



# **Kiribati Radiofrequency Spectrum Plan 2014**

**including**

**General Information**

**Communications Commission of Kiribati  
September 2014**

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Prepared by the Communications Commission of Kiribati.

# Foreword

Substantial content in this publication is based on the Australian Radiofrequency Spectrum Plan © Commonwealth of Australia (Australian Communications and Media Authority) 2013. The Republic of Kiribati is grateful to the Australian Communications and Media Authority for its agreement in this matter.

This publication is divided into two chapters.

*Chapter 1 General Information* is intended to provide an introduction to the basis of the 2014 Kiribati 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 2014 Kiribati Radiofrequency Spectrum Plan (Spectrum Plan), prepared under section 34(2) of the *Communications Act 2012*, and includes the Table of Frequency Band Allocations.

The International Telecommunication Union (ITU) 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. The CCK will review the Spectrum Plan from time to time, and amend where needed to reflect the frequency allocation recommendations of the most recent WRC.

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# CHAPTER 1 GENERAL INFORMATION

## Part 1 General

### 1 Introduction

The Kiribati Radiofrequency Spectrum Plan 2014 (the Spectrum Plan) divides the radiofrequency spectrum in Kiribati into frequency bands and specifies the purposes for which the bands may be used. This process is referred to as the allocation of frequency bands to radiocommunications services.

This chapter 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. The Communications Commission of Kiribati is legally obligated to use the Spectrum Plan to plan the allocation, re-allocation and use of spectrum in Kiribati.

### 2 The International Framework

The Republic of Kiribati 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, Guadalajara, 2010). The ITU Radio Regulations 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. Kiribati 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.ø prefix has been removed.

### 3 Kiribati Variations to the ITU Table of Frequency Allocations

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

Whilst the Kiribati 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 Kiribati 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 Kiribati requirements<sup>1</sup>.

## 5 Status of Services

In this document and the ITU Radio Regulations, the definitions for radiocommunications 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 matters, where included in footnotes, are effected also through the application of those footnotes.

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 Kiribati). In this case, the primary status applies only within that area or country.

# Part 2 Geographic Regions

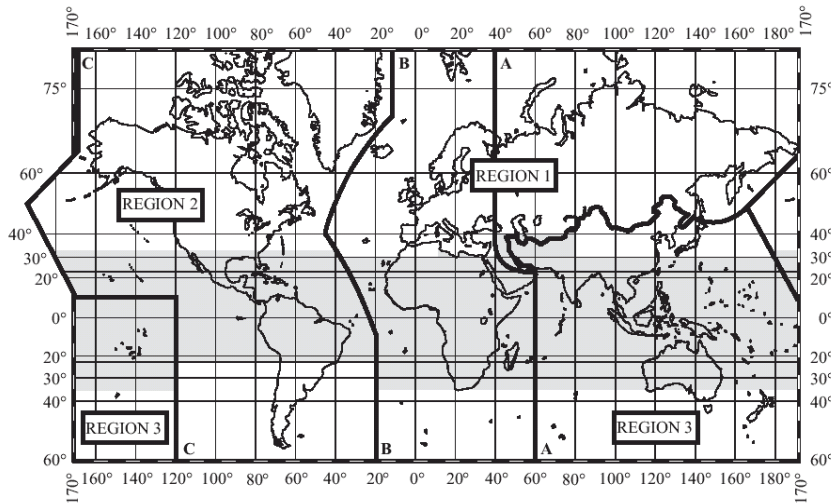
## 6 Explanation of the Regional Chart

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.

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<sup>1</sup> The definitions restructured to align with Kiribati 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 8.3 kHz to 420 THz, which has been divided into frequency bands within which certain designated radiocommunications services may operate;
- frequency bands are shown in increasing frequency order from 8.3 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 radiocommunications services worldwide, is shown for information only; and
- column 2, details the Kiribati allocation of frequency bands to

radiocommunications services.

## **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. Kiribati), 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. Kiribati), 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 Kiribati**

## **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 Kiribati. It is, however, the starting point and there are other elements, particularly those made under the Communications Act 2012, that contribute to spectrum management in Kiribati. These elements include:

- frequency allocation plans
- radiocommunications rules
- licensing rules
- technical rules and
- the technical conditions applied to spectrum and apparatus licences (including general licence conditions), including any requirements for compliance with standards.

The CCK website at <http://www.cck.ki/> provides more detailed information on all of the above-mentioned items and includes a public register of radiocommunications licences.

## **11 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 allocations of spectrum for meteorological purposes, and associated operating provisions, are listed in the Radio Regulations of the ITU.

## **CHAPTER 2**

# **KIRIBATI RADIOFREQUENCY SPECTRUM PLAN**

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## Part 1 Introductory

### 1 Name of Spectrum Plan

This Spectrum Plan is the *Kiribati Radiofrequency Spectrum Plan 2014*.

### 2 Commencement

This Spectrum Plan commences on 1 September 2014.

### 3 Definitions

(1) In this Spectrum Plan:

**Act** means the *Communications Act 2012*.

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

*Note* The Communications Commission of Kiribati is the Kiribati 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.

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***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 radiocommunications service using space stations on Earth satellites for an amateur service.

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

- (a) are licensed under the Act to do so; and
- (b) do so solely with a personal aim; and
- (c) do not have a pecuniary interest in doing so.

***assignment*** means an identification by the CCK, or a person authorised by the CCK, 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.

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

***broadcasting service*** means a radiocommunications 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*.

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**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 radiocommunications 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 radiocommunications 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 radiocommunications service, including any feeder link that is necessary for the operation of another space radiocommunications 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 radiocommunications 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 radiocommunications 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 radiocommunications service providing links between artificial satellites.

***ITU*** means the International Telecommunication Union.

***Kiribati footnote reference*** means the combination of the letters -KIRØ and a number that refers to an item in Part 3.

**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 radiocommunications 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 radiocommunications service between one or more mobile earth stations and one or more space stations;
- (b) a radiocommunications service between space stations used by the service;
- (c) a radiocommunications service between mobile earth stations by means of one or more space stations.

**mobile service** means a radiocommunications 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 radiocommunications 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 radiocommunications 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 radiocommunications service that is used for radiodetermination.

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

**radiolocation-satellite service:**

- (a) means a radiodetermination-satellite service that is used for radiolocation; and
- (b) includes any feeder link necessary for the operation of the service.

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

**radionavigation** means radiodetermination used for navigation or obstruction warning.

**radionavigation-satellite service:**

- (a) means a radiodetermination-satellite service used for radionavigation; and
- (b) includes any feeder link necessary for the operation of the service.

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

**Radio Regulations** means the document:

- (a) titled "Radio Regulations" as existing from time to time; and
- (b) published by the ITU.

*Note* The Radio Regulations published by the ITU are not regulations made under the 2012 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 radiocommunications signals.

**safety service** means a radiocommunications 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 radiocommunications 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 radiocommunications** means radiocommunications using one or more space stations, reflecting satellites or other objects in space.

**space research service** means a radiocommunications 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 radiocommunications 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 radiocommunications** means radiocommunications other than space radiocommunications 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, and the expression is defined in the *Communications Act 2012*, the expression has the meaning given by that Act.
- (4) In this Spectrum Plan, a reference to a radiocommunications service is a reference to a radiocommunications service for terrestrial radiocommunications, unless another kind of radiocommunications is specified.
- (5) Notes to provisions of this Spectrum Plan, except the notes described as Kiribati 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 34(2) of the Act, the spectrum is divided into the frequency bands set out in column 2 of the Table.

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

#### **5 How the Table refers to services**

- (1) A primary service in a frequency band mentioned in column 2 of the Table is described by:
  - (a) an expression in upper case letters; and
  - (b) any related footnote reference.

*Example*

MOBILE.

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

*Example*

MOBILE except aeronautical mobile (R).

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

- 
- (3) A secondary service in a frequency band mentioned in column 2 of the Table is described by:
- (a) an expression in lower case letters other than:
    - (i) a limitation to a primary service; or
    - (ii) words in parentheses describing an operational restriction, as mentioned in subsection (5); and
  - (b) any related footnote reference.

*Example*

Mobile.

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

*Example*

Mobile except aeronautical mobile (R).

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

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

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

## 6 Primary and secondary services — frequency allocation 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 allocation plan or other instrument made under the Act.

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

## 7 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) 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 allocation plan; or
  - (b) would assist the implementation of a frequency allocation plan.
- (4) 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.
- (5) A frequency band may be used for an unspecified service if the use of the service is in the public interest for defence or national security.

## **8 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 Kiribati 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.

## **9 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 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.
- (4) 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 2* Other levels of interference protection are, or may be, provided for under the Act.

## 10 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 a Kiribati 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 a Kiribati footnote reference appears in a cell in another position, the use of a frequency band mentioned in the cell is subject to the condition or restriction specified in that footnote reference as set out in Part 3.
  - (5) If an international footnote reference appears in a cell immediately after the description of a service, the operation of the service is subject to the condition or restriction specified in that footnote reference as set out in Part 4.
  - (6) However, if an international footnote reference appears in a cell in another position, the use of a frequency band mentioned in the cell is subject to the condition or restriction specified in that footnote reference as set out in Part 4.

## Part 2 Table of Frequency Band Allocations

kHz  
8.3 – 90

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>Below 8.3</b>	(Not allocated)		<b>Below 8.3</b> (Not allocated)
	53 54		53 54
<b>8.3 – 9</b>	METEOROLOGICAL AIDS 54A 54B 54C		<b>8.3 – 9</b> METEOROLOGICAL AIDS 54A
<b>9 – 11.3</b>	METEOROLOGICAL AIDS 54A RADIONAVIGATION		<b>9 – 11.3</b> METEOROLOGICAL AIDS 54A RADIONAVIGATION
<b>11.3 – 14</b>	RADIONAVIGATION		<b>11.3 – 14</b> RADIONAVIGATION
<b>14 – 19.95</b>	FIXED MARITIME MOBILE 57		<b>14 – 19.95</b> FIXED MARITIME MOBILE 57
	55 56		56
<b>19.95 – 20.05</b>	STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)		<b>19.95 – 20.05</b> STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)
<b>20.05 – 70</b>	FIXED MARITIME MOBILE 57		<b>20.05 – 70</b> FIXED MARITIME MOBILE 57
	56 58		56
<b>70 – 72</b> RADIONAVIGATION 60	<b>70 – 90</b> FIXED MARITIME MOBILE 57 MARITIME RADIONAVIGATION 60 Radiolocation	<b>70 – 72</b> RADIONAVIGATION 60 Fixed Maritime mobile 57	<b>70 – 72</b> RADIONAVIGATION 60 Fixed Maritime mobile 57
		59	
<b>72 – 84</b> FIXED MARITIME MOBILE 57 RADIONAVIGATION 60		<b>72 – 84</b> FIXED MARITIME MOBILE 57 RADIONAVIGATION 60	<b>72 – 84</b> FIXED MARITIME MOBILE 57 RADIONAVIGATION 60
		56	
<b>84 – 86</b> RADIONAVIGATION 60		<b>84 – 86</b> RADIONAVIGATION 60 Fixed Maritime mobile 57	<b>84 – 86</b> RADIONAVIGATION 60 Fixed Maritime mobile 57
		59	
<b>86 – 90</b> FIXED MARITIME MOBILE 57 RADIONAVIGATION		<b>86 – 90</b> FIXED MARITIME MOBILE 57 RADIONAVIGATION 60	<b>86 – 90</b> FIXED MARITIME MOBILE 57 RADIONAVIGATION 60
56	61		

**kHz**  
**90 – 137.8**



**kHz**  
**137.8 – 325**

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

**kHz**  
**325 – 505**

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

**kHz**  
**505 – 1 800**

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

**kHz**  
**1 800 – 2 170**

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

**kHz**  
**2 170 – 3 155**

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

**kHz**  
**3 155 – 4 000**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>3 155 – 3 200</b>	FIXED MOBILE except aeronautical mobile (R)  116 117		<b>3 155 – 3 200</b> FIXED MOBILE except aeronautical mobile (R) 116
<b>3 200 – 3 230</b>	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 113  116		<b>3 200 – 3 230</b> FIXED MOBILE except aeronautical mobile (R) BROADCASTING 113 116
<b>3 230 – 3 400</b>	FIXED MOBILE except aeronautical mobile BROADCASTING 113  116 118		<b>3 230 – 3 400</b> FIXED MOBILE except aeronautical mobile (R) BROADCASTING 113 116
<b>3 400 – 3 500</b>	AERONAUTICAL MOBILE (R)		<b>3 400 – 3 500</b> AERONAUTICAL MOBILE (R)
<b>3 500 – 3 800</b> AMATEUR FIXED MOBILE except aeronautical mobile  92	<b>3 500 – 3 750</b> AMATEUR 119  <b>3 750 – 4 000</b> AMATEUR FIXED MOBILE except aeronautical mobile (R)	<b>3 500 – 3 900</b> AMATEUR FIXED MOBILE	<b>3 500 – 3 900</b> AMATEUR FIXED MOBILE
<b>3 800 – 3 900</b> FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE			
<b>3 900 – 3 950</b> AERONAUTICAL MOBILE (OR) 123		<b>3 900 – 3 950</b> AERONAUTICAL MOBILE BROADCASTING	<b>3 900 – 3 950</b> AERONAUTICAL MOBILE BROADCASTING
<b>3 950 – 4 000</b> FIXED BROADCASTING	122 125	<b>3 950 – 4 000</b> FIXED BROADCASTING 126	<b>3 950 – 4 000</b> FIXED BROADCASTING 126

**kHz**  
**4 000 – 5 060**

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

**kHz**  
**5 060 – 6 525**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>5 060 – 5 250</b>	FIXED Mobile except aeronautical mobile  133		<b>5 060 – 5 250</b> FIXED Mobile except aeronautical mobile (R)
<b>5 250 – 5 275</b> FIXED MOBILE except aeronautical mobile Radiolocation 132A 133A	<b>5 250 – 5 275</b> FIXED MOBILE except aeronautical mobile RADIOLOCATION 132A	<b>5 250 – 5 275</b> FIXED MOBILE except aeronautical mobile Radiolocation 132A	<b>5 250 – 5 275</b> FIXED MOBILE except aeronautical mobile (R) Radiolocation 132A
<b>5 275 – 5 450</b>	FIXED MOBILE except aeronautical mobile		<b>5 275 – 5 450</b> FIXED MOBILE except aeronautical mobile (R)
<b>5 450 – 5 480</b> FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	<b>5 450 – 5 480</b> AERONAUTICAL MOBILE (R)	<b>5 450 – 5 480</b> FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	<b>5 450 – 5 480</b> FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE
<b>5 480 – 5 680</b>	AERONAUTICAL MOBILE (R)  111 115		<b>5 480 – 5 680</b> AERONAUTICAL MOBILE (R) 111 115
<b>5 680 – 5 730</b>	AERONAUTICAL MOBILE (OR)  111 115		<b>5 680 – 5 730</b> AERONAUTICAL MOBILE (OR) 111 115
<b>5 730 – 5 900</b> FIXED LAND MOBILE	<b>5 730 – 5 900</b> FIXED MOBILE except aeronautical mobile (R)	<b>5 730 – 5 900</b> FIXED Mobile except aeronautical mobile (R)	<b>5 730 – 5 900</b> FIXED Mobile except aeronautical mobile (R)
<b>5 900 – 5 950</b>	BROADCASTING 134  136		<b>5 900 – 5 950</b> BROADCASTING 134 136
<b>5 950 – 6 200</b>	BROADCASTING		<b>5 950 – 6 200</b> BROADCASTING
<b>6 200 – 6 525</b>	MARITIME MOBILE 109 110 130 132  137		<b>6 200 – 6 525</b> MARITIME MOBILE 109 110 130 132 137



**kHz**  
**6 525 – 8 815**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>6 525 – 6 685</b>	AERONAUTICAL MOBILE (R)		<b>6 525 – 6 685</b> AERONAUTICAL MOBILE (R)
<b>6 685 – 6 765</b>	AERONAUTICAL MOBILE (OR)		<b>6 685 – 6 765</b> AERONAUTICAL MOBILE (OR)
<b>6 765 – 7 000</b>	FIXED MOBILE except aeronautical mobile (R)  138		<b>6 765 – 7 000</b> FIXED MOBILE except aeronautical mobile (R)  138
<b>7 000 – 7 100</b>	AMATEUR AMATEUR <sup>6</sup> SATELLITE 140 141 141A		<b>7 000 – 7 100</b> AMATEUR AMATEUR <sup>6</sup> SATELLITE
<b>7 100 – 7 200</b>	AMATEUR  141A 141B 142		<b>7 100 – 7 200</b> AMATEUR 142
<b>7 200 – 7 300</b> BROADCASTING	<b>7 200 – 7 300</b> AMATEUR 142	<b>7 200 – 7 300</b> BROADCASTING	<b>7 200 – 7 300</b> BROADCASTING
<b>7 300 – 7 400</b>	BROADCASTING 134  143 143A 143B 143C 143D		<b>7 300 – 7 400</b> BROADCASTING 134 143 143A
<b>7 400 – 7 450</b> BROADCASTING  143B 143C	<b>7 400 – 7 450</b> FIXED MOBILE except aeronautical mobile (R)	<b>7 400 – 7 450</b> BROADCASTING  143A 143C	<b>7 400 – 7450</b> BROADCASTING  143A
<b>7 450 – 8 100</b>	FIXED MOBILE except aeronautical mobile (R)  143E 144		<b>7 450 – 8100</b> FIXED MOBILE except aeronautical mobile (R)  144
<b>8 100 – 8 195</b>	FIXED MARITIME MOBILE		<b>8 100 – 8 195</b> FIXED MARITIME MOBILE
<b>8 195 – 8 815</b>	MARITIME MOBILE 109 110 132 145  111		<b>8 195 – 8 815</b> MARITIME MOBILE 109 110 132 145 111

**kHz**  
**8 815 – 10 150**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>8 815 – 8 965</b>	AERONAUTICAL MOBILE (R)		<b>8 815 – 8 965</b> AERONAUTICAL MOBILE (R)
<b>8 965 – 9 040</b>	AERONAUTICAL MOBILE (OR)		<b>8 965 – 9 040</b> AERONAUTICAL MOBILE (OR)
<b>9 040 – 9 305</b> FIXED	<b>9 040 – 9 400</b> FIXED	<b>9 040 – 9 305</b> FIXED	<b>9 040 – 9 305</b> FIXED
<b>9 305 – 9 355</b> FIXED Radiolocation 145A 145B		<b>9 305 – 9 355</b> FIXED Radiolocation 145A	<b>9 305 – 9 355</b> FIXED Radiolocation 145A
<b>9 355 – 9 400</b> FIXED		<b>9 355 – 9 400</b> FIXED	<b>9 355 – 9 400</b> FIXED
<b>9 400 – 9 500</b>	BROADCASTING 134 146		<b>9 400 – 9 500</b> BROADCASTING 134 146
<b>9 500 – 9 900</b>	BROADCASTING 147		<b>9 500 – 9 900</b> BROADCASTING 147
<b>9 900 – 9 995</b>	FIXED		<b>9 900 – 9 995</b> FIXED
<b>9 995 – 10 003</b>	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz)  111		<b>9 995 – 10 003</b> STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz)  111
<b>10 003 – 10 005</b>	STANDARD FREQUENCY AND TIME SIGNAL Space research  111		<b>10 003 – 10 005</b> STANDARD FREQUENCY AND TIME SIGNAL Space research  111
<b>10 005 – 10 100</b>	AERONAUTICAL MOBILE (R)  111		<b>10 005 – 10 100</b> AERONAUTICAL MOBILE (R)  111
<b>10 100 – 10 150</b>	FIXED Amateur		<b>10 100 – 10 150</b> FIXED Amateur

**kHz**  
**10 150 – 13 410**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>10 150– 11 175</b>	FIXED Mobile except aeronautical mobile (R)		<b>10 150 – 11 175</b> FIXED Mobile except aeronautical mobile (R)
<b>11 175 – 11 275</b>	AERONAUTICAL MOBILE (OR)		<b>11 175 – 11 275</b> AERONAUTICAL MOBILE (OR)
<b>11 275 – 11 400</b>	AERONAUTICAL MOBILE (R)		<b>11 275 – 11 400</b> AERONAUTICAL MOBILE (R)
<b>11 400 – 11 600</b>	FIXED		<b>11 400 – 11 600</b> FIXED
<b>11 600 – 11 650</b>	BROADCASTING 134 146		<b>11 600 – 11 650</b> BROADCASTING 134 146
<b>11 650 – 12 050</b>	BROADCASTING 147		<b>11 650 – 12 050</b> BROADCASTING 147
<b>12 050 – 12 100</b>	BROADCASTING 134 146		<b>12 050 – 12 100</b> BROADCASTING 134 146
<b>12 100 – 12 230</b>	FIXED		<b>12 100 – 12 230</b> FIXED
<b>12 230 – 13 200</b>	MARITIME MOBILE 109 110 132 145		<b>12 230 – 13 200</b> MARITIME MOBILE 109 110 132 145
<b>13 200 – 13 260</b>	AERONAUTICAL MOBILE (OR)		<b>13 200 – 13 260</b> AERONAUTICAL MOBILE (OR)
<b>13 260 – 13 360</b>	AERONAUTICAL MOBILE (R)		<b>13 260 – 13 360</b> AERONAUTICAL MOBILE (R)
<b>13 360 – 13 410</b>	FIXED RADIO ASTRONOMY 149		<b>13 360 – 13 410</b> FIXED RADIO ASTRONOMY 149

**kHz**  
**13 410 – 14 990**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>13 410 – 13 450</b>	FIXED Mobile except aeronautical mobile (R)		<b>13 410 – 13 450</b> FIXED Mobile except aeronautical mobile (R)
<b>13 450 – 13 550</b> FIXED Mobile except aeronautical mobile (R) Radiolocation 132A 149A	<b>13 450 – 13 550</b> FIXED Mobile except aeronautical mobile (R) Radiolocation 132A		<b>13 450 – 13 550</b> FIXED Mobile except aeronautical mobile (R) Radiolocation 132A
<b>13 550 – 13 570</b>	FIXED Mobile except aeronautical mobile (R)  150		<b>13 550 – 13 570</b> FIXED Mobile except aeronautical mobile (R) 150
<b>13 570 – 13 600</b>	BROADCASTING 134  151		<b>13 570 – 13 600</b> BROADCASTING 134 151
<b>13 600 – 13 800</b>	BROADCASTING		<b>13 600 – 13 800</b> BROADCASTING
<b>13 800 – 13 870</b>	BROADCASTING 134  151		<b>13 800 – 13 870</b> BROADCASTING 134 151
<b>13 870 – 14 000</b>	FIXED Mobile except aeronautical mobile (R)		<b>13 870 – 14 000</b> FIXED Mobile except aeronautical mobile (R)
<b>14 000 – 14 250</b>	AMATEUR AMATEUR6SATELLITE		<b>14 000 – 14 250</b> AMATEUR AMATEUR6SATELLITE
<b>14 250 – 14 350</b>	AMATEUR 152		<b>14 250 – 14 350</b> AMATEUR
<b>14 350 – 14 990</b>	FIXED Mobile except aeronautical mobile (R)		<b>14 350 – 14 990</b> FIXED Mobile except aeronautical mobile (R)

**kHz**  
**14 990 – 17 550**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>14 990 – 15 005</b>	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz)  111		<b>14 990 – 15 005</b> STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz)  111
<b>15 005 – 15 010</b>	STANDARD FREQUENCY AND TIME SIGNAL Space research		<b>15 005 – 15 010</b> STANDARD FREQUENCY AND TIME SIGNAL Space research
<b>15 010 – 15 100</b>	AERONAUTICAL MOBILE (OR)		<b>15 010 – 15 100</b> AERONAUTICAL MOBILE (OR)
<b>15 100 – 15 600</b>	BROADCASTING		<b>15 100 – 15 600</b> BROADCASTING
<b>15 600 – 15 800</b>	BROADCASTING 134 146		<b>15 600 – 15 800</b> BROADCASTING 134 146
<b>15 800 – 16 100</b>	FIXED  153		<b>15 800 – 16 100</b> FIXED 153
<b>16 100 – 16 200</b> FIXED Radiolocation 145A 145B	<b>16 100 – 16 200</b> FIXED RADIOLOCATION 145A	<b>16 100 – 16 200</b> FIXED Radiolocation 145A	<b>16 100 – 16 200</b> FIXED Mobile AUS75 Radiolocation 145A
<b>16 200 – 16 360</b>	FIXED		<b>16 200 – 16 360</b> FIXED
<b>16 360 – 17 410</b>	MARITIME MOBILE 109 110 132 145		<b>16 360 – 17 410</b> MARITIME MOBILE 109 110 132 145
<b>17 410 – 17 480</b>	FIXED		<b>17 410 – 17 480</b> FIXED
<b>17 480 – 17 550</b>	BROADCASTING 134  146		<b>17 480 – 17 550</b> BROADCASTING 134 146

**kHz**  
**17 550 – 19 990**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>17 550 – 17 900</b>	BROADCASTING		<b>17 550 – 17 900</b> BROADCASTING
<b>17 900 – 17 970</b>	AERONAUTICAL MOBILE (R)		<b>17 900 – 17 970</b> AERONAUTICAL MOBILE (R)
<b>17 970 – 18 030</b>	AERONAUTICAL MOBILE (OR)		<b>17 970 – 18 030</b> AERONAUTICAL MOBILE (OR)
<b>18 030 – 18 052</b>	FIXED		<b>18 030 – 18 052</b> FIXED
<b>18 052 – 18 068</b>	FIXED Space research		<b>18 052 – 18 068</b> FIXED Space research
<b>18 068 – 18 168</b>	AMATEUR AMATEUR <sup>6</sup> SATELLITE 154		<b>18 068 – 18 168</b> AMATEUR AMATEUR <sup>6</sup> SATELLITE
<b>18 168 – 18 780</b>	FIXED Mobile except aeronautical mobile		<b>18 168 – 18 780</b> FIXED Mobile except aeronautical mobile
<b>18 780 – 18 900</b>	MARITIME MOBILE		<b>18 780 – 18 900</b> MARITIME MOBILE
<b>18 900 – 19 020</b>	BROADCASTING 134 146		<b>18 900 – 19 020</b> BROADCASTING 134 146
<b>19 020 – 19 680</b>	FIXED		<b>19 020 – 19 680</b> FIXED
<b>19 680 – 19 800</b>	MARITIME MOBILE 132		<b>19 680 – 19 800</b> MARITIME MOBILE 132
<b>19 800 – 19 990</b>	FIXED		<b>19 800 – 19 990</b> FIXED

kHz 19 990 – 23 350			
Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
19 990 – 19 995	STANDARD FREQUENCY AND TIME SIGNAL Space research  111		19 990 – 19 995 STANDARD FREQUENCY AND TIME SIGNAL Space research 111
19 995 – 20 010	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz)  111		19 995 – 20 010 STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 111
20 010 – 21 000	FIXED Mobile		20 010 – 21 000 FIXED Mobile
21 000 – 21 450	AMATEUR AMATEUR6SATELLITE		21 000 – 21 450 AMATEUR AMATEUR6SATELLITE
21 450 – 21 850	BROADCASTING		21 450 – 21 850 BROADCASTING
21 850 – 21 870	FIXED 155A 155		21 850 – 21 870 FIXED
21 870 – 21 924	FIXED 155B		21 870 – 21 924 FIXED 155B
21 924 – 22 000	AERONAUTICAL MOBILE (R)		21 924 – 22 000 AERONAUTICAL MOBILE (R)
22 000 – 22 855	MARITIME MOBILE 132 156		22 000 – 22 855 MARITIME MOBILE 132
22 855 – 23 000	FIXED 156		22 855 – 23 000 FIXED
23 000 – 23 200	FIXED Mobile except aeronautical mobile (R)  156		23 000 – 23 200 FIXED Mobile except aeronautical mobile (R)
23 200 – 23 350	FIXED 156A AERONAUTICAL MOBILE (OR)		23 200 – 23 350 FIXED 156A AERONAUTICAL MOBILE (OR)

