



## Australian Radiofrequency Spectrum Plan 2017

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

Dated: *15 December 2016*

*Richard Bean*  
[signed]  
Member

*Anita Jacoby*  
[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 2017.

### 2        Commencement

This Spectrum Plan commences on 1 January 2017.

*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 2013* [F2012L02523] 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-satellite service*** means a mobile-satellite service in which mobile earth stations are located on land.

***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.

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

- (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.

*Note* The ACMA's website is at: [www.acma.gov.au](http://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:   |
|---|--|---|---|
| Region 1  | Region 2   | Region 3  | Australian Table of Allocations   |
| <b>Below 8.3</b>  | (Not allocated)<br>53 54   |   | <b>Below 8.3</b><br>(Not allocated)<br>53 54                              |
| <b>8.3 – 9</b>  | METEOROLOGICAL AIDS 54A 54B 54C  |   | <b>8.3 – 9</b><br>METEOROLOGICAL AIDS<br>54A                              |
| <b>9 – 11.3</b>   | METEOROLOGICAL AIDS 54A<br>RADIONAVIGATION   |   | <b>9 – 11.3</b><br>METEOROLOGICAL AIDS<br>54A<br>RADIONAVIGATION          |
| <b>11.3 – 14</b>  | RADIONAVIGATION  |   | <b>11.3 – 14</b><br>RADIONAVIGATION                                       |
| <b>14 – 19.95</b>   | FIXED<br>MARITIME MOBILE 57<br>55 56   |   | <b>14 – 19.95</b><br>FIXED<br>MARITIME MOBILE 57<br>56 AUS101             |
| <b>19.95 – 20.05</b>  | STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)  |   | <b>19.95 – 20.05</b><br>STANDARD FREQUENCY<br>AND TIME SIGNAL<br>(20 kHz) |
| <b>20.05 – 70</b>   | FIXED<br>MARITIME MOBILE 57<br>56 58   |   | <b>20.05 – 70</b><br>FIXED<br>MARITIME MOBILE 57<br>56 AUS101             |
| <b>70 – 72</b><br>RADIONAVIGATION 60                                      | <b>70 – 90</b><br>FIXED<br>MARITIME MOBILE 57<br>MARITIME<br>RADIONAVIGATION 60<br>Radiolocation<br>61 | <b>70 – 72</b><br>RADIONAVIGATION 60<br>Fixed<br>Maritime mobile 57<br>59 | <b>70 – 72</b><br>RADIONAVIGATION 60<br>Fixed<br>Maritime mobile 57       |
| <b>72 – 84</b><br>FIXED<br>MARITIME MOBILE 57<br>RADIONAVIGATION 60<br>56 |  | <b>72 – 84</b><br>FIXED<br>MARITIME MOBILE 57<br>RADIONAVIGATION 60       | <b>72 – 84</b><br>FIXED<br>MARITIME MOBILE 57<br>RADIONAVIGATION 60       |
| <b>84 – 86</b><br>RADIONAVIGATION 60                                      |  | <b>84 – 86</b><br>RADIONAVIGATION 60<br>Fixed<br>Maritime mobile 57<br>59 | <b>84 – 86</b><br>RADIONAVIGATION 60<br>Fixed<br>Maritime mobile 57       |
| <b>86 – 90</b><br>FIXED<br>MARITIME MOBILE 57<br>RADIONAVIGATION<br>56    |  | <b>86 – 90</b><br>FIXED<br>MARITIME MOBILE 57<br>RADIONAVIGATION 60       | <b>86 – 90</b><br>FIXED<br>MARITIME MOBILE 57<br>RADIONAVIGATION 60       |

**kHz**  
**90 – 137.8**

| Column 1: ITU Radio Regulations Table of Allocations                             |   |  | Column 2:  |
|--|---|--|--|
| Region 1   | Region 2  | Region 3   | Australian Table of Allocations  |
| <b>90 – 110</b>  | RADIONAVIGATION 62<br>Fixed<br><br>64   |  | <b>90 – 110</b><br>RADIONAVIGATION 62<br>Fixed<br>64   |
| <b>110 – 112</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION<br>64            | <b>110 – 130</b><br>FIXED<br>MARITIME MOBILE<br>MARITIME<br>RADIONAVIGATION 60<br>Radiolocation | <b>110 – 112</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION 60<br>64                     | <b>110 – 112</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION 60<br>64                     |
| <b>112 – 115</b><br>RADIONAVIGATION 60   |   | <b>112 – 117.6</b><br>RADIONAVIGATION 60<br>Fixed<br>Maritime mobile<br><br>64 65            | <b>112 – 117.6</b><br>RADIONAVIGATION 60<br>Fixed<br>Maritime mobile<br><br>64               |
| <b>115 – 117.6</b><br>RADIONAVIGATION 60<br>Fixed<br>Maritime mobile<br>64 66    |   |  |  |
| <b>117.6 – 126</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION 60<br>64       |   | <b>117.6 – 126</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION 60<br>64                   | <b>117.6 – 126</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION 60<br>64                   |
| <b>126 – 129</b><br>RADIONAVIGATION 60   |   | <b>126 – 129</b><br>RADIONAVIGATION 60<br>Fixed<br>Maritime mobile<br>64 65                  | <b>126 – 129</b><br>RADIONAVIGATION 60<br>Fixed<br>Maritime mobile<br>64                     |
| <b>129 – 130</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION 60<br>64         |   | <b>129 – 130</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION 60<br>64                     | <b>129 – 130</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION 60<br>64                     |
| <b>130 – 135.7</b><br>FIXED<br>MARITIME MOBILE<br><br>64 67                      | <b>130 – 135.7</b><br>FIXED<br>MARITIME MOBILE<br><br>64  | <b>130 – 135.7</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION<br>64                      | <b>130 – 135.7</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION<br>64                      |
| <b>135.7 – 137.8</b><br>FIXED<br>MARITIME MOBILE<br>Amateur 67A<br><br>64 67 67B | <b>135.7 – 137.8</b><br>FIXED<br>MARITIME MOBILE<br>Amateur 67A<br><br>64                       | <b>135.7 – 137.8</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION<br>Amateur 67A<br>64 67B | <b>135.7 – 137.8</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION<br>Amateur 67A<br>64 67B |



**kHz**  
**137.8 – 325**

| Column 1: ITU Radio Regulations Table of Allocations  |  |   | Column 2:<br>Australian Table of Allocations  |
|---|--|---|---|
| Region 1  | Region 2   | Region 3  |   |
| <b>137.8 – 148.5</b><br>FIXED<br>MARITIME MOBILE<br>64 67   | <b>137.8 – 160</b><br>FIXED<br>MARITIME MOBILE<br><br>64   | <b>137.8 – 160</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION<br>64                                 | <b>137.8 – 160</b><br>FIXED<br>MARITIME MOBILE<br>RADIONAVIGATION<br>64   |
| <b>148.5 – 255</b><br>BROADCASTING<br><br>68 69 70  | <b>160 – 190</b><br>FIXED  | <b>160 – 190</b><br>FIXED<br>Aeronautical radionavigation   | <b>160 – 190</b><br>FIXED<br>Aeronautical radionavigation   |
|   | <b>190 – 200</b><br>AERONAUTICAL RADIONAVIGATION   |   | <b>190 – 200</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>AUS49  |
|   | <b>200 – 275</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>Aeronautical mobile   | <b>200 – 285</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>Aeronautical mobile                              | <b>200 – 285</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>AUS49  |
|   | <b>275 – 285</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>Aeronautical mobile<br>Maritime radionavigation<br>(radiobeacons) |   |   |
| <b>255 – 283.5</b><br>BROADCASTING<br>AERONAUTICAL<br>RADIONAVIGATION<br>70 71                                      | <b>285 – 315</b><br>AERONAUTICAL RADIONAVIGATION<br>MARITIME RADIONAVIGATION (radiobeacons) 73                           |   | <b>285 – 315</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>AUS49<br>MARITIME<br>RADIONAVIGATION<br>(radiobeacons) 73<br>AUS68 |
| <b>283.5 – 315</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>MARITIME<br>RADIONAVIGATION<br>(radiobeacons) 73<br><br>74 | <b>315 – 325</b><br>MARITIME<br>RADIONAVIGATION<br>(radiobeacons) 73<br>Aeronautical radionavigation                     | <b>315 – 325</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>MARITIME<br>RADIONAVIGATION<br>(radiobeacons) 73 | <b>315 – 325</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>AUS49<br>MARITIME<br>RADIONAVIGATION<br>(radiobeacons) 73<br>AUS68 |
| <b>315 – 325</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>Maritime radionavigation<br>(radiobeacons) 73<br><br>75      |  |   |   |

**kHz**  
**325 – 505**

| Column 1: ITU Radio Regulations Table of Allocations  |  |  | Column 2:  |
|---|--|--|--|
| Region 1  | Region 2   | Region 3   | Australian Table of Allocations  |
| <b>325 – 405</b><br>AERONAUTICAL<br>RADIONAVIGATION   | <b>325 – 335</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>Aeronautical mobile<br>Maritime radionavigation<br>(radiobeacons) | <b>325 – 405</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>Aeronautical mobile | <b>325 – 405</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>AUS49   |
|   | <b>335 – 405</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>Aeronautical mobile   |  |  |
| <b>405 – 415</b><br>RADIONAVIGATION 76  | <b>405 – 415</b><br>RADIONAVIGATION 76<br>Aeronautical mobile  |  | <b>405 – 415</b><br>RADIONAVIGATION 76<br>AUS68  |
| <b>415 – 435</b><br>MARITIME MOBILE 79<br>AERONAUTICAL<br>RADIONAVIGATION                     | <b>415 – 472</b><br>MARITIME MOBILE 79<br>Aeronautical radionavigation 77 80   |  | <b>415 – 472</b><br>MARITIME MOBILE 79<br>AERONAUTICAL<br>RADIONAVIGATION 77<br>AUS49                            |
| <b>435 – 472</b><br>MARITIME MOBILE 79<br>Aeronautical radionavigation<br>77<br>82            |  |  |  |
| <b>472 – 479</b>  | MARITIME MOBILE 79<br>Amateur 80A<br>Aeronautical radionavigation 77 80<br><br>80B 82                                    |  | <b>472 – 479</b><br>MARITIME MOBILE 79<br>AERONAUTICAL<br>RADIONAVIGATION 77<br>AUS49<br>Amateur 80A<br>82 AUS68 |
| <b>479 – 495</b><br>MARITIME MOBILE 79<br>79A<br>Aeronautical radionavigation<br>77<br><br>82 | <b>479 – 495</b><br>MARITIME MOBILE 79 79A<br>Aeronautical radionavigation 77 80<br><br>82                               |  | <b>479 – 495</b><br>MARITIME MOBILE 79<br>79A<br>AERONAUTICAL<br>RADIONAVIGATION 77<br>AUS49<br>82 AUS68         |
| <b>495 – 505</b>  | MARITIME MOBILE  |  | <b>495 – 505</b><br>MARITIME MOBILE  |

**kHz**  
**505 – 1 800**

| Column 1: ITU Radio Regulations Table of Allocations                                  |   |   | Column 2:   |
|---|---|---|---|
| Region 1  | Region 2  | Region 3  | Australian Table of Allocations   |
| <b>505 – 526.5</b><br>MARITIME MOBILE 79<br>79A 84<br>AERONAUTICAL<br>RADIONAVIGATION | <b>505 – 510</b><br>MARITIME MOBILE 79  | <b>505 – 526.5</b><br>MARITIME MOBILE 79<br>79A 84<br>AERONAUTICAL<br>RADIONAVIGATION<br>Aeronautical mobile<br>Land mobile | <b>505 – 526.5</b><br>MARITIME MOBILE 79<br>79A 84<br>AERONAUTICAL<br>RADIONAVIGATION<br>AUS49<br><br>AUS68 |
|   | <b>510 – 525</b><br>MARITIME MOBILE 79A<br>84<br>AERONAUTICAL<br>RADIONAVIGATION            |   |   |
|   | <b>525 – 535</b><br>BROADCASTING 86<br>AERONAUTICAL<br>RADIONAVIGATION                      |   |   |
| <b>526.5 – 1 606.5</b><br>BROADCASTING<br><br>87 87A                                  | <b>535 – 1 605</b><br>BROADCASTING  | <b>526.5 – 535</b><br>BROADCASTING<br>Mobile<br>88  | <b>526.5 – 535</b><br>BROADCASTING AUS50<br>Fixed AUS74<br>Mobile   |
|   | <b>1 605 – 1 625</b><br>BROADCASTING 89   | <b>535 – 1 606.5</b><br>BROADCASTING  | <b>535 – 1 606.5</b><br>BROADCASTING AUS50<br>Fixed AUS74<br>Mobile AUS75                                   |
|   | <b>1 606.5 – 1 625</b><br>FIXED<br>MARITIME MOBILE 90<br>LAND MOBILE<br>92                  | <b>1 606.5 – 1 800</b><br>FIXED<br>MOBILE<br>RADIOLOCATION<br>RADIONAVIGATION   | <b>1 606.5 – 1 800</b><br>FIXED<br>MOBILE<br>RADIOLOCATION<br>RADIONAVIGATION<br>AUS49                      |
| <b>1 625 – 1 635</b><br>RADIOLOCATION<br>93   | <b>1 625 – 1 705</b><br>FIXED<br>MOBILE<br>BROADCASTING 89<br>Radiolocation<br>90           | 91  |   |
| <b>1 635 – 1 800</b><br>FIXED<br>MARITIME MOBILE 90<br>LAND MOBILE<br><br>92 96       | <b>1 705 – 1 800</b><br>FIXED<br>MOBILE<br>RADIOLOCATION<br>AERONAUTICAL<br>RADIONAVIGATION |   |   |

**kHz**  
**1 800 – 2 170**

| Column 1: ITU Radio Regulations Table of Allocations   |  |  | Column 2:<br>Australian Table of Allocations  |    |
|--|--|--|---|----|
| Region 1   | Region 2   | Region 3   |   |    |
| <b>1 800 – 1 810</b><br>RADIOLOCATION<br>93  | <b>1 800 – 1 850</b><br>AMATEUR  | <b>1 800 – 2 000</b><br>AMATEUR<br>FIXED<br>MOBILE except aeronautical<br>mobile<br>RADIONAVIGATION<br>Radiolocation | <b>1 800 – 1 825</b><br>AMATEUR<br><br>97   |    |
| <b>1 810 – 1 850</b><br>AMATEUR<br>98 99 100   |  |  | <b>1 825 – 1 875</b><br>RADIONAVIGATION<br>AMATEUR<br>Radiolocation<br>97                                       |    |
| <b>1 850 – 2 000</b><br>FIXED<br>MOBILE except aeronautical<br>mobile  | <b>1 850 – 2 000</b><br>AMATEUR<br>FIXED<br>MOBILE except aeronautical<br>mobile<br>RADIOLOCATION<br>RADIONAVIGATION |  | <b>1 875 – 1 925</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br>RADIONAVIGATION<br>Radiolocation<br>97 |    |
|  |  |  | <b>1 925 – 1 975</b><br>RADIONAVIGATION<br>Fixed<br>Mobile except aeronautical<br>mobile<br>Radiolocation<br>97 |    |
|  |  |  | <b>1 975 – 2 000</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br>RADIONAVIGATION<br>Radiolocation<br>97 |    |
| 92 96 103  |  |  | 102   | 97 |
| <b>2 000 – 2 025</b><br>FIXED<br>MOBILE except aeronautical<br>mobile (R)<br>92 103                            |  |  | <b>2 000 – 2 065</b><br>FIXED<br>MOBILE   |    |
| <b>2 025 – 2 045</b><br>FIXED<br>MOBILE except aeronautical<br>mobile (R)<br>Meteorological aids 104<br>92 103 |  |  |   |    |
| <b>2 045 – 2 160</b><br>FIXED<br>MARITIME MOBILE<br>LAND MOBILE<br><br>92                                      | <b>2 065 – 2 107</b><br>MARITIME MOBILE 105<br>106   |  | <b>2 065 – 2 107</b><br>MARITIME MOBILE<br>106  |    |
| <b>2 160 – 2 170</b><br>RADIOLOCATION<br>93 107  | <b>2 107 – 2 170</b><br>FIXED<br>MOBILE  |  | <b>2 107 – 2 170</b><br>FIXED<br>MOBILE   |    |

**kHz**  
**2 170 – 3 155**

| Column 1: ITU Radio Regulations Table of Allocations  |   |  | Column 2:<br>Australian Table of Allocations                                 |
|---|---|--|--|
| Region 1  | Region 2  | Region 3   |  |
| <b>2 170 – 2 173.5</b>  | MARITIME MOBILE   |  | <b>2 170 – 2 173.5</b><br>MARITIME MOBILE                                    |
| <b>2 173.5 – 2 190.5</b>  | MOBILE (distress and calling)<br><br>108 109 110 111                      |  | <b>2 173.5 – 2 190.5</b><br>MOBILE (distress and calling)<br>108 109 110 111 |
| <b>2 190.5 – 2 194</b>  | MARITIME MOBILE   |  | <b>2 190.5 – 2 194</b><br>MARITIME MOBILE                                    |
| <b>2 194 – 2 300</b><br>FIXED<br>MOBILE except aeronautical mobile (R)<br>92 103 112              | <b>2 194 – 2 300</b><br>FIXED<br>MOBILE<br><br>112                        |  | <b>2 194 – 2 300</b><br>FIXED<br>MOBILE                                      |
| <b>2 300 – 2 498</b><br>FIXED<br>MOBILE except aeronautical mobile (R)<br>BROADCASTING 113<br>103 | <b>2 300 – 2 495</b><br>FIXED<br>MOBILE<br>BROADCASTING 113               |  | <b>2 300 – 2 495</b><br>FIXED<br>MOBILE<br>BROADCASTING 113                  |
|   | <b>2 495 – 2 501</b><br>STANDARD FREQUENCY AND TIME SIGNAL<br>(2 500 kHz) |  | <b>2 495 – 2 501</b><br>STANDARD FREQUENCY AND TIME SIGNAL<br>(2 500 kHz)    |
| <b>2 498 – 2 501</b><br>STANDARD FREQUENCY AND TIME SIGNAL<br>(2 500 kHz)                         |   |  |  |
| <b>2 501 – 2 502</b>  | STANDARD FREQUENCY AND TIME SIGNAL<br>Space research                      |  | <b>2 501 – 2 502</b><br>STANDARD FREQUENCY AND TIME SIGNAL<br>Space research |
| <b>2 502 – 2 625</b><br>FIXED<br>MOBILE except aeronautical mobile (R)<br>92 103 114              | <b>2 502 – 2 505</b><br>STANDARD FREQUENCY AND TIME SIGNAL                |  | <b>2 502 – 2 505</b><br>STANDARD FREQUENCY AND TIME SIGNAL                   |
|   | <b>2 505 – 2 850</b><br>FIXED<br>MOBILE                                   |  | <b>2 505 – 2 850</b><br>FIXED<br>MOBILE                                      |
|   |   | <b>2 625 – 2 650</b><br>MARITIME MOBILE<br>MARITIME<br>RADIONAVIGATION<br>92 |  |
| <b>2 650 – 2 850</b><br>FIXED<br>MOBILE except aeronautical mobile (R)<br>92 103                  |   |  |  |
| <b>2 850 – 3 025</b>  | AERONAUTICAL MOBILE (R)<br><br>111 115                                    |  | <b>2 850 – 3 025</b><br>AERONAUTICAL MOBILE (R) AUS51<br>111 115             |
| <b>3 025 – 3 155</b>  | AERONAUTICAL MOBILE (OR)  |  | <b>3 025 – 3 155</b><br>AERONAUTICAL MOBILE (OR) AUS52<br>AUS57 AUS58 AUS101 |

**kHz**  
**3 155 – 4 000**

| Column 1: ITU Radio Regulations Table of Allocations                                    |   |   | Column 2:<br>Australian Table of Allocations  |
|---|---|---|---|
| Region 1  | Region 2  | Region 3  |   |
| <b>3 155 – 3 200</b>  | FIXED<br>MOBILE except aeronautical mobile (R)<br><br>116 117                     |   | <b>3 155 – 3 200</b><br>FIXED<br>MOBILE except aeronautical mobile (R)<br>116 AUS57                                     |
| <b>3 200 – 3 230</b>  | FIXED<br>MOBILE except aeronautical mobile (R)<br>BROADCASTING 113<br><br>116     |   | <b>3 200 – 3 230</b><br>FIXED<br>MOBILE except aeronautical mobile (R)<br>BROADCASTING 113<br>116                       |
| <b>3 230 – 3 400</b>  | FIXED<br>MOBILE except aeronautical mobile<br>BROADCASTING 113<br><br>116 118     |   | <b>3 230 – 3 400</b><br>FIXED<br>MOBILE except aeronautical mobile (R) AUS7<br>BROADCASTING 113<br>Radiolocation<br>116 |
| <b>3 400 – 3 500</b>  | AERONAUTICAL MOBILE (R)   |   | <b>3 400 – 3 500</b><br>AERONAUTICAL MOBILE (R) AUS51   |
| <b>3 500 – 3 800</b><br>AMATEUR<br>FIXED<br>MOBILE except aeronautical mobile<br><br>92 | <b>3 500 – 3 750</b><br>AMATEUR<br><br>119  | <b>3 500 – 3 900</b><br>AMATEUR<br>FIXED<br>MOBILE          | <b>3 500 – 3 700</b><br>AMATEUR   |
|   | <b>3 750 – 4 000</b><br>AMATEUR<br>FIXED<br>MOBILE except aeronautical mobile (R) |   | <b>3 700 – 3 776</b><br>FIXED<br>MOBILE<br>AUS57  |
|   |   |   | <b>3 776 – 3 800</b><br>AMATEUR<br>AUS57  |
|   |   |   | <b>3 800 – 3 900</b><br>FIXED<br>MOBILE<br><br>AUS57  |
| <b>3 800 – 3 900</b><br>FIXED<br>AERONAUTICAL MOBILE (OR)<br>LAND MOBILE                |   |   |   |
| <b>3 900 – 3 950</b><br>AERONAUTICAL MOBILE (OR)<br>123                                 |   | <b>3 900 – 3 950</b><br>AERONAUTICAL MOBILE<br>BROADCASTING | <b>3 900 – 3 950</b><br>AERONAUTICAL MOBILE (OR) AUS52<br>AUS57 AUS58 AUS101  |
| <b>3 950 – 4 000</b><br>FIXED<br>BROADCASTING   |   | <b>3 950 – 4 000</b><br>FIXED<br>BROADCASTING<br><br>126    | <b>3 950 – 4 000</b><br>FIXED<br>BROADCASTING<br>Land mobile AUS75<br><br>126 AUS57                                     |
|   | 122 125   |   |   |

**kHz**  
**4 000 – 5 060**

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

**kHz**  
**5 060 – 5 900**

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



**kHz**  
**5 900 – 8 100**

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

**kHz**  
**8 100 – 10 005**

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

**kHz**  
**10 005 – 13 260**

| Column 1: ITU Radio Regulations Table of Allocations |  |          | Column 2:<br>Australian Table of Allocations  |
|--|--|----------|---|
| Region 1   | Region 2                                       | Region 3 |   |
| <b>10 005 – 10 100</b>                               | AERONAUTICAL MOBILE (R)<br><br>111             |          | <b>10 005 – 10 100</b><br>AERONAUTICAL MOBILE (R) AUS51<br>111                            |
| <b>10 100 – 10 150</b>                               | FIXED<br>Amateur                               |          | <b>10 100 – 10 150</b><br>FIXED<br>Amateur<br>AUS57                                       |
| <b>10 150 – 11 175</b>                               | FIXED<br>Mobile except aeronautical mobile (R) |          | <b>10 150 – 11 175</b><br>FIXED<br>Mobile except aeronautical mobile (R)<br>AUS57         |
| <b>11 175 – 11 275</b>                               | AERONAUTICAL MOBILE (OR)                       |          | <b>11 175 – 11 275</b><br>AERONAUTICAL MOBILE (OR) AUS52<br>AUS57 AUS58 AUS101            |
| <b>11 275 – 11 400</b>                               | AERONAUTICAL MOBILE (R)                        |          | <b>11 275 – 11 400</b><br>AERONAUTICAL MOBILE (R) AUS51                                   |
| <b>11 400 – 11 600</b>                               | FIXED  |          | <b>11 400 – 11 600</b><br>FIXED<br>Mobile AUS75<br>AUS57                                  |
| <b>11 600 – 11 650</b>                               | BROADCASTING 134<br><br>146                    |          | <b>11 600 – 11 650</b><br>BROADCASTING 134<br>FIXED<br>Mobile AUS75<br>146 AUS57          |
| <b>11 650 – 12 050</b>                               | BROADCASTING<br><br>147                        |          | <b>11 650 – 12 050</b><br>BROADCASTING AUS54<br>147 AUS57                                 |
| <b>12 050 – 12 100</b>                               | BROADCASTING 134<br><br>146                    |          | <b>12 050 – 12 100</b><br>BROADCASTING 134<br>FIXED<br>Mobile AUS75<br>146 AUS57          |
| <b>12 100 – 12 230</b>                               | FIXED  |          | <b>12 100 – 12 230</b><br>FIXED<br>Mobile AUS75<br>AUS57                                  |
| <b>12 230 – 13 200</b>                               | MARITIME MOBILE 109 110 132 145                |          | <b>12 230 – 13 200</b><br>MARITIME MOBILE 109<br>110 132 145 AUS53<br>AUS59<br>AUS9 AUS57 |
| <b>13 200 – 13 260</b>                               | AERONAUTICAL MOBILE (OR)                       |          | <b>13 200 – 13 260</b><br>AERONAUTICAL MOBILE (OR) AUS52<br>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   |
| <b>13 260 – 13 360</b>   | AERONAUTICAL MOBILE (R)  |          | <b>13 260 – 13 360</b><br>AERONAUTICAL MOBILE (R) AUS51   |
| <b>13 360 – 13 410</b>   | FIXED<br>RADIO ASTRONOMY<br><br>149  |          | <b>13 360 – 13 410</b><br>FIXED<br>RADIO ASTRONOMY<br>149 AUS57   |
| <b>13 410 – 13 450</b>   | FIXED<br>Mobile except aeronautical mobile (R)   |          | <b>13 410 – 13 450</b><br>FIXED<br>Mobile except aeronautical mobile (R)<br>AUS57                         |
| <b>13 450 – 13 550</b><br>FIXED<br>Mobile except aeronautical mobile (R)<br>Radiolocation 132A<br>149A | <b>13 450 – 13 550</b><br>FIXED<br>Mobile except aeronautical mobile (R)<br>Radiolocation 132A |          | <b>13 450 – 13 550</b><br>FIXED<br>Mobile except aeronautical mobile (R)<br>Radiolocation 132A<br>AUS57   |
| <b>13 550 – 13 570</b>   | FIXED<br>Mobile except aeronautical mobile (R)<br><br>150                                      |          | <b>13 550 – 13 570</b><br>FIXED<br>Mobile except aeronautical mobile (R)<br>150 AUS57                     |
| <b>13 570 – 13 600</b>   | BROADCASTING 134<br><br>151  |          | <b>13 570 – 13 600</b><br>BROADCASTING 134<br>FIXED<br>Mobile except aeronautical mobile (R)<br>151 AUS57 |
| <b>13 600 – 13 800</b>   | BROADCASTING   |          | <b>13 600 – 13 800</b><br>BROADCASTING AUS54<br>AUS57   |
| <b>13 800 – 13 870</b>   | BROADCASTING 134<br><br>151  |          | <b>13 800 – 13 870</b><br>BROADCASTING 134<br>FIXED<br>Mobile except aeronautical mobile (R)<br>151 AUS57 |
| <b>13 870 – 14 000</b>   | FIXED<br>Mobile except aeronautical mobile (R)   |          | <b>13 870 – 14 000</b><br>FIXED<br>Mobile except aeronautical mobile (R)<br>AUS57                         |
| <b>14 000 – 14 250</b>   | AMATEUR<br>AMATEUR-SATELLITE   |          | <b>14 000 – 14 250</b><br>AMATEUR<br>AMATEUR-SATELLITE  |
| <b>14 250 – 14 350</b>   | AMATEUR<br>152   |          | <b>14 250 – 14 350</b><br>AMATEUR   |

