the implementation of new fixed-service stations in these bands. (WRC-19)

362A In the United States, in the bands 1 555–1 559 MHz and 1 656.5–1 660.5 MHz, the aeronautical mobile–satellite (R) service shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile–satellite communications operating within a network. Mobile–satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile–satellite (R) service communications with priority 1 to 6 in Article **44**. Account shall be taken of the priority of safety-related communications in the other mobile–satellite services. (WRC-97)

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. **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. **366** and stations in the fixed service operating in accordance with the provisions of No. **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. **366**.

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.**

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**.

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**.

368 The provisions of No. **4.10** do not apply with respect to the radiodetermination–satellite and mobile–satellite services in the frequency band 1 610–1 626.5 MHz. However, No. **4.10** applies in the frequency band 1 610–1 626.5 MHz with respect to the aeronautical radionavigation–satellite service when operating in accordance with No. **366**, the aeronautical mobile–satellite (R) service when operating in accordance

with No. **367**, and in the frequency band 1 621.35–1 626.5 MHz with respect to the maritime mobile–satellite service when used for GMDSS. (WRC-19)

369 *Different category of service*: in Angola, Australia, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Israel, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, the Dem. Rep. of the Congo, Sudan, South Sudan, Togo and Zambia, the allocation of the band 1 610–1 626.5 MHz to the radiodetermination–satellite service (Earth-to-space) is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21** from countries not listed in this provision. (WRC-12)

370 *Different category of service*: in Venezuela, the allocation to the radiodetermination–satellite service in the band 1 610–1 626.5 MHz (Earth-to-space) is on a secondary basis.

371 *Additional allocation*: in Region 1, the band 1 610–1 626.5 MHz (Earth-to-space) is also allocated to the radiodetermination–satellite service on a secondary basis, subject to agreement obtained under No. **9.21**. (WRC-12)

372 Harmful interference shall not be caused to stations of the radio astronomy service using the frequency band 1 610.6–1 613.8 MHz by stations of the radiodetermination–satellite and mobile–satellite services (No. **29.13** applies). The equivalent power flux-density (epfd) produced in the frequency band 1 610.6–1 613.8 MHz by all space stations of a non-geostationary-satellite system in the mobile–satellite service (space-to-Earth) operating in frequency band 1 613.8–1 626.5 MHz shall be in compliance with the protection criteria provided in Recommendations ITU-R RA.769-2 and ITU-R RA.1513-2, using the methodology given in Recommendation ITU-R M.1583-1, and the radio astronomy antenna pattern described in Recommendation ITU-R RA.1631-0. (WRC-19)

373 Maritime mobile earth stations receiving in the frequency band 1 621.35–1 626.5 MHz shall not impose additional constraints on earth stations operating in the maritime mobile–satellite service or maritime earth stations of the radiodetermination–satellite service operating in accordance with the Radio Regulations in the frequency band 1 610–1 621.35 MHz or on earth stations operating in the maritime mobile–satellite service operating in accordance with the Radio Regulations in the frequency band 1 626.5–1 660.5 MHz, unless otherwise agreed between the notifying administrations. (WRC-19)

373A Maritime mobile earth stations receiving in the frequency band 1 621.35–1 626.5 MHz shall not impose constraints on the assignments of earth stations of the mobile–satellite service (Earth-to-space) and the radiodetermination–satellite service (Earth-to-space) in the frequency band 1 621.35–1 626.5 MHz in networks for which complete coordination information has been received by the Radiocommunication Bureau before 28 October 2019. (WRC-19)

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. **359**. (WRC-97)

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**).

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.

376A Mobile Earth stations operating in the band 1 660.0–1 660.5 MHz shall not cause harmful interference to stations in the radio astronomy service. (WRC-97)

379 *Additional allocation*: in Bangladesh, India, Indonesia, Nigeria and Pakistan, the band 1 660.5–1 668.4 MHz is also allocated to the meteorological aids service on a secondary basis.

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.

379B The use of the band 1 668–1 675 MHz by the mobile–satellite service is subject to coordination under No. **9.11A**. In the band 1 668–1 668.4 MHz, Resolution **904 (WRC-07)** shall apply. (WRC-07)

379C In order to protect the radio astronomy service in the band 1 668–1 670 MHz, the aggregate power flux-density values produced by mobile Earth stations in a network of the mobile–satellite service operating in this band shall not exceed −181 dB(W/m^2) in 10 MHz and −194 dB(W/m^2) in any 20 kHz at any radio astronomy station recorded in the Master International Frequency Register, for more than 2% of integration periods of 2 000 s. (WRC-03)

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)

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)

380A In the band 1 670–1 675 MHz, stations in the mobile–satellite service shall not cause harmful interference to, nor constrain the development of, existing earth stations in the meteorological–satellite service notified before 1 January 2004. Any new assignment to these earth stations in this band shall also be protected from harmful interference from stations in the mobile–satellite service. (WRC-07)

381 *Additional allocation*: in Afghanistan, Cuba, India, Iran (Islamic Republic of) and Pakistan, the band 1 690–1 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

382 *Different category of service*: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Guinea, Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, North Macedonia, Mauritania, Moldova, Mongolia, Oman, Uzbekistan, Poland, Qatar, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Turkmenistan, Ukraine and Yemen, the allocation of the frequency band 1 690–1 700 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. **33**), and in the Dem. People's Rep. of Korea, the allocation of the frequency band 1 690–1 700 MHz to the fixed service is on a primary basis (see No. **33**) and to the mobile, except aeronautical mobile, service on a secondary basis. (WRC-19)

384 *Additional allocation*: in India, Indonesia, and Japan the band 1 700–1 710 MHz is also allocated to the space research service (space-to-Earth) on a primary basis. (WRC-97)

384A The frequency bands 1 710–1 885 MHz, 2 300–2 400 MHz and 2 500–2 690 MHz, or portions thereof, are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223** (**Rev.WRC-15**). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-15)

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)

386 *Additional allocation*: the frequency 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 (except in Mexico), 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-15)

387 *Additional allocation*: in Belarus, Georgia, Kazakhstan, Kyrgyzstan, Romania, Tajikistan and Turkmenistan, the band 1 770–1 790 MHz is also allocated to the meteorological–satellite service on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-12)

388 The frequency 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 frequency bands by other services to which they are allocated. The frequency bands should be made available for IMT in accordance with Resolution **212** (**Rev.WRC-15**) (see also Resolution **223** (**Rev.WRC-15**)). (WRC-15)

388A In Regions 1 and 3, the bands 1 885–1 980 MHz, 2 010–2 025 MHz and 2 110–2 170 MHz and, in Region 2, the bands 1 885–1 980 MHz and 2 110–2 160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications–2000 (IMT–2000), in accordance with Resolution **221** (**Rev.WRC-03**). Their use by IMT–2000 applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-03)

388B In Algeria, Saudi Arabia, Bahrain, Benin, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, China, Cuba, Djibouti, Egypt, United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, India, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Lebanon, Libya, Mali, Morocco, Mauritania, Nigeria, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, Senegal, Singapore, Sudan, South Sudan, Tanzania, Chad, Togo, Tunisia, Yemen, Zambia and Zimbabwe, for the purpose of protecting fixed and mobile services, including IMT mobile stations, in their territories from co-channel interference, a high altitude platform station (HAPS) operating as an IMT base station in neighbouring countries, in the frequency bands referred to in No. **388A**, shall not exceed a co-channel power flux-density of −127 dB(W/(m^2·MHz)) at the Earth's surface outside a country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS. (WRC-19)

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)

389B The use of the frequency 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, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela. (WRC-19)

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)

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.

389F In Algeria, Cape Verde, Egypt, Iran (Islamic Republic of), Mali, the Syrian Arab Republic and Tunisia, the use of the frequency bands 1 980–2 010 MHz and 2 170–2 200 MHz by the mobile–satellite service shall neither cause harmful interference to the fixed and mobile services, nor hamper the development of those services prior to 1 January 2005, nor shall the former service request protection from the latter services. (WRC-19)

391 In making assignments to the mobile service in the frequency 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.1154-0, and shall take that Recommendation into account for the introduction of any other type of mobile system. (WRC-15)

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.

393 *Additional allocation*: in Canada, the United States and India, the frequency 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-19**), with the exception of *resolves 3* in regard to the limitation on broadcasting–satellite systems in the upper 25 MHz. Complementary terrestrial sound broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use. (WRC-19)

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)

395 In France and Turkey, the use of the band 2 310–2 360 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service. (WRC-03)

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.

398A *Different category of service*: In Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine, the band 2 483.5–2 500 MHz is allocated on a primary basis to the radiolocation service. The radiolocation stations in these countries shall not cause harmful interference to, or claim protection from, stations of the fixed, mobile and mobile–satellite services operating in accordance with the Radio Regulations in the frequency band 2 483.5–2 500 MHz. (WRC-12)

399 Except for cases referred to in No. **118B**, stations of the radiodetermination–satellite service operating in the frequency band 2 483.5–2 500 MHz for which notification information is received by the Bureau after 17 February 2012, and the service area of which includes Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine, shall not cause harmful interference

to, and shall not claim protection from stations of the radiolocation service operating in these countries in accordance with No. **118A**. (WRC-12)

401 In Angola, Australia, Bangladesh, China, Eritrea, Eswatini, Ethiopia, India, Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, Dem. Rep. of the Congo, Sudan, Togo and Zambia, the frequency band 2 483.5–2 500 MHz was already allocated on a primary basis to the radiodetermination–satellite service before WRC-12, subject to agreement obtained under No. **9.21** from countries not listed in this provision. Systems in the radiodetermination–satellite service for which complete coordination information has been received by the Radiocommunication Bureau before 18 February 2012 will retain their regulatory status, as of the date of receipt of the coordination request information. (WRC-19)

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.