**kHz**  
**23 350– 26 100**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>23 350 – 24 000</b>	FIXED MOBILE except aeronautical mobile 157		<b>23 350 – 24 000</b> FIXED MOBILE except aeronautical mobile (R) 157
<b>24 000 – 24 450</b>	FIXED LAND MOBILE		<b>24 000 – 24 890</b> FIXED LAND MOBILE
<b>24 450 – 24 600</b> FIXED LAND MOBILE Radiolocation 132A 158	<b>24 450 – 24 650</b> FIXED LAND MOBILE RADIOLOCATION 132A	<b>24 450 – 24 600</b> FIXED LAND MOBILE Radiolocation 132A	<b>24 450 – 24 600</b> FIXED LAND MOBILE Radiolocation 132A
<b>24 600 – 24 890</b> FIXED LAND MOBILE	<b>24 650 – 24 890</b> FIXED LAND MOBILE	<b>24 600 – 24 890</b> FIXED LAND MOBILE	<b>24 600 – 24 890</b> FIXED LAND MOBILE
<b>24 890 – 24 990</b>	AMATEUR AMATEUR6SATELLITE		<b>24 890 – 24 990</b> AMATEUR AMATEUR6SATELLITE
<b>24 990 – 25 005</b>	STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)		<b>24 990 – 25 005</b> STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)
<b>25 005 – 25 010</b>	STANDARD FREQUENCY AND TIME SIGNAL Space research		<b>25 005 – 25 010</b> STANDARD FREQUENCY AND TIME SIGNAL Space research
<b>25 010 – 25 070</b>	FIXED MOBILE except aeronautical mobile		<b>25 010 – 25 070</b> FIXED MOBILE except aeronautical mobile (R)
<b>25 070 – 25 210</b>	MARITIME MOBILE		<b>25 070 – 25 210</b> MARITIME MOBILE
<b>25 210 – 25 550</b>	FIXED MOBILE except aeronautical mobile		<b>25 210 – 25 550</b> FIXED MOBILE except aeronautical mobile (R)
<b>25 550 – 25 670</b>	RADIO ASTRONOMY  149		<b>25 550 – 25 670</b> RADIO ASTRONOMY 149
<b>25 670 – 26 100</b>	BROADCASTING		<b>25 670 – 26 100</b> BROADCASTING



**kHz**  
**26 100 – 30 010**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>26 100 – 26 175</b>	MARITIME MOBILE 132		<b>26 100 – 26 175</b> MARITIME MOBILE 132
<b>26 175 – 26 200</b>	FIXED MOBILE except aeronautical mobile		<b>26 175 – 26 200</b> FIXED MOBILE except aeronautical mobile (R)
<b>26 200 – 26 350</b> FIXED MOBILE except aeronautical mobile Radiolocation 132A 133A	<b>26 200 – 26 420</b> FIXED MOBILE except aeronautical mobile RADIOLOCATION 132A	<b>26 200 – 26 350</b> FIXED MOBILE except aeronautical mobile Radiolocation 132A	<b>26 200 – 26 350</b> FIXED MOBILE except aeronautical mobile (R) Radiolocation 132A
<b>26 350 – 27 500</b> FIXED MOBILE except aeronautical mobile  150	<b>26 420 – 27 500</b> FIXED MOBILE except aeronautical mobile  150	<b>26 350 – 27 500</b> FIXED MOBILE except aeronautical mobile  150	<b>26 350 – 27 500</b> FIXED MOBILE except aeronautical mobile (R)  150
<b>27 500 – 28 000</b>	METEOROLOGICAL AIDS FIXED MOBILE		<b>27 500 – 28 000</b> METEOROLOGICAL AIDS FIXED MOBILE
<b>28 000 – 29 700</b>	AMATEUR AMATEUR6SATELLITE		<b>28 000 – 29 700</b> AMATEUR AMATEUR6SATELLITE
<b>29 700 – 30 005</b>	FIXED MOBILE		<b>29 700 – 30 005</b> FIXED MOBILE
<b>30 005 – 30 010</b>	SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH		<b>30 005 – 30 010</b> SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH

**MHz**  
**30.01 – 38.25**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>30.01 – 37.5</b>	FIXED MOBILE		<b>30.01 – 37.5</b> FIXED MOBILE
<b>37.5 – 38.25</b>	FIXED MOBILE Radio astronomy  149		<b>37.5 – 38.25</b> FIXED MOBILE Radio astronomy 149

**MHz**  
**38.25 – 44**

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

**MHz**  
**44 – 75.2**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
44 – 47	FIXED MOBILE 162 162A		44 – 47 FIXED MOBILE
47 – 68 BROADCASTING	47 – 50 FIXED MOBILE	47 – 50 FIXED MOBILE BROADCASTING 162A	47 – 50 FIXED MOBILE BROADCASTING
	50 – 54 AMATEUR 162A 166 167 167A 168 170		50 – 54 AMATEUR
	54 – 68 BROADCASTING Fixed Mobile	54 – 68 FIXED MOBILE BROADCASTING	54 – 68 FIXED MOBILE BROADCASTING
162A 163 164 165 169 171	172	162A	
68 – 74.8 FIXED MOBILE except aeronautical mobile	68 – 72 BROADCASTING Fixed Mobile 173	68 – 74.8 FIXED MOBILE	68 – 74.8 FIXED MOBILE
	72 – 73 FIXED MOBILE		
	73 – 74.6 RADIO ASTRONOMY 178		
	74.6 – 74.8 FIXED MOBILE		
149 175 177 179		149 176 179	149
74.8 – 75.2	AERONAUTICAL RADIONAVIGATION		74.8 – 75.2 AERONAUTICAL RADIONAVIGATION
	180 181		180

**MHz**  
**75.2 – 137.025**

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

**MHz**  
**137.025 – 138**

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

**MHz**  
**138 – 149.9**

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

**MHz**  
**149.9 – 156.7625**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>149.9 – 150.05</b>	MOBILE6SATELLITE (Earth-to-space) 209 224A RADIONAVIGATION6SATELLITE 224B  220 222 223		<b>149.9 – 150.05</b> MOBILE6SATELLITE (Earth-to-space) 209 224A RADIONAVIGATION6 SATELLITE 224B 220 222 223
<b>150.05 – 153</b> FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 149	<b>150.05 – 154</b> FIXED MOBILE  225		<b>150.05 – 154</b> FIXED MOBILE
<b>153 – 154</b> FIXED MOBILE except aeronautical mobile (R) Meteorological aids			
<b>154 – 156.4875</b> FIXED MOBILE except aeronautical mobile (R) 225A 226	<b>154 – 156.4875</b> FIXED MOBILE 226	<b>154 – 156.4875</b> FIXED MOBILE 225A 226	<b>154 – 156.4875</b> FIXED MOBILE 226
<b>156.4875 – 156.5625</b>	MARITIME MOBILE (distress and calling via DSC)  111 226 227		<b>156.4875 – 156.5625</b> MARITIME MOBILE (distress and calling via DSC) 111 226 227
<b>156.5625 – 156.7625</b> FIXED MOBILE except aeronautical mobile (R) 226	<b>156.5625 – 156.7625</b> FIXED MOBILE 225 226		<b>156.5625 – 156.7625</b> FIXED MOBILE 226



**MHz**  
**156.7625 – 174**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>156.7625 – 156.7875</b> MARITIME MOBILE Mobileósatellite (Earth-to-space) 111 226 228	<b>156.7625 – 156.7875</b> MARITIME MOBILE MOBILEóSATELLITE (Earth-to-space) 111 226 228	<b>156.7625 – 156.7875</b> MARITIME MOBILE Mobileósatellite (Earth-to-space) 111 226 228	<b>156.7625 – 156.7875</b> MARITIME MOBILE Mobileósatellite (Earth-to-space) 111 226 228
<b>156.7875 – 156.8125</b>	MARITIME MOBILE (distress and calling)  111 226		<b>156.7875 – 156.8125</b> MARITIME MOBILE (distress and calling) 111 226
<b>156.8125 – 156.8375</b> MARITIME MOBILE Mobileósatellite (Earth-to-space) 111 226 228	<b>156.8125 – 156.8375</b> MARITIME MOBILE MOBILEóSATELLITE (Earth-to-space) 111 226 228	<b>156.8125 – 156.8375</b> MARITIME MOBILE Mobileósatellite (Earth-to-space) 111 226 228	<b>156.8125 – 156.8375</b> MARITIME MOBILE Mobileósatellite (Earth-to-space) 111 226 228
<b>156.8375 – 161.9625</b> FIXED MOBILE except aeronautical mobile 226	<b>156.8375 – 161.9625</b> FIXED MOBILE  226		<b>156.8375 – 161.9625</b> FIXED MOBILE  226
<b>161.9625 – 161.9875</b> FIXED MOBILE except aeronautical mobile Mobileósatellite (Earth-to-space) 228F 226 228A 228B	<b>161.9625 – 161.9875</b> AERONAUTICAL MOBILE (OR) MARITIME MOBILE MOBILEóSATELLITE (Earth-to-space) 228C 228D	<b>161.9625 – 161.9875</b> MARITIME MOBILE Aeronautical mobile (OR) 228E Mobileósatellite (Earth-to-space) 228F 226	<b>161.9625 – 161.9875</b> MARITIME MOBILE Aeronautical mobile (OR) 228E Mobileósatellite (Earth-to-space) 228F 226
<b>161.9875 – 162.0125</b> FIXED MOBILE except aeronautical mobile 226 229	<b>161.9875 – 162.0125</b> FIXED MOBILE  226		<b>161.9875 – 162.0125</b> FIXED MOBILE  226
<b>162.0125 – 162.0375</b> FIXED MOBILE except aeronautical mobile Mobileósatellite (Earth-to-space) 228F 226 228A 228B 229	<b>162.0125 – 162.0375</b> AERONAUTICAL MOBILE (OR) MARITIME MOBILE MOBILEóSATELLITE (Earth-to-space) 228C 228D	<b>162.0125 – 162.0375</b> MARITIME MOBILE Aeronautical mobile (OR) 228E Mobileósatellite (Earth-to-space) 228F 226	<b>162.0125 – 162.0375</b> MARITIME MOBILE Aeronautical mobile (OR) 228E Mobileósatellite (Earth-to-space) 228F 226
<b>162.0375 – 174</b> FIXED MOBILE except aeronautical mobile 226 229	<b>162.0375 – 174</b> FIXED MOBILE  226 230 231 232		<b>162.0375 – 174</b> FIXED MOBILE  226

**MHz**  
**174 – 273**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>174 – 223</b> BROADCASTING     235 237 243	<b>174 – 216</b> BROADCASTING Fixed Mobile 234	<b>174 – 223</b> FIXED MOBILE BROADCASTING   233 238 240 245	<b>174 – 223</b> FIXED MOBILE BROADCASTING
	<b>216 – 220</b> FIXED MARITIME MOBILE Radiolocation 241 242		
	<b>220 – 225</b> AMATEUR FIXED MOBILE Radiolocation 241		
<b>223 – 230</b> BROADCASTING Fixed Mobile  243 246 247	<b>225 – 235</b> FIXED MOBILE	<b>223 – 230</b> FIXED MOBILE BROADCASTING AERONAUTICAL RADIONAVIGATION Radiolocation 250	<b>223 – 230</b> FIXED MOBILE BROADCASTING AERONAUTICAL RADIONAVIGATION Radiolocation
		<b>230 – 235</b> FIXED MOBILE AERONAUTICAL RADIONAVIGATION 250	<b>230 – 235</b> FIXED MOBILE AERONAUTICAL RADIONAVIGATION
<b>235 – 267</b>	FIXED MOBILE  111 252 254 256 256A		<b>235 – 267</b> FIXED MOBILE 111 254 256
<b>267 – 272</b>	FIXED MOBILE Space operation (space-to-Earth)  254 257		<b>267 – 272</b> FIXED MOBILE Space operation (space-to-Earth) 254 257
<b>272 – 273</b>	SPACE OPERATION (space-to-Earth) FIXED MOBILE  254		<b>272 – 273</b> SPACE OPERATION (space-to-Earth) FIXED MOBILE

**MHz**  
**273 – 399.9**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>273 – 312</b>	FIXED MOBILE  254		<b>273 – 312</b> FIXED MOBILE 254
<b>312 – 315</b>	FIXED MOBILE Mobileósatellite (Earth-to-space) 254 255		<b>312 – 315</b> FIXED MOBILE Mobileósatellite (Earth-to-space) 254 255
<b>315 – 322</b>	FIXED MOBILE  254		<b>315 – 322</b> FIXED MOBILE 254
<b>322 – 328.6</b>	FIXED MOBILE RADIO ASTRONOMY  149		<b>322 – 328.6</b> FIXED MOBILE RADIO ASTRONOMY 149
<b>328.6 – 335.4</b>	AERONAUTICAL RADIONAVIGATION 258  259		<b>328.6 – 335.4</b> AERONAUTICAL RADIONAVIGATION 258
<b>335.4 – 387</b>	FIXED MOBILE  254		<b>335.4 – 387</b> FIXED MOBILE  254
<b>387 – 390</b>	FIXED MOBILE Mobileósatellite (space-to-Earth) 208A 208B 254 255		<b>387 – 390</b> FIXED MOBILE Mobileósatellite (space-to-Earth) 208A 208B 254 255
<b>390 – 399.9</b>	FIXED MOBILE  254		<b>390 – 399.9</b> FIXED MOBILE 254

**MHz**  
**399.9 – 402**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>399.9 – 400.05</b>	MOBILE $\delta$ SATELLITE (Earth-to-space) 209 224A RADIONAVIGATION $\delta$ SATELLITE 222 224B 260  220		<b>399.9 – 400.05</b> MOBILE $\delta$ SATELLITE (Earth-to-space) 209 224A RADIONAVIGATION $\delta$ SATELLITE 222 224B 260 220
<b>400.05 – 400.15</b>	STANDARD FREQUENCY AND TIME SIGNAL $\delta$ SATELLITE (400.1 MHz)  261 262		<b>400.05 – 400.15</b> STANDARD FREQUENCY AND TIME SIGNAL $\delta$ SATELLITE (400.1 MHz) 261
<b>400.15 – 401</b>	METEOROLOGICAL AIDS METEOROLOGICAL $\delta$ SATELLITE (space-to-Earth) MOBILE $\delta$ SATELLITE (space-to-Earth) 208A 208B 209 SPACE RESEARCH (space-to-Earth) 263 Space operation (space-to-Earth)  262 264		<b>400.15 – 401</b> METEOROLOGICAL AIDS METEOROLOGICAL $\delta$ SATELLITE (space-to- Earth) MOBILE $\delta$ SATELLITE (space-to-Earth) 208A 208B 209 SPACE RESEARCH (space- to-Earth) 263 Space operation (space-to- Earth) 264
<b>401 – 402</b>	METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION $\delta$ SATELLITE (Earth-to-space) METEOROLOGICAL $\delta$ SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile		<b>401 – 402</b> EARTH EXPLORATION $\delta$ SATELLITE (Earth-to- space) METEOROLOGICAL AIDS METEOROLOGICAL $\delta$ SATELLITE (Earth-to- space) SPACE OPERATION (space- to-Earth) Fixed Mobile except aeronautical mobile (R)

MHz 402 ó 430			
Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>402 – 403</b>	METEOROLOGICAL AIDS EARTH EXPLORATIONóSATELLITE (Earth-to-space) METEOROLOGICALóSATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile		<b>402 – 403</b> EARTH EXPLORATIONó SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICALó SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile (R)
<b>403 – 406</b>	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile		<b>403 – 406</b> METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile
<b>406 – 406.1</b>	MOBILEóSATELLITE (Earth-to-space)  266 267		<b>406 – 406.1</b> MOBILEóSATELLITE (Earth-to-space) 266 267
<b>406.1 – 410</b>	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY  149		<b>406.1 – 410</b> FIXED MOBILE except aeronautical mobile (R) RADIO ASTRONOMY Radiolocation AUS29 149 AUS98
<b>410 – 420</b>	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 268		<b>410 – 420</b> FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 268
<b>420 – 430</b>	FIXED MOBILE except aeronautical mobile Radiolocation  269 270 271		<b>420 – 430</b> FIXED MOBILE except aeronautical mobile Radiolocation

**MHz**  
**430 – 460**

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

**MHz**  
**460 – 890**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>460 – 470</b>	FIXED MOBILE 286AA Meteorological satellite (space-to-Earth)  287 288 289 290		<b>460 – 470</b> FIXED MOBILE 286AA Meteorological satellite (space-to-Earth) 287 289
<b>470 – 790</b> BROADCASTING          149 291A 294 296 300 304 306 311A 312 312A	<b>470 – 512</b> BROADCASTING Fixed Mobile 292 293	<b>470 – 585</b> FIXED MOBILE BROADCASTING	<b>470 – 585</b> FIXED MOBILE BROADCASTING
	<b>512 – 608</b> BROADCASTING 297	291 298	
	<b>608 – 614</b> RADIO ASTRONOMY Mobile satellite except aeronautical mobile satellite (Earth-to-space)	<b>585 – 610</b> FIXED MOBILE BROADCASTING RADIONAVIGATION 149 305 306 307	<b>585 – 610</b> FIXED MOBILE BROADCASTING RADIONAVIGATION 149 306
	<b>614 – 698</b> BROADCASTING Fixed Mobile 293 309 311A	<b>610 – 890</b> FIXED MOBILE 313A 317A BROADCASTING	<b>610 – 890</b> FIXED MOBILE 317A BROADCASTING
	<b>698 – 806</b> MOBILE 313B 317A BROADCASTING Fixed 293 309 311A		
<b>790 – 862</b> FIXED MOBILE except aeronautical mobile 316B 317A BROADCASTING 312 314 315 316 316A 319	<b>806 – 890</b> FIXED MOBILE 317A BROADCASTING		
<b>862 – 890</b> FIXED MOBILE except aeronautical mobile 317A BROADCASTING 322 319 323	317 318	149 305 306 307 311A 320	149 306 311A 320 KIR1

**MHz**

Column 1: ITU Radio Regulations - Table of Frequency Allocations		Column 2:	
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>890 – 942</b> FIXED MOBILE except aeronautical mobile 317A BROADCASTING 322 Radiolocation       323	<b>890 – 902</b> FIXED MOBILE except aeronautical mobile 317A Radiolocation 318 325	<b>890 – 942</b> FIXED MOBILE 317A BROADCASTING Radiolocation       327	<b>890 – 942</b> FIXED MOBILE 317A BROADCASTING Radiolocation
	<b>902 – 928</b> FIXED Amateur Mobile except aeronautical mobile 325A Radiolocation 150 325 326		
	<b>928 – 942</b> FIXED MOBILE except aeronautical mobile 317A Radiolocation 325		
<b>942 – 960</b> FIXED MOBILE except aeronautical mobile 317A BROADCASTING 322 323	<b>942 – 960</b> FIXED MOBILE 317A	<b>942 – 960</b> FIXED MOBILE 317A BROADCASTING   320	<b>942 – 960</b> FIXED MOBILE 317A BROADCASTING   320
<b>960 – 1 164</b>	AERONAUTICAL RADIONAVIGATION 328 AERONAUTICAL MOBILE (R) 327A		<b>960 – 1 164</b> AERONAUTICAL RADIONAVIGATION 328 AERONAUTICAL MOBILE (R) 327A
<b>1 164 – 1 215</b>	AERONAUTICAL RADIONAVIGATION 328 RADIONAVIGATION <sup>6</sup> SATELLITE (space-to-Earth) (space-to-space) 328B      328A		<b>1 164 – 1 215</b> AERONAUTICAL RADIONAVIGATION 328 RADIONAVIGATION <sup>6</sup> SATELLITE (space-to-Earth) (space-to-space) 328B 328A



**MHz**  
**1 215 – 1 427**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>1 215 – 1 240</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (active) RADIOLOCATION RADIONAVIGATION <sup>6</sup> SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active)  330 331 332		<b>1 215 – 1 240</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (active) RADIOLOCATION RADIONAVIGATION <sup>6</sup> SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active) 332
<b>1 240 – 1 300</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (active) RADIOLOCATION RADIONAVIGATION <sup>6</sup> SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active) Amateur  282 330 331 332 335 335A		<b>1 240 – 1 300</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (active) RADIOLOCATION RADIONAVIGATION <sup>6</sup> SATELLITE (space-to-Earth) (space-to-space) 328B 329 329A SPACE RESEARCH (active) Amateur 282 332 335A
<b>1 300 – 1 350</b>	AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION RADIONAVIGATION <sup>6</sup> SATELLITE (Earth-to-space)  149 337A		<b>1 300 – 1 350</b> AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION RADIONAVIGATION <sup>6</sup> SATELLITE (Earth-to-space) 149 337A
<b>1 350 – 1 400</b> FIXED MOBILE RADIOLOCATION 149 338 338A 339	<b>1 350 – 1 400</b> RADIOLOCATION 338A  149 334 339		<b>1 350 – 1 400</b> RADIOLOCATION 338A  149 338A 339
<b>1 400 – 1 427</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340 341		<b>1 400 – 1 427</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341

**MHz**  
**1 427 – 1 530**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>1 427 – 1 429</b>	SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile  338A 341		<b>1 427 – 1 429</b> SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 338A 341
<b>1 429 – 1 452</b> FIXED MOBILE except aeronautical mobile 338A 341 342	<b>1 429 – 1 452</b> FIXED MOBILE 343  338A 341		<b>1 429 – 1 452</b> FIXED MOBILE  338A 341
<b>1 452 – 1 492</b> FIXED MOBILE except aeronautical mobile BROADCASTING 345 BROADCASTING <sup>6</sup> SATELLITE 208B 345 341 342	<b>1 452 – 1 492</b> FIXED MOBILE 343 BROADCASTING 345 BROADCASTING <sup>6</sup> SATELLITE 208B 345  341 344		<b>1 452 – 1 492</b> FIXED MOBILE 343 BROADCASTING 345 BROADCASTING <sup>6</sup> SATELLITE 208B 345  341
<b>1 492 – 1 518</b> FIXED MOBILE except aeronautical mobile 341 342	<b>1 492 – 1 518</b> FIXED MOBILE 343  341 344	<b>1 492 – 1 518</b> FIXED MOBILE  341	<b>1 492 – 1 518</b> FIXED MOBILE  341
<b>1 518 – 1 525</b> FIXED MOBILE except aeronautical mobile MOBILE <sup>6</sup> SATELLITE (space-to-Earth) 348 348A 348B 351A 341 342	<b>1 518 – 1 525</b> FIXED MOBILE 343 MOBILE <sup>6</sup> SATELLITE (space-to-Earth) 348 348A 348B 351A  341 344	<b>1 518 – 1 525</b> FIXED MOBILE MOBILE <sup>6</sup> SATELLITE (space-to-Earth) 348 348A 348B 351A  341	<b>1 518 – 1 525</b> FIXED MOBILE 343 MOBILE <sup>6</sup> SATELLITE (space-to-Earth) 348 348A 348B 351A  341
<b>1 525 – 1 530</b> SPACE OPERATION (space-to-Earth) FIXED MOBILE <sup>6</sup> SATELLITE (space-to-Earth) 208B 351A Earth exploration <sup>6</sup> satellite Mobile except aeronautical mobile 349 341 342 350 351 352A 354	<b>1 525 – 1 530</b> SPACE OPERATION (space-to-Earth) MOBILE <sup>6</sup> SATELLITE (space-to-Earth) 208B 351A Earth exploration <sup>6</sup> satellite Fixed Mobile 343  341 351 354	<b>1 525 – 1 530</b> SPACE OPERATION (space-to-Earth) FIXED MOBILE <sup>6</sup> SATELLITE (space-to-Earth) 208B 351A Earth exploration <sup>6</sup> satellite Mobile 349  341 351 352A 354	<b>1 525 – 1 530</b> SPACE OPERATION (space-to-Earth) FIXED MOBILE <sup>6</sup> SATELLITE (space-to-Earth) 208B 351A Earth exploration <sup>6</sup> satellite Mobile 349  341 351 352A 354

**MHz**  
**1 530 – 1 613.8**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>1 530 – 1 535</b> SPACE OPERATION (space-to-Earth) MOBILEóSATELLITE (space-to-Earth) 208B 351A 353A Earth explorationósatellite Fixed Mobile except aeronautical mobile 341 342 351 354	<b>1 530 – 1 535</b> SPACE OPERATION (space-to-Earth) MOBILEóSATELLITE (space-to-Earth) 208B 351A 353A Earth explorationósatellite Fixed Mobile 343 341 351 354		<b>1 530 – 1 535</b> SPACE OPERATION (space-to-Earth) MOBILEóSATELLITE (space-to-Earth) 208B 351A 353A Earth explorationósatellite Fixed Mobile 343 341 351 354
<b>1 535 – 1 559</b>	MOBILEóSATELLITE (space-to-Earth) 208B 351A 341 351 353A 354 355 356 357 357A 359 362A		<b>1 535 – 1 559</b> MOBILEóSATELLITE (space-to-Earth) 208B 351A 341 351 353A 354 356 357 357A 362A
<b>1 559 – 1 610</b>	AERONAUTICAL RADIONAVIGATION RADIONAVIGATIONóSATELLITE (space-to-Earth) (space-to-space) 208B 328B 329A 341 362B 362C		<b>1 559 – 1 610</b> AERONAUTICAL RADIONAVIGATION RADIONAVIGATIONóSATELLITE (space-to-Earth) (space-to-space) 208B 328B 329A 341
<b>1 610 – 1 610.6</b> MOBILEóSATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION 341 355 359 364 366 367 368 369 371 372	<b>1 610 – 1 610.6</b> MOBILEóSATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION RADIODETERMINATIONóSATELLITE (Earth-to-space) 341 364 366 367 368 370 372	<b>1 610 – 1 610.6</b> MOBILEóSATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION Radiodeterminationósatellite (Earth-to-space) 341 355 359 364 366 367 368 369 372	<b>1 610 – 1 610.6</b> MOBILEóSATELLITE (Earth-to-space) 351A AERONAUTICAL RADIONAVIGATION Radiodeterminationósatellite (Earth-to-space) 341 364 366 367 368 369 372
<b>1 610.6 – 1 613.8</b> MOBILEóSATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 149 341 355 359 364 366 367 368 369 371 372	<b>1 610.6 – 1 613.8</b> MOBILEóSATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION RADIODETERMINATIONóSATELLITE (Earth-to-space) 149 341 364 366 367 368 370 372	<b>1 610.6 – 1 613.8</b> MOBILEóSATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION Radiodeterminationósatellite (Earth-to-space) 149 341 355 359 364 366 367 368 369 372	<b>1 610.6 – 1 613.8</b> MOBILEóSATELLITE (Earth-to-space) 351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION Radiodeterminationósatellite (Earth-to-space) 149 341 364 366 367 368 369 372

