Australian Government

Australian Communications and Media Authority

Australia's regulator for broadcasting, the internet, radiocommunications and telecommunications

www.acma.gov.au

Australian Radiofrequency Spectrum Plan

January 2009

Australian Radiofrequency Spectrum Plan 2009

including

General Information

Australian Communications and Media Authority

January 2009

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Foreword

This publication is divided into two chapters.

Chapter 1 General Information is intended to provide an introduction to the basis of the 2009 Australian Radiofrequency Spectrum Plan, broad guidance in its use, and information relevant to the international framework from which it is developed. This chapter has no legislative effect.

Chapter 2 is the 2009 Australian Radiofrequency Spectrum Plan (Spectrum Plan), prepared under section 30 of the *Radiocommunications Act 1992*, and includes the Table of Frequency Band Allocations. The contents of Chapter 2 are legally binding on the Australian Communications and Media Authority (ACMA) in making decisions on use of the radiofrequency spectrum.

The International Telecommunication Union (ITU) currently convenes World Radiocommunication Conferences (WRCs) at approximately four yearly intervals. These conferences make internationally agreed decisions and recommendations on the use of the radiofrequency spectrum. ACMA intends to review the Spectrum Plan on a regular basis, to ensure it reflects the frequency allocation recommendations of the most recent WRC.

The Spectrum Plan contained in this publication supersedes that made on 10 November 2004.

Further detail on current usage of, and issues related to radiofrequency spectrum in Australia, and to view the further direction of ACMA's spectrum management, please refer to ACMA's *Five-year Spectrum Outlook 2009-2014*, available from ACMA's web page at www.acma.gov.au

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CHAPTER 1

GENERAL INFORMATION

CHAPTER 1 GENERAL INFORMATION

Part 1 General

1 Introduction

The Australian Radiofrequency Spectrum Plan 2009 (the Spectrum Plan) divides the Australian radiofrequency spectrum into a number of frequency bands and specifies the general purposes for which the bands may be used. This process is referred to as the allocation of frequency bands to radiocommunication services.

This chapter of the document provides general information on the development and application of the Spectrum Plan, and is provided for informative purposes only.

(Chapter 2 of the document is the Spectrum Plan. Its contents bind the Australian Communications and Media Authority in making decisions on use of the radiofrequency spectrum).

2 The International Framework

Australia is a signatory to the Constitution and Convention of the International Telecommunication Union (ITU), done at the Additional Plenipotentiary Conference in Geneva on 22 December 1992 and amended at subsequent Plenipotentiary Conferences (Kyoto, 1994, Minneapolis, 1998, Marrakesh, 2002, Antalya, 2006). The ITU Radio Regulations are annexed to the Convention and are revised by ITU World Radiocommunication Conferences, normally held every four years. The basis for the structure of the Spectrum Plan is the Table of Frequency Allocations contained in Article 5 of the ITU Radio Regulations. The ITU Radio Regulations Table of Frequency Allocations lists frequency bands allocated to services according to three geographic Regions, as depicted in the chart at Part 2 of this Chapter. These Regions are defined as Regions 1, 2 and 3. Australia is located in Region 3.

Note: that where the words "regions" or "regional" are without a capital "R" in this document or in the ITU Radio Regulations, they do not relate to the three Regions defined for the purposes of frequency allocation.

The ITU Radio Regulations Table of Frequency Allocations is reproduced in column 1 of the Table of Frequency Band Allocations in the Spectrum Plan, and includes the associated footnotes for the three Regions. The footnote numbers are those listed in Article **5** of the ITU Radio Regulations, except that the '**5.**' prefix has been removed.

3 Australian Variations to the ITU Table of Frequency Allocations

The Australian allocations are listed in column 2 of the Table of Frequency Band Allocations in the Spectrum Plan, and include Australian footnotes (denoted as AUS) along with footnotes relevant to Region 3.

Whilst the Australian allocations are broadly aligned with the ITU requirements for Region 3, a number of variations exist. In accordance with No. **4.4** of the ITU Radio Regulations, such variations are subject to the condition that the associated radio installations do not cause harmful interference to the radio services or communications of other ITU Members that operate in accordance with the provisions of the ITU Radio Regulations, and that the possibility of harmful interference from

such services and communications is accepted. The Australian variations may also be subject to any constraints imposed by footnotes in the table, for example footnote Nos. **53** and **180**.

4 Definitions for Terms and Services

The ITU has specific definitions for terms and services used in the Radio Regulations. These may be found in Article **1** of the ITU Radio Regulations. In most instances the corresponding definitions contained in the Spectrum Plan reflect the intent of the ITU definitions, although in some cases they have been restructured to align with Australian requirements[1].

5 Status of Services

In this document and the ITU Radio Regulations, the definitions for radiocommunication services are rendered in terms of basic characteristics of those services. To assist interference management between services, services are also described by their relative status within allocated frequency bands. Within a particular band, a service will, in most cases, have a primary or secondary status; these terms are described in more detail in the Spectrum Plan. Interference management is effected also through the application of footnotes, for example AUS32 or AUS57.

It should be noted as well that a band may be listed in a footnote as being allocated to a service "on a primary basis" in an area smaller than a Region, or in a particular country (including Australia). In this case, the primary status applies only within that area or country.

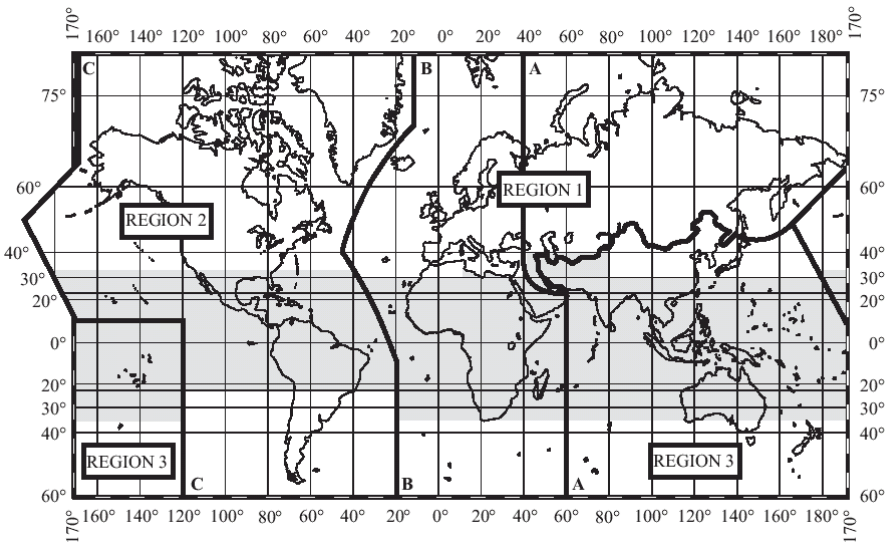
Part 2 Geographic Regions

6 Explanation of the Regional Chart

In the chart on the next page:

- Region 1 includes the area limited on the east by line A and on the west by line B, excluding any of the territory of the Islamic Republic of Iran which lies between these limits. It also includes the whole of the territory of Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Turkey and Ukraine and the area to the north of the Russian Federation which lies between lines A and C;
- Region 2 includes the area limited on the east by line B and on the west by line C; and
- Region 3 includes the area limited on the east by line C and on the west by line A, except any of the territory of Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Turkey and Ukraine and the area to the north of the Russian Federation. It also includes that part of the territory of the Islamic Republic of Iran lying outside of those limits.

[1] The definitions restructured to align with Australian requirements are *administration*, *broadcasting service* and *telecommunications*.



A full description of where the lines A, B, and C are to be drawn on a map may be found in Nos. **5.6** to **5.9** of the ITU Radio Regulations.

A sub-Region is an area consisting of two or more countries in the same Region.

The Tropical Zone, as defined in Nos. **5.16** to **5.21** of the ITU Radio Regulations, is represented by the shaded part of the chart, and consists of:

- the whole of that area in Region 2 between the Tropics of Cancer and Capricorn; and
- the whole of that area in Regions 1 and 3 contained between the parallels 30° north and 35° south with the addition of:

  (i) the area contained between the meridians 40° east and 80° east of Greenwich and the parallels 30° north and 40° north; and

  (ii) that part of Libyan Arab Jamahiriya north of parallel 30° north.

In Region 2, the Tropical Zone may be extended to parallel 33° north, subject to special agreements between the countries concerned in that Region.

Part 3 The Table of Frequency Band Allocations

7 Interpretation

In interpreting the Table of Frequency Band Allocations in the Spectrum Plan:

- the Table covers the radio frequency spectrum from 9 kHz to 420 THz, which has been divided into frequency bands within which certain designated radiocommunication services may operate;
- frequency bands are shown in increasing frequency order from 9 kHz to 420 THz;
- column 1 of the Table, which reflects the provisions of the ITU Radio Regulations in the allocation of frequency bands to radiocommunication services worldwide, is

shown for information only; and

- column 2, which details the Australian allocation of frequency bands to radiocommunication services, is prescriptive (i.e. is legally binding on the Australian Communications and Media Authority in making decisions on use of the radiofrequency spectrum).

8 Additional Allocations

Where a band is shown in a footnote of the Table as "also allocated" to one or more services in an area or country within a Region (e.g. Australia), this is in addition to the allocation within the Region shown in the Table.

If the footnote does not include any restriction on the services concerned (for example, allocation only on a secondary basis) apart from the restriction to operate only in a particular area or country, stations of those services have equal status with stations of other primary services to which the band is allocated in the Table, but only within that area or country.

9 Alternative Allocations

Where a band is shown in a footnote of the Table as "allocated" to one or more services in an area or country within a Region (e.g. Australia), this is an alternative allocation that replaces, in that area or country, the allocation shown in the Table.

If the footnote does not include any restriction on the services concerned (for example, allocation only on a secondary basis) apart from the restriction to operate only in a particular area or country, stations of those services have equal status with stations of other primary services to which the band is allocated in the Table, but only within that area or country.

Part 4 Spectrum Management in Australia

10 Technical Planning Elements

The Spectrum Plan is the broadest level technical document showing the allocation of bands to various types of services. The Spectrum Plan is the first planning document that should be consulted regarding spectrum arrangements in Australia. It is, however, just the starting point and there are other technical elements that contribute to spectrum management in Australia. Those elements are:

- band plans and channel plans;
- Ministerial designation of bands being primarily for broadcasting purposes;
- Ministerial designations or declarations for spectrum licensed bands;
- spectrum embargoes;
- frequency assignment requirements in legal instruments and administrative policy documents; and
- the technical conditions applied to spectrum licences, apparatus licences (including licence conditions determinations) and class licences, including any requirements for compliance with standards.

ACMA's website at http://www.acma.gov.au provides more detailed information on all of the above-mentioned items.

ACMA provides a public register of radiocommunications licences, which includes frequency registrations for most apparatus and spectrum licensees (refer to ACMA's web site for further details). Some frequency registrations do not appear on the public register because they are subject to national security classifications. Frequency bands of operation specified in class licences appear only in those class licences.

11 Defence use of Spectrum

In accordance with subsection 30(2)(b) of the *Radiocommunications Act 1992* (the Act), the Spectrum Plan designates radiofrequency bands to be used principally for the general purposes of defence.

Defence, which is comprised of the Australian Defence Forces, the Department of Defence and organisations undertaking authorised activities for the general purpose of defence, is a major user of the radiofrequency spectrum. Principal support is for strategic, tactical and administrative functions involving airborne, land based and maritime radiocommunications. Defence needs include spectrum support for defence forces of other nations. Spectrum planning for defence purposes takes into account the need for interoperability with those forces.

Defence attempts to aggregate much of its radiocommunication needs within particular bands across the radiofrequency spectrum, in order to lessen the overall effect on non-defence users of the spectrum.

Bands with significant defence interests are indicated principally by Australian footnotes AUS1 and AUS11 in the Spectrum Plan. There are other bands of spectrum in which defence interests are indicated also, for example, through footnotes such as AUS9 or AUS58. Additionally, Defence has interests in portions of the bands 2 - 88 MHz, 1 215 - 1 260 MHz, 1 400 - 1 800 MHz, 2 700 - 3 100 MHz and 14.4 - 15.4 GHz in which those interests might not otherwise be apparent by a footnote in the Spectrum Plan.

Regulatory support for certain aspects of radiocommunications for defence purposes is provided also by various provisions of the Act, for example sections 24–27, as well as general provisions of the Spectrum Plan such as subsection 10(7).

In times of heightened defence operational activity an increase in spectrum use for defence purposes is likely to occur. In such circumstances, the risk of interference to non-defence radiocommunications from defence activities might increase, although defence takes particular care to avoid interference to critical civilian infrastructure. Defence takes particular care also to avoid interference to non-defence radiocommunications during pre-planned defence training activities.

12 Broadcasting Services Bands

Under section 31 of the Act, the Minister has designated a part of the spectrum as being primarily for broadcasting purposes (the broadcasting services bands) and referred it to ACMA for planning under Part 3 of the *Broadcasting Services Act 1992*.

The current broadcasting services bands are:

- 526.5 - 1 606.5 kHz. AM radio transmitters are assigned frequencies in this band;
- 45 - 52 MHz and 56 - 70 MHz (Band I). Analog television transmitters are assigned frequencies in these bands;

- 85 - 108 MHz (Band II). FM radio transmitters are assigned frequencies in this band. As well, analog television uses a part of this band, however 87.5 - 108 MHz has been set aside, internationally, for FM radio and ACMA will consider, as part of the public planning process, future clearance of television transmitters occupying this band. There will be no new planning for television in this band;
- 137 - 144 MHz (channel 5A). Analog television transmitters were assigned frequencies in this band, however, no new assignments will be made;
- 174 - 230 MHz (Band III). Analog and digital television transmitters are assigned frequencies in this band; and
- 520 - 820 MHz (Bands IV and V). Analog and digital television transmitters are assigned frequencies in this band.

ACMA develops a range of plans for broadcasting services to operate within these broadcasting services bands, including Frequency Allotment Plans, Licence Area Plans for analog radio and television, and Digital Channel Plans for digital television.

Non-broadcasting use of the broadcasting services bands may be permitted in certain circumstances. Before an apparatus licence can be issued by ACMA for a non-broadcasting service to operate in the broadcasting services bands either:

- a determination under subsection 31(2) of the Act must be made by ACMA allowing licences, or specified kinds of licences, to be issued in specified circumstances in specified parts of the broadcasting services bands; or
- a determination under section 34 of the *Broadcasting Services Act 1992* must be made by ACMA to make part of the broadcasting services bands available for specified purposes for a period specified by ACMA.

13 Use of Spectrum for Meteorological Purposes

Spectrum is a critical component of around-the-clock monitoring functions in support of meteorological, hydrological and climatic research and services. Meteorological observation systems include:

- radars, for detecting storm events, precipitation analysis and collecting atmospheric wind data;
- meteorological and environmental satellites, for obtaining cloud imagery, providing communication links with remote automatic weather stations, and for remote sensing and monitoring of the Earth's atmosphere, oceans and land surface;
- radiosondes;
- data communications, such as with automatic weather stations; and
- wind profilers.

Meteorological communication channels are used for collecting and distributing observational data, and for issuing forecasts and warnings of severe weather.

The current uses of spectrum for meteorological purposes include:

- 2 - 16 MHz: Weather facsimile transmissions provide weather information, forecasts and warnings to ships;
- 44.75, 49.68, and 54 - 56 MHz: Wind profilers sense upper air conditions;

- 400.15 - 403 MHz: Radiosondes (weather balloons) determine pressure, temperature and humidity profiles and perform wind-finding. Satellites perform location and interrogation of drifting meteorological buoys in the ocean, and receive data from automatic weather stations;
- 448 - 450, 922 and 1283 MHz: Wind profilers sense upper air conditions;
- 1670 - 1710 MHz: Stations downlink data from meteorological satellites;
- 2 - 4 GHz: Radars and radio-theodolites monitor severe weather systems. Satellites collect meteorological images and remotely sensed data;
- 4 - 8 GHz: Radars monitor severe weather systems; and
- 8 - 11 GHz: Radars monitor severe weather systems. Satellites collect meteorological images and remotely sensed data.

The major user of the spectrum for meteorological purposes in Australia is the Australian Bureau of Meteorology.

14 Radio Astronomy use of Spectrum

The radio astronomy service is the only entirely passive radiocommunication service defined by the ITU-R. Radio astronomy is based on the reception of radio waves of cosmic origin. Radio astronomy uses extremely sensitive radio antennas to detect very faint radio signals of cosmic origin. Thus, it is highly susceptible to interference by unwanted emissions from other radiocommunication services in nearby or even distant spectrum bands. To minimise such interference radio astronomy antennas are usually operated in remote locations.

Within the Spectrum Plan there are specific radio astronomy allocations covering parts of the spectrum of particular astronomical importance, such as molecular line emissions. These allocations cover a relatively small part of the spectrum, whereas significant cosmic radio emissions occur over the whole radio spectrum. Hence, radio astronomy facilities often operate in bands not specifically allocated to radio astronomy.

In Australia, the CSIRO operates the Australia Telescope National Facility (ATNF) comprising the Paul Wild Observatory Narrabri (latitude 30° 18' 52.048" S, longitude 149° 32' 56.327" E), the Parkes Observatory (latitude 32° 59' 59.8657" S, longitude 148° 15' 44.3591" E) and the Mopra Observatory Coonabarabran (latitude 31° 16' 4.451" S, longitude 149° 5' 58.732" E). The University of Tasmania operates the Mount Pleasant Observatory Hobart (latitude 42° 48' 12.9207" S, longitude 147° 26' 25.854" E) and the Ceduna Observatory (latitude 31° 52' 08.8269" S, longitude 133° 48' 35.3748" E). The Canberra Deep Space Communication Complex (latitude 35° 23' 54" S, longitude 148° 58' 40" E) is also used for radio astronomy observations.

Most of these observatories make passive observations in the frequency bands 1 250 - 1 780 MHz, 2 200 - 2 550 MHz, 4 350 - 6 700 MHz, 8 000 - 9 200 MHz and 16 - 26 GHz using receivers that are highly sensitive to interference. The Paul Wild and Mopra observatories also operate in the band 75 - 115 GHz. Often, all the observatories operate simultaneously as a Very Long Baseline Interferometry (VLBI) network to achieve very high resolution. Some observatories also make occasional observations at the 440 MHz, 660 MHz and 12 - 15 GHz frequency ranges.

In addition, the University of Sydney operates the Molonglo Observatory Synthesis Telescope (MOST) near Canberra (latitude 35° 22' 30" S, longitude 149° 25' 35" E) only in the range 840 - 845 MHz.

CHAPTER 2

AUSTRALIAN RADIOFREQUENCY SPECTRUM PLAN

Australian Radiofrequency Spectrum Plan 2009[1]

The AUSTRALIAN COMMUNICATIONS AND MEDIA AUTHORITY:

(a) under section 34 of the *Radiocommunications Act 1992*, revokes the *Australian Radiofrequency Spectrum Plan* that was prepared on 10 November 2004 and notified in the *Gazette* on 17 November 2004; and

(b) prepares this Spectrum Plan under section 30 of the *Radiocommunications Act 1992*.

Dated 10th December 2008

Member

Member

Australian Communications and Media Authority
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ACMA

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Part 1 Introductory

1 Name of Spectrum Plan

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

2 Commencement

This Spectrum Plan commences on 1 January 2009.

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 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 ACMA, or a person authorised by 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 radionavigation.

Radio Regulations means the document:

(a) titled ‘Radio Regulations, Edition of 2008’; 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 2000* — 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.

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 Australian 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.

Note It is the policy of ACMA to engage in consultation before issuing a class licence mentioned in subsection 9 (2).

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 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.

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
9 – 72

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
Below 9 (not allocated) 53 54			**Below 9** (not allocated) 53 54
9 – 14 RADIONAVIGATION			**9 – 14** RADIONAVIGATION
14 – 19.95 FIXED MARITIME MOBILE 57 55 56			**14 – 19.95** FIXED MARITIME MOBILE 57 56 AUS1
19.95 – 20.05 (20 kHz) STANDARD FREQUENCY AND TIME SIGNAL			**19.95 – 20.05** STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)
20.05 – 70 FIXED MARITIME MOBILE 57 56 58			**20.05 – 70** FIXED MARITIME MOBILE 57 56 AUS1
70 – 72 RADIONAVIGATION 60	**70 – 90** FIXED MARITIME MOBILE 57 MARITIME RADIONAVIGATION 60 Radiolocation 61	**70 – 72** RADIONAVIGATION 60 Fixed Maritime mobile 57 59	**70 – 72** RADIONAVIGATION 60 Fixed Maritime mobile 57

kHz
72 – 112

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
72 – 84 FIXED MARITIME MOBILE 57 RADIONAVIGATION 60 56		**72 – 84** FIXED MARITIME MOBILE 57 RADIONAVIGATION 60	**72 – 84** FIXED MARITIME MOBILE 57 RADIONAVIGATION 60
84 – 86 RADIONAVIGATION 60		**84 – 86** RADIONAVIGATION 60 Fixed Maritime mobile 57 59	**84 – 86** RADIONAVIGATION 60 Fixed Maritime mobile 57
86 – 90 FIXED MARITIME MOBILE 57 RADIONAVIGATION 56		**86 – 90** FIXED MARITIME MOBILE 57 RADIONAVIGATION 60	**86 – 90** FIXED MARITIME MOBILE 57 RADIONAVIGATION 60
90 – 110 RADIONAVIGATION 62 Fixed			**90 – 110** RADIONAVIGATION 62 Fixed 64
110 – 112 FIXED MARITIME MOBILE RADIONAVIGATION 64	**110 – 130** FIXED MARITIME MOBILE MARITIME RADIONAVIGATION 60 Radiolocation 61 64	**110 – 112** FIXED MARITIME MOBILE RADIONAVIGATION 60 64	**110 – 112** FIXED MARITIME MOBILE RADIONAVIGATION 60 64

64

kHz
112 – 130

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
112 – 115 RADIONAVIGATION 60		**112 – 117.6** RADIONAVIGATION 60 Fixed Maritime mobile 64 65	**112 – 117.6** RADIONAVIGATION 60 Fixed Maritime mobile 64
115 – 117.6 RADIONAVIGATION 60 Fixed Maritime mobile 64 66			
117.6 – 126 FIXED MARITIME MOBILE RADIONAVIGATION 60 64		**117.6 – 126** FIXED MARITIME MOBILE RADIONAVIGATION 60 64	**117.6 – 126** FIXED MARITIME MOBILE RADIONAVIGATION 60 64
126 – 129 RADIONAVIGATION 60		**126 – 129** RADIONAVIGATION 60 Fixed Maritime mobile 64 65	**126 – 129** RADIONAVIGATION 60 Fixed Maritime mobile 64
129 – 130 FIXED MARITIME MOBILE RADIONAVIGATION 60 64		**129 – 130** FIXED MARITIME MOBILE RADIONAVIGATION 60 64	**129 – 130** FIXED MARITIME MOBILE RADIONAVIGATION 60 64

kHz
130 – 137.8

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
130 – 135.7 FIXED MARITIME MOBILE 64 67	**130 – 135.7** FIXED MARITIME MOBILE 64	**130 – 135.7** FIXED MARITIME MOBILE RADIONAVIGATION 64	**130 – 135.7** FIXED MARITIME MOBILE RADIONAVIGATION 64
135.7 – 137.8 FIXED MARITIME MOBILE Amateur 67A 64 67 67B	**135.7 –137.8** FIXED MARITIME MOBILE Amateur 67A 64	**135.7 – 137.8** FIXED MARITIME MOBILE RADIONAVIGATION Amateur 67A 64 67B	**135.7 – 137.8** FIXED MARITIME MOBILE RADIONAVIGATION Amateur 67A 64 67B

kHz
137.8 - 315

<table>
<tr><th colspan="3">Column 1: ITU Radio Regulations Table of Allocations</th><th rowspan="2">Column 2:
Australian Table of Allocations</th></tr>
<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th></tr>
<tr><td rowspan="2">137.8 – 148.5
FIXED
MARITIME MOBILE
64 67</td><td>137.8 – 160
FIXED
MARITIME MOBILE
64</td><td>137.8 – 160
FIXED
MARITIME MOBILE
RADIONAVIGATION
64</td><td>137.8 – 160
FIXED
MARITIME MOBILE
RADIONAVIGATION
64</td></tr>
<tr><td rowspan="6">148.5 – 255
BROADCASTING

68 69 70</td><td>160 – 190
FIXED</td><td>160 – 190
FIXED
Aeronautical radionavigation</td><td>160 – 190
FIXED
Aeronautical radionavigation</td></tr>
<tr><td colspan="2">190 – 200
AERONAUTICAL RADIONAVIGATION</td><td>190 – 200
AERONAUTICAL
RADIONAVIGATION AUS49</td></tr>
<tr><td>200 – 275
AERONAUTICAL
RADIONAVIGATION
Aeronautical mobile</td><td rowspan="3">200 – 285
AERONAUTICAL
RADIONAVIGATION
Aeronautical mobile</td><td rowspan="3">200 – 285
AERONAUTICAL
RADIONAVIGATION AUS49

AUS68</td></tr>
<tr><td rowspan="2">255 – 283.5
BROADCASTING
AERONAUTICAL
RADIONAVIGATION
70 71</td><td>275 – 285
AERONAUTICAL
RADIONAVIGATION
Aeronautical mobile
Maritime radionavigation
(radiobeacons)</td></tr>
<tr><td rowspan="2">283.5 – 315
AERONAUTICAL
RADIONAVIGATION
MARITIME
RADIONAVIGATION
(radiobeacons) 73