403 Subject to agreement obtained under No. **9.21**, the band 2 520–2 535 MHz may also be used for the mobile–satellite (space-to-Earth), except aeronautical mobile–satellite, service for operation limited to within national boundaries. The provisions of No. **9.11A** apply. (WRC-07)

404 *Additional allocation*: in India and Iran (Islamic Republic of), the band 2 500–2 516.5 MHz may also be used for the radiodetermination–satellite service (space-to-Earth) for operation limited to within national boundaries, subject to agreement obtained under No. **9.21**.

407 In the band 2 500–2 520 MHz, the power flux-density at the surface of the Earth from space stations operating in the mobile–satellite (space-to-Earth) service shall not exceed −152 dB(W/m^2/4 kHz) in Argentina, unless otherwise agreed by the administrations concerned.

410 The band 2 500–2 690 MHz may be used for tropospheric scatter systems in Region 1, subject to agreement obtained under No. **9.21**. No. **9.21** does not apply to tropospheric scatter links situated entirely outside Region 1. Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in this band. When planning new tropospheric scatter radio-relay links in this band, all possible measures shall be taken to avoid directing the antennas of these links towards the geostationary-satellite orbit. (WRC-12)

412 *Alternative allocation*: in Kyrgyzstan and Turkmenistan, the band 2 500–2 690 MHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

413 In the design of systems in the broadcasting–satellite service in the bands between 2 500 MHz and 2 690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690–2 700 MHz.

414 The allocation of the frequency band 2 500–2 520 MHz to the mobile–satellite service (space-to-Earth) is subject to coordination under No. **9.11A**. (WRC-07)

414A In Japan and India, the use of the bands 2 500–2 520 MHz and 2 520–2 535 MHz, under No. **403**, by a satellite network in the mobile–satellite service (space-to-Earth) is limited to operation within national boundaries and subject to the application of No. **9.11A**. The following pfd values shall be used as a threshold for coordination under No. **9.11A**, for all conditions and for all methods of modulation, in an area of 1 000 km around the territory of the administration notifying the mobile–satellite service network:

-136 dB(W/(m^2·MHz)) for $0° \le \theta \le 5°$

$-136 + 0.55\ (\theta - 5)$dB(W/(m^2·MHz)) for $5° < \theta \le 25°$

-125 dB(W/(m^2·MHz)) for $25° < \theta \le 90°$

where θ is the angle of arrival of the incident wave above the horizontal plane, in degrees. Outside this area Table **21–4** of Article **21** shall apply. Furthermore, the coordination thresholds in Table **5–2** of Annex 1 to Appendix **5** of the Radio Regulations (Edition of 2004), in conjunction with the applicable provisions of Articles **9** and **11** associated with No. **9.11A,** shall apply to systems for which complete notification information has been received by the Radiocommunication Bureau by 14 November 2007 and that have been brought into use by that date. (WRC-07)

415 The use of the bands 2 500–2 690 MHz in Region 2 and 2 500–2 535 MHz and 2 655–2 690 MHz in Region 3 by the fixed–satellite service is limited to national and regional systems, subject to agreement obtained under No. **9.21**, giving particular attention to the broadcasting–satellite service in Region 1. (WRC-07)

415A *Additional allocation*: in India and Japan, subject to agreement obtained under No. **9.21**, the band 2 515–2 535 MHz may also be used for the aeronautical mobile–satellite service (space-to-Earth) for operation limited to within their national boundaries. (WRC-2000)

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)

418 *Additional allocation*: in India, the frequency band 2 535–2 655 MHz is also allocated to the broadcasting–satellite service (sound) and complementary terrestrial broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution **528** (**Rev.WRC-19**). The provisions of No. **416** and Table **21–4** of Article **21**, do not apply to this additional allocation. Use of non-geostationary-satellite systems in the broadcasting–satellite service (sound) is subject to Resolution **539** (**Rev.WRC-19**). Geostationary

broadcasting–satellite service (sound) systems for which complete Appendix **4** coordination information has been received after 1 June 2005 are limited to systems intended for national coverage. The power flux-density at the Earth's surface produced by emissions from a geostationary broadcasting–satellite service (sound) space station operating in the frequency band 2 630–2 655 MHz, and for which complete Appendix **4** coordination information has been received after 1 June 2005, shall not exceed the following limits, for all conditions and for all methods of modulation:

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

where θ is the angle of arrival of the incident wave above the horizontal plane, in degrees. These limits may be exceeded on the territory of any country whose administration has so agreed. As an exception to the limits above, the pfd value of -122 dB(W/(m^2·MHz)) shall be used as a threshold for coordination under No. **9.11** in an area of 1 500 km around the territory of the administration notifying the broadcasting–satellite service (sound) system.
In addition, an administration listed in this provision shall not have simultaneously two overlapping frequency assignments, one under this provision and the other under No. **416** for systems for which complete Appendix **4** coordination information has been received after 1 June 2005. (WRC-19)

418A In certain Region 3 countries listed in No. **418**, use of the band 2 630–2 655 MHz by non-geostationary-satellite systems in the broadcasting–satellite service (sound) for which complete Appendix **4** coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. **9.12A**, in respect of geostationary-satellite networks for which complete Appendix **4** coordination information, or notification information, is considered to have been received after 2 June 2000, and No. **22.2** does not apply. No. **22.2** shall continue to apply with respect to geostationary-satellite networks for which complete Appendix **4** coordination information, or notification information, is considered to have been received before 3 June 2000. (WRC-03)

418B Use of the band 2 630–2 655 MHz by non-geostationary-satellite systems in the broadcasting–satellite service (sound), pursuant to No. **418**, for which complete Appendix **4** coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. **9.12**. (WRC-03)

418C Use of the band 2 630–2 655 MHz by geostationary-satellite networks for which complete Appendix **4** coordination information, or notification information, has been received after 2 June 2000 is subject to the application of the provisions of No. **9.13** with respect to non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. **418** and No. **22.2** does not apply. (WRC-03)

419 When introducing systems of the mobile–satellite service in the band 2 670–2 690 MHz, administrations shall take all necessary steps to protect the satellite systems operating in this band prior to 3 March 1992. The coordination of mobile–satellite systems in the band shall be in accordance with No. **9.11A**. (WRC-07)

420 The band 2 655–2 670 MHz may also be used for the mobile–satellite (Earth-to-space), except aeronautical mobile–satellite, service for operation limited to within national boundaries, subject to agreement obtained under No. **9.21**. The coordination under No. **9.11A** applies. (WRC-07)

422 *Additional allocation*: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Brunei Darussalam, Congo (Rep. of the), Côte d'Ivoire, Cuba, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Georgia, Guinea, Guinea-Bissau, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Mauritania, Mongolia, Montenegro, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, the Dem. Rep. of the Congo, Romania, Somalia, Tajikistan, Tunisia, Turkmenistan, Ukraine and Yemen, the band 2 690–2 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-12)

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

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.

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)

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

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

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**.

428 *Additional allocation*: in Kyrgyzstan and Turkmenistan, the frequency band 3 100–3 300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-19)

429 *Additional allocation*: in Saudi Arabia, Bahrain, Bangladesh, Benin, Brunei Darussalam, Cambodia, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Côte

d'Ivoire, Egypt, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, New Zealand, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea, Sudan and Yemen, the frequency band 3 300–3 400 MHz is also allocated to the fixed and mobile services on a primary basis. New Zealand and countries bordering the Mediterranean shall not claim protection for their fixed and mobile services from the radiolocation service. (WRC-19)

429A *Additional allocation*: in Angola, Benin, Botswana, Burkina Faso, Burundi, Djibouti, Eswatini, Ghana, Guinea, Guinea-Bissau, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sudan, South Sudan, South Africa, Tanzania, Chad, Togo, Zambia and Zimbabwe, the frequency band 3 300–3 400 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis. Stations in the mobile service operating in the frequency band 3 300–3 400 MHz shall not cause harmful interference to, or claim protection from, stations operating in the radiolocation service. (WRC-19)

429B In the following countries of Region 1 south of 30° parallel north: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Congo (Rep. of the), Côte d'Ivoire, Egypt, Eswatini, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Uganda, the Dem. Rep. of the Congo, Rwanda, Sudan, South Sudan, South Africa, Tanzania, Chad, Togo, Zambia and Zimbabwe, the frequency band 3 300–3 400 MHz is identified for the implementation of International Mobile Telecommunications (IMT). The use of this frequency band shall be in accordance with Resolution **223** (**Rev.WRC-19**). The use of the frequency band 3 300–3 400 MHz by IMT stations in the mobile service shall not cause harmful interference to, or claim protection from, systems in the radiolocation service, and administrations wishing to implement IMT shall obtain the agreement of neighbouring countries to protect operations within the radiolocation service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-19)

429C *Different category of service*: in Argentina, Belize, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, El Salvador, Ecuador, Guatemala, Mexico, Paraguay and Uruguay, the frequency band 3 300–3 400 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis. In Argentina, Brazil, the Dominican Republic, Guatemala, Mexico, Paraguay and Uruguay, the frequency band 3 300–3 400 MHz is also allocated to the fixed service on a primary basis. Stations in the fixed and mobile services operating in the frequency band 3 300–3 400 MHz shall not cause harmful interference to, or claim protection from, stations operating in the radiolocation service. (WRC-19)

429D In the following counties in Region 2: Argentina, Belize, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, El Salvador, Ecuador, Guatemala, Mexico, Paraguay and Uruguay, the use of the frequency band 3 300–3 400 MHz is identified for the implementation of International Mobile Telecommunications (IMT). Such use shall be in accordance with Resolution **223** (**Rev.WRC-19**). This use in Argentina,

Paraguay and Uruguay is subject to the application of No. **9.21**. The use of the frequency band 3 300–3 400 MHz by IMT stations in the mobile service shall not cause harmful interference to, or claim protection from, systems in the radiolocation service, and administrations wishing to implement IMT shall obtain the agreement of neighbouring countries to protect operations within the radiolocation service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-19)