**kHz**  
**14 350 – 17 480**

| Column 1: ITU Radio Regulations Table of Allocations              |   |   | Column 2:<br>Australian Table of Allocations  |
|---|---|---|---|
| Region 1  | Region 2  | Region 3  |   |
| <b>14 350 – 14 990</b>  | FIXED<br>Mobile except aeronautical mobile (R)                |   | <b>14 350 – 14 990</b><br>FIXED<br>Mobile except aeronautical mobile (R)<br>AUS57         |
| <b>14 990 – 15 005</b>  | STANDARD FREQUENCY AND TIME SIGNAL<br>(15 000 kHz)<br><br>111 |   | <b>14 990 – 15 005</b><br>STANDARD FREQUENCY AND TIME SIGNAL<br>(15 000 kHz)<br>111       |
| <b>15 005 – 15 010</b>  | STANDARD FREQUENCY AND TIME SIGNAL<br>Space research          |   | <b>15 005 – 15 010</b><br>STANDARD FREQUENCY AND TIME SIGNAL<br>Space research            |
| <b>15 010 – 15 100</b>  | AERONAUTICAL MOBILE (OR)                                      |   | <b>15 010 – 15 100</b><br>AERONAUTICAL MOBILE (OR) AUS52<br>AUS57 AUS58 AUS101            |
| <b>15 100 – 15 600</b>  | BROADCASTING  |   | <b>15 100 – 15 600</b><br>BROADCASTING AUS54<br>AUS57                                     |
| <b>15 600 – 15 800</b>  | BROADCASTING 134<br><br>146                                   |   | <b>15 600 – 15 800</b><br>BROADCASTING 134<br>FIXED<br>Mobile AUS75<br>146 AUS57          |
| <b>15 800 – 16 100</b>  | FIXED<br><br>153  |   | <b>15 800 – 16 100</b><br>FIXED<br>Mobile AUS75<br>153 AUS57                              |
| <b>16 100 – 16 200</b><br>FIXED<br>Radiolocation 145A<br><br>145B | <b>16 100 – 16 200</b><br>FIXED<br>RADIOLOCATION 145A         | <b>16 100 – 16 200</b><br>FIXED<br>Radiolocation 145A | <b>16 100 – 16 200</b><br>FIXED<br>Mobile AUS75<br>Radiolocation 145A<br>AUS57            |
| <b>16 200 – 16 360</b>  | FIXED   |   | <b>16 200 – 16 360</b><br>FIXED<br>Mobile AUS75<br>AUS57                                  |
| <b>16 360 – 17 410</b>  | MARITIME MOBILE 109 110 132 145                               |   | <b>16 360 – 17 410</b><br>MARITIME MOBILE 109<br>110 132 145 AUS53<br>AUS59<br>AUS9 AUS57 |
| <b>17 410 – 17 480</b>  | FIXED   |   | <b>17 410 – 17 480</b><br>FIXED<br>Mobile AUS75<br>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   |
| <b>17 480 – 17 550</b>                               | BROADCASTING 134<br><br>146                |          | <b>17 480 – 17 550</b><br>BROADCASTING 134<br>FIXED<br>Mobile AUS75<br>146 AUS57  |
| <b>17 550 – 17 900</b>                               | BROADCASTING                               |          | <b>17 550 – 17 900</b><br>BROADCASTING AUS54<br>AUS57                             |
| <b>17 900 – 17 970</b>                               | AERONAUTICAL MOBILE (R)                    |          | <b>17 900 – 17 970</b><br>AERONAUTICAL MOBILE<br>(R) AUS51                        |
| <b>17 970 – 18 030</b>                               | AERONAUTICAL MOBILE (OR)                   |          | <b>17 970 – 18 030</b><br>AERONAUTICAL MOBILE<br>(OR) AUS52<br>AUS57 AUS58 AUS101 |
| <b>18 030 – 18 052</b>                               | FIXED                                      |          | <b>18 030 – 18 052</b><br>FIXED<br>AUS57  |
| <b>18 052 – 18 068</b>                               | FIXED<br>Space research                    |          | <b>18 052 – 18 068</b><br>FIXED<br>Space research<br>AUS57                        |
| <b>18 068 – 18 168</b>                               | AMATEUR<br>AMATEUR–SATELLITE<br>154        |          | <b>18 068 – 18 168</b><br>AMATEUR<br>AMATEUR–SATELLITE                            |
| <b>18 168 – 18 780</b>                               | FIXED<br>Mobile except aeronautical mobile |          | <b>18 168 – 18 780</b><br>FIXED<br>Mobile except aeronautical<br>mobile<br>AUS57  |
| <b>18 780 – 18 900</b>                               | MARITIME MOBILE                            |          | <b>18 780 – 18 900</b><br>MARITIME MOBILE<br>AUS53 AUS59<br>AUS9 AUS57            |
| <b>18 900 – 19 020</b>                               | BROADCASTING 134<br><br>146                |          | <b>18 900 – 19 020</b><br>BROADCASTING 134<br>FIXED<br>Mobile AUS75<br>146 AUS57  |
| <b>19 020 – 19 680</b>                               | FIXED                                      |          | <b>19 020 – 19 680</b><br>FIXED<br>Mobile AUS75<br>AUS57                          |
| <b>19 680 – 19 800</b>                               | MARITIME MOBILE 132                        |          | <b>19 680 – 19 800</b><br>MARITIME MOBILE 132<br>AUS53<br>AUS57                   |
| <b>19 800 – 19 990</b>                               | FIXED                                      |          | <b>19 800 – 19 990</b><br>FIXED<br>AUS57  |

**kHz**  
**19 990 – 23 350**

| Column 1: ITU Radio Regulations Table of Allocations |   |          | Column 2:<br>Australian Table of Allocations   |
|--|---|----------|--|
| Region 1   | Region 2  | Region 3 |  |
| <b>19 990 – 19 995</b>                               | STANDARD FREQUENCY AND TIME SIGNAL<br>Space research<br><br>111 |          | <b>19 990 – 19 995</b><br>STANDARD FREQUENCY AND TIME SIGNAL<br>Space research<br>111        |
| <b>19 995 – 20 010</b>                               | STANDARD FREQUENCY AND TIME SIGNAL<br>(20 000 kHz)<br><br>111   |          | <b>19 995 – 20 010</b><br>STANDARD FREQUENCY AND TIME SIGNAL<br>(20 000 kHz)<br>111          |
| <b>20 010 – 21 000</b>                               | FIXED<br>Mobile   |          | <b>20 010 – 21 000</b><br>FIXED<br>Mobile<br>AUS57   |
| <b>21 000 – 21 450</b>                               | AMATEUR<br>AMATEUR-SATELLITE                                    |          | <b>21 000 – 21 450</b><br>AMATEUR<br>AMATEUR-SATELLITE                                       |
| <b>21 450 – 21 850</b>                               | BROADCASTING  |          | <b>21 450 – 21 850</b><br>BROADCASTING AUS54<br>AUS57  |
| <b>21 850 – 21 870</b>                               | FIXED 155A<br><br>155   |          | <b>21 850 – 21 870</b><br>FIXED<br>AUS57   |
| <b>21 870 – 21 924</b>                               | FIXED 155B  |          | <b>21 870 – 21 924</b><br>FIXED 155B<br>AUS57  |
| <b>21 924 – 22 000</b>                               | AERONAUTICAL MOBILE (R)   |          | <b>21 924 – 22 000</b><br>AERONAUTICAL MOBILE (R) AUS51                                      |
| <b>22 000 – 22 855</b>                               | MARITIME MOBILE 132<br><br>156                                  |          | <b>22 000 – 22 855</b><br>MARITIME MOBILE 132<br>AUS53 AUS59<br>AUS9 AUS57                   |
| <b>22 855 – 23 000</b>                               | FIXED<br><br>156  |          | <b>22 855 – 23 000</b><br>FIXED<br>Mobile AUS75<br>AUS57                                     |
| <b>23 000 – 23 200</b>                               | FIXED<br>Mobile except aeronautical mobile (R)<br><br>156       |          | <b>23 000 – 23 200</b><br>FIXED<br>Mobile except aeronautical mobile (R)<br>AUS57            |
| <b>23 200 – 23 350</b>                               | FIXED 156A<br>AERONAUTICAL MOBILE (OR)                          |          | <b>23 200 – 23 350</b><br>FIXED 156A<br>AERONAUTICAL MOBILE (OR) AUS52<br>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  |
| <b>23 350 – 24 000</b>  | FIXED<br>MOBILE except aeronautical mobile 157                       |  | <b>23 350 – 24 000</b><br>FIXED<br>MOBILE except aeronautical mobile (R) 157 AUS7<br>AUS57 |
| <b>24 000 – 24 450</b>  | FIXED<br>LAND MOBILE   |  | <b>24 000 – 24 450</b><br>FIXED<br>LAND MOBILE<br>AUS57                                    |
| <b>24 450 – 24 600</b><br>FIXED<br>LAND MOBILE<br>Radiolocation 132A<br>158 | <b>24 450 – 24 650</b><br>FIXED<br>LAND MOBILE<br>RADIOLOCATION 132A | <b>24 450 – 24 600</b><br>FIXED<br>LAND MOBILE<br>Radiolocation 132A | <b>24 450 – 24 600</b><br>FIXED<br>LAND MOBILE<br>Radiolocation 132A<br>AUS57              |
| <b>24 600 – 24 890</b><br>FIXED<br>LAND MOBILE                              | <b>24 650 – 24 890</b><br>FIXED<br>LAND MOBILE                       | <b>24 600 – 24 890</b><br>FIXED<br>LAND MOBILE                       | <b>24 600 – 24 890</b><br>FIXED<br>LAND MOBILE<br>AUS57                                    |
| <b>24 890 – 24 990</b>  | AMATEUR<br>AMATEUR-SATELLITE   |  | <b>24 890 – 24 990</b><br>AMATEUR<br>AMATEUR-SATELLITE                                     |
| <b>24 990 – 25 005</b>  | STANDARD FREQUENCY AND TIME SIGNAL<br>(25 000 kHz)                   |  | <b>24 990 – 25 005</b><br>STANDARD FREQUENCY<br>AND TIME SIGNAL<br>(25 000 kHz)            |
| <b>25 005 – 25 010</b>  | STANDARD FREQUENCY AND TIME SIGNAL<br>Space research                 |  | <b>25 005 – 25 010</b><br>STANDARD FREQUENCY<br>AND TIME SIGNAL<br>Space research          |
| <b>25 010 – 25 070</b>  | FIXED<br>MOBILE except aeronautical mobile                           |  | <b>25 010 – 25 070</b><br>FIXED<br>MOBILE except aeronautical mobile (R)<br>AUS7 AUS57     |
| <b>25 070 – 25 210</b>  | MARITIME MOBILE  |  | <b>25 070 – 25 210</b><br>MARITIME MOBILE<br>AUS53 AUS59<br>AUS9 AUS57                     |
| <b>25 210 – 25 550</b>  | FIXED<br>MOBILE except aeronautical mobile                           |  | <b>25 210 – 25 550</b><br>FIXED<br>MOBILE except aeronautical mobile (R) AUS7<br>AUS57     |
| <b>25 550 – 25 670</b>  | RADIO ASTRONOMY<br><br>149   |  | <b>25 550 – 25 670</b><br>RADIO ASTRONOMY<br>149   |
| <b>25 670 – 26 100</b>  | BROADCASTING   |  | <b>25 670 – 26 100</b><br>BROADCASTING AUS54   |



**kHz**  
**26 100 – 30 010**

| Column 1: ITU Radio Regulations Table of Allocations  |   |   | Column 2:<br>Australian Table of Allocations  |
|---|---|---|---|
| Region 1  | Region 2  | Region 3  |   |
| <b>26 100 – 26 175</b>  | MARITIME MOBILE 132   |   | <b>26 100 – 26 175</b><br>MARITIME MOBILE 132<br>AUS57  |
| <b>26 175 – 26 200</b>  | FIXED<br>MOBILE except aeronautical mobile  |   | <b>26 175 – 26 200</b><br>FIXED<br>MOBILE except aeronautical<br>mobile (R)<br>AUS7 AUS57                             |
| <b>26 200 – 26 350</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br>Radiolocation 132A<br>133A | <b>26 200 – 26 420</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br>RADIOLOCATION 132A | <b>26 200 – 26 350</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br>Radiolocation 132A | <b>26 200 – 26 350</b><br>FIXED<br>MOBILE except aeronautical<br>mobile (R)<br>Radiolocation 132A<br>AUS7 AUS57       |
| <b>26 350 – 27 500</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br>150                        | <b>26 420 – 27 500</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br>150                | <b>26 350 – 27 500</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br>150                | <b>26 350 – 27 500</b><br>FIXED<br>MOBILE except aeronautical<br>mobile (R)<br>150 AUS7 AUS57                         |
| <b>27 500 – 28 000</b>  | METEOROLOGICAL AIDS<br>FIXED<br>MOBILE  |   | <b>27 500 – 28 000</b><br>METEOROLOGICAL AIDS<br>FIXED<br>MOBILE<br>AUS57   |
| <b>28 000 – 29 700</b>  | AMATEUR<br>AMATEUR-SATELLITE  |   | <b>28 000 – 29 700</b><br>AMATEUR<br>AMATEUR-SATELLITE  |
| <b>29 700 – 30 005</b>  | FIXED<br>MOBILE   |   | <b>29 700 – 30 005</b><br>FIXED<br>MOBILE<br>AUS57  |
| <b>30 005 – 30 010</b>  | SPACE OPERATION (satellite identification)<br>FIXED<br>MOBILE<br>SPACE RESEARCH               |   | <b>30 005 – 30 010</b><br>SPACE OPERATION<br>(satellite identification)<br>FIXED<br>MOBILE<br>SPACE RESEARCH<br>AUS57 |

**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                   |
| <b>30.01 – 37.5</b>   | FIXED<br>MOBILE |          | <b>30.01 – 32</b><br>FIXED<br>MOBILE<br>AUS57     |
|   |                 |          | <b>32 – 33</b><br>FIXED<br>MOBILE<br>AUS57 AUS100 |
|   |                 |          | <b>33 – 34</b><br>FIXED<br>MOBILE<br>AUS57        |
|   |                 |          | <b>34 – 35</b><br>FIXED<br>MOBILE<br>AUS57 AUS100 |
|   |                 |          | <b>35 – 37.5</b><br>FIXED<br>MOBILE<br>AUS57      |
|   |                 |          | <b>37.5 – 38.25</b>                               |
| <b>38 – 38.25</b><br>FIXED<br>MOBILE<br>Radio astronomy<br>149 AUS57 AUS100 |                 |          |   |
|   | 149             |          |   |

**MHz**  
**38.25 – 44**

| Column 1: ITU Radio Regulations Table of Allocations                  |  |   | Column 2:<br>Australian Table of Allocations                  |
|---|--|---|---|
| Region 1  | Region 2                                       | Region 3  |   |
| <b>38.25 – 39</b><br>FIXED<br>MOBILE                                  | <b>38.25 – 39.986</b><br>FIXED<br>MOBILE       | <b>38.25 – 39.5</b><br>FIXED<br>MOBILE  | <b>38.25 – 39</b><br>FIXED<br>MOBILE<br>AUS57 AUS100          |
| <b>39 – 39.5</b><br>FIXED<br>MOBILE<br>Radiolocation 132A<br>159      |  |   | <b>39 – 39.5</b><br>FIXED<br>MOBILE<br><br>AUS57              |
| <b>39.5 – 39.986</b><br>FIXED<br>MOBILE                               |  |   | <b>39.5 – 39.986</b><br>FIXED<br>MOBILE<br>RADIOLOCATION 132A |
| <b>39.986 – 40.02</b><br>FIXED<br>MOBILE<br>Space research            |  | <b>39.986 – 40</b><br>FIXED<br>MOBILE<br>RADIOLOCATION 132A<br>Space research | AUS57   |
|   |  | <b>40 – 40.02</b><br>FIXED<br>MOBILE<br>Space research                        | <b>40 – 40.02</b><br>FIXED<br>MOBILE<br>AUS57                 |
| <b>40.02 – 40.98</b>  | FIXED<br>MOBILE<br>150                         |   | <b>40.02 – 41</b><br>FIXED<br>MOBILE<br>150 AUS57             |
| <b>40.98 – 41.015</b>   | FIXED<br>MOBILE<br>Space research<br>160 161   |   |   |
| <b>41.015 – 42</b>  | FIXED<br>MOBILE<br><br>160 161 161A            |   |   |
| <b>42 – 42.5</b><br>FIXED<br>MOBILE<br>Radiolocation 132A<br>160 161B | <b>42 – 42.5</b><br>FIXED<br>MOBILE<br><br>161 |   | <b>42 – 43</b><br>FIXED<br>MOBILE                             |
|   |  | <b>42.5 – 44</b>  |   |
|   | FIXED<br>MOBILE<br><br>160 161 161A            |   | <b>43 – 44</b><br>FIXED<br>MOBILE<br>AUS57 AUS100             |

**MHz**  
**44 – 75.2**

| Column 1: ITU Radio Regulations Table of Allocations              |  |   | Column 2:  |
|---|--|---|--|
| Region 1  | Region 2   | Region 3  | Australian Table of Allocations                                    |
| <b>44 – 47</b>  | FIXED<br>MOBILE  |   | <b>44 – 45</b><br>FIXED<br>MOBILE<br>AUS57                         |
|   | 162 162A   |   | <b>45 – 50</b><br>BROADCASTING<br>FIXED AUS100A<br>MOBILE AUS100A  |
| <b>47 – 68</b><br>BROADCASTING                                    | <b>47 – 50</b><br>FIXED<br>MOBILE                        | <b>47 – 50</b><br>FIXED<br>MOBILE<br>BROADCASTING<br>162A | 162  |
|   | <b>50 – 54</b><br>AMATEUR                                |   | <b>50 – 52</b><br>BROADCASTING<br>Amateur<br>168                   |
|   | 162A 167 167A 168 170                                    |   | <b>52 – 54</b><br>AMATEUR  |
|   | <b>54 – 68</b><br>BROADCASTING<br>Fixed<br>Mobile        | <b>54 – 68</b><br>FIXED<br>MOBILE<br>BROADCASTING         | <b>54 – 56</b><br>FIXED<br>MOBILE<br>RADIOLOCATION AUS89           |
| 162A 163 164 165 169 171  | 172  | 162A  | <b>56 – 70</b><br>BROADCASTING<br>FIXED AUS101A<br>MOBILE AUS101A  |
| <b>68 – 74.8</b><br>FIXED<br>MOBILE except aeronautical<br>mobile | <b>68 – 72</b><br>BROADCASTING<br>Fixed<br>Mobile<br>173 | <b>68 – 74.8</b><br>FIXED<br>MOBILE                       | 176  |
|   | <b>72 – 73</b><br>FIXED<br>MOBILE                        |   | <b>70 – 74.8</b><br>FIXED<br>MOBILE                                |
|   | <b>73 – 74.6</b><br>RADIO ASTRONOMY<br>178               |   |  |
|   | <b>74.6 – 74.8</b><br>FIXED<br>MOBILE                    |   |  |
| 149 175 177 179   |  | 149 176 179   | 176 149  |
| <b>74.8 – 75.2</b>  | AERONAUTICAL RADIONAVIGATION                             |   | <b>74.8 – 75.2</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>180 AUS25 |
|   | 180 181  |   |  |

**MHz**  
**75.2 – 137.025**

| Column 1: ITU Radio Regulations Table of Allocations                                |  |  | Column 2:<br>Australian Table of Allocations  |   |
|---|--|--|---|---|
| Region 1  | Region 2   | Region 3                                 |   |   |
| <b>75.2 – 87.5</b><br>FIXED<br>MOBILE except aeronautical mobile<br><br>175 179 187 | <b>75.2 – 75.4</b><br>FIXED<br>MOBILE<br>179   |  | <b>75.2 – 75.4</b><br>FIXED<br>MOBILE   |   |
|   | <b>75.4 – 76</b><br>FIXED<br>MOBILE  | <b>75.4 – 87</b><br>FIXED<br>MOBILE      | <b>75.4 – 85</b><br>FIXED<br>MOBILE<br>AUS103   |   |
|   | <b>76 – 88</b><br>BROADCASTING<br>Fixed<br>Mobile  | 182 183 188                              | <b>87 – 100</b><br>FIXED<br>MOBILE<br>BROADCASTING  | <b>85 – 87.5</b><br>BROADCASTING 188<br>Fixed<br>Mobile<br>AUS24 AUS103 |
|   |  | <b>87.5 – 100</b><br>BROADCASTING<br>190 |   | <b>87.5 – 108</b><br>BROADCASTING<br>Fixed<br>Mobile                    |
| <b>100 – 108</b>  | BROADCASTING<br>192 194  |  | AUS103  |   |
| <b>108 – 117.975</b>  | AERONAUTICAL RADIONAVIGATION<br><br>197 197A   |  | <b>108 – 117.975</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>197A AUS25 AUS103  |   |
| <b>117.975 – 137</b>  | AERONAUTICAL MOBILE (R)<br><br>111 200 201 202   |  | <b>117.975 – 137</b><br>AERONAUTICAL MOBILE<br>(R)<br>111 200 AUS25 AUS103  |   |
| <b>137 – 137.025</b>  | SPACE OPERATION (space-to-Earth)<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>MOBILE–SATELLITE (space-to-Earth) 208A 208B 209<br>SPACE RESEARCH (space-to-Earth)<br>Fixed<br>Mobile except aeronautical mobile (R)<br><br>204 205 206 207 208 |  | <b>137 – 137.025</b><br>BROADCASTING 207<br>AUS26<br>SPACE OPERATION (space-to-Earth)<br>METEOROLOGICAL–<br>SATELLITE (space-to-Earth)<br>MOBILE–SATELLITE<br>(space-to-Earth) 208<br>208A 208B 209<br>SPACE RESEARCH (space-to-Earth)<br>Fixed<br>Mobile except aeronautical<br>mobile (R)<br>AUS103 |   |