72 74</td></tr>
<tr><td colspan="2">285 – 315
AERONAUTICAL RADIONAVIGATION
MARITIME RADIONAVIGATION (radiobeacons) 73</td><td>285 – 315
AERONAUTICAL
RADIONAVIGATION AUS49
MARITIME RADIONAVIGATION
(radiobeacons) 73
AUS68</td></tr>
</table>

kHz
315 – 495

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
315 – 325 AERONAUTICAL RADIONAVIGATION Maritime radionavigation (radiobeacons) 73 72 75	**315 – 325** MARITIME RADIONAVIGATION (radiobeacons) 73 Aeronautical radionavigation	**315 – 325** AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 73	**315 – 325** AERONAUTICAL RADIONAVIGATION AUS49 MARITIME RADIONAVIGATION (radiobeacons) 73 AUS68
325 – 405 AERONAUTICAL RADIONAVIGATION 72	**325 – 335** AERONAUTICAL RADIONAVIGATION Aeronautical mobile Maritime radionavigation (radiobeacons) **335 – 405** AERONAUTICAL RADIONAVIGATION Aeronautical mobile	**325 – 405** AERONAUTICAL RADIONAVIGATION Aeronautical mobile	**325 – 405** AERONAUTICAL RADIONAVIGATION AUS49 AUS68
405 – 415 RADIONAVIGATION 76 72	**405 – 415** RADIONAVIGATION 76 Aeronautical mobile		**405 – 415** RADIONAVIGATION 76 AUS68
415 – 435 MARITIME MOBILE 79 AERONAUTICAL RADIONAVIGATION 72	**415 – 495** MARITIME MOBILE 79 79A Aeronautical radionavigation 80		**415 – 495** MARITIME MOBILE 79 79A AERONAUTICAL RADIONAVIGATION 77 AUS49
435 – 495 MARITIME MOBILE 79 79A Aeronautical radionavigation 72 82	77 78 82		82 AUS68

kHz
495 – 1 606.5

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
495 – 505 MOBILE 82A			**495 – 505** MOBILE 82A 82B
505 – 526.5 MARITIME MOBILE 79 79A 84 AERONAUTICAL RADIONAVIGATION 72	**505 – 510** MARITIME MOBILE 79 **510 – 525** MOBILE 79A 84 AERONAUTICAL RADIONAVIGATION **525 – 535** BROADCASTING 86 AERONAUTICAL RADIONAVIGATION	**505 – 526.5** MARITIME MOBILE 79 79A 84 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Land mobile	**505 – 526.5** MARITIME MOBILE 79 79A 84 AERONAUTICAL RADIONAVIGATION AUS49 AUS68
526.5 – 1 606.5 BROADCASTING 82B 87 87A		**526.5 – 535** BROADCASTING Mobile 88	**526.5 – 535** BROADCASTING AUS50 Fixed AUS74 Mobile
	535 – 1 605 BROADCASTING	**535 – 1 606.5** BROADCASTING	**535 – 1 606.5** BROADCASTING AUS50 Fixed AUS74 Mobile AUS75

kHz
1 606.5 – 1 800

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
	1 605 – 1 625 BROADCASTING 89 90		
1 606.5 – 1 625 FIXED MARITIME MOBILE 90 LAND MOBILE 92		**1 606.5 – 1 800** FIXED MOBILE RADIOLOCATION RADIONAVIGATION	**1 606.5 – 1 800** FIXED MOBILE RADIOLOCATION RADIONAVIGATION AUS49
1 625 – 1 635 RADIOLOCATION 93	**1 625 – 1 705** FIXED MOBILE BROADCASTING 89 Radiolocation 90		
1 635 – 1 800 FIXED MARITIME MOBILE 90 LAND MOBILE 92 96	**1 705 – 1 800** FIXED MOBILE RADIOLOCATION AERONAUTICAL RADIONAVIGATION	91	

kHz
1 800 – 2 000

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
1 800 – 1 810 RADIOLOCATION 93	**1 800 – 1 850** AMATEUR	**1 800 – 2 000** AMATEUR FIXED MOBILE except aeronautical mobile RADIONAVIGATION Radiolocation	**1 800 – 1 825** AMATEUR 97
1 810 – 1 850 AMATEUR 98 99 100 101			**1 825 – 1 875** RADIONAVIGATION AMATEUR Radiolocation 97
1 850 – 2 000 FIXED MOBILE except aeronautical mobile 92 96 103	**1 850 – 2 000** AMATEUR FIXED MOBILE except aeronautical mobile RADIOLOCATION RADIONAVIGATION 102	97	**1 875 – 1 925** FIXED MOBILE except aeronautical mobile RADIONAVIGATION Radiolocation 97
			1 925 – 1 975 RADIONAVIGATION Fixed Mobile except aeronautical mobile Radiolocation 97
			1 975 – 2 000 FIXED MOBILE except aeronautical mobile RADIONAVIGATION Radiolocation 97

kHz
2 000 – 2 173.5

<table>
<tr><th colspan="3">Column 1: ITU Radio Regulations Table of Allocations</th><th rowspan="2">Column 2:
Australian Table of Allocations</th></tr>
<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th></tr>
<tr><td>2 000 – 2 025
FIXED
MOBILE except aeronautical mobile (R)
92 103</td><td colspan="2" rowspan="3">2 000 – 2 065
FIXED
MOBILE</td><td rowspan="3">2 000 – 2 065
FIXED
MOBILE</td></tr>
<tr><td>2 025 – 2 045
FIXED
MOBILE except aeronautical mobile (R)
Meteorological aids 104
92 103</td></tr>
<tr><td rowspan="2">2 045 – 2 160
FIXED
MARITIME MOBILE
LAND MOBILE
92</td></tr>
<tr><td colspan="2">2 065 – 2 107
MARITIME MOBILE 105
106</td><td>2 065 – 2 107
MARITIME MOBILE
106</td></tr>
<tr><td rowspan="2">2 160 – 2 170
RADIOLOCATION
93 107</td><td colspan="2" rowspan="2">2 107 – 2 170
FIXED
MOBILE</td><td>2 107 – 2 170
FIXED
MOBILE</td></tr>
<tr><td colspan="3">2 170 – 2 173.5 MARITIME MOBILE</td><td>2 170 – 2 173.5
MARITIME MOBILE</td></tr>
</table>

kHz
2 173.5 – 2 502

<table>
<tr><th colspan="3">Column 1: ITU Radio Regulations Table of Allocations</th><th rowspan="2">Column 2:
Australian Table of Allocations</th></tr>
<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th></tr>
<tr><td colspan="3">2 173.5 – 2 190.5 MOBILE (distress and calling)

108 109 110 111</td><td>2 173.5 – 2 190.5
MOBILE (distress and calling)
108 109 110 111</td></tr>
<tr><td colspan="3">2 190.5 – 2 194 MARITIME MOBILE</td><td>2 190.5 – 2 194
MARITIME MOBILE</td></tr>
<tr><td>2 194 – 2 300
FIXED
MOBILE except aeronautical mobile (R)
92 103 112</td><td colspan="2">2 194 – 2 300
FIXED
MOBILE
112</td><td>2 194 – 2 300
FIXED
MOBILE</td></tr>
<tr><td rowspan="2">2 300 – 2 498
FIXED
MOBILE except aeronautical mobile (R)
BROADCASTING 113
103</td><td colspan="2">2 300 – 2 495
FIXED
MOBILE
BROADCASTING 113</td><td>2 300 – 2 495
FIXED
MOBILE
BROADCASTING 113</td></tr>
<tr><td colspan="2" rowspan="2">2 495 – 2 501
STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)</td><td rowspan="2">2 495 – 2 501
STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)</td></tr>
<tr><td>2 498 – 2 501
STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)</td></tr>
<tr><td colspan="3">2 501 – 2 502 STANDARD FREQUENCY AND TIME SIGNAL
Space research</td><td>2 501 – 2 502
STANDARD FREQUENCY AND TIME SIGNAL
Space research</td></tr>
</table>

kHz
2 502 – 3 155

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Australian Table of Allocations</th></tr>
<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th></tr>
<tr><td rowspan="3">2 502 – 2 625
FIXED
MOBILE except aeronautical mobile (R)
92 103 114</td><td colspan="2">2 502 – 2 505
STANDARD FREQUENCY AND TIME SIGNAL</td><td>2 502 – 2 505
STANDARD FREQUENCY AND TIME SIGNAL</td></tr>
<tr><td colspan="2" rowspan="3">2 505 – 2 850
FIXED
MOBILE</td><td rowspan="3">2 505 – 2 850
FIXED
MOBILE</td></tr>
<tr><td>2 625 – 2 650
MARITIME MOBILE
MARITIME RADIONAVIGATION
92</td></tr>
<tr><td>2 650 – 2 850
FIXED
MOBILE except aeronautical mobile (R)
92 103</td></tr>
<tr><td colspan="3">2 850 – 3 025 AERONAUTICAL MOBILE (R)
111 115</td><td>2 850 – 3 025
AERONAUTICAL MOBILE (R) AUS51
111 115</td></tr>
<tr><td colspan="3">3 025 – 3 155 AERONAUTICAL MOBILE (OR)</td><td>3 025 – 3 155
AERONAUTICAL MOBILE (OR) AUS52
AUS1 AUS57 AUS58</td></tr>
</table>

kHz
3 155 – 3 500

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
3 155 – 3 200	FIXED MOBILE except aeronautical mobile (R) 116 117			**3 155 – 3 200** FIXED MOBILE except aeronautical mobile (R) 116 AUS57
3 200 – 3 230	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 113 116			**3 200 – 3 230** FIXED MOBILE except aeronautical mobile (R) BROADCASTING 113 116
3 230 – 3 400	FIXED MOBILE except aeronautical mobile BROADCASTING 113 116 118			**3 230 – 3 400** FIXED MOBILE except aeronautical mobile (R) AUS7 BROADCASTING 113 Radiolocation 116
3 400 – 3 500	AERONAUTICAL MOBILE (R)			**3 400 – 3 500** AERONAUTICAL MOBILE (R) AUS51

kHz
3 500 – 4 063

<table>
<tr><th colspan="3">Column 1: ITU Radio Regulations Table of Allocations</th><th rowspan="2">Column 2:
Australian Table of Allocations</th></tr>
<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th></tr>
<tr><td rowspan="2">3 500 – 3 800
AMATEUR
FIXED
MOBILE except aeronautical mobile

92</td><td>3 500 – 3 750
AMATEUR
119</td><td rowspan="3">3 500 – 3 900
AMATEUR
FIXED
MOBILE</td><td>3 500 – 3 700
AMATEUR</td></tr>
<tr><td rowspan="3">3 750 – 4 000
AMATEUR
FIXED
MOBILE except aeronautical mobile (R)</td><td>3 700 – 3 776
FIXED
MOBILE
AUS57</td></tr>
<tr><td>3 776 – 3 800
AMATEUR
AUS57</td></tr>
<tr><td>3 800 – 3 900
FIXED
AERONAUTICAL MOBILE (OR)
LAND MOBILE</td><td>3 800 – 3 900
FIXED
MOBILE
AUS57</td></tr>
<tr><td>3 900 – 3 950
AERONAUTICAL MOBILE (OR)
123</td><td>3 900 – 3 950
AERONAUTICAL MOBILE
BROADCASTING</td><td>3 900 – 3 950
AERONAUTICAL MOBILE (OR) AUS52
AUS1 AUS57 AUS58</td></tr>
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FIXED
BROADCASTING</td><td>122 125</td><td>3 950 – 4 000
FIXED
BROADCASTING

126</td><td>3 950 – 4 000
FIXED
BROADCASTING
Land mobile AUS75
126 AUS57</td></tr>
<tr><td colspan="3">4 000 – 4 063 FIXED
MARITIME MOBILE 127

126</td><td>4 000 – 4 063
FIXED
MARITIME MOBILE 127
126 AUS57</td></tr>
</table>

kHz
4 063 – 4 995

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
4 063 – 4 438	MARITIME MOBILE 79A 109 110 130 131 132 128		**4 063 – 4 438** MARITIME MOBILE 79A 109 110 130 131 132 AUS53 AUS59 128 AUS9 AUS57
4 438 – 4 650 FIXED MOBILE except aeronautical mobile (R)		**4 438 – 4 650** FIXED MOBILE except aeronautical mobile	**4 438 – 4 650** FIXED MOBILE except aeronautical mobile (R) AUS7 AUS57
4 650 – 4 700	AERONAUTICAL MOBILE (R)		**4 650 – 4 700** AERONAUTICAL MOBILE (R) AUS51
4 700 – 4 750	AERONAUTICAL MOBILE (OR)		**4 700 – 4 750** AERONAUTICAL MOBILE (OR) AUS52 AUS1 AUS57 AUS58
4 750 – 4 850 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 113	**4 750 – 4 850** FIXED MOBILE except aeronautical mobile (R) BROADCASTING 113	**4 750 – 4 850** FIXED BROADCASTING 113 Land mobile	**4 750 – 4 850** FIXED BROADCASTING 113 Land mobile
4 850 – 4 995	FIXED LAND MOBILE BROADCASTING 113		**4 850 – 4 995** FIXED LAND MOBILE BROADCASTING 113

kHz
4 995 – 5 480

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
4 995 – 5 003 STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)			**4 995 – 5 003** STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)
5 003 – 5 005 STANDARD FREQUENCY AND TIME SIGNAL Space research			**5 003 – 5 005** STANDARD FREQUENCY AND TIME SIGNAL Space research
5 005 – 5 060 FIXED BROADCASTING 113			**5 005 – 5 060** FIXED BROADCASTING 113
5 060 – 5 250 FIXED Mobile except aeronautical mobile 133			**5 060 – 5 250** FIXED Mobile except aeronautical mobile (R) AUS10 AUS57
5 250 – 5 450 FIXED MOBILE except aeronautical mobile			**5 250 – 5 450** FIXED MOBILE except aeronautical mobile (R) AUS7 AUS57
5 450 – 5 480 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	**5 450 – 5 480** AERONAUTICAL MOBILE (R)	**5 450 – 5 480** FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	**5 450 – 5 480** FIXED AERONAUTICAL MOBILE (OR) AUS11 AUS52 LAND MOBILE AUS57 AUS58

kHz
5 480 – 6 525

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
5 480 – 5 680 AERONAUTICAL MOBILE (R) 111 115			**5 480 – 5 680** AERONAUTICAL MOBILE (R) AUS51 111 115
5 680 – 5 730 AERONAUTICAL MOBILE (OR) 111 115			**5 680 – 5 730** AERONAUTICAL MOBILE (OR) AUS52 111 115 AUS1 AUS57 AUS58
5 730 – 5 900 FIXED LAND MOBILE	**5 730 – 5 900** FIXED MOBILE except aeronautical mobile (R)	**5 730 – 5 900** FIXED Mobile except aeronautical mobile (R)	**5 730 – 5 900** FIXED Mobile except aeronautical mobile (R) AUS57
5 900 – 5 950 BROADCASTING 134 136			**5 900 – 5 950** BROADCASTING 134 FIXED Mobile except aeronautical mobile (R) 136 AUS57
5 950 – 6 200 BROADCASTING			**5 950 – 6 200** BROADCASTING AUS54
6 200 – 6 525 MARITIME MOBILE 109 110 130 132 137			**6 200 – 6 525** MARITIME MOBILE 109 110 130 132 AUS53 AUS59 137 AUS9 AUS57

kHz
6 525 – 7 300

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
6 525 – 6 685 AERONAUTICAL MOBILE (R)			**6 525 – 6 685** AERONAUTICAL MOBILE (R) AUS51
6 685 – 6 765 AERONAUTICAL MOBILE (OR)			**6 685 – 6 765** AERONAUTICAL MOBILE (OR) AUS52 AUS1 AUS57 AUS58
6 765 – 7 000 FIXED MOBILE except aeronautical mobile (R) 138 138A 139			**6 765 – 7 000** FIXED Land Mobile 138 138A AUS57
7 000 – 7 100 AMATEUR AMATEUR-SATELLITE 140 141 141A			**7 000 – 7 100** AMATEUR AMATEUR-SATELLITE
7 100 – 7 200 AMATEUR 141A 141B 141C 142			**7 100 – 7 200** BROADCASTING AUS54 Amateur AUS12 141B 141C 142
7 200 – 7 300 BROADCASTING	**7 200 – 7 300** AMATEUR 142	**7 200 – 7 300** BROADCASTING	**7 200 – 7 300** BROADCASTING AUS54 Amateur AUS12

kHz
7 300 – 8 100

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
7 300 – 7 400 BROADCASTING 134 143 143A 143B 143C 143D			**7 300 – 7 350** BROADCASTING 134 FIXED Land mobile 143 AUS57
7 400 – 7 450 BROADCASTING 143B 143C	**7 400 – 7 450** FIXED MOBILE except aeronautical mobile (R)	**7 400 – 7 450** BROADCASTING 143A 143C	**7 350 – 8 100** FIXED Land mobile
7 450 – 8 100 FIXED MOBILE except aeronautical mobile (R) 143E 144			144 AUS57

kHz
8 100 – 9 500

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2		Region 3	
8 100 – 8 195	FIXED MARITIME MOBILE			**8 100 – 8 195** FIXED MARITIME MOBILE AUS73 AUS57
8 195 – 8 815	MARITIME MOBILE 109 110 132 145 111			**8 195 – 8 815** MARITIME MOBILE 109 110 132 145 AUS53 AUS59 111 AUS9 AUS57
8 815 – 8 965	AERONAUTICAL MOBILE (R)			**8 815 – 8 965** AERONAUTICAL MOBILE (R) AUS51
8 965 – 9 040	AERONAUTICAL MOBILE (OR)			**8 965 – 9 040** AERONAUTICAL MOBILE (OR) AUS52 AUS1 AUS57 AUS58
9 040 – 9 400	FIXED			**9 040 – 9 400** FIXED Mobile AUS75 AUS57
9 400 – 9 500	BROADCASTING 134 146			**9 400 – 9 500** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57

kHz
9 500 – 11 175

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
9 500 – 9 900	BROADCASTING 147			**9 500 – 9 900** BROADCASTING AUS54 147 AUS57
9 900 – 9 995	FIXED			**9 900 – 9 995** FIXED AUS57
9 995 – 10 003	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 111			**9 995 – 10 003** STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 111
10 003 – 10 005	STANDARD FREQUENCY AND TIME SIGNAL Space research 111			**10 003 – 10 005** STANDARD FREQUENCY AND TIME SIGNAL Space research 111
10 005 – 10 100	AERONAUTICAL MOBILE (R) 111			**10 005 – 10 100** AERONAUTICAL MOBILE (R) AUS51 111
10 100 – 10 150	FIXED Amateur			**10 100 – 10 150** FIXED Amateur AUS57
10 150 – 11 175	FIXED Mobile except aeronautical mobile (R)			**10 150 – 11 175** FIXED Mobile except aeronautical mobile (R) AUS57

kHz
11 175 – 12 230

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Allocations
Region 1	Region 2	Region 3		
11 175 – 11 275	AERONAUTICAL MOBILE (OR)			**11 175 – 11 275** AERONAUTICAL MOBILE (OR) AUS52 AUS1 AUS57 AUS58
11 275 – 11 400	AERONAUTICAL MOBILE (R)			**11 275 – 11 400** AERONAUTICAL MOBILE (R) AUS51
11 400 – 11 600	FIXED			**11 400 – 11 600** FIXED Mobile AUS75 AUS57
11 600 – 11 650	BROADCASTING 134 146			**11 600 – 11 650** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57
11 650 – 12 050	BROADCASTING 147			**11 650 – 12 050** BROADCASTING AUS54 147 AUS57
12 050 – 12 100	BROADCASTING 134 146			**12 050 – 12 100** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57
12 100 – 12 230	FIXED			**12 100 – 12 230** FIXED Mobile AUS75 AUS57

kHz
12 230 – 13 800

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Allocations
Region 1	Region 2	Region 3		
12 230 – 13 200	MARITIME MOBILE 109 110 132 145			**12 230 – 13 200** MARITIME MOBILE 109 110 132 145 AUS53 AUS59 AUS9 AUS57
13 200 – 13 260	AERONAUTICAL MOBILE (OR)			**13 200 – 13 260** AERONAUTICAL MOBILE (OR) AUS52 AUS1 AUS57 AUS58
13 260 – 13 360	AERONAUTICAL MOBILE (R)			**13 260 – 13 360** AERONAUTICAL MOBILE (R) AUS51
13 360 – 13 410	FIXED RADIO ASTRONOMY 149			**13 360 – 13 410** FIXED RADIO ASTRONOMY 149 AUS57
13 410 – 13 570	FIXED Mobile except aeronautical mobile (R) 150			**13 410 – 13 570** FIXED Mobile except aeronautical mobile (R) 150 AUS57
13 570 – 13 600	BROADCASTING 134 151			**13 570 – 13 600** BROADCASTING 134 FIXED Mobile except aeronautical mobile (R) 151 AUS57
13 600 – 13 800	BROADCASTING			**13 600 – 13 800** BROADCASTING AUS54 AUS57

kHz
13 800 – 15 005

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
13 800 – 13 870	BROADCASTING 134 151			**13 800 – 13 870** BROADCASTING 134 FIXED Mobile except aeronautical mobile (R) 151 AUS57
13 870 – 14 000	FIXED Mobile except aeronautical mobile (R)			**13 870 – 14 000** FIXED Mobile except aeronautical mobile (R) AUS57
14 000 – 14 250	AMATEUR AMATEUR-SATELLITE			**14 000 – 14 250** AMATEUR AMATEUR-SATELLITE
14 250 – 14 350	AMATEUR 152			**14 250 – 14 350** AMATEUR
14 350 – 14 990	FIXED Mobile except aeronautical mobile (R)			**14 350 – 14 990** FIXED Mobile except aeronautical mobile (R) AUS57
14 990 – 15 005	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 111			**14 990 – 15 005** STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 111

kHz
15 005 – 17 480

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
15 005 – 15 010	STANDARD FREQUENCY AND TIME SIGNAL Space research			**15 005 – 15 010** STANDARD FREQUENCY AND TIME SIGNAL Space research
15 010 – 15 100	AERONAUTICAL MOBILE (OR)			**15 010 – 15 100** AERONAUTICAL MOBILE (OR) AUS52 AUS1 AUS57 AUS58
15 100 – 15 600	BROADCASTING			**15 100 – 15 600** BROADCASTING AUS54 AUS57
15 600 – 15 800	BROADCASTING 134 146			**15 600 – 15 800** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57
15 800 – 16 360	FIXED 153			**15 800 – 16 360** FIXED Mobile AUS75 153 AUS57
16 360 – 17 410	MARITIME MOBILE 109 110 132 145			**16 360 – 17 410** MARITIME MOBILE 109 110 132 145 AUS53 AUS59 AUS9 AUS57
17 410 – 17 480	FIXED			**17 410 – 17 480** FIXED Mobile AUS75 AUS57

kHz
17 480 – 18 168

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
17 480 – 17 550	BROADCASTING 134 146			**17 480 – 17 550** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57
17 550 – 17 900	BROADCASTING			**17 550 – 17 900** BROADCASTING AUS54 AUS57
17 900 – 17 970	AERONAUTICAL MOBILE (R)			**17 900 – 17 970** AERONAUTICAL MOBILE (R) AUS51
17 970 – 18 030	AERONAUTICAL MOBILE (OR)			**17 970 – 18 030** AERONAUTICAL MOBILE (OR) AUS52 AUS1 AUS57 AUS58
18 030 – 18 052	FIXED			**18 030 – 18 052** FIXED AUS57
18 052 – 18 068	FIXED Space research			**18 052 – 18 068** FIXED Space research AUS57
18 068 – 18 168	AMATEUR AMATEUR-SATELLITE 154			**18 068 – 18 168** AMATEUR AMATEUR-SATELLITE

kHz
18 168 – 19 990

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
18 168 – 18 780	FIXED Mobile except aeronautical mobile			**18 168 – 18 780** FIXED Mobile except aeronautical mobile AUS57
18 780 – 18 900	MARITIME MOBILE			**18 780 – 18 900** MARITIME MOBILE AUS53 AUS59 AUS9 AUS57
18 900 – 19 020	BROADCASTING 134 146			**18 900 – 19 020** BROADCASTING 134 FIXED Mobile AUS75 146 AUS57
19 020 – 19 680	FIXED			**19 020 – 19 680** FIXED Mobile AUS75 AUS57
19 680 – 19 800	MARITIME MOBILE 132			**19 680 – 19 800** MARITIME MOBILE 132 AUS53 AUS57
19 800 – 19 990	FIXED			**19 800 – 19 990** FIXED AUS57

kHz
19 900 – 21 924

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
19 990 – 19 995	STANDARD FREQUENCY AND TIME SIGNAL Space research 111			**19 990 – 19 995** STANDARD FREQUENCY AND TIME SIGNAL Space research 111
19 995 – 20 010	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 111			**19 995 – 20 010** STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 111
20 010 – 21 000	FIXED Mobile			**20 010 – 21 000** FIXED Mobile AUS57
21 000 – 21 450	AMATEUR AMATEUR-SATELLITE			**21 000 – 21 450** AMATEUR AMATEUR-SATELLITE
21 450 – 21 850	BROADCASTING			**21 450 – 21 850** BROADCASTING AUS54 AUS57
21 850 – 21 870	FIXED 155A 155			**21 850 – 21 870** FIXED AUS57
21 870 – 21 924	FIXED 155B			**21 870 – 21 924** FIXED 155B AUS57

kHz
21 924 – 24 000

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
21 924 – 22 000	AERONAUTICAL MOBILE (R)			**21 924 – 22 000** AERONAUTICAL MOBILE (R) AUS51
22 000 – 22 855	MARITIME MOBILE 132 156			**22 000 – 22 855** MARITIME MOBILE 132 AUS53 AUS59 AUS9 AUS57
22 855 – 23 000	FIXED 156			**22 855 – 23 000** FIXED Mobile AUS75 AUS57
23 000 – 23 200	FIXED Mobile except aeronautical mobile (R) 156			**23 000 – 23 200** FIXED Mobile except aeronautical mobile (R) AUS57
23 200 – 23 350	FIXED 156A AERONAUTICAL MOBILE (OR)			**23 200 – 23 350** FIXED 156A AERONAUTICAL MOBILE (OR) AUS52 AUS1 AUS57 AUS58
23 350 – 24 000	FIXED MOBILE except aeronautical mobile 157			**23 350 – 24 000** FIXED MOBILE except aeronautical mobile (R) 157 AUS7 AUS57

kHz
24 000 – 25 550

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
24 000 – 24 890	FIXED LAND MOBILE			**24 000 – 24 890** FIXED LAND MOBILE AUS57
24 890 – 24 990	AMATEUR AMATEUR-SATELLITE			**24 890 – 24 990** AMATEUR AMATEUR-SATELLITE
24 990 – 25 005	STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)			**24 990 – 25 005** STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)
25 005 – 25 010	STANDARD FREQUENCY AND TIME SIGNAL Space research			**25 005 – 25 010** STANDARD FREQUENCY AND TIME SIGNAL Space research
25 010 – 25 070	FIXED MOBILE except aeronautical mobile			**25 010 – 25 070** FIXED MOBILE except aeronautical mobile (R) AUS7 AUS57
25 070 – 25 210	MARITIME MOBILE			**25 070 – 25 210** MARITIME MOBILE AUS53 AUS59 AUS9 AUS57
25 210 – 25 550	FIXED MOBILE except aeronautical mobile			**25 210 – 25 550** FIXED MOBILE except aeronautical mobile (R) AUS7 AUS57

kHz
25 550 – 30 005

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
25 550 – 25 670	RADIO ASTRONOMY 149			**25 550 – 25 670** RADIO ASTRONOMY 149
25 670 – 26 100	BROADCASTING			**25 670 – 26 100** BROADCASTING AUS54
26 100 – 26 175	MARITIME MOBILE 132			**26 100 – 26 175** MARITIME MOBILE 132 AUS57
26 175 – 27 500	FIXED MOBILE except aeronautical mobile 150			**26 175 – 27 500** FIXED MOBILE except aeronautical mobile (R) 150 AUS7 AUS57
27 500 – 28 000	METEOROLOGICAL AIDS			**27 500 – 28 000** METEOROLOGICAL AIDS FIXED MOBILE AUS57
28 000 – 29 700	AMATEUR AMATEUR-SATELLITE			**28 000 – 29 700** AMATEUR AMATEUR-SATELLITE
29.7 – 30.005 FIXED MOBILE	FIXED MOBILE			**29.7 – 30.005** FIXED MOBILE AUS57