429E *Additional allocation*: in Papua New Guinea, the frequency band 3 300–3 400 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis. Stations in the mobile service operating in the frequency band 3 300–3 400 MHz shall not cause harmful interference to, or claim protection from, stations operating in the radiolocation service. (WRC-15)

429F In the following countries in Region 3: Cambodia, India, Indonesia, Lao P.D.R., Pakistan, the Philippines and Viet Nam, the use of the frequency band 3 300–3 400 MHz is identified for the implementation of International Mobile Telecommunications (IMT). Such use shall be in accordance with Resolution **223** (**Rev.WRC-19**). The use of the frequency band 3 300–3 400 MHz by IMT stations in the mobile service shall not cause harmful interference to, or claim protection from, systems in the radiolocation service. Before an administration brings into use a base or mobile station of an IMT system in this frequency band, it shall seek agreement under No. **9.21** with neighbouring countries to protect the radiolocation service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-19)

430 *Additional allocation*: in Kyrgyzstan and Turkmenistan, the frequency band 3 300–3 400 MHz is also allocated to the radionavigation service on a primary basis. (WRC-19)

430A The allocation of the frequency band 3 400–3 600 MHz to the mobile, except aeronautical mobile, service is subject to agreement obtained under No. **9.21**. This frequency band is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. The provisions of Nos. **9.17** and **9.18** shall also apply in the coordination phase. Before an administration brings into use a (base or mobile) station of the mobile service in this frequency band, it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m^2·4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In

case of disagreement, calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the frequency band 3 400–3 600 MHz shall not claim more protection from space stations than that provided in Table **21–4** of the Radio Regulations (Edition of 2004). (WRC-15)

431 *Additional allocation*: in Germany, the frequency band 3 400–3 475 MHz is also allocated to the amateur service on a secondary basis. (WRC-19)

431A In Region 2, the allocation of the frequency band 3 400–3 500 MHz to the mobile, except aeronautical mobile, service on a primary basis is subject to agreement obtained under No. **9.21**. (WRC-15)

431B In Region 2, the frequency band 3 400–3 600 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a base or mobile station of an IMT system, it shall seek agreement under No. **9.21** with other administrations and ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m^2·4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service, including IMT systems, in the frequency band 3 400–3 600 MHz shall not claim more protection from space stations than that provided in Table **21-4** of the Radio Regulations (Edition of 2004). (WRC-15)

432 *Different category of service*: in Korea (Rep. of), Japan, Pakistan and the Dem. People's Rep. of Korea, the allocation of the frequency band 3 400–3 500 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. **33**). (WRC-19)

432A In Korea (Rep. of), Japan, Pakistan and the Dem. People's Rep. of Korea, the frequency band 3 400–3 500 MHz is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this frequency band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed

−154.5 dB(W/(m^2·4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the frequency band 3 400–3 500 MHz shall not claim more protection from space stations than that provided in Table **21–4** of the Radio Regulations (Edition of 2004). (WRC-19)

432B *Different category of service*: in Australia, Bangladesh, Brunei Darussalam, China, French overseas communities of Region 3, India, Indonesia, Iran (Islamic Republic of), Malaysia, New Zealand, the Philippines, Singapore and Thailand, the frequency band 3 400–3 500 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis, subject to agreement obtained under No. **9.21** with other administrations and is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this frequency band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m^2·4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the frequency band 3 400–3 500 MHz shall not claim more protection from space stations than that provided in Table **21–4** of the Radio Regulations (Edition of 2004). (WRC-19)

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.

433A In Australia, Bangladesh, Brunei Darussalam, China, French overseas communities of Region 3, Korea (Rep. of), India, Indonesia, Iran (Islamic Republic of), Japan, New Zealand, Pakistan, the Philippines and the Dem. People's Rep. of Korea, the frequency band 3 500–3 600 MHz is identified for International Mobile

Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this frequency band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m^2·4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the frequency band 3 500–3 600 MHz shall not claim more protection from space stations than that provided in Table **21–4** of the Radio Regulations (Edition of 2004). (WRC-19)

434 In Canada, Chile, Colombia, Costa Rica, El Salvador, the United States and Paraguay, the frequency band 3 600–3 700 MHz, or portions thereof, is identified for use by these administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a base or mobile station of an IMT system, it shall seek agreement under No. **9.21** with other administrations and ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m^2·4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service, including IMT systems, in the frequency band 3 600–3 700 MHz shall not claim more protection from space stations than that provided in Table **21-4** of the Radio Regulations (Edition of 2004). (WRC-19)

435 In Japan, in the band 3 620–3 700 MHz, the radiolocation service is excluded.

436 Use of the frequency band 4 200–4 400 MHz by stations in the aeronautical mobile (R) service is reserved exclusively for wireless avionics intra-communication systems that operate in accordance with recognised international aeronautical standards. Such use shall be in accordance with Resolution **424** (**WRC-15**). (WRC-15)

437 Passive sensing in the Earth exploration–satellite and space research services may be authorised in the frequency band 4 200–4 400 MHz on a secondary basis. (WRC-15)

438 Use of the frequency 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. (WRC-15)

439 *Additional allocation*: in Iran (Islamic Republic of), the band 4 200–4 400 MHz is also allocated to the fixed service on a secondary basis. (WRC-12)

440 The standard frequency and time signal–satellite service may be authorised to use the frequency 4 202 MHz for space-to-Earth transmissions and the frequency 6 427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of ±2 MHz of these frequencies, subject to agreement obtained under No. **9.21**.

440A In Region 2 (except Brazil, Cuba, French Overseas Departments and Communities, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4 400–4 940 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. **1.83**). Such use shall be in accordance with Resolution **416** (**WRC-07**) and shall not cause harmful interference to, nor claim protection from, the fixed–satellite and fixed services. Any such use does not preclude the use of these bands by other mobile service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)

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. **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)

441A In Brazil, Paraguay and Uruguay, the frequency band 4 800–4 900 MHz, or portions thereof, is identified for the implementation of International Mobile

Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. The use of this frequency band for the implementation of IMT is subject to agreement obtained with neighbouring countries, and IMT stations shall not claim protection from stations of other applications of the mobile service. Such use shall be in accordance with Resolution **223** (**Rev.WRC-19**). (WRC-19)

441B In Angola, Armenia, Azerbaijan, Benin, Botswana, Brazil, Burkina Faso, Burundi, Cambodia, Cameroon, China, Côte d'Ivoire, Djibouti, Eswatini, Russian Federation, Gambia, Guinea, Iran (Islamic Republic of), Kazakhstan, Kenya, Lao P.D.R., Lesotho, Liberia, Malawi, Mauritius, Mongolia, Mozambique, Nigeria, Uganda, Uzbekistan, the Dem. Rep. of the Congo, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, South Africa, Tanzania, Togo, Viet Nam, Zambia and Zimbabwe, the frequency band 4 800–4 990 MHz, or portions thereof, is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. The use of IMT stations is subject to agreement obtained under No. **9.21** with concerned administrations, and IMT stations shall not claim protection from stations of other applications of the mobile service. In addition, before an administration brings into use an IMT station in the mobile service, it shall ensure that the power flux-density (pfd) produced by this station does not exceed -155 dB(W/m^2·1 MHz)) produced up to 19 km above sea level at 20 km from the coast, defined as the low-water mark, as officially recognised by the coastal State. This pfd criterion is subject to review at WRC-23. Resolution **223** (**Rev.WRC-19**) applies. This identification shall be effective after WRC-19. (WRC-19)

442 In the frequency 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, Mexico, Paraguay, Uruguay and Venezuela), and in Australia, the frequency 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-15)

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. **33**).

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.

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 frequency band 5 030–5 150 MHz by all the space stations within any

radionavigation–satellite service system (space-to-Earth) operating in the frequency band 5 010–5 030 MHz shall not exceed −124.5 dB(W/m^2) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4 990–5 000 MHz, radionavigation–satellite service systems operating in the band 5 010–5 030 MHz shall comply with the limits in the frequency band 4 990–5 000 MHz defined in Resolution **741** (**Rev.WRC-15**). (WRC-15)

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)

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.

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 frequency band. For the use of the frequency band 5 091–5 150 MHz, No. **444A** and Resolution **114 (Rev.WRC-15)** apply. (WRC-15)

444A The use of the allocation to the fixed–satellite service (Earth-to-space) in the frequency band 5 091–5 150 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**. The use of the frequency band 5 091–5 150 MHz by feeder links of non-geostationary satellite systems in the mobile–satellite service shall be subject to application of Resolution **114** (**Rev.WRC-15**). Moreover, to ensure that the aeronautical radionavigation service is protected from harmful interference, coordination is required for feeder-link earth stations of the non-geostationary satellite systems in the mobile-satellite service which are separated by less than 450 km from the territory of an administration operating ground stations in the aeronautical radionavigation service. (WRC-15)

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-19**);
- aeronautical telemetry transmissions from aircraft stations (see No. **1.83**) in accordance with Resolution **418 (Rev.WRC-19)**. (WRC-19)

446 *Additional allocation*: in the countries listed in No. **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 (except in Mexico), the frequency 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 No. **369** and Bangladesh, the frequency 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 frequency bands 1 610–1 626.5 MHz and/or 2 483.5–2 500 MHz. The total power flux-density at the Earth's surface shall in no case exceed −159 dB(W/m^2) in any 4 kHz band for all angles of arrival. (WRC-15)

446A The use of the frequency 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-19**). (WRC-19)

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. **43A** does not apply to the mobile service with respect to fixed–satellite service Earth stations. (WRC-03)

446C *Additional allocation*: in Region 1 (except in Algeria, Saudi Arabia, Bahrain, Egypt, United Arab Emirates, Iraq, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Syrian Arab Republic, Sudan, South Sudan and Tunisia), the frequency band 5 150–5 250 MHz is also allocated to the aeronautical mobile service on a primary basis, limited to aeronautical telemetry transmissions from aircraft stations (see No. **1.83**), in accordance with Resolution **418** (**WRC-19**). These stations shall not claim protection from other stations operating in accordance with Article **5**. No. **43A** does not apply. (WRC-19)

446D *Additional allocation*: in Brazil, the band 5 150–5 250 MHz is also allocated to the aeronautical mobile service on a primary basis, limited to aeronautical telemetry transmissions from aircraft stations (see No. **1.83**), in accordance with Resolution **418 (Rev.WRC-19)**. (WRC-19)

447 *Additional allocation*: in Côte d'Ivoire, Egypt, Lebanon, the Syrian Arab Republic and Tunisia, the frequency band 5 150–5 250 MHz is also allocated to the mobile service, on a primary basis, subject to agreement obtained under No. **9.21**. In this case, the provisions of Resolution **229** (**Rev.WRC-19**) do not apply. (WRC-19)

447A The allocation to the fixed–satellite service (Earth-to-space) is limited to feeder links of non-geostationary-satellite systems in the mobile–satellite service and is subject to coordination under No. **9.11A**.