**MHz**  
**1 613.8 – 1 668.4**

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

**MHz**  
**1 668.4 – 1 710**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>1 668.4 – 1 670</b>	METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE6SATELLITE (Earth-to-space) 351A 379B 379C RADIO ASTRONOMY  149 341 379D 379E		<b>1 668.4 – 1 670</b> METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE6SATELLITE (Earth-to-space) 351A 379B 379C RADIO ASTRONOMY 149 341 379D 379E
<b>1 670 – 1 675</b>	METEOROLOGICAL AIDS FIXED METEOROLOGICAL6SATELLITE (space-to-Earth) MOBILE MOBILE6SATELLITE (Earth-to-space) 351A 379B  341 379D 379E 380A		<b>1 670 – 1 675</b> METEOROLOGICAL AIDS FIXED METEOROLOGICAL6SATELLITE (space-to-Earth) MOBILE MOBILE6SATELLITE (Earth-to-space) 351A 379B 341 379D 379E 380A
<b>1 675 – 1 690</b>	METEOROLOGICAL AIDS FIXED METEOROLOGICAL6SATELLITE (space-to-Earth) MOBILE except aeronautical mobile  341		<b>1 675 – 1 690</b> METEOROLOGICAL AIDS FIXED METEOROLOGICAL6SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 341
<b>1 690 – 1 700</b> METEOROLOGICAL AIDS METEOROLOGICAL6SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile 289 341 382	<b>1 690 – 1 700</b> METEOROLOGICAL AIDS METEOROLOGICAL6SATELLITE (space-to-Earth)  289 341 381		<b>1 690 – 1 700</b> METEOROLOGICAL AIDS METEOROLOGICAL6SATELLITE (space-to-Earth)  289 341
<b>1 700 – 1 710</b> FIXED METEOROLOGICAL6SATELLITE (space-to-Earth) MOBILE except aeronautical mobile  289 341		<b>1 700 – 1 710</b> FIXED METEOROLOGICAL6SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 289 341 384	<b>1 700 – 1 710</b> FIXED METEOROLOGICAL6SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 289 341

**MHz**  
**1 710 – 2 120**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>1 710 – 1 930</b>	FIXED MOBILE 384A 388A 388B  149 341 385 386 387 388		<b>1 710 – 1 930</b> FIXED MOBILE 384A 388A 149 341 385 386 388
<b>1 930 – 1 970</b> FIXED MOBILE 388A 388B  388	<b>1 930 – 1 970</b> FIXED MOBILE 388A 388B Mobile6satellite (Earth-to-space) 388	<b>1 930 – 1 970</b> FIXED MOBILE 388A 388B  388	<b>1 930 – 1 970</b> FIXED MOBILE 388A  388
<b>1 970 – 1 980</b>	FIXED MOBILE 388A 388B  388		<b>1 970 – 1 980</b> FIXED MOBILE 388A 388
<b>1 980 – 2 010</b>	FIXED MOBILE MOBILE6SATELLITE (Earth-to-space) 351A  388 389A 389B 389F		<b>1 980 – 2 010</b> FIXED MOBILE MOBILE6SATELLITE (Earth-to-space) 351A 388 389A
<b>2 010 – 2 025</b> FIXED MOBILE 388A 388B  388	<b>2 010 – 2 025</b> FIXED MOBILE MOBILE6SATELLITE (Earth-to-space) 388 389C 389E	<b>2 010 – 2 025</b> FIXED MOBILE 388A 388B  388	<b>2 010 – 2 025</b> FIXED MOBILE 388A  388
<b>2 025 – 2 110</b>	SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION6SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 391 SPACE RESEARCH (Earth-to-space) (space-to-space)  392		<b>2 025 – 2 110</b> SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION6 SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 391 SPACE RESEARCH (Earth-to-space) (space-to-space) 392
<b>2 110 – 2 120</b>	FIXED MOBILE 388A 388B SPACE RESEARCH (deep space) (Earth-to-space)  388		<b>2 110 – 2 120</b> FIXED MOBILE 388A SPACE RESEARCH (deep space) (Earth-to-space) 388

**MHz**  
**2 120 – 2 483.5**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>2 120 – 2 160</b> FIXED MOBILE 388A 388B  388	<b>2 120 – 2 160</b> FIXED MOBILE 388A 388B Mobile6satellite (space-to-Earth) 388	<b>2 120 – 2 160</b> FIXED MOBILE 388A 388B  388	<b>2 120 – 2 170</b> FIXED MOBILE 388A  388
<b>2 160 – 2 170</b> FIXED MOBILE 388A 388B  388	<b>2 160 – 2 170</b> FIXED MOBILE MOBILE6SATELLITE (space-to-Earth) 388 389C 389E	<b>2 160 – 2 170</b> FIXED MOBILE 388A 388B  388	
<b>2 170 – 2 200</b>	FIXED MOBILE MOBILE6SATELLITE (space-to-Earth) 351A  388 389A 389F		<b>2 170 – 2 200</b> FIXED MOBILE MOBILE6SATELLITE (space-to-Earth) 351A 388 389A
<b>2 200 – 2 290</b>	SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION6SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 391 SPACE RESEARCH (space-to-Earth) (space-to-space)  392		<b>2 200 – 2 290</b> SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION6 SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 391 SPACE RESEARCH (space-to-Earth) (space-to-space) 392
<b>2 290 – 2 300</b>	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)		<b>2 290 – 2 300</b> FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)
<b>2 300 – 2 450</b> FIXED MOBILE 384A Amateur Radiolocation 150 282 395	<b>2 300 – 2 450</b> FIXED MOBILE 384A RADIOLOCATION Amateur 150 282 393 394 396		<b>2 300 – 2 450</b> FIXED MOBILE 384A RADIOLOCATION Amateur 150 282
<b>2 450 – 2 483.5</b> FIXED MOBILE Radiolocation 150	<b>2 450 – 2 483.5</b> FIXED MOBILE RADIOLOCATION 150		<b>2 450 – 2 483.5</b> FIXED MOBILE RADIOLOCATION 150

**MHz**  
**2 483.5 – 2 655**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>2 483.5 – 2 500</b> FIXED MOBILE MOBILE $\delta$ SATELLITE (space-to-Earth) 351A RADIO $\delta$ TERMINATION $\delta$ SATELLITE (space-to-Earth) 398 Radiolocation 398A 150 399 401 402	<b>2 483.5 – 2 500</b> FIXED MOBILE MOBILE $\delta$ SATELLITE (space-to-Earth) 351A RADIOLOCATION RADIO $\delta$ TERMINATION $\delta$ SATELLITE (space-to-Earth) 398 150 402	<b>2 483.5 – 2 500</b> FIXED MOBILE MOBILE $\delta$ SATELLITE (space-to-Earth) 351A RADIOLOCATION RADIO $\delta$ TERMINATION $\delta$ SATELLITE (space-to-Earth) 398 150 401 402	<b>2 483.5 – 2 500</b> FIXED MOBILE MOBILE $\delta$ SATELLITE (space-to-Earth) 351A RADIOLOCATION RADIO $\delta$ TERMINATION $\delta$ SATELLITE (space-to-Earth) 398 150 401 402
<b>2 500 – 2 520</b> FIXED 410 MOBILE except aeronautical mobile 384A  412	<b>2 500 – 2 520</b> FIXED 410 FIXED $\delta$ SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A  404	<b>2 500 – 2 520</b> FIXED 410 FIXED $\delta$ SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A MOBILE $\delta$ SATELLITE (space-to-Earth) 351A 407 414 414A 404 415A	<b>2 500 – 2 520</b> FIXED 410 FIXED $\delta$ SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A MOBILE $\delta$ SATELLITE (space-to-Earth) 351A 407 414 414A
<b>2 520 – 2 655</b> FIXED 410 MOBILE except aeronautical mobile 384A BROADCASTING $\delta$ SATELLITE 413 416      339 412 417C 417D 418B 418C	<b>2 520 – 2 655</b> FIXED 410 FIXED $\delta$ SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTING $\delta$ SATELLITE 413 416    339 417C 417D 418B 418C	<b>2 520 – 2 535</b> FIXED 410 FIXED $\delta$ SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTING $\delta$ SATELLITE 413 416 403 414A 415A	<b>2 520 – 2 535</b> FIXED 410 FIXED $\delta$ SATELLITE (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTING $\delta$ SATELLITE 413 416 403
		<b>2 535 – 2 655</b> FIXED 410 MOBILE except aeronautical mobile 384A BROADCASTING $\delta$ SATELLITE 413 416 339 417A 417B 417C 417D 418 418A 418B 418C	<b>2 535 – 2 655</b> FIXED 410 MOBILE except aeronautical mobile 384A BROADCASTING $\delta$ SATELLITE 413 416 339 417C 417D 418B 418C



**MHz**  
**2 655 – 3 100**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>2 655 – 2 670</b> FIXED 410 MOBILE except aeronautical mobile 384A BROADCASTINGó SATELLITE 208B 413 416 Earth explorationósatellite (passive) Radio astronomy Space research (passive)  149 412	<b>2 655 – 2 670</b> FIXED 410 FIXEDóSATELLITE (Earth-to-space) (space-to-Earth) 415 MOBILE except aeronautical mobile 384A BROADCASTINGó SATELLITE 413 416 Earth explorationósatellite (passive) Radio astronomy Space research (passive)  149 208B	<b>2 655 – 2 670</b> FIXED 410 FIXEDóSATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A BROADCASTINGó SATELLITE 413 416 Earth explorationósatellite (passive) Radio astronomy Space research (passive)  149 208B 420	<b>2 655 – 2 670</b> FIXED 410 FIXEDóSATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A BROADCASTINGó SATELLITE 413 416 Earth explorationósatellite (passive) Radio astronomy Space research (passive)  149 208B 420
<b>2 670 – 2 690</b> FIXED 410 MOBILE except aeronautical mobile 384A Earth explorationósatellite (passive) Radio astronomy Space research (passive)  149 412	<b>2 670 – 2 690</b> FIXED 410 FIXEDóSATELLITE (Earth-to-space) (space-to-Earth) 208B 415 MOBILE except aeronautical mobile 384A Earth explorationósatellite (passive) Radio astronomy Space research (passive)  149	<b>2 670 – 2 690</b> FIXED 410 FIXEDóSATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A MOBILEóSATELLITE (Earth-to-space) 351A 419 Earth explorationósatellite (passive) Radio astronomy Space research (passive)  149	<b>2 670 – 2 690</b> FIXED 410 FIXEDóSATELLITE (Earth-to-space) 415 MOBILE except aeronautical mobile 384A MOBILEóSATELLITE (Earth-to-space) 351A 419 Earth explorationósatellite (passive) Radio astronomy Space research (passive)  149
<b>2 690 – 2 700</b>	EARTH EXPLORATIONóSATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340 422		<b>2 690 – 2 700</b> EARTH EXPLORATIONóSATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340
<b>2 700 – 2 900</b>	AERONAUTICAL RADIONAVIGATION 337 Radiolocation  423 424		<b>2 700 – 2 900</b> AERONAUTICAL RADIONAVIGATION 337 Radiolocation 423
<b>2 900 – 3 100</b>	RADIOLOCATION 424A RADIONAVIGATION 426  425 427		<b>2 900 – 3 100</b> RADIOLOCATION 424A RADIONAVIGATION 426 425 427

**MHz**  
**3 100 – 4 400**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>3 100 – 3 300</b>	<b>RADIOLOCATION</b> Earth exploration satellite (active) Space research (active)  149 428		<b>3 100 – 3 300</b> <b>RADIOLOCATION</b> Earth exploration satellite (active) Space research (active) 149
<b>3 300 – 3 400</b> <b>RADIOLOCATION</b>  149 429 430	<b>3 300 – 3 400</b> <b>RADIOLOCATION</b> Amateur Fixed Mobile 149	<b>3 300 – 3 400</b> <b>RADIOLOCATION</b> Amateur  149 429	<b>3 300 – 3 400</b> <b>RADIOLOCATION</b> Amateur  149
<b>3 400 – 3 600</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) Mobile 430A Radiolocation  431	<b>3 400 – 3 500</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) Amateur Mobile 431A Radiolocation 433 282	<b>3 400 – 3 500</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) Amateur Mobile 432B Radiolocation 433 282 432 432A	<b>3 400 – 3 500</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) Amateur Mobile 432B Radiolocation 433 282
	<b>3 500 – 3 700</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) <b>MOBILE</b> except aeronautical mobile Radiolocation 433	<b>3 500 – 3 600</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) <b>MOBILE</b> except aeronautical mobile 433A Radiolocation 433	<b>3 500 – 3 600</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) <b>MOBILE</b> except aeronautical mobile 433A Radiolocation 433
<b>3 600 – 4 200</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) Mobile		<b>3 600 – 3 700</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) <b>MOBILE</b> except aeronautical mobile Radiolocation 435	<b>3 600 – 3 700</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) <b>MOBILE</b> except aeronautical mobile Radiolocation
	<b>3 700 – 4 200</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) <b>MOBILE</b> except aeronautical mobile		<b>3 700 – 4 200</b> <b>FIXED</b> <b>FIXED</b> 6SATELLITE (space-to-Earth) <b>MOBILE</b> except aeronautical mobile
<b>4 200 – 4 400</b>	<b>AERONAUTICAL RADIONAVIGATION</b> 438  439 440		<b>4 200 – 4 400</b> <b>AERONAUTICAL RADIONAVIGATION</b> 438 440

**MHz**  
**4 400 – 5 030**

[illegible]

**MHz**  
**5 030 – 5 350**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>5 030 – 5 091</b>	AERONAUTICAL MOBILE (R) 443C AERONAUTICAL MOBILE6SATELLITE (R) 443D AERONAUTICAL RADIONAVIGATION  444		<b>5 030 – 5 091</b> AERONAUTICAL MOBILE (R) 443C AERONAUTICAL MOBILE6SATELLITE (R) 443D AERONAUTICAL RADIONAVIGATION 444
<b>5 091 – 5 150</b>	AERONAUTICAL MOBILE 444B AERONAUTICAL MOBILE6SATELLITE (R) 443AA AERONAUTICAL RADIONAVIGATION  444 444A		<b>5 091 – 5 150</b> AERONAUTICAL MOBILE6SATELLITE (R) 443AA AERONAUTICAL RADIONAVIGATION AERONAUTICAL MOBILE 444B 444 444A
<b>5 150 – 5 250</b>	AERONAUTICAL RADIONAVIGATION FIXED6SATELLITE (Earth-to-space) 447A MOBILE except aeronautical mobile 446A 446B  446 446C 447 447B 447C		<b>5 150 – 5 250</b> AERONAUTICAL RADIONAVIGATION FIXED6SATELLITE (Earth-to-space) 447A MOBILE except aeronautical mobile 446A 446B 446 447B 447C
<b>5 250 – 5 255</b>	EARTH EXPLORATION6SATELLITE (active) RADIOLOCATION SPACE RESEARCH 447D MOBILE except aeronautical mobile 446A 447F  447E 448 448A		<b>5 250 – 5 255</b> EARTH EXPLORATION6SATELLITE (active) RADIOLOCATION SPACE RESEARCH 447D MOBILE except aeronautical mobile 446A 447F 447E 448A
<b>5 255 – 5 350</b>	EARTH EXPLORATION6SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 446A 447F  447E 448 448A		<b>5 255 – 5 350</b> EARTH EXPLORATION6SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 446A 447F 447E 448A

**MHz**  
**5 350 – 5 725**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>5 350 – 5 460</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (active) 448B SPACE RESEARCH (active) 448C AERONAUTICAL RADIONAVIGATION 449 RADIOLOCATION 448D		<b>5 350 – 5 460</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (active) 448B SPACE RESEARCH (active) 448C AERONAUTICAL RADIONAVIGATION 449 RADIOLOCATION 448D
<b>5 460 – 5 470</b>	RADIONAVIGATION 449 EARTH EXPLORATION <sup>6</sup> SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 448D  448B		<b>5 460 – 5 470</b> RADIONAVIGATION 449 EARTH EXPLORATION <sup>6</sup> SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 448D 448B
<b>5 470 – 5 570</b>	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A EARTH EXPLORATION <sup>6</sup> SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 450B  448B 450 451		<b>5 470 – 5 570</b> MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A EARTH EXPLORATION <sup>6</sup> SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 450B 448B
<b>5 570 – 5 650</b>	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A RADIOLOCATION 450B  450 451 452		<b>5 570 – 5 650</b> MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 446A 450A RADIOLOCATION 450B 452
<b>5 650 – 5 725</b>	RADIOLOCATION MOBILE except aeronautical mobile 446A 450A Amateur Space research (deep space)  282 451 453 454 455		<b>5 650 – 5 725</b> RADIOLOCATION MOBILE except aeronautical mobile 446A 450A Amateur Space research (deep space) 282

**MHz**  
**5 725 – 7 250**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>5 725 – 5 830</b> FIXED <sup>6</sup> SATELLITE (Earth-to-space) RADIOLOCATION Amateur 150 451 453 455 456	<b>5 725 – 5 830</b> RADIOLOCATION Amateur  150 453 455		<b>5 725 – 5 830</b> RADIOLOCATION Amateur  150
<b>5 830 – 5 850</b> FIXED <sup>6</sup> SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur <sup>6</sup> satellite (space-to-Earth) 150 451 453 455 456	<b>5 830 – 5 850</b> RADIOLOCATION Amateur Amateur <sup>6</sup> satellite (space-to-Earth)  150 453 455		<b>5 830 – 5 850</b> RADIOLOCATION Amateur Amateur <sup>6</sup> satellite (space-to-Earth)  150
<b>5 850 – 5 925</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) MOBILE  150	<b>5 850 – 5 925</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) MOBILE Amateur Radiolocation 150	<b>5 850 – 5 925</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) MOBILE Radiolocation  150	<b>5 850 – 5 925</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) MOBILE Radiolocation  150
<b>5 925 – 6 700</b>	FIXED 457 FIXED <sup>6</sup> SATELLITE (Earth-to-space) 457A 457B MOBILE 457C  149 440 458		<b>5 925 – 6 700</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) 457A MOBILE 149 440 458
<b>6 700 – 7 075</b>	FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) (space-to-Earth) 441 MOBILE  458 458A 458B 458C		<b>6 700 – 7 075</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) (space-to-Earth) 441 MOBILE 458 458A 458B 458C
<b>7 075 – 7 145</b>	FIXED MOBILE  458 459		<b>7 075 – 7 145</b> FIXED MOBILE 458
<b>7 145 – 7 235</b>	FIXED MOBILE SPACE RESEARCH (Earth-to-space) 460  458 459		<b>7 145 – 7 235</b> FIXED MOBILE SPACE RESEARCH (Earth-to-space) 460 458
<b>7 235 – 7 250</b>	FIXED MOBILE  458		<b>7 235 – 7 250</b> FIXED MOBILE 458

**MHz**  
**7 250 – 8 025**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>7 250 – 7 300</b>	FIXED FIXED $\delta$ SATELLITE (space-to-Earth) MOBILE  461		<b>7 250 – 7 300</b> FIXED FIXED $\delta$ SATELLITE (space-to-Earth) MOBILE 461
<b>7 300 – 7 450</b>	FIXED FIXED $\delta$ SATELLITE (space-to-Earth) MOBILE except aeronautical mobile  461		<b>7 300 – 7 450</b> FIXED FIXED $\delta$ SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 461
<b>7 450 – 7 550</b>	FIXED FIXED $\delta$ SATELLITE (space-to-Earth) METEOROLOGICAL $\delta$ SATELLITE (space-to-Earth) MOBILE except aeronautical mobile  461A		<b>7 450 – 7 550</b> FIXED FIXED $\delta$ SATELLITE (space-to-Earth) METEOROLOGICAL $\delta$ SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 461A
<b>7 550 – 7 750</b>	FIXED FIXED $\delta$ SATELLITE (space-to-Earth) MOBILE except aeronautical mobile		<b>7 550 – 7 750</b> FIXED FIXED $\delta$ SATELLITE (space-to-Earth) MOBILE except aeronautical mobile
<b>7 750 – 7 900</b>	FIXED METEOROLOGICAL $\delta$ SATELLITE (space-to-Earth) 461B MOBILE except aeronautical mobile		<b>7 750 – 7 900</b> FIXED METEOROLOGICAL $\delta$ SATELLITE (space-to-Earth) 461B MOBILE except aeronautical mobile
<b>7 900 – 8 025</b>	FIXED FIXED $\delta$ SATELLITE (Earth-to-space) MOBILE  461		<b>7 900 – 8 025</b> FIXED FIXED $\delta$ SATELLITE (Earth-to-space) MOBILE 461

**MHz**  
**8 025 – 8 650**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>8 025 – 8 175</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (space-to-Earth) FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) MOBILE 463  462A		<b>8 025 – 8 175</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (space-to-Earth) FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) MOBILE 463 462A
<b>8 175 – 8 215</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (space-to-Earth) FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) METEOROLOGICAL <sup>6</sup> SATELLITE (Earth-to-space) MOBILE 463  462A		<b>8 175 – 8 215</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (space-to-Earth) FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) METEOROLOGICAL <sup>6</sup> SATELLITE (Earth-to-space) MOBILE 463 462A
<b>8 215 – 8 400</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (space-to-Earth) FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) MOBILE 463  462A		<b>8 215 – 8 400</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (space-to-Earth) FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) MOBILE 463 462A
<b>8 400 – 8 500</b>	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 465 466		<b>8 400 – 8 500</b> FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 465
<b>8 500 – 8 550</b>	RADIOLOCATION 468 469		<b>8 500 – 8 550</b> RADIOLOCATION
<b>8 550 – 8 650</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active)  468 469 469A		<b>8 550 – 8 650</b> RADIOLOCATION SPACE RESEARCH (active) EARTH EXPLORATION <sup>6</sup> SATELLITE (active) 469A



**MHz**  
**8 650 – 9 800**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>8 650 – 8 750</b>	RADIOLOCATION 468 469		<b>8 650 – 8 750</b> RADIOLOCATION
<b>8 750 – 8 850</b>	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 470  471		<b>8 750 – 8 850</b> RADIOLOCATION AERONAUTICAL RADIONAVIGATION 470
<b>8 850 – 9 000</b>	RADIOLOCATION MARITIME RADIONAVIGATION 472  473		<b>8 850 – 9 000</b> RADIOLOCATION MARITIME RADIONAVIGATION 472
<b>9 000 – 9 200</b>	AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION  471 473A		<b>9 000 – 9 200</b> AERONAUTICAL RADIONAVIGATION 337 RADIOLOCATION 473A
<b>9 200 – 9 300</b>	RADIOLOCATION MARITIME RADIONAVIGATION 472  473 474		<b>9 200 – 9 300</b> RADIOLOCATION MARITIME RADIONAVIGATION 472 474
<b>9 300 – 9 500</b>	RADIONAVIGATION EARTH EXPLORATION <sup>6</sup> SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION  427 474 475 475A 475B 476A		<b>9 300 – 9 500</b> RADIONAVIGATION EARTH EXPLORATION <sup>6</sup> SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 427 474 475 475A 475B 476A
<b>9 500 – 9 800</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active)  476A		<b>9 500 – 9 800</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 476A

**GHz**  
**9.8 – 10.68**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>9.8 – 9.9</b>	RADIOLOCATION Earth explorationósatellite (active) Space research (active) Fixed  477 478 478A 478B		<b>9.8 – 9.9</b> RADIOLOCATION Earth explorationósatellite (active) Space research (active) Fixed 478A 478B
<b>9.9 – 10</b>	RADIOLOCATION Fixed  477 478 479		<b>9.9 – 10</b> RADIOLOCATION Fixed 479
<b>10 – 10.45</b> FIXED MOBILE RADIOLOCATION Amateur 479	<b>10 – 10.45</b> RADIOLOCATION Amateur  479 480	<b>10 – 10.45</b> FIXED MOBILE RADIOLOCATION Amateur 479	<b>10 – 10.45</b> FIXED MOBILE RADIOLOCATION Amateur 479
<b>10.45 – 10.5</b>	RADIOLOCATION Amateur Amateurósatellite 481		<b>10.45 – 10.5</b> RADIOLOCATION Amateur Amateurósatellite
<b>10.5 – 10.55</b> FIXED MOBILE Radiolocation	<b>10.5 – 10.55</b> FIXED MOBILE RADIOLOCATION		<b>10.5 – 10.55</b> FIXED MOBILE RADIOLOCATION
<b>10.55 – 10.6</b>	FIXED MOBILE except aeronautical mobile Radiolocation		<b>10.55 – 10.6</b> FIXED MOBILE except aeronautical mobile Radiolocation
<b>10.6 – 10.68</b>	EARTH EXPLORATIONóSATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation  149 482 482A		<b>10.6 – 10.68</b> EARTH EXPLORATIONóSATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 149 482 482A