MHz
29.7 – 37.5

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2		Region 3	
30.005 – 30.01	SPACE OPERATION (satellite identification) FIXED SPACE RESEARCH			**30.005 – 30.01** SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH AUS57
30.01 – 37.5	FIXED MOBILE			**30.01 – 32** FIXED MOBILE AUS57
MOBILE				**32 – 33** FIXED MOBILE AUS1 AUS57
				33 – 34 FIXED MOBILE AUS57
				34 – 35 FIXED MOBILE AUS1 AUS57
				35 – 37.5 FIXED MOBILE AUS57

MHz
37.5 – 41

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
37.5 – 38.25 FIXED Radio astronomy 149			**37.5 – 38** FIXED MOBILE Radio astronomy 149 AUS57
			38 – 38.25 FIXED MOBILE Radio astronomy 149 AUS1 AUS57
38.25 – 39.986 FIXED MOBILE			**38.25 – 39** FIXED MOBILE AUS1 AUS57
39.986 – 40.02 FIXED Space research			**39 – 41** FIXED MOBILE 150 AUS57
40.02 – 40.98 FIXED 150 MOBILE			
40.98 – 41.015 FIXED Space research 160 161 MOBILE MOBILE MOBILE			

MHz
41 – 45

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
				41 – 42 FIXED MOBILE AUS1 AUS57
41.015 – 44	FIXED MOBILE 160 161			**42 – 43** FIXED MOBILE AUS57
				43 – 44 FIXED MOBILE AUS1 AUS57
44 – 47	FIXED MOBILE 162 162A			**44 – 45** FIXED MOBILE AUS57

MHz
45 – 70

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
			45 – 50 BROADCASTING FIXED AUS11 MOBILE AUS11
47 – 68 BROADCASTING	**47 – 50** FIXED MOBILE	**47 – 50** FIXED MOBILE BROADCASTING 162A	
	50 – 54 AMATEUR 162A166 167 167A 168 170		**50 – 52** BROADCASTING Amateur AUS23
			52 – 54 AMATEUR
	54 – 68 BROADCASTING Fixed Mobile 172	**54 – 68** FIXED MOBILE BROADCASTING 162A	**54 – 56** FIXED MOBILE RADIOLOCATION AUS89
162A 163 164 165 169 171			**56 – 70** BROADCASTING FIXED AUS11 MOBILE AUS11

MHz
70 – 75.2

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
68 – 74.8 FIXED MOBILE except aeronautical mobile 149 175 177 179	**68 – 72** BROADCASTING Fixed Mobile 173	**68 – 74.8** FIXED MOBILE 149 176 179	**70 – 74.8** FIXED MOBILE 149
	72 – 73 FIXED MOBILE		
	73 – 74.6 RADIO ASTRONOMY 178		
	74.6 – 74.8 FIXED MOBILE		
74.8 – 75.2 AERONAUTICAL RADIONAVIGATION 180 181			**74.8 – 75.2** AERONAUTICAL RADIONAVIGATION 180 AUS25

MHz
75.2 – 117.975

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

175 179187</td><td colspan="2">75.2 – 75.4
FIXED
MOBILE
179</td><td>75.2 – 75.4
FIXED
MOBILE</td></tr>
<tr><td>75.4 – 76
FIXED
MOBILE</td><td rowspan="3">75.4 – 87
FIXED
MOBILE

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

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

AUS24</td></tr>
<tr><td rowspan="3">87 – 100
FIXED
MOBILE
BROADCASTING</td></tr>
<tr><td>87.5 – 100
BROADCASTING
190</td><td>88 – 100
BROADCASTING</td><td rowspan="2">87.5 – 108
BROADCASTING
Fixed
Mobile</td></tr>
<tr><td colspan="3">100 – 108 BROADCASTING
192 194</td></tr>
<tr><td colspan="3">108 – 117.975 AERONAUTICAL RADIONAVIGATION

197 197A</td><td>108 – 117.975
AERONAUTICAL
RADIONAVIGATION
AUS25 197A</td></tr>
</table>

MHz
117.975 – 137.025

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
117.975 – 137	AERONAUTICAL MOBILE (R) 111 200 201 202			**117.975 – 137** AERONAUTICAL MOBILE (R) 111 200 AUS25
137 – 137.025	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 208A 209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 204 205 206 207 208			**137 – 137.025** BROADCASTING 207 AUS26 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 208 208A 208B209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R)

MHz
137.025 – 137.825

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
137.025 – 137.175	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-satellite (space-to-Earth) 208A 208B 209 Mobile except aeronautical mobile (R) 204 205 206 207 208			**137.025 – 137.175** BROADCASTING 207 AUS26 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-satellite (space-to-Earth) 208 208A 208B 209 Mobile except aeronautical mobile (R)
137.175 – 137.825	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 208A209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 204 205 206 207 208			**137.175 – 137.825** BROADCASTING 207 AUS26 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 208A 208B 209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R)

MHz
137.825 – 143.65

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
137.825 – 138 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-satellite (space-to-Earth) 208A 208B 209 Mobile except aeronautical mobile (R) 204 205 206 207 208			**137.825 – 138** BROADCASTING 207 AUS26 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-satellite (space-to-Earth) 208A 208B 209 Mobile except aeronautical mobile (R)
138 – 143.6 AERONAUTICAL MOBILE (OR) 210 211 212 214	**138 – 143.6** FIXED MOBILE RADIOLOCATION Space research (space-to-Earth)	**138 – 143.6** FIXED MOBILE Space research (space-to-Earth) 207 213	**138 – 143.6** BROADCASTING 207 AUS26 FIXED MOBILE Space research (space-to-Earth)
143.6 – 143.65 AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space-to-Earth) 211 212 214	**143.6 – 143.65** FIXED MOBILE RADIOLOCATION SPACE RESEARCH (space-to-Earth)	**143.6 – 143.65** FIXED MOBILE SPACE RESEARCH (space-to-Earth) 207 213	**143.6 – 143.65** BROADCASTING 207 AUS26 FIXED MOBILE SPACE RESEARCH (space-to-Earth)

MHz
143.65 – 150.05

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
143.65 – 144 AERONAUTICAL MOBILE (OR) 210 211 212 214	**143.65 – 144** FIXED MOBILE RADIOLOCATION Space research (space-to-Earth)	**143.65 – 144** FIXED MOBILE Space research (space-to-Earth) 207 213	**143.65 – 144** BROADCASTING 207 AUS26 FIXED MOBILE Space research (space-to-Earth)
144 – 146 AMATEUR AMATEUR-SATELLITE 216			**144 – 146** AMATEUR AMATEUR-SATELLITE
146 – 148 FIXED MOBILE except aeronautical mobile (R)	**146 – 148** AMATEUR 217	**146 – 148** AMATEUR FIXED MOBILE 217	**146 – 148** AMATEUR
148 – 149.9 FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 209 218 219 221	**148 – 149.9** MOBILE-SATELLITE (Earth-to-space) 209 FIXED MOBILE 218 219 221		**148 – 149.9** FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 209 218 219 221
149.9 – 150.05 MOBILE-SATELLITE (Earth-to-space) 209 224A RADIONAVIGATION-SATELLITE 224B 220 222 223			**149.9 – 150.05** MOBILE-SATELLITE (Earth-to-space) 209 224A RADIONAVIGATION-SATELLITE 224B 220 222 223

MHz
150.05 – 156.5625

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
150.05 – 153 FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 149	**150.05 – 156.4875** FIXED		**150.05 – 153** FIXED MOBILE RADIO ASTRONOMY 225 AUS66
153 – 154 FIXED MOBILE except aeronautical mobile (R) Meteorological aids	MOBILE		**153—156.4875** FIXED MOBILE
154 – 156.4875 FIXED MOBILE except aeronautical mobile (R) 226	225 226		226
156.4875 – 156.5625 MARITIME MOBILE (distress and calling via DSC) 111 226 227			**156.4875 – 156.5625** MARITIME MOBILE (distress and calling via DSC) 111 226 227

MHz
156.5625 - 174

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
156.5625 – 156.7625 FIXED MOBILE except aeronautical mobile 226	**156.5625 – 156.7625** FIXED 226		**156.5625 – 156.7625** FIXED MOBILE 226
156.7625 – 156.8375 MARITIME MOBILE (distress and calling) MOBILE 111 226			**156.7625 – 156.8375** MARITIME MOBILE (distress and calling) 111 226
156.8375 – 174 FIXED MOBILE except aeronautical mobile 226 227A 229	**156.8375 – 174** FIXED 226 227A 230 231 232		**156.8375 – 174** FIXED MOBILE 226 227A

MOBILE

MHz
174 – 235

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
174 – 223 BROADCASTING 235 237 243	**174 – 216** BROADCASTING Fixed Mobile 234	**174 – 223** FIXED MOBILE BROADCASTING 233 238 240 245	**174 – 225** BROADCASTING Fixed Mobile AUS92
	216 – 220 FIXED MARITIME MOBILE Radiolocation 241 242		
	220 – 225 AMATEUR FIXED MOBILE Radiolocation 241		
223 – 230 BROADCASTING Fixed Mobile 243246 247		**223 – 230** FIXED MOBILE BROADCASTING AERONAUTICAL RADIONAVIGATION Radiolocation 250	**225 – 230** BROADCASTING Fixed AUS11 Mobile AUS11
	225 – 235 FIXED MOBILE		
230 – 235 FIXED MOBILE 247 251 252		**230 – 235** FIXED MOBILE AERONAUTICAL RADIONAVIGATION 250	**230 – 235** FIXED MOBILE AERONAUTICAL RADIONAVIGATION AUS1

MHz
235 – 312

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
235 – 267 FIXED 111 252 254 256 256A			**235 – 267** FIXED MOBILE 111 254 256 AUS1
267 – 272 FIXED Space operation (space-to-Earth) 254 257			**267 – 272** FIXED MOBILE Space operation (space-to-Earth) 254 257 AUS1
272 – 273 SPACE OPERATION (space-to-Earth) FIXED MOBILE 254			**272 – 273** SPACE OPERATION (space-to-Earth) FIXED MOBILE 254 AUS1
273 – 312 FIXED MOBILE 254			**273 – 312** FIXED MOBILE 254 AUS1

MOBILE

MOBILE

MHz
312 – 387

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
312 – 315	FIXED Mobile-satellite (Earth-to-space) 254 255			**312 – 315** FIXED MOBILE Mobile-satellite (Earth-to-space) 254 255 AUS1
315 – 322	FIXED 254			**315 – 322** FIXED MOBILE 254 AUS1
322 – 328.6 MOBILE	FIXED RADIO ASTRONOMY 149			**322 – 328.6** FIXED MOBILE RADIO ASTRONOMY 149 AUS1
328.6 – 335.4 MOBILE	AERONAUTICAL RADIONAVIGATION 258 259			**328.6 – 335.4** AERONAUTICAL RADIONAVIGATION 258 AUS 25
335.4 – 387 MOBILE	FIXED 254			**335.4 – 387** FIXED MOBILE 254 AUS1

MOBILE

MHz
387 – 400.15

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2		Region 3	
387 – 390	FIXED Mobile-satellite (space-to-Earth) 208A 208B 254 255			**387 – 390** FIXED MOBILE Mobile-satellite (space-to-Earth) 208A 208B 254 255 AUS1
390 – 399.9	FIXED 254			**390 – 399.9** FIXED MOBILE 254 AUS1
399.9 – 400.05 MOBILE	MOBILE-SATELLITE (Earth-to-space) 209 224A RADIONAVIGATION-SATELLITE 222 224B 260 220			**399.9 – 400.05** MOBILE-SATELLITE (Earth-to-space) 209 224A RADIONAVIGATION-SATELLITE 222 224B 260 220
400.05 – 400.15 MOBILE	STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz) 261 262			**400.05 – 400.15** STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz) 261

MHz
400.15 – 402

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2		Region 3	
400.15 – 401	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 208A 209 SPACE RESEARCH (space-to-Earth) 263 Space operation (space-to-Earth) 262 264			**400.15 – 401** METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 208A209 SPACE RESEARCH (space-to-Earth) 263 Space operation (space-to-Earth) Radiolocation AUS11 AUS29 264
401 – 402	METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile			**401 – 402** EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) SPACE OPERATION (space-to-Earth) Fixed Mobile except aeronautical mobile (R) Radiolocation AUS11 AUS29

MHz
402 – 410

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
402 – 403	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile			**402 – 403** EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile (R) Radiolocation AUS11 AUS29
403 – 406	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile			**403 – 406** FIXED MOBILE except aeronautical mobile (R) Meteorological Aids Radiolocation AUS11 AUS29
406 – 406.1	MOBILE-SATELLITE (Earth-to-space) 266 267			**406 – 406.1** MOBILE-SATELLITE (Earth-to-space) 266 267
406.1 – 410	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 149			**406.1 – 410** FIXED MOBILE except aeronautical mobile (R) RADIO ASTRONOMY Radiolocation AUS11 AUS29 149

MHz
410 – 438

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
410 – 420 FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 268			**410 – 420** FIXED MOBILE except aeronautical mobile (R) SPACE RESEARCH (space-to-space) 268 Radiolocation AUS11 AUS29
420 – 430 FIXED MOBILE except aeronautical mobile Radiolocation 269 270 271			**420 – 430** RADIOLOCATION AUS11 MOBILE AUS91 Amateur Fixed AUS94
430 – 432 AMATEUR RADIOLOCATION 271 272 273 274 275 276 277	**430 – 432** RADIOLOCATION Amateur 271 276 277 278 279		**430 – 432** RADIOLOCATION AUS11 Amateur AUS95
432 – 438 AMATEUR RADIOLOCATION Earth exploration-satellite (active) 279A 138 271 272 276 277 280 281 282	**432 – 438** RADIOLOCATION Amateur Earth exploration-satellite (active) 279A 271 276 277 278 279 281 282		**432 – 438** RADIOLOCATION AUS11 Amateur Earth exploration-satellite (active) 279A 282 AUS95

MHz
438 – 450

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
438 – 440 AMATEUR RADIOLOCATION 271 273 274 275 276 277 283	**438 – 440** RADIOLOCATION Amateur 271 276 277 278 279		**438 – 440** RADIOLOCATION AUS11 Amateur AUS95
440 – 450 FIXED MOBILE except aeronautical mobile Radiolocation 269 270 271 284 285 286			**440 – 450** RADIOLOCATION AUS11 AUS90 Amateur Fixed AUS11 Mobile AUS11 286

MHz
450 – 470

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
450 – 455 FIXED MOBILE 286AA 209 271 286 286A 286B 286C 286D 286E			**450 – 460** FIXED MOBILE 286AA
455 – 456 FIXED MOBILE 286AA 209 271 286A 286B 286C 286E	**455 – 456** FIXED MOBILE 286AA MOBILE-SATELLITE (Earth-to-space)286A 286B 286C 209	**455 – 456** FIXED MOBILE 286AA 209 271 286A 286B 286C 286E	
456 – 459 FIXED MOBILE 286AA 271 287 288			
459 – 460 FIXED MOBILE 286AA 209 271 286A 286B 286C 286E	**459 – 460** FIXED MOBILE 286AA MOBILE-SATELLITE (Earth-to-space)286A 286B 286C 209	**459 – 460** FIXED MOBILE 286AA 209 271 286A 286B 286C 286E	286 286A 287
460 – 470 FIXED MOBILE 286AA Meteorological-satellite (space-to-Earth) 287 288 289 290			**460 – 470** FIXED MOBILE 286AA Meteorological-satellite (space-to-Earth) 287 289

MHz
470 – 890

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
470 – 790 BROADCASTING 149 291A 294 296 300 302 304 306 311 312	**470 – 512** BROADCASTING Fixed Mobile 292 293	**470 – 585** FIXED MOBILE BROADCASTING 291 298	**470 – 520** FIXED MOBILE
	512 – 608 BROADCASTING 297	**585 – 610** FIXED MOBILE BROADCASTING RADIONAVIGATION 149 305 306 307	**520 – 820** BROADCASTING Fixed Mobile
	608 – 614 RADIO ASTRONOMY Mobile-satellite except aeronautical mobile-satellite (Earth-to-space)	**610 – 890** FIXED MOBILE 313A 317A BROADCASTING 149 305 306 307 311A 20	
	614 – 698 BROADCASTING Fixed Mobile 293 309311A		
	698 – 806 BROADCASTING MOBILE 313B 317A Fixed 293 309311A		149 306 311A 320

MHz
470 – 890 Cont…..

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
790 – 862 FIXED BROADCASTING MOBILE except aeronautical mobile 316B 317A 312 314 315 316 316A 319			
862 – 890 FIXED MOBILE except aeronautical mobile 317A BROADCASTING 322 319 323	**806 – 890** FIXED MOBILE 317A BROADCASTING 317 318		**820 – 850** FIXED MOBILE 317A 320 AUS63 **850 – 890** FIXED MOBILE 317A Radiolocation AUS11 AUS29 320

MHz
890 – 960

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
890 – 942 FIXED MOBILE except aeronautical mobile 317A BROADCASTING 322 Radiolocation 323	**890 – 902** FIXED MOBILE except aeronautical mobile 317A Radiolocation 318 325	**890 – 942** FIXED MOBILE 317A BROADCASTING Radiolocation 327	**890 – 915** FIXED MOBILE 317A Radiolocation AUS11 AUS29
	902 – 928 FIXED Amateur Mobile except aeronautical mobile 325A Radiolocation 150 325 326		**915 – 928** RADIOLOCATION 327 AUS11 Fixed Mobile AUS32
	928 – 942 FIXED MOBILE except aeronautical mobile 317A Radiolocation 325		**928 – 942** FIXED MOBILE 317A Radiolocation AUS11 AUS29
942 – 960 FIXED MOBILE except aeronautical mobile 317A BROADCASTING 322 323	**942 – 960** FIXED MOBILE 317A	**942 – 960** FIXED MOBILE 317A BROADCASTING 320	**942 – 960** FIXED MOBILE 317A 320

MHz
960 – 1 240

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
960 – 1 164	AERONAUTICAL RADIONAVIGATION 328 AERONAUTICAL MOBILE (R) 327A			**960 – 1 164** AERONAUTICAL RADIONAVIGATION 328 AERONAUTICAL MOBILE (R) 327A AUS25 AUS64
1 164 – 1 215	AERONAUTICAL RADIONAVIGATION 328 RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 328B 328A			**1 164 – 1 215** AERONAUTICAL RADIONAVIGATION 328 RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 328B 328A AUS25 AUS64
1 215 – 1 240	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active) 330 331 332			**1 215 – 1 240** EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active) 331 332

MHz
1 240 – 1 400

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
1 240 – 1 300 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active) Amateur 282 330 331 332 335 335A			**1 240 – 1 300** EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION AUS90 RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active) Amateur 282 331 332 335A AUS1 AUS1A AUS87
1 300 – 1 350 AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION RADIONAVIGATION-SATELLITE (Earth-to-space) 149 337A			**1300 – 1350** AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION RADIONAVIGATION-SATELLITE (Earth-to-space) 149 337A AUS1 AUS87
1 350 – 1 400 FIXED MOBILE RADIOLOCATION 149 338 339	**1 350 – 1 400** RADIOLOCATION 338A 149 334 339		**1 350 – 1 400** RADIOLOCATION Fixed Mobile 149 339 AUS1 AUS87

MHz
1 400 – 1 492

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
1 400 – 1 427 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341			**1 400 – 1 427** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341 AUS87
1 427 – 1 429 SPACE OPERATION (Earth-to-space) MOBILE except aeronautical mobile 338A 341			**1 427 – 1 429** SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 338A 341 AUS87
1 429 – 1 452 FIXED MOBILE except aeronautical mobile FIXED 338A 341 342	**1 429 – 1 452** FIXED MOBILE 343 338A 341		**1 429 – 1 452** FIXED MOBILE AUS3 338A 341 AUS87
1 452 – 1 492 FIXED MOBILE except aeronautical mobile BROADCASTING 345 BROADCASTING-SATELLITE 208B 345 341 342	**1 452 – 1 492** FIXED MOBILE 343 BROADCASTING 345 BROADCASTING-SATELLITE 208B 345 341 344		**1 452 – 1 492** BROADCASTING 345 BROADCASTING-SATELLITE 208B 345 FIXED MOBILE AUS3 341 AUS87

MHz
1 492 – 1 530

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
1 492 – 1 518 FIXED MOBILE except aeronautical mobile 341 342	**1 492 – 1 518** FIXED MOBILE 343 341 344	**1 492 – 1 518** FIXED MOBILE 341	**1 492 – 1 518** FIXED MOBILE AUS3 341 AUS87
1 518 – 1 525 FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 348 348A 348B 351A 341 342	**1 518 – 1 525** FIXED MOBILE 343 MOBILE-SATELLITE (space-to-Earth) 348 348A 348B 351A 341 344	**1 518 – 1 525** FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 348 348A 348B 351A 341	**1 518 – 1 525** FIXED MOBILE AUS3 MOBILE-SATELLITE (space-to-Earth) 348 348A 348B 351A 341 AUS87
1 525 – 1 530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 208B 351A Earth exploration-satellite Mobile except aeronautical mobile 349 341 342 350 351 352A 354	**1 525 – 1 530** SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 208B 351A Earth exploration-satellite Fixed Mobile 343 341 351 354	**1 525 – 1 530** SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 208B 351A Earth exploration-satellite Mobile 349 341 351 352A 354	**1 525 – 1 530** SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 208B 351A Earth exploration-satellite Mobile 349 AUS3 341 351 354 AUS87

MHz
1 530 – 1 610

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
1 530 – 1 535 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 208B 351A 353A Earth exploration-satellite Fixed Mobile except aeronautical mobile 341 342 351 354	**1 530 – 1 535** SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 208B 351A 353A Earth exploration-satellite Fixed Mobile 343 341 351 354		**1 530 – 1 535** SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 208B 351A 353A Earth exploration-satellite Fixed Mobile AUS3 341 351 354 AUS87
1 535 – 1 559 MOBILE-SATELLITE (space-to-Earth) 208B 351A 341 351 353A 354 355 356 357 357A 359 362A			**1 535 – 1 559** MOBILE-SATELLITE (space-to-Earth) 208B 351A 341 351 353A 354 356 357 357A 362A AUS87
1 559 – 1 610 AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 208B 328B 329A 341 362B 362C			**1 559 – 1 610** AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 208B 328B 329A 341 AUS87

MHz
1 610 – 1 613.8

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
1 610 – 1 610.6 MOBILE-SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION 341 355 359 364 366 367 368 369 371 372	**1 610 – 1 610.6** MOBILE-SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION RADIODETERMINATION-SATELLITE (Earth-to-space) 341 364 366 367 368 370 372	**1 610 – 1 610.6** MOBILE-SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION Radiodetermination-satellite (Earth-to-space) 341 355 359 364 366 367 368 369 372	**1 610 – 1 610.6** MOBILE-SATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION RADIODETERMINATION-SATELLITE (Earth-to-space) 341 364 366 367 368 369 372 AUS87
1 610.6 – 1 613.8 MOBILE-SATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 149 341 355 359 364 366 367 368 369 371 372	**1 610.6 – 1 613.8** MOBILE-SATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION RADIODETERMINATION-SATELLITE (Earth-to-space) 149 341 364 366 367 368 370 372	**1 610.6 – 1 613.8** MOBILE-SATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION Radiodetermination-satellite (Earth-to-space) 149 341 355 359 364 366 367 368 369 372	**1 610.6 – 1 613.8** MOBILE-SATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION RADIODETERMINATION-SATELLITE (Earth-to-space) 149 341 364 366 367 368 369 372 AUS87

MHz
1 613.8 – 1 668

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

MHz
1 668 – 1 675

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
1 668 – 1 668.4	MOBILE-SATELLITE (Earth-to-space) 351A 379B 379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149 341 379 379A			**1 668 – 1 668.4** MOBILE-SATELLITE (Earth-to-space) 351A 379B 379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149 341 379A AUS87
1 668.4 – 1 670	METEOROLOGICAL AIDS MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 351A 379B 379C RADIO ASTRONOMY 149 341 379D 379E			**1 668.4 – 1 670** METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 351A 379B 379C RADIO ASTRONOMY 149 341 379D 379E AUS87
1 670 – 1 675 FIXED	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (Earth-to-space) 351A 379B 341 379D 379E 380A			**1 670 – 1 675** METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (Earth-to-space) 351A 379B 341 379D 379E 380A AUS87