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 dB(W/m^2) in any 4 kHz band for all angles of arrival.

447C Administrations responsible for fixed–satellite service networks in the band 5 150–5 250 MHz operated under Nos. **447A** and **447B** shall coordinate on an equal basis in accordance with No. **9.11A** with Administrations responsible for non-geostationary-satellite networks operated under No. **446** and brought into use prior to 17 November 1995. Satellite networks operated under No. **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. **447A** and **447B**.

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.

447E *Additional allocation*: the frequency band 5 250–5 350 MHz is also allocated to the fixed service on a primary basis in the following countries in Region 3: Australia, Korea (Rep. of), India, Indonesia, Iran (Islamic Republic of), Japan, Malaysia, Papua New Guinea, the Philippines, Dem. People's Rep. of Korea, Sri Lanka, Thailand and Viet Nam. The use of this frequency band by the fixed service is intended for the implementation of fixed wireless access systems and shall comply with Recommendation ITU-R F.1613-0. In addition, the fixed service shall not claim protection from the radiodetermination, Earth exploration–satellite (active) and space research (active) services, but the provisions of No. **43A** do not apply to the fixed service with respect to the Earth exploration–satellite (active) and space research (active) services. After implementation of fixed wireless access systems in the fixed service with protection for the existing radiodetermination systems, no more stringent constraints should be imposed on the fixed wireless access systems by future radiodetermination implementations. (WRC-15)

447F In the frequency 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). The radiolocation service, the Earth exploration–satellite service (active) and the space research service (active) shall not impose more stringent conditions upon the mobile service than those stipulated in Resolution **229 (Rev.WRC-19)**. (WRC-19)

448 *Additional allocation*: in Kyrgyzstan, Romania and Turkmenistan, the frequency band 5 250–5 350 MHz is also allocated to the radionavigation service on a primary basis. (WRC-19)

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. **43A** does not apply. (WRC-03)

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)

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)

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. **449**. (WRC-03)

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.

450 *Additional allocation*: in Austria, Azerbaijan, Iran (Islamic Republic of), Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 5 470–5 650 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)

450A In the frequency band 5 470–5 725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. The radiodetermination services shall not impose more stringent conditions upon the mobile service than those stipulated in Resolution **229 (Rev.WRC-19)**. (WRC-19)

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)

451 *Additional allocation*: in the United Kingdom, the band 5 470–5 850 MHz is also allocated to the land mobile service on a secondary basis. The power limits specified in Nos. **21.2**, **21.3**, **21.4** and **21.5** shall apply in the band 5 725–5 850 MHz.

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.

453 *Additional allocation*: in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Djibouti, Egypt, the United Arab Emirates, Eswatini, Gabon, Guinea, Equatorial Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya, Madagascar, Malaysia, Niger, Nigeria, Oman, Uganda, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Sri Lanka, Tanzania, Chad, Thailand, Togo, Viet Nam and Yemen, the frequency band 5 650–5 850 MHz is also allocated to the fixed and mobile services on a primary basis. In this case, the provisions of Resolution **229 (Rev.WRC-19)** do not apply. In addition, in Afghanistan, Angola, Benin, Bhutan, Botswana, Burkina

Faso, Burundi, Dem. Rep. of the Congo, Fiji, Ghana, Kiribati, Lesotho, Malawi, Maldives, Mauritius, Micronesia, Mongolia, Mozambique, Myanmar, Namibia, Nauru, New Zealand, Papua New Guinea, Rwanda, Solomon Islands, South Sudan, South Africa, Tonga, Vanuatu, Zambia and Zimbabwe, the frequency band 5 725–5 850 MHz is allocated to the fixed service on a primary basis, and stations operating in the fixed service shall not cause harmful interference to and shall not claim protection from other primary services in the frequency band. (WRC-19)

454 *Different category of service*: in Azerbaijan, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 5 670–5 725 MHz to the space research service is on a primary basis (see No. **33**). (WRC-12)

455 *Additional allocation*: in Armenia, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Kazakhstan, Moldova, Uzbekistan, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the frequency band 5 670–5 850 MHz is also allocated to the fixed service on a primary basis. (WRC-19)

457 In Australia, Burkina Faso, Côte d'Ivoire, Mali and Nigeria, the allocation to the fixed service in the bands 6 440–6 520 MHz (HAPS-to-ground direction) and 6 560–6 640 MHz (ground-to-HAPS direction) may also be used by gateway links for high-altitude platform stations (HAPS) within the territory of these countries. Such use is limited to operation in HAPS gateway links and shall not cause harmful interference to, and shall not claim protection from, existing services, and shall be in compliance with Resolution **150** (**WRC-12**). Existing services shall not be constrained in future development by HAPS gateway links. The use of HAPS gateway links in these bands requires explicit agreement with other administrations whose territories are located within 1 000 kilometres from the border of an administration intending to use the HAPS gateway links.

457A In the frequency 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**). In the frequency band 5 925–6 425 MHz, earth stations located on board vessels and communicating with space stations of the fixed–satellite service may employ transmit antennas with minimum diameter of 1.2 m and operate without prior agreement of any administration if located at least 330 km away from the low-water mark as officially recognised by the coastal State. All other provisions of Resolution **902** (**WRC-03**) shall apply. (WRC-15)

457B In the frequency bands 5 925–6 425 MHz and 14–14.5 GHz, earth stations located on board vessels may operate with the characteristics and under the conditions contained in Resolution **902** (**WRC-03**) in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Jordan, Kuwait, Libya, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, Tunisia and Yemen, in the maritime mobile–satellite service on a secondary basis. Such use shall be in accordance with Resolution **902** (**WRC-03**). (WRC-15)

457C In Region 2 (except Brazil, Cuba, French overseas departments and communities, Guatemala, Mexico, Paraguay, Uruguay and Venezuela), the frequency band 5 925–6 700 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. **1.83**). Such use shall be in accordance with Resolution **416 (WRC-07)** and shall not cause harmful interference to, or claim protection from, the fixed–satellite and fixed services. Any such use does not preclude the use of this frequency band by other mobile service applications or by other services to which this frequency band is allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-15)

458 In the band 6 425–7 075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7 075–7 250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration–satellite (passive) and space research (passive) services in their future planning of the bands 6 425–7 025 MHz and 7 075–7 250 MHz.

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.

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**.

459 *Additional allocation*: in the Russian Federation, the frequency bands 7 100–7 155 MHz and 7 190–7 235 MHz are also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. **9.21**. In the frequency band 7 190–7 235 MHz, with respect to the Earth exploration–satellite service (Earth-to-space), No. **9.21** does not apply. (WRC-15)

460 No emissions from space research service (Earth-to-space) systems intended for deep space shall be effected in the frequency band 7 190–7 235 MHz. Geostationary satellites in the space research service operating in the frequency band 7 190–7 235 MHz shall not claim protection from existing and future stations of the fixed and mobile services and No. **43A** does not apply. (WRC-15)

460A The use of the frequency band 7 190–7 250 MHz (Earth-to-space) by the Earth exploration–satellite service shall be limited to tracking, telemetry and command for the operation of spacecraft. Space stations operating in the Earth exploration–satellite service (Earth-to-space) in the frequency band 7 190–7 250 MHz shall not claim protection from existing and future stations in the fixed and mobile services, and No. **43A** does not apply. No. **17** applies. Additionally, to ensure protection of the existing and future deployment of fixed and mobile services, the location of earth stations supporting spacecraft in the Earth exploration–satellite service in non-geostationary orbits or geostationary orbit shall maintain a separation distance of at

least 10 km and 50 km, respectively, from the respective border(s) of neighbouring countries, unless a shorter distance is otherwise agreed between the corresponding administrations. (WRC-15)

460B Space stations on the geostationary orbit operating in the Earth exploration–satellite service (Earth-to-space) in the frequency band 7 190–7 235 MHz shall not claim protection from existing and future stations of the space research service, and No. **43A** does not apply. (WRC-15)

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**.