**MHz**  
**137.025 – 138**

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

**MHz**  
**138 – 149.9**

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

**MHz**  
**149.9 – 156.7625**

| Column 1: ITU Radio Regulations Table of Allocations   |   |  | Column 2:<br>Australian Table of Allocations   |
|--|---|--|--|
| Region 1   | Region 2  | Region 3   |  |
| <b>149.9 – 150.05</b>  | MOBILE–SATELLITE (Earth-to-space) 209 220                         |  | <b>149.9 – 150.05</b><br>MOBILE–SATELLITE<br>(Earth-to-space) 209 220<br><br>AUS103                      |
| <b>150.05 – 153</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br>RADIO ASTRONOMY<br>149 | <b>150.05 – 154</b><br>FIXED<br>MOBILE<br><br>225                 |  | <b>150.05 – 153</b><br>FIXED<br>MOBILE<br>RADIO ASTRONOMY<br><br>225 AUS66 AUS103                        |
| <b>153 – 154</b><br>FIXED<br>MOBILE except aeronautical<br>mobile (R)<br>Meteorological aids   |   |  | <b>153 – 154</b><br>FIXED<br>MOBILE<br><br>AUS103  |
| <b>154 – 156.4875</b><br>FIXED<br>MOBILE except aeronautical<br>mobile (R)<br>225A 226         | <b>154 – 156.4875</b><br>FIXED<br>MOBILE<br><br>226               | <b>154 – 156.4875</b><br>FIXED<br>MOBILE<br><br>225A 226 | <b>154 – 156.4875</b><br>FIXED<br>MOBILE<br><br>226 AUS103   |
| <b>156.4875 – 156.5625</b>   | MARITIME MOBILE (distress and calling via DSC)<br><br>111 226 227 |  | <b>156.4875 – 156.5625</b><br>MARITIME MOBILE<br>(distress and calling via<br>DSC)<br>111 226 227 AUS103 |
| <b>156.5625 – 156.7625</b><br>FIXED<br>MOBILE except aeronautical<br>mobile (R)<br>226         | <b>156.5625 – 156.7625</b><br>FIXED<br>MOBILE<br><br>225 226      |  | <b>156.5625 – 156.7625</b><br>FIXED<br>MOBILE<br><br>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  |
| <b>156.7625 – 156.7875</b><br>MARITIME MOBILE<br>Mobile–satellite (Earth-to-space)<br>111 226 228                                       | <b>156.7625 – 156.7875</b><br>MARITIME MOBILE<br>MOBILE–SATELLITE<br>(Earth-to-space)<br>111 226 228                        | <b>156.7625 – 156.7875</b><br>MARITIME MOBILE<br>Mobile–satellite (Earth-to-space)<br>111 226 228                               | <b>156.7625 – 156.7875</b><br>MARITIME MOBILE<br>Mobile–satellite (Earth-to-space)<br>111 226 228 AUS103                               |
| <b>156.7875 – 156.8125</b>  | MARITIME MOBILE (distress and calling)<br><br>111 226   |   | <b>156.7875 – 156.8125</b><br>MARITIME MOBILE<br>(distress and calling)<br>111 226 AUS103  |
| <b>156.8125 – 156.8375</b><br>MARITIME MOBILE<br>Mobile–satellite (Earth-to-space)<br>111 226 228                                       | <b>156.8125 – 156.8375</b><br>MARITIME MOBILE<br>MOBILE–SATELLITE<br>(Earth-to-space)<br>111 226 228                        | <b>156.8125 – 156.8375</b><br>MARITIME MOBILE<br>Mobile–satellite (Earth-to-space)<br>111 226 228                               | <b>156.8125 – 156.8375</b><br>MARITIME MOBILE<br>Mobile–satellite (Earth-to-space)<br>111 226 228 AUS103                               |
| <b>156.8375 – 161.9375</b><br>FIXED<br>MOBILE except aeronautical mobile<br>226   | <b>156.8375 – 161.9375</b><br>FIXED<br>MOBILE<br><br>226  |   | <b>156.8375 – 161.9375</b><br>FIXED<br>MOBILE<br><br>226 AUS103  |
| <b>161.9375 – 161.9625</b><br>FIXED<br>MOBILE except aeronautical mobile<br>Maritime mobile–satellite (Earth-to-space) 228AA<br>226     | <b>161.9375 – 161.9625</b><br>FIXED<br>MOBILE<br>Maritime mobile–satellite (Earth-to-space) 228AA<br><br>226                |   | <b>161.9375 – 161.9625</b><br>FIXED<br>MOBILE<br>Maritime mobile–satellite (Earth-to-space) 228AA<br><br>226 AUS103                    |
| <b>161.9625 – 161.9875</b><br>FIXED<br>MOBILE except aeronautical mobile<br>Mobile–satellite (Earth-to-space) 228F<br>226 228A 228B     | <b>161.9625 – 161.9875</b><br>AERONAUTICAL MOBILE (OR)<br>MARITIME MOBILE<br>MOBILE–SATELLITE (Earth-to-space)<br>228C 228D | <b>161.9625 – 161.9875</b><br>MARITIME MOBILE<br>Aeronautical mobile (OR) 228E<br>Mobile–satellite (Earth-to-space) 228F<br>226 | <b>161.9625 – 161.9875</b><br>MARITIME MOBILE<br>Aeronautical mobile (OR) 228E<br>Mobile–satellite (Earth-to-space) 228F<br>226 AUS103 |
| <b>161.9875 – 162.0125</b><br>FIXED<br>MOBILE except aeronautical mobile<br>Maritime mobile–satellite (Earth-to-space) 228AA<br>226 229 | <b>161.9875 – 162.0125</b><br>FIXED<br>MOBILE<br>Maritime mobile–satellite (Earth-to-space) 228AA<br><br>226                |   | <b>161.9875 – 162.0125</b><br>FIXED<br>MOBILE<br>Maritime mobile–satellite (Earth-to-space) 228AA<br><br>226 AUS103                    |
| <b>162.0125 – 162.0375</b><br>FIXED<br>MOBILE except aeronautical mobile<br>Mobile–satellite (Earth-to-space) 228F<br>226 228A 228B 229 | <b>162.0125 – 162.0375</b><br>AERONAUTICAL MOBILE (OR)<br>MARITIME MOBILE<br>MOBILE–SATELLITE (Earth-to-space)<br>228C 228D | <b>162.0125 – 162.0375</b><br>MARITIME MOBILE<br>Aeronautical mobile (OR) 228E<br>Mobile–satellite (Earth-to-space) 228F<br>226 | <b>162.0125 – 162.0375</b><br>MARITIME MOBILE<br>Aeronautical mobile (OR) 228E<br>Mobile–satellite (Earth-to-space) 228F<br>226 AUS103 |

**MHz**  
**162.0375 – 273**

| Column 1: ITU Radio Regulations Table of Allocations                           |  |  | Column 2:   |
|--|--|--|---|
| Region 1   | Region 2   | Region 3   | Australian Table of Allocations   |
| <b>162.0375 – 174</b><br>FIXED<br>MOBILE except aeronautical mobile<br>226 229 | <b>162.0375 – 174</b><br>FIXED<br>MOBILE<br><br>226 230 231              |  | <b>162.0375 – 174</b><br>FIXED<br>MOBILE<br><br>226 AUS103  |
| <b>174 – 223</b><br>BROADCASTING<br><br><br>235 237 243                        | <b>174 – 216</b><br>BROADCASTING<br>Fixed<br>Mobile                      | <b>174 – 223</b><br>FIXED<br>MOBILE<br>BROADCASTING<br><br>233 238 240 245                                     | <b>174 – 225</b><br>BROADCASTING<br>Fixed<br>Mobile   |
|  | <b>216 – 220</b><br>FIXED<br>MARITIME MOBILE<br>Radiolocation 241<br>242 |  |   |
|  | <b>220 – 225</b><br>AMATEUR<br>FIXED<br>MOBILE<br>Radiolocation 241      |  |   |
| <b>223 – 230</b><br>BROADCASTING<br>Fixed<br>Mobile<br><br>243 246 247         | <b>225 – 235</b><br>FIXED<br>MOBILE                                      | <b>223 – 230</b><br>FIXED<br>MOBILE<br>BROADCASTING<br>AERONAUTICAL<br>RADIONAVIGATION<br>Radiolocation<br>250 | AUS92 AUS103<br><br><b>225 – 230</b><br>BROADCASTING<br>Fixed AUS101A<br>Mobile AUS101A<br><br>AUS103 |
| <b>230 – 235</b><br>FIXED<br>MOBILE<br><br>247 251 252                         |  | <b>230 – 235</b><br>FIXED<br>MOBILE<br>AERONAUTICAL<br>RADIONAVIGATION<br>250                                  | <b>230 – 235</b><br>FIXED<br>MOBILE<br>AERONAUTICAL<br>RADIONAVIGATION<br>AUS100 AUS103               |
| <b>235 – 267</b>   | FIXED<br>MOBILE<br><br>111 252 254 256 256A                              |  | <b>235 – 267</b><br>FIXED<br>MOBILE<br>111 254 256 AUS100<br>AUS103                                   |
| <b>267 – 272</b>   | FIXED<br>MOBILE<br>Space operation (space-to-Earth)<br><br>254 257       |  | <b>267 – 272</b><br>FIXED<br>MOBILE<br>Space operation (space-to-Earth)<br>254 257 AUS100 AUS103      |
| <b>272 – 273</b>   | SPACE OPERATION (space-to-Earth)<br>FIXED<br>MOBILE<br><br>254           |  | <b>272 – 273</b><br>SPACE OPERATION (space-to-Earth)<br>FIXED<br>MOBILE<br>254 AUS100 AUS103          |

**MHz**  
**273 – 399.9**

| Column 1: ITU Radio Regulations Table of Allocations |  |          | Column 2:  |
|--|--|----------|--|
| Region 1   | Region 2   | Region 3 | Australian Table of Allocations  |
| <b>273 – 312</b>                                     | FIXED<br>MOBILE<br><br>254   |          | <b>273 – 312</b><br>FIXED<br>MOBILE<br>254 AUS100 AUS103   |
| <b>312 – 315</b>                                     | FIXED<br>MOBILE<br>Mobile–satellite (Earth-to-space) 254 255           |          | <b>312 – 315</b><br>FIXED<br>MOBILE<br>Mobile–satellite (Earth-to-space) 254 255<br>AUS100           |
| <b>315 – 322</b>                                     | FIXED<br>MOBILE<br><br>254   |          | <b>315 – 322</b><br>FIXED<br>MOBILE<br>254 AUS100  |
| <b>322 – 328.6</b>                                   | FIXED<br>MOBILE<br>RADIO ASTRONOMY<br><br>149                          |          | <b>322 – 328.6</b><br>FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>149 AUS100                               |
| <b>328.6 – 335.4</b>                                 | AERONAUTICAL RADIONAVIGATION 258<br><br>259                            |          | <b>328.6 – 335.4</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>258<br>AUS25                              |
| <b>335.4 – 387</b>                                   | FIXED<br>MOBILE<br><br>254   |          | <b>335.4 – 380</b><br>FIXED<br>MOBILE<br>254 AUS100  |
|  |  |          | <b>380 – 387</b><br>FIXED<br>MOBILE<br>254 AUS101  |
| <b>387 – 390</b>                                     | FIXED<br>MOBILE<br>Mobile–satellite (space-to-Earth) 208A 208B 254 255 |          | <b>387 – 390</b><br>FIXED<br>MOBILE<br>Mobile–satellite (space-to-Earth) 208A 208B 254 255<br>AUS101 |
| <b>390 – 399.9</b>                                   | FIXED<br>MOBILE<br><br>254   |          | <b>390 – 399.9</b><br>FIXED<br>MOBILE<br>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  |
| <b>399.9 – 400.05</b>                                | MOBILE–SATELLITE (Earth-to-space)  | 209 220  | <b>399.9 – 400.05</b><br>MOBILE–SATELLITE<br>(Earth-to-space) 209 220  |
| <b>400.05 – 400.15</b>                               | STANDARD FREQUENCY AND TIME SIGNAL–<br>SATELLITE (400.1 MHz)   |          | <b>400.05 – 400.15</b><br>STANDARD FREQUENCY<br>AND TIME SIGNAL–<br>SATELLITE (400.1 MHz)  |
|  | 261 262  |          | 261  |
| <b>400.15 – 401</b>                                  | METEOROLOGICAL AIDS<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>MOBILE–SATELLITE (space-to-Earth) 208A 208B 209<br>SPACE RESEARCH (space-to-Earth) 263<br>Space operation (space-to-Earth)     |          | <b>400.15 – 401</b><br>METEOROLOGICAL AIDS<br>METEOROLOGICAL–<br>SATELLITE (space-to-<br>Earth)<br>MOBILE–SATELLITE<br>(space-to-Earth) 208A<br>208B 209<br>SPACE RESEARCH (space-<br>to-Earth) 263<br>Space operation (space-to-<br>Earth)<br>Radiolocation AUS29<br>AUS101A<br>264 |
|  | 262 264  |          |  |
| <b>401 – 402</b>                                     | METEOROLOGICAL AIDS<br>SPACE OPERATION (space-to-Earth)<br>EARTH EXPLORATION–SATELLITE (Earth-to-space)<br>METEOROLOGICAL–SATELLITE (Earth-to-space)<br>Fixed<br>Mobile except aeronautical mobile |          | <b>401 – 402</b><br>EARTH EXPLORATION–<br>SATELLITE (Earth-to-<br>space)<br>METEOROLOGICAL AIDS<br>METEOROLOGICAL–<br>SATELLITE (Earth-to-<br>space)<br>SPACE OPERATION (space-<br>to-Earth)<br>Fixed<br>Mobile except aeronautical<br>mobile (R)<br>Radiolocation AUS29<br>AUS101A  |

**MHz**  
**402 – 430**

| Column 1: ITU Radio Regulations Table of Allocations |  |          | Column 2:   |
|--|--|----------|---|
| Region 1   | Region 2   | Region 3 | Australian Table of Allocations   |
| <b>402 – 403</b>                                     | METEOROLOGICAL AIDS<br>EARTH EXPLORATION–SATELLITE (Earth-to-space)<br>METEOROLOGICAL–SATELLITE (Earth-to-space)<br>Fixed<br>Mobile except aeronautical mobile |          | <b>402 – 403</b><br>EARTH EXPLORATION–<br>SATELLITE (Earth-to-<br>space)<br>METEOROLOGICAL AIDS<br>METEOROLOGICAL–<br>SATELLITE (Earth-to-<br>space)<br>Fixed<br>Mobile except aeronautical<br>mobile (R)<br>Radiolocation AUS29<br>AUS101A |
| <b>403 – 406</b>                                     | METEOROLOGICAL AIDS<br>Fixed<br>Mobile except aeronautical mobile<br><br>265   |          | <b>403 – 406</b><br>FIXED<br>MOBILE except aeronautical<br>mobile (R)<br>Meteorological aids<br>Radiolocation AUS29<br>AUS101A<br>265 AUS98   |
| <b>406 – 406.1</b>                                   | MOBILE–SATELLITE (Earth-to-space)<br><br>265 266 267   |          | <b>406 – 406.1</b><br>MOBILE–SATELLITE<br>(Earth-to-space)<br>265 266 267   |
| <b>406.1 – 410</b>                                   | FIXED<br>MOBILE except aeronautical mobile<br>RADIO ASTRONOMY<br><br>149 265   |          | <b>406.1 – 410</b><br>FIXED<br>MOBILE except aeronautical<br>mobile (R)<br>RADIO ASTRONOMY<br>Radiolocation AUS29<br>149 265 AUS98  |
| <b>410 – 420</b>                                     | FIXED<br>MOBILE except aeronautical mobile<br>SPACE RESEARCH (space-to-space) 268  |          | <b>410 – 420</b><br>FIXED<br>MOBILE except aeronautical<br>mobile (R)<br>SPACE RESEARCH (space-<br>to-space) 268<br>Radiolocation AUS29<br>AUS98  |
| <b>420 – 430</b>                                     | FIXED<br>MOBILE except aeronautical mobile<br>Radiolocation<br><br>269 270 271   |          | <b>420 – 430</b><br>RADIOLOCATION<br>AUS101A<br>MOBILE AUS91<br>Fixed<br>269 270 AUS94 AUS98<br>AUS99   |

**MHz**  
**430 – 460**

| Column 1: ITU Radio Regulations Table of Allocations   |  |   | Column 2:<br>Australian Table of Allocations   |
|--|--|---|--|
| Region 1   | Region 2   | Region 3  |  |
| <b>430 – 432</b><br>AMATEUR<br>RADIOLOCATION<br><br>271 274 275 276 277  | <b>430 – 432</b><br>RADIOLOCATION<br>Amateur<br><br>271 276 277 278 279  |   | <b>430 – 432</b><br>RADIOLOCATION<br>AUS101A<br>Amateur<br>AUS95   |
| <b>432 – 438</b><br>AMATEUR<br>RADIOLOCATION<br>Earth exploration–satellite<br>(active) 279A<br>138 271 276 277 280 281<br>282 | <b>432 – 438</b><br>RADIOLOCATION<br>Amateur<br>Earth exploration–satellite (active) 279A<br><br>271 276 277 278 279 281 282 |   | <b>432 – 438</b><br>RADIOLOCATION<br>AUS101A<br>Amateur<br>Earth exploration–satellite<br>(active) 279A<br>282 AUS95 |
| <b>438 – 440</b><br>AMATEUR<br>RADIOLOCATION<br><br>271 274 275 276 277 283  | <b>438 – 440</b><br>RADIOLOCATION<br>Amateur<br><br>271 276 277 278 279  |   | <b>438 – 440</b><br>RADIOLOCATION<br>AUS101A<br>Amateur<br>AUS95   |
| <b>440 – 450</b>   | FIXED<br>MOBILE except aeronautical mobile<br>Radiolocation<br><br>269 270 271 284 285 286                                   |   | <b>440 – 450</b><br>RADIOLOCATION AUS90<br>AUS101A<br>Amateur<br>Fixed AUS101A<br>Mobile AUS101A<br>269 270 286      |
| <b>450 – 455</b>   | FIXED<br>MOBILE 286AA<br>209 271 286 286A 286B 286C 286D 286E  |   | <b>450 – 460</b><br>FIXED<br>MOBILE 286AA  |
| <b>455 – 456</b><br>FIXED<br>MOBILE 286AA<br><br>209 271 286A 286B 286C<br>286E  | <b>455 – 456</b><br>FIXED<br>MOBILE 286AA<br>MOBILE–SATELLITE<br>(Earth-to-space) 286A<br>286B 286C<br>209                   | <b>455 – 456</b><br>FIXED<br>MOBILE 286AA<br><br>209 271 286A 286B 286C<br>286E |  |
| <b>456 – 459</b>   | FIXED<br>MOBILE 286AA<br>271 287 288   |   |  |
| <b>459 – 460</b><br>FIXED<br>MOBILE 286AA<br><br>209 271 286A 286B 286C<br>286E  | <b>459 – 460</b><br>FIXED<br>MOBILE 286AA<br>MOBILE–SATELLITE<br>(Earth-to-space) 286A<br>286B 286C<br>209                   | <b>459 – 460</b><br>FIXED<br>MOBILE 286AA<br><br>209 271 286A 286B 286C<br>286E | 286 286A 287 AUS98   |

**MHz**  
**460 – 890**

| Column 1: ITU Radio Regulations Table of Allocations   |   |  | Column 2:  |
|--|---|--|--|
| Region 1   | Region 2  | Region 3   | Australian Table of Allocations  |
| <b>460 – 470</b>   | FIXED<br>MOBILE 286AA<br>Meteorological–satellite (space-to-Earth)<br><br>287 288 289 290                           |  | <b>460 – 470</b><br>FIXED<br>MOBILE 286AA<br>Meteorological–satellite<br>(space-to-Earth)<br>287 289 AUS98 |
| <b>470 – 694</b><br>BROADCASTING<br><br><br>149 291A 294 296 300 304<br>306 311A 312                           | <b>470 – 512</b><br>BROADCASTING<br>Fixed<br>Mobile<br>292 293 295  | <b>470 – 585</b><br>FIXED<br>MOBILE 296A<br>BROADCASTING<br><br>291 298                        | <b>470 – 520</b><br>FIXED<br>MOBILE  |
|  | <b>512 – 608</b><br>BROADCASTING<br>295 297   |  |  |
|  | <b>608 – 614</b><br>RADIO ASTRONOMY<br>Mobile–satellite except<br>aeronautical mobile–satellite<br>(Earth-to-space) | <b>585 – 610</b><br>FIXED<br>MOBILE 296A<br>BROADCASTING<br>RADIONAVIGATION<br>149 305 306 307 | <b>520 – 694</b><br>BROADCASTING<br>Fixed<br>Mobile<br><br>149 306 311A AUS103<br>AUS104                   |
|  | <b>614 – 698</b><br>BROADCASTING<br>Fixed<br>Mobile<br>293 308 308A 309 311A  | <b>610 – 890</b><br>FIXED<br>MOBILE 296A 313A 317A<br>BROADCASTING                             |  |
| <b>694 – 790</b><br>MOBILE except aeronautical<br>mobile 312A 317A<br>BROADCASTING<br>300 311A 312             | <b>698 – 806</b><br>MOBILE 317A<br>BROADCASTING<br>Fixed<br>293 309 311A  |  | <b>694 – 850</b><br>FIXED<br>MOBILE 313A 317A<br><br><br>311A 320 AUS103                                   |
| <b>790 – 862</b><br>FIXED<br>MOBILE except aeronautical<br>mobile 316B 317A<br>BROADCASTING<br><br><br>312 319 | <b>806 – 890</b><br>FIXED<br>MOBILE 317A<br>BROADCASTING  |  |  |
| <b>862 – 890</b><br>FIXED<br>MOBILE except aeronautical<br>mobile 317A<br>BROADCASTING 322<br>319 323          | 317 318   | 149 305 306 307 311A 320   | <b>850 – 890</b><br>FIXED<br>MOBILE 317A<br>Radiolocation AUS29<br>AUS101A<br>320 AUS103                   |

**MHz**  
**890 – 1 215**

| Column 1: ITU Radio Regulations Table of Allocations  |  | Column 2:  |  |
|---|--|--|--|
| Region 1  | Region 2   | Region 3   | Australian Table of Allocations  |
| <b>890 – 942</b><br>FIXED<br>MOBILE except aeronautical mobile 317A<br>BROADCASTING 322<br>Radiolocation<br><br>323 | <b>890 – 902</b><br>FIXED<br>MOBILE except aeronautical mobile 317A<br>Radiolocation<br>318 325                  | <b>890 – 942</b><br>FIXED<br>MOBILE 317A<br>BROADCASTING<br>Radiolocation<br><br>327 | <b>890 – 915</b><br>FIXED<br>MOBILE 317A<br>Radiolocation AUS29<br>AUS101A<br><br>AUS103   |
|   | <b>902 – 928</b><br>FIXED<br>Amateur<br>Mobile except aeronautical mobile 325A<br>Radiolocation<br>150 325 326   |  | <b>915 – 928</b><br>RADIOLOCATION 327<br>AUS101A<br>Fixed<br>Mobile<br>AUS32 AUS103  |
|   | <b>928 – 942</b><br>FIXED<br>MOBILE except aeronautical mobile 317A<br>Radiolocation<br>325                      |  | <b>928 – 942</b><br>FIXED<br>MOBILE 317A<br>Radiolocation AUS29<br>AUS101A<br>AUS103   |
| <b>942 – 960</b><br>FIXED<br>MOBILE except aeronautical mobile 317A<br>BROADCASTING 322<br>323                      | <b>942 – 960</b><br>FIXED<br>MOBILE 317A   | <b>942 – 960</b><br>FIXED<br>MOBILE 317A<br>BROADCASTING<br><br>320                  | <b>942 – 960</b><br>FIXED<br>MOBILE 317A<br><br>320 AUS103   |
| <b>960 – 1 164</b>  | AERONAUTICAL MOBILE (R) 327A<br>AERONAUTICAL RADIONAVIGATION 328<br><br>328AA                                    |  | <b>960 – 1 164</b><br>AERONAUTICAL MOBILE (R) 327A<br>AERONAUTICAL RADIONAVIGATION 328<br>328AA AUS25 AUS64<br>AUS103  |
| <b>1 164 – 1 215</b>  | AERONAUTICAL RADIONAVIGATION 328<br>RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B<br><br>328A |  | <b>1 164 – 1 215</b><br>AERONAUTICAL RADIONAVIGATION 328<br>RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B<br>328A AUS25 AUS64<br>AUS87 AUS103 |



**MHz**  
**1 215 – 1 427**

| Column 1: ITU Radio Regulations Table of Allocations                             |  |          | Column 2:<br>Australian Table of Allocations  |
|--|--|----------|---|
| Region 1   | Region 2   | Region 3 |   |
| <b>1 215 – 1 240</b>   | EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A<br>SPACE RESEARCH (active)<br><br>330 331 332                         |          | <b>1 215 – 1 240</b><br>EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A<br>SPACE RESEARCH (active)<br>331 332 AUS87 AUS103   |
| <b>1 240 – 1 300</b>   | EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A<br>SPACE RESEARCH (active)<br>Amateur<br><br>282 330 331 332 335 335A |          | <b>1 240 – 1 300</b><br>EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION AUS90<br>RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A<br>SPACE RESEARCH (active)<br>Amateur<br>282 331 332 335A AUS1A<br>AUS87 AUS101 AUS103 |
| <b>1 300 – 1 350</b>   | AERONAUTICAL RADIONAVIGATION 337<br>RADIOLOCATION<br>RADIONAVIGATION–SATELLITE (Earth-to-space)<br><br>149 337A  |          | <b>1 300 – 1 350</b><br>AERONAUTICAL<br>RADIONAVIGATION 337<br>RADIOLOCATION<br>RADIONAVIGATION–SATELLITE (Earth-to-space)<br>149 337A AUS87 AUS101<br>AUS103   |
| <b>1 350 – 1 400</b><br>FIXED<br>MOBILE<br>RADIOLOCATION<br><br>149 338 338A 339 | <b>1 350 – 1 400</b><br>RADIOLOCATION 338A<br><br>149 334 339  |          | <b>1 350 – 1 400</b><br>RADIOLOCATION<br>AUS100A<br>Fixed<br>Mobile<br>149 338A 339 AUS87<br>AUS103   |
| <b>1 400 – 1 427</b>   | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 341  |          | <b>1 400 – 1 427</b><br>EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br>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  |
| <b>1 427 – 1 429</b>  | SPACE OPERATION (Earth-to-space)<br>FIXED<br>MOBILE except aeronautical mobile 341A 341B 341C<br><br>338A 341   |  | <b>1 427 – 1 429</b><br>SPACE OPERATION (Earth-to-space)<br>FIXED<br>MOBILE except aeronautical mobile 341C<br>338A 341 AUS87 AUS103   |
| <b>1 429 – 1 452</b><br>FIXED<br>MOBILE except aeronautical mobile 341A<br>338A 341 342   | <b>1 429 – 1 452</b><br>FIXED<br>MOBILE 341B 341C 343<br><br>338A 341   |  | <b>1 429 – 1 452</b><br>FIXED<br>MOBILE 341C AUS3<br><br>338A 341 AUS87 AUS103   |
| <b>1 452 – 1 492</b><br>FIXED<br>MOBILE except aeronautical mobile 346<br>BROADCASTING<br>BROADCASTING–SATELLITE 208B<br>341 342 345  | <b>1 452 – 1 492</b><br>FIXED<br>MOBILE 341B 343 346A<br>BROADCASTING<br>BROADCASTING–SATELLITE 208B<br><br>341 344 345   |  | <b>1 452 – 1 492</b><br>BROADCASTING<br>BROADCASTING–SATELLITE 208B<br>FIXED<br>MOBILE 346A AUS3<br><br>341 345 AUS87 AUS103   |
| <b>1 492 – 1 518</b><br>FIXED<br>MOBILE except aeronautical mobile 341A<br>341 342  | <b>1 492 – 1 518</b><br>FIXED<br>MOBILE 341B 343<br><br>341 344   | <b>1 492 – 1 518</b><br>FIXED<br>MOBILE 341C<br><br>341  | <b>1 492 – 1 518</b><br>FIXED<br>MOBILE 341C AUS3<br><br>341 AUS87 AUS103  |
| <b>1 518 – 1 525</b><br>FIXED<br>MOBILE except aeronautical mobile<br>MOBILE–SATELLITE (space-to-Earth) 348<br>348A 348B 351A<br>341 342  | <b>1 518 – 1 525</b><br>FIXED<br>MOBILE 343<br>MOBILE–SATELLITE (space-to-Earth) 348<br>348A 348B 351A<br><br>341 344   | <b>1 518 – 1 525</b><br>FIXED<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth) 348<br>348A 348B 351A<br><br>341  | <b>1 518 – 1 525</b><br>FIXED<br>MOBILE AUS3<br>MOBILE–SATELLITE (space-to-Earth) 348<br>348A 348B 351A<br><br>341 AUS87 AUS103  |
| <b>1 525 – 1 530</b><br>SPACE OPERATION (space-to-Earth)<br>FIXED<br>MOBILE–SATELLITE (space-to-Earth) 208B<br>351A<br>Earth exploration–satellite<br>Mobile except aeronautical mobile 349<br>341 342 350 351 352A 354 | <b>1 525 – 1 530</b><br>SPACE OPERATION (space-to-Earth)<br>MOBILE–SATELLITE (space-to-Earth) 208B<br>351A<br>Earth exploration–satellite<br>Fixed<br>Mobile 343<br><br>341 351 354 | <b>1 525 – 1 530</b><br>SPACE OPERATION (space-to-Earth)<br>FIXED<br>MOBILE–SATELLITE (space-to-Earth) 208B<br>351A<br>Earth exploration–satellite<br>Mobile 349<br><br>341 351 352A 354 | <b>1 525 – 1 530</b><br>SPACE OPERATION (space-to-Earth)<br>FIXED<br>MOBILE–SATELLITE (space-to-Earth) 208B<br>351A<br>Earth exploration–satellite<br>Mobile 349 AUS3<br>341 351 354 AUS87<br>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   |
| <b>1 530 – 1 535</b><br>SPACE OPERATION (space-to-Earth)<br>MOBILE–SATELLITE (space-to-Earth) 208B 351A 353A<br>Earth exploration–satellite<br>Fixed<br>Mobile except aeronautical mobile<br>341 342 351 354 | <b>1 530 – 1 535</b><br>SPACE OPERATION (space-to-Earth)<br>MOBILE–SATELLITE (space-to-Earth) 208B 351A 353A<br>Earth exploration–satellite<br>Fixed<br>Mobile 343<br>341 351 354                            |  | <b>1 530 – 1 535</b><br>SPACE OPERATION (space-to-Earth)<br>MOBILE–SATELLITE (space-to-Earth) 208B 351A 353A<br>Earth exploration–satellite<br>Fixed<br>Mobile AUS3<br>341 351 354 AUS87<br>AUS103                        |
| <b>1 535 – 1 559</b>   | MOBILE–SATELLITE (space-to-Earth) 208B 351A<br>341 351 353A 354 355 356 357 357A 359 362A  |  | <b>1 535 – 1 559</b><br>MOBILE–SATELLITE (space-to-Earth) 208B 351A<br>341 351 353A 354 356 357 357A 362A<br>AUS103   |
| <b>1 559 – 1 610</b>   | AERONAUTICAL RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 208B 328B 329A<br>341  |  | <b>1 559 – 1 610</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE (space-to-Earth) (space-to-space) 208B 328B 329A<br>341 AUS87 AUS103   |
| <b>1 610 – 1 610.6</b><br>MOBILE–SATELLITE (Earth-to-space) 351A<br>AERONAUTICAL<br>RADIONAVIGATION<br>341 355 359 364 366 367 368 369 371 372   | <b>1 610 – 1 610.6</b><br>MOBILE–SATELLITE (Earth-to-space) 351A<br>AERONAUTICAL<br>RADIONAVIGATION<br>RADIODETERMINATION–SATELLITE (Earth-to-space)<br>341 364 366 367 368 370 372                          | <b>1 610 – 1 610.6</b><br>MOBILE–SATELLITE (Earth-to-space) 351A<br>AERONAUTICAL<br>RADIONAVIGATION<br>Radiodetermination–satellite (Earth-to-space)<br>341 355 359 364 366 367 368 369 372                          | <b>1 610 – 1 610.6</b><br>MOBILE–SATELLITE (Earth-to-space) 351A<br>AERONAUTICAL<br>RADIONAVIGATION<br>RADIODETERMINATION–SATELLITE (Earth-to-space)<br>341 364 366 367 368 369 372 AUS87 AUS103                          |
| <b>1 610.6 – 1 613.8</b><br>MOBILE–SATELLITE (Earth-to-space) 351A<br>RADIO ASTRONOMY<br>AERONAUTICAL<br>RADIONAVIGATION<br>149 341 355 359 364 366 367 368 369 371 372                                      | <b>1 610.6 – 1 613.8</b><br>MOBILE–SATELLITE (Earth-to-space) 351A<br>RADIO ASTRONOMY<br>AERONAUTICAL<br>RADIONAVIGATION<br>RADIODETERMINATION–SATELLITE (Earth-to-space)<br>149 341 364 366 367 368 370 372 | <b>1 610.6 – 1 613.8</b><br>MOBILE–SATELLITE (Earth-to-space) 351A<br>RADIO ASTRONOMY<br>AERONAUTICAL<br>RADIONAVIGATION<br>Radiodetermination–satellite (Earth-to-space)<br>149 341 355 359 364 366 367 368 369 372 | <b>1 610.6 – 1 613.8</b><br>MOBILE–SATELLITE (Earth-to-space) 351A<br>RADIO ASTRONOMY<br>AERONAUTICAL<br>RADIONAVIGATION<br>RADIODETERMINATION–SATELLITE (Earth-to-space)<br>149 341 364 366 367 368 369 372 AUS87 AUS103 |