MHz
1 675 – 1 970

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
1 675 – 1 690 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 341			**1 675 – 1 690** METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 341 AUS87
1 690 – 1 700 METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile 289 341 382	**1 690 – 1 700** METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) 289 341 381		**1 690 – 1 700** METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile 289 341 AUS87
1 700 – 1 710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 289 341.		**1 700 – 1 710** FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 289 341 384	**1 700 – 1 710** FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 289 341 AUS87
1 710 – 1 930 FIXED MOBILE 384A 388A 388B 149 341 385 386 387 388			**1 710 – 1 930** FIXED MOBILE 384A 388A 149 341 385 386 388 AUS87
1 930 – 1 970 FIXED MOBILE 388A 388B 388	**1 930 – 1 970** FIXED MOBILE 388A 388B Mobile-satellite (Earth-to-space) 388	**1 930 – 1 970** FIXED MOBILE 388A 388B 388	**1 930 – 1 970** FIXED MOBILE 388A 388

MHz
1 970 – 2 110

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
1 970 – 1 980 FIXED MOBILE 388A 388B 388			**1 970 – 1 980** FIXED MOBILE 388A 388
1 980 – 2 010 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 351A 388 389A 389B 389F			**1 980 – 2 010** FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 351A 388 389A
2 010 – 2 025 FIXED MOBILE 388A 388B 388	**2010 – 2025** FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 388 389C 389E	**2010 – 2025** FIXED MOBILE 388A 388B 388	**2010 – 2025** FIXED MOBILE 388A 388
2 025 – 2 110 SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) MOBILE 391 SPACE RESEARCH (Earth-to-space) (space-to-space) 392			**2 025 – 2 110** SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 391 SPACE RESEARCH (Earth-to-space) (space-to-space) 392

FIXED

MHz
2 110 – 2 160

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
2 110 – 2 120 FIXED MOBILE 388A 388B SPACE RESEARCH (deep space) (Earth-to-space) 388			**2 110 – 2 120** FIXED MOBILE 388A SPACE RESEARCH (deep space) (Earth-to-space) 388
2 120 – 2 160 FIXED MOBILE 388A 388B 388	**2 120 – 2 160** FIXED MOBILE 388A 388B Mobile-satellite (space-to-Earth) 388	**2 120 – 2 160** FIXED MOBILE 388A 388B 388	**2 120 – 2 160** FIXED MOBILE 388A 388

MHz
2 160 – 2 300

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
2 160 – 2 170 FIXED MOBILE 388A 388B 388	**2 160 – 2 170** FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 388 389C 389E	**2 160 – 2 170** FIXED MOBILE 388A 388B 388	**2 160 – 2 170** FIXED MOBILE 388A 388
2 170 – 2 200 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 351A 388 389A 389F			**2 170 – 2 200** FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 351A 388 389A
2 200 – 2 290 SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) MOBILE 391 SPACE RESEARCH (space-to-Earth) (space-to-space) 392			**2 200 – 2 290** SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 391 SPACE RESEARCH (space-to-Earth) (space-to-space) 392 AUS87
2 290 – 2 300 FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)			**2 290 – 2 300** FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth) AUS87 AUS93

MHz
2 300 – 2 500

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
2 300 – 2 450 FIXED MOBILE 384A Amateur Radiolocation 150 282 395	**2 300 – 2 450** FIXED MOBILE 384A RADIOLOCATION Amateur 150 282 393 394 396		**2 300 – 2 450** FIXED MOBILE 384A RADIOLOCATION Amateur 150 282 AUS87
2 450 – 2 483.5 FIXED MOBILE Radiolocation 150 397	**2 450 – 2 483.5** FIXED RADIOLOCATION 150		**2 450 – 2 483.5** FIXED MOBILE RADIOLOCATION 150 AUS87
2 483.5 – 2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 351A Radiolocation 150 371 397 398 399 400 402	**2 483.5 – 2 500** MOBILE FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 351A RADIOLOCATION RADIODETERMINATION-SATELLITE (space-to-Earth) 398 150 402	**2 483.5 – 2 500** FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 351A RADIOLOCATION Radiodetermination-satellite (space-to-Earth) 398 150 400 402	**2 483.5 – 2 500** FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 351A RADIOLOCATION RADIODETERMINATION-SATELLITE (space-to-Earth) 398 150 402 AUS87

MHz
2 500 – 2 655

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
2 500 – 2 520 FIXED 410 MOBILE except aeronautical mobile 384A 405 412	**2 500 – 2 520** FIXED 410 FIXED-SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A 404	**2 500 – 2 520** FIXED 410 FIXED-SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A MOBILE-SATELLITE (space-to-Earth) 351A 407 414 414A 404 415A	**2 500 – 2 520** FIXED 410 FIXED-SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A MOBILE-SATELLITE (space-to-Earth) 351A 407 414 414A AUS87
2 520 – 2 655 FIXED 410 MOBILE except aeronautical mobile 384A BROADCASTING-SATELLITE 413 416 339 405 412 417C 417D 418B 418C	**2 520 – 2 655** FIXED 410 FIXED-SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTING-SATELLITE 413 416 339 417C 417D 418B 418C	**2 520 – 2 535** FIXED 410 FIXED-SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTING-SATELLITE 413 416 403 414A 415A	**2 520 – 2 535** FIXED 410 FIXED-SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTING-SATELLITE 413 416 403 AUS87
		2 535 – 2 655 FIXED 410 MOBILE except aeronautical mobile 384A BROADCASTING-SATELLITE 413 416 339 417A 417B 417C 417D 418 418A418B 418C	**2 535 – 2 655** FIXED 410 MOBILE except aeronautical mobile 384A BROADCASTING-SATELLITE 413 416 339 417C 417D 418B 418C AUS87

MHz
2 655 – 2 690

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
2 655 – 2 670 FIXED 410 MOBILE except aeronautical mobile384A BROADCASTING-SATELLITE 208B 413 416 Earth exploration-satellite (passive) Radio astronomy Space research (passive) 149 412	**2 655 – 2 670** FIXED 410 FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTING-SATELLITE 413 416 Earth exploration-satellite (passive) Radio astronomy Space research (passive) 149 208B	**2 655 – 2 670** FIXED 410 FIXED-SATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A BROADCASTING-SATELLITE 413 416 Earth exploration-satellite (passive) Radio astronomy Space research (passive) 149 208B 420	**2 655 – 2 670** FIXED 410 FIXED-SATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A BROADCASTING-SATELLITE 413 416 Earth exploration-satellite (passive) Radio astronomy Space research (passive) 149 208B 420
2 670 – 2 690 FIXED 410 MOBILE except aeronautical mobile 384A Earth exploration-satellite (passive) Radio astronomy Space research (passive) 149 412	**2 670 – 2 690** FIXED 410 FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 208B 415 MOBILE except aeronautical mobile 384A Earth exploration-satellite (passive) Radio astronomy Space research (passive) 149	**2 670 – 2 690** FIXED 410 FIXED-SATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A MOBILE-SATELLITE (Earth-to-space) 351A 419 Earth exploration-satellite (passive) Radio astronomy Space research (passive) 149	**2 670 – 2 690** FIXED 410 FIXED-SATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A MOBILE-SATELLITE (Earth-to-space) 351A 419 Earth exploration-satellite (passive) Radio astronomy Space research (passive) 149

MHz
2 690 – 3 400

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
2 690 – 2 700 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 422			**2 690 – 2 700** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
2 700 – 2 900 AERONAUTICAL RADIONAVIGATION 337 Radiolocation 423 424			**2 700 – 2 900** AERONAUTICAL RADIONAVIGATION 337 Radiolocation 423
2 900 – 3 100 RADIOLOCATION 424A RADIONAVIGATION 426 425 427			**2 900 – 3 100** RADIOLOCATION 424A RADIONAVIGATION 426 425 427
3 100 – 3 300 RADIOLOCATION Earth exploration-satellite (active) Space research (active) 149 428			**3 100 – 3 300** RADIOLOCATION Earth exploration-satellite (active) Space research (active) Fixed Mobile 149 AUS1
3 300 – 3 400 RADIOLOCATION 149 429 430	**3 300 – 3 400** RADIOLOCATION Amateur Fixed Mobile 149	**3 300 – 3 400** RADIOLOCATION Amateur 149 429	**3 300 – 3 400** RADIOLOCATION AUS11 Amateur Fixed AUS11 Mobile AUS11 149

MHz
3 400 – 4 200

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
3 400 – 3 600 FIXED FIXED-SATELLITE(space-to-Earth) Mobile 430A Radiolocation 431	**3 400 – 3 500** FIXED FIXED-SATELLITE (space-to-Earth) Amateur Mobile 431A Radiolocation 433 282	**3 400 – 3 500** FIXED FIXED-SATELLITE (space-to-Earth) Amateur Mobile 432B Radiolocation433 282 432 432A	**3 400 – 3 600** FIXED RADIOLOCATION 433 AUS11 Amateur Fixed-satellite (space-to-Earth) Mobile 282
	3 500 – 3 700 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile Radiolocation433	**3 500 – 3 600** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 433A Radiolocation 433	
3 600 – 4 200 FIXED FIXED-SATELLITE (space-to-Earth) Mobile		**3 600 – 3 700** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile Radiolocation 435	**3 600 – 4 200** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile
	3 700 – 4 200 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile		

MHz
4 200 – 5 000

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
4 200 – 4 400 AERONAUTICAL RADIONAVIGATION 438 439 440			**4 200 – 4 400** AERONAUTICAL RADIONAVIGATION 438 440 AUS87
4 400 – 4 500 FIXED MOBILE 440A			**4 400 – 4 500** FIXED MOBILE 440A AUS1 AUS67 AUS87
4 500 – 4 800 FIXED FIXED-SATELLITE (space-to-Earth) 441 MOBILE 440A			**4 500 – 4 800** FIXED FIXED-SATELLITE (space-to-Earth) 441 MOBILE 440A AUS1 AUS67 AUS87
4 800 – 4 990 FIXED MOBILE 440A 442 Radio astronomy 149 339 443			**4 800 – 4 990** FIXED AUS11 MOBILE 440A 442 AUS11 Radio astronomy 149 339 443 AUS67 AUS87
4 990 – 5 000 MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive) 149 FIXED			**4 990 – 5 000** FIXED AUS11 MOBILE except aeronautical mobile AUS11 RADIO ASTRONOMY Space research (passive) 149 AUS67 AUS87

MHz
5 000 – 5 150

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
5 000 – 5 010	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (Earth-to-space) 367			**5 000 – 5 010** AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (Earth-to-space) 367 AUS25 AUS87
5 010 – 5 030	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 328B 443B 367			**5 010 – 5 030** AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 328B 443B 367 AUS25 AUS87
5 030 – 5 091	AERONAUTICAL RADIONAVIGATION 367 444			**5 030 – 5 091** AERONAUTICAL RADIONAVIGATION 367 444 AUS25 AUS87
5 091 – 5 150	AERONAUTICAL RADIONAVIGATION AERONAUTICAL MOBILE 444B 367444444A			**5 091 – 5 150** AERONAUTICAL RADIONAVIGATION AERONAUTICAL MOBILE 444B 367444 444A AUS25 AUS87

MHz
5 150 – 5 350

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
5 150 – 5 250	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth-to-space) 447A MOBILE except aeronautical mobile 446A 446B 446 446C 447447B447C			**5 150 – 5 250** AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth-to-space) 447A MOBILE except aeronautical mobile 446A 446B 446447B 447C AUS25 AUS87
5 250 – 5 255	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 447D MOBILE except aeronautical mobile 446A 447F 447E 448 448A			**5 250 – 5 255** EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 447D MOBILE except aeronautical mobile 446A 447F 447E 448A AUS1 AUS87
5 255 – 5 350	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 446A 447F 447E 448 448A			**5 255 – 5 350** EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 446A 447F 447E 448A AUS1 AUS87

MHz
5 350 – 5 570

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
5 350 – 5 460	EARTH EXPLORATION-SATELLITE (active) 448B SPACE RESEARCH (active) 448C AERONAUTICAL RADIONAVIGATION 449 RADIOLOCATION 448D			**5 350 – 5 460** EARTH EXPLORATION-SATELLITE (active) 448B SPACE RESEARCH (active) 448C AERONAUTICAL RADIONAVIGATION 449 RADIOLOCATION 448D AUS87
5 460 – 5 470	RADIONAVIGATION 449 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 448D 448B			**5 460 – 5 470** RADIONAVIGATION 449 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 448D 448B AUS87
5 470 – 5 570	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 450B 448B 450 451			**5 470 – 5 570** MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 450B 448B AUS87

MHz
5 570 – 5 850

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
5 570 – 5 650 MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A RADIOLOCATION 450B 450 451 452			**5 570 – 5 650** MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A RADIOLOCATION 450B 452 AUS87
5 650 – 5 725 RADIOLOCATION MOBILE except aeronautical mobile 446A 450A Amateur Space research (deep space) 282 451 453 454 455			**5 650 – 5 725** RADIOLOCATION AUS11 MOBILE except aeronautical mobile 446A 450A Amateur Space research (deep space) 282 AUS87
5 725 – 5 830 FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur 150 451 453 455456	**5 725 – 5 830** RADIOLOCATION Amateur 150 453 455		**5 725 – 5 830** RADIOLOCATION AUS11 Amateur 150 AUS87 AUS96
5 830 – 5 850 FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur-satellite (space-to-Earth) 150451453455456	**5 830 – 5 850** RADIOLOCATION Amateur Amateur-satellite (space-to-Earth) 150453455		**5 830 – 5 850** RADIOLOCATION AUS11 Amateur Amateur-satellite (space-to-Earth) 150 AUS87 AUS96

MHz
5 850 – 7 235

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
5 850 – 5 925 FIXED FIXED-SATELLITE Earth-to-space) MOBILE (150	**5 850 – 5 925** FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Amateur Radiolocation 150	**5 850 – 5 925** FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Radiolocation 150	**5 850 – 5 925** FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Radiolocation 150 AUS87
5 925 – 6 700	FIXED FIXED-SATELLITE (Earth-to-space) 457A 457B MOBILE 457C 149 440458		**5 925 – 6 700** FIXED FIXED-SATELLITE (Earth-to-space) 457A MOBILE 149440458 AUS87
6 700 – 7 075	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth)441 MOBILE 458458A458B458C		**6 700 – 7 075** FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth)441 MOBILE 458458A458B458C
7 075 – 7 145	FIXED 458459		**7 075 – 7 145** FIXED MOBILE 458
7 145 – 7 235	FIXED SPACE RESEARCH (Earth-to-space) 460 458459		**7 145 – 7 235** FIXED MOBILE SPACE RESEARCH (Earth-to-space) 460 458

MOBILE

MOBILE

MHz
7 235 – 7 750

Column 1: ITU Radio Regulations Table of Allocations				Column 2:
Region 1	Region 2	Region 3		Australian Table of Allocations
7 235 – 7 250	FIXED 458			**7 235 – 7 250** FIXED MOBILE 458
7 250 – 7 300	FIXED FIXED-SATELLITE (space-to-Earth) 461			**7 250 – 7 375** FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Fixed 461 AUS1
7 300 – 7 450 MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 461			**7 375 – 7 450** FIXED FIXED-SATELLITE (space-to-Earth) AUS11 Mobile except aeronautical mobile
7 450 – 7 550 MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 461A			**7 450 – 7 550** FIXED FIXED-SATELLITE (space-to-Earth) AUS11 METEOROLOGICAL-SATELLITE (space-to-Earth) Mobile except aeronautical mobile 461A
7 550 – 7 750	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile			**7 550 – 7 750** FIXED FIXED-SATELLITE (space-to-Earth) AUS11 MOBILE except aeronautical mobile

MHz
7 750 – 8 175

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
7 750 – 7 850	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 461B MOBILE except aeronautical mobile			**7 750 – 7 850** FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 461B MOBILE except aeronautical mobile
7 850 – 7 900	FIXED MOBILE except aeronautical mobile			**7 850 – 7 900** FIXED MOBILE except aeronautical mobile
7 900 – 8 025	FIXED FIXED-SATELLITE (Earth-to-space)			**7 900 – 7975** FIXED FIXED-SATELLITE (Earth-to-space) AUS11 MOBILE-SATELLITE (Earth-to-space) AUS11 461
				7 975 – 8 025 FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) 461 AUS1 AUS87
MOBILE	461			
8 025 – 8 175	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED-SATELLITE (Earth-to-space) MOBILE 463			**8 025 – 8 175** EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) AUS11 MOBILE 463 462A AUS87
	462A			

FIXED

MHz
8 175 – 8 550

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
8 175 – 8 215	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 463 462A			**8 175 – 8 215** EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) AUS11 METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 463 462A AUS87
8 215 – 8 400	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 463 462A			**8 215 – 8 400** EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) AUS11 MOBILE 463 462A AUS87
8 400 – 8 500	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 465466			**8 400 – 8 500** FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth)465 AUS87
8 500 – 8 550	RADIOLOCATION 468469			**8 500 – 8 550** RADIOLOCATION AUS1 AUS87

MHz
8 550 – 9 200

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
8 550 – 8 650	RADIOLOCATION SPACE RESEARCH (active) EARTH EXPLORATION-SATELLITE (active) 468469 469A			**8 550 – 8 650** RADIOLOCATION SPACE RESEARCH (active) EARTH EXPLORATION-SATELLITE (active) 469A AUS1 AUS87
8 650 – 8 750	RADIOLOCATION 468469			**8 650 – 8 750** RADIOLOCATION AUS1 AUS87
8 750 – 8 850	RADIOLOCATION AERONAUTICAL RADIONAVIGATION470 471			**8 750 – 8 850** RADIOLOCATION AERONAUTICAL RADIONAVIGATION470 AUS87
8 850 – 9 000	RADIOLOCATION MARITIME RADIONAVIGATION472 473			**8 850 – 9 000** RADIOLOCATION AUS11 MARITIME RADIONAVIGATION 472 AUS87
9 000 – 9 200	AERONAUTICAL RADIONAVIGATION337 RADIOLOCATION 471 473A			**9 000 – 9 200** AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION 473A AUS87

MHz
9 200 – 9 800

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
9 200 – 9 300	RADIOLOCATION MARITIME RADIONAVIGATION472 473474			**9 200 – 9 300** RADIOLOCATION AUS11 MARITIME RADIONAVIGATION 472 474
9 300 – 9 500	RADIONAVIGATION EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 427474475 475A 475B 476A			**9 300 – 9 500** RADIONAVIGATION EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 427 474475 475A 475B 476A
9 500 – 9 800	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 476A			**9 500 – 9 800** EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION AUS11 RADIONAVIGATION SPACE RESEARCH (active) Fixed AUS11 Mobile AUS11 476A

GHz
9 800 – 10.55

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
9 800 – 9 900 RADIOLOCATION Earth exploration-satellite (active) Space research (active) Fixed 477478 478A 478B			**9 800 – 9 900** RADIOLOCATION AUS11 Earth Exploration-Satellite (active) Space Research (active) Fixed AUS11 Mobile AUS11 478A 478B
9 900 – 10 000 RADIOLOCATION Fixed 477 478 479			**9 900 – 10 000** RADIOLOCATION AUS11 Fixed AUS11 Mobile AUS11 479
10 – 10.45 FIXED MOBILE RADIOLOCATION Amateur 479	**10 – 10.45** RADIOLOCATION Amateur 479480	**10 – 10.45** FIXED MOBILE RADIOLOCATION Amateur 479	**10 – 10.45** FIXED AUS11 MOBILE AUS11 RADIOLOCATION AUS11 Amateur 479
10.45 – 10.5 RADIOLOCATION Amateur Amateur-satellite 481			**10.45 – 10.5** RADIOLOCATION AUS11 Amateur Amateur-satellite
10.5 – 10.55 FIXED MOBILE Radiolocation	**10.5 – 10.55** FIXED MOBILE RADIOLOCATION		**10.5 – 10.55** FIXED MOBILE RADIOLOCATION

GHz
10.55 – 11.7

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
10.55 – 10.6 FIXED MOBILE except aeronautical mobile Radiolocation			**10.55 – 10.6** FIXED MOBILE except aeronautical mobile Radiolocation
10.6 – 10.68 EARTH EXPLORATION-SATELLITE (passive) MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 149 482 482A			**10.6 – 10.68** EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 149482 482A
10.68 – 10.7 FIXED EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 483			**10.68 – 10.7** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
10.7 – 11.7 FIXED FIXED-SATELLITE (space-to-Earth) 441 484A (Earth-to-space) 484 MOBILE except aeronautical mobile	**10.7 – 11.7** FIXED FIXED-SATELLITE (space-to-Earth) 441 484A MOBILE except aeronautical mobile		**10.7 – 11.7** FIXED FIXED-SATELLITE (space-to-Earth) 441 484A MOBILE except aeronautical mobile

GHz
11.7 – 12.75

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
11.7 – 12.5 FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING SATELLITE 492 487 487A	**11.7 – 12.1** FIXED 486 FIXED-SATELLITE (space-to-Earth) 484A 488 Mobile except aeronautical mobile 485 **12.1 – 12.2** FIXED-SATELLITE (space-to-Earth) 484A 488 485 489	**11.7 – 12.2** FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING-SATELLITE 492 487 487A	**11.7 – 12.2** BROADCASTING-SATELLITE 492 Broadcasting Fixed Mobile except aeronautical mobile 487 487A
	12.2 – 12.7 FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING-SATELLITE 492 487A 488 490	**12.2 – 12.5** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile BROADCASTING 484A 487	**12.2 – 12.5** FIXED-SATELLITE (space-to-Earth) Broadcasting Fixed Land mobile-satellite (space-to-Earth) Mobile except aeronautical mobile 484A 487 AUS88
12.5 – 12.75 FIXED-SATELLITE (space-to-Earth) 484A (Earth-to-space) 494 495 496	**12.7 – 12.75** FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile	**12.5 – 12.75** FIXED FIXED-SATELLITE (space-to-Earth) 484A MOBILE except aeronautical mobile BROADCASTING-SATELLITE 493	**12.5 – 12.75** FIXED-SATELLITE (space-to-Earth) 484A BROADCASTING-SATELLITE 493 Fixed Land mobile-satellite (space-to-Earth) Mobile except aeronautical mobile

GHz
12.75 – 13.75

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
12.75 – 13.25	FIXED FIXED-SATELLITE (Earth-to-space) 441 Space research (deep space) (space-to-Earth)			**12.75 – 13.25** FIXED FIXED-SATELLITE (Earth-to-space) 441 MOBILE Space research (deep space) (space-to-Earth)
13.25 – 13.4	EARTH EXPLORATION-SATELLITE (active) AERONAUTICAL RADIONAVIGATION 497 SPACE RESEARCH (active) MOBILE 498A 499			**13.25 – 13.4** AERONAUTICAL RADIONAVIGATION 497 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) 498A
13.4 – 13.75	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 501A Standard frequency and time signal-satellite (Earth-to-space) 499 500 501 501B			**13.4 – 13.75** EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION AUS11 SPACE RESEARCH 501A Standard frequency and time signal-satellite (Earth-to-space) 501A 501B

GHz
13.75 – 14.3

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
13.75 – 14	FIXED-SATELLITE (Earth-to-space) 484A RADIOLOCATION Earth exploration-satellite Standard frequency and time signal-satellite (Earth-to-space) Space research 499 500 501 502 503			**13.75 – 14** RADIOLOCATION AUS11 FIXED-SATELLITE (Earth-to-space) 484A Earth exploration-satellite Standard frequency and time signal-satellite (Earth-to-space) Space research 502 503
14 – 14.25	FIXED-SATELLITE (Earth-to-space) 457A 457B 484A 506 506B RADIONAVIGATION 504 Mobile-satellite (Earth-to-space) 504B 504C 506A Space research 504A 505			**14 – 14.3** FIXED-SATELLITE (Earth-to-space) 457A 484A 506 RADIONAVIGATION 504 Mobile-satellite (Earth-to-space) 506A Space research 504A
14.25 – 14.3	FIXED-SATELLITE (Earth-to-space) 457A 457B 484A 506 506B RADIONAVIGATION 504 Mobile-satellite (Earth-to-space) 504B 506A 508A Space research 504A 505 508			

GHz
14.3 – 14.47

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
14.3 – 14.4 FIXED FIXED-SATELLITE (Earth-to-space) 457A 457B 484A 506 506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 504B 506A 509A Radionavigation-satellite 504A	**14.3 – 14.4** FIXED-SATELLITE (Earth-to-space) 457A 484A 506 506B Mobile-satellite (Earth-to-space) 506A Radionavigation-satellite 504A	**14.3 – 14.4** FIXED FIXED-SATELLITE (Earth-to-space) 457A 484A 506 506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 504B 506A 509A Radionavigation-satellite 504A	**14.3 – 14.4** FIXED-SATELLITE (Earth-to-space) 457A 484A 506 Fixed Mobile except aeronautical mobile Mobile satellite (Earth-to-space) 506A Radionavigation-satellite 504A
14.4 – 14.47 FIXED FIXED-SATELLITE (Earth-to-space) 457A 457B 484A 506 506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 504B 506A 509A Space research (space-to-Earth) 504A			**14.4 – 14.47** FIXED-SATELLITE (Earth-to-space) 457A 484A 506 Fixed Mobile except aeronautical mobile Mobile satellite (Earth-to-space) 506A Space research (space-to-Earth) 504A

GHz
14.47 – 14.8

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
14.47 – 14.5	FIXED FIXED-SATELLITE (Earth-to-space) 457A 457B 484A 506 506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 504B 506A 509A Radio astronomy 149 504A			**14.47 – 14.5** FIXED-SATELLITE (Earth-to-space) 457A 484A 506 Fixed Mobile except aeronautical mobile Mobile-satellite (Earth-to-space) 506A Radio astronomy 149 504A
14.5 – 14.8	FIXED FIXED-SATELLITE (Earth-to-space) 510 Space research			**14.5 – 14.7145** FIXED FIXED-SATELLITE (Earth-to-space) 510 MOBILE Space research
MOBILE				**14.7145 – 14.8** FIXED FIXED-SATELLITE (Earth-to-space) 510 MOBILE Space research AUS1