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)

461AA The use of the frequency band 7 375–7 750 MHz by the maritime mobile–satellite service is limited to geostationary-satellite networks. (WRC-15)

461AB In the frequency band 7 375–7 750 MHz, earth stations in the maritime mobile–satellite service shall not claim protection from, nor constrain the use and development of, stations in the fixed and mobile, except aeronautical mobile, services. No. **43A** does not apply. (WRC-15)

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)

462A In Regions 1 and 3 (except for Japan), in the band 8 025–8 400 MHz, the Earth exploration–satellite service using geostationary-satellites shall not produce a power flux-density in excess of the following values for angles of arrival (θ), without the consent of the affected administration:

−135 dB(W/m^2) in a 1 MHz band	for $0° \leq \theta < 5°$
−135 + 0.5 (θ − 5) dB(W/m^2) in a 1 MHz band	for $5° \leq \theta < 25°$
−125 dB(W/m^2) in a 1 MHz band	for $25° \leq \theta \leq 90°$

463 Aircraft stations are not permitted to transmit in the band 8 025–8 400 MHz. (WRC-97)

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

466 *Different category of service*: in Singapore and Sri Lanka, the allocation of the band 8 400–8 500 MHz to the space research service is on a secondary basis (see No. **32**). (WRC-12)

468 *Additional allocation*: in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burundi, Cameroon, China, Congo (Rep. of the), Djibouti, Egypt, the United Arab Emirates, Eswatini, Gabon, Guyana, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Uganda, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Senegal, Singapore, Somalia, Sudan, Chad, Togo, Tunisia and Yemen, the frequency band 8 500–8 750 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-19)

469 *Additional allocation*: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Lithuania, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 8 500–8 750 MHz is also allocated to the land mobile and radionavigation services on a primary basis. (WRC-12)

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)

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.

471 *Additional allocation*: in Algeria, Germany, Bahrain, Belgium, China, Egypt, the United Arab Emirates, France, Greece, Indonesia, Iran (Islamic Republic of), Libya, the Netherlands, Qatar and Sudan, the frequency bands 8 825–8 850 MHz and 9 000–9 200 MHz are also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars only. (WRC-15)

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.

473 *Additional allocation*: in Armenia, Austria, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Uzbekistan, Poland, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the frequency bands 8 850–9 000 MHz and 9 200–9 300 MHz are also allocated to the radionavigation service on a primary basis. (WRC-19)

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. **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. **471**. (WRC-07)

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**).

474A The use of the frequency band 9 200–9 300 MHz and 9 900–10 400 MHz by the Earth exploration–satellite service (active) is limited to systems requiring necessary bandwidth greater than 600 MHz that cannot be fully accommodated within the frequency band 9 300–9 900 MHz. Such use is subject to agreement to be obtained under No. **9.21** from Algeria, Saudi Arabia, Bahrain, Egypt, Indonesia, Iran (Islamic Republic of), Lebanon and Tunisia. An administration that has not replied under No. **9.52** is considered as not having agreed to the coordination request. In this case, the notifying administration of the satellite system operating in the Earth exploration–satellite service (active) may request the assistance of the Bureau under Sub-Section IID of Article **9**. (WRC-15)

474B Stations operating in the Earth exploration–satellite (active) service shall comply with Recommendation ITU-R RS.2066-0. (WRC-15)

474C Stations operating in the Earth exploration–satellite (active) service shall comply with Recommendation ITU-R RS.2065-0. (WRC-15)

474D Stations in the Earth exploration–satellite service (active) shall not cause harmful interference to, or claim protection from, stations of the maritime radionavigation and radiolocation services in the frequency band 9 200–9 300 MHz, the radionavigation and radiolocation services in the frequency band 9 900–10 000 MHz and the radiolocation service in the frequency band 10.0–10.4 GHz. (WRC-15)

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)

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 than cannot be fully accommodated within the 9 500–9 800 MHz band. (WRC-07)

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)

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)

477 *Different category of service:* in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Japan, Jordan,

Kuwait, Lebanon, Liberia, Malaysia, Nigeria, Oman, Uganda, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Trinidad and Tobago, and Yemen, the allocation of the frequency band 9 800–10 000 MHz to the fixed service is on a primary basis (see No. **33**). (WRC-15)

478 *Additional allocation*: in Azerbaijan, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the frequency band 9 800–10 000 MHz is also allocated to the radionavigation service on a primary basis. (WRC-19)

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)

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)

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.

480 *Additional allocation*: in Argentina, Brazil, Chile, Cuba, El Salvador, Ecuador, Guatemala, Honduras, Paraguay, the overseas countries and territories within the Kingdom of the Netherlands in Region 2, Peru and Uruguay, the frequency band 10–10.45 GHz is also allocated to the fixed and mobile services on a primary basis. In Colombia, Costa Rica, Mexico and Venezuela, the frequency band 10–10.45 GHz is also allocated to the fixed service on a primary basis. (WRC-19)

481 *Additional allocation*: in Algeria, Germany, Angola, Brazil, China, Côte d'Ivoire, Egypt, El Salvador, Ecuador, Spain, Guatemala, Hungary, Japan, Kenya, Morocco, Nigeria, Oman, Uzbekistan, Pakistan, Paraguay, Peru, the Dem. People's Rep. of Korea, Romania, Tunisia and Uruguay, the frequency band 10.45–10.5 GHz is also allocated to the fixed and mobile services on a primary basis. In Costa Rica, the frequency band 10.45–10.5 GHz is also allocated to the fixed service on a primary basis. (WRC-19)

482 In the band 10.6–10.68 GHz, the power delivered to the antenna of stations of the fixed and mobile, except aeronautical mobile, services shall not exceed −3 dBW. This limit may be exceeded, subject to agreement obtained under No. **9.21**. However, in Algeria, Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Egypt, United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Jordan, Libyan Arab Jamahiriya, Kazakhstan, Kuwait, Lebanon, Morocco, Mauritania, Moldova, Nigeria, Oman, Uzbekistan, Pakistan, Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, Singapore, Tajikistan, Tunisia, Turkmenistan, and Viet Nam, this restriction on the fixed and mobile, except aeronautical mobile, services is not applicable. (WRC-07)

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)

483 *Additional allocation*: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, China, Colombia, Korea (Rep. of), Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, Mongolia, Qatar, Kyrgyzstan, the Dem. People's Rep. of Korea, Tajikistan, Turkmenistan and Yemen, the frequency band 10.68–10.7 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-19)

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

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. **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)

484B Resolution **155** (**WRC-15**) shall apply. (WRC-15)

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.

486 *Different category of service*: in the United States, the allocation of the frequency band 11.7–12.1 GHz to the fixed service is on a secondary basis (see No. **32**). (WRC-15)

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

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. **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)

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)

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

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**.

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)

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

494 *Additional allocation*: in Algeria, Saudi Arabia, Bahrain, Cameroon, the Central African Rep., Congo (Rep. of the), Côte d'Ivoire, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Madagascar, Mali, Morocco, Mongolia, Nigeria, Oman, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the frequency band 12.5–12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-15)

495 *Additional allocation*: in Greece, Monaco, Montenegro, Uganda and Tunisia, the frequency band 12.5–12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-19)

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

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

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)

499 *Additional allocation*: in Bangladesh and India, the band 13.25–14 GHz is also allocated to the fixed service on a primary basis. In Pakistan, the band 13.25–13.75 GHz is allocated to the fixed service on a primary basis. (WRC-12)

499A The use of the frequency band 13.4–13.65 GHz by the fixed–satellite service (space-to-Earth) is limited to geostationary–satellite systems and is subject to agreement obtained under No. **9.21** with respect to satellite systems operating in the space research service (space-to-space) to relay data from space stations in the geostationary-satellite orbit to associated space stations in non-geostationary satellite orbits for which advance publication information has been received by the Bureau by 27 November 2015. (WRC-15)

499B Administrations shall not preclude the deployment and operation of transmitting earth stations in the standard frequency and time signal–satellite service (Earth-to-space) allocated on a secondary basis in the frequency band 13.4–13.65 GHz due to the primary allocation to the fixed satellite service (space-to-Earth). (WRC-15)

499C The allocation of the frequency band 13.4–13.65 GHz to the space research service on a primary basis is limited to:

- satellite systems operating in the space research service (space-to-space) to relay data from space stations in the geostationary-satellite orbit to associated space stations in non-geostationary satellite orbits for which advance publication information has been received by the Bureau by 27 November 2015,
- active spaceborne sensors,
- satellite systems operating in the space research service (space-to-Earth) to relay data from space stations in the geostationary-satellite orbit to associated earth stations.

Other uses of the frequency band by the space research service are on a secondary basis. (WRC-15)

499D In the frequency band 13.4–13.65 GHz, satellite systems in the space research service (space-to-Earth) and/or the space research service (space-to-space) shall not cause harmful interference to, nor claim protection from, stations in the fixed, mobile, radiolocation and Earth exploration–satellite (active) services. (WRC-15)

499E In the frequency band 13.4–13.65 GHz, geostationary-satellite networks in the fixed–satellite service (space-to-Earth) shall not claim protection from space stations in the Earth exploration–satellite service (active) operating in accordance with the Radio Regulations, and No. **43A** does not apply. The provisions of No. **22.2** do not apply to the Earth exploration–satellite service (active) with respect to the fixed–satellite service (space-to-Earth) in this frequency band. (WRC-15)

500 *Additional allocation*: in Algeria, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Madagascar, Malaysia, Mali, Morocco, Mauritania, Niger, Nigeria, Oman, Qatar, the Syrian Arab Republic, Singapore, Sudan, South Sudan, Chad and Tunisia, the frequency band 13.4–14 GHz is also allocated to the fixed and mobile services on a primary basis. In Pakistan, the frequency band 13.4–13.75 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-15)

501 *Additional allocation*: in Azerbaijan, Hungary, Japan, Kyrgyzstan, Romania and Turkmenistan, the band 13.4–14 GHz is also allocated to the radionavigation service on a primary basis. (WRC-12)

501A The allocation of the frequency band 13.65–13.75 GHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the frequency band by the space research service are on a secondary basis. (WRC-15)

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)

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

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

503 In the band 13.75–14 GHz, geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the fixed–satellite service; after that date, new geostationary space stations in the space research service will operate on a secondary basis. Until those geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this band:

- in the band 13.77–13.78 GHz, the e.i.r.p. density of emissions from any Earth station in the fixed–satellite service operating with a space station in geostationary-satellite orbit shall not exceed:
  - i) 4.7D + 28 dB(W/40 kHz), where D is the fixed–satellite service Earth station antenna diameter (m) for antenna diameters equal to or greater than 1.2 m and less than 4.5 m;
  - ii) 49.2 + 20 log(D/4.5) dB(W/40 kHz), where D is the fixed–satellite service Earth station antenna diameter (m) for antenna diameters equal to or greater than 4.5 m and less than 31.9 m;
  - iii) 66.2 dB(W/40 kHz) for any fixed–satellite service Earth station for antenna diameters (m) equal to or greater than 31.9 m;
  - iv) 56.2 dB(W/4 kHz) for narrow-band (less than 40 kHz of necessary bandwidth) fixed satellite service Earth station emissions from any fixed–satellite service Earth station having an antenna diameter of 4.5 m or greater;
- the e.i.r.p. density of emissions from any Earth station in the fixed–satellite service operating with a space station in non-geostationary-satellite orbit shall not exceed 51 dBW in the 6 MHz band from 13.772 to 13.778 GHz.