**GHz**  
**10.68 – 12.75**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>10.68 – 10.7</b>	EARTH EXPLORATION6SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340 483		<b>10.68 – 10.7</b> EARTH EXPLORATION6 SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
<b>10.7 – 11.7</b> FIXED FIXED6SATELLITE (space-to-Earth) 441 484A (Earth-to-space) 484 MOBILE except aeronautical mobile	<b>10.7 – 11.7</b> FIXED FIXED6SATELLITE (space-to-Earth) 441 484A MOBILE except aeronautical mobile		<b>10.7 – 11.7</b> FIXED FIXED6SATELLITE (space-to-Earth) 441 484A MOBILE except aeronautical mobile
<b>11.7 – 12.5</b> FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING6 SATELLITE 492      487 487A	<b>11.7 – 12.1</b> FIXED 486 FIXED6SATELLITE (space-to-Earth) 484A 488 Mobile except aeronautical mobile 485	<b>11.7 – 12.2</b> FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING6 SATELLITE 492   487 487A	<b>11.7 – 12.2</b> FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING6 SATELLITE 492   487 487A
	<b>12.1 – 12.2</b> FIXED6SATELLITE (space-to-Earth) 484A 488 485 489		
	<b>12.2 – 12.7</b> FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING6 SATELLITE 492	<b>12.2 – 12.5</b> FIXED FIXED6SATELLITE (space-to-Earth) MOBILE except aeronautical mobile BROADCASTING  484A 487	<b>12.2 – 12.5</b> FIXED FIXED6SATELLITE (space-to-Earth) MOBILE except aeronautical mobile BROADCASTING
<b>12.5 – 12.75</b> FIXED6SATELLITE (space-to-Earth) 484A (Earth-to-space)      494 495 496	487A 488 490	<b>12.5 – 12.75</b> FIXED FIXED6SATELLITE (space-to-Earth) 484A MOBILE except aeronautical mobile BROADCASTING6 SATELLITE 493	<b>12.5 – 12.75</b> FIXED FIXED6SATELLITE (space-to-Earth) 484A MOBILE except aeronautical mobile BROADCASTING6 SATELLITE 493
	<b>12.7 – 12.75</b> FIXED FIXED6SATELLITE (Earth-to-space) MOBILE except aeronautical mobile		

**GHz**  
**12.75 – 14.3**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>12.75 – 13.25</b>	FIXED FIXEDóSATELLITE (Earth-to-space) 441 MOBILE Space research (deep space) (space-to-Earth)		<b>12.75 – 13.25</b> FIXED FIXEDóSATELLITE (Earth-to-space) 441 MOBILE Space research (deep space) (space-to-Earth)
<b>13.25 – 13.4</b>	EARTH EXPLORATIONóSATELLITE (active) AERONAUTICAL RADIONAVIGATION 497 SPACE RESEARCH (active)  498A 499		<b>13.25 – 13.4</b> AERONAUTICAL RADIONAVIGATION 497 EARTH EXPLORATIONóSATELLITE (active) SPACE RESEARCH (active)  498A
<b>13.4 – 13.75</b>	EARTH EXPLORATIONóSATELLITE (active) RADIOLOCATION SPACE RESEARCH 501A Standard frequency and time signalósatellite (Earth-to-space)  499 500 501 501B		<b>13.4 – 13.75</b> EARTH EXPLORATIONóSATELLITE (active) RADIOLOCATION SPACE RESEARCH 501A Standard frequency and time signalósatellite (Earth-to-space) 501A 501B
<b>13.75 – 14</b>	FIXEDóSATELLITE (Earth-to-space) 484A RADIOLOCATION Earth explorationósatellite Standard frequency and time signalósatellite (Earth-to-space) Space research  499 500 501 502 503		<b>13.75 – 14</b> RADIOLOCATION FIXEDóSATELLITE (Earth-to-space) 484A Earth explorationósatellite Standard frequency and time signalósatellite (Earth-to-space) Space research 502 503
<b>14 – 14.25</b>	FIXEDóSATELLITE (Earth-to-space) 457A 457B 484A 506 506B RADIONAVIGATION 504 Mobileósatellite (Earth-to-space) 504B 504C 506A Space research 504A 505		<b>14 – 14.3</b> FIXEDóSATELLITE (Earth-to-space) 457A 484A 506 RADIONAVIGATION 504 Mobileósatellite (Earth-to-space) 506A Space research
<b>14.25 – 14.3</b>	FIXEDóSATELLITE (Earth-to-space) 457A 457B 484A 506 506B RADIONAVIGATION 504 Mobileósatellite (Earth-to-space) 504B 506A 508A Space research 504A 505 508		504A

**GHz**  
**14.3 – 14.8**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>14.3 – 14.4</b> FIXED FIXED6SATELLITE (Earth-to-space) 457A 457B 484A 506 506B MOBILE except aeronautical mobile Mobile6satellite (Earth-to-space) 504B 506A 509A Radionavigation6satellite 504A	<b>14.3 – 14.4</b> FIXED6SATELLITE (Earth-to-space) 457A 484A 506 506B Mobile6satellite (Earth-to-space) 506A Radionavigation6satellite  504A	<b>14.3 – 14.4</b> FIXED FIXED6SATELLITE (Earth-to-space) 457A 484A 506 506B MOBILE except aeronautical mobile Mobile6satellite (Earth-to-space) 504B 506A 509A Radionavigation6satellite 504A	<b>14.3 – 14.4</b> FIXED FIXED6SATELLITE (Earth-to-space) 457A 484A 506 MOBILE except aeronautical mobile Mobile6satellite (Earth-to-space) 506A Radionavigation6satellite  504A
<b>14.4 – 14.47</b>	FIXED FIXED6SATELLITE (Earth-to-space) 457A 457B 484A 506 506B MOBILE except aeronautical mobile Mobile6satellite (Earth-to-space) 504B 506A 509A Space research (space-to-Earth)  504A		<b>14.4 – 14.47</b> FIXED FIXED6SATELLITE (Earth-to-space) 457A 484A 506 MOBILE except aeronautical mobile Mobile6satellite (Earth-to-space) 506A Space research (space-to-Earth)  504A
<b>14.47 – 14.5</b>	FIXED FIXED6SATELLITE (Earth-to-space) 457A 457B 484A 506 506B MOBILE except aeronautical mobile Mobile6satellite (Earth-to-space) 504B 506A 509A Radio astronomy  149 504A		<b>14.47 – 14.5</b> FIXED FIXED6SATELLITE (Earth-to-space) 457A 484A 506 Mobile except aeronautical mobile Mobile6satellite (Earth-to-space) 506A Radio astronomy 149 504A
<b>14.5 – 14.8</b>	FIXED FIXED6SATELLITE (Earth-to-space) 510 MOBILE Space research		<b>14.5 – 14.8</b> FIXED FIXED6SATELLITE (Earth-to-space) 510 MOBILE Space research

**GHz**  
**14.8 – 17.2**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>14.8 – 15.35</b>	FIXED MOBILE Space research  339		<b>14.8 – 15.35</b> FIXED MOBILE Space research 339
<b>15.35 – 15.4</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340 511		<b>15.35 – 15.4</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
<b>15.4 – 15.43</b>	RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION  511D		<b>15.4 – 15.43</b> RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION 511D
<b>15.43 – 15.63</b>	FIXED <sup>6</sup> SATELLITE (Earth-to-space) 511A RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION  511C		<b>15.43 – 15.63</b> FIXED <sup>6</sup> SATELLITE (Earth- to-space) 511A RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION 511C
<b>15.63 – 15.7</b>	RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION  511D		<b>15.63 – 15.7</b> RADIOLOCATION 511E 511F AERONAUTICAL RADIONAVIGATION 511D
<b>15.7 – 16.6</b>	RADIOLOCATION 512 513		<b>15.7 – 16.6</b> RADIOLOCATION
<b>16.6 – 17.1</b>	RADIOLOCATION Space research (deep space) (Earth-to-space)  512 513		<b>16.6 – 17.1</b> RADIOLOCATION Space research (deep space) (Earth-to-space)
<b>17.1 – 17.2</b>	RADIOLOCATION 512 513		<b>17.1 – 17.2</b> RADIOLOCATION

**GHz**  
**17.2 – 18.6**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>17.2 – 17.3</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active)  512 513 513A		<b>17.2 – 17.3</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 513A
<b>17.3 – 17.7</b> FIXED <sup>6</sup> SATELLITE (Earth-to-space) 516 (space-to-Earth) 516A 516B Radiolocation  514	<b>17.3 – 17.7</b> FIXED <sup>6</sup> SATELLITE (Earth-to-space) 516 BROADCASTING <sup>6</sup> SATELLITE Radiolocation 514 515	<b>17.3 – 17.7</b> FIXED <sup>6</sup> SATELLITE (Earth-to-space) 516 Radiolocation  514	<b>17.3 – 17.7</b> FIXED <sup>6</sup> SATELLITE (Earth-to-space) 516 Radiolocation
<b>17.7 – 18.1</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A (Earth-to-space) 516 MOBILE	<b>17.7 – 17.8</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 517 (Earth-to-space) 516 BROADCASTING <sup>6</sup> SATELLITE Mobile 515	<b>17.7 – 18.1</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A (Earth-to-space) 516 MOBILE	<b>17.7 – 18.1</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A (Earth-to-space) 516 MOBILE
	<b>17.8 – 18.1</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A (Earth-to-space) 516 MOBILE 519		
<b>18.1 – 18.4</b>	FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A 516B (Earth-to-space) 520 MOBILE  519 521		<b>18.1 – 18.4</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A 516B (Earth-to-space) 520 MOBILE 519
<b>18.4 – 18.6</b>	FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A 516B MOBILE		<b>18.4 – 18.6</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A 516B MOBILE

**GHz**  
**18.6 – 21.2**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>18.6 – 18.8</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 522B MOBILE except aeronautical mobile Space research (passive) 522A 522C	<b>18.6 – 18.8</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 516B 522B MOBILE except aeronautical mobile SPACE RESEARCH (passive) 522A	<b>18.6 – 18.8</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 522B MOBILE except aeronautical mobile Space research (passive) 522A	<b>18.6 – 18.8</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 522B MOBILE except aeronautical mobile Space research (passive) 522A
<b>18.8 – 19.3</b>	FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 516B 523A MOBILE		<b>18.8 – 19.3</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 516B 523A MOBILE
<b>19.3 – 19.7</b>	FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) (Earth-to-space) 523B 523C 523D 523E MOBILE		<b>19.3 – 19.7</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) (Earth-to-space) 523B 523C 523D 523E MOBILE
<b>19.7 – 20.1</b> FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A 516B Mobile <sup>6</sup> satellite (space-to-Earth)  524	<b>19.7 – 20.1</b> FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A 516B MOBILE <sup>6</sup> SATELLITE (space-to-Earth)  524 525 526 527 528 529	<b>19.7 – 20.1</b> FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A 516B Mobile <sup>6</sup> satellite (space-to-Earth)  524	<b>19.7 – 20.1</b> FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A 516B Mobile <sup>6</sup> satellite (space-to-Earth)  524
<b>20.1 – 20.2</b>	FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A 516B MOBILE <sup>6</sup> SATELLITE (space-to-Earth)  524 525 526 527 528		<b>20.1 – 20.2</b> FIXED <sup>6</sup> SATELLITE (space-to-Earth) 484A 516B MOBILE <sup>6</sup> SATELLITE (space-to-Earth)  525 526 527 528
<b>20.2 – 21.2</b>	FIXED <sup>6</sup> SATELLITE (space-to-Earth) MOBILE <sup>6</sup> SATELLITE (space-to-Earth) Standard frequency and time signal (space-to-Earth)  524		<b>20.2 – 21.2</b> FIXED <sup>6</sup> SATELLITE (space-to-Earth) MOBILE <sup>6</sup> SATELLITE (space-to-Earth) Standard frequency and time signal (space-to-Earth)



**GHz**  
**21.2– 23.55**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>21.2 – 21.4</b>	EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)		<b>21.2 – 21.4</b> EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)
<b>21.4 – 22</b> FIXED MOBILE BROADCASTING SATELLITE 208B 530A 530B 530C 530D	<b>21.4 – 22</b> FIXED MOBILE 530A 530C	<b>21.4 – 22</b> FIXED MOBILE BROADCASTING SATELLITE 208B 530A 530B 530C 530D 531	<b>21.4 – 22</b> FIXED MOBILE BROADCASTING SATELLITE 208B 530A 530B 530C 530D
<b>22 – 22.21</b>	FIXED MOBILE except aeronautical mobile  149		<b>22 – 22.21</b> FIXED MOBILE except aeronautical mobile  149
<b>22.21 – 22.5</b>	EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive)  149 532		<b>22.21 – 22.5</b> EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive)  149 532
<b>22.5 – 22.55</b>	FIXED MOBILE		<b>22.5 – 22.55</b> FIXED MOBILE
<b>22.55 – 23.15</b>	FIXED INTER SATELLITE 338A MOBILE SPACE RESEARCH (Earth-to-space) 532A  149		<b>22.55 – 23.15</b> FIXED INTER SATELLITE 338A MOBILE SPACE RESEARCH (Earth-to-space) 532A  149
<b>23.15 – 23.55</b>	FIXED INTER SATELLITE 338A MOBILE		<b>22.15 – 23.55</b> FIXED INTER SATELLITE 338A MOBILE

**GHz**  
**23.55 – 25.25**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>23.55 – 23.6</b>	FIXED MOBILE		<b>23.55 – 23.6</b> FIXED MOBILE
<b>23.6 – 24</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340		<b>23.6 – 24</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
<b>24 – 24.05</b>	AMATEUR AMATEUR <sup>6</sup> SATELLITE  150		<b>24 – 24.05</b> AMATEUR AMATEUR <sup>6</sup> SATELLITE 150
<b>24.05 – 24.25</b>	RADIOLOCATION Amateur Earth exploration <sup>6</sup> satellite (active)  150		<b>24.05 – 24.25</b> Amateur Earth exploration <sup>6</sup> satellite (active) 150
<b>24.25 – 24.45</b> FIXED	<b>24.25 – 24.45</b> RADIONAVIGATION	<b>24.25 – 24.45</b> RADIONAVIGATION FIXED MOBILE	<b>24.25 – 24.45</b> RADIONAVIGATION FIXED MOBILE
<b>24.45 – 24.65</b> FIXED INTER <sup>6</sup> SATELLITE	<b>24.45 – 24.65</b> INTER <sup>6</sup> SATELLITE RADIONAVIGATION  533	<b>24.45 – 24.65</b> FIXED INTER <sup>6</sup> SATELLITE MOBILE RADIONAVIGATION 533	<b>24.45 – 24.65</b> FIXED INTER <sup>6</sup> SATELLITE MOBILE RADIONAVIGATION 533
<b>24.65 – 24.75</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth- to-space) 532B INTER <sup>6</sup> SATELLITE	<b>24.65 – 24.75</b> INTER <sup>6</sup> SATELLITE RADIOLOCATION <sup>6</sup> SATELLITE (Earth-to- space)	<b>24.65 – 24.75</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth- to-space) 532B INTER <sup>6</sup> SATELLITE MOBILE 533	<b>24.65 – 24.75</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth- to-space) 532B INTER <sup>6</sup> SATELLITE MOBILE 533
<b>24.75 – 25.25</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth- to-space) 532B	<b>24.75 – 25.25</b> FIXED <sup>6</sup> SATELLITE (Earth- to-space) 535	<b>24.75 – 25.25</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth- to-space) 535 MOBILE	<b>24.75 – 25.25</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth- to-space) 535 MOBILE

**GHz**  
**25.25 – 29.1**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>25.25 – 25.5</b>	FIXED INTER6SATELLITE 536 MOBILE Standard frequency and time signal6satellite (Earth-to-space)		<b>25.25 – 25.5</b> FIXED INTER6SATELLITE 536 MOBILE Standard frequency and time signal6satellite (Earth-to- space)
<b>25.5 – 27</b>	EARTH EXPLORATION6SATELLITE (space-to-Earth) 536B FIXED INTER6SATELLITE 536 MOBILE SPACE RESEARCH (space-to-Earth) 536C Standard frequency and time signal6satellite (Earth-to-space)		<b>25.5 – 27</b> EARTH EXPLORATION6 SATELLITE (space-to- Earth) FIXED INTER6SATELLITE 536 MOBILE SPACE RESEARCH (space- to-Earth) Standard frequency and time signal6satellite (Earth-to- space) 536A
<b>27 – 27.5</b> FIXED INTER6SATELLITE 536 MOBILE	<b>27 – 27.5</b> FIXED FIXED6SATELLITE (Earth-to-space) INTER6SATELLITE 536 537 MOBILE		<b>27 – 27.5</b> FIXED FIXED6SATELLITE (Earth- to-space) INTER6SATELLITE 536 537 MOBILE
<b>27.5 – 28.5</b>	FIXED 537A FIXED6SATELLITE (Earth-to-space) 484A 516B 539 MOBILE  538 540		<b>27.5 – 28.5</b> FIXED FIXED6SATELLITE (Earth- to-space) 484A 516B 539 MOBILE  538 540
<b>28.5 – 29.1</b>	FIXED FIXED6SATELLITE (Earth-to-space) 484A 516B 523A 539 MOBILE Earth exploration6satellite (Earth-to-space) 541  540		<b>28.5 – 29.1</b> FIXED FIXED6SATELLITE (Earth- to-space) 484A 516B 523A 539 MOBILE Earth exploration6satellite (Earth-to-space) 541 540

**GHz**  
**29.1 – 31.3**

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

**GHz**  
**31.3 – 34.2**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>31.3 – 31.5</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340		<b>31.3 – 31.5</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340
<b>31.5 – 31.8</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149 546	<b>31.5 – 31.8</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340	<b>31.5 – 31.8</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149	<b>31.5 – 31.8</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 149
<b>31.8 – 32</b>	FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth)  547 547B 548		<b>31.8 – 32</b> FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 547 548
<b>32 – 32.3</b>	FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth)  547 547C 548		<b>32 – 32.3</b> FIXED 547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 547 548
<b>32.3 – 33</b>	FIXED 547A INTER <sup>6</sup> SATELLITE RADIONAVIGATION  547 547D 548		<b>32.3 – 33</b> FIXED 547A INTER <sup>6</sup> SATELLITE RADIONAVIGATION 547 548
<b>33 – 33.4</b>	FIXED 547A RADIONAVIGATION  547 547E		<b>33 – 33.4</b> FIXED 547A RADIONAVIGATION 547
<b>33.4 – 34.2</b>	RADIOLOCATION 549		<b>33.4 – 34.2</b> RADIOLOCATION

**GHz**  
**34.2 – 37.5**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>34.2 – 34.7</b>	RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space)  549		<b>34.2 – 34.7</b> RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space)
<b>34.7 – 35.2</b>	RADIOLOCATION Space research 550 549		<b>34.7 – 35.2</b> RADIOLOCATION Space research
<b>35.2 – 35.5</b>	METEOROLOGICAL AIDS RADIOLOCATION 549		<b>35.2 – 35.5</b> METEOROLOGICAL AIDS RADIOLOCATION
<b>35.5 – 36</b>	METEOROLOGICAL AIDS EARTH EXPLORATION <sup>6</sup> SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active)  549 549A		<b>35.5 – 36</b> METEOROLOGICAL AIDS EARTH EXPLORATION <sup>6</sup> SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 549A
<b>36 – 37</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)  149 550A		<b>36 – 37</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 149 550A
<b>37 – 37.5</b>	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth)  547		<b>37 – 37.5</b> FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space- to-Earth) 547

**GHz**  
**37.5 – 40.5**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>37.5 – 38</b>	FIXED FIXEDóSATELLITE (space-to-Earth) MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) Earth explorationósatellite (space-to-Earth)  547		<b>37.5 – 38</b> FIXED FIXEDóSATELLITE (space-to-Earth) MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) Earth explorationósatellite (space-to-Earth) 547
<b>38 – 39.5</b>	FIXED FIXEDóSATELLITE (space-to-Earth) MOBILE Earth explorationósatellite (space-to-Earth)  547		<b>38 – 39.5</b> FIXED FIXEDóSATELLITE (space-to-Earth) MOBILE Earth explorationósatellite (space-to-Earth) 547
<b>39.5 – 40</b>	FIXED FIXEDóSATELLITE (space-to-Earth) 516B MOBILE MOBILEóSATELLITE (space-to-Earth) Earth explorationósatellite (space-to-Earth)  547		<b>39.5 – 40</b> FIXED FIXEDóSATELLITE (space-to-Earth) 516B MOBILE MOBILEóSATELLITE (space-to-Earth) Earth explorationósatellite (space-to-Earth) 547
<b>40 – 40.5</b>	EARTH EXPLORATIONóSATELLITE (Earth-to-space) FIXED FIXEDóSATELLITE (space-to-Earth) 516B MOBILE MOBILEóSATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth explorationósatellite (space-to-Earth)		<b>40 – 40.5</b> EARTH EXPLORATIONóSATELLITE (Earth-to-space) FIXED FIXEDóSATELLITE (space-to-Earth) 516B MOBILE MOBILEóSATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth explorationósatellite (space-to-Earth)

**GHz**  
**40.5 – 47.5**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>40.5 – 41</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) BROADCASTING BROADCASTING <sup>6</sup> SATELLITE Mobile  547	<b>40.5 – 41</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 516B BROADCASTING BROADCASTING <sup>6</sup> SATELLITE Mobile Mobile <sup>6</sup> satellite (space-to-Earth) 547	<b>40.5 – 41</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) BROADCASTING BROADCASTING <sup>6</sup> SATELLITE Mobile  547	<b>40.5 – 41</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) BROADCASTING BROADCASTING <sup>6</sup> SATELLITE Mobile  547
<b>41 – 42.5</b>	FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) 516B BROADCASTING BROADCASTING <sup>6</sup> SATELLITE Mobile  547 551F 551H 551I		<b>41 – 42.5</b> FIXED FIXED <sup>6</sup> SATELLITE (space-to-Earth) BROADCASTING BROADCASTING <sup>6</sup> SATELLITE Mobile 547 551F 551H 551I
<b>42.5 – 43.5</b>	FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) 552 MOBILE except aeronautical mobile RADIO ASTRONOMY  149 547		<b>42.5 – 43.5</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) 552 MOBILE except aeronautical mobile RADIO ASTRONOMY 149 547
<b>43.5 – 47</b>	MOBILE 553 MOBILE <sup>6</sup> SATELLITE RADIONAVIGATION RADIONAVIGATION <sup>6</sup> SATELLITE  554		<b>43.5 – 47</b> MOBILE 553 MOBILE <sup>6</sup> SATELLITE RADIONAVIGATION RADIONAVIGATION <sup>6</sup> SATELLITE 554
<b>47 – 47.2</b>	AMATEUR AMATEUR <sup>6</sup> SATELLITE		<b>47 – 47.2</b> AMATEUR AMATEUR <sup>6</sup> SATELLITE
<b>47.2 – 47.5</b>	FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) 552 MOBILE  552A		<b>47.2 – 47.5</b> FIXED FIXED <sup>6</sup> SATELLITE (Earth-to-space) 552 MOBILE 552A



**GHz**  
**47.5 – 51.4**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>47.5 – 47.9</b> FIXED FIXED6SATELLITE (Earth-to-space) 552 (space-to-Earth) 516B 554A MOBILE	<b>47.5 – 47.9</b> FIXED FIXED6SATELLITE (Earth-to-space) 552 MOBILE		<b>47.5 – 47.9</b> FIXED FIXED6SATELLITE (Earth-to-space) 552 MOBILE
<b>47.9 – 48.2</b>	FIXED FIXED6SATELLITE (Earth-to-space) 552 MOBILE  552A		<b>47.9 – 48.2</b> FIXED FIXED6SATELLITE (Earth-to-space) 552 MOBILE 552A
<b>48.2 – 48.54</b> FIXED FIXED6SATELLITE (Earth-to-space) 552 (space-to-Earth) 516B 554A 555B MOBILE	<b>48.2 – 50.2</b> FIXED FIXED6SATELLITE (Earth-to-space) 338A 516B 552 MOBILE        149 340 555		<b>48.2 – 50.2</b> FIXED FIXED6SATELLITE (Earth-to-space) 338A 552 MOBILE        149 340 555
<b>48.54 – 49.44</b> FIXED FIXED6SATELLITE (Earth-to-space) 552 MOBILE 149 340 555			
<b>49.44 – 50.2</b> FIXED FIXED6SATELLITE (Earth-to-space) 338A 552 (space-to-Earth) 516B 554A 555B MOBILE			
<b>50.2 – 50.4</b>	EARTH EXPLORATION6SATELLITE (passive) SPACE RESEARCH (passive)  340		<b>50.2 – 50.4</b> EARTH EXPLORATION6SATELLITE (passive) SPACE RESEARCH (passive) 340
<b>50.4 – 51.4</b>	FIXED FIXED6SATELLITE (Earth-to-space) 338A MOBILE Mobile6satellite (Earth-to-space)		<b>50.4 – 51.4</b> FIXED FIXED6SATELLITE (Earth-to-space) 338A MOBILE Mobile6satellite (Earth-to-space)

**GHz**  
**51.4 – 58.2**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>51.4 – 52.6</b>	FIXED 338A MOBILE  547 556		<b>51.4 – 52.6</b> FIXED 338A MOBILE 547 556
<b>52.6 – 54.25</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) SPACE RESEARCH (passive)  340 556		<b>52.6 – 54.25</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) SPACE RESEARCH (passive) 340 556
<b>54.25 – 55.78</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) INTER <sup>6</sup> SATELLITE 556A SPACE RESEARCH (passive)  556B		<b>54.25 – 55.78</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) INTER <sup>6</sup> SATELLITE 556A SPACE RESEARCH (passive)
<b>55.78 – 56.9</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED 557A INTER <sup>6</sup> SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive)  547 557		<b>55.78 – 56.9</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED 557A INTER <sup>6</sup> SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive) 547
<b>56.9 – 57</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED INTER <sup>6</sup> SATELLITE 558A MOBILE 558 SPACE RESEARCH (passive)  547 557		<b>56.9 – 57</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED INTER <sup>6</sup> SATELLITE 558A MOBILE 558 SPACE RESEARCH (passive) 547
<b>57 – 58.2</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED INTER <sup>6</sup> SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive)  547 557		<b>57 – 58.2</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED INTER <sup>6</sup> SATELLITE 556A MOBILE 558 SPACE RESEARCH (passive) 547

**GHz**  
**58.2 – 71**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>58.2 – 59</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)  547 556		<b>58.2 – 59</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 547 556
<b>59 – 59.3</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED INTER <sup>6</sup> SATELLITE 556A MOBILE 558 RADIOLOCATION 559 SPACE RESEARCH (passive)		<b>59 – 59.3</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) FIXED INTER <sup>6</sup> SATELLITE 556A MOBILE 558 RADIOLOCATION 559 SPACE RESEARCH (passive)
<b>59.3 – 64</b>	FIXED INTER <sup>6</sup> SATELLITE MOBILE 558 RADIOLOCATION 559  138		<b>59.3 – 64</b> FIXED INTER <sup>6</sup> SATELLITE MOBILE 558 RADIOLOCATION 559 138
<b>64 – 65</b>	FIXED INTER <sup>6</sup> SATELLITE MOBILE except aeronautical mobile  547 556		<b>64 – 65</b> FIXED INTER <sup>6</sup> SATELLITE MOBILE except aeronautical mobile 547 556
<b>65 – 66</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE FIXED INTER <sup>6</sup> SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH  547		<b>65 – 66</b> EARTH EXPLORATION <sup>6</sup> SATELLITE FIXED INTER <sup>6</sup> SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 547
<b>66 – 71</b>	INTER <sup>6</sup> SATELLITE MOBILE 553 558 MOBILE <sup>6</sup> SATELLITE RADIONAVIGATION RADIONAVIGATION <sup>6</sup> SATELLITE  554		<b>66 – 71</b> INTER <sup>6</sup> SATELLITE MOBILE 553 558 MOBILE <sup>6</sup> SATELLITE RADIONAVIGATION RADIONAVIGATION <sup>6</sup> SATELLITE 554