GHz
14.8 – 15.7

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
14.8 – 15.35	FIXED Space research 339			**14.8 – 15.1365** FIXED MOBILE Space research AUS1
				15.1365 – 15.35 FIXED MOBILE Space research 339
15.35 – 15.4 MOBILE	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 511			**15.35 – 15.4** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
15.4 – 15.43	AERONAUTICAL RADIONAVIGATION 511D			**15.4 – 15.43** AERONAUTICAL RADIONAVIGATION 511D
15.43 – 15.63	FIXED-SATELLITE (Earth-to-space) 511A AERONAUTICAL RADIONAVIGATION 511C			**15.43 – 15.63** FIXED-SATELLITE (Earth-to-space) 511A AERONAUTICAL RADIONAVIGATION 511C
15.63 – 15.7	AERONAUTICAL RADIONAVIGATION 511D			**15.63 – 15.7** AERONAUTICAL RADIONAVIGATION 511D

GHz
15.7 – 17.7

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
15.7 – 16.6 RADIOLOCATION 512 513			**15.7 – 16.6** RADIOLOCATION AUS1 AUS87
16.6 – 17.1 RADIOLOCATION Space research (deep space) (Earth-to-space) 512 513			**16.6 – 17.1** RADIOLOCATION AUS11 Space research (deep space) (Earth-to-space) AUS87
17.1 – 17.2 RADIOLOCATION 512 513			**17.1 – 17.2** RADIOLOCATION AUS1 AUS87
17.2 – 17.3 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 512 513 513A			**17.2 – 17.3** EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION AUS11 SPACE RESEARCH (active) 513A AUS87
17.3 – 17.7 FIXED-SATELLITE (Earth-to-space) 516 (space-to-Earth) 516A 516B Radiolocation 514	**17.3 – 17.7** FIXED-SATELLITE (Earth-to-space) 516 BROADCASTING-SATELLITE Radiolocation 514 515	**17.3 – 17.7** FIXED-SATELLITE (Earth-to-space) 516 Radiolocation 514	**17.3 – 17.7** FIXED-SATELLITE (Earth-to-space) 516 Radiolocation AUS11 AUS87

GHz
17.7 – 18.6

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
17.7 – 18.1 FIXED FIXED-SATELLITE (space-to-Earth) 484A (Earth-to-space) 516 MOBILE	**17.7 – 17.8** FIXED FIXED-SATELLITE (space-to-Earth) 517 (Earth-to-space) 516 BROADCASTING-SATELLITE Mobile 515	**17.7 – 18.1** FIXED FIXED-SATELLITE (space-to-Earth) 484A (Earth-to-space) 516 MOBILE	**17.7 – 18.1** FIXED FIXED-SATELLITE (space-to-Earth) 484A (Earth-to-space) 516 MOBILE AUS87
	17.8 – 18.1 FIXED FIXED-SATELLITE (space-to-Earth) 484A (Earth-to-space) 516 MOBILE 519		
18.1 – 18.4 FIXED FIXED-SATELLITE (space-to-Earth) 484A 516B (Earth-to-space) 520 519 521			**18.1 – 18.4** FIXED FIXED-SATELLITE (space-to-Earth) 484A 516B (Earth-to-space) 520 MOBILE 519 AUS87
18.4 – 18.6 FIXED FIXED-SATELLITE (space-to-Earth) 484A 516B MOBILE			**18.4 – 18.6** FIXED FIXED-SATELLITE (space-to-Earth) 484A 516B MOBILE AUS87

MOBILE

GHz
18.6 – 19.7

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
18.6 – 18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 522B MOBILE except aeronautical mobile Space research (passive) 522A 522C	**18.6 – 18.8** EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 516B 522B MOBILE except aeronautical mobile SPACE RESEARCH (passive) 522A	**18.6 – 18.8** EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 522B MOBILE except aeronautical mobile Space research (passive) 522A	**18.6 – 18.8** EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 522B MOBILE except aeronautical mobile Space research (passive) 522A AUS87
18.8 – 19.3 FIXED FIXED-SATELLITE (space-to-Earth) 516B 523A MOBILE			**18.8 – 19.3** FIXED FIXED-SATELLITE (space-to-Earth) 516B 523A MOBILE AUS87
19.3 – 19.7 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 523B 523C 523D 523E MOBILE			**19.3 – 19.7** FIXED FIXED-SATELLITE (space-to-Earth)(Earth-to-space) 523B 523C 523D 523E MOBILE AUS87

GHz
19.7 – 21.2

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
19.7 – 20.1 FIXED-SATELLITE (space-to-Earth) 484A 516B Mobile-satellite (space-to-Earth) 524	**19.7 – 20.1** FIXED-SATELLITE (space-to-Earth) 484A 516B MOBILE-SATELLITE (space-to-Earth) 524 525 526 527 528 529	**19.7 – 20.1** FIXED-SATELLITE (space-to-Earth) 484A 516B Mobile-satellite (space-to-Earth) 524	**19.7 – 20.1** FIXED-SATELLITE (space-to-Earth) 484A 516B Mobile-satellite (space-to-Earth) AUS87
20.1 – 20.2 FIXED-SATELLITE (space-to-Earth) 484A 516B MOBILE-SATELLITE (space-to-Earth) 524 525 526 527 528			**20.1 – 20.2** FIXED-SATELLITE (space-to-Earth) 484A 516B MOBILE-SATELLITE (space-to-Earth) 525 526 527 528 AUS87
20.2 – 21.2 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard frequency and Time Signal (space-to-Earth) 524			**20.2 – 21.2** FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard frequency and time signal (space-to-Earth) AUS1 AUS87

GHz
21.2 – 22.5

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
21.2 – 21.4 EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive)			**21.2 – 21.4** EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) AUS87
21.4 – 22 FIXED MOBILE BROADCASTING-SATELLITE 208B 530 FIXED MOBILE	**21.4 – 22** FIXED MOBILE	**21.4 – 22** FIXED MOBILE BROADCASTING-SATELLITE 208B 530 531	**21.4 – 22** FIXED MOBILE BROADCASTING-SATELLITE 208B 530 AUS87
22 – 22.21 FIXED MOBILE except aeronautical mobile 149			**22 – 22.21** FIXED MOBILE except aeronautical mobile 149 AUS87
22.21 – 22.5 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 149 532			**22.21 – 22.5** EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 149 532

GHz
22.5 – 24

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
22.5 – 22.55	FIXED MOBILE			**22.5 – 22.55** FIXED MOBILE AUS87
22.55 – 23.55	FIXED INTER-SATELLITE 338A MOBILE 149			**22.55 – 23.55** FIXED INTER-SATELLITE 338A MOBILE 149 AUS87
23.55 – 23.6	FIXED MOBILE			**23.55 – 23.6** FIXED MOBILE AUS87
23.6 – 24	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340			**23.6 – 24** EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340

GHz
24 – 24.45

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
24 – 24.05 AMATEUR AMATEUR-SATELLITE 150			**24 – 24.05** AMATEUR AMATEUR-SATELLITE 150 AUS87
24.05 – 24.25 RADIOLOCATION Amateur Earth exploration-satellite (active) 150			**24.05 – 24.25** RADIOLOCATION AUS11 Amateur Earth exploration satellite (active) 150 AUS87
24.25 – 24.45 FIXED	**24.25 – 24.45** RADIONAVIGATION	**24.25 – 24.45** RADIONAVIGATION FIXED MOBILE	**24.25 – 24.45** RADIONAVIGATION FIXED MOBILE AUS87

GHz
24.45 – 25.5

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
24.45 – 24.65 FIXED INTER-SATELLITE	**24.45 – 24.65** INTER-SATELLITE RADIONAVIGATION 533	**24.45 – 24.65** FIXED INTER-SATELLITE MOBILE RADIONAVIGATION 533	**24.45 – 24.65** FIXED INTER-SATELLITE MOBILE RADIONAVIGATION 533 AUS87
24.65 – 24.75 FIXED INTER-SATELLITE	**24.65 – 24.75** INTER-SATELLITE RADIOLOCATION-SATELLITE (Earth-to-space)	**24.65 – 24.75** FIXED INTER-SATELLITE MOBILE 533	**24.65 – 24.75** FIXED INTER-SATELLITE MOBILE 533 AUS87
24.75 – 25.25 FIXED	**24.75 – 25.25** FIXED-SATELLITE (Earth-to-space) 535	**24.75 – 25.25** FIXED FIXED-SATELLITE (Earth-to-space) 535 MOBILE	**24.75 – 25.25** FIXED FIXED-SATELLITE (Earth-to-space) 535 MOBILE AUS87
25.25 – 25.5 FIXED INTER-SATELLITE 536 Standard frequency and time signal-satellite (Earth-to-space)			**25.25 – 25.5** FIXED INTER-SATELLITE 536 MOBILE Standard frequency and time signal-satellite (Earth-to-space) AUS87

MOBILE

GHz
25.5 – 28.5

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
25.5 – 27 EARTH EXPLORATION-SATELLITE (space-to-Earth) 536B INTER-SATELLITE 536 SPACE RESEARCH (space-to-Earth) 536C Standard frequency and time signal-satellite (Earth-to-space) FIXED 536A			**25.5 – 27** EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED INTER-SATELLITE 536 MOBILE SPACE RESEARCH (space-to-Earth) Standard frequency and time signal-satellite (Earth-to-space) 536A AUS87
27 – 27.5 MOBILE FIXED INTER-SATELLITE 536 MOBILE	**27 – 27.5** FIXED FIXED-SATELLITE (Earth-to-space) INTER-SATELLITE 536 537		**27 – 27.5** FIXED FIXED-SATELLITE (Earth-to-space) INTER-SATELLITE 536 537 MOBILE
27.5 – 28.5 FIXED 537A FIXED-SATELLITE (Earth-to-space) 484A 516B 539 MOBILE 538 540			**27.5 – 28.5** FIXED FIXED-SATELLITE (Earth-to-space) 484A 516B 539 MOBILE 538 540

MOBILE

GHz
28.5 – 29.5

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
28.5 – 29.1	FIXED FIXED-SATELLITE (Earth-to-space) 484A 516B 523A 539 MOBILE Earth exploration-satellite (Earth-to-space) 541 540			**28.5 – 29.1** FIXED FIXED-SATELLITE (Earth-to-space) 484A 516B 523A 539 MOBILE Earth exploration-satellite (Earth-to-space) 541 540
29.1 – 29.5	FIXED FIXED-SATELLITE (Earth-to-space) 516B 523C 523E 535A 539 541A MOBILE Earth exploration-satellite (Earth-to-space) 541 540			**29.1 – 29.5** FIXED FIXED-SATELLITE (Earth-to-space) 516B 523C 523E 535A 539 541A MOBILE Earth exploration-satellite (Earth-to-space) 541 540

GHz
29.5 – 30

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
29.5 – 29.9 FIXED-SATELLITE (Earth-to-space) 484A 516B 539 Earth exploration-satellite (Earth-to-space) 541 Mobile-satellite (Earth-to-space) 540 542	**29.5 – 29.9** FIXED-SATELLITE (Earth-to-space) 484A 516B 539 MOBILE-SATELLITE (Earth-to-space) Earth exploration-satellite (Earth-to-space) 541525 526 527 529 540542	**29.5 – 29.9** FIXED-SATELLITE (Earth-to-space) 484A 516B 539 Earth exploration-satellite (Earth-to-space) 541 Mobile-satellite (Earth-to-space) 540 542	**29.5 – 29.9** FIXED-SATELLITE (Earth-to-space) 484A 516B 539 Earth exploration-satellite (Earth-to-space) 541 Mobile-satellite (Earth-to-space) 540
29.9 – 30 FIXED-SATELLITE (Earth-to-space) 484A 516B 539 MOBILE-SATELLITE (Earth-to-space) Earth exploration-satellite (Earth-to-space) 541 543 525 526 527 538 540 542			**29.9 – 30** FIXED-SATELLITE (Earth-to-space) 484A 516B 539 MOBILE-SATELLITE (Earth-to-space) Earth exploration-satellite (Earth-to-space) 541 543 525 526 527 538 540

GHz
30 – 31.8

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
30 – 31 FIXED-SATELLITE (Earth-to-space) 338A MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal-satellite (space-to-Earth) 542			**30 – 31** FIXED-SATELLITE (Earth-to-space) 338A MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal-satellite (space-to-Earth) AUS1
31 – 31.3 FIXED 338A 543A MOBILE Standard frequency and time signal-satellite (space-to-Earth) Space research 544 545 149			**31 – 31.3** FIXED 338A MOBILE Standard frequency and time signal-satellite (space-to-Earth) Space research 544 149
31.3 – 31.5 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340			**31.3 – 31.5** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
31.5 – 31.8 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149 546	**31.5 – 31.8** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340	**31.5 – 31.8** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149	**31.5 – 31.8** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149

GHz
31.8 – 33.4

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2		Region 3	
31.8 – 32	FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 547 547B 548			**31.8 – 32** FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 547 548
32 – 32.3	FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 547 547C 548			**32 – 32.3** FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 547 548
32.3 – 33	FIXED 547A INTER-SATELLITE RADIONAVIGATION 547 547D 548			**32.3 – 33** FIXED 547A INTER-SATELLITE RADIONAVIGATION 547 548
33 – 33.4	FIXED 547A RADIONAVIGATION 547 547E			**33 – 33.4** FIXED 547A RADIONAVIGATION 547

GHz
33.4 – 35.2

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
33.4 – 34.2	RADIOLOCATION 549			**33.4 – 34.2** RADIOLOCATION FIXED-SATELLITE (space-to-Earth) AUS1
34.2 – 34.7	RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) 549			**34.2 – 34.7** RADIOLOCATION AUS11 SPACE RESEARCH (deep space) (Earth-to-space) FIXED-SATELLITE (space-to-Earth) AUS11
34.7 – 35.2	RADIOLOCATION Space research 550 549			**34.7 – 35.2** RADIOLOCATION FIXED-SATELLITE (space-to-Earth) Space research AUS1

GHz
35.2 – 37

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
35.2 – 35.5	METEOROLOGICAL AIDS RADIOLOCATION 549			**35.2 – 35.5** METEOROLOGICAL AIDS RADIOLOCATION AUS11 FIXED-SATELLITE (space-to-Earth) AUS11
35.5 – 36	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 549 549A			**35.5 – 36** METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION AUS11 SPACE RESEARCH (active) FIXED-SATELLITE (space-to-Earth) AUS11 549A
36 – 37	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 149 550A			**36 – 37** EARTH EXPLORATION-SATELLITE (passive) FIXED AUS11 MOBILE AUS11 SPACE RESEARCH (passive) 149 550A

GHz
37 – 40

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
37 – 37.5 FIXED SPACE RESEARCH (space-to-Earth) 547			**37 – 37.5** FIXED MOBILE SPACE RESEARCH (space-to-Earth) 547 AUS1
37.5 – 38 FIXED FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) MOBILE 547			**37.5 – 38** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) 547
38 – 39.5 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration-satellite (space-to-Earth) 547			**38 – 39.5** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration-satellite (space-to-Earth) 547
39.5 – 40 FIXED FIXED-SATELLITE (space-to-Earth) 516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) MOBILE 547			**39.5 – 40** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) 547

GHz
40 – 42.5

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
40 – 40.5 EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED-SATELLITE (space-to-Earth) 516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth) FIXED			**40 – 40.5** EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth)
40.5 – 41 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 547	**40.5 – 41** FIXED FIXED-SATELLITE (space-to-Earth) 516B BROADCASTING BROADCASTING-SATELLITE Mobile Mobile-satellite (space-to-Earth) 547	**40.5 – 41** FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 547	**40.5 – 41** FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 547
41 – 42.5 FIXED FIXED-SATELLITE (space-to-Earth) 516B BROADCASTING BROADCASTING-SATELLITE Mobile 547 551F 551H 551I			**41 – 42.5** FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 547 551F 551H 551I

GHz
42.5 – 47.2

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
42.5 – 43.5	FIXED FIXED-SATELLITE (Earth-to-space) 552 MOBILE except aeronautical mobile RADIO ASTRONOMY 149 547			**42.5 – 43.5** FIXED FIXED-SATELLITE (Earth-to-space) 552 MOBILE except aeronautical mobile RADIO ASTRONOMY 149 547
43.5 – 47	MOBILE 553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 554			**43.5 – 47** MOBILE 553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 554 AUS62
47 – 47.2	AMATEUR AMATEUR-SATELLITE			**47 – 47.2** AMATEUR AMATEUR-SATELLITE

GHz
47.2 – 48.2

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
47.2 – 47.5 FIXED FIXED-SATELLITE (Earth-to-space) 552 552A			**47.2 – 47.5** FIXED FIXED-SATELLITE (Earth-to-space) 552 MOBILE 552A
47.5 – 47.9 FIXED FIXED-SATELLITE (Earth-to-space) 552 (space-to-Earth) 516B 554A MOBILE	**47.5 – 47.9** FIXED FIXED-SATELLITE (Earth-to-space) 552		**47.5 – 47.9** FIXED FIXED-SATELLITE (Earth-to-space) 552 MOBILE
47.9 – 48.2 FIXED FIXED-SATELLITE (Earth-to-space) 552 552A	MOBILE		**47.9 – 48.2** FIXED FIXED-SATELLITE (Earth-to-space) 552 MOBILE 552A

MOBILE

GHz
48.2 – 50.2

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
48.2 – 48.54 FIXED FIXED-SATELLITE (Earth-to-space) 552 (space-to-Earth) 516B 554A 555B MOBILE	**48.2 – 50.2** FIXED FIXED-SATELLITE (Earth-to-space) 338A 516B 552 MOBILE		**48.2 – 50.2** FIXED FIXED-SATELLITE (Earth-to-space) 338A 552 MOBILE
48.54 – 49.44 FIXED FIXED-SATELLITE (Earth-to-space) 552 MOBILE 149 340 555			
49.44 – 50.2 FIXED FIXED-SATELLITE (Earth-to-space) 338A 552 (space-to-Earth) 516B 554A 555B MOBILE	149 340 555		149 340 555

GHz
50.2 – 54.25

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
50.2 – 50.4	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 340			**50.2 – 50.4** EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 340
50.4 – 51.4	FIXED FIXED-SATELLITE (Earth-to-space) 338A MOBILE Mobile-satellite (Earth-to-space)			**50.4 – 51.4** FIXED FIXED-SATELLITE (Earth-to-space) 338A MOBILE Mobile-satellite (Earth-to-space)
51.4 – 52.6	FIXED 338A MOBILE 547 556			**51.4 – 52.6** FIXED 338A MOBILE RADIO ASTRONOMY 547
52.6 – 54.25	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 340 556			**52.6 – 54.25** EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) RADIO ASTRONOMY 340

GHz
54.25 – 57

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
54.25 – 55.78	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 556A SPACE RESEARCH (passive) 556B			**54.25 – 55.78** EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 556A SPACE RESEARCH (passive)
55.78 – 56.9	EARTH EXPLORATION-SATELLITE (passive) FIXED 557A INTER-SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive) 547 557			**55.78 – 56.9** EARTH EXPLORATION-SATELLITE (passive) FIXED 557A INTER-SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive) 547
56.9 – 57	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 558A MOBILE 558 SPACE RESEARCH (passive) 547 557			**56.9 – 57** EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 558A MOBILE 558 SPACE RESEARCH (passive) 547

GHz
57 – 59.3

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2		Region 3	
57 – 58.2	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive) 547 557			**57 – 58.2** EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive) 547
58.2 – 59	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 547 556			**58.2 – 59** EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) RADIO ASTRONOMY 547
59 – 59.3	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 556A MOBILE 558 RADIOLOCATION 559 SPACE RESEARCH (passive)			**59 – 59.3** EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 556A MOBILE 558 RADIOLOCATION 559 SPACE RESEARCH (passive)

GHz
59.3 – 66

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
59.3 – 64	FIXED INTER-SATELLITE MOBILE 558 RADIOLOCATION 559 138			**59.3 – 64** FIXED INTER-SATELLITE MOBILE 558 RADIOLOCATION 559 138
64 – 65	FIXED INTER-SATELLITE MOBILE except aeronautical mobile 547 556			**64 – 65** FIXED INTER-SATELLITE MOBILE except aeronautical mobile RADIO ASTRONOMY 547
65 – 66	EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 547			**65 – 66** EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 547

GHz
66 – 76

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
66 – 71	INTER-SATELLITE MOBILE 553 558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 554		**66 – 71** INTER-SATELLITE MOBILE 553 558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 554
71 – 74	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)		**71 – 74** FIXED FIXED-SATELLITE (space-to- MOBILE Earth) MOBILE-SATELLITE (space-to- Earth)
74 – 76	FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING-SATELLITE Space research (space-to-Earth) 561		**74 – 76** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING-SATELLITE Space research (space-to-Earth) 561

MOBILE
BROADCASTING

GHz
76 – 79

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
76 – 77.5	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 149			**76 – 77.5** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 149
77.5 – 78	AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) 149			**77.5 – 78** AMATEUR AMATEUR –SATELLITE Radio astronomy Space research (space-to-Earth) 149
78 – 79	RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 149 560			**78 – 79** RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 149 560

GHz
79 – 86

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
79 – 81	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 149			**79 – 81** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 149
81 – 84	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) 149 561A			**81 – 84** FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) 149 561A
84 – 86 MOBILE	FIXED FIXED-SATELLITE (Earth-to-space) 561B MOBILE RADIO ASTRONOMY 149			**84 – 86** FIXED FIXED-SATELLITE (Earth-to-space) 561B MOBILE RADIO ASTRONOMY 149

GHz
86 – 95

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
86 – 92	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340			**86 – 92** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
92 – 94	FIXED RADIO ASTRONOMY RADIOLOCATION 149			**92 – 94** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149
94 – 94.1	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy MOBILE 562 562A			**94 – 94.1** EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 562 562A
94.1 – 95	FIXED RADIO ASTRONOMY RADIOLOCATION 149			**94.1 – 95** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149

MOBILE

GHz
95 – 105

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

MOBILE

GHz
105 – 116

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
105 – 109.5	FIXED RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341			**105 – 109.5** FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341
109.5 – 111.8 MOBILE	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341			**109.5 – 111.8** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341
111.8 – 114.25	FIXED RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341			**111.8 – 114.25** FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341
114.25 – 116 MOBILE	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341			**114.25 – 116** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341

GHz
116 – 130

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

GHz
130 – 148.5

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
130 – 134	EARTH EXPLORATION-SATELLITE (active) 562E FIXED INTER-SATELLITE MOBILE 558 RADIO ASTRONOMY 149 562A			**130 – 134** EARTH EXPLORATION-SATELLITE (active) 562E FIXED INTER-SATELLITE MOBILE 558 RADIO ASTRONOMY 149 562A
134 – 136	AMATEUR AMATEUR-SATELLITE Radio astronomy			**134 – 136** AMATEUR AMATEUR-SATELLITE Radio astronomy
136 – 141	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 149			**136 – 141** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 149
141 – 148.5	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149			**141 – 148.5** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149

GHz
148.5 – 164

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
148.5 – 151.5	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340			**148.5 – 151.5** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
151.5 – 155.5	FIXED RADIO ASTRONOMY RADIOLOCATION 149			**151.5 – 155.5** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149
155.5 – 158.5 MOBILE	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 562F 562G			**155.5 – 158.5** EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 562F 562G
158.5 – 164 FIXED MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)			**158.5 – 164** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)

MOBILE

GHz
164 – 182

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

GHz
182 – 200

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3		
182 – 185	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340			**182 – 185** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
185 – 190	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 562H SPACE RESEARCH (passive)			**185 – 190** EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 562H SPACE RESEARCH (passive)
190 – 191.8	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 340			**190 – 191.8** EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 340
191.8 – 200	FIXED INTER-SATELLITE MOBILE 558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 149 341 554			**191.8 – 200** FIXED INTER-SATELLITE MOBILE 558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 149 341 554

GHz
200 – 226

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

GHz
226 – 238

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
Region 1	Region 2		Region 3	
226 – 231.5	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340			**226 – 231.5** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
231.5 – 232	FIXED Radiolocation			**231.5 – 232** FIXED MOBILE Radiolocation
232 – 235	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation			**232 – 235** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation
235 – 238 MOBILE	EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 563A 563B			**235 – 238** EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 563A 563B

GHz
238 – 250

Column 1: ITU Radio Regulations Table of Allocations				Column 2: Australian Table of Allocations
	Region 1	Region 2	Region 3	
238 – 240	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE			**238 – 240** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE
240 – 241	FIXED RADIOLOCATION			**240 – 241** FIXED MOBILE RADIOLOCATION
241 – 248	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 138 149			**241 – 248** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 138 149
248 – 250 240 B1.10	AMATEUR AMATEUR-SATELLITE Radio astronomy 149			**248 – 250** AMATEUR AMATEUR-SATELLITE Radio astronomy 149

GHz
250 – 275

Column 1: ITU Radio Regulations Table of Allocations				Column 2:
Region 1	Region 2	Region 3		Australian Table of Allocations
250 – 252	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 563A			**250 – 252** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 563A
252 – 265	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 149 554			**252 – 265** FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 149 554
265 – 275	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 149 563A			**265 – 275** FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 149 563A

GHz
275 – 420 000

Column 1: ITU Radio Regulations Table of Allocations			Column 2: Australian Table of Allocations
Region 1	Region 2	Region 3	
275 – 1000 (Not allocated) 565			**275 – 1000** (Not allocated) 565
			1000 – 420 000 (Not allocated)

Part 3 Australian Footnotes

AUS1 This band is designated to be used principally for the purposes of defence. The Department of Defence is normally consulted in considering non-defence use of this band.

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.

AUS11 This service is intended to be used principally for the purposes of defence. The Department of Defence is normally consulted in considering non-defence use of this service.

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**.

AUS23 In the band 50 - 52 MHz, stations of the amateur service shall not cause harmful interference to stations of the broadcasting (television) service. Amateur operations in this band shall be subject to special conditions.

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.

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

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

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

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

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

AUS53 The provisions of Appendix **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 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.

AUS63 The band 840 - 845 MHz may be used by the radioastronomy service, limited to operation at the approximate location latitude 35º 22' 30" S, longitude 149º 25' 35" E about 30 km east of Canberra.