**MHz**  
**1 613.8 – 1 668.4**

| Column 1: ITU Radio Regulations Table of Allocations   |   |   | Column 2:  |
|--|---|---|--|
| Region 1   | Region 2  | Region 3  | Australian Table of Allocations  |
| <b>1 613.8 – 1 626.5</b><br>MOBILE–SATELLITE<br>(Earth-to-space) 351A<br>AERONAUTICAL<br>RADIONAVIGATION<br>Mobile–satellite (space-to-Earth) 208B<br><br>341 355 359 364 365 366<br>367 368 369 371 372 | <b>1 613.8 – 1 626.5</b><br>MOBILE–SATELLITE<br>(Earth-to-space) 351A<br>AERONAUTICAL<br>RADIONAVIGATION<br>RADIODETERMINATION–<br>SATELLITE (Earth-to-space)<br>Mobile–satellite (space-to-Earth) 208B<br><br>341 364 365 366 367 368<br>370 372 | <b>1 613.8 – 1 626.5</b><br>MOBILE–SATELLITE<br>(Earth-to-space) 351A<br>AERONAUTICAL<br>RADIONAVIGATION<br>Mobile–satellite (space-to-Earth) 208B<br>Radiodetermination–satellite (Earth-to-space)<br><br>341 355 359 364 365 366<br>367 368 369 372 | <b>1 613.8 – 1 626.5</b><br>MOBILE–SATELLITE<br>(Earth-to-space) 351A<br>AERONAUTICAL<br>RADIONAVIGATION<br>RADIODETERMINATION–<br>SATELLITE (Earth-to-space)<br>Mobile–satellite (space-to-Earth) 208B<br><br>341 364 365 366 367 368<br>369 372 AUS87 AUS103 |
| <b>1 626.5 – 1 660</b>   | MOBILE–SATELLITE (Earth-to-space) 351A<br><br>341 351 353A 354 355 357A 359 362A 374 375 376  |   | <b>1 626.5 – 1 660</b><br>MOBILE–SATELLITE<br>(Earth-to-space) 351A<br>341 351 353A 354 357A<br>375 376 AUS87 AUS103   |
| <b>1 660 – 1 660.5</b>   | MOBILE–SATELLITE (Earth-to-space) 351A<br>RADIO ASTRONOMY<br><br>149 341 351 354 362A 376A  |   | <b>1 660 – 1 660.5</b><br>MOBILE–SATELLITE<br>(Earth-to-space) 351A<br>AUS65<br>RADIO ASTRONOMY<br>149 341 351 354 376A<br>AUS87 AUS103  |
| <b>1 660.5 – 1 668</b>   | RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br>Fixed<br>Mobile except aeronautical mobile<br><br>149 341 379 379A   |   | <b>1 660.5 – 1 668</b><br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>Fixed<br>Mobile except aeronautical<br>mobile<br>149 341 379A AUS87<br>AUS103  |
| <b>1 668 – 1 668.4</b>   | MOBILE–SATELLITE (Earth-to-space) 351A 379B 379C<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br>Fixed<br>Mobile except aeronautical mobile<br><br>149 341 379 379A   |   | <b>1 668 – 1 668.4</b><br>MOBILE–SATELLITE<br>(Earth-to-space) 351A<br>379B 379C<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>Fixed<br>Mobile except aeronautical<br>mobile<br>149 341 379A AUS87<br>AUS103  |

**MHz**  
**1 668.4 – 1 710**

| Column 1: ITU Radio Regulations Table of Allocations  |   |  | Column 2:<br>Australian Table of Allocations  |
|---|---|--|---|
| Region 1  | Region 2  | Region 3   |   |
| <b>1 668.4 – 1 670</b>  | METEOROLOGICAL AIDS<br>FIXED<br>MOBILE except aeronautical mobile<br>MOBILE–SATELLITE (Earth-to-space) 351A 379B 379C<br>RADIO ASTRONOMY<br><br>149 341 379D 379E |  | <b>1 668.4 – 1 670</b><br>METEOROLOGICAL AIDS<br>FIXED<br>MOBILE except aeronautical mobile<br>MOBILE–SATELLITE (Earth-to-space) 351A 379B 379C<br>RADIO ASTRONOMY<br>149 341 379D 379E<br>AUS87 AUS103 |
| <b>1 670 – 1 675</b>  | METEOROLOGICAL AIDS<br>FIXED<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>MOBILE<br>MOBILE–SATELLITE (Earth-to-space) 351A 379B<br><br>341 379D 379E 380A      |  | <b>1 670 – 1 675</b><br>METEOROLOGICAL AIDS<br>FIXED<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>MOBILE<br>MOBILE–SATELLITE (Earth-to-space) 351A 379B<br>341 379D 379E 380A<br>AUS87 AUS103        |
| <b>1 675 – 1 690</b>  | METEOROLOGICAL AIDS<br>FIXED<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br><br>341   |  | <b>1 675 – 1 690</b><br>METEOROLOGICAL AIDS<br>FIXED<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>341 AUS87 AUS103  |
| <b>1 690 – 1 700</b><br>METEOROLOGICAL AIDS<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>Fixed<br>Mobile except aeronautical mobile<br>289 341 382 | <b>1 690 – 1 700</b><br>METEOROLOGICAL AIDS<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br><br>289 341 381   |  | <b>1 690 – 1 700</b><br>METEOROLOGICAL AIDS<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>Fixed<br>Mobile except aeronautical mobile<br>289 341 AUS87 AUS103  |
| <b>1 700 – 1 710</b><br>FIXED<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br><br>289 341                        |   | <b>1 700 – 1 710</b><br>FIXED<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>289 341 384 | <b>1 700 – 1 710</b><br>FIXED<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>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   |
| <b>1 710 – 1 930</b>   | FIXED<br>MOBILE 384A 388A 388B<br><br>149 341 385 386 387 388   |  | <b>1 710 – 1 930</b><br>FIXED<br>MOBILE 384A 388A<br>149 341 385 386 388<br>AUS87 AUS103  |
| <b>1 930 – 1 970</b><br>FIXED<br>MOBILE 388A 388B<br><br>388 | <b>1 930 – 1 970</b><br>FIXED<br>MOBILE 388A 388B<br>Mobile–satellite (Earth-to-space)<br>388   | <b>1 930 – 1 970</b><br>FIXED<br>MOBILE 388A 388B<br><br>388 | <b>1 930 – 1 970</b><br>FIXED<br>MOBILE 388A<br><br>388   |
| <b>1 970 – 1 980</b>   | FIXED<br>MOBILE 388A 388B<br><br>388  |  | <b>1 970 – 1 980</b><br>FIXED<br>MOBILE 388A<br>388   |
| <b>1 980 – 2 010</b>   | FIXED<br>MOBILE<br>MOBILE–SATELLITE (Earth-to-space) 351A<br><br>388 389A 389B 389F   |  | <b>1 980 – 2 010</b><br>FIXED<br>MOBILE<br>MOBILE–SATELLITE<br>(Earth-to-space) 351A<br>388 389A  |
| <b>2 010 – 2 025</b><br>FIXED<br>MOBILE 388A 388B<br><br>388 | <b>2 010 – 2 025</b><br>FIXED<br>MOBILE<br>MOBILE–SATELLITE<br>(Earth-to-space)<br>388 389C 389E  | <b>2 010 – 2 025</b><br>FIXED<br>MOBILE 388A 388B<br><br>388 | <b>2 010 – 2 025</b><br>FIXED<br>MOBILE 388A<br><br>388   |
| <b>2 025 – 2 110</b>   | SPACE OPERATION (Earth-to-space) (space-to-space)<br>EARTH EXPLORATION–SATELLITE (Earth-to-space)<br>(space-to-space)<br>FIXED<br>MOBILE 391<br>SPACE RESEARCH (Earth-to-space) (space-to-space)<br><br>392 |  | <b>2 025 – 2 110</b><br>SPACE OPERATION (Earth-to-space) (space-to-space)<br>EARTH EXPLORATION–SATELLITE (Earth-to-space) (space-to-space)<br>FIXED<br>MOBILE 391<br>SPACE RESEARCH (Earth-to-space) (space-to-space)<br>392 AUS106 |
| <b>2 110 – 2 120</b>   | FIXED<br>MOBILE 388A 388B<br>SPACE RESEARCH (deep space) (Earth-to-space)<br><br>388  |  | <b>2 110 – 2 120</b><br>FIXED<br>MOBILE 388A<br>SPACE RESEARCH (deep space) (Earth-to-space)<br>388   |

**MHz**  
**2 120 – 2 483.5**

| Column 1: ITU Radio Regulations Table of Allocations                                    |   |  | Column 2:<br>Australian Table of Allocations   |
|---|---|--|--|
| Region 1  | Region 2  | Region 3   |  |
| <b>2 120 – 2 160</b><br>FIXED<br>MOBILE 388A 388B<br><br>388                            | <b>2 120 – 2 160</b><br>FIXED<br>MOBILE 388A 388B<br>Mobile–satellite (space-to-Earth)<br>388   | <b>2 120 – 2 160</b><br>FIXED<br>MOBILE 388A 388B<br><br>388 | <b>2 120 – 2 170</b><br>FIXED<br>MOBILE 388A<br><br>388  |
| <b>2 160 – 2 170</b><br>FIXED<br>MOBILE 388A 388B<br><br>388                            | <b>2 160 – 2 170</b><br>FIXED<br>MOBILE<br>MOBILE–SATELLITE<br>(space-to-Earth)<br>388 389C 389E  | <b>2 160 – 2 170</b><br>FIXED<br>MOBILE 388A 388B<br><br>388 |  |
| <b>2 170 – 2 200</b>  | FIXED<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth) 351A<br><br>388 389A 389F  |  | <b>2 170 – 2 200</b><br>FIXED<br>MOBILE<br>MOBILE–SATELLITE<br>(space-to-Earth) 351A<br>388 389A   |
| <b>2 200 – 2 290</b>  | SPACE OPERATION (space-to-Earth) (space-to-space)<br>EARTH EXPLORATION–SATELLITE (space-to-Earth)<br>(space-to-space)<br>FIXED<br>MOBILE 391<br>SPACE RESEARCH (space-to-Earth) (space-to-space)<br><br>392 |  | <b>2 200 – 2 290</b><br>SPACE OPERATION (space-to-Earth) (space-to-space)<br>EARTH EXPLORATION–SATELLITE (space-to-Earth) (space-to-space)<br>FIXED<br>MOBILE 391<br>SPACE RESEARCH (space-to-Earth) (space-to-space)<br>392 AUS87 AUS106A |
| <b>2 290 – 2 300</b>  | FIXED<br>MOBILE except aeronautical mobile<br>SPACE RESEARCH (deep space) (space-to-Earth)  |  | <b>2 290 – 2 300</b><br>FIXED<br>MOBILE except aeronautical mobile<br>SPACE RESEARCH (deep space) (space-to-Earth)<br>AUS87 AUS93 AUS106A  |
| <b>2 300 – 2 450</b><br>FIXED<br>MOBILE 384A<br>Amateur<br>Radiolocation<br>150 282 395 | <b>2 300 – 2 450</b><br>FIXED<br>MOBILE 384A<br>RADIOLOCATION<br>Amateur<br>150 282 393 394 396   |  | <b>2 300 – 2 450</b><br>FIXED<br>MOBILE 384A<br>RADIOLOCATION<br>Amateur<br>150 282 AUS87  |
| <b>2 450 – 2 483.5</b><br>FIXED<br>MOBILE<br>Radiolocation<br>150                       | <b>2 450 – 2 483.5</b><br>FIXED<br>MOBILE<br>RADIOLOCATION<br>150   |  | <b>2 450 – 2 483.5</b><br>FIXED<br>MOBILE<br>RADIOLOCATION<br>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  |
| <b>2 483.5 – 2 500</b><br>FIXED<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth) 351A<br>RADIODETERMINATION–SATELLITE (space-to-Earth) 398<br>Radiolocation 398A<br>150 399 401 402 | <b>2 483.5 – 2 500</b><br>FIXED<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth) 351A<br>RADIOLOCATION<br>RADIODETERMINATION–SATELLITE (space-to-Earth) 398<br>150 402       | <b>2 483.5 – 2 500</b><br>FIXED<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth) 351A<br>RADIOLOCATION<br>RADIODETERMINATION–SATELLITE (space-to-Earth) 398<br>150 401 402                  | <b>2 483.5 – 2 500</b><br>FIXED<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth) 351A<br>RADIOLOCATION<br>RADIODETERMINATION–SATELLITE (space-to-Earth) 398<br>150 401 402 AUS87         |
| <b>2 500 – 2 520</b><br>FIXED 410<br>MOBILE except aeronautical mobile 384A<br><br>412  | <b>2 500 – 2 520</b><br>FIXED 410<br>FIXED–SATELLITE (space-to-Earth) 415<br>MOBILE except aeronautical mobile 384A<br><br>404   | <b>2 500 – 2 520</b><br>FIXED 410<br>FIXED–SATELLITE (space-to-Earth) 415<br>MOBILE except aeronautical mobile 384A<br>MOBILE–SATELLITE (space-to-Earth) 351A<br>407 414 414A<br>404 415A | <b>2 500 – 2 520</b><br>FIXED 410<br>FIXED–SATELLITE (space-to-Earth) 415<br>MOBILE except aeronautical mobile 384A<br>MOBILE–SATELLITE (space-to-Earth) 351A<br>407 414 414A<br>AUS87 |
| <b>2 520 – 2 655</b><br>FIXED 410<br>MOBILE except aeronautical mobile 384A<br>BROADCASTING–SATELLITE 413 416<br><br>339 412 418B 418C  | <b>2 520 – 2 655</b><br>FIXED 410<br>FIXED–SATELLITE (space-to-Earth) 415<br>MOBILE except aeronautical mobile 384A<br>BROADCASTING–SATELLITE 413 416<br><br>339 418B 418C | <b>2 520 – 2 535</b><br>FIXED 410<br>FIXED–SATELLITE (space-to-Earth) 415<br>MOBILE except aeronautical mobile 384A<br>BROADCASTING–SATELLITE 413 416<br>403 414A 415A                    | <b>2 520 – 2 535</b><br>FIXED 410<br>FIXED–SATELLITE (space-to-Earth) 415<br>MOBILE except aeronautical mobile 384A<br>BROADCASTING–SATELLITE 413 416<br>403 AUS87                     |
|   |  | <b>2 535 – 2 655</b><br>FIXED 410<br>MOBILE except aeronautical mobile 384A<br>BROADCASTING–SATELLITE 413 416<br>339 418 418A 418B 418C   | <b>2 535 – 2 655</b><br>FIXED 410<br>MOBILE except aeronautical mobile 384A<br>BROADCASTING–SATELLITE 413 416<br>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  |
| <b>2 655 – 2 670</b><br>FIXED 410<br>MOBILE except aeronautical mobile 384A<br>BROADCASTING–SATELLITE 208B 413 416<br>Earth exploration–satellite (passive)<br>Radio astronomy<br>Space research (passive)<br><br>149 412 | <b>2 655 – 2 670</b><br>FIXED 410<br>FIXED–SATELLITE (Earth-to-space) (space-to-Earth) 415<br>MOBILE except aeronautical mobile 384A<br>BROADCASTING–SATELLITE 413 416<br>Earth exploration–satellite (passive)<br>Radio astronomy<br>Space research (passive)<br><br>149 208B | <b>2 655 – 2 670</b><br>FIXED 410<br>FIXED–SATELLITE (Earth-to-space) 415<br>MOBILE except aeronautical mobile 384A<br>BROADCASTING–SATELLITE 413 416<br>Earth exploration–satellite (passive)<br>Radio astronomy<br>Space research (passive)<br><br>149 208B 420    | <b>2 655 – 2 670</b><br>FIXED 410<br>FIXED–SATELLITE (Earth-to-space) 415<br>MOBILE except aeronautical mobile 384A<br>BROADCASTING–SATELLITE 413 416<br>Earth exploration–satellite (passive)<br>Radio astronomy<br>Space research (passive)<br><br>149 208B 420 AUS87    |
| <b>2 670 – 2 690</b><br>FIXED 410<br>MOBILE except aeronautical mobile 384A<br>Earth exploration–satellite (passive)<br>Radio astronomy<br>Space research (passive)<br><br>149 412  | <b>2 670 – 2 690</b><br>FIXED 410<br>FIXED–SATELLITE (Earth-to-space) (space-to-Earth) 208B 415<br>MOBILE except aeronautical mobile 384A<br>Earth exploration–satellite (passive)<br>Radio astronomy<br>Space research (passive)<br><br>149                                   | <b>2 670 – 2 690</b><br>FIXED 410<br>FIXED–SATELLITE (Earth-to-space) 415<br>MOBILE except aeronautical mobile 384A<br>MOBILE–SATELLITE (Earth-to-space) 351A 419<br>Earth exploration–satellite (passive)<br>Radio astronomy<br>Space research (passive)<br><br>149 | <b>2 670 – 2 690</b><br>FIXED 410<br>FIXED–SATELLITE (Earth-to-space) 415<br>MOBILE except aeronautical mobile 384A<br>MOBILE–SATELLITE (Earth-to-space) 351A 419<br>Earth exploration–satellite (passive)<br>Radio astronomy<br>Space research (passive)<br><br>149 AUS87 |
| <b>2 690 – 2 700</b>  | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 422  | <b>2 690 – 2 700</b>   | <b>2 690 – 2 700</b><br>EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 AUS87  |
| <b>2 700 – 2 900</b>  | AERONAUTICAL RADIONAVIGATION 337<br>Radiolocation<br><br>423 424   | <b>2 700 – 2 900</b><br>AERONAUTICAL RADIONAVIGATION 337<br>RADIOLOCATION AUS105<br>423  | <b>2 700 – 2 900</b><br>AERONAUTICAL RADIONAVIGATION 337<br>RADIOLOCATION AUS105<br>423  |
| <b>2 900 – 3 100</b>  | RADIOLOCATION 424A<br>RADIONAVIGATION 426<br><br>425 427   | <b>2 900 – 3 100</b><br>RADIOLOCATION 424A<br>RADIONAVIGATION 426<br>425 427   | <b>2 900 – 3 100</b><br>RADIOLOCATION 424A<br>RADIONAVIGATION 426<br>425 427   |

**MHz**  
**3 100 – 4 400**

| Column 1: ITU Radio Regulations Table of Allocations  |   |  | Column 2:   |
|---|---|--|---|
| Region 1  | Region 2  | Region 3   | Australian Table of Allocations   |
| <b>3 100 – 3 300</b>  | RADIOLOCATION<br>Earth exploration–satellite (active)<br>Space research (active)<br><br>149 428   |  | <b>3 100 – 3 300</b><br>RADIOLOCATION<br>AUS100A<br>Earth exploration–satellite (active)<br>Space research (active)<br>Fixed<br>Mobile<br>149                           |
| <b>3 300 – 3 400</b><br>RADIOLOCATION<br><br>149 429 429A 429B 430  | <b>3 300 – 3 400</b><br>RADIOLOCATION<br>Amateur<br>Fixed<br>Mobile<br><br>149 429C 429D  | <b>3 300 – 3 400</b><br>RADIOLOCATION<br>Amateur<br><br>149 429 429E 429F  | <b>3 300 – 3 400</b><br>RADIOLOCATION<br>AUS100A<br>Amateur<br>Fixed<br>Mobile<br>149   |
| <b>3 400 – 3 600</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile 430A<br>Radiolocation<br><br>431 | <b>3 400 – 3 500</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile 431A 431B<br>Amateur<br>Radiolocation 433<br>282<br><br><b>3 500 – 3 600</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile 431B<br>Radiolocation 433 | <b>3 400 – 3 500</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>Amateur<br>Mobile 432 432B<br>Radiolocation 433<br><br>282 432A<br><br><b>3 500 – 3 600</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile 433A<br>Radiolocation 433 | <b>3 400 – 3 600</b><br>FIXED<br>MOBILE 432B 433A<br>RADIOLOCATION 433<br>AUS101A<br>Amateur<br>Fixed–satellite (space-to-Earth)<br><br><br><br><br><br><br><br><br>282 |
| <b>3 600 – 4 200</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>Mobile   | <b>3 600 – 3 700</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile 434<br>Radiolocation 433<br><br><b>3 700 – 4 200</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile   | <b>3 600 – 3 700</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>Radiolocation<br>435   | <b>3 600 – 4 200</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile  |
| <b>4 200 – 4 400</b>  | AERONAUTICAL MOBILE (R) 436<br>AERONAUTICAL RADIONAVIGATION 438<br><br>437 439 440  |  | <b>4 200 – 4 400</b><br>AERONAUTICAL MOBILE (R) 436<br>AERONAUTICAL RADIONAVIGATION<br>438<br>437 440 AUS87   |