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

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

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. **29**, **30** and **31** apply. (WRC-03)

504B Aircraft Earth stations operating in the aeronautical mobile–satellite service in the frequency band 14–14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643-0, with respect to any radio astronomy station performing observations in the 14.47–14.5 GHz frequency band located on the territory of Spain, France, India, Italy, the United Kingdom and South Africa. (WRC-15)

504C In the frequency band 14–14.25 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Bahrain, Botswana, Côte d'Ivoire, Egypt, Guinea, India, Iran (Islamic Republic of), Kuwait, Nigeria, Oman, the Syrian Arab Republic and Tunisia by any aircraft earth station in the aeronautical mobile–satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643-0, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile–satellite service to operate as a secondary service in accordance with No. **29**. (WRC-15)

505 *Additional allocation*: in Algeria, Saudi Arabia, Bahrain, Botswana, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Djibouti, Egypt, the United Arab Emirates, Eswatini, Gabon, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Oman, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Chad, Viet Nam and Yemen, the frequency band 14–14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-19)

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.

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)

506B Earth stations located on board vessels communicating with space stations in the fixed–satellite service may operate in the frequency band 14–14.5 GHz without the need for prior agreement from Cyprus, and Malta, within the minimum distance given in Resolution **902** (**WRC-03**) from these countries. (WRC-15)

508 *Additional allocation*: in Germany, France, Italy, Libya, North Macedonia and the United Kingdom, the frequency band 14.25–14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-19)

508A In the frequency band 14.25–14.3 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Bahrain, Botswana, China, Côte d'Ivoire, Egypt, France, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom and Tunisia by any aircraft earth station in the aeronautical mobile–satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643-0, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile–satellite service to operate as a secondary service in accordance with No. **29**. (WRC-15)

509A In the frequency band 14.3–14.5 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Bahrain, Botswana, Cameroon, China, Côte d'Ivoire, Egypt, France, Gabon, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Morocco, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom, Sri Lanka, Tunisia and Viet Nam by any aircraft earth station in the aeronautical mobile–satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643-0, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile–satellite service to operate as a secondary service in accordance with No. **29**. (WRC-15)

509B The use of the frequency bands 14.5–14.75 GHz in countries listed in Resolution **163** (**WRC-15**) and 14.5–14.8 GHz in countries listed in Resolution **164** (**WRC-15**) by the fixed–satellite service (Earth-to-space) not for feeder links for the broadcasting–satellite service is limited to geostationary-satellites. (WRC-15)

509C For the use of the frequency bands 14.5–14.75 GHz in countries listed in Resolution **163** (**WRC-15**) and 14.5–14.8 GHz in countries listed in Resolution **164** (**WRC-15**) by the fixed–satellite service (Earth-to-space) not for feeder links for the broadcasting–satellite service, the fixed–satellite service earth stations shall have a minimum antenna diameter of 6 m and a maximum power spectral density of −44.5 dBW/Hz at the input of the antenna. The earth stations shall be notified at known locations on land. (WRC-15)

509D Before an administration brings into use an earth station in the fixed–satellite service (Earth-to-space) not for feeder links for the broadcasting–satellite service in the frequency bands 14.5–14.75 GHz (in countries listed in Resolution **163** (**WRC-15**)) and 14.5–14.8 GHz (in countries listed in Resolution **164** (**WRC-15**)), it shall ensure that the power flux-density produced by this earth station does not exceed −151.5 dB(W/(m^2·4 kHz) produced at all altitudes from 0 m to 19 000 m above sea level at 22 km seaward from all coasts, defined as the low-water mark, as officially recognised by each coastal State. (WRC-15)

509E In the frequency bands 14.5–14.75 GHz in countries listed in Resolution **163** (WRC-15) and 14.5–14.8 GHz in countries listed in Resolution **164** (**WRC-15**), the location of earth stations in the fixed–satellite service (Earth-to-space) not for feeder links for the broadcasting–satellite service shall maintain a separation distance of at least 500 km from the border(s) of other countries unless shorter distances are explicitly agreed by those administrations. No. **9.17** does not apply. When applying this provision, administrations should consider the relevant parts of these Regulations and the latest relevant ITU-R Recommendations. (WRC-15)

509F In the frequency bands 14.5–14.75 GHz in countries listed in Resolution **163** (**WRC-15**) and 14.5–14.8 GHz in countries listed in Resolution **164** (**WRC-15**), earth stations in the fixed–satellite service (Earth-to-space) not for feeder links for the broadcasting–satellite service shall not constrain the future deployment of the fixed and mobile services. (WRC-15)

509G The frequency band 14.5–14.8 GHz is also allocated to the space research service on a primary basis. However, such use is limited to the satellite systems operating in the space research service (Earth-to-space) to relay data to space stations in the geostationary–satellite orbit from associated earth stations. Stations in the space research service shall not cause harmful interference to, or claim protection from, stations in the fixed and mobile services and in the fixed–satellite service limited to feeder links for the broadcasting–satellite service and associated space operations functions using the guardbands under Appendix **30A** and feeder links for the broadcasting–satellite service in Region 2. Other uses of this frequency band by the space research service are on a secondary basis. (WRC-15)

510 Except for use in accordance with Resolution **163** (**WRC-15**) and Resolution **164** (**WRC-15**), the use of the frequency band 14.5–14.8 GHz by the fixed–satellite service (Earth-to-space) is limited to feeder links for the broadcasting–satellite service. This use is reserved for countries outside Europe. Uses other than feeder links for the broadcasting–satellite service are not authorised in Regions 1 and 2 in the frequency band 14.75–14.8 GHz. (WRC-15)

511 *Additional allocation*: in Saudi Arabia, Bahrain, Cameroon, Egypt, the United Arab Emirates, Guinea, Iran (Islamic Republic of), Iraq, Israel, Kuwait, Lebanon, Oman, Pakistan, Qatar, the Syrian Arab Republic and Somalia, the band 15.35–15.4 GHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)

511A Use of the frequency band 15.43–15.63 GHz by the fixed–satellite service (Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile–satellite service, subject to coordination under No. **9.11A**. (WRC-15)

511C Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340-0. 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.1340-0. (WRC-15)

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.

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/m^2) 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.

512 *Additional allocation*: in Algeria, Saudi Arabia, Austria, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Congo (Rep. of the), Egypt, El Salvador, the United Arab Emirates, Eritrea, Finland, Guatemala, India, Indonesia, Iran (Islamic Republic of), Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Montenegro, Nepal, Nicaragua, Niger, Oman, Pakistan, Qatar, Syrian Arab Republic, the Dem. Rep. of the Congo, Singapore, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the frequency band 15.7–17.3 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-15)

513 *Additional allocation*: in Israel, the band 15.7–17.3 GHz is also allocated to the fixed and mobile services on a primary basis. These services shall not claim protection from or cause harmful interference to services operating in accordance with the Table in countries other than those included in No. **512**.

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)

514 *Additional allocation*: in Algeria, Saudi Arabia, Bahrain, Bangladesh, Cameroon, El Salvador, the United Arab Emirates, Guatemala, India, Iran (Islamic Republic of), Iraq, Israel, Italy, Japan, Jordan, Kuwait, Libya, Lithuania, Nepal, Nicaragua, Nigeria, Oman, Uzbekistan, Pakistan, Qatar, Kyrgyzstan, Sudan and South Sudan, the frequency band 17.3–17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. **21.3** and **21.5** shall apply. (WRC-15)

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**.