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

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

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

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

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

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

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

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

AUS87 Radio astronomy facilities operated by the CSIRO at the Paul Wild Observatory Narrabri (latitude 30° 59' 52.048" S, longitude 149° 32' 56.327" E), the Parkes Observatory (latitude 32° 59' 59.8657" S, longitude 148° 15' 44.3591" E), and the Mopra Observatory Coonabarabran (latitude 31° 16' 4.451" S, longitude 149° 5' 58.732" E) and by the University of Tasmania at the Mount Pleasant Observatory Hobart (latitude 42° 48' 12.9207" S, longitude 147° 26' 25.854" E) and the Ceduna Observatory (latitude 31° 52' 08.8269" S, longitude 133° 48' 35.3748" E), and at the Canberra Deep Space Communication Complex (latitude 35° 23' 54" S, longitude 148° 58' 40" E) conduct passive observations in the frequency bands 1 250 - 1 780 MHz, 2 200 - 2 550 MHz, 4 350 - 6 700 MHz, 8 000 - 9 200 MHz and 16 - 26 GHz using receivers that are highly sensitive to interference.

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

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

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

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

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

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

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

420.75 - 421.25 MHz, 424.75 - 425.25 MHz and 427.75 - 428.25 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.

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 9 kHz shall ensure that no harmful interference is caused thereby to the services to which the bands above 9 kHz are allocated.

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

55 *Additional allocation:* in Armenia, Azerbaijan, Georgia, Kyrgyzstan, the Russian Federation, Tajikistan, and Turkmenistan, the band 14-17 kHz is also allocated to the radionavigation service on a primary basis. (WRC-07)

56 The stations of services to which the bands 14-19.95 kHz and 20.05-70 kHz and in Region 1 also the bands 72-84 kHz and 86-90 kHz are allocated may transmit standard frequency and time signals. Such stations shall be afforded protection from harmful interference. In Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Mongolia, Kyrgyzstan, Slovakia, Tajikistan and Turkmenistan, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-07)

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 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, the Libyan Arab Jamahiriya, Lebanon, the Syrian Arab Republic, 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-07)

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

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, Rwanda, South Africa, Swaziland, Tanzania, Chad, Zambia and Zimbabwe, the band 200-283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. (WRC-07)

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

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

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

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

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

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

77 *Different category of service:* in Australia, China, the French Overseas Territories of Region 3, India, Iran (Islamic Republic of), Japan, Pakistan, Papua New Guinea and Sri Lanka, the allocation of the band 415-495 kHz to the aeronautical radionavigation service is on a primary basis. Administrations in these countries shall take all practical steps necessary to ensure that aeronautical radionavigation stations in the band 435-495 kHz do not cause interference to reception by coast stations of ship stations transmitting on frequencies designated for ship stations on a worldwide basis (see No. **52.39**). (WRC-07)

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

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.

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. (WRC-07)

82A The use of the band 495-505 kHz is limited to radiotelegraphy. (WRC-07)

82B Administrations authorising the use of frequencies in the band 495-505 kHz by services other than the maritime mobile service shall ensure that no

harmful interference is caused to the maritime mobile service in this band or to the services having allocations in the adjacent bands, noting in particular the conditions of use of the frequencies 490 kHz and 518 kHz, as prescribed in Articles **31** and **52**. (WRC-07)

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, South Africa, Swaziland and Zimbabwe, the band 526.5-535 kHz is also allocated to the mobile service on a secondary basis. (WRC-03)

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

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

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

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

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

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

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

93 *Additional allocation:* in Angola, Armenia, Azerbaijan, Belarus, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., the Russian Federation, Tajikistan, Chad, Turkmenistan and Ukraine, the 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-07)

96 In Germany, Armenia, Austria, Azerbaijan, Belarus, Denmark, Estonia, the Russian Federation, Finland, Georgia, Hungary, Ireland, Iceland, Israel, Kazakhstan, Latvia, Liechtenstein, Lithuania, Malta, Moldova, Norway, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., the United Kingdom, Sweden, Switzerland, Tajikistan, Turkmenistan and Ukraine, administrations may allocate up to 200 kHz to their amateur service in the bands 1 715-1 800 kHz and 1 850-2 000 kHz. However, when allocating the 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-03)

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 Angola, Armenia, Azerbaijan, Belarus, Belgium, Cameroon, Congo (Rep. of the), Denmark, Egypt, Eritrea, Spain, Ethiopia, the Russian Federation, Georgia, Greece, Italy, Kazakhstan, Lebanon, Lithuania, Moldova, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Tunisia, Turkmenistan, Turkey and Ukraine, the band 1 810-1 830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-07)

99 *Additional allocation:* in Saudi Arabia, Austria, Iraq, the Libyan Arab Jamahiriya, Uzbekistan, Slovakia, Romania, Serbia, 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-07)

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**.

101 *Alternative allocation:* in Burundi and Lesotho, the band 1 810 - 1 850 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

102 *Alternative allocation:* in Bolivia, Chile, Mexico, Paraguay, Peru and Uruguay, the band 1 850-2 000 kHz is allocated to the fixed, mobile except aeronautical mobile, radiolocation and radionavigation services on a primary basis. (WRC-07)

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, Lesotho, Libyan Arab Jamahiriya, 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-03)

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

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

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

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

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

112 *Alternative allocation:* in Denmark, Malta, Serbia 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-07)

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, Iraq, Malta, and Serbia, the band 2 502-2 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-07)

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, Malta, Serbia, 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-07)

118 *Additional allocation:* in the United States of America, 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 Honduras, Mexico and Peru, the band 3 500-3 750 kHz is also allocated to the fixed and mobile services on a primary basis. (WRC-07)

122 *Alternative allocation:* in Bolivia, Chile, Ecuador, Paraguay, Peru and Uruguay, the band 3 750-4 000 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-07)

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**.

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, Georgia, India, Kazakhstan, Mali, Niger, Kyrgyzstan, the Russian Federation, 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-07)

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**).

133 *Different category of service:* in Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Latvia, Lithuania, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 5 130 - 5 250 kHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. **33**). (WRC-07)

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),
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, Kenya, Rwanda, Somalia and Togo, the band 7 000-7 050 kHz is also allocated to the fixed service on a primary basis. (WRC-03)

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

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

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

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, the United Arab Emirates, Iran (Islamic Republic of), Jordan, Kuwait, Libyan Arab Jamahiriya, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, Tunisia and

Yemen, the bands 7 350-7 400 kHz and 7 400-7 450 kHz are also allocated to the fixed service on a primary basis. (WRC-03)

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

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

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

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

146 *Additional allocation:* frequencies in the bands 9 400 - 9 500 kHz, 11 600 - 11 650 kHz, 12 050 - 12 100 kHz, 15 600 - 15 800 kHz, 17 480 - 17 550 kHz and 18 900 - 19 020 kHz may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)

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

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

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

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

150 The following bands:

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

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

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

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

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

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

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

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

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

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

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

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

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

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.

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

162A *Additional allocation:* in Germany, Austria, Belgium, Bosnia and Herzegovina, China, Vatican, Denmark, Spain, Estonia, Finland, France, Ireland, Iceland, Italy, Latvia, the Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Luxembourg, Monaco, Montenegro, Norway, the Netherlands, Poland, Portugal, Slovakia, the Czech Rep., the United Kingdom, the Russian Federation, 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-07)

163 *Additional allocation:* in Armenia, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan, Turkmenistan and Ukraine, the bands 47-48.5 MHz and 56.5-58 MHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-07)

164 *Additional allocation:* in Albania, Germany, Austria, Belgium, Bosnia and Herzegovina, Botswana, Bulgaria, Côte d'Ivoire, Denmark, Spain, Estonia, Finland, France, Gabon, Greece, Ireland, Israel, Italy, Jordan, Lebanon, the Libyan Arab Jamahiriya, Liechtenstein, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Montenegro, Nigeria, Norway, the Netherlands, Poland, the Syrian Arab Republic, Romania, the United Kingdom, Serbia, Slovenia, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 47-68 MHz, in South Africa the band 47-50 MHz, in the Czech Rep. the band 66-68 MHz, and in Latvia and Lithuania the 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 band referred to in this footnote shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations of countries other than those mentioned in connection with the band. (WRC-07)

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

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

167 *Alternative allocation:* in Bangladesh, Brunei Darussalam, India, Iran (Islamic Republic of), Pakistan, Singapore and Thailand, the band 50-54 MHz is allocated to the fixed, mobile and broadcasting services on a primary basis. (WRC-07)

167A *Additional allocation:* in Indonesia, the band 50-54 MHz is also allocated to the fixed, mobile and broadcasting services on a primary basis. (WRC-07)

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

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

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

172 *Different category of service:* in the French Overseas Departments in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 54 - 68 MHz to the fixed and mobile services is on a primary basis (see No. **33**).

173 *Different category of service:* in the French Overseas Departments in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 68 - 72 MHz to the fixed and mobile services is on a primary basis (see No. **33**).

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

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

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

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

179 *Additional allocation:* in Armenia, Azerbaijan, Belarus, China, the Russian Federation, Georgia, Kazakhstan, Lithuania, Mongolia, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the bands 74.6-74.8 MHz and 75.2-75.4 MHz are also allocated to the aeronautical radionavigation service, on a primary basis, for ground-based transmitters only. (WRC-07)

180 The frequency 75 MHz is assigned to marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services which, because of their power or geographical

position, might cause harmful interference or otherwise place a constraint on marker beacons.

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

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

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

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

185 *Different category of service:* in the United States of America, the French Overseas Departments in Region 2, Guyana, Jamaica, Mexico and Paraguay, the allocation of the band 76 - 88 MHz to the fixed and mobile services is on a primary basis (see No. **33**).

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 Pakistan and the Syrian Arab Republic, the band 108-111.975 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedures invoked under No. **9.21**. (WRC-07)

197A *Additional allocation:* the band 108-117.975 MHz is also allocated on a primary basis to the aeronautical mobile (R) service, limited to systems operating in accordance with recognised international aeronautical standards. Such use shall be in accordance with Resolution **413 (Rev.WRC-07)**. The use of the band 108-112 MHz by the aeronautical mobile (R) service shall be limited to systems composed of ground-based transmitters and associated receivers that provide navigational information in support of air navigation functions in accordance with recognised international aeronautical standards. (WRC-07)

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

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

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

In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service. (WRC-2000)

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 detrimental to the radio astronomy service are shown in the relevant ITU-R Recommendation. (WRC-07)

208B In the bands:

137-138 MHz,
387-390 MHz,
400.15-401 MHz,
1 452-1 492 MHz,
1 525-1 610 MHz,
1 613.8-1 626.5 MHz,

2 655-2 690 MHz,
21.4-22 GHz,

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

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, Ireland, Israel, Kenya, Kuwait, the Former Yugoslav Republic of Macedonia, Lebanon, Liechtenstein, Luxembourg, Mali, Malta, Montenegro, Norway, the Netherlands, Qatar, the United Kingdom, Serbia, Slovenia, Somalia, Sweden, Switzerland, Tanzania, Tunisia and Turkey, the band 138-144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis. (WRC-07)

212 *Alternative allocation:* in Angola, Botswana, Burundi, Cameroon, the Central African Rep., Congo (Rep. of the), Gabon, Gambia, Ghana, Guinea, Iraq, the Libyan Arab Jamahiriya, Jordan, Lesotho, Liberia, Malawi, Mozambique, Namibia, 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-07)

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, Malta, Montenegro, Serbia, Somalia, Sudan and Tanzania, the band 138 - 144 MHz is also allocated to the fixed service on a primary basis. (WRC-07)

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

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

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

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

221 Stations of the mobile-satellite service in the band 148-149.9 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations in the following countries: Albania, Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bosnia and Herzegovina, Botswana, Brunei Darussalam, Bulgaria, Cameroon, China, Cyprus, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Croatia, Cuba, Denmark, Egypt, the United Arab Emirates, Eritrea, Spain, Estonia, Ethiopia, the Russian Federation, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, Iran (Islamic Republic of), Ireland, Iceland, Israel, Italy, the Libyan Arab Jamahiriya, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, the Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, 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, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Vietnam, Yemen, Zambia, and Zimbabwe. (WRC-07)

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

223 Recognising that the use of the band 149.9 - 150.05 MHz by the fixed and mobile services may cause harmful interference to the

radionavigation-satellite service, administrations are urged not to authorise such use in application of No. **4.4**.

224A The use of the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz by the mobile-satellite service (Earth-to-space) is limited to the land mobile-satellite service (Earth-to-space) until 1 January 2015. (WRC-97)

224B The allocation of the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz to the radionavigation-satellite service shall be effective until 1 January 2015. (WRC-97)

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.

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)

227A *Additional allocation:* the bands 161.9625 - 161-9875 MHz and 162.0125 - 162.0375 MHz are also allocated to the mobile-satellite service (Earth-to-space) on a secondary basis for the reception of automatic identification system (AIS) emissions from stations operating in the maritime-mobile service (see Appendix **18**). (WRC-07)

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

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

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.

234 *Different category of service:* in Mexico, the allocation of the band 174 - 216 MHz to the fixed and mobile services is on a primary basis (see No. **33**).

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), Eritrea, Ethiopia, Gambia, Guinea, the Libyan Arab Jamahiriya, Malawi, 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-07)

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

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

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

242 *Additional allocation:* in Canada, 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)

256A *Additional allocation:* in China, the Russian Federation, Kazakhstan and Ukraine, the band 258-261 MHz is also allocated to the space research service (Earth-to-space) and space operation service (Earth-to-space) on a primary basis. Stations in the space research service (Earth-to-space) and space operation service (Earth-to-space) shall not cause harmful interference to, nor claim protection from, nor constrain the use and development of the mobile service systems and mobile-satellite service systems operating in the band. Stations in 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-03)

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, Israel 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-07)

260 Recognising that the use of the band 399.9 - 400.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigation satellite service, administrations are urged not to authorise such use in application of No. **4.4**.

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

262 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Botswana, Colombia, Costa Rica, Cuba, Egypt, the United Arab Emirates, Ecuador, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Liberia, Malaysia, Moldova, Uzbekistan, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Kyrgyzstan, Romania, Singapore, Somalia, Tajikistan, Turkmenistan and Ukraine, the band 400.05-401 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-07)

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.

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 band 410 - 420 MHz by the space research service is limited to communications within 5 km of an orbiting, manned space vehicle. The power flux-density at the surface of the Earth produced by emissions from extra-vehicular activities shall not exceed –153 dB(W/m^2) for $0° \leq \delta \leq 5°$, $-153 + 0.077\ (\delta - 5)$ dB(W/m^2) for $5° \leq \delta \leq 70°$ and -148 dB(W/m^2) for $70° \leq \delta \leq 90°$, where δ is the angle of arrival of the radiofrequency wave and the reference bandwidth is 4 kHz. No. **4.10** does not apply to extra-vehicular

activities. In this frequency band the space research (space-to-space) service shall not claim protection from, nor constrain the use and development of, stations of the fixed and mobile service.

269 *Different category of service:* in Australia, the United States of America, 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 of America, 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)

272 *Different category of service:* in France, the allocation of the band 430 - 434 MHz to the amateur service is on a secondary basis (see No. **32**).

273 *Different category of service:* in Libyan Arab Jamahiriya, the allocation of the bands 430-432 MHz and 438-440 MHz to the radiolocation service is on a secondary basis (see No. **32**). (WRC-03)

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

275 *Additional allocation:* in Croatia, Estonia, Finland, the Libyan Arab Jamahiriya, the Former Yugoslav Republic of Macedonia, Montenegro, Serbia and Slovenia, the bands 430 - 432 MHz and 438 - 440 MHz are also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-07)

276 *Additional allocation:* in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burkina Faso, Burundi, Egypt, the United Arab Emirates, Ecuador, Eritrea, Ethiopia, Greece, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Malta, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Dem. People's Rep. of Korea, Singapore, Somalia, Switzerland, Tanzania, Thailand, Togo, Turkey and Yemen, the band 430 - 440 MHz is also allocated to the fixed service on a primary basis and the bands 430 - 435 MHz and 438 - 440 MHz are also allocated to the mobile, except aeronautical mobile, service on a primary basis. (WRC-07)

277 *Additional allocation:* in Angola, Armenia, Azerbaijan, Belarus, Cameroon, Congo (Rep. of the), Djibouti, the Russian Federation, Georgia, Hungary, Israel, Kazakhstan, Mali, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, Romania, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the band 430-440 MHz is also allocated to the fixed service on a primary basis. (WRC-07)

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 this band by sensors in the Earth exploration-satellite (active) service shall be in accordance with Recommendation ITU-R SA.1260. Additionally, the Earth exploration-satellite (active) service in the band 432-438 MHz shall not cause harmful interference to the aeronautical radionavigation service in China. The provisions of this footnote in no way diminish the obligation of the Earth exploration-satellite (active) service to operate as a secondary service in accordance with Nos. **29** and **30**. (WRC-03)

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 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**.

286AA The band 450-470 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). See Resolution **224** (**Rev.WRC-07**). This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-07)

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)

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 of America 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 In the maritime mobile service, the frequencies 457.525 MHz, 457.550 MHz, 457.575 MHz, 467.525 MHz, 467.550 MHz and 467.575 MHz may be used by on-board communication stations. Where needed, equipment designed for 12.5 kHz channel spacing using also the additional frequencies 457.5375 MHz, 457.5625 MHz, 467.5375 MHz and 467.5625 MHz may be introduced for on-board communications. The use of these frequencies in territorial waters may be subject to the national regulations of the administration concerned. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174-2. (WRC-07)

288 In the territorial waters of the United States of America 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. (WRC-03)

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, Mongolia, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 460-470 MHz to the meteorological-satellite service (space-to-Earth) is on a primary basis (see No.**33**), subject to agreement obtained under No. **9.21**. (WRC-07)

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

292 *Different category of service:* in Mexico, the allocation of the band 470 - 512 MHz to the fixed and mobile services, and in Argentina, Uruguay and Venezuela to the mobile service, is on a primary basis, (see No. **33**), subject to agreement obtained under No. **9.21**. (WRC-07)

293 *Different category of service:* in Canada, Chile, Colombia, Cuba, the United States of America, Guyana, Honduras, Jamaica, Mexico, Panama and Peru, the allocation of the bands 470-512 MHz and 614-806 MHz to the fixed service is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21**. In Canada, Chile, Colombia, Cuba, the United States of America, Guyana, Honduras, Jamaica, Mexico, Panama and Peru, the allocation of the bands 470-512 MHz and 614-698 MHz to the mobile service is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21**. In Argentina and Ecuador, the allocation of the band 470-512 MHz to the fixed and mobile services is on a primary basis (see No.**33**), subject to agreement obtained under No. **9.21**. (WRC-07)

294 *Additional allocation:* in Saudi Arabia, Burundi, Cameroon, Côte d'Ivoire, Egypt, Ethiopia, Israel, the Libyan Arab Jamahiriya, Kenya, Malawi, the Syrian Arab Republic, Sudan, Chad and Yemen, the band 470-582 MHz is also allocated to the fixed service on a secondary basis. (WRC-07)

296 *Additional allocation:* in Germany, Saudi Arabia, Austria, Belgium, Côte d'Ivoire, Denmark, Egypt, Spain, Finland, France, Ireland, Israel, Italy, the Libyan Arab Jamahiriya, Jordan, Lithuania, Malta, Morocco, Monaco, Norway, Oman, the Netherlands, Portugal, the Syrian Arab Republic, the United Kingdom, Sweden, Switzerland, Swaziland and Tunisia, the band 470-790 MHz is also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting. Stations of the land mobile service in the countries listed in this footnote shall not cause harmful interference to existing or planned stations operating in accordance with the Table in countries other than those listed in this footnote. (WRC-07)

297 *Additional allocation:* in Canada, Costa Rica, Cuba, El Salvador, the United States of America, Guatemala, Guyana, Honduras, Jamaica and Mexico, the band 512-608 MHz is also allocated to the fixed and mobile services on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-07)

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, Egypt, Israel, the Libyan Arab Jamahiriya, Jordan, Oman, the Syrian Arab Republic and Sudan, the band 582 - 790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-07)

302 *Additional allocation:* in the United Kingdom, the band 590 - 598 MHz is also allocated to the aeronautical radionavigation service on a primary basis. All new assignments to stations in the aeronautical radionavigation service,

including those transferred from the adjacent bands, shall be subject to coordination with the Administrations of the following countries: Germany, Belgium, Denmark, Spain, France, Ireland, Luxembourg, Morocco, Norway and the Netherlands.

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.

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

311A For the frequency band 620-790 MHz, see also Resolution **549** (**WRC-07**). (WRC-07)

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

313A The band, or portions of the band 698-790 MHz, in Bangladesh, China, Korea (Rep. of), India, Japan, New Zealand, Papua New Guinea, the Philippines and Singapore are identified for use by these administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. In China, the use of IMT in this band will not start until 2015. (WRC-07)

313B *Different category of service*: in Brazil, the allocation of the band 698-806 to the mobile service is on a secondary basis (see No. **32**). (WRC-07)

314 *Additional allocation*: in Austria, Italy, Moldova, Uzbekistan, Kyrgyzstan, the United Kingdom and Swaziland, the band 790-862 MHz is also allocated to the land mobile service on a secondary basis. (WRC-07)

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

316 *Additional allocation*: in Germany, Saudi Arabia, Bosnia and Herzegovina, Burkina Faso, Cameroon, Côte d'Ivoire, Croatia, Denmark, Egypt, Finland, Greece, Israel, the Libyan Arab Jamahiriya, Jordan, Kenya, the Former Yugoslav Republic of Macedonia, Liechtenstein, Mali, Monaco, Montenegro, Norway, the Netherlands, Portugal, the United Kingdom, the Syrian Arab Republic, Serbia, Sweden and Switzerland, the band 790-830 MHz, and in these same countries and in Spain, France, Gabon and Malta, the band 830-862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band. This allocation is effective until 16 June 2015. (WRC-07)

316A *Additional allocation*: in Spain, France, Gabon and Malta, the band 790-830 MHz, in Angola, Bahrain, Benin, Botswana, Congo (Rep. of the), French Overseas Department and Communities of Region 1, Gambia, Ghana, Guinea, Kuwait, Lesotho, Lebanon, Malawi, Morocco, Mauritania, Mozambique, Namibia, Niger, Oman, Uganda, Poland, Qatar, Rwanda, Senegal, Sudan, South Africa, Swaziland, Tanzania, Chad, Togo, Yemen, Zambia and Zimbabwe, the band 790-862 MHz, in Georgia, the band 806-862 MHz, and in Lithuania, the band 830-862 MHz is also allocated to the mobile, except aeronautical mobile, service on a primary basis subject to agreement by the administrations concerned obtained under No. **9.21** and under GE06 Agreement, as appropriate, including those administrations mentioned in No. **312** where appropriate. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause unacceptable interference to, nor claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band. Frequency assignments to the mobile service under this allocation in Lithuania and Poland shall not be used without the agreement of the Russian Federation and Belarus. This allocation is effective until 16 June 2015. (WRC-07)

316B In Region 1, the allocation to the mobile, except aeronautical mobile, service on a primary basis in the frequency band 790-862 MHz shall come into effect from 17 June 2015 and shall be 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. Resolution **224** (**Rev. WRC-07**) and **749** (**WRC-07**) shall apply. (WRC-07)

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

317A Those parts of the band 698-960 MHz in Region 2 and the band 790-960 MHz in Regions 1 and 3 which are allocated to the mobile service on a primary basis are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). See Resolution **224 (Rev. WRC-07)** and **749** (**WRC-07**). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-07)

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

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

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

322 In Region 1, in the band 862-960 MHz, stations of the broadcasting service shall be operated only in the African Broadcasting Area (see Nos. **10** to **13**) excluding Algeria, Egypt, Spain, Libyan Jamahiriya, Morocco, Namibia,

Nigeria, South Africa, Tanzania, Zimbabwe and Zambia, subject to agreement obtained under No. **9.21**. (WRC-2000)

323 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Hungary, Kazakhstan, Moldova, Uzbekistan, Poland, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the band 862-960 MHz is also allocated to the aeronautical radionavigation service on a primary basis. Such use is subject to agreement obtained under No. **9.21** with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-07)

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

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

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

327A The use of the band 960 – 1164 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 (WRC-07)**. (WRC-07)

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)

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

331 *Additional allocation:* in Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Belarus, Belgium, Benin, Bosnia and Herzegovina, Brazil, Burkina Faso, Burundi, Cameroon, China, Korea (Rep. of), Croatia, Denmark, Egypt, the United Arab Emirates, Estonia, the Russian Federation, Finland, France, Ghana, Greece, Guinea, Equatorial Guinea, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Israel, Jordan, Kenya, Kuwait, the Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Mauritania, Montenegro, Nigeria, Norway, Oman, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Dem. People's Rep. of Korea Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Thailand, Togo, Turkey, Venezuela and

Viet Nam, the band 1 215-1 300 MHz is also allocated to the radionavigation service on a primary basis. In Canada and the United States of America, the band 1 240-1 300 MHz is also allocated to the radionavigation service, and use of the radionavigation service shall be limited to the aeronautical radionavigation service. (WRC-07)

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 of America, 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 of America in the band 1 240 - 1 300 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause interference to, claim protection from, or otherwise impose constraints on operation or development of the aeronautical radionavigation service. (WRC-97)

335A In the band 1 260 - 1 300 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service and other services allocated by footnotes on a primary basis. (WRC-2000)

337 The use of the bands 1 300 - 1 350 MHz, 2 700 - 2 900 MHz and 9 000 - 9 200 MHz by the aeronautical radionavigation service is restricted to ground-based radars and to associated airborne transponders which transmit only on frequencies in these bands and only when actuated by radars operating in the same band.