**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   |
| <b>4 400 – 4 500</b>                                 | FIXED<br>MOBILE 440A   |          | <b>4 400 – 4 500</b><br>FIXED<br>MOBILE 440A<br>AUS67 AUS87 AUS101  |
| <b>4 500 – 4 800</b>                                 | FIXED<br>FIXED–SATELLITE (space-to-Earth) 441<br>MOBILE 440A   |          | <b>4 500 – 4 800</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 441<br>MOBILE 440A<br>AUS67 AUS87 AUS101  |
| <b>4 800 – 4 990</b>                                 | FIXED<br>MOBILE 440A 441A 441B 442<br>Radio astronomy  |          | <b>4 800 – 4 940</b><br>FIXED AUS101A<br>MOBILE 440A 442<br>AUS101A<br>Radio astronomy<br>149 443 AUS67 AUS87   |
|  | 149 339 443  |          | <b>4 940 – 4 990</b><br>FIXED AUS102A<br>MOBILE 442 AUS102A<br>Radio astronomy<br>149 339 443 AUS67<br>AUS87  |
| <b>4 990 – 5 000</b>                                 | FIXED<br>MOBILE except aeronautical mobile<br>RADIO ASTRONOMY<br>Space research (passive)  |          | <b>4 990 – 5 000</b><br>FIXED AUS101A<br>MOBILE except aeronautical<br>mobile AUS101A<br>RADIO ASTRONOMY<br>Space research (passive)<br>149 AUS67 AUS87   |
|  | 149  |          |   |
| <b>5 000 – 5 010</b>                                 | AERONAUTICAL MOBILE–SATELLITE (R) 443AA<br>AERONAUTICAL RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE (Earth-to-space)                                |          | <b>5 000 – 5 010</b><br>AERONAUTICAL<br>MOBILE–SATELLITE<br>(R) 443AA<br>AERONAUTICAL<br>RADIONAVIGATION<br>RADIONAVIGATION–<br>SATELLITE (Earth-to-<br>space)<br>AUS25 AUS87                               |
| <b>5 010 – 5 030</b>                                 | AERONAUTICAL MOBILE–SATELLITE (R) 443AA<br>AERONAUTICAL RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE (space-to-Earth) (space-<br>to-space) 328B 443B |          | <b>5 010 – 5 030</b><br>AERONAUTICAL<br>MOBILE–SATELLITE<br>(R) 443AA<br>AERONAUTICAL<br>RADIONAVIGATION<br>RADIONAVIGATION–<br>SATELLITE (space-to-<br>Earth) (space-to-space)<br>328B 443B<br>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   |
| <b>5 030 – 5 091</b>                                 | AERONAUTICAL MOBILE (R) 443C<br>AERONAUTICAL MOBILE–SATELLITE (R) 443D<br>AERONAUTICAL RADIONAVIGATION<br><br>444                                       |          | <b>5 030 – 5 091</b><br>AERONAUTICAL MOBILE (R) 443C<br>AERONAUTICAL MOBILE–SATELLITE (R) 443D<br>AERONAUTICAL RADIONAVIGATION<br>444 AUS25 AUS87                                       |
| <b>5 091 – 5 150</b>                                 | FIXED–SATELLITE (Earth-to-space) 444A<br>AERONAUTICAL MOBILE 444B<br>AERONAUTICAL MOBILE–SATELLITE (R) 443AA<br>AERONAUTICAL RADIONAVIGATION<br><br>444 |          | <b>5 091 – 5 150</b><br>FIXED–SATELLITE (Earth-to-space) 444A<br>AERONAUTICAL MOBILE–SATELLITE (R) 443AA<br>AERONAUTICAL RADIONAVIGATION<br>AERONAUTICAL MOBILE 444B<br>444 AUS25 AUS87 |
| <b>5 150 – 5 250</b>                                 | AERONAUTICAL RADIONAVIGATION<br>FIXED–SATELLITE (Earth-to-space) 447A<br>MOBILE except aeronautical mobile 446A 446B<br><br>446 446C 447 447B 447C      |          | <b>5 150 – 5 250</b><br>AERONAUTICAL RADIONAVIGATION<br>FIXED–SATELLITE (Earth-to-space) 447A<br>MOBILE except aeronautical mobile 446A 446B<br>446 447B 447C AUS25 AUS87               |
| <b>5 250 – 5 255</b>                                 | EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH 447D<br>MOBILE except aeronautical mobile 446A 447F<br><br>447E 448 448A        |          | <b>5 250 – 5 255</b><br>EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH 447D<br>MOBILE except aeronautical mobile 446A 447F<br>447E 448A AUS87 AUS101           |
| <b>5 255 – 5 350</b>                                 | EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH (active)<br>MOBILE except aeronautical mobile 446A 447F<br><br>447E 448 448A    |          | <b>5 255 – 5 350</b><br>EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH (active)<br>MOBILE except aeronautical mobile 446A 447F<br>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  |
| <b>5 350 – 5 460</b>                                 | EARTH EXPLORATION–SATELLITE (active) 448B<br>SPACE RESEARCH (active) 448C<br>AERONAUTICAL RADIONAVIGATION 449<br>RADIOLOCATION 448D  |          | <b>5 350 – 5 460</b><br>EARTH EXPLORATION–<br>SATELLITE (active)<br>448B<br>SPACE RESEARCH (active)<br>448C<br>AERONAUTICAL<br>RADIONAVIGATION<br>449<br>RADIOLOCATION 448D<br>AUS87                             |
| <b>5 460 – 5 470</b>                                 | RADIONAVIGATION 449<br>EARTH EXPLORATION–SATELLITE (active)<br>SPACE RESEARCH (active)<br>RADIOLOCATION 448D<br><br>448B   |          | <b>5 460 – 5 470</b><br>RADIONAVIGATION 449<br>EARTH EXPLORATION–<br>SATELLITE (active)<br>SPACE RESEARCH (active)<br>RADIOLOCATION 448D<br>448B AUS87   |
| <b>5 470 – 5 570</b>                                 | MARITIME RADIONAVIGATION<br>MOBILE except aeronautical mobile 446A 450A<br>EARTH EXPLORATION–SATELLITE (active)<br>SPACE RESEARCH (active)<br>RADIOLOCATION 450B<br><br>448B 450 451 |          | <b>5 470 – 5 570</b><br>MARITIME<br>RADIONAVIGATION<br>MOBILE except aeronautical<br>mobile 446A 450A<br>EARTH EXPLORATION–<br>SATELLITE (active)<br>SPACE RESEARCH (active)<br>RADIOLOCATION 450B<br>448B AUS87 |
| <b>5 570 – 5 650</b>                                 | MARITIME RADIONAVIGATION<br>MOBILE except aeronautical mobile 446A 450A<br>RADIOLOCATION 450B<br><br>450 451 452   |          | <b>5 570 – 5 650</b><br>MARITIME<br>RADIONAVIGATION<br>MOBILE except aeronautical<br>mobile 446A 450A<br>RADIOLOCATION 450B<br>452 AUS87   |
| <b>5 650 – 5 725</b>                                 | RADIOLOCATION<br>MOBILE except aeronautical mobile 446A 450A<br>Amateur<br>Space research (deep space)<br><br>282 451 453 454 455  |          | <b>5 650 – 5 725</b><br>RADIOLOCATION<br>AUS101A<br>MOBILE except aeronautical<br>mobile 446A 450A<br>Amateur<br>Space research (deep space)<br>282 AUS87  |

**MHz**  
**5 725 – 7 190**

| Column 1: ITU Radio Regulations Table of Allocations  |  |   | Column 2:<br>Australian Table of Allocations   |
|---|--|---|--|
| Region 1  | Region 2   | Region 3  |  |
| <b>5 725 – 5 830</b><br>FIXED–SATELLITE (Earth-to-space)<br>RADIOLOCATION<br>Amateur<br>150 451 453 455                                       | <b>5 725 – 5 830</b><br>RADIOLOCATION<br>Amateur<br><br>150 453 455  |   | <b>5 725 – 5 830</b><br>RADIOLOCATION<br>AUS101A<br>Amateur<br><br>150 AUS87 AUS96                                       |
| <b>5 830 – 5 850</b><br>FIXED–SATELLITE (Earth-to-space)<br>RADIOLOCATION<br>Amateur<br>Amateur–satellite (space-to-Earth)<br>150 451 453 455 | <b>5 830 – 5 850</b><br>RADIOLOCATION<br>Amateur<br>Amateur–satellite (space-to-Earth)<br><br>150 453 455      |   | <b>5 830 – 5 850</b><br>RADIOLOCATION<br>AUS101A<br>Amateur<br>Amateur–satellite (space-to-Earth)<br><br>150 AUS87 AUS96 |
| <b>5 850 – 5 925</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE<br><br>150  | <b>5 850 – 5 925</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE<br>Amateur<br>Radiolocation<br>150 | <b>5 850 – 5 925</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE<br>Radiolocation<br><br>150 | <b>5 850 – 5 925</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE<br>Radiolocation<br><br>150 AUS87            |
| <b>5 925 – 6 700</b>  | FIXED 457<br>FIXED–SATELLITE (Earth-to-space) 457A 457B<br>MOBILE 457C<br><br>149 440 458                      |   | <b>5 925 – 6 700</b><br>FIXED 457<br>FIXED–SATELLITE (Earth-to-space) 457A<br>MOBILE<br>149 440 458 AUS87                |
| <b>6 700 – 7 075</b>  | FIXED<br>FIXED–SATELLITE (Earth-to-space) (space-to-Earth) 441<br>MOBILE<br><br>458 458A 458B                  |   | <b>6 700 – 7 075</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) (space-to-Earth) 441<br>MOBILE<br>458 458A 458B        |
| <b>7 075 – 7 145</b>  | FIXED<br>MOBILE<br><br>458 459   |   | <b>7 075 – 7 145</b><br>FIXED<br>MOBILE<br>458   |
| <b>7 145 – 7 190</b>  | FIXED<br>MOBILE<br>SPACE RESEARCH (deep space) (Earth-to-space)<br><br>458 459                                 |   | <b>7 145 – 7 190</b><br>FIXED<br>MOBILE<br>SPACE RESEARCH (deep space) (Earth-to-space)<br>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  |
| <b>7 190 – 7 235</b>                                 | EARTH EXPLORATION–SATELLITE (Earth-to-space)<br>460A 460B<br>FIXED<br>MOBILE<br>SPACE RESEARCH (Earth-to-space) 460<br><br>458 459   |          | <b>7 190 – 7 235</b><br>EARTH EXPLORATION–<br>SATELLITE (Earth-to-<br>space) 460A 460B<br>FIXED<br>MOBILE<br>SPACE RESEARCH (Earth-<br>to-space) 460<br>458  |
| <b>7 235 – 7 250</b>                                 | EARTH EXPLORATION–SATELLITE (Earth-to-space)<br>460A<br>FIXED<br>MOBILE<br><br>458   |          | <b>7 235 – 7 250</b><br>EARTH EXPLORATION–<br>SATELLITE 460A<br>FIXED<br>MOBILE<br>458   |
| <b>7 250 – 7 300</b>                                 | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>461   |          | <b>7 250 – 7 375</b><br>FIXED–SATELLITE (space-<br>to-Earth)<br>MOBILE–SATELLITE<br>(space-to-Earth)<br>Fixed  |
| <b>7 300 – 7 375</b>                                 | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br><br>461  |          | 461 AUS100   |
| <b>7 375 – 7 450</b>                                 | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>MARITIME MOBILE–SATELLITE (space-to-Earth) 461AA<br>461AB  |          | <b>7 375 – 7 450</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth) AUS100A<br>MARITIME MOBILE–<br>SATELLITE (space-to-<br>Earth) 461AA 461AB<br>Mobile except aeronautical<br>mobile  |
| <b>7 450 – 7 550</b>                                 | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>METEOROLOGICAL–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>MARITIME MOBILE–SATELLITE (space-to-Earth) 461AA<br>461AB<br><br>461A |          | <b>7 450 – 7 550</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth) AUS100A<br>METEOROLOGICAL–<br>SATELLITE (space-to-<br>Earth)<br>MARITIME MOBILE–<br>SATELLITE (space-to-<br>Earth) 461AA 461AB<br>Mobile except aeronautical<br>mobile<br>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   |
| <b>7 550 – 7 750</b>                                 | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>MARITIME MOBILE–SATELLITE (space-to-Earth) 461AA<br>461AB                      |          | <b>7 550 – 7 750</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) AUS100A<br>MOBILE except aeronautical mobile<br>MARITIME MOBILE–SATELLITE (space-to-Earth) 461AA 461AB  |
| <b>7 750 – 7 900</b>                                 | FIXED<br>METEOROLOGICAL–SATELLITE (space-to-Earth) 461B<br>MOBILE except aeronautical mobile   |          | <b>7 750 – 7 900</b><br>FIXED<br>METEOROLOGICAL–SATELLITE (space-to-Earth) 461B<br>MOBILE except aeronautical mobile  |
| <b>7 900 – 8 025</b>                                 | FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE  |          | <b>7 900 – 7 975</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) AUS100A<br>MOBILE–SATELLITE (Earth-to-space)<br>AUS100A<br>461<br><b>7 975 – 8 025</b><br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE–SATELLITE (Earth-to-space)<br>461 AUS87 AUS100 |
| <b>8 025 – 8 175</b>                                 | EARTH EXPLORATION–SATELLITE (space-to-Earth)<br>FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE 463<br><br>462A  |          | <b>8 025 – 8 175</b><br>EARTH EXPLORATION–SATELLITE (space-to-Earth)<br>FIXED<br>FIXED–SATELLITE (Earth-to-space) AUS100A<br>MOBILE 463<br>462A AUS87   |
| <b>8 175 – 8 215</b>                                 | EARTH EXPLORATION–SATELLITE (space-to-Earth)<br>FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>METEOROLOGICAL–SATELLITE (Earth-to-space)<br>MOBILE 463<br><br>462A |          | <b>8 175 – 8 215</b><br>EARTH EXPLORATION–SATELLITE (space-to-Earth)<br>FIXED<br>FIXED–SATELLITE (Earth-to-space) AUS100A<br>METEOROLOGICAL–SATELLITE (Earth-to-space)<br>MOBILE 463<br>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   |
| <b>8 215 – 8 400</b>                                 | EARTH EXPLORATION–SATELLITE (space-to-Earth)<br>FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE 463<br><br>462A |          | <b>8 215 – 8 400</b><br>EARTH EXPLORATION–<br>SATELLITE (space-to-<br>Earth)<br>FIXED<br>FIXED–SATELLITE (Earth-<br>to-space) AUS100A<br>MOBILE 463<br>462A AUS87 |
| <b>8 400 – 8 500</b>                                 | FIXED<br>MOBILE except aeronautical mobile<br>SPACE RESEARCH (space-to-Earth) 465 466                               |          | <b>8 400 – 8 500</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br>SPACE RESEARCH (space-<br>to-Earth) 465<br>AUS87   |
| <b>8 500 – 8 550</b>                                 | RADIOLOCATION<br><br>468 469  |          | <b>8 500 – 8 550</b><br>RADIOLOCATION<br>AUS87 AUS100   |
| <b>8 550 – 8 650</b>                                 | EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH (active)<br><br>468 469 469A                |          | <b>8 550 – 8 650</b><br>RADIOLOCATION<br>SPACE RESEARCH (active)<br>EARTH EXPLORATION–<br>SATELLITE (active)<br>469A AUS87 AUS101                                 |
| <b>8 650 – 8 750</b>                                 | RADIOLOCATION<br><br>468 469  |          | <b>8 650 – 8 750</b><br>RADIOLOCATION<br>AUS87 AUS100   |
| <b>8 750 – 8 850</b>                                 | RADIOLOCATION<br>AERONAUTICAL RADIONAVIGATION 470<br><br>471  |          | <b>8 750 – 8 850</b><br>RADIOLOCATION<br>AERONAUTICAL<br>RADIONAVIGATION<br>470<br>AUS87  |
| <b>8 850 – 9 000</b>                                 | RADIOLOCATION<br>MARITIME RADIONAVIGATION 472<br><br>473  |          | <b>8 850 – 9 000</b><br>RADIOLOCATION<br>MARITIME<br>RADIONAVIGATION<br>472<br>AUS87  |
| <b>9 000 – 9 200</b>                                 | AERONAUTICAL RADIONAVIGATION 337<br>RADIOLOCATION<br><br>471 473A   |          | <b>9 000 – 9 200</b><br>AERONAUTICAL<br>RADIONAVIGATION<br>337<br>RADIOLOCATION<br>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  |
| <b>9.2 – 9.3</b>                                     | EARTH EXPLORATION–SATELLITE (active) 474A 474B<br>474C<br>RADIOLOCATION<br>MARITIME RADIONAVIGATION 472<br><br>473 474 474D           |          | <b>9.2 – 9.3</b><br>EARTH EXPLORATION–<br>SATELLITE (active)<br>474A 474B 474C<br>RADIOLOCATION<br>AUS101A<br>MARITIME<br>RADIONAVIGATION<br>472<br>474 474D AUS87       |
| <b>9.3 – 9.5</b>                                     | RADIONAVIGATION<br>EARTH EXPLORATION–SATELLITE (active)<br>SPACE RESEARCH (active)<br>RADIOLOCATION<br><br>427 474 475 475A 475B 476A |          | <b>9.3 – 9.5</b><br>RADIONAVIGATION<br>EARTH EXPLORATION–<br>SATELLITE (active)<br>SPACE RESEARCH (active)<br>RADIOLOCATION<br>427 474 475 475A 475B<br>476A AUS87       |
| <b>9.5 – 9.8</b>                                     | EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>RADIONAVIGATION<br>SPACE RESEARCH (active)<br><br>476A                       |          | <b>9.5 – 9.8</b><br>EARTH EXPLORATION–<br>SATELLITE (active)<br>RADIOLOCATION<br>AUS102A<br>RADIONAVIGATION<br>SPACE RESEARCH (active)<br>Fixed<br>Mobile<br>476A AUS87  |
| <b>9.8 – 9.9</b>                                     | RADIOLOCATION<br>Earth exploration–satellite (active)<br>Space research (active)<br>Fixed<br><br>477 478 478A 478B                    |          | <b>9.8 – 9.9</b><br>RADIOLOCATION<br>AUS101A<br>Earth exploration–satellite<br>(active)<br>Space research (active)<br>Fixed AUS101A<br>Mobile AUS101A<br>478A 478B AUS87 |
| <b>9.9 – 10</b>                                      | EARTH EXPLORATION–SATELLITE (active) 474A 474B<br>474C<br>RADIOLOCATION<br>Fixed<br><br>474D 477 478 479                              |          | <b>9.9 – 10</b><br>EARTH EXPLORATION–<br>SATELLITE (active)<br>474A 474B 474C<br>RADIOLOCATION<br>AUS101A<br>Fixed AUS101A<br>Mobile AUS101A<br>474D 479 AUS87           |

**GHz**  
**10 – 10.68**

| Column 1: ITU Radio Regulations Table of Allocations  |   |   | Column 2:<br>Australian Table of Allocations   |
|---|---|---|--|
| Region 1  | Region 2  | Region 3  |  |
| <b>10 – 10.4</b><br>EARTH EXPLORATION–<br>SATELLITE (active)<br>474A 474B 474C<br>FIXED<br>MOBILE<br>RADIOLOCATION<br>Amateur<br><br>474D 479 | <b>10 – 10.4</b><br>EARTH EXPLORATION–<br>SATELLITE (active)<br>474A 474B 474C<br>RADIOLOCATION<br>Amateur<br><br>474D 479 480  | <b>10 – 10.4</b><br>EARTH EXPLORATION–<br>SATELLITE (active)<br>474A 474B 474C<br>FIXED<br>MOBILE<br>RADIOLOCATION<br>Amateur<br><br>474D 479 | <b>10 – 10.4</b><br>EARTH EXPLORATION–<br>SATELLITE (active)<br>474A 474B 474C<br>FIXED AUS101A<br>MOBILE AUS101A<br>RADIOLOCATION<br>AUS101A<br>Amateur<br>474D 479                                 |
| <b>10.4 – 10.45</b><br>FIXED<br>MOBILE<br>RADIOLOCATION<br>Amateur  | <b>10.4 – 10.45</b><br>RADIOLOCATION<br>Amateur<br><br>480  | <b>10.4 – 10.45</b><br>FIXED<br>MOBILE<br>RADIOLOCATION<br>Amateur  | <b>10.4 – 10.45</b><br>FIXED AUS101A<br>MOBILE AUS101A<br>RADIOLOCATION<br>AUS101A<br>Amateur  |
| <b>10.45 – 10.5</b>   | RADIOLOCATION<br>Amateur<br>Amateur–satellite<br><br>481  |   | <b>10.45 – 10.5</b><br>RADIOLOCATION<br>AUS101A<br>Amateur<br>Amateur–satellite  |
| <b>10.5 – 10.55</b><br>FIXED<br>MOBILE<br>Radiolocation   | <b>10.5 – 10.55</b><br>FIXED<br>MOBILE<br>RADIOLOCATION   |   | <b>10.5 – 10.55</b><br>FIXED<br>MOBILE<br>RADIOLOCATION  |
| <b>10.55 – 10.6</b>   | FIXED<br>MOBILE except aeronautical mobile<br>Radiolocation   |   | <b>10.55 – 10.6</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br>Radiolocation  |
| <b>10.6 – 10.68</b>   | EARTH EXPLORATION–SATELLITE (passive)<br>FIXED<br>MOBILE except aeronautical mobile<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br>Radiolocation<br><br>149 482 482A |   | <b>10.6 – 10.68</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>FIXED<br>MOBILE except aeronautical<br>mobile<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>Radiolocation<br>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   |
| <b>10.68 – 10.7</b>  | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 483             |          | <b>10.68 – 10.7</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340 |
| <b>10.68 – 10.7</b>  | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 483             |          | <b>10.68 – 10.7</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340 |
| <b>10.7 – 10.95</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth) 441 (Earth-to-<br>space) 484<br>MOBILE except aeronautical<br>mobile      | <b>10.7 – 10.95</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 441<br>MOBILE except aeronautical mobile       |          | <b>10.7 – 10.95</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth) 441<br>MOBILE except aeronautical<br>mobile          |
| <b>10.95 – 11.2</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth) 484A 484B<br>(Earth-to-space) 484<br>MOBILE except aeronautical<br>mobile | <b>10.95 – 11.2</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 484A 484B<br>MOBILE except aeronautical mobile |          | <b>10.95 – 11.2</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth) 484A 484B<br>MOBILE except aeronautical<br>mobile    |
| <b>11.2 – 11.45</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth) 441 (Earth-to-<br>space) 484<br>MOBILE except aeronautical<br>mobile      | <b>11.2 – 11.45</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 441<br>MOBILE except aeronautical mobile       |          | <b>11.2 – 11.45</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth) 441<br>MOBILE except aeronautical<br>mobile          |
| <b>11.45 – 11.7</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth) 484A 484B<br>(Earth-to-space) 484<br>MOBILE except aeronautical<br>mobile | <b>11.45 – 11.7</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 484A 484B<br>MOBILE except aeronautical mobile |          | <b>11.45 – 11.7</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth) 484A 484B<br>MOBILE except aeronautical<br>mobile    |

**GHz**  
**11.7 – 13.4**

| Column 1: ITU Radio Regulations Table of Allocations   |   |   | Column 2:<br>Australian Table of Allocations  |
|--|---|---|---|
| Region 1   | Region 2  | Region 3  |   |
| <b>11.7 – 12.5</b><br>FIXED<br>MOBILE except aeronautical mobile<br>BROADCASTING<br>BROADCASTING–SATELLITE 492 | <b>11.7 – 12.1</b><br>FIXED 486<br>FIXED–SATELLITE (space-to-Earth) 484A 484B 488<br>Mobile except aeronautical mobile<br>485 | <b>11.7 – 12.2</b><br>FIXED<br>MOBILE except aeronautical mobile<br>BROADCASTING<br>BROADCASTING–SATELLITE 492                                | <b>11.7 – 12.2</b><br>BROADCASTING–SATELLITE 492<br>Broadcasting<br>Fixed<br>Mobile except aeronautical mobile<br><br>487 487A  |
|  | <b>12.1 – 12.2</b><br>FIXED–SATELLITE (space-to-Earth) 484A 484B 488<br>485 489   |   |   |
|  | <b>12.2 – 12.7</b><br>FIXED<br>MOBILE except aeronautical mobile<br>BROADCASTING<br>BROADCASTING–SATELLITE 492                | <b>12.2 – 12.5</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 484B<br>MOBILE except aeronautical mobile<br>BROADCASTING                     |   |
| <b>12.5 – 12.75</b><br>FIXED–SATELLITE (space-to-Earth) 484A 484B<br>(Earth-to-space)                          | 487A 488 490<br><b>12.7 – 12.75</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE except aeronautical mobile         | <b>12.5 – 12.75</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 484A 484B<br>MOBILE except aeronautical mobile<br>BROADCASTING–SATELLITE 493 | <b>12.5 – 12.75</b><br>FIXED–SATELLITE (space-to-Earth) 484A 484B<br>BROADCASTING–SATELLITE 493<br>Fixed<br>Land mobile–satellite (space-to-Earth)<br>Mobile except aeronautical mobile |
| <b>12.75 – 13.25</b>   | FIXED<br>FIXED–SATELLITE (Earth-to-space) 441<br>MOBILE<br>Space research (deep space) (space-to-Earth)                       |   | <b>12.75 – 13.25</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 441<br>MOBILE<br>Space research (deep space) (space-to-Earth)   |
| <b>13.25 – 13.4</b>  | EARTH EXPLORATION–SATELLITE (active)<br>AERONAUTICAL RADIONAVIGATION 497<br>SPACE RESEARCH (active)                           |   | <b>13.25 – 13.4</b><br>AERONAUTICAL RADIONAVIGATION 497<br>EARTH EXPLORATION–SATELLITE (active)<br>SPACE RESEARCH (active)  |
|  | 498A 499  |   | 498A  |

**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   |
| <b>13.4 – 13.65</b><br>EARTH EXPLORATION–SATELLITE (active)<br>FIXED–SATELLITE (space-to-Earth) 499A 499B<br>RADIOLOCATION<br>SPACE RESEARCH 499C 499D<br>Standard frequency and time signal–satellite (Earth-to-space)<br>499 499E 500 501 501B | <b>13.4 – 13.65</b><br>EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH 499C 499D<br>Standard frequency and time signal–satellite (Earth-to-space)<br><br>499 500 501 501B   |          | <b>13.4 – 13.65</b><br>EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>AUS101A<br>SPACE RESEARCH 499C 499D<br>Standard frequency and time signal–satellite (Earth-to-space)<br><br>501B                    |
| <b>13.65 – 13.75</b>   | EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH 501A<br>Standard frequency and time signal–satellite (Earth-to-space)<br><br>499 500 501 501B                               |          | <b>13.65 – 13.75</b><br>EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>AUS101A<br>SPACE RESEARCH 501A<br>Standard frequency and time signal–satellite (Earth-to-space)<br><br>501B                        |
| <b>13.75 – 14</b>  | FIXED–SATELLITE (Earth-to-space) 484A<br>RADIOLOCATION<br>Earth exploration–satellite<br>Standard frequency and time signal–satellite (Earth-to-space)<br>Space research<br><br>499 500 501 502 503 |          | <b>13.75 – 14</b><br>RADIOLOCATION<br>AUS100A<br>FIXED–SATELLITE (Earth-to-space) 484A<br>Earth exploration–satellite<br>Standard frequency and time signal–satellite (Earth-to-space)<br>Space research<br>502 503 |
| <b>14 – 14.25</b>  | FIXED–SATELLITE (Earth-to-space) 457A 457B 484A 484B 506 506B<br>RADIONAVIGATION 504<br>Mobile–satellite (Earth-to-space) 504B 504C 506A<br>Space research<br>504A 505                              |          | <b>14 – 14.3</b><br>FIXED–SATELLITE (Earth-to-space) 457A 484A 484B 506<br>RADIONAVIGATION 504<br>Mobile–satellite (Earth-to-space) 506A<br>Space research  |
| <b>14.25 – 14.3</b>  | FIXED–SATELLITE (Earth-to-space) 457A 457B 484A 484B 506 506B<br>RADIONAVIGATION 504<br>Mobile–satellite (Earth-to-space) 504B 506A 508A<br>Space research<br>504A 505 508                          |          | 504A  |