**GHz**  
**71 – 81**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>71 – 74</b>	FIXED FIXED6SATELLITE (space-to-Earth) MOBILE MOBILE6SATELLITE (space-to-Earth)		<b>71 – 74</b> FIXED FIXED6SATELLITE (space-to-Earth) MOBILE MOBILE6SATELLITE (space-to-Earth)
<b>74 – 76</b>	FIXED FIXED6SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING6SATELLITE Space research (space-to-Earth)  561		<b>74 – 76</b> FIXED FIXED6SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING6SATELLITE Space research (space-to-Earth) 561
<b>76 – 77.5</b>	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur6satellite Space research (space-to-Earth)  149		<b>76 – 77.5</b> RADIO ASTRONOMY RADIOLOCATION Amateur Amateur6satellite Space research (space-to-Earth) 149
<b>77.5 – 78</b>	AMATEUR AMATEUR6SATELLITE Radio astronomy Space research (space-to-Earth)  149		<b>77.5 – 78</b> AMATEUR AMATEUR6SATELLITE Radio astronomy Space research (space-to-Earth) 149
<b>78 – 79</b>	RADIOLOCATION Amateur Amateur6satellite Radio astronomy Space research (space-to-Earth)  149 560		<b>78 – 79</b> RADIOLOCATION Amateur Amateur6satellite Radio astronomy Space research (space-to-Earth) 149 560
<b>79 – 81</b>	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur6satellite Space research (space-to-Earth)  149		<b>79 – 81</b> RADIO ASTRONOMY RADIOLOCATION Amateur Amateur6satellite Space research (space-to-Earth) 149

**GHz**  
**81 – 95**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>81 – 84</b>	FIXED 338A FIXED6SATELLITE (Earth-to-space) MOBILE MOBILE6SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth)  149 561A		<b>81 – 84</b> FIXED 338A FIXED6SATELLITE (Earth-to-space) MOBILE MOBILE6SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) 149 561A
<b>84 – 86</b>	FIXED 338A FIXED6SATELLITE (Earth-to-space) 561B MOBILE RADIO ASTRONOMY  149		<b>84 – 86</b> FIXED 338A FIXED6SATELLITE (Earth-to-space) 561B MOBILE RADIO ASTRONOMY 149
<b>86 – 92</b>	EARTH EXPLORATION6SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340		<b>86 – 92</b> EARTH EXPLORATION6 SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
<b>92 – 94</b>	FIXED 338A MOBILE RADIO ASTRONOMY RADIOLOCATION  149		<b>92 – 94</b> FIXED 338A MOBILE RADIO ASTRONOMY RADIOLOCATION 149
<b>94 – 94.1</b>	EARTH EXPLORATION6SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy  562 562A		<b>94 – 94.1</b> EARTH EXPLORATION6 SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 562 562A
<b>94.1 – 95</b>	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION  149		<b>94.1 – 95</b> FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149

**GHz**  
**95 – 114.25**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>95 – 100</b>	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION6SATELLITE  149 554		<b>95 – 100</b> FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION6 SATELLITE 149 554
<b>100 – 102</b>	EARTH EXPLORATION6SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340 341		<b>100 – 102</b> EARTH EXPLORATION6 SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341
<b>102 – 105</b>	FIXED MOBILE RADIO ASTRONOMY  149 341		<b>102 – 105</b> FIXED MOBILE RADIO ASTRONOMY 149 341
<b>105 – 109.5</b>	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B  149 341		<b>105 – 109.5</b> FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341
<b>109.5 – 111.8</b>	EARTH EXPLORATION6SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340 341		<b>109.5 – 111.8</b> EARTH EXPLORATION6 SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341
<b>111.8 – 114.25</b>	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B  149 341		<b>111.8 – 114.25</b> FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341

**GHz**  
**114.25 – 134**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>114.25 – 116</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340 341		<b>114.25 – 116</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340 341
<b>116 – 119.98</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) INTER <sup>6</sup> SATELLITE 562C SPACE RESEARCH (passive)  341		<b>116 – 119.98</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) INTER <sup>6</sup> SATELLITE 562C SPACE RESEARCH (passive) 341
<b>119.98 – 122.25</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) INTER <sup>6</sup> SATELLITE 562C SPACE RESEARCH (passive)  138 341		<b>119.98 – 122.25</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (passive) INTER <sup>6</sup> SATELLITE 562C SPACE RESEARCH (passive) 138 341
<b>122.25 – 123</b>	FIXED INTER <sup>6</sup> SATELLITE MOBILE 558 Amateur  138		<b>122.25 – 123</b> FIXED INTER <sup>6</sup> SATELLITE MOBILE 558 Amateur 138
<b>123 – 130</b>	FIXED <sup>6</sup> SATELLITE (space-to-Earth) MOBILE <sup>6</sup> SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION <sup>6</sup> SATELLITE Radio astronomy 562D  149 554		<b>123 – 130</b> FIXED <sup>6</sup> SATELLITE (space- to-Earth) MOBILE <sup>6</sup> SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION <sup>6</sup> SATELLITE Radio astronomy 149 554
<b>130 – 134</b>	EARTH EXPLORATION <sup>6</sup> SATELLITE (active) 562E FIXED INTER <sup>6</sup> SATELLITE MOBILE 558 RADIO ASTRONOMY  149 562A		<b>130 – 134</b> EARTH EXPLORATION <sup>6</sup> SATELLITE (active) 562E FIXED INTER <sup>6</sup> SATELLITE MOBILE 558 RADIO ASTRONOMY 149 562A

**GHz**  
**134 – 164**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>134 – 136</b>	AMATEUR AMATEUR6SATELLITE Radio astronomy		<b>134 – 136</b> AMATEUR AMATEUR6SATELLITE Radio astronomy
<b>136 – 141</b>	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur6satellite  149		<b>136 – 141</b> RADIO ASTRONOMY RADIOLOCATION Amateur Amateur6satellite 149
<b>141 – 148.5</b>	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION  149		<b>141 – 148.5</b> FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149
<b>148.5 – 151.5</b>	EARTH EXPLORATION6SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340		<b>148.5 – 151.5</b> EARTH EXPLORATION6 SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340
<b>151.5 – 155.5</b>	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION  149		<b>151.5 – 155.5</b> FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 149
<b>155.5 – 158.5</b>	EARTH EXPLORATION6SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B  149 562F 562G		<b>155.5 – 158.5</b> EARTH EXPLORATION6 SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 562F 562G
<b>158.5 – 164</b>	FIXED FIXED6SATELLITE (space-to-Earth) MOBILE MOBILE6SATELLITE (space-to-Earth)		<b>158.5 – 164</b> FIXED FIXED6SATELLITE (space- to-Earth) MOBILE MOBILE6SATELLITE (space-to-Earth)



**GHz**  
**164 – 191.8**

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

**GHz**  
**191.8 – 231.5**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>191.8 – 200</b>	FIXED INTER6SATELLITE MOBILE 558 MOBILE6SATELLITE RADIONAVIGATION RADIONAVIGATION6SATELLITE  149 341 554		<b>191.8 – 200</b> FIXED INTER6SATELLITE MOBILE 558 MOBILE6SATELLITE RADIONAVIGATION RADIONAVIGATION6 SATELLITE 149 341 554
<b>200 – 202</b>	EARTH EXPLORATION6SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340 341 563A		<b>200 – 202</b> EARTH EXPLORATION6 SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341 563A
<b>202 – 209</b>	EARTH EXPLORATION6SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340 341 563A		<b>202 – 209</b> EARTH EXPLORATION6 SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340 341 563A
<b>209 – 217</b>	FIXED FIXED6SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY  149 341		<b>209 – 217</b> FIXED FIXED6SATELLITE (Earth- to-space) MOBILE RADIO ASTRONOMY 149 341
<b>217 – 226</b>	FIXED FIXED6SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B  149 341		<b>217 – 226</b> FIXED FIXED6SATELLITE (Earth- to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 562B 149 341
<b>226 – 231.5</b>	EARTH EXPLORATION6SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  340		<b>226 – 231.5</b> EARTH EXPLORATION6 SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 340

**GHz**  
**231.5 – 252**

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

**GHz**  
**252 – 420 000**

Column 1: ITU Radio Regulations - Table of Frequency Allocations			Column 2:
Region 1	Region 2	Region 3	Kiribati Table of Allocations
<b>252 – 265</b>	FIXED MOBILE MOBILE∅SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION∅SATELLITE  149 554		<b>252 – 265</b> FIXED MOBILE MOBILE∅SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION∅ SATELLITE 149 554
<b>265 – 275</b>	FIXED FIXED∅SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY  149 563A		<b>265 – 275</b> FIXED FIXED∅SATELLITE (Earth- to-space) MOBILE RADIO ASTRONOMY 149 563A
<b>275 – 3 000</b>	(Not allocated)  565		<b>275 – 3 000</b> (Not allocated) 565
			<b>3000 – 420 000</b> (Not allocated)

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## Part 3                      Kiribati Footnotes

KIR1                      The frequency band segments 703 to 748 MHz and 758 to 803 MHz are intended to accommodate wireless broadband services operating in accordance with the FDD arrangement of the APT 700 MHz band plan. It is also intended that these segments support three licensees each having equal bandwidths in a geographic area. The Kiribati Frequency Allocation Plan for the 700 MHz Band provides details.

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## 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 ~~5.0~~ prefix has been removed.

- 53 Administrations authorising the use of frequencies below 8.3 kHz shall ensure that no harmful interference is caused to services to which the bands above 8.3 kHz are allocated.
- 54 Administrations conducting scientific research using frequencies below 8.3 kHz are urged to advise other administrations that may be concerned in order that such research may be afforded all practicable protection from harmful interference.
- 54A Use of the 8.3611.3 kHz frequency band by stations in the meteorological aids service is limited to passive use only. In the band 9611.3 kHz, meteorological aids stations shall not claim protection from stations of the radionavigation service submitted for notification to the Bureau prior to 1 January 2013. For sharing between stations of the meteorological aids service and stations in the radionavigation service submitted for notification after this date, the most recent version of Recommendation ITU-R RS.1881 should be applied.
- 54B *Additional allocation:* In Algeria, Saudi Arabia, Egypt, the United Arab Emirates, the Russian Federation, Iraq, Lebanon, Morocco, Qatar, the Syrian Arab Republic, Sudan and Tunisia, the frequency band 8.369 kHz is also allocated to the radionavigation, fixed and mobile services on a primary basis.
- 54C *Additional allocation:* in China, the frequency band 8.369 kHz is also allocated to the maritime radionavigation and maritime mobile services on a primary basis.
- 55 *Additional allocation:* in Armenia, Azerbaijan, Georgia, Kyrgyzstan, the Russian Federation, Tajikistan, and Turkmenistan, the band 14617 kHz is also allocated to the radionavigation service on a primary basis. (WRC-07)
- 56 The stations of services to which the bands 14619.95 kHz and 20.05670 kHz and in Region 1 also the bands 72684 kHz and 86690 kHz are allocated may transmit standard frequency and time signals. Such stations shall be afforded protection from harmful interference. In Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and

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Turkmenistan, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-12)

- 57 The use of the bands 14619.95 kHz, 20.05670 kHz and 70690 kHz (726 84 kHz and 86690 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 67670 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 70672 kHz and 84686 kHz to the fixed and maritime mobile services is on a primary basis (see No. 33). (WRC-2000)
- 60 In the bands 70690 kHz (70686 kHz in Region 1) and 1106130 kHz (1126 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 70690 kHz and 1106130 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 906110 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.

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- 65 *Different category of service:* in Bangladesh, the allocation of the bands 1126117.6 kHz and 1266129 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 1156117.6 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 1306148.5 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 135.76137.8 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 135.76137.8 kHz in Algeria, Egypt, Iran (Islamic Republic of), Iraq, Lebanon, Syrian Arab Republic, Sudan, South Sudan and Tunisia is limited to the fixed and maritime mobile services. The amateur service shall not be used in the above-mentioned countries in the band 135.76137.8 kHz, and this should be taken into account by the countries authorising such use. (WRC-12)
- 68 *Alternative allocation:* in Angola, Congo (Rep. of the), the Dem. Rep. of the Congo and South Africa, the band 1606200 kHz is allocated to the fixed service on a primary basis. (WRC-12)
- 69 *Additional allocation:* in Somalia, the band 2006255 kHz is also allocated to the aeronautical radionavigation service on a primary basis.
- 70 *Alternative allocation:* in Angola, Botswana, Burundi, the Central African Rep., Congo (Rep. of the), Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, the Dem. Rep. of the Congo, South Africa, Swaziland, Tanzania, Chad, Zambia and Zimbabwe, the band 2006283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)
- 71 *Alternative allocation:* in Tunisia, the band 2556283.5 kHz is allocated to the broadcasting service on a primary basis.
- 73 The band 2856325 kHz (283.56325 kHz in Region 1), in the maritime radionavigation service may be used to transmit supplementary navigational
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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 285.36285.7 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 3156 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 4056415 kHz is allocated shall not cause harmful interference to radio direction-finding in the band 406.56413.5 kHz.
- 77 *Different category of service:* in Australia, China, the French overseas communities of Region 3, Korea (Rep. of), India, Iran (Islamic Republic of), Japan, Pakistan, Papua New Guinea and Sri Lanka, the allocation of the frequency band 4156495 kHz to the aeronautical radionavigation service is on a primary basis. In Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Latvia, Uzbekistan and Kyrgyzstan, the allocation of the frequency band 4356495 kHz to the aeronautical radionavigation service is on a primary basis. Administrations in all the aforementioned countries shall take all practical steps necessary to ensure that aeronautical radionavigation stations in the frequency band 4356495 kHz do not cause interference to reception by coast stations of transmissions from ship stations on frequencies designated for ship stations on a worldwide basis (see No. **52.39**). (WRC-12)
- 78 *Different category of service:* in Cuba, the United States and Mexico the allocation of the band 4156435 kHz to the aeronautical radionavigation service is on a primary basis.
- 79 The use of the bands 4156495 kHz and 5056526.5 kHz (5056510 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

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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 4356495 kHz by the aeronautical radionavigation service is limited to non-directional beacons not employing voice transmission.
- 80A The maximum equivalent isotropically radiated power (e.i.r.p.) of stations in the amateur service using frequencies in the 4726479 kHz shall not exceed 1 W. Administrations may increase this limit of e.i.r.p. to 5 W in portions of their territory which are at a distance of over 800 km from the borders of Algeria, Saudi Arabia, Azerbaijan, Bahrain, Belarus, China, Comoros, Djibouti, Egypt, United Arab Emirates, the Russian Federation, Iran (Islamic Republic of), Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Morocco, Mauritania, Oman, Uzbekistan, Qatar, Syrian Arab Republic, Kyrgyzstan, Somalia, Sudan, Tunisia, Ukraine and Yemen. In this frequency band, stations on the amateur service shall not cause harmful interference to, or claim protection from, stations of the aeronautical radionavigation service.
- 80B The use of the frequency band 4726479 kHz in Algeria, Saudi Arabia, Azerbaijan, Bahrain, Belarus, China, Comoros, Djibouti, Egypt, United Arab Emirates, the Russian Federation, Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Mauritania, Oman, Uzbekistan, Qatar, Syrian Arab Republic, Kyrgyzstan, Somalia, Sudan, Tunisia, and Yemen is limited to the maritime mobile and aeronautical radionavigation services. The amateur service shall not be used in the above-mentioned countries in this frequency band, and this should be taken into account by the countries authorising such use.
- 82 In the maritime mobile service, the frequency 490 kHz is to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles **31** and **52**. In using the band 4156495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz. In using the frequency band 4726479 kHz for the amateur service, administrations shall ensure that no harmful interference is caused to the frequency 490 kHz. (WRC-12)
- 84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles **31** and **52** (WRC-07)
- 86 In Region 2, in the band 5256535 kHz the carrier power of broadcasting stations shall not exceed 1 kW during the day and 250 W at night.

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- 87 *Additional allocation:* in Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Niger and Swaziland, the band 526.56535 kHz is also allocated to the mobile service on a secondary basis. (WRC-12)
- 87A *Additional allocation:* in Uzbekistan, the band 526.561 606.5 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 526.56535 kHz is also allocated to the aeronautical radionavigation service on a secondary basis.
- 89 In Region 2, the use of the band 1 60561 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 62561 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 60561 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 1 606.56 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 1 606.561 625 kHz, 1 63561 800 kHz, 1 85062 160 kHz, 2 19462 300 kHz, 2 50262 850 kHz and 3 50063 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, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, Tajikistan, Chad, Turkmenistan and Ukraine, the bands 1 62561 635 kHz, 1 80061 810 kHz and 2 16062 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-12)
- 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,
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- 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 71561 800 kHz and 1 85062 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 82561 875 kHz and 1 92561 975 kHz respectively. Other services to which the band 1 80062 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, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Tunisia, Turkmenistan, Turkey and Ukraine, the band 1 81061 830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 99 *Additional allocation:* in Saudi Arabia, Austria, Iraq, Libya, Uzbekistan, Slovakia, Romania, Slovenia, Chad, and Togo, the band 1 81061 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 100 In Region 1, the authorisation to use the band 1 81061 830 kHz by the amateur service in countries situated totally or partially north of 40° N shall be given only after consultation with the countries mentioned in Nos. 98 and 99 to define the necessary steps to be taken to prevent harmful interference between amateur stations and stations of other services operating in accordance with Nos. 98 and 99.
- 102 *Alternative allocation:* in Bolivia, Chile, Mexico, Paraguay, Peru and Uruguay, the band 1 85062 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 85062 045 kHz, 2 19462 498 kHz, 2 50262 625 kHz and 2 65062 850 kHz, administrations should bear in mind the special requirements of the maritime mobile service.
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- 104 In Region 1, the use of the band 2 02562 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 06562 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 07262 075.5 kHz are used as provided in No. **52.165**.
- 106 In Regions 2 and 3, provided no harmful interference is caused to the maritime mobile service, the frequencies between 2 065 kHz and 2 107 kHz may be used by stations of the fixed service communicating only within national borders and whose mean power does not exceed 50 W. In notifying the frequencies, the attention of the Bureau should be drawn to these provisions.
- 107 *Additional allocation:* in Saudi Arabia, Eritrea, Ethiopia, Iraq, Libya, Somalia and Swaziland, the band 2 16062 170 kHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. The mean power of stations in these services shall not exceed 50 W. (WRC-12)
- 108 The carrier frequency 2 182 kHz is an international distress and calling frequency for radiotelephony. The conditions for the use of the band 2 173.562 190.5 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 radiocommunications 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  $\pm 3$  kHz about the frequency. (WRC-07)

- 112 *Alternative allocation:* in Denmark and Sri Lanka, the band 2 1946 2 300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 113 For the conditions for the use of the bands 2 30062 495 kHz (2 498 kHz in Region 1), 3 20063 400 kHz, 4 75064 995 kHz and 5 00565 060 kHz by the broadcasting service, see Nos. 16 to 20, 21 and 23.3 to 23.10.
- 114 *Alternative allocation:* in Denmark and Iraq, the band 2 50262 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 115 The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Article 31, by stations of the maritime mobile service engaged in coordinated search and rescue operations. (WRC-07)
- 116 Administrations are urged to authorise the use of the band 3 15563 195 kHz to provide a common worldwide channel for low power wireless hearing aids. Additional channels for these devices may be assigned by administrations in the bands between 3 155 kHz and 3 400 kHz to suit local needs.  
  
It should be noted that frequencies in the range 3 000 kHz to 4 000 kHz are suitable for hearing aid devices which are designed to operate over short distances within the induction field.
- 117 *Alternative allocation:* in Côte d'Ivoire, Denmark, Egypt, Liberia, Sri Lanka and Togo, the band 3 15563 200 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 118 *Additional allocation:* in the United States, Mexico, Peru and Uruguay, the band 3 23063 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 5006 3 750 kHz is also allocated to the fixed and mobile services on a primary basis. (WRC-07)

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- 122 *Alternative allocation:* in Bolivia, Chile, Ecuador, Paraguay, Peru and Uruguay, the band 3 750 64 000 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 6 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 64 000 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 6 4 005 kHz is allocated may transmit standard frequency and time signals.
- 127 The use of the band 4 000 64 063 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 64 123 kHz and 4 130 64 438 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W, on condition that harmful interference is not caused to the maritime mobile service. In addition, in Afghanistan, Argentina, Armenia, Azerbaijan, Belarus, Botswana, Burkina Faso, the Central African Rep., China, the Russian Federation, Georgia, India, Kazakhstan, Mali, Niger, Pakistan, Kyrgyzstan, Tajikistan, Chad, Turkmenistan and Ukraine, in the bands 4 063 64 123 kHz, 4 130 64 133 kHz and 4 408 64 438 kHz, stations in the fixed service, with a mean power not exceeding 1 kW, can be operated on condition that they are situated at least 600 km from the coast and that harmful interference is not caused to the maritime mobile service. (WRC-12)
- 130 The conditions for the use of the carrier frequencies 4 125 kHz and 6 215 kHz are prescribed in Articles **31** and **52**. (WRC-07)
- 131 The frequency 4 209.5 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques. (WRC-97)
- 132 The frequencies 4 210 kHz, 6 314 kHz, 8 416.5 kHz, 12 579 kHz, 16 806.5 kHz, 19 680.5 kHz, 22 376 kHz and 26 100.5 kHz are the
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international frequencies for the transmission of Maritime Safety Information (MSI) (see Appendix 17).

- 132A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed or mobile services. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution **612 (Rev.WRC-12)**.
- 132B *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 4 43864 488 kHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis.
- 133 *Different category of service:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Niger, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 5 13065 250 kHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. **33**). (WRC-12)
- 133A *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency bands 5 25065 275 kHz and 26 2006 26 350 kHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.
- 134 The use of the bands 5 90065 950 kHz, 7 30067 350 kHz, 9 40069 500 kHz, 11 600611 650 kHz, 12 050612 100 kHz, 13 570613 600 kHz, 13 8006 13 870 kHz, 15 600615 800 kHz, 17 480617 550 kHz and 18 9006 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 90065 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 20066 213.5 kHz and 6 220.566 525 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 76566 795 kHz (centre frequency 6 780 kHz),  
 433.056434.79 MHz (centre frequency 433.92 MHz) in Region 1 except in the countries mentioned in No. **280**,  
 61661.5 GHz (centre frequency 61.25 GHz),  
 1226123 GHz (centre frequency 122.5 GHz), and  
 2446246 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 radiocommunications 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 76567 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 76567 000 kHz to the land mobile service is on a primary basis (see No. **33**). (WRC-07)
- 140 *Additional allocation:* in Angola, Iraq, Kenya, Somalia and Togo, the band 7 00067 050 kHz is also allocated to the fixed service on a primary basis. (WRC-12)
- 141 *Alternative allocation:* in Egypt, Eritrea, Ethiopia, Guinea, Libya, Madagascar and Niger, the band 7 00067 050 kHz is allocated to the fixed service on a primary basis. (WRC-12)
- 141A *Additional allocation:* in Uzbekistan and Kyrgyzstan, the bands 7 0006 7 100 kHz and 7 10067 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, United Arab Emirates, Eritrea,

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Indonesia, Iran (Islamic Republic of), Japan, Jordan, Kuwait, Libya, Morocco, Mauritania, Niger, New Zealand, Oman, Papua New Guinea, Qatar, the Syrian Arab Republic, Singapore, Sudan, South Sudan, Tunisia, Viet Nam and Yemen, the band 7 10067 200 kHz is also allocated to the fixed and the mobile, except aeronautical mobile (R), services on a primary basis. (WRC-12)

- 141C In Regions 1 and 3, the band 7 10067 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 10067 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 20067 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 30067 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 35067 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 35067 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 3506 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)

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- 143C *Additional allocation:* after 29 March 2009 in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Iran (Islamic Republic of), Jordan, Kuwait, Libya, Morocco, Mauritania, Niger, Oman, Qatar, the Syrian Arab Republic, Sudan, South Sudan, Tunisia and Yemen, the bands 7 35067 400 kHz and 7 40067 450 kHz are also allocated to the fixed service on a primary basis. (WRC-12)
- 143D In Region 2, the band 7 35067 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 45068 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 9956 8 005 kHz is allocated may transmit standard frequency and time signals.
- 145 The conditions for the use of the carrier frequencies 8 291 kHz, 12 290 kHz and 16 420 kHz are prescribed in Articles **31** and **52**. (WRC-07)
- 145A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed service. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution **612 (Rev.WRC-12)**.
- 145B *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency bands 9 30569 355 kHz and 16 1006 16 200 kHz are allocated to the fixed service on a primary basis.
- 146 *Additional allocation:* frequencies in the bands 9 40069 500 kHz, 11 6006 11 650 kHz, 12 050612 100 kHz, 15 600615 800 kHz, 17 480617 550 kHz and 18 900619 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
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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 77569 900 kHz, 11 650611 700 kHz and 11 975612 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 360613 410 kHz,	4 82564 835 MHz,	92694 GHz,
25 550625 670 kHz,	4 95064 990 MHz,	94.16100 GHz,
37.5638.25 MHz,	4 99065 000 MHz,	1026109.5 GHz,
73674.6 MHz in Regions 1 and 3,	6 65066 675.2 MHz,	111.86114.25 GHz,
150.056153 MHz in Region 1,	10.6610.68 GHz,	128.336128.59 GHz,
3226328.6 MHz,	14.47614.5 GHz,	129.236129.49 GHz,
406.16410 MHz,	22.01622.21 GHz,	1306134 GHz,
6086614 MHz in Regions 1 and 3,	22.21622.5 GHz,	1366148.5 GHz,
1 33061 400 MHz,	22.81622.86 GHz,	151.56158.5 GHz,
1 610.661 613.8 MHz,	23.07623.12 GHz,	168.596168.93 GHz,
1 66061 670 MHz,	31.2631.3 GHz,	171.116171.45 GHz,
1 718.861 722.2 MHz,	31.5631.8 GHz in Regions 1 and 3,	172.316172.65 GHz,
2 65562 690 MHz,	36.43636.5 GHz,	173.526173.85 GHz,
3 26063 267 MHz,	42.5643.5 GHz,	195.756196.15 GHz,
3 33263 339 MHz,	48.94649.04 GHz,	2096226 GHz,
3 345.863 352.5 MHz,	76686 GHz,	2416250 GHz,
		2526275 GHz

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

- 149A *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 13 450613 550 kHz is allocated to the

fixed service on a primary basis and to the mobile, except aeronautical mobile (R), service on a secondary basis.