337A The use of the band 1 300 - 1 350 MHz by Earth stations in the radionavigation-satellite service and by stations in the radiolocation service shall not cause harmful interference to, nor constrain the operation and development of, the aeronautical-radionavigation service. (WRC-2000)

338 In Mongolia, Kyrgyzstan, Slovakia, the Czech Rep. and Turkmenistan, existing installations of the radionavigation service may continue to operate in the band 1 350-1 400 MHz. (WRC-07)

338A In the bands 1 350-1 400 MHz, 1 427-1 452 MHz, 22.55-23.55 GHz, 30-31.3 GHz, 49.7-50.2 GHz, 50.4-50.9 GHz and 51.4-52.6 GHz, Resolution **750 (WRC-07)** applies. (WRC-07)

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

340 All emissions are prohibited in the following bands:

1 400-1 427 MHz,

2 690-2 700 MHz, except those provided for by No. **422**,

10.68-10.7 GHz, except those provided for by No. **483**,

15.35-15.4 GHz, except those provided for by No. **511**,

23.6-24 GHz,

31.3-31.5 GHz,

31.5-31.8 GHz, in Region 2,

48.94-49.04 GHz, from airborne stations

50.2-50.4 GHz[2],

52.6-54.25 GHz,

86-92 GHz,

100-102 GHz,

109.5-111.8 GHz,

114.25-116 GHz,

148.5-151.5 GHz,

164-167 GHz,

182-185 GHz,

190-191.8 GHz,

200-209 GHz,

226-231.5 GHz,

250-252 GHz. (WRC-03)

[2] 340.1 The allocation to the Earth exploration-satellite (passive) and the space research service (passive) in the band 50.2-50.4 GHz should not impose undue constraints on the use of the adjacent bands by the primary allocated services in those bands. (WRC-97).

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.

342 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, Uzbekistan, Kyrgyzstan, the Russian Federation and Ukraine, the 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 band 1 452 - 1 492 MHz is subject to agreement between the administrations concerned. (WRC-2000)

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 of America, the band 1 452 - 1 525 MHz is allocated to the fixed and mobile services on a primary basis. (See also No. **343**.)

345 Use of the 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 (WRC-03)**. (WRC-03)

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

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

348B In the band 1 518-1 525 MHz, stations in the mobile-satellite service shall not claim protection from aeronautical mobile telemetry stations in the mobile service in the territory of the United States of America (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 – 1675 MHz, 1 980 - 2 010 MHz, 2 170 - 2 200 MHz, 2 483.5 -- 2 520 MHz and 2 670 - 2 690 MHz by the mobile-satellite service, see Resolutions **212 (Rev.WRC-07)** and **225 (Rev. WRC-07)**. (WRC-07)

352A In the 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 France and French overseas territories in Region 3, Algeria, Saudi Arabia, Egypt, Guinea, India, Israel, Italy, Jordan, Kuwait, Mali, Malta, Morocco, Mauritania, Nigeria, Oman, Pakistan, Philippines, Qatar, the Syrian Arab Republic, Tanzania, Viet Nam and Yemen notified prior to 1 April 1998. (WRC-97)

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

354 The use of the bands 1 525 - 1 559 MHz and 1 626.5 - 1 660.5 MHz by the mobile-satellite services is subject to coordination under No. **9.11A**.

355 *Additional allocation:* in Bahrain, Bangladesh, Congo (Rep. of the), Egypt, Eritrea, Iraq, Israel, Kuwait, Lebanon, Malta, Qatar, the Syrian Arab Republic, Somalia, 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-03)

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

359 *Additional allocation:* in Germany, Saudi Arabia, Armenia, Austria, Azerbaijan, Belarus, Benin, Bulgaria, Cameroon, Spain, the Russian Federation, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, the Libyan Arab Jamahiriya, Jordan, Kazakhstan, Kuwait, Lebanon, Lithuania, Mauritania, Moldova, Uganda, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Swaziland, Tajikistan, Tanzania, Tunisia, Turkmenistan and Ukraine, the bands 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-07)

362A In the United States of America, 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)

362B *Additional allocation:* The band 1 559-1 610 MHz is also allocated to the fixed service on a primary basis until 1 January 2010 in Algeria, Saudi Arabia, Cameroon, Libyan Arab Jamahiriya, Jordan, Mali, Mauritania, the Syrian Arab Republic and Tunisia. After this date, the fixed service may continue to operate on a secondary basis until 1 January 2015, at which time this allocation shall no longer be valid. The band 1 559-1 610 MHz is also allocated to the fixed service on a secondary basis in Algeria, Germany, Armenia, Azerbaijan, Belarus, Benin, Bulgaria, Spain, Russian Federation, France, Gabon, Georgia, Guinea, Guinea-Bissau, Kazakhstan, Lithuania, Moldova, Nigeria, Uganda, Uzbekistan, Pakistan, Poland, Kyrgyzstan, Dem. People's Rep. of Korea, Romania, Senegal, Swaziland, Tajikistan, Tanzania, Turkmenistan and Ukraine until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and the aeronautical radionavigation service and not authorize new frequency assignments to fixed-service systems in this band. (WRC-07)

362C *Additional allocation:* in Congo (Rep. of the), Egypt, Eritrea, Iraq, Israel, Jordan, Malta, Qatar, the Syrian Arab Republic, Somalia, Sudan, Chad, Togo and Yemen, the band 1 559-1 610 MHz is also allocated to the fixed service on a secondary basis until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and not authorise new frequency assignments to fixed-service systems in this band. (WRC-07)

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 bands 1 610 - 1 626.5 MHz and 5 000 - 5 150 MHz are also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. **9.21**.

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, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Israel, Lebanon, Liberia, Libyan Arab Jamahiriya, Madagascar, Mali, Pakistan, Papua New Guinea, the Syrian Arab Republic, the Dem. Rep. of the Congo, Sudan, Swaziland, 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-03)

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 bands 1 610 - 1 626.5 MHz (Earth-to-space) and 2 483.5 - 2 500 MHz (space-to-Earth) are also allocated to the radiodetermination-satellite service on a secondary basis, subject to agreement obtained under No. **9.21**.

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^2) in 10 MHz and -194 dB(W/m^2) in any 20 kHz at any radio astronomy station recorded in the Master International Frequency Register, for more than 2% of integration periods of 2 000 s. (WRC-03)

379D For sharing of the band 1 668.4-1 675 MHz between the mobile-satellite service and the fixed and mobile services, Resolution **744 (Rev.WRC-07)** shall apply. (WRC-07)

379E In the band 1 668.4-1 675 MHz, stations in the mobile-satellite service shall not cause harmful interference to stations in the meteorological aids service in China, Iran (Islamic Republic of), Japan and Uzbekistan. In the band 1 668.4-1 675 MHz, administrations are urged not to implement new systems

in the meteorological aids service and are encouraged to migrate existing meteorological aids service operations to other bands as soon as practicable. (WRC-03)

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

381 *Additional allocation:* in Afghanistan, Costa Rica, Cuba, India, Iran (Islamic Republic of) and Pakistan, the band 1 690 - 1 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

382 *Different category of service:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bulgaria, 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, Serbia, Somalia, Tajikistan, Tanzania, Turkmenistan, Ukraine and Yemen, the allocation of the 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 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-07)

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 bands, or portions of the bands, 1 710 - 1 885 MHz, 2 300 – 2 400 MHz and 2 500 - 2 690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223 (Rev.WRC-07)**. This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-07)

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 band 1 750-1 850 MHz is also allocated to the space operation (Earth-to-space) and space research (Earth-to-space) services

in Region 2, in Australia, Guam, India, Indonesia and Japan on a primary basis, subject to agreement obtained under No. **9.21**, having particular regard to troposcatter systems. (WRC-03)

387 *Additional allocation:* in Belarus, Georgia, Kazakhstan, Mongolia, Kyrgyzstan, Slovakia, Romania, Tajikistan and Turkmenistan, the band 1 770-1 790 MHz is also allocated to the meteorological-satellite service on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-07)

388 The bands 1 885 - 2 025 MHz and 2 110 - 2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT-2000 in accordance with Resolution **212 (Rev.WRC-97)**. (See also Resolution **223 (WRC-2000)**.) (WRC-2000)

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, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, India, Iran (Islamic Republic of), Israel, Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Mali, Morocco, Mauritania, Nigeria, Oman, Uganda, Qatar, the Syrian Arab Republic, Senegal, Singapore, Sudan, Tanzania, Chad, Togo, Tunisia, Yemen, Zambia and Zimbabwe, for the purpose of protecting fixed and mobile services, including IMT-2000 mobile stations, in their territories from co-channel interference, a high altitude platform station (HAPS) operating as an IMT-2000 base station in neighbouring countries, in the bands referred to in No. **388A**, shall not exceed a co-channel power flux-density of -127 dB(W/(m^2 · MHz)) at the Earth's surface outside a country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS. (WRC-03)

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.

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 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 S**A.1154**, and shall take that Recommendation into account for the introduction of any other type of mobile system. (WRC-97)

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 of America, India and Mexico, the band 2 310 - 2 360 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial sound broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution **528 (Rev. WRC-03)**, with the exception of *resolves* 3 in regard to the limitation on broadcasting-satellite systems in the upper 25 MHz. (WRC-07)

394 In the United States of America, 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)

397 *Different category of service:* in France, the band 2 450 - 2 500 MHz is allocated on a primary basis to the radiolocation service (see No. **33**). Such use is subject to agreement with administrations having services operating or planned to operate in accordance with the Table of Frequency Allocations which may be affected.

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.

399 In Region 1, in countries other than those listed in No. **400**, harmful interference shall not be caused to, or protection shall not be claimed from, stations of the radiolocation service by stations of the radiodetermination satellite service.

400 *Different category of service:* in Angola, Australia, Bangladesh, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Lebanon, Liberia, Libyan Arab Jamahiriya, Madagascar, Mali, Pakistan, Papua New Guinea, the Dem. Rep. of the Congo, the Syrian Arab Republic, Sudan, Swaziland, Togo and Zambia, the allocation of the band 2 483.5-2 500 MHz to the radiodetermination-satellite service (space-to-Earth) is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21** from countries not listed in this provision. (WRC-03)

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**.

405 *Additional allocation:* in France, the band 2 500 - 2 550 MHz is also allocated to the radiolocation service on a primary basis. Such use is subject to agreement with the administrations having services operating or planned to operate in accordance with the Table which may be affected.

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

410 The band 2 500 - 2 690 MHz may be used for tropospheric scatter systems in Region 1, subject to agreement obtained under No. **9.21**. 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-07)

412 *Alternative allocation:* in Azerbaijan, 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-07)

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

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

414A In Japan and India, the use of the bands 2 500-2 520 MHz and 2 520-2 535 MHz, under No. **403**, by a satellite network in the mobile-satellite service (space-to-Earth) is limited to operation within national boundaries and subject to the application of No. **9.11A.** The following pfd values shall be used as a threshold for coordination under No.

9.11A, for all conditions and for all methods of modulation, in an area of 1 000 km around the territory of the administration notifying the mobile-satellite service network:

-136 dB(W/(m^2·MHz))	for $0° \leq \theta \leq 5°$
-136 + 0.55 (θ - 5)dB(W/(m^2·MHz))	for $5° < \theta \leq 25°$
-125 dB(W/(m^2·MHz))	for $25° < \theta \leq 90°$

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

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

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

416 The use of the band 2 520-2 670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under No. **9.21**. (WRC-03)

417A In applying provision No. **418**, in Korea (Rep. of) and Japan, *resolves* 3 of Resolution **528 (Rev.WRC-03)** is relaxed to allow the broadcasting-satellite service (sound) and the complementary terrestrial broadcasting service to additionally operate on a primary basis in the band 2 605-2 630 MHz. This use is limited to systems intended for national coverage. An administration listed in this provision shall not have simultaneously two overlapping frequency assignments, one under this provision and the other under No. **416**. The provisions of No. **416** and Table **21-4** of Article **21** do not apply. Use of non-geostationary-satellite systems in the broadcasting satellite service (sound) in the band 2 605-2 630 MHz is subject to the provisions of Resolution **539 (Rev.WRC-03)**. The power flux-density at the Earth's surface produced by emissions from a geostationary broadcasting-satellite service (sound) space station operating in the band 2 605-2 630 MHz for which complete Appendix **4** coordination information, or notification

information, has been received after 4 July 2003, for all conditions and for all methods of modulation, shall not exceed the following limits:

-130 dB(W/(m2 ·MHz))	for $0° \leq \theta \leq 5°$
-130 + 0.4 (θ - 5) dB(W/(m2 ·MHz))	for $5° \leq \theta \leq 25°$
-122 dB(W/(m2 ·MHz))	for $25° \leq \theta \leq 90°$

where θ is the angle of arrival of the incident wave above the horizontal plane, in degrees. These limits may be exceeded on the territory of any country whose administration has so agreed. In the case of the broadcasting-satellite service (sound) networks of Korea (Rep. of), as an exception to the limits above, the power flux density value of -122 dB(W/(m^2 MHz)) shall be used as a threshold for coordination under No. **9.11** in an area of 1 000 km around the territory of the administration notifying the BSS (sound) system, for angles of arrival greater than 35°. (WRC-03)

417B In Korea (Rep. of) and Japan, use of the band 2 605-2 630 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. **417A**, for which complete Appendix **4** coordination information, or notification information, has been received after 4 July 2003, is subject to the application of the provisions of No. **9.12A**, in respect of geostationary-satellite networks for which complete Appendix **4** coordination information, or notification information, is considered to have been received after 4 July 2003, and No. **22.2** does not apply. No. **22.2** shall continue to apply with respect to geostationary-satellite networks for which complete Appendix **4** coordination information, or notification information, is considered to have been received before 5 July 2003. (WRC-03)

417C Use of the band 2 605-2 630 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. **417A**, for which complete Appendix **4** coordination information, or notification information, has been received after 4 July 2003, is subject to the application of the provisions of No. **9.12**. (WRC-03)

417D Use of the band 2 605-2 630 MHz by geostationary-satellite networks for which complete Appendix **4** coordination information, or notification information, has been received after 4 July 2003 is subject to the application of the provisions of No. **9.13** with respect to non-geostationary-satellite systems in the broadcasting satellite service (sound), pursuant to No. **417A**, and No. **22.2** does not apply. (WRC-03)

418 *Additional allocation:* in Korea (Rep. of), India, Japan, Pakistan and Thailand, the 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-03)**. 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-03)**. Geostationary broadcasting-satellite service (sound) systems for which complete Appendix **4** coordination information has been received after 1 June 2005 are limited to systems intended for national coverage. The power flux-density at the Earth's surface produced by emissions from a geostationary broadcasting-satellite service (sound) space station operating in the band 2 630-2 655 MHz, and for which complete Appendix **4** coordination information has been received after 1 June 2005, shall not exceed the following limits, for all conditions and for all methods of modulation:

-130 dB(W/(m2 ·MHz))	for $0° \leq \theta \leq 5°$
-130 + 0.4 (θ - 5) dB(W/(m2 ·MHz))	for $5° < \theta \leq 25°$
-122 dB(W/(m2 ·MHz))	for $25° < \theta \leq 90°$

where θ is the angle of arrival of the incident wave above the horizontal plane, in degrees. These limits may be exceeded on the territory of any country whose administration has so agreed. As an exception to the limits above, the pfd value of –122 dB(W/(m^2 · MHz)) shall be used as a threshold for coordination under No. **9.11** in an area of 1 500 km around the territory of the administration notifying the broadcasting-satellite service (sound) system. In addition, an administration listed in this provision shall not have simultaneously two overlapping frequency assignments, one under this provision and the other under No. **416** for systems for which complete Appendix **4** coordination information has been received after 1 June 2005. (WRC-07)

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

418B Use of the band 2 630-2 655 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. **418**, for which complete Appendix **4** coordination information, or notification information,

has been received after 2 June 2000, is subject to the application of the provisions of No. **9.12**. (WRC- 03)

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

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

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

422 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Brunei Darussalam, Congo (Rep. of the), Côte d'Ivoire, Cuba, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Georgia, Guinea, Guinea-Bissau, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Mauritania, Moldova, 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-07)

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

424 *Additional allocation:* in Canada, the band 2 850 - 2 900 MHz is also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars.

424A In the band 2 900-3 100 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the radionavigation service. (WRC-03)

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

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

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

428 *Additional allocation:* in Azerbaijan, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 3 100-3 300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-07)

429 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, the Libyan Arab Jamahiriya, Japan, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, Dem. People's Rep. of Korea and Yemen, the 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-07)

430 *Additional allocation:* in Azerbaijan, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 3 300-3 400 MHz is also allocated to the radionavigation service on a primary basis. (WRC-07)

430A *Different category of service:* in Albania, Algeria, Germany, Andorra, Saudi Arabia, Austria, Azerbaijan, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Cameroon, Cyprus, Vatican, Congo (Rep. of the), Côte d'Ivoire, Croatia, Denmark, Egypt, Spain, Estonia, Finland, France and French Overseas Departments and Communities in Region 1, Gabon, Georgia, Greece, Guinea, Hungary, Ireland, Iceland, Israel, Italy, Jordan, Kuwait, Lesotho, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Malawi, Mali, Malta, Morocco, Mauritania, Moldova, Monaco, Mongolia, Montenegro, Mozambique, Namibia, Niger, Norway, Oman, Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Slovakia, Czech Rep., Romania, United Kingdom, San Marino, Senegal, Serbia, Sierra Leone, Slovenia, South Africa, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia, Turkey, Ukraine, Zambia and Zimbabwe, the band 3 400-3 600 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 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 dB(W/(m^2·4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the 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). This allocation is effective from 17 November 2010. (WRC-07)

431 *Additional allocation:* in Germany, Israel and the United Kingdom, the band 3 400-3 475 MHz is also allocated to the amateur service on a secondary basis. (WRC-03)

431A *Different category of service:* in Argentina, Brazil, Chile, Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Mexico, Paraguay, Suriname, Uruguay, Venezuela and French Overseas Departments and Communities in Region 2, the 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**. 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)

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)

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 dB(W/(m^2·4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station) with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the 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 Bangladesh, China, India, Iran (Islamic Republic of), New Zealand, Singapore and French Overseas Communities in Region 3, the 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 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 dB(W/(m^2·4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station) with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the 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). This allocation is effective from 17 November 2010. (WRC-07)

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 Bangladesh, China, Korea (Rep. of), India, Iran (Islamic Republic of), Japan, New Zealand, Pakistan and French Overseas Communities in Region 3, the band 3 500-3 600 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 dB(W/(m^2·4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the 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-07)

435 In Japan, in the band 3 620 - 3 700 MHz, the radiolocation service is excluded.

438 Use of the band 4 200 - 4 400 MHz by the aeronautical radionavigation service is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground. However, passive sensing in the Earth exploration-satellite and space research services may be authorised in this band on a secondary basis (no protection is provided by the radio altimeters).

439 *Additional allocation:* in Iran (Islamic Republic of) and Libyan Arab Jamahiriya, the band 4 200-4 400 MHz is also allocated to the fixed service on a secondary basis. (WRC-2000)

440 The standard frequency and time signal-satellite service may be authorised to use the frequency 4 202 MHz for space-to-Earth transmissions and the frequency 6 427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of ± 2 MHz of these frequencies, subject to agreement obtained under No. **9.21**.

440A In Region 2 (except Brazil, Cuba, French Overseas Departments and Communities, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4 400-4 940 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. **1.83**). Such use shall be in accordance with resolution **416 (WRC-07)** and shall not cause harmful interference to, nor claim protection from, the fixed-satellite and fixed services. Any such use does not preclude the use of these bands by other mobile service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)

441 The use of the bands 4 500-4 800 MHz (space-to-Earth), 6 725 - 7 025 MHz (Earth-to-space) by the fixed-satellite service shall be in accordance with the provisions of Appendix **30B**. The use of the bands 10.7 - 10.95 GHz (space-to-Earth), 11.2 - 11.45 GHz (space-to-Earth) and 12.75 - 13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Appendix **30B**. The use of the bands 10.7 - 10.95 GHz (space-to Earth), 11.2 - 11.45 GHz (space-to-Earth) and 12.75 - 13.25 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. **9.12** for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. **43A** does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-2000)

442 In the bands 4 825-4 835 MHz and 4 950- 4 990 MHz, the allocation to the mobile service is restricted to the mobile, except aeronautical mobile, service. In Region 2 (except Brazil, Cuba, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4 825-4 835 MHz is also allocated to the aeronautical mobile service, limited to aeronautical mobile telemetry for flight testing by aircraft stations. Such use shall be in accordance with Resolution **416 (WRC-07)** and shall not cause harmful interference to the fixed service. (WRC-07)

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**).

443B In order not to cause harmful interference to the microwave landing system operating above 5 030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5 030-5 150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the band 5 010-5 030 MHz shall not exceed –124.5 dB(W/m^2) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4 990-5 000 MHz, radionavigation-satellite service systems operating in the band 5 010-5 030 MHz shall comply with the limits in the band 4 990-5 000 MHz defined in Resolution **741 (WRC-03)**. (WRC-03)

444 The band 5 030-5 150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. In the band 5 030-5 091 MHz, the requirements of this system shall take precedence over other uses of this band. For the use of the band 5 091-5 150 MHz, No. **444A** and Resolution **114 (Rev.WRC-03)** apply. (WRC-07)

444A *Additional allocation:* the band 5 091-5 150 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis. This allocation is limited to feeder links of non-geostationary satellite systems in the mobile-satellite service and is subject to coordination under No. **9.11A**.

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

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

444B The use of the band 5 091-5 150 MHz by the aeronautical mobile service is limited to:

- systems operating in the aeronautical mobile (R) service and in accordance with international aeronautical standards, limited to surface applications at airports. Such use shall be in accordance with Resolution **748 (WRC-07)**;

- aeronautical telemetry transmissions from aircraft stations (see No. **1.83**) in accordance with Resolution **418 (WRC-07)**;
- aeronautical security transmissions. Such use shall be in accordance with Resolution **419 (WRC-07)**. (WRC-07)

446 *Additional allocation:* in the countries listed in Nos. **369** and **400**, the band 5 150 - 5 216 MHz is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis, subject to agreement obtained under No. **9.21**. In Region 2, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis. In Regions 1 and 3, except those countries listed in Nos. **369** and **400**, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a secondary basis. The use by the radiodetermination-satellite service is limited to feeder links in conjunction with the radiodetermination-satellite service operating in the bands 1 610 - 1 626.5 MHz and/or 2 483.5 - 2 500 MHz. The total power flux-density at the Earth's surface shall in no case exceed -159 dB(W/m^2) in any 4 kHz band for all angles of arrival.

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 (WRC-03)**. (WRC-07)

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 Algeria, Saudi Arabia, Bahrain, Egypt, United Arab Emirates, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Syrian Arab Republic, 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-07)

447 *Additional allocation:* in Côte d'Ivoire, Israel, Lebanon, Pakistan, 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 (WRC-03)** do not apply. (WRC-07)

447A The allocation to the fixed-satellite service (Earth-to-space) is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to coordination under No. **9.11A**.

447B *Additional allocation*: the band 5 150 – 5 216 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. This allocation is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to provisions of No. **9.11A**. The power flux-density at the Earth's surface produced by space stations of the fixed-satellite service operating in the space-to-Earth direction in the band 5 150 - 5 216 MHz shall in no case exceed -164 dB(W/m^2) in any 4 kHz band for all angles of arrival.

447C Administrations responsible for fixed-satellite service networks in the band 5 150 – 5 250 MHz operated under Nos. **447A** and **447B** shall coordinate on an equal basis in accordance with No. **9.11A** with Administrations responsible for non-geostationary-satellite networks operated under No. **446** and brought into use prior to 17 November 1995. Satellite networks operated under No. **446** brought into use after 17 November 1995 shall not claim protection from, and shall not cause harmful interference to, stations of the fixed-satellite service operated under Nos. **447A** and **447B**.

447D The allocation of the band 5 250 - 5 255 MHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis.

447E *Additional allocation:* The 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 band by the fixed service is intended for the implementation of fixed wireless access systems and shall comply with Recommendation ITU-R F.1613. In addition, the fixed service shall not claim protection from the radiodetermination, Earth exploration-satellite (active) and space research (active) services, but the provisions of No. **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-07)

447F In the band 5 250-5 350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth exploration-satellite (active) service and the space research (active) service. These services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendations ITU-R M.1638 and ITU-R SA.1632. (WRC-03)

448 *Additional allocation:* in Azerbaijan, Libyan Arab Jamahiriya, Mongolia, Kyrgyzstan, Slovakia, Romania and Turkmenistan, the band 5 250-5 350 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

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

448C The space research (active) service 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), Mongolia, 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-03)

450A In the band 5 470-5 725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. Radiodetermination services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITU-R M.1638. (WRC-03)

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

454 *Different category of service:* in Azerbaijan, the Russian Federation, Georgia, Mongolia, 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-07)

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)

456 *Additional allocation:* in Cameroon, the band 5 755-5 850 MHz is also allocated to the fixed service on a primary basis. (WRC-03)

457A In the bands 5 925-6 425 MHz and 14-14.5 GHz, Earth stations located on board vessels may communicate with space stations of the fixed-satellite service. Such use shall be in accordance with Resolution **902 (WRC-03)**. (WRC-03)

457B In the 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, the United Arab Emirates, Jordan, Kuwait, Libyan Arab Jamahiriya, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, Tunisia and Yemen, in the maritime mobile-satellite service on a secondary basis. Such use shall be in accordance with Resolution **902 (WRC-03)**. (WRC-03)

457C In Region 2 (except Brazil, Cuba, French Overseas Departments and Communities, Guatemala, Paraguay, Uruguay and Venezuela), the band 5 925-6 700 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. **1.83**). Such use shall be in accordance with Resolution **416 (WRC-07)** and shall not cause harmful interference to, nor claim protection from, the fixed-satellite and fixed services. Any such use does not preclude the use of these bands by other mobile service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)

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 **22.2**.

458C Administrations making submissions in the band 7 025 - 7 075 MHz (Earth-to-space) for geostationary-satellite systems in the fixed-satellite service after 17 November 1995 shall consult on the basis of relevant ITU-R Recommendations with the administrations that have notified and brought into use non-geostationary-satellite systems in this frequency band before 18 November 1995 upon request of the latter administrations. This consultation shall be with a view to facilitating shared operation of both geostationary-satellite systems in the fixed-satellite service and non-geostationary-satellite systems in this band.