**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   |
| <b>14.3 – 14.4</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 457A 457B 484A 484B 506 506B<br>MOBILE except aeronautical mobile<br>Mobile–satellite (Earth-to-space) 504B 506A 509A<br>Radionavigation–satellite 504A | <b>14.3 – 14.4</b><br>FIXED–SATELLITE (Earth-to-space) 457A 484A 484B 506 506B<br>Mobile–satellite (Earth-to-space) 506A<br>Radionavigation–satellite<br><br>504A  | <b>14.3 – 14.4</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 457A 484A 484B 506 506B<br>MOBILE except aeronautical mobile<br>Mobile–satellite (Earth-to-space) 504B 506A 509A<br>Radionavigation–satellite 504A | <b>14.3 – 14.4</b><br>FIXED–SATELLITE (Earth-to-space) 457A 484A 484B 506<br>Fixed<br>Mobile except aeronautical mobile<br>Mobile–satellite (Earth-to-space) 506A<br>Radionavigation–satellite 504A   |
| <b>14.4 – 14.47</b>   | FIXED<br>FIXED–SATELLITE (Earth-to-space) 457A 457B 484A 484B 506 506B<br>MOBILE except aeronautical mobile<br>Mobile–satellite (Earth-to-space) 504B 506A 509A<br>Space research (space-to-Earth)<br><br>504A |  | <b>14.4 – 14.47</b><br>FIXED–SATELLITE (Earth-to-space) 457A 484A 484B 506<br>Fixed<br>Mobile except aeronautical mobile<br>Mobile–satellite (Earth-to-space) 506A<br>Space research (space-to-Earth)<br>504A   |
| <b>14.47 – 14.5</b>   | FIXED<br>FIXED–SATELLITE (Earth-to-space) 457A 457B 484A 506 506B<br>MOBILE except aeronautical mobile<br>Mobile–satellite (Earth-to-space) 504B 506A 509A<br>Radio astronomy<br><br>149 504A                  |  | <b>14.47 – 14.5</b><br>FIXED–SATELLITE (Earth-to-space) 457A 484A 506<br>Fixed<br>Mobile except aeronautical mobile<br>Mobile–satellite (Earth-to-space) 506A<br>Radio astronomy<br>149 504A  |
| <b>14.5 – 14.75</b>   | FIXED<br>FIXED–SATELLITE (Earth-to-space) 509B 509C 509D 509E 509F 510<br>MOBILE<br>Space research 509G  |  | <b>14.5 – 14.7145</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 509B 509C 509D 509E 509F 510<br>MOBILE<br>Space research 509G<br><br><b>14.7145 – 14.75</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 509B 509C 509D 509E 509F 510<br>MOBILE<br>Space research 509G<br>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  |
| <b>14.75 – 14.8</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 510<br>MOBILE<br>Space research 509G |  | <b>14.75 – 14.8</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 509B 509C<br>509D 509E 509F 510<br>MOBILE<br>Space research 509G | <b>14.75 – 14.8</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 509B 509C<br>509D 509E 509F 510<br>MOBILE<br>Space research 509G<br>AUS101          |
| <b>14.8 – 15.35</b>   | FIXED<br>MOBILE<br>Space research<br><br>339   |   | <b>14.8 – 15.1365</b><br>FIXED<br>MOBILE<br>Space research<br>AUS101<br><br><b>15.1365 – 15.35</b><br>FIXED<br>MOBILE<br>Space research<br>339 AUS58 |
| <b>15.35 – 15.4</b>   | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 511          |   | <b>15.35 – 15.4</b><br>EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340                               |
| <b>15.4 – 15.43</b>   | RADIOLOCATION 511E 511F<br>AERONAUTICAL RADIONAVIGATION  |   | <b>15.4 – 15.43</b><br>RADIOLOCATION 511E<br>511F<br>AERONAUTICAL<br>RADIONAVIGATION   |
| <b>15.43 – 15.63</b>  | FIXED–SATELLITE (Earth-to-space) 511A<br>RADIOLOCATION 511E 511F<br>AERONAUTICAL RADIONAVIGATION<br><br>511C |   | <b>15.43 – 15.63</b><br>FIXED–SATELLITE (Earth-to-space) 511A<br>RADIOLOCATION 511E<br>511F<br>AERONAUTICAL<br>RADIONAVIGATION<br>511C               |
| <b>15.63 – 15.7</b>   | RADIOLOCATION 511E 511F<br>AERONAUTICAL RADIONAVIGATION  |   | <b>15.63 – 15.7</b><br>RADIOLOCATION 511E<br>511F<br>AERONAUTICAL<br>RADIONAVIGATION   |
| <b>15.7 – 16.6</b>  | RADIOLOCATION<br><br>512 513   |   | <b>15.7 – 16.6</b><br>RADIOLOCATION<br>AUS87 AUS101  |



**GHz**  
**16.6 – 18.4**

| Column 1: ITU Radio Regulations Table of Allocations  |   |   | Column 2:<br>Australian Table of Allocations  |
|---|---|---|---|
| Region 1  | Region 2  | Region 3  |   |
| <b>16.6 – 17.1</b>  | RADIOLOCATION<br>Space research (deep space) (Earth-to-space)<br><br>512 513  |   | <b>16.6 – 17.1</b><br>RADIOLOCATION<br>AUS101A<br>Space research (deep space)<br>(Earth-to-space)<br>AUS87                          |
| <b>17.1 – 17.2</b>  | RADIOLOCATION<br><br>512 513  |   | <b>17.1 – 17.2</b><br>RADIOLOCATION<br>AUS87 AUS101   |
| <b>17.2 – 17.3</b>  | EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH (active)<br><br>512 513 513A                                    |   | <b>17.2 – 17.3</b><br>EARTH EXPLORATION–<br>SATELLITE (active)<br>RADIOLOCATION<br>AUS101A<br>SPACE RESEARCH (active)<br>513A AUS87 |
| <b>17.3 – 17.7</b><br>FIXED–SATELLITE (Earth-to-space) 516 (space-to-Earth) 516A 516B<br>Radiolocation<br><br>514 | <b>17.3 – 17.7</b><br>FIXED–SATELLITE (Earth-to-space) 516<br>BROADCASTING–<br>SATELLITE<br>Radiolocation<br>514 515                    | <b>17.3 – 17.7</b><br>FIXED–SATELLITE (Earth-to-space) 516<br>Radiolocation<br><br>514              | <b>17.3 – 17.7</b><br>FIXED–SATELLITE (Earth-to-space) 516<br>Radiolocation<br><br>AUS87  |
| <b>17.7 – 18.1</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 484A (Earth-to-space) 516<br>MOBILE               | <b>17.7 – 17.8</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 517 (Earth-to-space) 516<br>BROADCASTING–<br>SATELLITE<br>Mobile<br>515 | <b>17.7 – 18.1</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 484A (Earth-to-space) 516<br>MOBILE | <b>17.7 – 18.1</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 484A (Earth-to-space) 516<br>MOBILE<br><br>AUS87                    |
|   | <b>17.8 – 18.1</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 484A (Earth-to-space) 516<br>MOBILE<br>519                              |   |   |
| <b>18.1 – 18.4</b>  | FIXED<br>FIXED–SATELLITE (space-to-Earth) 484A 516B (Earth-to-space) 520<br>MOBILE<br><br>519 521                                       |   | <b>18.1 – 18.4</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 484A 516B (Earth-to-space) 520<br>MOBILE<br>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  |
| <b>18.4 – 18.6</b>  | FIXED<br>FIXED–SATELLITE (space-to-Earth) 484A 516B<br>MOBILE   |  | <b>18.4 – 18.6</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 484A 516B<br>MOBILE<br>AUS87   |
| <b>18.6 – 18.8</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 522B<br>MOBILE except aeronautical mobile<br>Space research (passive)<br>522A 522C | <b>18.6 – 18.8</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 516B 522B<br>MOBILE except aeronautical mobile<br>SPACE RESEARCH (passive)<br>522A | <b>18.6 – 18.8</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 522B<br>MOBILE except aeronautical mobile<br>Space research (passive)<br>522A | <b>18.6 – 18.8</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 522B<br>MOBILE except aeronautical mobile<br>Space research (passive)<br>522A AUS87 |
| <b>18.8 – 19.3</b>  | FIXED<br>FIXED–SATELLITE (space-to-Earth) 516B 523A<br>MOBILE   |  | <b>18.8 – 19.3</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 516B 523A<br>MOBILE<br>AUS87   |
| <b>19.3 – 19.7</b>  | FIXED<br>FIXED–SATELLITE (space-to-Earth) (Earth-to-space) 523B 523C 523D 523E<br>MOBILE  |  | <b>19.3 – 19.7</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) (Earth-to-space) 523B 523C 523D 523E<br>MOBILE<br>AUS87  |
| <b>19.7 – 20.1</b><br>FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A<br>Mobile–satellite (space-to-Earth)<br>524  | <b>19.7 – 20.1</b><br>FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A<br>MOBILE–SATELLITE (space-to-Earth)<br>524 525 526 527 528 529  | <b>19.7 – 20.1</b><br>FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A<br>Mobile–satellite (space-to-Earth)<br>524   | <b>19.7 – 20.1</b><br>FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A<br>Mobile–satellite (space-to-Earth)<br>AUS87   |
| <b>20.1 – 20.2</b>  | FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A<br>MOBILE–SATELLITE (space-to-Earth)<br><br>524 525 526 527 528  |  | <b>20.1 – 20.2</b><br>FIXED–SATELLITE (space-to-Earth) 484A 484B 516B 527A<br>MOBILE–SATELLITE (space-to-Earth)<br>525 526 527 528 AUS87   |

**GHz**  
**20.2– 23.15**

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

**GHz**  
**23.15 – 25.25**

| Column 1: ITU Radio Regulations Table of Allocations  |   |  | Column 2:  |
|---|---|--|--|
| Region 1  | Region 2  | Region 3   | Australian Table of Allocations  |
| <b>23.15 – 23.55</b>  | FIXED<br>INTER–SATELLITE 338A<br>MOBILE   |  | <b>23.15 – 23.55</b><br>FIXED<br>INTER–SATELLITE 338A<br>MOBILE<br>AUS87   |
| <b>23.55 – 23.6</b>   | FIXED<br>MOBILE   |  | <b>23.55 – 23.6</b><br>FIXED<br>MOBILE<br>AUS87  |
| <b>23.6 – 24</b>  | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 |  | <b>23.6 – 24</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340 AUS87 |
| <b>24 – 24.05</b>   | AMATEUR<br>AMATEUR–SATELLITE<br><br>150   |  | <b>24 – 24.05</b><br>AMATEUR<br>AMATEUR–SATELLITE<br>150 AUS87   |
| <b>24.05 – 24.25</b>  | RADIOLOCATION<br>Amateur<br>Earth exploration–satellite (active)<br><br>150                     |  | <b>24.05 – 24.25</b><br>RADIOLOCATION<br>AUS102A<br>Amateur<br>Earth exploration–satellite<br>(active)<br>150 AUS87          |
| <b>24.25 – 24.45</b><br>FIXED   | <b>24.25 – 24.45</b><br>RADIONAVIGATION   | <b>24.25 – 24.45</b><br>RADIONAVIGATION<br>FIXED<br>MOBILE   | <b>24.25 – 24.45</b><br>RADIONAVIGATION<br>FIXED<br>MOBILE<br>AUS87  |
| <b>24.45 – 24.65</b><br>FIXED<br>INTER–SATELLITE  | <b>24.45 – 24.65</b><br>INTER–SATELLITE<br>RADIONAVIGATION<br><br>533                           | <b>24.45 – 24.65</b><br>FIXED<br>INTER–SATELLITE<br>MOBILE<br>RADIONAVIGATION<br>533                           | <b>24.45 – 24.65</b><br>FIXED<br>INTER–SATELLITE<br>MOBILE<br>RADIONAVIGATION<br>533 AUS87                                   |
| <b>24.65 – 24.75</b><br>FIXED<br>FIXED–SATELLITE (Earth-<br>to-space) 532B<br>INTER–SATELLITE | <b>24.65 – 24.75</b><br>INTER–SATELLITE<br>RADIOLOCATION–<br>SATELLITE (Earth-to-<br>space)     | <b>24.65 – 24.75</b><br>FIXED<br>FIXED–SATELLITE (Earth-<br>to-space) 532B<br>INTER–SATELLITE<br>MOBILE<br>533 | <b>24.65 – 24.75</b><br>FIXED<br>FIXED–SATELLITE (Earth-<br>to-space) 532B<br>INTER–SATELLITE<br>MOBILE<br>533 AUS87         |
| <b>24.75 – 25.25</b><br>FIXED<br>FIXED–SATELLITE (Earth-<br>to-space) 532B                    | <b>24.75 – 25.25</b><br>FIXED–SATELLITE (Earth-<br>to-space) 535                                | <b>24.75 – 25.25</b><br>FIXED<br>FIXED–SATELLITE (Earth-<br>to-space) 535<br>MOBILE                            | <b>24.75 – 25.25</b><br>FIXED<br>FIXED–SATELLITE (Earth-<br>to-space) 535<br>MOBILE<br>AUS87                                 |

**GHz**  
**25.25 – 29.1**

| Column 1: ITU Radio Regulations Table of Allocations       |  |          | Column 2:<br>Australian Table of Allocations   |
|--|--|----------|--|
| Region 1   | Region 2   | Region 3 |  |
| <b>25.25 – 25.5</b>  | FIXED<br>INTER–SATELLITE 536<br>MOBILE<br>Standard frequency and time signal–satellite (Earth-to-space)  |          | <b>25.25 – 25.5</b><br>FIXED<br>INTER–SATELLITE 536<br>MOBILE<br>Standard frequency and time signal–satellite (Earth-to-space)<br>AUS87  |
| <b>25.5 – 27</b>   | EARTH EXPLORATION–SATELLITE (space-to-Earth) 536B<br>FIXED<br>INTER–SATELLITE 536<br>MOBILE<br>SPACE RESEARCH (space-to-Earth) 536C<br>Standard frequency and time signal–satellite (Earth-to-space)<br><br>536A |          | <b>25.5 – 27</b><br>EARTH EXPLORATION–SATELLITE (space-to-Earth)<br>FIXED<br>INTER–SATELLITE 536<br>MOBILE<br>SPACE RESEARCH (space-to-Earth)<br>Standard frequency and time signal–satellite (Earth-to-space)<br>536A AUS87 |
| <b>27 – 27.5</b><br>FIXED<br>INTER–SATELLITE 536<br>MOBILE | <b>27 – 27.5</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>INTER–SATELLITE 536 537<br>MOBILE   |          | <b>27 – 27.5</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>INTER–SATELLITE 536 537<br>MOBILE   |
| <b>27.5 – 28.5</b>   | FIXED 537A<br>FIXED–SATELLITE (Earth-to-space) 484A 516B 539<br>MOBILE<br><br>538 540  |          | <b>27.5 – 28.5</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 484A 516B 539<br>MOBILE<br>538 540   |
| <b>28.5 – 29.1</b>   | FIXED<br>FIXED–SATELLITE (Earth-to-space) 484A 516B 523A 539<br>MOBILE<br>Earth exploration–satellite (Earth-to-space) 541<br><br>540  |          | <b>28.5 – 29.1</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 484A 516B 523A 539<br>MOBILE<br>Earth exploration–satellite (Earth-to-space) 541<br>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   |
| <b>29.1 – 29.5</b>   | FIXED<br>FIXED–SATELLITE (Earth-to-space) 516B 523C 523E<br>535A 539 541A<br>MOBILE<br>Earth exploration–satellite (Earth-to-space) 541<br><br>540  |  | <b>29.1 – 29.5</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 516B 523C<br>523E 535A 539 541A<br>MOBILE<br>Earth exploration–satellite<br>(Earth-to-space) 541<br>540                                   |
| <b>29.5 – 29.9</b><br>FIXED–SATELLITE (Earth-to-space) 484A 484B<br>516B 527A 539<br>Earth exploration–satellite<br>(Earth-to-space) 541<br>Mobile–satellite (Earth-to-space)<br>540 542 | <b>29.5 – 29.9</b><br>FIXED–SATELLITE (Earth-to-space) 484A 484B<br>516B 527A 539<br>MOBILE–SATELLITE<br>(Earth-to-space)<br>Earth exploration–satellite<br>(Earth-to-space) 541<br>525 526 527 529 540 | <b>29.5 – 29.9</b><br>FIXED–SATELLITE (Earth-to-space) 484A 484B<br>516B 527A 539<br>Earth exploration–satellite<br>(Earth-to-space) 541<br>Mobile–satellite (Earth-to-space)<br>540 542 | <b>29.5 – 29.9</b><br>FIXED–SATELLITE (Earth-to-space) 484A 484B<br>516B 527A 539<br>Earth exploration–satellite<br>(Earth-to-space) 541<br>Mobile–satellite (Earth-to-space)<br>540                      |
| <b>29.9 – 30</b>   | FIXED–SATELLITE (Earth-to-space) 484A 484B 516B<br>527A 539<br>MOBILE–SATELLITE (Earth-to-space)<br>Earth exploration–satellite (Earth-to-space) 541 543<br><br>525 526 527 538 540 542                 |  | <b>29.9 – 30</b><br>FIXED–SATELLITE (Earth-to-space) 484A 484B<br>516B 527A 539<br>MOBILE–SATELLITE<br>(Earth-to-space)<br>Earth exploration–satellite<br>(Earth-to-space) 541 543<br>525 526 527 538 540 |
| <b>30 – 31</b>   | FIXED–SATELLITE (Earth-to-space) 338A<br>MOBILE–SATELLITE (Earth-to-space)<br>Standard frequency and time signal–satellite (space-to-Earth)<br><br>542  |  | <b>30 – 31</b><br>FIXED–SATELLITE (Earth-to-space) 338A<br>MOBILE–SATELLITE<br>(Earth-to-space)<br>Standard frequency and time<br>signal–satellite (space-to-Earth)<br>AUS87 AUS100                       |
| <b>31 – 31.3</b>   | FIXED 338A 543A<br>MOBILE<br>Standard frequency and time signal–satellite (space-to-Earth)<br>Space research 544 545<br><br>149   |  | <b>31 – 31.3</b><br>FIXED 338A<br>MOBILE<br>Standard frequency and time<br>signal–satellite (space-to-Earth)<br>Space research 544<br>149 AUS87   |

**GHz**  
**31.3 – 34.2**

| Column 1: ITU Radio Regulations Table of Allocations  |  |   | Column 2:<br>Australian Table of Allocations  |
|---|--|---|---|
| Region 1  | Region 2   | Region 3  |   |
| <b>31.3 – 31.5</b>  | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340                              |   | <b>31.3 – 31.5</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340 AUS87  |
| <b>31.5 – 31.8</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>Fixed<br>Mobile except aeronautical<br>mobile<br>149 546 | <b>31.5 – 31.8</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br><br>340 | <b>31.5 – 31.8</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>Fixed<br>Mobile except aeronautical<br>mobile<br>149 | <b>31.5 – 31.8</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>Fixed<br>Mobile except aeronautical<br>mobile<br>149 AUS87 |
| <b>31.8 – 32</b>  | FIXED 547A<br>RADIONAVIGATION<br>SPACE RESEARCH (deep space) (space-to-Earth)<br><br>547 547B 548                            |   | <b>31.8 – 32</b><br>FIXED 547A<br>RADIONAVIGATION<br>SPACE RESEARCH (deep<br>space) (space-to-Earth)<br>547 548 AUS87   |
| <b>32 – 32.3</b>  | FIXED 547A<br>RADIONAVIGATION<br>SPACE RESEARCH (deep space) (space-to-Earth)<br><br>547 547C 548                            |   | <b>32 – 32.3</b><br>FIXED 547A<br>RADIONAVIGATION<br>SPACE RESEARCH (deep<br>space) (space-to-Earth)<br>547 548 AUS87   |
| <b>32.3 – 33</b>  | FIXED 547A<br>INTER–SATELLITE<br>RADIONAVIGATION<br><br>547 547D 548   |   | <b>32.3 – 33</b><br>FIXED 547A<br>INTER–SATELLITE<br>RADIONAVIGATION<br>547 548 AUS87   |
| <b>33 – 33.4</b>  | FIXED 547A<br>RADIONAVIGATION<br><br>547 547E  |   | <b>33 – 33.4</b><br>FIXED 547A<br>RADIONAVIGATION<br>547 AUS87  |
| <b>33.4 – 34.2</b>  | RADIOLOCATION<br><br>549   |   | <b>33.4 – 34.2</b><br>RADIOLOCATION<br>FIXED–SATELLITE (space-<br>to-Earth)<br>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   |
| <b>34.2 – 34.7</b>                                   | RADIOLOCATION<br>SPACE RESEARCH (deep space) (Earth-to-space)<br><br>549  |          | <b>34.2 – 34.7</b><br>RADIOLOCATION<br>AUS102A<br>SPACE RESEARCH (deep space) (Earth-to-space)<br>FIXED-SATELLITE (space-to-Earth) AUS101A<br>AUS87                                   |
| <b>34.7 – 35.2</b>                                   | RADIOLOCATION<br>Space research 550<br><br>549  |          | <b>34.7 – 35.2</b><br>RADIOLOCATION<br>FIXED-SATELLITE (space-to-Earth)<br>Space research<br>AUS87 AUS101   |
| <b>35.2 – 35.5</b>                                   | METEOROLOGICAL AIDS<br>RADIOLOCATION<br><br>549   |          | <b>35.2 – 35.5</b><br>METEOROLOGICAL AIDS<br>RADIOLOCATION<br>AUS101A<br>FIXED-SATELLITE (space-to-Earth) AUS101A<br>AUS87  |
| <b>35.5 – 36</b>                                     | METEOROLOGICAL AIDS<br>EARTH EXPLORATION-SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH (active)<br><br>549 549A |          | <b>35.5 – 36</b><br>METEOROLOGICAL AIDS<br>EARTH EXPLORATION-SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH (active)<br>FIXED-SATELLITE (space-to-Earth) AUS101A<br>549A AUS87 |
| <b>36 – 37</b>                                       | EARTH EXPLORATION-SATELLITE (passive)<br>FIXED<br>MOBILE<br>SPACE RESEARCH (passive)<br><br>149 550A                    |          | <b>36 – 37</b><br>EARTH EXPLORATION-SATELLITE (passive)<br>FIXED<br>MOBILE<br>SPACE RESEARCH (passive)<br>149 550A AUS87 AUS101   |
| <b>37 – 37.5</b>                                     | FIXED<br>MOBILE except aeronautical mobile<br>SPACE RESEARCH (space-to-Earth)<br><br>547                                |          | <b>37 – 37.5</b><br>FIXED<br>MOBILE except aeronautical mobile<br>SPACE RESEARCH (space-to-Earth)<br>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   |
| <b>37.5 – 38</b>                                     | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>SPACE RESEARCH (space-to-Earth)<br>Earth exploration–satellite (space-to-Earth)<br><br>547   |          | <b>37.5 – 38</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>SPACE RESEARCH (space-to-Earth)<br>Earth exploration–satellite (space-to-Earth)<br>547 AUS87  |
| <b>38 – 39.5</b>                                     | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>Earth exploration–satellite (space-to-Earth)<br><br>547   |          | <b>38 – 39.5</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>Earth exploration–satellite (space-to-Earth)<br>547 AUS87  |
| <b>39.5 – 40</b>                                     | FIXED<br>FIXED–SATELLITE (space-to-Earth) 516B<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth)<br>Earth exploration–satellite (space-to-Earth)<br><br>547   |          | <b>39.5 – 40</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth)<br>Earth exploration–satellite (space-to-Earth)<br>547 AUS87   |
| <b>40 – 40.5</b>                                     | EARTH EXPLORATION–SATELLITE (Earth-to-space)<br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 516B<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth)<br>SPACE RESEARCH (Earth-to-space)<br>Earth exploration–satellite (space-to-Earth) |          | <b>40 – 40.5</b><br>EARTH EXPLORATION–SATELLITE (Earth-to-space)<br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 516B<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth)<br>SPACE RESEARCH (Earth-to-space)<br>Earth exploration–satellite (space-to-Earth)<br>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  |
| <b>40.5 – 41</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>BROADCASTING<br>BROADCASTING–SATELLITE<br>Mobile<br><br>547 | <b>40.5 – 41</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth) 516B<br>BROADCASTING<br>BROADCASTING–SATELLITE<br>Mobile<br>Mobile–satellite (space-to-Earth)<br><br>547 | <b>40.5 – 41</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>BROADCASTING<br>BROADCASTING–SATELLITE<br>Mobile<br><br>547 | <b>40.5 – 41</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>BROADCASTING<br>BROADCASTING–SATELLITE<br>Mobile<br><br>547 AUS87               |
| <b>41 – 42.5</b>   | FIXED<br>FIXED–SATELLITE (space-to-Earth) 516B<br>BROADCASTING<br>BROADCASTING–SATELLITE<br>Mobile<br><br>547 551F 551H 551I   |  | <b>41 – 42.5</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>BROADCASTING<br>BROADCASTING–SATELLITE<br>Mobile<br>547 551F 551H 551I<br>AUS87 |
| <b>42.5 – 43.5</b>   | FIXED<br>FIXED–SATELLITE (Earth-to-space) 552<br>MOBILE except aeronautical mobile<br>RADIO ASTRONOMY<br><br>149 547   |  | <b>42.5 – 43.5</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 552<br>MOBILE except aeronautical mobile<br>RADIO ASTRONOMY<br>149 547 AUS87     |
| <b>43.5 – 47</b>   | MOBILE 553<br>MOBILE–SATELLITE<br>RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE<br><br>554  |  | <b>43.5 – 47</b><br>MOBILE 553<br>MOBILE–SATELLITE<br>RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE<br>554 AUS62 AUS87                            |
| <b>47 – 47.2</b>   | AMATEUR<br>AMATEUR–SATELLITE   |  | <b>47 – 47.2</b><br>AMATEUR<br>AMATEUR–SATELLITE<br>AUS87  |
| <b>47.2 – 47.5</b>   | FIXED<br>FIXED–SATELLITE (Earth-to-space) 552<br>MOBILE<br><br>552A  |  | <b>47.2 – 47.5</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 552<br>MOBILE<br>552A AUS87  |