- 150 The following bands:  
 13 553613 567 kHz (centre frequency 13 560 kHz),  
 26 957627 283 kHz (centre frequency 27 120 kHz),  
 40.66640.70 MHz (centre frequency 40.68 MHz),  
 9026928 MHz in Region 2 (centre frequency 915 MHz),  
 2 40062 500 MHz (centre frequency 2 450 MHz),  
 5 72565 875 MHz (centre frequency 5 800 MHz), and  
 24624.25 GHz (centre frequency 24.125 GHz)  
 are also designated for industrial, scientific and medical (ISM) applications. Radiocommunications 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 570613 600 kHz and 13 800613 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 250614 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 9956 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 068618 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

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- 21 850621 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 850621 870 kHz by the fixed service is limited to provision of services related to aircraft flight safety. (WRC-07)
- 155B The band 21 870621 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 720623 200 kHz is also allocated to the meteorological aids service (radiosondes) on a primary basis.
- 156A The use of the band 23 200623 350 kHz by the fixed service is limited to provision of services related to aircraft flight safety.
- 157 The use of the band 23 350624 000 kHz by the maritime mobile service is limited to inter-ship radiotelegraphy.
- 158 *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 24 450624 600 kHz is allocated to the fixed and land mobile services on a primary basis.
- 159 *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 39639.5 MHz is allocated to the fixed and mobile services on a primary basis.
- 160 *Additional allocation:* in Botswana, Burundi, Dem. Rep. of the Congo and Rwanda, the band 41644 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)
- 161 *Additional allocation:* in Iran (Islamic Republic of) and Japan, the band 416 44 MHz is also allocated to the radiolocation service on a secondary basis.
- 161A *Additional allocation:* in Korea (Rep. of) and the United States, the frequency bands 41.015641.665 MHz and 43.35644 MHz are also allocated to the radiolocation service on a primary basis. Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed or mobile services. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution **612 (Rev.WRC-12)**.
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- 161B *Alternative allocation:* in Albania, Germany, Armenia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Cyprus, Vatican, Croatia, Denmark, Spain, Estonia, Finland, France, Greece, Hungary, Ireland, Iceland, Italy, Latvia, The Former Yugoslav Rep. of Macedonia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, Norway, Uzbekistan, Netherlands, Poland, Portugal, Kyrgyzstan, Slovakia, Czech Rep., Romania, United Kingdom, San Marino, Slovenia, Sweden, Switzerland, Turkey and Ukraine, the frequency band 426 42.5 MHz is allocated to the fixed and mobile services on a primary basis.
- 162 *Additional allocation:* in Australia, the band 44647 MHz is also allocated to the broadcasting service on a primary basis. (WRC-12)
- 162A *Additional allocation:* in Germany, Austria, Belgium, Bosnia and Herzegovina, China, Vatican, Denmark, Spain, Estonia, the Russian Federation, Finland, France, Ireland, Iceland, Italy, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Luxembourg, Monaco, Montenegro, Norway, the Netherlands, Poland, Portugal, the Czech Rep., the United Kingdom, Serbia, Slovenia, Sweden and Switzerland the band 46668 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution **217 (WRC-97)**. (WRC-12)
- 163 *Additional allocation:* in Armenia, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 47648.5 MHz and 56.5658 MHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-12)
- 164 *Additional allocation:* in Albania, Algeria, Germany, Austria, Belgium, Bosnia and Herzegovina, Botswana, Bulgaria, Côte d'Ivoire, Denmark, Spain, Estonia, Finland, France, Gabon, Greece, Ireland, Israel, Italy, Jordan, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Montenegro, Nigeria, Norway, the Netherlands, Poland, Syrian Arab Republic, Slovakia, Czech Rep., Romania, the United Kingdom, Serbia, Slovenia, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 47668 MHz, in South Africa the band 47650 MHz, and in Latvia the band 48.5656.5 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-12)
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- 165 *Additional allocation:* in Angola, Cameroon, Congo (Rep. of the), Madagascar, Mozambique, Niger, Somalia, Sudan, South Sudan, Tanzania and Chad, the band 47668 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 166 *Alternative allocation:* in New Zealand, the band 50651 MHz is allocated to the fixed and mobile services on a primary basis; the band 53654 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 167 *Alternative allocation:* in Bangladesh, Brunei Darussalam, India, Iran (Islamic Republic of), Pakistan, Singapore and Thailand, the band 50654 MHz is allocated to the fixed, mobile and broadcasting services on a primary basis. (WRC-07)
- 167A *Additional allocation:* in Indonesia, the band 50654 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 50654 MHz is also allocated to the broadcasting service on a primary basis.
- 169 *Alternative allocation:* in Botswana, Lesotho, Malawi, Namibia, the Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 50654 MHz is allocated to the amateur service on a primary basis. In Senegal, the band 50651 MHz is allocated to the amateur service on a primary basis. (WRC-12)
- 170 *Additional allocation:* in New Zealand, the band 51653 MHz is also allocated to the fixed and mobile services on a primary basis.
- 171 *Additional allocation:* in Botswana, Lesotho, Malawi, Mali, Namibia, Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 54668 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 172 *Different category of service:* in the French Overseas Departments and Communities in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 54668 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 and Communities in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 68672 MHz to the fixed and mobile services is on a primary basis (see No. 33).
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- 175 *Alternative allocation:* in Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Moldova, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the bands 68673 MHz and 76687.5 MHz are allocated to the broadcasting service on a primary basis. In Latvia and Lithuania, the bands 68673 MHz and 76687.5 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 68674 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 73674 MHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-07)
- 178 *Additional allocation:* in Colombia, Cuba, El Salvador, Guatemala, Guyana, Honduras and Nicaragua, the band 73674.6 MHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)
- 179 *Additional allocation:* in Armenia, Azerbaijan, Belarus, China, the Russian Federation, Georgia, Kazakhstan, Lithuania, Mongolia, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 74.6674.8 MHz and 75.2675.4 MHz are also allocated to the aeronautical radionavigation service, on a primary basis, for ground-based transmitters only. (WRC-12)
- 180 The frequency 75 MHz is assigned to marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services which, because of their power or geographical position, might cause harmful interference or otherwise place a constraint on marker beacons.
- Every effort should be made to improve further the characteristics of airborne receivers and to limit the power of transmitting stations close to the limits 74.8 MHz and 75.2 MHz.
- 181 *Additional allocation:* in Egypt, Israel and the Syrian Arab Republic, the band 74.8675.2 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
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- 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 75.4687 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 76687 MHz is also allocated to the broadcasting service on a primary basis.
- 185 *Different category of service:* in the United States, the French Overseas Departments and Communities in Region 2, Guyana, Jamaica, Mexico and Paraguay, the allocation of the band 76688 MHz to the fixed and mobile services is on a primary basis (see No. **33**).
- 187 *Alternative allocation:* in Albania, the band 81687.5 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 85687 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 87.5688 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 1006108 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 1046108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-07)
- 197 *Additional allocation:* in the Syrian Arab Republic, the band 1086 111.975 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedures invoked under No. **9.21**. (WRC-12)
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- 197A *Additional allocation:* the band 1086117.975 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 1086112 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 117.9756137 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, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Latvia, Moldova, Mongolia, Mozambique, Uzbekistan, Papua New Guinea, Poland, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the band 1326136 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-12)
- 202 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Belarus, Bulgaria, the United Arab Emirates, the Russian Federation, Georgia, Iran (Islamic Republic of), Jordan, Latvia, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the band 1366137 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-12)
- 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 1376138 MHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis (see No. **33**). (WRC-07)
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- 205 *Different category of service:* in Israel and Jordan, the allocation of the band 1376138 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 1376138 MHz to the aeronautical mobile (OR) service is on a primary basis (see No. 33). (WRC-2000)
- 207 *Additional allocation:* in Australia, the band 1376144 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 1376138 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 1376138 MHz, 3876390 MHz and 400.156401 MHz, administrations shall take all practicable steps to protect the radio astronomy service in the bands 150.056153 MHz, 3226328.6 MHz, 406.16410 MHz and 6086614 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:
- 1376138 MHz,  
3876390 MHz,  
400.156401 MHz,  
1 45261 492 MHz,  
1 52561 610 MHz,  
1 613.861 626.5 MHz,  
2 65562 690 MHz,  
21.4622 GHz,
- Resolution 739 (Rev.WRC-07) applies. (WRC-07)
- 209 The use of the bands 1376138 MHz, 1486150.05 MHz, 399.96400.05 MHz, 400.156401 MHz, 4546456 MHz and 4596460 MHz by the mobile-satellite service is limited to non-geostationary-satellite systems. (WRC-97)
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- 210 *Additional allocation:* in Italy, the Czech Rep. and the United Kingdom, the bands 1386143.6 MHz and 143.656144 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, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sweden, Switzerland, Tanzania, Tunisia and Turkey, the band 1386144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis. (WRC-12)
- 212 *Alternative allocation:* in Angola, Botswana, Cameroon, the Central African Rep., Congo (Rep. of the), Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Lesotho, Liberia, Libya, Malawi, Mozambique, Namibia, Niger, Oman, Uganda, Syrian Arab Republic, the Dem. Rep. of the Congo, Rwanda, Sierra Leone, South Africa, Swaziland, Chad, Togo, Zambia and Zimbabwe, the band 1386144 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 213 *Additional allocation:* in China, the band 1386144 MHz is also allocated to the radiolocation service on a primary basis.
- 214 *Additional allocation:* in Eritrea, Ethiopia, Kenya, The Former Yugoslav Republic of Macedonia, Montenegro, Serbia, Somalia, Sudan, South Sudan and Tanzania, the band 1386144 MHz is also allocated to the fixed service on a primary basis. (WRC-12)
- 216 *Additional allocation:* in China, the band 1446146 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 1466148 MHz is allocated to the fixed and mobile services on a primary basis.
- 218 *Additional allocation:* the band 1486149.9 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. 9.21. The bandwidth of any individual transmission shall not exceed  $\pm 25$  kHz.
- 219 The use of the band 1486149.9 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 1486149.9 MHz.
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- 220 The use of the bands 149.96150.05 MHz and 399.96400.05 MHz by the mobileósatellite service is subject to coordination under No. **9.11A**. The mobileósatellite service shall not constrain the development and use of the radionavigationósatellite service in the bands 149.96150.05 MHz and 399.96400.05 MHz. (WRC-97)
- 221 Stations of the mobileósatellite service in the band 148ó149.9 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations in the following countries: Albania, Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bosnia and Herzegovina, Botswana, Brunei Darussalam, Bulgaria, Cameroon, China, Cyprus, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Croatia, Cuba, Denmark, Djibouti, Egypt, the United Arab Emirates, Eritrea, Spain, Estonia, Ethiopia, the Russian Federation, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, Iran (Islamic Republic of), Ireland, Iceland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Montenegro, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, the Philippines, Poland, Portugal, Qatar, the Syrian Arab Republic, Kyrgyzstan, Dem. Peopleó Rep. of Korea, Slovakia, Romania, the United Kingdom, Senegal, Serbia, Sierra Leone, Singapore, Slovenia, Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia, and Zimbabwe. (WRC-12)
- 222 Emissions of the radionavigationósatellite service in the bands 149.96150.05 MHz and 399.96400.05 MHz may also be used by receiving Earth stations of the space research service.
- 223 Recognising that the use of the band 149.96150.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigationósatellite service, administrations are urged not to authorise such use in application of No. **4.4**.
- 224A The use of the bands 149.96150.05 MHz and 399.96400.05 MHz by the mobileósatellite service (Earth-to-space) is limited to the land mobileósatellite service (Earth-to-space) until 1 January 2015. (WRC-97)
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224B The allocation of the bands 149.96150.05 MHz and 399.96400.05 MHz to the radionavigation satellite service shall be effective until 1 January 2015. (WRC-97)

225 *Additional allocation:* in Australia and India, the band 150.056153 MHz is also allocated to the radio astronomy service on a primary basis.

225A *Additional allocation:* in Algeria, Armenia, Azerbaijan, Belarus, China, the Russian Federation, France, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine and Viet Nam, the frequency band 1546156 MHz is also allocated to the radiolocation service on a primary basis. The usage of the frequency band 1546156 MHz by the radiolocation service shall be limited to space-object detection systems operating from terrestrial locations. The operation of stations in the radiolocation service in the frequency band 1546156 MHz shall be subject to agreement obtained under No. 9.21. For the identification of potentially affected administrations in Region 1, the instantaneous field-strength value of 12 dB( V/m) for 10% of the time produced at 10 m above ground level in the 25 kHz reference frequency band at the border of the territory of any other administration shall be used. For the identification of potentially affected administrations in Region 3, the interference-to-noise ratio ( $I/N$ ) value of 6 dB ( $N = 161$  dBW/4 kHz), or 10 dB for applications with greater protection requirements, such as public protection and disaster relief (PPDR ( $N = 161$  dBW/4 kHz)), for 1% of the time produced at 60 m above ground level at the border of the territory of any other administration shall be used. In the frequency bands 156.76256156.8375 MHz, 156.51256156.5375 MHz, 161.96256161.9875 MHz, 162.01256162.0375 MHz, out-of-band e.i.r.p. of space surveillance radars shall not exceed 16 dBW. Frequency assignments to the radiolocation service under this allocation in Ukraine shall not be used without the agreement of Moldova.

226 The frequency 156.525 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service using digital selective calling (DSC). The conditions for the use of this frequency and the band 156.48756156.5625 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 156.76256156.8375 MHz are contained in Article 31 and Appendix 18.

In the bands 1566156.4875 MHz, 156.56256156.7625 MHz, 156.83756157.45 MHz, 160.66160.975 MHz and 161.4756162.05 MHz, each administration shall give priority to the maritime mobile service on only such

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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 radiocommunications 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 156.48756156.5125 MHz and 156.53756156.5625 MHz are also allocated to the fixed and land mobile services on a primary basis. The use of these bands by the fixed and land mobile services shall not cause harmful interference to nor claim protection from the maritime mobile VHF radio communication service. (WRC-07)
- 228 The use of the frequency bands 156.76256156.7875 MHz and 156.81256156.8375 MHz by the mobileósatellite service (Earth-to-space) is limited to the reception of automatic identification system (AIS) emissions of long-range AIS broadcast messages (Message 27, see the most recent version of Recommendation ITU-R M.1371). With the exception of AIS emissions, emissions in these frequency bands by systems operating in the maritime mobile service for communications shall not exceed 1 W.
- 228A The frequency bands 161.96256161.9875 MHz and 162.01256162.0375 MHz may be used by aircraft stations for the purpose of search and rescue operations and other safety-related communications.
- 228B The use of the frequency bands 161.96256161.9875 MHz and 162.01256162.0375 MHz by the fixed and land mobile services shall not cause harmful interference to, or claim protection from, the maritime mobile service.
- 228C The use of the frequency bands 161.96256161.9875 MHz and 162.01256162.0375 MHz by the maritime mobile service and the mobileósatellite (Earth-to-space) service is limited to the automatic identification system (AIS). The use of these frequency bands by the aeronautical mobile (OR) service is limited to AIS emissions from search and rescue aircraft operations. The AIS operations in these frequency bands shall not constrain the development and use of the fixed and mobile services operating in the adjacent frequency bands.



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- 228D The frequency bands 161.96256161.9875 MHz (AIS 1) and 162.01256162.0375 MHz (AIS 2) may continue to be used by the fixed and mobile services on a primary basis until 1 January 2025, at which time this allocation shall no longer be valid. Administrations are encouraged to make all practicable efforts to discontinue the use of these bands by the fixed and mobile services prior to the transition date. During this transition period, the maritime mobile service in these frequency bands has priority over the fixed, land mobile and aeronautical mobile services.
- 228E The use of the automatic identification system in the frequency bands 161.96256161.9875 MHz and 162.01256162.0375 MHz by the aeronautical mobile (OR) service is limited to aircraft stations for the purpose of search and rescue operations and other safety-related communications.
- 228F The use of the frequency bands 161.96256161.9875 MHz and 162.01256162.0375 MHz by the mobile-satellite service (Earth-to-space) is limited to the reception of automatic identification system emissions from stations operating in the maritime mobile service.
- 229 *Alternative allocation:* in Morocco, the band 1626174 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 1636167 MHz is also allocated to the space operation service (space-to-Earth) on a primary basis, subject to agreement obtained under No. **9.21**.
- 231 *Additional allocation:* in Afghanistan and China, the band 1676174 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service into this band shall be subject to agreement with the neighbouring countries in Region 3 whose services are likely to be affected. (WRC-12)
- 232 *Additional allocation:* in Japan, the band 1706174 MHz is also allocated to the broadcasting service on a primary basis.
- 233 *Additional allocation:* in China, the band 1746184 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.
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- 234 *Different category of service:* in Mexico, the allocation of the band 1746 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 1746 223 MHz is also allocated to the land mobile service on a primary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, broadcasting stations, existing or planned, in countries other than those listed in this footnote.
- 237 *Additional allocation:* in Congo (Rep. of the), Egypt, Eritrea, Ethiopia, Gambia, Guinea, Libya, Mali, Sierra Leone, Somalia and Chad, the band 1746 223 MHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)
- 238 *Additional allocation:* in Bangladesh, India, Pakistan and the Philippines, the band 2006 216 MHz is also allocated to the aeronautical radionavigation service on a primary basis.
- 240 *Additional allocation:* in China and India, the band 2166 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 2166 225 MHz. Stations authorised prior to 1 January 1990 may continue to operate on a secondary basis.
- 242 *Additional allocation:* in Canada, the band 2166 220 MHz is also allocated to the land mobile service on a primary basis.
- 243 *Additional allocation:* in Somalia, the band 2166 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 2226 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 2236 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

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- 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 2236235 MHz is also allocated to the aeronautical radionavigation service on a primary basis.
- 250 *Additional allocation:* in China, the band 2256235 MHz is also allocated to the radio astronomy service on a secondary basis.
- 251 *Additional allocation:* in Nigeria, the band 2306235 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 2306238 MHz and 2466254 MHz are allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. **9.21**.
- 254 The bands 2356322 MHz and 335.46399.9 MHz may be used by the mobile<sup>6</sup> 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 3126315 MHz (Earth-to-space) and 3876390 MHz (space-to-Earth) in the mobile<sup>6</sup>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 2586261 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<sup>6</sup>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)
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- 257 The band 2676272 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 328.66335.4 MHz by the aeronautical radionavigation service is limited to Instrument Landing Systems (glide path).
- 259 *Additional allocation:* in Egypt and the Syrian Arab Republic, the band 328.66335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. **9.21**. (WRC-12)
- 260 Recognising that the use of the band 399.96400.05 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  $\pm 25$  kHz about the standard frequency 400.1 MHz.
- 262 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Botswana, Colombia, Cuba, Egypt, the United Arab Emirates, Ecuador, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Liberia, Malaysia, Moldova, Oman, Uzbekistan, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Kyrgyzstan, Singapore, Somalia, Tajikistan, Chad, Turkmenistan and Ukraine, the band 400.056401 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 263 The band 400.156401 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 400.156401 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.

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- 266 The use of the band 4066406.1 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 4066406.1 MHz is prohibited.
- 268 Use of the band 4106420 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<sup>2</sup>) for  $0^\circ \leq \delta \leq 5^\circ$ ,  $153 + 0.077 (\delta - 5)$  dB(W/m<sup>2</sup>) for  $5^\circ \leq \delta \leq 70^\circ$  and 148 dB(W/m<sup>2</sup>) for  $70^\circ \leq \delta \leq 90^\circ$ , where  $\delta$  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. (WRC-97)
- 269 *Different category of service:* in Australia, the United States, India, Japan and the United Kingdom, the allocation of the bands 4206430 MHz and 4406450 MHz to the radiolocation service is on a primary basis (see No. 33).
- 270 *Additional allocation:* in Australia, the United States, Jamaica and the Philippines, the bands 4206430 MHz and 4406450 MHz are also allocated to the amateur service on a secondary basis.
- 271 *Additional allocation:* in Belarus, China, India, Kyrgyzstan and Turkmenistan, the band 4206460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis. (WRC-07)
- 274 *Alternative allocation:* in Denmark, Norway Sweden and Chad, the bands 4306432 MHz and 4386440 MHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 275 *Additional allocation:* in Croatia, Estonia, Finland, the Libyan Arab Jamahiriya, the Former Yugoslav Republic of Macedonia, Montenegro, Serbia and Slovenia, the bands 4306432 MHz and 4386440 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, Djibouti, Egypt, the United Arab Emirates, Ecuador, Eritrea, Ethiopia, Greece, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, Jordan, Kenya, Kuwait, Libya, Malaysia, Niger, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian
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- Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Switzerland, Tanzania, Thailand, Togo, Turkey and Yemen, the band 4306440 MHz is also allocated to the fixed service on a primary basis and the bands 4306435 MHz and 4386440 MHz are also allocated to the mobile, except aeronautical mobile, service on a primary basis. (WRC-12)
- 277 *Additional allocation:* in Angola, Armenia, Azerbaijan, Belarus, Cameroon, Congo (Rep. of the), Djibouti, the Russian Federation, Georgia, Hungary, Israel, Kazakhstan, Mali, Mongolia, Uzbekistan, Poland, the Dem. Rep. of the Congo, Kyrgyzstan, Slovakia, Romania, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the band 4306440 MHz is also allocated to the fixed service on a primary basis. (WRC-12)
- 278 *Different category of service:* in Argentina, Colombia, Costa Rica, Cuba, Guyana, Honduras, Panama and Venezuela, the allocation of the band 4306440 MHz to the amateur service is on a primary basis (see No. 33).
- 279 *Additional allocation:* in Mexico, the bands 4306435 MHz and 4386440 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 service (active) shall be in accordance with Recommendation ITU-R RS.1260-1. Additionally, the Earth exploration-satellite service (active) in the band 4326438 MHz shall not cause harmful interference to the aeronautical radionavigation service in China. The provisions of this footnote in no way diminish the obligation of the Earth exploration-satellite service (active) to operate as a secondary service in accordance with Nos. 29 and 30. (WRC-03)
- 280 In Germany, Austria, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Liechtenstein, Montenegro, Portugal, Serbia, Slovenia and Switzerland, the band 433.056434.79 MHz (centre frequency 433.92 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunications services of these countries operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 15.13. (WRC-07)
- 281 *Additional allocation:* in the French Overseas Departments and Communities in Region 2 and India, the band 433.756434.25 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.
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- 282 In the bands 4356438 MHz, 1 26061 270 MHz, 2 40062 450 MHz, 3 4006 3 410 MHz (in Regions 2 and 3 only) and 5 65065 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 26061 270 MHz and 5 65065 670 MHz by the amateur satellite service is limited to the Earth-to-space direction.
- 283 *Additional allocation:* in Austria, the band 4386440 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.
- 284 *Additional allocation:* in Canada, the band 4406450 MHz is also allocated to the amateur service on a secondary basis.
- 285 *Different category of service:* in Canada, the allocation of the band 4406 450 MHz to the radiolocation service is on a primary basis (see No. **33**).
- 286 The band 449.756450.25 MHz may be used for the space operation service (Earth-to-space) and the space research service (Earth-to-space), subject to agreement obtained under No. **9.21**.
- 286A The use of the bands 4546456 MHz and 4596460 MHz by the mobile satellite service is subject to coordination under No. **9.11A**. (WRC-97)
- 286AA The band 4506470 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)
- 286B The use of the band 4546455 MHz in the countries listed in **286D**, 4556 456 MHz and 4596460 MHz in Region 2, and 4546456 MHz and 4596 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 4546455 MHz in the countries listed in **286D**, 4556 456 MHz and 4596460 MHz in Region 2, and 4546456 MHz and 4596 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
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services operating in accordance with the Table of Frequency Allocations. (WRC-97)

- 286D *Additional allocation:* in Canada, the United States and Panama, the band 4546455 MHz is also allocated to the mobileósatellite service (Earth-to-space) on a primary basis. (WRC-07)
- 286E *Additional allocation:* in Cape Verde, Nepal and Nigeria, the bands 4546456 MHz and 4596460 MHz are also allocated to the mobileósatellite (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 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.1174-2. (WRC-03)
- 289 Earth explorationósatellite service applications, other than the meteorologicalósatellite service, may also be used in the bands 4606470 MHz and 1 69061 710 MHz for space-to-Earth transmissions subject to not causing harmful interference to stations operating in accordance with the Table.
- 290 *Different category of service:* in Afghanistan, Azerbaijan, Belarus, China, the Russian Federation, Japan, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 4606470 MHz to the meteorologicalósatellite service (space-to-Earth) is on a primary basis (see No. 33), subject to agreement obtained under No. 9.21. (WRC-12)
- 291 *Additional allocation:* in China, the band 4706485 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.