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**. (WRC-97)

460 The use of the band 7 145-7 190 MHz by the space research service (Earth-to-space) is restricted to deep space; no emissions to deep space shall be effected in the band 7 190-7 235 MHz. Geostationary satellites in the space research service operating in the band 7 190-7 235 MHz shall not claim protection from existing and future stations of the fixed and mobile services and No. **43A** does not apply. (WRC-03)

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)

461B The use of the band 7 750 - 7 850 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems. (WRC-97)

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 provisional values for angles of arrival (θ), without the consent of the affected administration:

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

These values are subject to study under Resolution **124 (Rev. WRC-2000)**. (WRC-2000)

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 Israel, 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-03)**

468 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burundi, Cameroon, China, Congo (Rep. of the), Costa Rica, Egypt, the United Arab Emirates, Gabon, Guyana, Indonesia, Iran (Islamic

Republic of), Iraq, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Libyan Arab Jamahiriya, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Senegal, Singapore, Somalia, Swaziland, Tanzania, Chad, Togo, Tunisia and Yemen, the band 8 500-8 750 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

469 *Additional allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Lithuania, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 8 500-8 750 MHz is also allocated to the land mobile and radionavigation services on a primary basis. (WRC-03)

469A In the band 8 550 - 8 650 MHz, stations in the Earth exploration-satellite (active) service and space research (active) service 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), the Libyan Arab Jamahiriya, the Netherlands, Qatar and Sudan, the 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-07)

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 9200-9 300 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**).

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 (active) service and the space research (active) service 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 (active) service and space research (active) service 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, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Japan, Jordan, Kuwait, Lebanon, Liberia, Malaysia, Nigeria, Oman, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Trinidad and Tobago, and Yemen, the allocation of the band 9 800-10 000 MHz to the fixed service is on a primary basis (see No. **33**). (WRC-07)

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)

478A The use of the band 9 800-9 900 MHz by the Earth exploration-satellite (active) service and the space research (active) service 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 (active) service and space research (active) service 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, Costa Rica, Cuba, El Salvador, Ecuador, Guatemala, Honduras, Mexico, Paraguay, the Netherlands Antilles, Peru and Uruguay, the band 10-10.45 GHz is also allocated to the fixed and mobile services on a primary basis. In Venezuela, the band 10-10.45 GHz is also allocated to the fixed service on a primary basis. (WRC-07)

481 *Additional allocation:* in Germany, Angola, Brazil, China, Costa Rica, Côte d'Ivoire, El Salvador, Ecuador, Spain, Guatemala, Hungary, Japan, Kenya, Morocco, Nigeria, Oman, Uzbekistan, Paraguay, Peru, the Dem. People's Rep. of Korea, Romania, Tanzania, Thailand and Uruguay, the band 10.45-10.5 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-07)

482 In the band 10.6-10.68 GHz, the power delivered to the antenna of stations of the fixed and mobile, except aeronautical mobile, services shall not exceed –3 dBW. This limit may be exceeded, subject to agreement obtained under No. **9.21**. However, in Algeria, Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Egypt, the United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Jordan, the Libyan Arab Jamahiriya, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Morocco, Mauritania, Moldova, Nigeria, Oman, Pakistan, Philippines, Qatar, the Syrian Arab Republic, Singapore, Tajikistan, Tunisia, Turkmenistan, Uzbekistan 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, Romania, Tajikistan, Turkmenistan and Yemen, the band 10.68-10.7 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-07)

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)

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 Mexico and the United States of America, the allocation of the band 11.7 - 12.1 GHz to the fixed service is on a secondary basis (see No. **32**).

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

487A *Additional allocation:* in Region 1, the band 11.7-12.5 GHz, in Region 2, the band 12.2-12.7 GHz and, in Region 3, the band 11.7-12.2 GHz, are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis,

limited to non-geostationary systems and subject to application of the provisions of No. **9.12** for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the broadcasting-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. **43A** does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-03)

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

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

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

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

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

494 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Cameroon, the Central African Rep., Congo (Rep. of the), Côte d'Ivoire, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Iraq, Israel, Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Madagascar, Mali,

Morocco, Mongolia, Nigeria, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Somalia, Sudan, Chad, Togo and Yemen, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

495 *Additional allocation:* in Bosnia and Herzegovina, France, Greece, Liechtenstein, Monaco, Montenegro, Uganda, Romania, Serbia, Switzerland, Tanzania and Tunisia, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-07)

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, India and Pakistan, the band 13.25 - 14 GHz is also allocated to the fixed service on a primary basis.

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

501 *Additional allocation:* in Azerbaijan, Hungary, Japan, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 13.4-14 GHz is also allocated to the radionavigation service on a primary basis. (WRC-07)

501A The allocation of the band 13.4 - 13.75 GHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)

501B In the band 13.4 - 13.75 GHz, the Earth exploration-satellite (active) and space research (active) services shall not cause harmful interference to, or constrain the use and development of, the radiolocation service. (WRC-97)

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

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

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

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

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

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

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

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

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

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

504A In the band 14-14.5 GHz, aircraft Earth stations in the secondary aeronautical mobile-satellite service may also communicate with space stations in the fixed-satellite service. The provisions of Nos. **29**, **30** and**31** apply. (WRC-03)

504B Aircraft Earth stations operating in the aeronautical mobile-satellite service in the band 14-14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643, with respect to any radio astronomy station performing observations in the 14.47-14.5 GHz band located on the territory of Spain, France, India, Italy, the United Kingdom and South Africa. (WRC-03)

504C In the band 14-14.25 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Botswana, Côte d'Ivoire, Egypt, Guinea, India, Iran (Islamic Republic of), Kuwait, Lesotho, Nigeria, Oman, the Syrian Arab Republic and Tunisia by any aircraft Earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical

mobile-satellite service to operate as a secondary service in accordance with No. **29**. (WRC-03)

505 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Botswana, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Egypt, the United Arab Emirates, Gabon, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lesotho, Lebanon, Malaysia, Mali, Morocco, Mauritania, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Swaziland, Tanzania, Chad, Viet Nam and Yemen, the band 14-14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-07)

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, Greece and Malta, within the minimum distance given in Resolution **902 (WRC-03)** from these countries. (WRC-03)

508 *Additional allocation:* in Germany, Bosnia and Herzegovina, France, Italy, the Former Yugoslav Rep. of Macedonia, the Libyan Arab Jamahiriya and the United Kingdom, the band 14.25-14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-07)

508A In the band 14.25-14.3 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Botswana, China, Côte d'Ivoire, Egypt, France, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Lesotho, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom and Tunisia by any aircraft Earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. **29**. (WRC-03)

509A In the band 14.3-14.5 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Botswana, Cameroon, China, Côte d'Ivoire, Egypt, France, Gabon, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Lesotho, Morocco, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom, Sri Lanka, Tunisia and Viet Nam by any aircraft Earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. **29**. (WRC-03)

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

511 *Additional allocation:* in Saudi Arabia, Bahrain, Bosnia and Herzegovina, Cameroon, Egypt, the United Arab Emirates, Guinea, Iran (Islamic Republic of), Iraq, Israel, Kuwait, Lebanon, the Libyan Arab Jamahiriya, 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-07)

511A The band 15.43 - 15.63 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. Use of the band 15.43 - 15.63 GHz by the fixed-satellite service (space-to-Earth and Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under No. **9.11A**. The use of the frequency band 15.43 - 15.63 GHz by the fixed-satellite service (space-to-Earth) is limited to feeder links of non-geostationary systems in the mobile-satellite service for which advance publication information has been received by the Bureau prior to 2 June 2000. In the space-to-Earth direction, the minimum Earth station elevation angle above and gain towards the local horizontal plane and the minimum coordination distances to protect an Earth station from harmful interference shall be in accordance with Recommendation ITU-R S.1341. In order to protect the radio astronomy service in the band 15.35 - 15.4 GHz, the aggregate power flux-density radiated in the 15.35 - 15.4 GHz band by all the space stations within any feeder-link of a non-geostationary system in the mobile-satellite service (space-to-Earth) operating in the 15.43 - 15.63 GHz band shall not exceed the level of -156 dB(W/m^2) in a 50 MHz bandwidth, into any radio astronomy observatory site for more than 2% of the time. (WRC-2000)

511C Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340. The minimum coordination distance required to protect the aeronautical radionavigation stations (No. **4.10** applies) from harmful interference from

feeder-link Earth stations and the maximum e.i.r.p. transmitted towards the local horizontal plane by a feeder-link Earth station shall be in accordance with Recommendation ITU-R S.1340. (WRC-97)

511D Fixed-satellite service systems for which complete information for advance publication has been received by the Bureau by 21 November 1997 may operate in the bands 15.4 - 15.43 GHz and 15.63 - 15.7 GHz in the space-to-Earth direction and 15.63 - 15.65 GHz in the Earth-to-space direction. In the bands 15.4 - 15.43 GHz and 15.65 - 15.7 GHz, emissions from a non-geostationary space station shall not exceed the power flux-density limits at the Earth's surface of -146 dB(W/(m^2 · MHz)) for any angle of arrival. In the band 15.63 - 15.65 GHz, where an administration plans emissions from a non-geostationary space station that exceed -146 dB(W/(m^2 · MHz)) for any angle of arrival, it shall coordinate under No. **9.11A** with the affected administrations. Stations in the fixed-satellite service operating in the band 15.63 - 15.65 GHz in the Earth-to-space direction shall not cause harmful interference to stations in the aeronautical radionavigation service (No. **4.10** applies). (WRC-97)

512 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Congo (Rep. of the), Costa Rica, Egypt, El Salvador, the United Arab Emirates, Eritrea, Finland, Guatemala, India, Indonesia, Iran (Islamic Republic of), Jordan, Kenya, Kuwait, Lebanon, the Libyan Arab Jamahiriya, Malaysia, Mali, Morocco, Mauritania, Montenegro, Mozambique, Nepal, Nicaragua, Oman, Pakistan, Qatar, the Syrian Arab Republic, Serbia, Singapore, Somalia, Sudan, Swaziland, Tanzania, Chad, Togo and Yemen, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-07)

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, Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, Costa Rica, El Salvador, the United Arab Emirates, Guatemala, India, Iran (Islamic Republic of), Iraq, Israel, Italy, Japan, Jordan, Kuwait, the Libyan Arab Jamahiriya, Lithuania, Nepal, Nicaragua, Nigeria, Oman, Uzbekistan, Pakistan, Qatar, Kyrgyzstan and Sudan, the band 17.3-17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. **21.3** and **21.5** shall apply. (WRC-07)

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 section 1 of Annex 4 of Appendix **30A**.

516 The use of the band 17.3 - 18.1 GHz by geostationary-satellite systems in the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. The use of the band 17.3 - 17.8 GHz in Region 2 by systems in the fixed-satellite service (Earth-to-space) is limited to geostationary satellites. For the use of the band 17.3 - 17.8 GHz in Region 2 by feeder links for the broadcasting-satellite service in the band 12.2 - 12.7 GHz, see Article **11**. The use of the bands 17.3 - 18.1 GHz (Earth-to-space) in Regions 1 and 3 and 17.8 - 18.1 GHz (Earth-to-space) in Region 2 by non-geostationary-satellite systems in the fixed-satellite service is subject to application of the provisions of No. **9.12** for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. **43A** does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-2000)

516A In the band 17.3-17.7 GHz, Earth stations of the fixed-satellite service (space-to-Earth) in Region 1 shall not claim protection from the broadcasting-satellite service feeder-link Earth stations operating under Appendix **30A**, nor put any limitations or restrictions on the locations of the broadcasting-satellite service feeder-link Earth stations anywhere within the service area of the feeder link. (WRC-03)

516B The following bands are identified for use by high-density applications in the fixed-satellite service:

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

49.44-50.2 GHz (space-to-Earth) in Region 1,
and
27.5-27.82 GHz (Earth-to-space) in Region 1,
28.35-28.45 GHz (Earth-to-space) in Region 2,
28.45-28.94 GHz (Earth-to-space) in all Regions,
28.94-29.1 GHz (Earth-to-space) in Regions 2 and 3,
29.25-29.46 GHz (Earth-to-space) in Region 2,
29.46-30 GHz (Earth-to-space) in all Regions,
48.2-50.2 GHz (Earth-to-space) in Region 2.

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

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)

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 Germany, Denmark, the United Arab Emirates and Greece, the band 18.1-18.4 GHz is allocated to the fixed, fixed-satellite (space-to-Earth) and mobile services on a primary basis (see No. **33**). The provisions of No. **519** also apply. (WRC-03)

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 FSS is limited to feeder links for non-geostationary-satellite systems in the MSS. Such use is subject to the application of the provisions of No. **9.11A**, and No. **22.2** does not apply.

523C No. **22.2** shall continue to apply in the bands 19.3 - 19.6 GHz and 29.1 - 29.4 GHz between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix **4** coordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

523D The use of the band 19.3 - 19.7 GHz (space-to-Earth) by geostationary fixed-satellite service systems and by feeder links for non-geostationary-satellite systems in the mobile-satellite service is subject to the application of the provisions of No. **9.11A**, but not subject to the provisions of No. **22.2**. The use of this band for other non-geostationary fixed-satellite service systems, or for the cases indicated in Nos. **523C** and **523E**, is not subject to the provisions of No. **9.11A** and shall continue to be subject to Articles **9** (except No. **9.11A**) and **11** procedures, and to the provisions of No. **22.2**. (WRC-97)

523E No. **22.2** shall continue to apply in the bands 19.6 - 19.7 GHz and 29.4 - 29.5 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix **4** coordination information, or notification information, is considered as having been received by the Bureau by 21 November 1997. (WRC-97)

524 *Additional allocation:* in Afghanistan, Algeria, Angola, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Dem. Rep. of the Congo, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Tanzania, Chad, Togo and Tunisia, the band 19.7-21.2 GHz is also allocated to the fixed and mobile services on a primary basis. This additional use shall not impose any limitation on the power flux-density of space stations in the fixed-satellite service in the band 19.7-21.2 GHz and of space stations in the mobile-satellite service in the band 19.7-20.2 GHz where the allocation to the mobile-satellite service is on a primary basis in the latter band. (WRC-07)

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.

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**.

530 In Regions 1 and 3, the use of the band 21.4-22 GHz by the broadcasting-satellite service is subject to the provisions of Resolution **525 (Rev. WRC-07)**. (WRC-07)

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.

533 The inter-satellite service shall not claim protection from harmful interference from airport surface detection equipment stations of the radionavigation service.

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**.

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 Recommendations ITU-R SA.1278 and ITU-R SA.1625, respectively. (WRC-03)

536B In Germany, Saudi Arabia, Austria, Belgium, Brazil, Bulgaria, China, Korea (Rep. of), Denmark, Egypt, the United Arab Emirates, Spain, Estonia, Finland, France, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, the Libyan Arab Jamahiriya, Liechtenstein, 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, Switzerland, Tanzania, Turkey, Viet Nam and Zimbabwe, Earth stations operating in the Earth exploration-satellite service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-07)

536C In Algeria, Saudi Arabia, Bahrain, Botswana, Brazil, Cameroon, Comoros, Cuba, Djibouti, Egypt, the United Arab Emirates, Estonia, Finland, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Lithuania, Malaysia, Morocco, Nigeria, Oman, Qatar, the Syrian Arab Republic, Somalia, Sudan, Tanzania, Tunisia, Uruguay, Zambia and Zimbabwe, Earth stations operating in the space research service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-03)

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), Japan, Kazakhstan, Lesotho, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 27.9-28.2 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-07)**. (WRC-07)

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, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Somalia, Sudan, Sri Lanka and Chad, the band 29.5-31 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. **21.3** and **21.5** shall apply. (WRC-07)

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), Japan, Kazakhstan, Lesotho, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, Philippines, Kyrgyzstan, the Dem. People’s Rep. of Korea, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 31-31.3 GHz may also be used by systems using high altitude platform stations (HAPS) in the ground-to-HAPS direction. The use of the band 31-31.3 GHz by systems using HAPS is limited to the territory of the countries listed above and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems, systems in the mobile service and systems operated under No. **545**. Furthermore, the development of these services shall not be

constrained by HAPS. Systems using HAPS in the band 31-31.3 GHz shall not cause harmful interference to the radio astronomy service having a primary allocation in the band 31.3-31.8 GHz, taking into account the protection criterion as given in Recommendation ITU-R RA.769. In order to ensure the protection of satellite passive services, the level of unwanted power density into a HAPS ground station antenna in the band 31.3-31.8 GHz shall be limited to –106 dB(W/MHz) under clear-sky conditions, and may be increased up to –100 dB(W/MHz) under rainy conditions to 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-07)**. (WRC-07)

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, Mongolia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 31-31.3 GHz to the space research service is on a primary basis (see No. **33**). (WRC-07)

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, 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-07)

547 The bands 31.8-33.4 GHz, 37-40 GHz, 40.5-43.5 GHz, 51.4-52.6 GHz, 55.78-59 GHz and 64-66 GHz are available for high-density applications in the fixed service (see Resolution **75 (WRC-2000)**). Administrations should take this into account when considering regulatory provisions in relation to these bands. Because of the potential deployment of high-density applications in the fixed-satellite service in the bands 39.5-40 GHz and 40.5-42 GHz (see No. **516B**), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate. (WRC-07)

547A Administrations should take practical measures to minimize the potential interference between stations in the fixed service and airborne stations in the radionavigation service in the 31.8 - 33.4 GHz band, taking into account the operational needs of the airborne radar systems. (WRC-2000)

547B *Alternative allocation:* in the United States of America, 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 of America, 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 of America, 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 of America, 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, Libyan Arab Jamahiriya, Malaysia, Mali, Malta, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Singapore, Somalia, Sudan, Sri Lanka, Togo, Tunisia and Yemen, the band 33.4-36 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

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 (active) service or space research (active) service, for any angle greater than 0.8° from the beam centre shall not exceed -73.3 dB(W/m^2) in this band. (WRC-03)

550 *Different category of service:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Mongolia, 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-07)

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)

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 band 42.5-43.5 GHz by all space stations in any non-geostationary-satellite system in the fixed-satellite service (space-to-Earth), or in the broadcasting-satellite service operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station for more than 2% of the time:

- –230 dB(W/m^2) in 1 GHz and –246 dB(W/m^2) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and

- –209 dB(W/m^2) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.

These epfd values shall be evaluated using the methodology given in Recommendation ITU-R S.1586 and the reference antenna pattern and the maximum gain of an antenna in the radio astronomy service given in Recommendation ITU-R RA.1631 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle θ_{min} of the radiotelescope (for which a default value of 5° should be adopted in the absence of notified information).

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

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

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have 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)

551I The power flux-density in the band 42.5-43.5 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth), or the broadcasting-satellite service operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station:

- –137 dB(W/m^2) in 1 GHz and –153 dB(W/m^2) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and

- –116 dB(W/m^2) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.

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

- was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or

- was notified before the date of receipt of the complete Appendix **4** information for coordination or notification, as appropriate, for the space station to which the limits apply.

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

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

552A The allocation to the fixed service in the bands 47.2-47.5 GHz and 47.9-48.2 GHz is 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/m2) 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, 57.0 - 58.2 GHz and 59.0 - 59.3 GHz by the inter-satellite service is limited to satellites in the geostationary satellite orbit. The single entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, shall not exceed -147 dB(W/($m^2 \cdot$ 100 MHz)) for all angles of arrival. (WRC-97)

556B *Additional allocation:* in Japan, the band 54.25 - 55.78 GHz is also allocated to the mobile service on a primary basis for low-density use. (WRC-97)

557 *Additional allocation:* in Japan, the band 55.78 - 58.2 GHz is also allocated to the radiolocation service on a primary basis. (WRC-97)

557A In the band 55.78 - 56.26 GHz, in order to protect stations in the Earth exploration-satellite service (passive), the maximum power density delivered by a transmitter to the antenna of a fixed service station is limited to –26 dB(W/MHz). (WRC-2000)

558 In the bands 55.78 - 58.2 GHz, 59 - 64 GHz, 66 - 71 GHz, 122.25 - 123 GHz, 130 - 134 GHz, 167 - 174.8 GHz and 191.8 - 200 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the inter-satellite service (see No. **43**). (WRC-2000)

558A Use of the band 56.9 - 57 GHz by inter-satellite systems is limited to links between satellites in geostationary-satellite orbit and to transmissions from non-geostationary satellites in high-Earth orbit to those in low-Earth orbit. For links between satellites in the geostationary-satellite orbit, the single

entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface, for all conditions and for all methods of modulation, shall not exceed –147 dB(W/(m^2 · 100 MHz)) for all angles of arrival. (WRC-97)

559 In the band 59 - 64 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (see No. **43**). (WRC-2000)

559A The band 75.5 - 76 GHz is also allocated to the amateur and amateur-satellite services on a primary basis until the year 2006. (WRC-2000)

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.

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 (active) service 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 dB(W/(m^2 · MHz)) for all angles of arrival. (WRC-2000)

562D *Additional allocation*: In Korea (Rep. of), the bands 128 - 130 GHz, 171 - 171.6 GHz, 172.2 - 172.8 GHz and 173.3 - 174 GHz are also allocated to the radio astronomy service on a primary basis until 2015. (WRC-2000)

562E The allocation to the Earth exploration-satellite (active) service 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 dB(W/(m^2 · MHz)) for all angles of arrival. (WRC-2000)

563A In the bands 200 - 209 GHz, 235 - 238 GHz, 250 - 252 GHz and 265 - 275 GHz, ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents. (WRC-2000)

563B The band 237.9 - 238 GHz is also allocated to the Earth exploration-satellite (active) service and the space research (active) service for spaceborne cloud radars only. (WRC-2000)

565 The frequency band 275 – 1 000 GHz may be used by administrations for experimentation with, and development of, various active and passive services. In this band a need has been identified for the following spectral line measurements for passive services:

- radio astronomy service: 275 – 323 GHz, 327 – 371 GHz, 388 – 424 GHz, 426 – 442 GHz, 453 – 510 GHz, 623 – 711 GHz, 795 – 909 GHz and 926 – 945 GHz;
- Earth exploration-satellite service (passive) and space research service (passive): 275 – 277 GHz, 294 – 306 GHz, 316 – 334 GHz,

342 – 349 GHz, 363 – 365 GHz, 371 – 389 GHz, 416 – 434 GHz, 442 – 444 GHz, 496 – 506 GHz, 546 – 568 GHz, 624 – 629 GHz, 634 – 654 GHz, 659 – 661 GHz, 684 – 692 GHz, 730 – 732 GHz, 851 – 853 GHz and 951 – 956 GHz.

Future research in this largely unexplored spectral region may yield additional spectral lines and continuum bands of interest to the passive services. administrations are urged to take all practicable steps to protect these passive services from harmful interference until the date when the allocation Table is established in the above-mentioned frequency band. (WRC-2000).

Note

1. All legislative instruments and compilations are registered on the Federal Register of Legislative Instruments kept under the *Legislative Instruments Act 2003*. See http://www.frli.gov.au.

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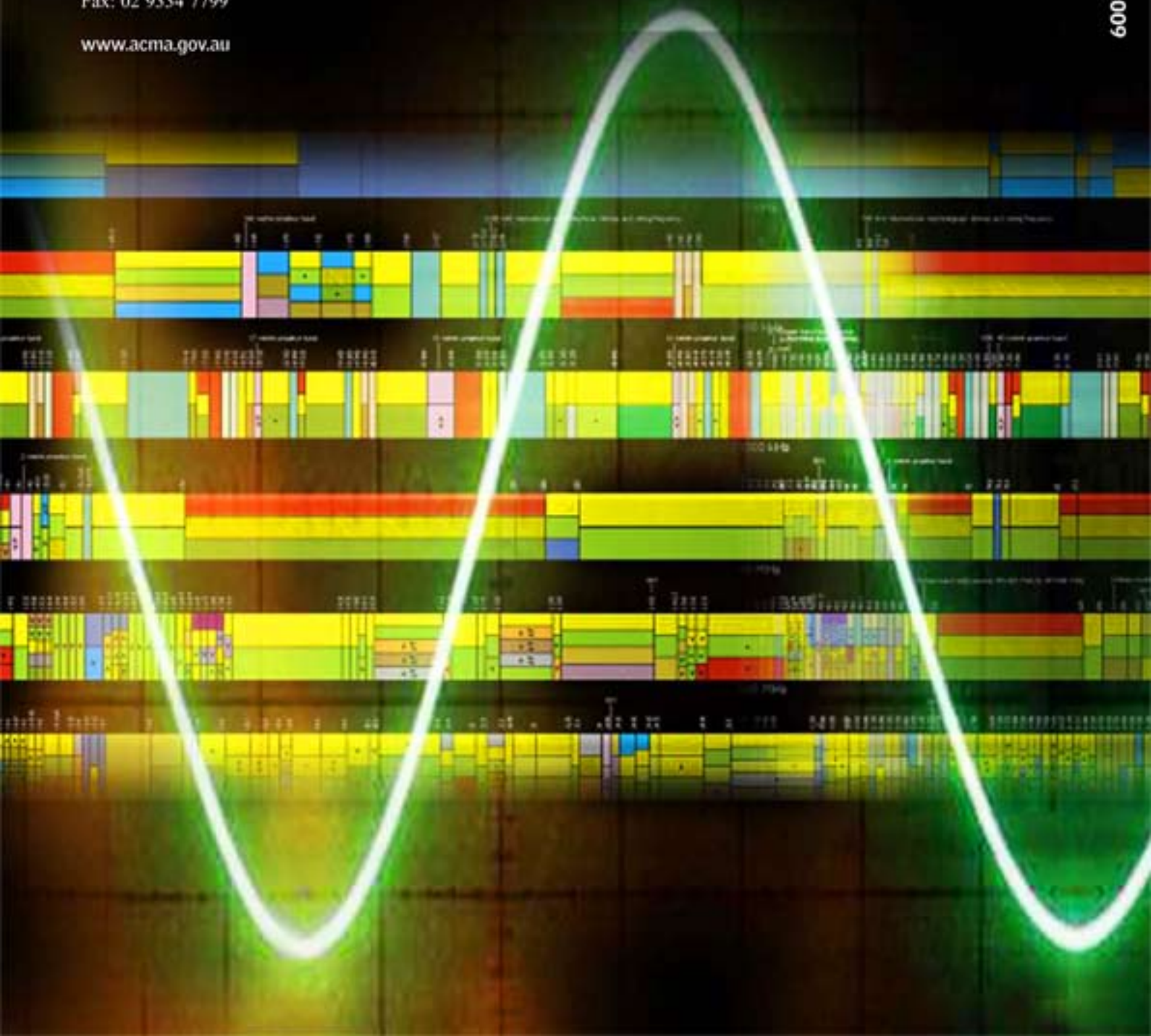
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