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. **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)

516A In the band 17.3–17.7 GHz, Earth stations of the fixed–satellite service (space-to-Earth) in Region 1 shall not claim protection from the broadcasting–satellite service feeder-link Earth stations operating under Appendix **30A**, nor put any limitations or restrictions on the locations of the broadcasting–satellite service feeder-link Earth stations anywhere within the service area of the feeder link. (WRC-03)

516B The following bands are identified for use by high-density applications in the fixed–satellite service:

17.3–17.7 GHz	(space-to-Earth) in Region 1,
18.3–19.3 GHz	(space-to-Earth) in Region 2,
19.7–20.2 GHz	(space-to-Earth) in all Regions,
39.5–40 GHz	(space-to-Earth) in Region 1,
40–40.5 GHz	(space-to-Earth) in all Regions,
40.5–42 GHz	(space-to-Earth) in Region 2,
47.5–47.9 GHz	(space-to-Earth) in Region 1,
48.2–48.54 GHz	(space-to-Earth) in Region 1,
49.44–50.2 GHz	(space-to-Earth) in Region 1,
and	
27.5–27.82 GHz	(Earth-to-space) in Region 1,
28.35–28.45 GHz	(Earth-to-space) in Region 2,
28.45–28.94 GHz	(Earth-to-space) in all Regions,
28.94–29.1 GHz	(Earth-to-space) in Regions 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 frequency bands by other fixed–satellite service applications or by other services to which these frequency bands are allocated on a co-primary basis and does not establish priority in these Radio Regulations among users of the frequency bands. Administrations should take this into account when considering regulatory provisions in relation to these frequency bands. See Resolution **143** (**Rev.WRC-19**). (WRC-19)

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)

517A The operation of earth stations in motion communicating with geostationary fixed–satellite service space stations within the frequency bands 17.7–19.7 GHz (space-to-Earth) and 27.5–29.5 GHz (Earth-to-space) shall be subject to the application of Resolution **169 (WRC-19)**. (WRC-19)

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)

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)

521 *Alternative allocation*: in the United Arab Emirates and Greece, the frequency band 18.1–18.4 GHz is allocated to the fixed, fixed–satellite (space-to-Earth) and mobile services on a primary basis (see No. **33**). The provisions of No. **519** also apply. (WRC-15)

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)

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)

522C In the band 18.6–18.8 GHz, in Algeria, Saudi Arabia, Bahrain, Egypt, the United Arab Emirates, Jordan, Lebanon, Libyan Arab Jamahiriya, Morocco, Oman, Qatar, the Syrian Arab Republic, Tunisia and Yemen, fixed-service systems in operation at the date of entry into force of the Final Acts of WRC-2000 are not subject to the limits of No. **21.5A**. (WRC-2000)

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)

523B The use of the band 19.3–19.6 GHz (Earth-to-space) by the fixed–satellite service is limited to feeder links for non-geostationary-satellite systems in the mobile–satellite service. Such use is subject to the application of the provisions of No. **9.11A**, and No. **22.2** does not apply.

523C No. **22.2** shall continue to apply in the bands 19.3–19.6 GHz and 29.1–29.4 GHz between feeder links of non-geostationary mobile–satellite service networks and those fixed–satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

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. **523C** and **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)

523E No. **22.2** shall continue to apply in the bands 19.6–19.7 GHz and 29.4–29.5 GHz, between feeder links of non-geostationary mobile–satellite service networks and those fixed–satellite service networks for which complete Appendix **4** coordination information, or notification information, is considered as having been received by the Bureau by 21 November 1997. (WRC-97)

524 *Additional allocation*: in Afghanistan, Algeria, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Chad, Togo and Tunisia, the frequency band 19.7–21.2 GHz is also allocated to the fixed and mobile services on a primary basis. This additional use shall not impose any limitation on the power flux-density of space stations in the fixed–satellite service in the frequency band 19.7–21.2 GHz and of space stations in the mobile–satellite service in the frequency band 19.7–20.2 GHz where the allocation to the mobile–satellite service is on a primary basis in the latter frequency band. (WRC-15)

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.

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.

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.

527A The operation of earth stations in motion communicating with the fixed satellite service is subject to Resolution **156 (WRC-15)**. (WRC-15)

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. **524**.

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. **526**.

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 dB(W/(m^2·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 also the most recent version of Recommendation ITU-R BO.1898). (WRC-15)

530B In the band 21.4–22 GHz, in order to facilitate the development of the broadcasting–satellite service, administrations in Regions 1 and 3 are encouraged not to deploy stations in the mobile service and are encouraged to limit the deployment of stations in the fixed service to point-to-point links. (WRC-12)

530E The allocation to the fixed service in the frequency band 21.4–22 GHz is identified for use in Region 2 by high-altitude platform stations (HAPS). This identification does not preclude the use of this frequency band by other fixed-service applications or by other services to which it is allocated on a co-primary basis, and does not establish priority in the Radio Regulations. Such use of the fixed-service allocation by HAPS is limited to the HAPS-to-ground direction, and shall be in accordance with the provisions of Resolution **165 (WRC-19)**. (WRC-19)

531 *Additional allocation*: in Japan, the band 21.4–22 GHz is also allocated to the broadcasting service on a primary basis.

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.

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.

532B Use of the band 24.65–25.25 GHz in Region 1 and the band 24.65–24.75 GHz in Region 3 by the fixed–satellite service (Earth-to-space) is limited to earth stations using a minimum antenna diameter of 4.5 m. (WRC-12)

532AA The allocation to the fixed service in the frequency band 24.25–25.25 GHz is identified for use in Region 2 by high-altitude platform stations (HAPS). This identification does not preclude the use of this frequency band by other fixed-service applications or by other services to which this frequency band is allocated on a co-primary basis, and does not establish priority in the Radio Regulations. Such use of the fixed-service allocation by HAPS is limited to the HAPS-to-ground direction and shall be in accordance with the provisions of Resolution **166 (WRC-19)**. (WRC-19)

532AB The frequency band 24.25–27.5 GHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. Resolution **242 (WRC-19)** applies. (WRC-19)

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

534A The allocation to the fixed service in the frequency band 25.25–27.5 GHz is identified in Region 2 for use by high-altitude platform stations (HAPS) in accordance with the provisions of Resolution **166 (WRC-19)**. Such use of the fixed-service allocation by HAPS shall be limited to the ground-to-HAPS direction in the frequency band 25.25–27.0 GHz and to the HAPS-to-ground direction in the frequency band 27.0–27.5 GHz. Furthermore, the use of the frequency band 25.5–27.0 GHz by HAPS shall be limited to gateway links. This identification does not preclude the use of this frequency band by other fixed-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-19)

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.

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. **523C** and **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)

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.

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. Resolution **242 (WRC-19)** applies. (WRC-19)

536B In Algeria, Saudi Arabia, Austria, Bahrain, Belgium, Brazil, China, Korea (Rep. of), Denmark, Egypt, United Arab Emirates, Estonia, Finland, Hungary, India, Iran (Islamic Republic of), Iraq, Ireland, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, Libya, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, Qatar, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the Czech Rep., Romania, the United Kingdom, Singapore, Slovenia, Sudan, Sweden, Tanzania, Turkey, Viet Nam and Zimbabwe, earth stations operating in the Earth exploration–satellite service in the frequency band 25.5–27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. Resolution **242 (WRC-19)** applies. (WRC-19)

536C In Algeria, Saudi Arabia, Bahrain, Botswana, Brazil, Cameroon, Comoros, Cuba, Djibouti, Egypt, United Arab Emirates, Estonia, Finland, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Lithuania, Malaysia, Morocco, Nigeria, Oman, Qatar, Syrian Arab Republic, Somalia, Sudan, South Sudan, Tanzania, Tunisia, Uruguay, Zambia and Zimbabwe, earth stations operating in the space research service in the band 25.5–27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-12)

537 Space services using non-geostationary satellites operating in the inter–satellite service in the band 27–27.5 GHz are exempt from the provisions of No. **22.2**.

537A In Bhutan, Cameroon, China, Korea (Rep. of), the Russian Federation, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the frequency band 27.9–28.2 GHz may also be used by high altitude platform stations (HAPS) within the territory of these countries. Such use of 300 MHz of the fixed-service allocation by HAPS in the above countries is further

limited to operation in the HAPS-to-ground direction and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems or other co-primary services. Furthermore, the development of these other services shall not be constrained by HAPS. See Resolution **145** (**Rev.WRC-19**). (WRC-19)

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)

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.

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.

541 In the band 28.5–30 GHz, the Earth exploration–satellite service is limited to the transfer of data between stations and not to the primary collection of information by means of active or passive sensors.

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)

542 *Additional allocation*: in Algeria, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, India, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Oman, Pakistan, Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Somalia, Sudan, South Sudan, Sri Lanka and Chad, the band 29.5–31 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. **21.3** and **21.5** shall apply. (WRC-12)

543 The band 29.95–30 GHz may be used for space-to-space links in the Earth exploration–satellite service for telemetry, tracking, and control purposes, on a secondary basis.

543B The allocation to the fixed service in the frequency band 31–31.3 GHz is identified for worldwide use by high-altitude platform stations (HAPS). This identification does not preclude the use of this frequency band by other fixed-service applications or by other services to which this frequency band is allocated on a co-primary basis, and does not establish priority in the Radio Regulations. Such use of the fixed-service allocation by HAPS shall be in accordance with the provisions of Resolution **167 (WRC-19)**. (WRC-19)

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.

545 *Different category of service*: in Armenia, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 31–31.3 GHz to the space research service is on a primary basis (see No. **33**). (WRC-12)

546 *Different category of service*: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Egypt, the United Arab Emirates, Spain, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Israel, Jordan, Lebanon, Moldova, Mongolia, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, the United Kingdom, South Africa, Tajikistan, Turkmenistan and Turkey, the allocation of the frequency band 31.5–31.8 GHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. **33**). (WRC-19)

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. **516B**), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate. (WRC-07)

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)

547B *Alternative allocation*: in the United States, the band 31.8–32 GHz is allocated to the radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-97)

547C *Alternative allocation*: in the United States, the band 32–32.3 GHz is allocated to the radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-03)

547D *Alternative allocation*: in the United States, the band 32.3–33 GHz is allocated to the inter–satellite and radionavigation services on a primary basis. (WRC-97)

547E *Alternative allocation*: in the United States, the band 33–33.4 GHz is allocated to the radionavigation service on a primary basis. (WRC-97)

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)

549 *Additional allocation*: in Saudi Arabia, Bahrain, Bangladesh, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Singapore, Somalia, Sudan, South Sudan, Sri Lanka, Togo, Tunisia and Yemen, the band 33.4–36 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)

549A In the band 35.5–36.0 GHz, the mean power flux-density at the Earth's surface, generated by any spaceborne sensor in the Earth exploration–satellite service (active) or space research service (active), for any angle greater than 0.8° from the beam centre shall not exceed −73.3 dB(W/m^2) in this band. (WRC-03)

550 *Different category of service*: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 34.7–35.2 GHz to the space research service is on a primary basis (see No. **33**). (WRC-12)

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)