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- 291A *Additional allocation:* in Germany, Austria, Denmark, Estonia, Finland, Liechtenstein, Norway, the Netherlands, the Czech Rep. and Switzerland, the band 4706494 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 4706512 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, Cuba, the United States, Guyana, Honduras, Jamaica, Mexico, Panama and Peru, the allocation of the bands 4706512 MHz and 6146806 MHz to the fixed service is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21**. In Canada, Chile, Cuba, the United States, Guyana, Honduras, Jamaica, Mexico, Panama and Peru, the allocation of the bands 4706512 MHz and 6146698 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 4706512 MHz to the fixed and mobile services is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21**. (WRC-12)
- 294 *Additional allocation:* in Saudi Arabia, Cameroon, Côte d'Ivoire, Egypt, Ethiopia, Israel, Kenya, Libya, the Syrian Arab Republic, South Sudan, Chad and Yemen, the band 4706582 MHz is also allocated to the fixed service on a secondary basis. (WRC-12)
- 296 *Additional allocation:* in Albania, Germany, Saudi Arabia, Austria, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Burkina Faso, Cameroon, Congo (Rep. of the), Côte d'Ivoire, Croatia, Denmark, Djibouti, Egypt, United Arab Emirates, Spain, Estonia, Finland, France, Gabon, Ghana, Iraq, Ireland, Iceland, Israel, Italy, Jordan, Kuwait, Latvia, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, Lithuania, Luxembourg, Mali, Malta, Morocco, Moldova, Monaco, Niger, Norway, Oman, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Slovakia, the Czech Republic, the United Kingdom, Sudan, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 4706790 MHz, and in Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Nigeria, South Africa, Tanzania, Zambia and Zimbabwe, the band 4706698 MHz are 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-12)
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- 297 *Additional allocation:* in Canada, Costa Rica, Cuba, El Salvador, the United States, Guatemala, Guyana, Honduras, Jamaica and Mexico, the band 5126 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 549.756550.25 MHz is also allocated to the space operation service (space-to-Earth) on a secondary basis.
- 300 *Additional allocation:* in Saudi Arabia, Cameroon, Egypt, United Arab Emirates, Israel, Jordan, Libya, Oman, the Syrian Arab Republic, Sudan and South Sudan, the band 5826790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-12)
- 304 *Additional allocation:* in the African Broadcasting Area (see Nos. **10** to **13**), the band 6066614 MHz is also allocated to the radio astronomy service on a primary basis.
- 305 *Additional allocation:* in China, the band 6066614 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 6086614 MHz is also allocated to the radio astronomy service on a secondary basis.
- 307 *Additional allocation:* in India, the band 6086614 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 6146806 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 6206790 MHz, see also Resolution **549 (WRC-07)**. (WRC-07)
- 312 *Additional allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 6456862 MHz, in Bulgaria the bands 6466686 MHz, 7266758 MHz, 7666814 MHz and 8226862 MHz, in Romania the band 8306862 MHz, and in Poland the band 8306860 MHz until 31 December 2012 and the band 8606862 MHz until 31 December 2017, are also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)
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- 312A In Region 1, the use of the band 6946790 MHz by the mobile, except aeronautical mobile, service is subject to the provisions of Resolution **232 (WRC-12)**. See also Resolution **224 (Rev.WRC-12)**.
- 313A The band, or portions of the band 6986790 MHz, in Bangladesh, China, Korea (Rep. of), India, Japan, New Zealand, Pakistan, Papua New Guinea, 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-12)
- 313B *Different category of service:* in Brazil, the allocation of the band 6986 806 MHz to the mobile service is on a secondary basis (see No. **32**). (WRC-07)
- 314 *Additional allocation:* in Austria, Italy, Moldova, Uzbekistan, Kyrgyzstan and the United Kingdom, the band 7906862 MHz is also allocated to the land mobile service on a secondary basis. (WRC-12)
- 315 *Alternative allocation:* in Greece, the band 7906838 MHz is allocated to the broadcasting service on a primary basis. (WRC-12)
- 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 7906 830 MHz, and in these same countries and in Spain, France, Gabon and Malta, the band 8306862 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 7906 830 MHz, in Albania, Angola, Bahrain, Benin, Botswana, Burundi, Congo (Rep. of the), Egypt, United Arab Emirates, Estonia, Region Gambia, Ghana, Guinea, Guinea-Bissau, Hungary, Iraq, Kuwait, Lesotho, Latvia, Lebanon, Lithuania, Luxembourg, Malawi, Morocco, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Poland, Qatar, Slovakia, Czech Republic, Romania, Rwanda, Senegal, Sudan, South Sudan, South Africa,
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Swaziland, Tanzania, Chad, Togo, Yemen, Zambia, Zimbabwe and French overseas departments and communities of Region 1, the band 7906862 MHz, and in Georgia, the band 8066862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis subject to the agreement by the administrations concerned obtained under No. **9.21** and under the GE06 Agreement, as appropriate, including those administrations mentioned in No. **312**, where appropriate. See Resolutions **224 (Rev.WRC-12)** and **749 (Rev.WRC-12)**. This allocation is effective until 16 June 2015. (WRC-12)

- 316B In Region 1, the allocation to the mobile, except aeronautical mobile, service on a primary basis in the frequency band 7906862 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. Resolutions **224 (Rev.WRC-12)** and **749 (WRC-12)** shall apply, as appropriate. (WRC-12)
- 317 *Additional allocation:* in Region 2 (except Brazil and the United States), the band 8066890 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 6986960 MHz in Region 2 and the band 7906960 MHz in Regions 1 and 3 which are allocated to the mobile service on a primary basis are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) - see Resolutions **224 (Rev.WRC-12)** and **749 (WRC-12)**, as appropriate. This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-12)
- 318 *Additional allocation:* in Canada, the United States and Mexico, the bands 8496851 MHz and 8946896 MHz are also allocated to the aeronautical mobile service on a primary basis, for public correspondence with aircraft. The use of the band 8496851 MHz is limited to transmissions from aeronautical stations and the use of the band 8946896 MHz is limited to transmissions from aircraft stations.
- 319 *Additional allocation:* in Belarus, the Russian Federation and Ukraine, the bands 8066840 MHz (Earth-to-space) and 8566890 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

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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 8066890 MHz and 9426960 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 8626960 MHz, stations of the broadcasting service shall be operated only in the African Broadcasting Area (see Nos. **10** to **13**) excluding Algeria, Burundi, Egypt, Spain, Lesotho, Libya, Morocco, Malawi, Namibia, Nigeria, South Africa, Tanzania, Zimbabwe and Zambia, subject to agreement obtained under No. **9.21**. (WRC-12)
- 323 *Additional allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 8626960 MHz, in Bulgaria the bands 8626890.2 MHz and 9006935.2 MHz, in Poland the band 8626876 MHz until 31 December 2017, and in Romania the bands 8626880 MHz and 9156925 MHz, are also allocated to the aeronautical radionavigation service on a primary basis. Such use is subject to agreement obtained under No. **9.21** with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-12)
- 325 *Different category of service:* in the United States, the allocation of the band 8906942 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 9026915 MHz to the land mobile service is on a primary basis. (WRC-2000)
- 326 *Different category of service:* in Chile, the band 9036905 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 9156928 MHz to the radiolocation service is on a primary basis (see No. **33**).
- 327A The use of the frequency band 96061164 MHz by the aeronautical mobile (R) service is limited to systems that operate in accordance with recognised international aeronautical standards. Such use shall be in accordance with Resolution **417 (WRC-12)**. (WRC-12)

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- 328 The use of the band 96061 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 radionavigationósatellite service in the band 1 1646 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 96061 215 MHz. No. **43A** does not apply. The provisions of No. **21.18** shall apply. (WRC-07)
- 328B The use of the bands 1 16461 300 MHz, 1 55961 610 MHz and 5 0106 5 030 MHz by systems and networks in the radionavigationósatellite 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 radionavigationósatellite 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 radionavigationó satellite service (space-to-space) in the bands 1 21561 300 MHz and 1 5596 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 radionavigationósatellite service (space-to-space). (WRC-07)
- 329 Use of the radionavigationósatellite service in the band 1 21561 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 radionavigationósatellite service in the band 1 21561 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 radionavigationósatellite service (space-to-space) operating in the bands 1 21561 300 MHz and 1 55961 610 MHz is not intended to provide safety service applications, and shall not impose any additional constraints on radionavigationósatellite service (space-to-Earth) systems or on other services operating in accordance with the Table of Frequency Allocations. (WRC-07)
- 330 *Additional allocation:* in Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, China, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel,
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Japan, Jordan, Kuwait, Nepal, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the band 1 21561 300 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)

- 331 *Additional allocation:* in Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Belarus, Belgium, Benin, Bosnia and Herzegovina, Brazil, Burkina Faso, Burundi, Cameroon, China, Korea (Rep. of), Croatia, Denmark, Egypt, the United Arab Emirates, Estonia, the Russian Federation, Finland, France, Ghana, Greece, Guinea, Equatorial Guinea, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Israel, Jordan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Mauritania, Montenegro, Nigeria, Norway, Oman, Pakistan, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sudan, South Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Thailand, Togo, Turkey, Venezuela and Viet Nam, the band 1 21561 300 MHz is also allocated to the radionavigation service on a primary basis. In Canada and the United States, the band 1 24061 300 MHz is also allocated to the radionavigation service, and use of the radionavigation service shall be limited to the aeronautical radionavigation service. (WRC-12)
- 332 In the band 1 21561 260 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, the radionavigation-satellite service and other services allocated on a primary basis. (WRC-2000)
- 334 *Additional allocation:* in Canada and the United States, the band 1 3506 1 370 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-03)
- 335 In Canada and the United States in the band 1 24061 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 26061 300 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service and other services allocated by footnotes on a primary basis. (WRC-2000)

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- 337 The use of the bands 1 30061 350 MHz, 2 70062 900 MHz and 9 0006 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 30061 350 MHz by Earth stations in the radionavigation-satellite service and by stations in the radiolocation service shall not cause harmful interference to, nor constrain the operation and development of, the aeronautical-radionavigation service. (WRC-2000)
- 338 In Kyrgyzstan, Slovakia and Turkmenistan, existing installations of the radionavigation service may continue to operate in the band 1 3506 1 400 MHz. (WRC-12)
- 338A In the bands 1 35061 400 MHz, 1 42761 452 MHz, 22.55623.55 GHz, 306 31.3 GHz, 49.7650.2 GHz, 50.4650.9 GHz, 51.4652.6 GHz, 81686 GHz and 92694 GHz, Resolution **750 (Rev.WRC-12)** applies. (WRC-12)
- 339 The bands 1 37061 400 MHz, 2 64062 655 MHz, 4 95064 990 MHz and 15.20615.35 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 40061 427 MHz,  
 2 69062 700 MHz, except those provided for by No. **422**,  
 10.68610.7 GHz, except those provided for by No. **483**,  
 15.35615.4 GHz, except those provided for by No. **511**,  
 23.6624 GHz,  
 31.3631.5 GHz,  
 31.5631.8 GHz, in Region 2,  
 48.94649.04 GHz, from airborne stations,  
 50.2650.4 GHz<sup>2</sup>,  
 52.6654.25 GHz,  
 86692 GHz,  
 1006102 GHz,

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



109.56111.8 GHz,  
 114.256116 GHz,  
 148.56151.5 GHz,  
 1646167 GHz,  
 1826185 GHz,  
 1906191.8 GHz,  
 2006209 GHz,  
 2266231.5 GHz,  
 2506252 GHz. (WRC-03)

- 341 In the bands 1 40061 727 MHz, 1016120 GHz and 1976220 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, the Russian Federation, Uzbekistan, Kyrgyzstan and Ukraine, the band 1 4296 1 535 MHz, and in Bulgaria the band 1 52561 535 MHz, are 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 45261 492 MHz is subject to agreement between the administrations concerned. (WRC-12)
- 343 In Region 2, the use of the band 1 43561 535 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service.
- 344 *Alternative allocation:* in the United States, the band 1 45261 525 MHz is allocated to the fixed and mobile services on a primary basis. (See also No. **343**.)
- 345 Use of the band 1 45261 492 MHz by the broadcasting-satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution **528 (Rev.WRC-03)**. (WRC-03)
- 348 The use of the band 1 51861 525 MHz by the mobile-satellite service is subject to coordination under No. **9.11A**. In the band 1 51861 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 51861 525 MHz, the coordination threshold in terms of the power flux-density levels at the surface of the Earth in application of No. **9.11A** for space stations in the mobile-satellite (space-to-Earth) service,

with respect to the land mobile service use for specialised mobile radios or used in conjunction with public switched telecommunication networks (PSTN) operating within the territory of Japan, shall be 150 dB(W/m<sup>2</sup>) in any 4 kHz band for all angles of arrival, instead of those given in Table 562 of Appendix 5. In the band 1 51861 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 51861 525 MHz, stations in the mobile-satellite service shall not claim protection from aeronautical mobile telemetry stations in the mobile service in the territory of the United States (see Nos. **343** and **344**) and in the countries listed in No. **342**. No. **43A** does not apply. (WRC-03)
- 349 *Different category of service:* in Saudi Arabia, Azerbaijan, Bahrain, Cameroon, Egypt, France, Iran (Islamic Republic of), Iraq, Israel, Kazakhstan, Kuwait, the Former Yugoslav Republic of Macedonia, Lebanon, Morocco, Qatar, the Syrian Arab Republic, Kyrgyzstan, Turkmenistan and Yemen, the allocation of the band 1 52561 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 52561 530 MHz is also allocated to the aeronautical mobile service on a primary basis.
- 351 The bands 1 52561 544 MHz, 1 54561 559 MHz, 1 626.561 645.5 MHz and 1 646.561 660.5 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 51861 544 MHz, 1 54561 559 MHz, 1 6106 1 645.5 MHz, 1 646.561 660.5 MHz, 1 66861675 MHz, 1 98062 010 MHz, 2 17062 200 MHz, 2 483.562 520 MHz and 2 67062 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 52561 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 communities of Region 3, Algeria, Saudi Arabia, Egypt, Guinea, India, Israel, Italy, Jordan, Kuwait, Mali, Morocco, Mauritania, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Tanzania, Viet Nam and Yemen notified prior to 1 April 1998. (WRC-12)

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- 353A In applying the procedures of Section II of Article 9 to the mobile-satellite service in the bands 1 530.61 544 MHz and 1 626.561 645.5 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 1 525.61 559 MHz and 1 626.561 660.5 MHz by the mobile-satellite services is subject to coordination under No. 9.11A.
- 355 *Additional allocation:* in Bahrain, Bangladesh, Congo (Rep. of the), Djibouti, Egypt, Eritrea, Iraq, Israel, Kuwait, Qatar, Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the bands 1 540.6 1 559 MHz, 1 610.61 645.5 MHz and 1 646.561 660 MHz are also allocated to the fixed service on a secondary basis. (WRC-12)
- 356 The use of the band 1 544.61 545 MHz by the mobile-satellite service (space-to-Earth) is limited to distress and safety communications (see Article 31).
- 357 Transmissions in the band 1 545.61 555 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorised when such transmissions are used to extend or supplement the satellite-to-aircraft links.
- 357A In applying the procedures of Section II of Article 9 to the mobile-satellite service in the frequency bands 1 545.61 555 MHz and 1 646.561 656.5 MHz, priority shall be given to accommodating the spectrum requirements of the aeronautical mobile-satellite (R) service providing transmission of messages with priority 1 to 6 in Article 44. Aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44 shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services (the provisions of Resolution 222 (WRC-12) shall apply). (WRC-12)
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- 359 *Additional allocation:* in Germany, Saudi Arabia, Armenia, Austria, Azerbaijan, Belarus, Benin, Cameroon, the Russian Federation, France, Georgia, Greece, Guinea, Guinea-Bissau, Jordan, Kazakhstan, Kuwait, Lithuania, Mauritania, Uganda, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Tajikistan, Tanzania, Tunisia, Turkmenistan and Ukraine, the bands 1 550.6–1 559 MHz, 1 610.6–1 645.5 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-12)
- 362A In the United States, in the bands 1 555.6–1 559 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 1 559.6–1 610 MHz is also allocated to the fixed service on a primary basis until 1 January 2010 in Algeria, Saudi Arabia, Cameroon, Jordan, Mali, Mauritania, 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 1 559.6–1 610 MHz is also allocated to the fixed service on a secondary basis in Algeria, Armenia, Azerbaijan, Belarus, Benin, Russian Federation, Gabon, Georgia, Guinea, Guinea-Bissau, Kazakhstan, Lithuania, Nigeria, Uzbekistan, Pakistan, Poland, Kyrgyzstan, Dem. People's Rep. of Korea, Romania, Senegal, 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-12)
- 362C *Additional allocation:* in Congo (Rep. of the), Eritrea, Iraq, Israel, Jordan, Qatar, the Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the band 1 559.6–1 610 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 authorize new frequency assignments to fixed-service systems in this band. (WRC-12)
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- 364 The use of the band 1 61061 626.5 MHz by the mobileósatellite service (Earth-to-space) and by the radiodeterminationósatellite 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 mobileósatellite 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 mobileósatellite 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 1 613.861 626.5 MHz by the mobileósatellite service (space-to-Earth) is subject to coordination under No. **9.11A**.
- 366 The band 1 61061 626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under No. **9.21**.
- 367 *Additional allocation:* The frequency band 1 61061 626.5 MHz is also allocated to the aeronautical mobileósatellite (R) service on a primary basis, subject to agreement obtained under No. 9.21.
- 368 With respect to the radiodeterminationósatellite and mobileósatellite services the provisions of No. **4.10** do not apply in the band 1 61061 626.5 MHz, with the exception of the aeronautical radionavigationósatellite service.
- 369 *Different category of service:* in Angola, Australia, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Israel, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, the Dem. Rep. of the Congo, Sudan, South Sudan, Togo and Zambia, the allocation of the band 1 61061 626.5 MHz to the radiodeterminationósatellite service (Earth-to-space) is on a primary basis (see No. **33**), subject to agreement obtained under No. **9.21** from countries not listed in this provision. (WRC-12)
- 370 *Different category of service:* in Venezuela, the allocation to the radiodeterminationósatellite service in the band 1 61061 626.5 MHz (Earth-to-space) is on a secondary basis.
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- 371 *Additional allocation:* in Region 1, the band 1 610.61 626.5 MHz (Earth-to-space) is also allocated to the radiodetermination-satellite service on a secondary basis, subject to agreement obtained under No. 9.21. (WRC-12)
- 372 Harmful interference shall not be caused to stations of the radio astronomy service using the band 1 610.661 613.8 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 1 631.561 634.5 MHz and 1 656.561 660 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 1 645.561 646.5 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 1 646.561 656.5 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 1 660.061 660.5 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 1 660.561 668.4 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 1 660.561 668.4 MHz for future research in radio astronomy, particularly by eliminating air-to-ground transmissions in the meteorological aids service in the band 1 664.461 668.4 MHz as soon as practicable.
- 379B The use of the band 1 668.61 675 MHz by the mobile-satellite service is subject to coordination under No. **9.11A**. In the band 1 668.61 668.4 MHz, Resolution **904 (WRC-07)** shall apply. (WRC-07)
- 379C In order to protect the radio astronomy service in the band 1 668.61 670 MHz, the aggregate power flux-density values produced by mobile Earth stations in a network of the mobile-satellite service operating in this band shall not exceed 181 dB(W/m<sup>2</sup>) in 10 MHz and 194 dB(W/m<sup>2</sup>) in any 20 kHz at any
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- 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 1 668.461 675 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 1 668.461 675 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 1 668.461 675 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 1 670.61 675 MHz, stations in the mobile-satellite service shall not cause harmful interference to, nor constrain the development of, existing earth stations in the meteorological-satellite service notified before 1 January 2004. Any new assignment to these earth stations in this band shall also be protected from harmful interference from stations in the mobile-satellite service. (WRC-07)
- 381 *Additional allocation:* in Afghanistan, Cuba, India, Iran (Islamic Republic of) and Pakistan, the band 1 690.61 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 382 *Different category of service:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Guinea, Iraq, Israel, Jordan, Kazakhstan, Kuwait, the Former Yugoslav Republic of Macedonia, Lebanon, Mauritania, Moldova, Mongolia, Oman, Uzbekistan, Poland, Qatar, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Tanzania, Turkmenistan, Ukraine and Yemen, the allocation of the band 1 690.61 700 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 1 690.61 700 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-12)
- 384 *Additional allocation:* in India, Indonesia, and Japan the band 1 700.61 710 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, 1 710.61 885 MHz, 2 300.62 400 MHz and 2 500.62 690 MHz, are identified for use by administrations wishing to
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- 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 1 718.861 722.2 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 75061 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, Kyrgyzstan, Romania, Tajikistan and Turkmenistan, the band 1 77061 790 MHz is also allocated to the meteorological satellite service on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-12)
- 388 The bands 1 88562 025 MHz and 2 11062 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications 62000 (IMT 62000). 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 62000 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 88561 980 MHz, 2 01062 025 MHz and 2 11062 170 MHz and, in Region 2, the bands 1 88561 980 MHz and 2 11062 160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications 62000 (IMT 62000), in accordance with Resolution **221 (Rev.WRC-03)**. Their use by IMT 62000 applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-03)
- 388B In Algeria, Saudi Arabia, Bahrain, Benin, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, China, Cuba, Djibouti, Egypt, United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, India, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Libya, Mali, Morocco, Mauritania, Nigeria, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, Senegal, Singapore, Sudan, South Sudan, Tanzania, Chad, Togo, Tunisia, Yemen, Zambia and Zimbabwe, for the purpose of protecting fixed and mobile services, including IMT 62000 mobile stations, in their territories from co-
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channel interference, a high altitude platform station (HAPS) operating as an IMT62000 base station in neighbouring countries, in the bands referred to in No. **388A**, shall not exceed a co-channel power flux-density of 127 dB(W/(m<sup>2</sup>·MHz)) at the Earth's surface outside a country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS. (WRC-12)

- 389A The use of the bands 1 98062 010 MHz and 2 17062 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 98061 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 01062 025 MHz and 2 16062 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 01062 025 MHz and 2 16062 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 98062 010 MHz and 2 17062 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 02562 110 MHz and 2 20062 290 MHz, administrations shall not introduce high-density mobile systems, as described in Recommendation ITU-R SA.1154, and shall take that Recommendation into account for the introduction of any other type of mobile system. (WRC-97)
- 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 02562 110 MHz and 2 20062 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, India and Mexico, the band 2 31062 360 MHz is also allocated to the broadcastingósatellite 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 broadcastingósatellite systems in the upper 25 MHz. (WRC-07)
- 394 In the United States, the use of the band 2 30062 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 36062 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 31062 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 broadcastingósatellite service in the band 2 3106 2 360 MHz operating in accordance with No. **393** that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution **33 (Rev.WRC-03)**. Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use. (WRC-03)
- 398 In respect of the radiodeterminationósatellite service in the band 2 483.56 2 500 MHz, the provisions of No. **4.10** do not apply.
- 398A *Different category of service:* In Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine, the band 2 483.562 500 MHz is allocated on a primary basis to the radiolocation service. The radiolocation stations in these countries shall not cause harmful interference to, or claim protection from, stations of the fixed, mobile and mobileósatellite services operating in accordance with the Radio Regulations in the frequency band 2 483.562 500 MHz. (WRC-12)
- 399 Except for cases referred to in No. **118B**, stations of the radiodeterminationó satellite service operating in the frequency band 2 483.562 500 MHz for which notification information is received by the Bureau after 17 February 2012, and the service area of which includes Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine, shall not cause harmful interference to, and shall not claim

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protection from stations of the radiolocation service operating in these countries in accordance with No. **118A**. (WRC-12)

- 401 In Angola, Australia, Bangladesh, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, Dem. Rep. of the Congo, Sudan, Swaziland, Togo and Zambia, the band 2 483.562 500 MHz was already allocated on a primary basis to the radiodetermination satellite service before WRC-12, subject to agreement obtained under No. **9.21** from countries not listed in this provision. Systems in the radiodetermination satellite service for which complete coordination information has been received by the Radiocommunication Bureau before 18 February 2012 will retain their regulatory status, as of the date of receipt of the coordination request information. (WRC-12)
- 402 The use of the band 2 483.562 500 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 2 483.562 500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4 990 65 000 MHz band allocated to the radio astronomy service worldwide.
- 403 Subject to agreement obtained under No. **9.21**, the band 2 520 62 535 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 62 516.5 MHz may also be used for the radiodetermination satellite service (space-to-Earth) for operation limited to within national boundaries, subject to agreement obtained under No. **9.21**.
- 407 In the band 2 500 62 520 MHz, the power flux-density at the surface of the Earth from space stations operating in the mobile satellite (space-to-Earth) service shall not exceed 152 dB(W/m<sup>2</sup>/4 kHz) in Argentina, unless otherwise agreed by the administrations concerned.
- 410 The band 2 500 62 690 MHz may be used for tropospheric scatter systems in Region 1, subject to agreement obtained under No. **9.21**. No. **9.21** does not apply to tropospheric scatter links situated entirely outside Region 1. Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in this band. When planning new tropospheric scatter radio-relay links in this band, all possible measures shall be taken to

avoid directing the antennas of these links towards the geostationary-satellite orbit. (WRC-12)

412 *Alternative allocation:* in Kyrgyzstan and Turkmenistan, the band 2 500 62 690 MHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

413 In the design of systems in the broadcasting-satellite service in the bands between 2 500 MHz and 2 690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690 62 700 MHz.

414 The allocation of the frequency band 2 500 62 520 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 62 520 MHz and 2 520 62 535 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 <sup>2</sup> ·MHz))	for 0° ≤ θ ≤ 5°
136 + 0.55 (θ - 5) dB(W/(m <sup>2</sup> ·MHz))	for 5° < θ ≤ 25°
125 dB(W/(m <sup>2</sup> ·MHz))	for 25° < θ ≤ 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 562 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 62 690 MHz in Region 2 and 2 500 62 535 MHz and 2 655 62 690 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 62 535 MHz may also be used for the

aeronautical mobile-satellite service (space-to-Earth) for operation limited to within their national boundaries. (WRC-2000)

- 416 The use of the band 2 520-2 670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under No. **9.21**. The provisions of No. **9.19** shall be applied by administrations in this band in their bilateral and multilateral negotiations. (WRC-07)

- 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/(m <sup>2</sup> ·MHz))	for 0° ≤ θ ≤ 5°
130 + 0.4 (θ - 5) dB(W/(m <sup>2</sup> ·MHz))	for 5° < θ ≤ 25°
122 dB(W/(m <sup>2</sup> ·MHz))	for 25° < θ ≤ 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<sup>2</sup>·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 broadcasting-satellite service (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 60562 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 60562 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, and Thailand, the band 2 53562 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 63062 655 MHz, and for which complete Appendix 4 coordination information has been received after 1 June 2005, shall not exceed the following limits, for all conditions and for all methods of modulation:

130 dB(W/(m <sup>2</sup> ·MHz))	for 0° ≤ θ ≤ 5°
130 + 0.4 (θ – 5) dB(W/(m <sup>2</sup> ·MHz))	for 5° < θ ≤ 25°
122 dB(W/(m <sup>2</sup> ·MHz))	for 25° < θ ≤ 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  $-122 \text{ dB(W/(m}^2\cdot\text{MHz))}$  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-12)

- 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)

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- 422 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Brunei Darussalam, Congo (Rep. of the), Côte d'Ivoire, Cuba, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Georgia, Guinea, Guinea-Bissau, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Mauritania, Mongolia, Montenegro, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, the Dem. Rep. of the Congo, Romania, Somalia, Tajikistan, Tunisia, Turkmenistan, Ukraine and Yemen, the band 2 690 62 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-12)
- 423 In the band 2 700 62 900 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 62 900 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 63 100 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 63 100 MHz, the use of the shipborne interrogator-transponder (SIT) system shall be confined to the sub-band 2 930 6 2 950 MHz.
- 426 The use of the band 2 900 63 100 MHz by the aeronautical radionavigation service is limited to ground-based radars.
- 427 In the bands 2 900 63 100 MHz and 9 300 69 500 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 and Turkmenistan, the band 3 100 63 300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-12)
- 429 *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, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya,
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Malaysia, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea and Yemen, the band 3 30063 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-12)

430 *Additional allocation:* in Azerbaijan, Mongolia, Kyrgyzstan and Turkmenistan, the band 3 30063 400 MHz is also allocated to the radionavigation service on a primary basis. (WRC-12)

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, the Dem. Rep. of the Congo, 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 40063 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<sup>2</sup>·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

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- 3 40063 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-12)
- 431 *Additional allocation:* in Germany, Israel and the United Kingdom, the band 3 40063 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 40063 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 4006 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 40063 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 40063 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<sup>2</sup>·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 40063 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)
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- 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 40063 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  $154.5 \text{ dB(W/(m}^2\cdot 4 \text{ kHz))}$  for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station) with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the band 3 40063 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 40063 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 50063 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  $154.5 \text{ dB(W/(m}^2\cdot 4 \text{ kHz))}$  for more than 20% of time at the border of the territory of any other administration. This limit may be
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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 50063 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 62063 700 MHz, the radiolocation service is excluded.
- 438 Use of the band 4 20064 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 explorationósatellite 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), the band 4 2006 4 400 MHz is also allocated to the fixed service on a secondary basis. (WRC-12)
- 440 The standard frequency and time signalósatellite service may be authorised to use the frequency 4 202 MHz for space-to-Earth transmissions and the frequency 6 427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of  $\pm 2$  MHz of these frequencies, subject to agreement obtained under No. 9.21.
- 440A In Region 2 (except Brazil, Cuba, French Overseas Departments and Communities, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4 40064 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 fixedósatellite 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 50064 800 MHz (space-to-Earth), 6 72567 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 10.7610.95 GHz (space-to-Earth), 11.2611.45 GHz (space-to-Earth) and 12.75613.25 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 10.7610.95 GHz (space-to-Earth), 11.2611.45 GHz (space-to-Earth) and 12.75613.25 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 82564 835 MHz and 4 95064 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 82564 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 82564 835 MHz and 4 95064 990 MHz to the radio astronomy service is on a primary basis (see No. **33**).
- 443AA In the frequency bands 5 00065 030 MHz and 5 09165 150 MHz, the aeronautical mobile-satellite (R) service is subject to agreement obtained under No. **9.21**. The use of these bands by the aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems.
- 443B In order not to cause harmful interference to the microwave landing system operating above 5 030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5 03065 150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the band 5 01065 030 MHz shall not exceed 124.5 dB(W/m<sup>2</sup>)

in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4 99065 000 MHz, radionavigationósatellite service systems operating in the band 5 01065 030 MHz shall comply with the limits in the band 4 99065 000 MHz defined in Resolution **741 (Rev.WRC-12)**. (WRC-12)

443C The use of the frequency band 5 03065 091 MHz by the aeronautical mobile (R) service is limited to internationally standardized aeronautical systems. Unwanted emissions from the aeronautical mobile (R) service in the frequency band 5 03065 091 MHz shall be limited to protect RNSS system downlinks in the adjacent 5 01065 030 MHz band. Until such time that an appropriate value is established in a relevant ITU-R Recommendation, the e.i.r.p. density limit of 75 dBW/MHz in the frequency band 5 0106 5 030 MHz for any AM(R)S station unwanted emission should be used. (WRC-12)

443D In the frequency band 5 03065 091 MHz, the aeronautical mobileósatellite (R) service is subject to coordination under No. **9.11A**. The use of this frequency band by the aeronautical mobileósatellite (R) service is limited to internationally standardized aeronautical systems.