**GHz**  
**47.5 – 51.4**

| Column 1: ITU Radio Regulations Table of Allocations  |  |          | Column 2:<br>Australian Table of Allocations  |
|---|--|----------|---|
| Region 1  | Region 2   | Region 3 |   |
| <b>47.5 – 47.9</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 552 (space-to-Earth) 516B 554A<br>MOBILE            | <b>47.5 – 47.9</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 552<br>MOBILE  |          | <b>47.5 – 47.9</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 552<br>MOBILE<br>AUS87  |
| <b>47.9 – 48.2</b>  | FIXED<br>FIXED–SATELLITE (Earth-to-space) 552<br>MOBILE<br><br>552A  |          | <b>47.9 – 48.2</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 552<br>MOBILE<br>552A AUS87                                     |
| <b>48.2 – 48.54</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 552 (space-to-Earth) 516B 554A 555B<br>MOBILE      | <b>48.2 – 50.2</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 338A 516B 552<br>MOBILE<br><br><br><br><br><br><br>149 340 555 |          | <b>48.2 – 50.2</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 338A 552<br>MOBILE<br><br><br><br><br><br><br>149 340 555 AUS87 |
| <b>48.54 – 49.44</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 552<br>MOBILE<br>149 340 555                      |  |          |   |
| <b>49.44 – 50.2</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 338A 552 (space-to-Earth) 516B 554A 555B<br>MOBILE |  |          |   |
| <b>50.2 – 50.4</b>  | EARTH EXPLORATION–SATELLITE (passive)<br>SPACE RESEARCH (passive)<br><br>340   |          | <b>50.2 – 50.4</b><br>EARTH EXPLORATION–SATELLITE (passive)<br>SPACE RESEARCH (passive)<br>340                                  |
| <b>50.4 – 51.4</b>  | FIXED<br>FIXED–SATELLITE (Earth-to-space) 338A<br>MOBILE<br>Mobile–satellite (Earth-to-space)                                  |          | <b>50.4 – 51.4</b><br>FIXED<br>FIXED–SATELLITE (Earth-to-space) 338A<br>MOBILE<br>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  |
| <b>51.4 – 52.6</b>                                   | FIXED 338A<br>MOBILE<br><br>547 556  |          | <b>51.4 – 52.6</b><br>FIXED 338A<br>MOBILE<br>RADIO ASTRONOMY<br>547   |
| <b>52.6 – 54.25</b>                                  | EARTH EXPLORATION–SATELLITE (passive)<br>SPACE RESEARCH (passive)<br><br>340 556   |          | <b>52.6 – 54.25</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>SPACE RESEARCH<br>(passive)<br>RADIO ASTRONOMY<br>340                                  |
| <b>54.25 – 55.78</b>                                 | EARTH EXPLORATION–SATELLITE (passive)<br>INTER–SATELLITE 556A<br>SPACE RESEARCH (passive)<br><br>556B                                |          | <b>54.25 – 55.78</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>INTER–SATELLITE 556A<br>SPACE RESEARCH<br>(passive)                                   |
| <b>55.78 – 56.9</b>                                  | EARTH EXPLORATION–SATELLITE (passive)<br>FIXED 557A<br>INTER–SATELLITE 556A<br>MOBILE 558<br>SPACE RESEARCH (passive)<br><br>547 557 |          | <b>55.78 – 56.9</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>FIXED 557A<br>INTER–SATELLITE 556A<br>MOBILE 558<br>SPACE RESEARCH<br>(passive)<br>547 |
| <b>56.9 – 57</b>                                     | EARTH EXPLORATION–SATELLITE (passive)<br>FIXED<br>INTER–SATELLITE 558A<br>MOBILE 558<br>SPACE RESEARCH (passive)<br><br>547 557      |          | <b>56.9 – 57</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>FIXED<br>INTER–SATELLITE 558A<br>MOBILE 558<br>SPACE RESEARCH<br>(passive)<br>547         |
| <b>57 – 58.2</b>                                     | EARTH EXPLORATION–SATELLITE (passive)<br>FIXED<br>INTER–SATELLITE 556A<br>MOBILE 558<br>SPACE RESEARCH (passive)<br><br>547 557      |          | <b>57 – 58.2</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>FIXED<br>INTER–SATELLITE 556A<br>MOBILE 558<br>SPACE RESEARCH<br>(passive)<br>547         |

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

**GHz**  
**71 – 81**

| Column 1: ITU Radio Regulations Table of Allocations |   |          | Column 2:<br>Australian Table of Allocations  |
|--|---|----------|---|
| Region 1   | Region 2  | Region 3 |   |
| <b>71 – 74</b>                                       | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth)  |          | <b>71 – 74</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth)  |
| <b>74 – 76</b>                                       | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>BROADCASTING<br>BROADCASTING–SATELLITE<br>Space research (space-to-Earth)<br><br>561 |          | <b>74 – 76</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>BROADCASTING<br>BROADCASTING–SATELLITE<br>Space research (space-to-Earth)<br>561 AUS87 |
| <b>76 – 77.5</b>                                     | RADIO ASTRONOMY<br>RADIOLOCATION<br>Amateur<br>Amateur–satellite<br>Space research (space-to-Earth)<br><br>149                              |          | <b>76 – 77.5</b><br>RADIO ASTRONOMY<br>RADIOLOCATION<br>Amateur<br>Amateur–satellite<br>Space research (space-to-Earth)<br>149 AUS87                            |
| <b>77.5 – 78</b>                                     | AMATEUR<br>AMATEUR–SATELLITE<br>RADIOLOCATION 559B<br>Radio astronomy<br>Space research (space-to-Earth)<br><br>149                         |          | <b>77.5 – 78</b><br>AMATEUR<br>AMATEUR–SATELLITE<br>RADIOLOCATION 559B<br>Radio astronomy<br>Space research (space-to-Earth)<br>149 AUS87                       |
| <b>78 – 79</b>                                       | RADIOLOCATION<br>Amateur<br>Amateur–satellite<br>Radio astronomy<br>Space research (space-to-Earth)<br><br>149 560                          |          | <b>78 – 79</b><br>RADIOLOCATION<br>Amateur<br>Amateur–satellite<br>Radio astronomy<br>Space research (space-to-Earth)<br>149 560 AUS87                          |
| <b>79 – 81</b>                                       | RADIO ASTRONOMY<br>RADIOLOCATION<br>Amateur<br>Amateur–satellite<br>Space research (space-to-Earth)<br><br>149                              |          | <b>79 – 81</b><br>RADIO ASTRONOMY<br>RADIOLOCATION<br>Amateur<br>Amateur–satellite<br>Space research (space-to-Earth)<br>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   |
| <b>81 – 84</b>                                       | FIXED 338A<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE<br>MOBILE–SATELLITE (Earth-to-space)<br>RADIO ASTRONOMY<br>Space research (space-to-Earth) |          | <b>81 – 84</b><br>FIXED 338A<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE<br>MOBILE–SATELLITE (Earth-to-space)<br>RADIO ASTRONOMY<br>Space research (space-to-Earth) |
|  | 149 561A  |          | 149 561A AUS87  |
| <b>84 – 86</b>                                       | FIXED 338A<br>FIXED–SATELLITE (Earth-to-space) 561B<br>MOBILE<br>RADIO ASTRONOMY  |          | <b>84 – 86</b><br>FIXED 338A<br>FIXED–SATELLITE (Earth-to-space) 561B<br>MOBILE<br>RADIO ASTRONOMY  |
|  | 149   |          | 149 AUS87   |
| <b>86 – 92</b>                                       | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)  |          | <b>86 – 92</b><br>EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)  |
|  | 340   |          | 340 AUS87   |
| <b>92 – 94</b>                                       | FIXED 338A<br>MOBILE<br>RADIO ASTRONOMY<br>RADIOLOCATION  |          | <b>92 – 94</b><br>FIXED 338A<br>MOBILE<br>RADIO ASTRONOMY<br>RADIOLOCATION  |
|  | 149   |          | 149 AUS87   |
| <b>94 – 94.1</b>                                     | EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH (active)<br>Radio astronomy   |          | <b>94 – 94.1</b><br>EARTH EXPLORATION–SATELLITE (active)<br>RADIOLOCATION<br>SPACE RESEARCH (active)<br>Radio astronomy   |
|  | 562 562A  |          | 562 562A AUS87  |
| <b>94.1 – 95</b>                                     | FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>RADIOLOCATION   |          | <b>94.1 – 95</b><br>FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>RADIOLOCATION   |
|  | 149   |          | 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   |
| <b>95 – 100</b>                                      | FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>RADIOLOCATION<br>RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE<br><br>149 554 |          | <b>95 – 100</b><br>FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>RADIOLOCATION<br>RADIONAVIGATION<br>RADIONAVIGATION–<br>SATELLITE<br>149 554 AUS87 |
| <b>100 – 102</b>                                     | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 341                |          | <b>100 – 102</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340 341 AUS87            |
| <b>102 – 105</b>                                     | FIXED<br>MOBILE<br>RADIO ASTRONOMY<br><br>149 341  |          | <b>102 – 105</b><br>FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>149 341 AUS87   |
| <b>105 – 109.5</b>                                   | FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive) 562B<br><br>149 341                                 |          | <b>105 – 109.5</b><br>FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive) 562B<br>149 341 AUS87                               |
| <b>109.5 – 111.8</b>                                 | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 341                |          | <b>109.5 – 111.8</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340 341 AUS87        |
| <b>111.8 – 114.25</b>                                | FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive) 562B<br><br>149 341                                 |          | <b>111.8 – 114.25</b><br>FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive) 562B<br>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  |
| <b>114.25 – 116</b>                                  | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 341  |          | <b>114.25 – 116</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340 341 AUS87  |
| <b>116 – 119.98</b>                                  | EARTH EXPLORATION–SATELLITE (passive)<br>INTER–SATELLITE 562C<br>SPACE RESEARCH (passive)<br><br>341   |          | <b>116 – 119.98</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>INTER–SATELLITE 562C<br>SPACE RESEARCH<br>(passive)<br>341   |
| <b>119.98 – 122.25</b>                               | EARTH EXPLORATION–SATELLITE (passive)<br>INTER–SATELLITE 562C<br>SPACE RESEARCH (passive)<br><br>138 341   |          | <b>119.98 – 122.25</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>INTER–SATELLITE 562C<br>SPACE RESEARCH<br>(passive)<br>138 341  |
| <b>122.25 – 123</b>                                  | FIXED<br>INTER–SATELLITE<br>MOBILE 558<br>Amateur<br><br>138   |          | <b>122.25 – 123</b><br>FIXED<br>INTER–SATELLITE<br>MOBILE 558<br>Amateur<br>138  |
| <b>123 – 130</b>                                     | FIXED–SATELLITE (space-to-Earth)<br>MOBILE–SATELLITE (space-to-Earth)<br>RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE<br>Radio astronomy 562D<br><br>149 554 |          | <b>123 – 130</b><br>FIXED–SATELLITE (space-<br>to-Earth)<br>MOBILE–SATELLITE<br>(space-to-Earth)<br>RADIONAVIGATION<br>RADIONAVIGATION–<br>SATELLITE<br>Radio astronomy<br>149 554 |
| <b>130 – 134</b>                                     | EARTH EXPLORATION–SATELLITE (active) 562E<br>FIXED<br>INTER–SATELLITE<br>MOBILE 558<br>RADIO ASTRONOMY<br><br>149 562A                                       |          | <b>130 – 134</b><br>EARTH EXPLORATION–<br>SATELLITE (active)<br>562E<br>FIXED<br>INTER–SATELLITE<br>MOBILE 558<br>RADIO ASTRONOMY<br>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  |
| <b>134 – 136</b>                                     | AMATEUR<br>AMATEUR–SATELLITE<br>Radio astronomy   |          | <b>134 – 136</b><br>AMATEUR<br>AMATEUR–SATELLITE<br>Radio astronomy  |
| <b>136 – 141</b>                                     | RADIO ASTRONOMY<br>RADIOLOCATION<br>Amateur<br>Amateur–satellite<br><br>149   |          | <b>136 – 141</b><br>RADIO ASTRONOMY<br>RADIOLOCATION<br>Amateur<br>Amateur–satellite<br>149  |
| <b>141 – 148.5</b>                                   | FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>RADIOLOCATION<br><br>149  |          | <b>141 – 148.5</b><br>FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>RADIOLOCATION<br>149   |
| <b>148.5 – 151.5</b>                                 | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340                                   |          | <b>148.5 – 151.5</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340                                   |
| <b>151.5 – 155.5</b>                                 | FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>RADIOLOCATION<br><br>149  |          | <b>151.5 – 155.5</b><br>FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>RADIOLOCATION<br>149   |
| <b>155.5 – 158.5</b>                                 | EARTH EXPLORATION–SATELLITE (passive)<br>FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive) 562B<br><br>149 562F 562G |          | <b>155.5 – 158.5</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>FIXED<br>MOBILE<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive) 562B<br>149 562F 562G |
| <b>158.5 – 164</b>                                   | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>MOBILE–SATELLITE (space-to-Earth)  |          | <b>158.5 – 164</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth)<br>MOBILE<br>MOBILE–SATELLITE<br>(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  |
| <b>164 – 167</b>                                     | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 |          | <b>164 – 167</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340 |
| <b>167 – 174.5</b>                                   | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>INTER–SATELLITE<br>MOBILE 558<br><br>149 562D      |          | <b>167 – 174.5</b><br>FIXED<br>FIXED–SATELLITE (space-<br>to-Earth)<br>INTER–SATELLITE<br>MOBILE 558<br>149            |
| <b>174.5 – 174.8</b>                                 | FIXED<br>INTER–SATELLITE<br>MOBILE 558  |          | <b>174.5 – 174.8</b><br>FIXED<br>INTER–SATELLITE<br>MOBILE 558   |
| <b>174.8 – 182</b>                                   | EARTH EXPLORATION–SATELLITE (passive)<br>INTER–SATELLITE 562H<br>SPACE RESEARCH (passive)       |          | <b>174.8 – 182</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>INTER–SATELLITE 562H<br>SPACE RESEARCH<br>(passive) |
| <b>182 – 185</b>                                     | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 |          | <b>182 – 185</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340 |
| <b>185 – 190</b>                                     | EARTH EXPLORATION–SATELLITE (passive)<br>INTER–SATELLITE 562H<br>SPACE RESEARCH (passive)       |          | <b>185 – 190</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>INTER–SATELLITE 562H<br>SPACE RESEARCH<br>(passive)   |
| <b>190 – 191.8</b>                                   | EARTH EXPLORATION–SATELLITE (passive)<br>SPACE RESEARCH (passive)<br><br>340                    |          | <b>190 – 191.8</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>SPACE RESEARCH<br>(passive)<br>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   |
| <b>191.8 – 200</b>                                   | FIXED<br>INTER–SATELLITE<br>MOBILE 558<br>MOBILE–SATELLITE<br>RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE<br><br>149 341 554 |          | <b>191.8 – 200</b><br>FIXED<br>INTER–SATELLITE<br>MOBILE 558<br>MOBILE–SATELLITE<br>RADIONAVIGATION<br>RADIONAVIGATION–<br>SATELLITE<br>149 341 554 |
| <b>200 – 202</b>                                     | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 341 563A                      |          | <b>200 – 202</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340 341 563A                     |
| <b>202 – 209</b>                                     | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 341 563A                      |          | <b>202 – 209</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>340 341 563A                     |
| <b>209 – 217</b>                                     | FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE<br>RADIO ASTRONOMY<br><br>149 341   |          | <b>209 – 217</b><br>FIXED<br>FIXED–SATELLITE (Earth-<br>to-space)<br>MOBILE<br>RADIO ASTRONOMY<br>149 341   |
| <b>217 – 226</b>                                     | FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive) 562B<br><br>149 341        |          | <b>217 – 226</b><br>FIXED<br>FIXED–SATELLITE (Earth-<br>to-space)<br>MOBILE<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive) 562B<br>149 341       |
| <b>226 – 231.5</b>                                   | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340                               |          | <b>226 – 231.5</b><br>EARTH EXPLORATION–<br>SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH<br>(passive)<br>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  |
| <b>231.5 – 232</b>                                   | FIXED<br>MOBILE<br>Radiolocation   |          | <b>231.5 – 232</b><br>FIXED<br>MOBILE<br>Radiolocation   |
| <b>232 – 235</b>                                     | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>Radiolocation   |          | <b>232 – 235</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>Radiolocation   |
| <b>235 – 238</b>                                     | EARTH EXPLORATION–SATELLITE (passive)<br>FIXED–SATELLITE (space-to-Earth)<br>SPACE RESEARCH (passive)<br><br>563A 563B |          | <b>235 – 238</b><br>EARTH EXPLORATION–SATELLITE (passive)<br>FIXED–SATELLITE (space-to-Earth)<br>SPACE RESEARCH (passive)<br>563A 563B   |
| <b>238 – 240</b>                                     | FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>RADIOLOCATION<br>RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE   |          | <b>238 – 240</b><br>FIXED<br>FIXED–SATELLITE (space-to-Earth)<br>MOBILE<br>RADIOLOCATION<br>RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE |
| <b>240 – 241</b>                                     | FIXED<br>MOBILE<br>RADIOLOCATION   |          | <b>240 – 241</b><br>FIXED<br>MOBILE<br>RADIOLOCATION   |
| <b>241 – 248</b>                                     | RADIO ASTRONOMY<br>RADIOLOCATION<br>Amateur<br>Amateur–satellite<br><br>138 149  |          | <b>241 – 248</b><br>RADIO ASTRONOMY<br>RADIOLOCATION<br>Amateur<br>Amateur–satellite<br>138 149  |
| <b>248 – 250</b>                                     | AMATEUR<br>AMATEUR–SATELLITE<br>Radio astronomy<br><br>149   |          | <b>248 – 250</b><br>AMATEUR<br>AMATEUR–SATELLITE<br>Radio astronomy<br>149   |
| <b>250 – 252</b>                                     | EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br><br>340 563A                   |          | <b>250 – 252</b><br>EARTH EXPLORATION–SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br>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   |
| <b>252 – 265</b>                                     | FIXED<br>MOBILE<br>MOBILE–SATELLITE (Earth-to-space)<br>RADIO ASTRONOMY<br>RADIONAVIGATION<br>RADIONAVIGATION–SATELLITE<br><br>149 554 |          | <b>252 – 265</b><br>FIXED<br>MOBILE<br>MOBILE–SATELLITE<br>(Earth-to-space)<br>RADIO ASTRONOMY<br>RADIONAVIGATION<br>RADIONAVIGATION–<br>SATELLITE<br>149 554 |
| <b>265 – 275</b>                                     | FIXED<br>FIXED–SATELLITE (Earth-to-space)<br>MOBILE<br>RADIO ASTRONOMY<br><br>149 563A   |          | <b>265 – 275</b><br>FIXED<br>FIXED–SATELLITE (Earth-<br>to-space)<br>MOBILE<br>RADIO ASTRONOMY<br>149 563A  |
| <b>275 – 3 000</b>                                   | (Not allocated)<br><br>565   |          | <b>275 – 3 000</b><br>(Not allocated)<br>565  |
|  |  |          | <b>3000 – 420 000</b><br>(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, 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.
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- 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, 8 815–8 965 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 **13**, and Chapters **VII** and **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, 18 780–18 900 kHz, 22 000–22 855 kHz and 25 070–25 210 kHz by the maritime mobile service.
- AUS54 The use of the bands 5 950–6 200 kHz, 7 100–7 300 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
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- 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
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- 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.
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- 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<sup>1</sup>. The harmonised band comprises the following frequency ranges:  
403–403.9875 MHz,  
405.0125–406 MHz,  
408.6375–410.5375 MHz,  
412.4625–413.4375 MHz,  
414.4625–415.5625 MHz,  
418.0875–430 MHz,  
457.50625–459.9875 MHz,  
467.50625–469.9875 MHz.
- AUS99 The band 420.8–421.2 MHz is also allocated to the amateur service on a secondary basis.

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<sup>1</sup> 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).

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- 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 Bilateral 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
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of the Bilateral 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 Mongolia, Kyrgyzstan, and Turkmenistan, the band 130–148.5 kHz is also allocated to the radionavigation service on a secondary basis. Within and between these countries this service shall have an equal right to operate. (WRC-07)
- 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
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- interference to stations of the radionavigation service operating in countries listed in No. 67. (WRC-07)
- 67B The use of the band 135.7–137.8 kHz in Algeria, Egypt, Iran (Islamic Republic of), 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 band 135.7–137.8 kHz, and this should be taken into account by the countries authorising such use. (WRC-12)
- 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), Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, the Dem. Rep. of the Congo, South Africa, Swaziland, Tanzania, Chad, Zambia and Zimbabwe, the band 200–283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)
- 71 *Alternative allocation:* in Tunisia, the band 255–283.5 kHz is allocated to the broadcasting service on a primary basis.
- 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.
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- 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 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 (see No. **52.39**). (WRC-12)
- 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 The use of the bands 415–495 kHz and 505–526.5 kHz (505–510 kHz in Region 2) by the maritime mobile service is limited to radiotelegraphy.
- 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 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.
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- 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)
- 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, Lesotho, Malawi, Mozambique, Namibia, Niger and Swaziland, the band 526.5–535 kHz is also allocated to the mobile service on a secondary basis. (WRC-12)
- 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.
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- 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)
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- 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, Ethiopia, Iraq, Libya, Somalia and Swaziland, the 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-12)
- 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**.
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- 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  $\pm 3$  kHz about the frequency. (WRC-07)
- 112 Alternative allocation: in Denmark and Sri Lanka, the band 2 194–2 300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 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 Denmark and Iraq, the band 2 502–2 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 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, Denmark, Egypt, Liberia, Sri Lanka and Togo, the band 3 155–3 200 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 118 Additional allocation: in the United States, Mexico, Peru and Uruguay, the band 3 230–3 400 kHz is also allocated to the radiolocation service on a secondary basis. (WRC-03)
- 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, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the band 3 900–3 950 kHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. **9.21**.
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- 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 bands 4 063–4 123 kHz and 4 130–4 438 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W, on condition that harmful interference is not caused to the maritime mobile service. In addition, in Afghanistan, Argentina, Armenia, Azerbaijan, Belarus, Botswana, Burkina Faso, the Central African Rep., China, the Russian Federation, Georgia, India, Kazakhstan, Mali, Niger, Pakistan, Kyrgyzstan, Tajikistan, Chad, Turkmenistan and Ukraine, in the bands 4 063–4 123 kHz, 4 130–4 133 kHz and 4 408–4 438 kHz, stations in the fixed service, with a mean power not exceeding 1 kW, can be operated on condition that they are situated at least 600 km from the coast and that harmful interference is not caused to the maritime mobile service. (WRC-12)
- 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, Uzbekistan 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-15)
- 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
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- the mobile, except aeronautical mobile, service is on a primary basis (see No. 33). (WRC-12)
- 133A Alternative allocation: in Armenia, Belarus, Moldova, Uzbekistan 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-15)
- 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 territories 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-15)
- 134 The use of the bands 5 900–5 950 kHz, 7 300–7 350 kHz, 9 400–9 500 kHz, 11 600–11 650 kHz, 12 050–12 100 kHz, 13 570–13 600 kHz, 13 800–13 870 kHz, 15 600–15 800 kHz, 17 480–17 550 kHz and 18 900–19 020 kHz by the broadcasting service is subject to the application of the procedure of Article 12. Administrations are encouraged to use these bands to facilitate the introduction of digitally modulated emissions in accordance with the provisions of Resolution **517 (Rev.WRC-07)**. (WRC-07)
- 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),
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- 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, 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-15)
- 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)
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- 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, Uzbekistan 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-15)
- 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:

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| 13 360–13 410 kHz,<br>25 550–25 670 kHz,<br>37.5–38.25 MHz,<br>73–74.6 MHz in Regions 1<br>and 3,<br>150.05–153 MHz in Region 1,<br>322–328.6 MHz,<br>406.1–410 MHz,<br>608–614 MHz in Regions 1<br>and 3,<br>1 330–1 400 MHz,<br>1 610.6–1 613.8 MHz,<br>1 660–1 670 MHz,<br>1 718.8–1 722.2 MHz,<br>2 655–2 690 MHz,<br>3 260–3 267 MHz,<br>3 332–3 339 MHz,<br>3 345.8–3 352.5 MHz, | 4 825–4 835 MHz,<br>4 950–4 990 MHz,<br>4 990–5 000 MHz,<br>6 650–6 675.2 MHz,<br>10.6–10.68 GHz,<br>14.47–14.5 GHz,<br>22.01–22.21 GHz,<br>22.21–22.5 GHz,<br>22.81–22.86 GHz,<br>23.07–23.12 GHz,<br>31.2–31.3 GHz,<br>31.5–31.8 GHz in Regions 1<br>and 3,<br>36.43–36.5 GHz,<br>42.5–43.5 GHz,<br>48.94–49.04 GHz,<br>76–86 GHz, | 92–94 GHz,<br>94.1–100 GHz,<br>102–109.5 GHz,<br>111.8–114.25 GHz,<br>128.33–128.59 GHz,<br>129.23–129.49 GHz,<br>130–134 GHz,<br>136–148.5 GHz,<br>151.5–158.5 GHz,<br>168.59–168.93 GHz,<br>171.11–171.45 GHz,<br>172.31–172.65 GHz,<br>173.52–173.85 GHz,<br>195.75–196.15 GHz,<br>209–226 GHz,<br>241–250 GHz,<br>252–275 GHz |
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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, Uzbekistan 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-15)