550B The frequency band 37–43.5 GHz, or portions thereof, is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. Because of the potential deployment of FSS earth stations within the frequency range 37.5–42.5 GHz and high-density applications in the fixed–satellite service in the frequency bands 39.5–40 GHz in Region 1, 40–40.5 GHz in all Regions and 40.5–42 GHz in Region 2 (see No. **516B**), administrations should further take into account potential constraints to IMT in these frequency bands, as appropriate. Resolution **243 (WRC-19)** applies. (WRC-19)

550C The use of the frequency bands 37.5–39.5 GHz (space-to-Earth), 39.5–42.5 GHz (space-to-Earth), 47.2–50.2 GHz (Earth-to-space) and 50.4–51.4 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed–satellite service is subject to the application of the provisions of No. **9.12** for coordination with other non-geostationary-satellite systems in the fixed–satellite service but not with non-

geostationary-satellite systems in other services. Resolution **770 (WRC-19)** shall also apply, and No. **22.2** shall continue to apply. (WRC-19)

550D The allocation to the fixed service in the frequency band 38–39.5 GHz is identified for worldwide use by administrations wishing to implement high-altitude platform stations (HAPS). In the HAPS-to-ground direction, the HAPS ground station shall not claim protection from stations in the fixed, mobile and fixed–satellite services; and No. **43A** does not apply. This identification does not preclude the use of this frequency band by other fixed-service applications or by other services to which this frequency band is allocated on a co-primary basis and does not establish priority in the Radio Regulations. Furthermore, the development of the fixed–satellite, fixed and mobile services shall not be unduly constrained by HAPS. Such use of the fixed-service allocation by HAPS shall be in accordance with the provisions of Resolution **168 (WRC-19)**. (WRC-19)

550E The use of the frequency bands 39.5–40 GHz and 40–40.5 GHz by non-geostationary-satellite systems in the mobile–satellite service (space-to-Earth) and by non-geostationary-satellite systems in the fixed–satellite service (space-to-Earth) is subject to the application of the provisions of No. **9.12** for coordination with other non-geostationary-satellite systems in the fixed–satellite and mobile–satellite services but not with non-geostationary-satellite systems in other services. No. **22.2** shall continue to apply for non-geostationary-satellite-systems. (WRC-19)

551F *Different category of service*: in Japan, the allocation of the band 41.5–42.5 GHz to the mobile service is on a primary basis (see No. **33**). (WRC-97)

551H The equivalent power flux-density (epfd) produced in the frequency 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 frequency band 42–42.5 GHz, shall not exceed the following values at the site of any radio astronomy station for more than 2% of the time:

−230 dB(W/m^2) in 1 GHz and −246 dB(W/m^2) in any 500 kHz of the frequency band 42.5–43.5 GHz at the site of any radio astronomy station registered as a single-dish telescope; and −209 dB(W/m^2) in any 500 kHz of the frequency band 42.5–43.5 GHz 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.1631-0 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle θmin 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 authorised 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-15)

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/m^2) in 1 GHz and −153 dB(W/m^2) in any 500 kHz of the 42.5–43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and
- −116 dB(W/m^2) in any 500 kHz of the 42.5–43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.

These 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 authorised 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)

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.

552A The allocation to the fixed service in the bands 47.2–47.5 GHz and 47.9–48.2 GHz is identified for use by high altitude platform stations (HAPS). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated on a co-primary basis, and does not establish priority in the Radio Regulations. Such use of the fixed-service allocation in the frequency bands 47.2–47.5 GHz and 47.9–48.2 GHz by HAPS shall be in accordance with the provisions of Resolution **122** (**Rev.WRC-19**). (WRC-19)

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. **43**). (WRC-2000)

553A In Algeria, Angola, Bahrain, Belarus, Benin, Botswana, Brazil, Burkina Faso, Cabo Verde, Korea (Rep. of), Côte d'Ivoire, Croatia, United Arab Emirates, Estonia, Eswatini, Gabon, Gambia, Ghana, Greece, Guinea, Guinea-Bissau, Hungary, Iran (Islamic Republic of), Iraq, Jordan, Kuwait, Lesotho, Latvia, Liberia, Lithuania, Madagascar, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Qatar, Senegal, Seychelles, Sierra Leone, Slovenia, Sudan, South Africa, Sweden, Tanzania, Togo, Tunisia, Zambia and Zimbabwe, the frequency band 45.5–47 GHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT), taking into account No. **553**. With respect to the aeronautical mobile service and radionavigation service, the use of this frequency band for the implementation of IMT is subject to agreement obtained under No. **9.21** with concerned administrations and shall not cause harmful interference to, or claim protection from these services. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. Resolution **244 (WRC-19)** applies. (WRC-19)

553B In Region 2 and Algeria, Angola, Saudi Arabia, Australia, Bahrain, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Rep., Comoros, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Djibouti, Egypt, United Arab Emirates, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Equatorial Guinea, India, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kenya, Kuwait, Lesotho, Liberia, Libya, Lithuania, Madagascar, Malaysia, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Singapore, Slovenia, Somalia, Sudan, South Sudan, South Africa, Sweden, Tanzania, Chad, Togo, Tunisia, Zambia and Zimbabwe, the frequency band 47.2–48.2 GHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated, and does not establish any priority in the Radio Regulations. Resolution **243 (WRC-19)** applies. (WRC-19)

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 authorised when used in conjunction with the mobile–satellite service or the radionavigation–satellite service. (WRC-2000)

554A The use of the bands 47.5–47.9 GHz, 48.2–48.54 GHz and 49.44–50.2 GHz by the fixed–satellite service (space-to-Earth) is limited to geostationary satellites. (WRC-03)

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

555B The power flux-density in the band 48.94–49.04 GHz produced by any geostationary space station in the fixed–satellite service (space-to-Earth) operating in the bands 48.2–48.54 GHz and 49.44–50.2 GHz shall not exceed −151.8 dB(W/m^2) in any 500 kHz band at the site of any radio astronomy. station. (WRC-03)

555C The use of the frequency band 51.4–52.4 GHz by the fixed-satellite service (Earth-to-space) is limited to geostationary-satellite networks. The earth stations shall be limited to gateway earth stations with a minimum antenna diameters of 2.4 metres. (WRC-19)

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)

556A Use of the bands 54.25–56.9 GHz, 57–58.2 GHz and 59–59.3 GHz by the inter–satellite service is limited to satellites in the geostationary satellite orbit. The single entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface produced by a station in the inter–satellite service, for all conditions and for all methods of modulation, shall not exceed −147 dB(W/(m^2·100 MHz)) for all angles of arrival. (WRC-97)

556B *Additional allocation*: in Japan, the band 54.25–55.78 GHz is also allocated to the mobile service on a primary basis for low-density use. (WRC-97)

557 *Additional allocation*: in Japan, the band 55.78–58.2 GHz is also allocated to the radiolocation service on a primary basis. (WRC-97)

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)

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. **43).** (WRC-2000)

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 dB(W/(m^2·100 MHz)) for all angles of arrival. (WRC-97)

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. **43**). (WRC-2000)

559AA The frequency band 66–71 GHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which this frequency band is allocated and does not establish priority in the Radio Regulations. Resolution **241 (WRC-19)** applies. (WRC-19)

559B The use of the frequency band 77.5–78 GHz by the radiolocation service shall be limited to short-range radar for ground-based applications, including automotive radar. The technical characteristics of those radars are provided in the most recent version of Recommendation ITU-R M.2057. The provisions of No. **4.10** do not apply. (WRC-15)

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.

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)

561A The 81–81.5 GHz band is also allocated to the amateur and amateur–satellite services on a secondary basis.

561B In Japan, use of the band 84–86 GHz, by the fixed–satellite service (Earth-to-space) is limited to feeder links in the broadcasting–satellite service using the geostationary-satellite orbit. (WRC-2000)

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)

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)

562B In the frequency bands 105–109.5 GHz, 111.8–114.25 GHz and 217–226 GHz, the use of this allocation is limited to space-based radio astronomy only. (WRC-19)

562C Use of the band 116–122.25 GHz by the inter–satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter–satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 km to 1 000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed −148 dB(W/(m^2·MHz)) for all angles of arrival. (WRC-2000)

562D *Additional allocation*: in Korea (Rep. of), the frequency bands 128–130 GHz, 171–171.6 GHz, 172.2–172.8 GHz and 173.3–174 GHz are also allocated to the radio astronomy service on a primary basis. Radio astronomy stations in Korea (Rep. of) operating in the frequency bands referred to in this footnote shall not claim protection

from, or constrain the use and development of, services in other countries operating in accordance with the Radio Regulations. (WRC-15)

562E The allocation to the Earth exploration–satellite service (active) is limited to the band 133.5–134 GHz. (WRC-2000)

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 dB(W/(m^2·MHz)) for all angles of arrival. (WRC-2000)

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)

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)

564A For the operation of fixed and land mobile service applications in frequency bands in the range 275–450 GHz:
The frequency bands 275–296 GHz, 306–313 GHz, 318–333 GHz and 356–450 GHz are identified for use by administrations for the implementation of land mobile and fixed service applications, where no specific conditions are necessary to protect Earth exploration-satellite service (passive) applications.
The frequency bands 296–306 GHz, 313–318 GHz and 333–356 GHz may only be used by fixed and land mobile service applications when specific conditions to ensure the protection of Earth exploration–satellite service (passive) applications are determined in accordance with Resolution **731 (Rev.WRC-19)**.
In those portions of the frequency range 275–450 GHz where radio astronomy applications are used, specific conditions (e.g. minimum separation distances and/or avoidance angles) may be necessary to ensure protection of radio astronomy sites from land mobile and/or fixed service applications, on a case-by-case basis in accordance with Resolution **731 (Rev.WRC-19)**.
The use of the above-mentioned frequency bands by land mobile and fixed service applications does not preclude use by, and does not establish priority over, any other applications of radio services in the range of 275-450 GHz. (WRC-19)

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)