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,

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- 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, Uzbekistan and Kyrgyzstan, the frequency band 24 450–24 600 kHz is allocated to the fixed and land mobile services on a primary basis. (WRC-15)
- 159 *Alternative allocation:* in Armenia, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 39–39.5 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-15)
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- 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) and the United States, 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)**.
- 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, The Former Yugoslav Rep. of Macedonia, Liechtenstein, Lithuania, Luxembourg, 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-15)
- 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, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Luxembourg, Monaco, Montenegro, Norway, the Netherlands, Poland, Portugal, the Czech Rep., the United Kingdom, Serbia, Slovenia, Sweden and Switzerland the band 46–68 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution **217 (WRC-97)**. (WRC-12)
- 163 Additional allocation: in Armenia, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 47–48.5 MHz and 56.5–58 MHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-12)
- 164 Additional allocation: in Albania, Algeria, Germany, Austria, Belgium, Bosnia and Herzegovina, Botswana, Bulgaria, Côte d'Ivoire, Croatia, Denmark, Spain, Estonia, Finland, France, Gabon, Greece, 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, Swaziland, Chad, Togo, Tunisia and Turkey, the frequency band 47–68 MHz, in South Africa the frequency band 47–50 MHz, and in
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- Latvia the frequency band 48.5–56.5 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-15)
- 165 Additional allocation: in Angola, Cameroon, Congo (Rep. of the), Madagascar, Mozambique, Niger, Somalia, Sudan, South Sudan, Tanzania and Chad, the band 47–68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 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, Lesotho, Malawi, Namibia, the Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 50–54 MHz is allocated to the amateur service on a primary basis. In Senegal, the band 50–51 MHz is allocated to the amateur service on a primary basis. (WRC-12)
- 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, Lesotho, Malawi, Mali, Namibia, Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 54–68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 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–
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- 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.
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- 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 Azerbaijan, Kyrgyzstan, Somalia, and Turkmenistan, the band 104–108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-07)
- 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)
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- 201 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq (Republic of), Japan, Kazakhstan, Moldova, Mongolia, Mozambique, Uzbekistan, Papua New Guinea, Poland, Kyrgyzstan, Romania, 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-15)
- 202 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Belarus, Bulgaria, the United Arab Emirates, the Russian Federation, Georgia, Iran (Islamic Republic of), Jordan, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, 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-15)
- 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, Serbia, Singapore, Thailand and Yemen, the band 137–138 MHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis (see No. **33**). (WRC-07)
- 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 bands 137–138 MHz, 387–390 MHz and 400.15–401 MHz, administrations shall take all practicable steps to protect the radio astronomy service in the bands 150.05–153 MHz, 322–328.6 MHz, 406.1–410 MHz and 608–614 MHz from harmful interference from unwanted emissions. The threshold levels of interference
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detrimental to the radio astronomy service are shown in the relevant ITU-R Recommendation. (WRC-07)

208B In the frequency bands:

137–138 MHz,  
387–390 MHz,  
400.15–401 MHz,  
1 452–1 492 MHz,  
1 525–1 610 MHz,  
1 613.8–1 626.5 MHz,  
2 655–2 690 MHz,  
21.4–22 GHz,

Resolution **739 (Rev.WRC-07)** applies. (WRC-15)

- 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)
- 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, The Former Yugoslav Republic of Macedonia, Lebanon, Liechtenstein, Luxembourg, 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-15)
- 212 Alternative allocation: in Angola, Botswana, Cameroon, the Central African Rep., Congo (Rep. of the), 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, Swaziland, Chad, Togo, Zambia and Zimbabwe, the band 138–144 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 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, The Former Yugoslav Republic of Macedonia, Montenegro, Serbia, Somalia, Sudan, South Sudan and Tanzania, the band 138–144 MHz is also allocated to the fixed service on a primary basis. (WRC-12)

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- 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  $\pm 25$  kHz.
- 219 The use of the band 148–149.9 MHz by the mobile–satellite service is subject to coordination under No. **9.11A**. The mobile–satellite service shall not constrain the development and use of the fixed, mobile and space operation services in the band 148–149.9 MHz.
- 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, 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, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Montenegro, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, the Philippines, Poland, Portugal, Qatar, 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, Swaziland, Tanzania, Chad, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia, and Zimbabwe. (WRC-15)
- 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-
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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( $\mu$ V/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)
- 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.
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- 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.
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- 242 Additional allocation: in Canada, the band 216–220 MHz is also allocated to the land mobile service on a primary basis.
- 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, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the bands 230–238 MHz and 246–254 MHz are allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. **9.21**.
- 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)
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- 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)
- 261 Emissions shall be confined in a band of  $\pm 25$  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.
- 265 In the frequency band 403–410 MHz, Resolution **205 (Rev.WRC-15)** applies. (WRC-15)
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- 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  $-153 \text{ dB(W/m}^2\text{)}$  for  $0^\circ \leq \delta \leq 5^\circ$ ,  $-153 + 0.077(\delta - 5) \text{ dB(W/m}^2\text{)}$  for  $5^\circ \leq \delta \leq 70^\circ$  and  $-148 \text{ dB(W/m}^2\text{)}$  for  $70^\circ \leq \delta \leq 90^\circ$ , where  $\delta$  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, the Former Yugoslav Republic of 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-15)
- 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,
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- 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, Mongolia, Uzbekistan, Poland, the Dem. Rep. of the Congo, Kyrgyzstan, Slovakia, Romania, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the band 430–440 MHz is also allocated to the fixed service on a primary basis. (WRC-12)
- 278 Different category of service: in Argentina, Colombia, Costa Rica, Cuba, Guyana, Honduras, Panama and Venezuela, the allocation of the band 430–440 MHz to the amateur service is on a primary basis (see No. **33**).
- 279 Additional allocation: in Mexico, the bands 430–435 MHz and 438–440 MHz are also allocated on a primary basis to the land mobile service, subject to agreement obtained under No. **9.21**.
- 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.1260–1. 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-15)
- 280 In Germany, Austria, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Liechtenstein, Montenegro, Portugal, Serbia, Slovenia and Switzerland, the band 433.05–434.79 MHz (centre frequency 433.92 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services of these countries operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. **15.13**. (WRC-07)
- 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-15)**. 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-15)
- 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 MHz–467.5875 MHz by the maritime mobile service is limited to on-board communication stations. The characteristics of the equipment and the channelling arrangements shall be in accordance with Recommendation ITU-R M.1174-3. The use of these frequency bands in territorial waters is subject to the national regulations of the administration concerned. (WRC-15)
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- 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.1174-3. (WRC-15)
- 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)
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- 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-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. 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. In Mexico, the use of IMT in this frequency band will not start before 31 December 2018 and may be extended if agreed by neighbouring countries. (WRC-15)
- 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, Finland, France, Gabon, Georgia, Ghana, Hungary, Iraq, Ireland, Iceland, Israel, Italy, Jordan, Kenya, Kuwait, Lesotho, Latvia, The Former Yugoslav Republic of Macedonia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, 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, the United Kingdom, Rwanda, San Marino, Serbia, Sudan, South Africa, Sweden, Switzerland, Swaziland, 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-15)
- 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-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. 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-15)
- 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**. (WRC-15)
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- 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 and Colombia, 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-15)
- 308A In the Bahamas, Barbados, Belize, Canada, Colombia, the United States and Mexico, the frequency band 614–698 MHz, or portions thereof, is identified for International Mobile Telecommunications (IMT) – see Resolution **224 (Rev.WRC-15)**. This identification does not preclude the use of these frequency bands by any application of the services to which there 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. In Belize and Mexico, the use of IMT in this frequency band will not start before 31 December 2018 and may be extended if agreed by the neighbouring countries. (WRC-15)
- 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)
- 311A For the frequency band 620–790 MHz, see also Resolution **549 (WRC-07)**. (WRC-07)
- 312 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the frequency band 645–862 MHz, in Bulgaria the frequency bands 646–686 MHz,
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- 726–758 MHz, 766–814 MHz and 822–862 MHz, and in Poland the frequency band 860–862 MHz until 31 December 2017, are also allocated to the aeronautical radionavigation service on a primary basis. (WRC-15)
- 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-15)**. See also Resolution **224 (Rev.WRC-15)**. (WRC-15)
- 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, Philippines 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. In China, the use of IMT in this frequency band will not start until 2015. (WRC-15)
- 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-15)** and **749 (Rev.WRC-15)** shall apply, as appropriate. (WRC-15)
- 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-15)**, **760 (Rev.WRC-15)** and **749 (Rev.WRC-15)**, 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-15)
- 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.
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- 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 band 862–960 MHz, in Bulgaria the bands 862–890.2 MHz and 900–935.2 MHz, in Poland the band 862–876 MHz until 31 December 2017, and in Romania the 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-12)
- 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, Mexico, Paraguay, Uruguay and Venezuela, the frequency band 902–928 MHz is allocated to the land 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-15)
- 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**).
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- 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-15)** shall apply. (WRC-15)
- 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 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 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-03)** shall apply. (WRC-03)
- 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
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- 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, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Mauritania, Montenegro, Nigeria, Norway, Oman, Pakistan, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Dem. People’s Rep. of Korea, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sudan, South Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Thailand, Togo, Turkey, Venezuela and Viet Nam, the band 1 215–1 300 MHz is also allocated to the radionavigation service on a primary basis. In Canada and the United States, the band 1 240–1 300 MHz is also allocated to the radionavigation service, and use of the radionavigation service shall be limited to the aeronautical radionavigation service. (WRC-12)
- 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)
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- 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, 30–31.3 GHz, 49.7–50.2 GHz, 50.4–50.9 GHz, 51.4–52.6 GHz, 81–86 GHz and 92–94 GHz, Resolution **750 (Rev.WRC-15)** applies. (WRC-15)
- 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<sup>2</sup>,  
 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,
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<sup>2</sup> 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).

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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 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**.)
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- 345 Use of the band 1 452–1 492 MHz by the broadcasting–satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution **528 (Rev.WRC-03)**. (WRC-03)
- 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, Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Kenya, Kuwait, Lesotho, Lebanon, Liberia, Madagascar, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Palestine<sup>3</sup>, Qatar, Dem. Rep. of the Congo, Rwanda, Senegal, Seychelles, Sudan, South Sudan, South Africa, Swaziland, 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-15)**. 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-15)**. (WRC-15)
- 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-15)** and Resolution **761 (WRC-15)**. 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 frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-15)
- 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<sup>2</sup>) 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)

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<sup>3</sup> 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. Busan, 2014) and taking into account the Israeli-Palestinian Interim Agreement of 28 September 1995.

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- 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, France, Iran (Islamic Republic of), Iraq, Israel, Kazakhstan, Kuwait, the Former Yugoslav Republic of Macedonia, Lebanon, Morocco, Qatar, the Syrian Arab Republic, Kyrgyzstan, Turkmenistan and Yemen, the allocation of the band 1 525–1 530 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. **33**). (WRC-07)
- 350 Additional allocation: in Azerbaijan, Kyrgyzstan and Turkmenistan, the band 1 525–1 530 MHz is also allocated to the aeronautical mobile service on a primary basis.
- 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, 1 668–1 675 MHz, 1 980–2 010 MHz, 2 170–2 200 MHz, 2 483.5–2 520 MHz and 2 670–2 690 MHz by the mobile–satellite service, see Resolutions **212 (Rev.WRC-07)** and **225 (Rev.WRC-07)**. (WRC-07)
- 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, France and French overseas communities of Region 3, 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-15)
- 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**.
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- 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, Benin, Cameroon, the Russian Federation, France, 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-15)
- 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)
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- 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 With respect to the radiodetermination–satellite and mobile–satellite services the provisions of No. **4.10** do not apply in the band 1 610–1 626.5 MHz, with the exception of the aeronautical radionavigation–satellite service.
- 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)
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- 372 Harmful interference shall not be caused to stations of the radio astronomy service using the band 1 610.6–1 613.8 MHz by stations of the radiodetermination–satellite and mobile–satellite services. (No. **29.13** applies.)
- 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<sup>2</sup>) in 10 MHz and  $-194$  dB(W/m<sup>2</sup>) 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
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- 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, the Former Yugoslav Republic of Macedonia, Lebanon, 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-15)
- 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
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- 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, 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–2000 mobile stations, in their territories from co-channel interference, a high altitude platform station (HAPS) operating as an IMT–2000 base station in neighbouring countries, in the bands referred to in No. **388A**, shall not exceed a co-channel power flux-density of  $-127$  dB(W/(m<sup>2</sup>·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-12)
- 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 band 1 980–1 990 MHz by the mobile–satellite service shall not cause harmful interference to or constrain the development of the fixed and mobile services in Argentina, Brazil, Canada, Chile, Ecuador, the United States, Honduras, Jamaica, Mexico, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela.
- 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.
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- 389F In Algeria, Benin, Cape Verde, Egypt, Iran (Islamic Republic of), Mali, the Syrian Arab Republic and Tunisia, the use of the 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.
- 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-15)**, with the exception of resolves 3 in regard to the limitation on broadcasting–satellite systems in the upper 25 MHz. (WRC-15)
- 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)
- 396 Space stations of the broadcasting–satellite service in the band 2 310–2 360 MHz operating in accordance with No. **393** that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution **33 (Rev.WRC-03)**. Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use. (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.
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- 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, Ethiopia, India, Iran (Islamic Republic of), Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, Dem. Rep. of the Congo, Sudan, Swaziland, 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-15)
- 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<sup>2</sup>/4 kHz) in Argentina, unless otherwise agreed by the administrations concerned.
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- 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:
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| –136 dB(W/(m <sup>2</sup> ·MHz))               | for $0^\circ \leq \theta \leq 5^\circ$ |
| –136 + 0.55 (θ – 5)dB(W/(m <sup>2</sup> ·MHz)) | for $5^\circ < \theta \leq 25^\circ$   |
| –125 dB(W/(m <sup>2</sup> ·MHz))               | for $25^\circ < \theta \leq 90^\circ$  |
- 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-15)**. 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-15)**. 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:

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| –130 dB(W/(m <sup>2</sup> ·MHz))               | for $0^\circ \leq \theta \leq 5^\circ$ |
| –130 + 0.4 (θ – 5) dB(W/(m <sup>2</sup> ·MHz)) | for $5^\circ < \theta \leq 25^\circ$   |
| –122 dB(W/(m <sup>2</sup> ·MHz))               | for $25^\circ < \theta \leq 90^\circ$  |

where  $\theta$  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<sup>2</sup>·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-15)

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)

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- 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.
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- 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 Azerbaijan, Kyrgyzstan and Turkmenistan, the frequency band 3 100–3 300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-15)
- 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, Israel, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, 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. The countries bordering the Mediterranean shall not claim protection for their fixed and mobile services from the radiolocation service. (WRC-15)
- 429A Additional allocation: in Angola, Benin, Botswana, Burkina Faso, Burundi, Ghana, Guinea, Guinea-Bissau, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sudan, South Sudan, South Africa, Swaziland, 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-15)
- 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, 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, Swaziland, 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-15)**. 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-15)
- 429C Different category of service: in Argentina, Brazil, Colombia, Costa Rica, 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
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- Argentina, Brazil, Guatemala, Mexico and Paraguay, 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-15)
- 429D In the following countries in Region 2: Argentina, Colombia, Costa Rica, Ecuador, Mexico 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-15)**. This use in Argentina 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-15)
- 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, 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-15)**. 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-15)
- 430 Additional allocation: in Azerbaijan, Kyrgyzstan and Turkmenistan, the frequency band 3 300–3 400 MHz is also allocated to the radionavigation service on a primary basis. (WRC-15)
- 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
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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  $-154.5 \text{ dB(W/(m}^2 \cdot 4 \text{ kHz))}$  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 and Israel, the frequency band 3 400–3 475 MHz is also allocated to the amateur service on a secondary basis. (WRC-15)
- 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  $-154.5 \text{ dB(W/(m}^2 \cdot 4 \text{ kHz))}$  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 and Pakistan, the allocation of the band 3 400–3 500 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 33). (WRC-2000)
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- 432A In Korea (Rep. of), Japan and Pakistan, the band 3 400–3 500 MHz is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. 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 band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed  $-154.5 \text{ dB(W/(m}^2 \cdot 4 \text{ kHz))}$  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 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-07)
- 432B Different category of service: in Australia, Bangladesh, China, French overseas communities of Region 3, India, Iran (Islamic Republic of), New Zealand, Philippines and Singapore, 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  $-154.5 \text{ dB(W/(m}^2 \cdot 4 \text{ kHz))}$  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-15)
- 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, China, French overseas communities of Region 3, Korea (Rep. of), India, Iran (Islamic Republic of), Japan, New Zealand, Pakistan and Philippines, 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  $-154.5 \text{ dB(W/(m}^2 \cdot 4 \text{ kHz))}$  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, calculation 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-15)
- 434 In Canada, Colombia, Costa Rica and the United States, 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  $-154.5 \text{ dB(W/(m}^2 \cdot 4 \text{ kHz))}$  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-15)
- 435 In Japan, in the band 3 620–3 700 MHz, the radiolocation service is excluded.
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- 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  $\pm 2$  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
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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 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-15)**. (WRC-15)
- 441B In Cambodia, Lao P.D.R., and Viet Nam, 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 this frequency band for the implementation of IMT 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 produced by this station does not exceed  $-155 \text{ dB(W/m}^2 \cdot 1 \text{ MHz)}$ ) 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 criterion is subject to review at WRC-19. See Resolution **223 (Rev.WRC-15)**. This identification shall be effective after WRC-19. (WRC-15)
- 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<sup>2</sup>) 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-15)**;
  - aeronautical telemetry transmissions from aircraft stations (see No. **1.83**) in accordance with Resolution **418 (Rev.WRC-15)**. (WRC-15)



- 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<sup>2</sup>) in any 4 kHz band for all angles of arrival. (WRC-15)
- 446A The use of the bands 5 150–5 350 MHz and 5 470–5 725 MHz by the stations in the mobile, except aeronautical mobile, service shall be in accordance with Resolution **229 (Rev.WRC-12)**. (WRC-12)
- 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, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Syrian Arab Republic, Sudan, South Sudan and Tunisia) and 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 (WRC-07)**. These stations shall not claim protection from other stations operating in accordance with Article 5. No. **43A** does not apply. (WRC-12)
- 447 Additional allocation: in Côte d'Ivoire, Egypt, Israel, Lebanon, the Syrian Arab Republic and Tunisia, the band 5 150–5 250 MHz is also allocated to the mobile service, on a primary basis, subject to agreement obtained under No. **9.21**. In this case, the provisions of Resolution **229 (Rev.WRC-12)** do not apply. (WRC-12)
- 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<sup>2</sup>) in any 4 kHz band for all angles of arrival.
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- 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). These services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendations ITU-R M.1638-0 and ITU-R RS.1632-0. (WRC-15)
- 448 Additional allocation: in Azerbaijan, Kyrgyzstan, Romania and Turkmenistan, the band 5 250–5 350 MHz is also allocated to the radionavigation service on a primary basis. (WRC-12)
- 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)
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- 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. Radiodetermination services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITU-R M.1638-0. (WRC-15)
- 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, Gabon, Guinea, Equatorial Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, 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, Swaziland, Tanzania, Chad, Thailand, Togo, Viet Nam and Yemen, the band 5 650–5 850 MHz is also allocated to the fixed and mobile services on a primary basis. In this case, the provisions of Resolution **229 (Rev.WRC-12)** do not apply. (WRC-12)
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- 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, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 5 670–5 850 MHz is also allocated to the fixed service on a primary basis. (WRC-07)
- 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)
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- 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)
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- 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 ( $\theta$ ), without the consent of the affected administration:
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| –135 dB(W/m <sup>2</sup> ) in a 1 MHz band                        | for $0^\circ \leq \theta < 5^\circ$      |
| –135 + 0.5 ( $\theta - 5$ ) dB(W/m <sup>2</sup> ) in a 1 MHz band | for $5^\circ \leq \theta < 25^\circ$     |
| –125 dB(W/m <sup>2</sup> ) in a 1 MHz band                        | for $25^\circ \leq \theta \leq 90^\circ$ |
- 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, 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, Swaziland, 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-15)

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- 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, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the bands 8 850–9 000 MHz and 9 200–9 300 MHz are also allocated to the radionavigation service on a primary basis. (WRC-07)
- 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)
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- 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, Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 9 800–10 000 MHz is also allocated to the radionavigation service on a primary basis. (WRC-07)
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- 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 Netherlands Antilles, 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. In Costa Rica, the frequency band 10.45–10.5 GHz is also allocated to the fixed service on a primary basis. (WRC-15)
- 481 Additional allocation: in Algeria, Germany, Angola, Brazil, China, Côte d'Ivoire, El Salvador, Ecuador, Spain, Guatemala, Hungary, Japan, Kenya, Morocco, Nigeria, Oman, Uzbekistan, Pakistan, Paraguay, Peru, the Dem. People's Rep. of Korea, Romania and Uruguay, the frequency band 10.45–10.5 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-15)
- 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), Costa Rica, Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, Mongolia, Qatar, Kyrgyzstan, the Dem. People's Rep. of Korea, Tajikistan, Turkmenistan and Yemen, the band 10.68–10.7 GHz is also allocated to the fixed and
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- mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-12)
- 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

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- 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<sup>2</sup>·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)
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- 495 Additional allocation: in France, Greece, Monaco, Montenegro, Uganda, Romania 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-15)
- 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.
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- 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:
- $-115 \text{ dB(W/(m}^2 \cdot 10 \text{ MHz))}$  for more than 1% of the time produced at 36 m above sea level at the low water mark, as officially recognised by the coastal State;
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- $-115 \text{ dB(W/(m}^2 \cdot 10 \text{ MHz))}$  for more than 1% of the time produced 3 m above ground at the border of the territory of an administration deploying or planning to deploy land mobile radars in this band, unless prior agreement has been obtained. For Earth stations within the fixed–satellite service having an antenna diameter greater than or equal to 4.5 m, the e.i.r.p. of any emission should be at least 68 dBW and should not exceed 85 dBW. (WRC-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)  $4.7D + 28 \text{ dB(W/40 kHz)}$ , where  $D$  is the fixed–satellite service Earth station antenna diameter (m) for antenna diameters equal to or greater than 1.2 m and less than 4.5 m;
  - ii)  $49.2 + 20 \log(D/4.5) \text{ dB(W/40 kHz)}$ , where  $D$  is the fixed–satellite service Earth station antenna diameter (m) for antenna diameters equal to or greater than 4.5 m and less than 31.9 m;
  - iii)  $66.2 \text{ dB(W/40 kHz)}$  for any fixed–satellite service Earth station for antenna diameters (m) equal to or greater than 31.9 m;
  - iv)  $56.2 \text{ dB(W/4 kHz)}$  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)

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- 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, 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, Swaziland, Chad, Viet Nam and Yemen, the frequency band 14–14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-15)
- 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, The Former Yugoslav Rep. of Macedonia and the United Kingdom, the band 14.25–14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-12)
- 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,
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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<sup>2</sup>·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



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- 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.
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- 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<sup>2</sup>) 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
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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 bands by other fixed-satellite service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in these Radio Regulations among users of the bands. Administrations should take this into account when considering regulatory provisions in relation to these bands. See Resolution **143 (Rev.WRC-07)**. (WRC-03)

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)

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- 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
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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)
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- 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  $-120.4 \text{ dB(W/(m}^2 \cdot \text{MHz))}$  at 3 m above the ground of any point of the territory of any other administration in Regions 1 and 3 for more than 20% of the time. In conducting the calculations, administrations should use the most recent version of Recommendation ITU-R P.452 (see 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)
- 530D See Resolution **555 (WRC-12)**. (WRC-12)
- 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)
- 533 The inter–satellite service shall not claim protection from harmful interference from airport surface detection equipment stations of the radionavigation service.
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- 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. (WRC-12)
- 536B In Saudi Arabia, Austria, Bahrain, Belgium, Brazil, China, Korea (Rep. of), Denmark, Egypt, United Arab Emirates, Estonia, Finland, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, Libya, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, the Syrian Arab Republic, Dem. People’s Rep. of Korea, Slovakia, the Czech Rep., Romania, the United Kingdom, Singapore, 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. (WRC-15)
- 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, 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.
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- of Korea, Sudan, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the 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-12)**. (WRC-12)
- 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)



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- 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.
- 543A In Bhutan, Cameroon, 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 31–31.3 GHz may also be used by systems using high altitude platform stations (HAPS) in the ground-to-HAPS direction. The use of the frequency band 31–31.3 GHz by systems using HAPS is limited to the territory of the countries listed above and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems, systems in the mobile service and systems operated under No. **545**. Furthermore, the development of these services shall not be constrained by HAPS. Systems using HAPS in the frequency band 31–31.3 GHz shall not cause harmful interference to the radio astronomy service having a primary allocation in the frequency band 31.3–31.8 GHz, taking into account the protection criterion as given in the most recent version of Recommendation ITU-R RA.769. In order to ensure the protection of satellite passive services, the level of unwanted power density into a HAPS ground station antenna in the frequency band 31.3–31.8 GHz shall be limited to  $-106$  dB(W/MHz) under clear-sky conditions, and may be increased up to  $-100$  dB(W/MHz) under rainy conditions to mitigate fading due to rain, provided the effective impact on the passive satellite does not exceed the impact under clear-sky conditions. See Resolution **145 (Rev.WRC-12)**. (WRC-15)
- 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, 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 band 31.5–31.8 GHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. **33**). (WRC-12)
- 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)
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- 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<sup>2</sup>) 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)
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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<sup>2</sup>) in 1 GHz and –246 dB(W/m<sup>2</sup>) 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<sup>2</sup>) 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  $\theta_{\min}$  of the radiotelescope (for which a default value of 5° should be adopted in the absence of notified information).

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

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

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have 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<sup>2</sup>) in 1 GHz and –153 dB(W/m<sup>2</sup>) 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<sup>2</sup>) 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.

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- 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 designated for use by high altitude platform stations. The use of the bands 47.2–47.5 GHz and 47.9–48.2 GHz is subject to the provisions of Resolution **122 (Rev.WRC-07)**. (WRC-07)
- 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)
- 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<sup>2</sup>) in any 500 kHz band at the site of any radio astronomy. station. (WRC-03)
- 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<sup>2</sup>·100 MHz)) for all angles of arrival. (WRC-97)
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- 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<sup>2</sup>·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)
- 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)
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- 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 bands 105–109.5 GHz, 111.8–114.25 GHz, 155.5–158.5 GHz and 217–226 GHz, the use of this allocation is limited to space-based radio astronomy only. (WRC-2000)
- 562C Use of the band 116–122.25 GHz by the inter–satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter–satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 km to 1 000 km above the Earth’s surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed  $-148 \text{ dB(W/(m}^2\cdot\text{MHz))}$  for all angles of arrival. (WRC-2000)
- 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)
- 562F In the band 155.5–158.5 GHz, the allocation to the Earth exploration–satellite (passive) and space research (passive) services shall terminate on 1 January 2018. (WRC-2000)
- 562G The date of entry into force of the allocation to the fixed and mobile services in the band 155.5–158.5 GHz shall be 1 January 2018. (WRC-2000)
- 562H Use of the bands 174.8–182 GHz and 185–190 GHz by the inter–satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter–satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 to 1 000 km above the Earth’s surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed  $-144 \text{ dB(W/(m}^2\cdot\text{MHz))}$  for all angles of arrival. (WRC-2000)
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- 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)
- 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)