444 The frequency band 5 03065 150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. In the frequency band 5 03065 091 MHz, the requirements of this system shall have priority over other uses of this band. For the use of the frequency band 5 09165 150 MHz, No. **444A** and Resolution **114 (Rev.WRC-12)** apply. (WRC-12)

444A *Additional allocation:* the band 5 09165 150 MHz is also allocated to the fixedósatellite service (Earth-to-space) on a primary basis. This allocation is limited to feeder links of non-geostationary-satellite systems in the mobileósatellite service and is subject to coordination under No. **9.11A**.

In the band 5 09165 150 MHz, the following conditions also apply:

- prior to 1 January 2018, the use of the band 5 09165 150 MHz by feeder links of non-geostationary-satellite systems in the mobileósatellite 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 mobileósatellite systems;
- after 1 January 2018, the fixedósatellite service will become secondary to the aeronautical radionavigation service. (WRC-07)

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- 444B The use of the frequency band 5 09165 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-12)**;
  - aeronautical telemetry transmissions from aircraft stations (see No. **1.83**) in accordance with Resolution **418 (WRC-12)**;
- 446 *Additional allocation:* in the countries listed in No. 369, the band 5 1506 5 216 MHz is also allocated to the radiodeterminationósatellite 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 radiodeterminationó satellite service (space-to-Earth) on a primary basis. In Regions 1 and 3, except those countries listed in No. **369** and Bangladesh, the band is also allocated to the radiodeterminationósatellite service (space-to-Earth) on a secondary basis. The use by the radiodeterminationósatellite service is limited to feeder links in conjunction with the radiodeterminationósatellite service operating in the bands 1 61061 626.5 MHz and/or 2 483.56 2 500 MHz. The total power flux-density at the Earthø surface shall in no case exceed 159 dB(W/m<sup>2</sup>) in any 4 kHz band for all angles of arrival. (WRC-12)
- 446A The use of the bands 5 15065 350 MHz and 5 47065 725 MHz by the stations in the mobile, except aeronautical mobile, service shall be in accordance with Resolution **229 (Rev.WRC-12)**. (WRC-12)
- 446B In the band 5 15065 250 MHz, stations in the mobile service shall not claim protection from Earth stations in the fixedósatellite service. No. **43A** does not apply to the mobile service with respect to fixedósatellite service Earth stations. (WRC-03)
- 446C *Additional allocation:* in Region 1 (except in Algeria, Saudi Arabia, Bahrain, Egypt, United Arab Emirates, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Syrian Arab Republic, Sudan, South Sudan and Tunisia) and in Brazil, the band 5 15065 250 MHz is also allocated to the aeronautical mobile service on a primary basis, limited to aeronautical telemetry transmissions from aircraft stations (see No. **1.83**), in accordance with Resolution **418 (WRC-07)**. These stations shall not claim protection from other stations operating in accordance with Article 5. No. **43A** does not apply. (WRC-12)
- 447 *Additional allocation:* in Côte d'Ivoire, Egypt, Israel, Lebanon, the Syrian Arab Republic and Tunisia, the band 5 15065 250 MHz is also allocated to
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the mobile service, on a primary basis, subject to agreement obtained under No. **9.21**. In this case, the provisions of Resolution **229 (Rev.WRC-12)** do not apply. (WRC-12)

- 447A The allocation to the fixed-satellite service (Earth-to-space) is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to coordination under No. **9.11A**.
- 447B *Additional allocation:* the band 5 15065 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 1506 5 216 MHz shall in no case exceed 164 dB(W/m<sup>2</sup>) in any 4 kHz band for all angles of arrival.
- 447C Administrations responsible for fixed-satellite service networks in the band 5 15065 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 25065 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 25065 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)



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- 447F In the band 5 25065 350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth explorationósatellite (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 RS.1632. (WRC-03)
- 448 *Additional allocation:* in Azerbaijan, Kyrgyzstan, Romania and Turkmenistan, the band 5 25065 350 MHz is also allocated to the radionavigation service on a primary basis. (WRC-12)
- 448A The Earth explorationósatellite (active) and space research (active) services in the frequency band 5 25065 350 MHz shall not claim protection from the radiolocation service. No. **43A** does not apply. (WRC-03)
- 448B The Earth explorationósatellite service (active) operating in the band 5 3506 5 570 MHz and space research service (active) operating in the band 5 4606 5 570 MHz shall not cause harmful interference to the aeronautical radionavigation service in the band 5 35065 460 MHz, the radionavigation service in the band 5 46065 470 MHz and the maritime radionavigation service in the band 5 47065 570 MHz. (WRC-03)
- 448C The space research service (active) operating in the band 5 35065 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 35065 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 35065 470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.
- 450 *Additional allocation:* in Austria, Azerbaijan, Iran (Islamic Republic of), Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 5 4706 5 650 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)
- 450A In the band 5 47065 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)
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- 450B In the frequency band 5 47065 650 MHz, stations in the radiolocation service, except ground-based radars used for meteorological purposes in the band 5 60065 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 47065 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 72565 850 MHz.
- 452 Between 5 600 MHz and 5 650 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the maritime radionavigation service.
- 453 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Djibouti, Egypt, the United Arab Emirates, Gabon, Guinea, Equatorial Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya, Madagascar, Malaysia, Niger, Nigeria, Oman, Uganda, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Sri Lanka, Swaziland, Tanzania, Chad, Thailand, Togo, Viet Nam and Yemen, the band 5 65065 850 MHz is also allocated to the fixed and mobile services on a primary basis. In this case, the provisions of Resolution **229 (Rev.WRC-12)** do not apply. (WRC-12)
- 454 *Different category of service:* in Azerbaijan, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 5 67065 725 MHz to the space research service is on a primary basis (see No. **33**). (WRC-12)
- 455 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 5 6706 5 850 MHz is also allocated to the fixed service on a primary basis. (WRC-07)
- 456 *Additional allocation:* in Cameroon, the band 5 75565 850 MHz is also allocated to the fixed service on a primary basis. (WRC-03)
- 457 In Australia, Burkina Faso, Cote d'Ivoire, Mali and Nigeria, the allocation to the fixed service in the bands 6 44066 520 MHz (HAPS-to-ground direction) and 6 56066 640 MHz (ground-to-HAPS direction) may also be used by gateway links for high-altitude platform stations (HAPS) within the territory
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of these countries. Such use is limited to operation in HAPS gateway links and shall not cause harmful interference to, and shall not claim protection from, existing services, and shall be in compliance with Resolution **150 (WRC-12)**. Existing services shall not be constrained in future development by HAPS gateway links. The use of HAPS gateway links in these bands requires explicit agreement with other administrations whose territories are located within 1 000 kilometres from the border of an administration intending to use the HAPS gateway links.

- 457A In the bands 5 92566 425 MHz and 14614.5 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 92566 425 MHz and 14614.5 GHz, earth stations located on board vessels may operate with the characteristics and under the conditions contained in Resolution **902 (WRC-03)** in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Jordan, Kuwait, Libya, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, South 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-12)
- 457C In Region 2 (except Brazil, Cuba, French Overseas Departments and Communities, Guatemala, Paraguay, Uruguay and Venezuela), the band 5 92566 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 42567 075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7 07567 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 4256 7 025 MHz and 7 07567 250 MHz.
- 458A In making assignments in the band 6 70067 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

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- band 6 65066 675.2 MHz from harmful interference from unwanted emissions.
- 458B The space-to-Earth allocation to the fixed-satellite service in the band 6 7006 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 7006 7 075 MHz (space-to-Earth) by feeder links for non-geostationary-satellite systems in the mobile-satellite service is not subject to No. **22.2**.
- 458C Administrations making submissions in the band 7 0256 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 1006 7 155 MHz and 7 1906 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 1456 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 1906 7 235 MHz. Geostationary-satellites in the space research service operating in the band 7 1906 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 2506 7 375 MHz (space-to-Earth) and 7 9006 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 4506 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 7506 7 900 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary-satellite systems. (WRC-12)
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- 462A In Regions 1 and 3 (except for Japan), in the band 8 02568 400 MHz, the Earth exploration-satellite service using geostationary-satellites shall not produce a power flux-density in excess of the following values for angles of arrival ( $\theta$ ), without the consent of the affected administration:
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| 135 dB(W/m <sup>2</sup> ) in a 1 MHz band                      | for $0^\circ \leq \theta < 5^\circ$      |
| $135 + 0.5 (\theta - 5)$ dB(W/m <sup>2</sup> ) in a 1 MHz band | for $5^\circ \leq \theta < 25^\circ$     |
| 125 dB(W/m <sup>2</sup> ) in a 1 MHz band                      | for $25^\circ \leq \theta \leq 90^\circ$ |
- 463 Aircraft stations are not permitted to transmit in the band 8 02568 400 MHz. (WRC-97)
- 465 In the space research service, the use of the band 8 40068 450 MHz is limited to deep space.
- 466 *Different category of service:* in Singapore and Sri Lanka, the allocation of the band 8 40068 500 MHz to the space research service is on a secondary basis (see No. 32). (WRC-12)
- 468 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burundi, Cameroon, China, Congo (Rep. of the), Costa Rica, Djibouti, Egypt, the United Arab Emirates, Gabon, Guyana, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Uganda, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Senegal, Singapore, Somalia, Sudan, Swaziland, Tanzania, Chad, Togo, Tunisia and Yemen, the band 8 50068 750 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 469 *Additional allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Lithuania, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 8 50068 750 MHz is also allocated to the land mobile and radionavigation services on a primary basis. (WRC-12)
- 469A In the band 8 55068 650 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radiolocation service. (WRC-97)
- 470 The use of the band 8 75068 850 MHz by the aeronautical radionavigation service is limited to airborne Doppler navigation aids on a centre frequency of 8 800 MHz.
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- 471 *Additional allocation:* in Algeria, Germany, Bahrain, Belgium, China, Egypt, the United Arab Emirates, France, Greece, Indonesia, Iran (Islamic Republic of), Libya, the Netherlands, Qatar, Sudan and South Sudan, the bands 8 825 68 850 MHz and 9 000 69 200 MHz are also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars only. (WRC-12)
- 472 In the bands 8 850 69 000 MHz and 9 200 69 225 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 69 000 MHz and 9 200 69 300 MHz are also allocated to the radionavigation service on a primary basis. (WRC-07)
- 473A In the band 9 000 69 200 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 69 500 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 69 500 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 69 320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. (WRC-07)
- 475A The use of the band 9 300 69 500 MHz by the Earth exploration satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 300 MHz than cannot be fully accommodated within the 9 500 69 800 MHz band. (WRC-07)
- 475B In the band 9 300 69 500 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)
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- 476A In the band 9 30069 800 MHz, stations in the Earth explorationósatellite service (active) and space research service (active) shall not cause harmful interference to, nor claim protection from, stations of the radionavigation and radiolocation services. (WRC-07)
- 477 *Different category of service:* in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Japan, Jordan, Kuwait, Lebanon, Liberia, Malaysia, Nigeria, Oman, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Trinidad and Tobago, and Yemen, the allocation of the band 9 800610 000 MHz to the fixed service is on a primary basis (see No. 33). (WRC-12)
- 478 *Additional allocation:* in Azerbaijan, Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 9 800610 000 MHz is also allocated to the radionavigation service on a primary basis. (WRC-07)
- 478A The use of the band 9 80069 900 MHz by the Earth explorationósatellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 500 MHz that cannot be fully accommodated within the 9 30069 800 MHz band. (WRC-07)
- 478B In the band 9 80069 900 MHz, stations in the Earth explorationósatellite service (active) and space research service (active) shall not cause harmful interference to, nor claim protection from stations of the fixed service to which this band is allocated on a secondary basis. (WRC-07)
- 479 The band 9 975610 025 MHz is also allocated to the meteorologicalósatellite 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 10610.45 GHz is also allocated to the fixed and mobile services on a primary basis. In Venezuela, the band 10610.45 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, Pakistan, Paraguay, Peru, the Dem. People's Rep. of Korea, Romania, Tanzania, Thailand and Uruguay, the band 10.45610.5 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
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- 482 In the band 10.6610.68 GHz, the power delivered to the antenna of stations of the fixed and mobile, except aeronautical mobile, services shall not exceed 3 dBW. This limit may be exceeded, subject to agreement obtained under No. **9.21**. However, in Algeria, Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Egypt, United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Jordan, Libyan Arab Jamahiriya, Kazakhstan, Kuwait, Lebanon, Morocco, Mauritania, Moldova, Nigeria, Oman, Uzbekistan, Pakistan, Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, Singapore, Tajikistan, Tunisia, Turkmenistan, and Viet Nam, this restriction on the fixed and mobile, except aeronautical mobile, services is not applicable. (WRC-07)
- 482A For sharing of the band 10.6610.68 GHz between the Earth exploration<sup>6</sup> satellite (passive) service and the fixed and mobile, except aeronautical mobile, services, Resolution **751 (WRC-07)** applies. (WRC-07)
- 483 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, China, Colombia, Korea (Rep. of), Costa Rica, Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, Mongolia, Qatar, Kyrgyzstan, the Dem. People's Rep. of Korea, Tajikistan, Turkmenistan and Yemen, the band 10.68610.7 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-12)
- 484 In Region 1, the use of the band 10.7611.7 GHz by the fixed<sup>6</sup>satellite service (Earth-to-space) is limited to feeder links for the broadcasting<sup>6</sup>satellite service.
- 484A The use of the bands 10.95611.2 GHz (space-to-Earth), 11.45611.7 GHz (space-to-Earth), 11.7612.2 GHz (space-to-Earth) in Region 2, 12.2612.75 GHz (space-to-Earth) in Region 3, 12.5612.75 GHz (space-to-Earth) in Region 1, 13.75614.5 GHz (Earth-to-space), 17.8618.6 GHz (space-to-Earth), 19.7620.2 GHz (space-to-Earth), 27.5628.6 GHz (Earth-to-space), 29.5630 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed<sup>6</sup>satellite service is subject to application of the provisions of No. **9.12** for coordination with other non-geostationary-satellite systems in the fixed<sup>6</sup>satellite service. Non-geostationary-satellite systems in the fixed<sup>6</sup>satellite service shall not claim protection from geostationary-satellite networks in the fixed<sup>6</sup>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<sup>6</sup>satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. **43A** does not apply. Non-
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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 11.7612.2 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, the allocation of the band 11.7612.1 GHz to the fixed service is on a secondary basis (see No. 32).
- 487 In the band 11.7612.5 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 11.7612.5 GHz, in Region 2, the band 12.2612.7 GHz and, in Region 3, the band 11.7612.2 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 11.7612.2 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,

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- 2 and 3. For the use of the band 12.2612.7 GHz by the broadcasting satellite service in Region 2, see Appendix 30. (WRC-03)
- 489 *Additional allocation:* in Peru, the band 12.1612.2 GHz is also allocated to the fixed service on a primary basis.
- 490 In Region 2, in the band 12.2612.7 GHz, existing and future terrestrial radiocommunications 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 12.5612.75 GHz in Region 3 is limited to a power flux-density not exceeding  $-111 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  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, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Madagascar, Mali, Morocco, Mongolia, Nigeria, Oman, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the band 12.5612.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)
- 495 *Additional allocation:* in France, Greece, Monaco, Montenegro, Uganda, Romania, Tanzania and Tunisia, the band 12.5612.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-12)
- 496 *Additional allocation:* in Austria, Azerbaijan, Kyrgyzstan and Turkmenistan, the band 12.5612.75 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
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footnote. The power flux-density limit at the Earth's surface given in Table 21-4 of Article 21, for the fixed-satellite service shall apply on the territory of the countries listed in this footnote. (WRC-2000)

- 497 The use of the band 13.25-13.4 GHz by the aeronautical radionavigation service is limited to Doppler navigation aids.
- 498A The Earth exploration-satellite (active) and space research (active) services operating in the band 13.25-13.4 GHz shall not cause harmful interference to, or constrain the use and development of, the aeronautical radionavigation service. (WRC-97)
- 499 *Additional allocation:* in Bangladesh and India, the band 13.25-14 GHz is also allocated to the fixed service on a primary basis. In Pakistan, the band 13.25-13.75 GHz is allocated to the fixed service on a primary basis. (WRC-12)
- 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, Morocco, Mauritania, Niger, Nigeria, Oman, Qatar, the Syrian Arab Republic, Singapore, Sudan, South Sudan, Chad and Tunisia, the band 13.4-14 GHz is also allocated to the fixed and mobile services on a primary basis. In Pakistan, the band 13.4-13.75 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 501 *Additional allocation:* in Azerbaijan, Hungary, Japan, Kyrgyzstan, Romania and Turkmenistan, the band 13.4-14 GHz is also allocated to the radionavigation service on a primary basis. (WRC-12)
- 501A The allocation of the 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<sup>2</sup>·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<sup>2</sup>·10 MHz)) for more than 1% of the time produced 3 m above ground at the border of the territory of an administration deploying or planning to deploy land mobile radars in this band, unless prior agreement has been obtained.

For Earth stations within the fixed-satellite service having an antenna diameter greater than or equal to 4.5 m, the e.i.r.p. of any emission should be at least 68 dBW and should not exceed 85 dBW. (WRC-03)

503 In the band 13.75614 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 13.77613.78 GHz, the e.i.r.p. density of emissions from any Earth station in the fixed-satellite service operating with a space station in geostationary-satellite orbit shall not exceed:
  - i)  $4.7D + 28$  dB(W/40 kHz), where  $D$  is the fixed-satellite service Earth station antenna diameter (m) for antenna diameters equal to or greater than 1.2 m and less than 4.5 m;
  - ii)  $49.2 + 20 \log(D/4.5)$  dB(W/40 kHz), where  $D$  is the fixed-satellite service Earth station antenna diameter (m) for antenna diameters equal to or greater than 4.5 m and less than 31.9 m;
  - iii) 66.2 dB(W/40 kHz) for any fixed-satellite service Earth station for antenna diameters (m) equal to or greater than 31.9 m;
  - iv) 56.2 dB(W/4 kHz) for narrow-band (less than 40 kHz of necessary bandwidth) fixed satellite service Earth station emissions from any fixed-satellite service Earth station having an antenna diameter of 4.5 m or greater;
- the e.i.r.p. density of emissions from any Earth station in the fixed-satellite service operating with a space station in non-geostationary-

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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 14614.3 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 14614.5 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 14614.5 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 14.47614.5 GHz band located on the territory of Spain, France, India, Italy, the United Kingdom and South Africa. (WRC-03)
- 504C In the band 14614.25 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, 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-12)
- 505 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Botswana, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Djibouti, Egypt, the United Arab Emirates, Gabon, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Oman, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Swaziland, Tanzania, Chad, Viet Nam and Yemen, the band 14614.3 GHz is also allocated to the fixed service on a primary basis. (WRC-12)

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- 506 The band 14614.5 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 14614.5 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 14614.5 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, France, Italy, Libya, The Former Yugoslav Rep. of Macedonia and the United Kingdom, the band 14.25614.3 GHz is also allocated to the fixed service on a primary basis. (WRC-12)
- 508A In the band 14.25614.3 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, 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-12)
- 509A In the band 14.3614.5 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, 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-12)
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- 510 The use of the band 14.5614.8 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, Cameroon, Egypt, the United Arab Emirates, Guinea, Iran (Islamic Republic of), Iraq, Israel, Kuwait, Lebanon, Oman, Pakistan, Qatar, the Syrian Arab Republic and Somalia, the band 15.35615.4 GHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)
- 511A The band 15.43615.63 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. Use of the band 15.43615.63 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 15.436 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 15.35615.4 GHz, the aggregate power flux-density radiated in the 15.35615.4 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 15.43615.63 GHz band shall not exceed the level of  $-156 \text{ dB(W/m}^2\text{)}$  in a 50 MHz bandwidth, into any radio astronomy observatory site for more than 2% of the time. (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 15.4615.43 GHz and 15.63615.7 GHz in the space-to-Earth direction and 15.63615.65 GHz in the Earth-to-space direction. In the bands 15.4615.43 GHz and 15.65615.7 GHz, emissions from a non-geostationary space station shall not exceed the power flux-density limits at the Earth's surface of  $-146 \text{ dB(W/(m}^2\text{·MHz))}$  for any angle of arrival. In the
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band 15.63615.65 GHz, where an administration plans emissions from a non-geostationary space station that exceed  $146 \text{ dB(W/(m}^2\cdot\text{MHz))}$  for any angle of arrival, it shall coordinate under No. **9.11A** with the affected administrations. Stations in the fixed-satellite service operating in the band 15.63615.65 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)

- 511E In the frequency band 15.4615.7 GHz, stations operating in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the aeronautical radionavigation service.
- 511F In order to protect the radio astronomy service in the frequency band 15.35615.4 GHz, radiolocation stations operating in the frequency band 15.4615.7 GHz shall not exceed the power flux-density level of  $156 \text{ dB(W/m}^2\text{)}$  in a 50 MHz bandwidth in the frequency band 15.35615.4 GHz, at any radio astronomy observatory site for more than 2 per cent of the time.
- 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, Libya, Malaysia, Mali, Morocco, Mauritania, Montenegro, Nepal, Nicaragua, Niger, Oman, Pakistan, Qatar, Syrian Arab Republic, the Dem. Rep. of the Congo, Serbia, Singapore, Somalia, Sudan, South Sudan, Tanzania, Chad, Togo and Yemen, the band 15.7617.3 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 513 *Additional allocation:* in Israel, the band 15.7617.3 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 17.2617.3 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, El Salvador, the United Arab Emirates, Guatemala, India, Iran (Islamic Republic of), Iraq, Israel, Italy, Japan, Jordan, Kuwait, Libya, Lithuania, Nepal, Nicaragua, Nigeria, Oman, Uzbekistan, Pakistan, Qatar, Kyrgyzstan, Sudan and South Sudan, the band 17.3617.7 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-12)



- 515 In the band 17.3617.8 GHz, sharing between the fixedósatellite service (Earth-to-space) and the broadcastingósatellite service shall also be in accordance with the provisions of § 1 of Annex 4 of Appendix **30A**.
- 516 The use of the band 17.3618.1 GHz by geostationary-satellite systems in the fixedósatellite service (Earth-to-space) is limited to feeder links for the broadcastingósatellite service. The use of the band 17.3617.8 GHz in Region 2 by systems in the fixedósatellite service (Earth-to-space) is limited to geostationary satellites. For the use of the band 17.3617.8 GHz in Region 2 by feeder links for the broadcastingósatellite service in the band 12.2612.7 GHz, see Article **11**. The use of the bands 17.3618.1 GHz (Earth-to-space) in Regions 1 and 3 and 17.8618.1 GHz (Earth-to-space) in Region 2 by non-geostationary-satellite systems in the fixedósatellite service is subject to application of the provisions of No. **9.12** for coordination with other non-geostationary-satellite systems in the fixedósatellite service. Non-geostationary-satellite systems in the fixedósatellite service shall not claim protection from geostationary-satellite networks in the fixedósatellite 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 fixedósatellite 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 fixedósatellite 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 17.3617.7 GHz, Earth stations of the fixedósatellite service (space-to-Earth) in Region 1 shall not claim protection from the broadcastingósatellite service feeder-link Earth stations operating under Appendix **30A**, nor put any limitations or restrictions on the locations of the broadcastingósatellite 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 fixedósatellite service:
- |                |                                  |
|----------------|----------------------------------|
| 17.3617.7 GHz  | (space-to-Earth) in Region 1,    |
| 18.3619.3 GHz  | (space-to-Earth) in Region 2,    |
| 19.7620.2 GHz  | (space-to-Earth) in all Regions, |
| 39.5640 GHz    | (space-to-Earth) in Region 1,    |
| 40640.5 GHz    | (space-to-Earth) in all Regions, |
| 40.5642 GHz    | (space-to-Earth) in Region 2,    |
| 47.5647.9 GHz  | (space-to-Earth) in Region 1,    |
| 48.2648.54 GHz | (space-to-Earth) in Region 1,    |

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49.44650.2 GHz	(space-to-Earth) in Region 1,
and	
27.5627.82 GHz	(Earth-to-space) in Region 1,
28.35628.45 GHz	(Earth-to-space) in Region 2,
28.45628.94 GHz	(Earth-to-space) in all Regions,
28.94629.1 GHz	(Earth-to-space) in Regions 2 and 3,
29.25629.46 GHz	(Earth-to-space) in Region 2,
29.46630 GHz	(Earth-to-space) in all Regions,
48.2650.2 GHz	(Earth-to-space) in Region 2.

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

- 517 In Region 2, use of the fixed satellite (space-to-Earth) service in the band 17.7617.8 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 18.618.3 GHz in Region 2 and 18.1618.4 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 18.1618.4 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 18.1618.4 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 18.6618.8 GHz are limited to the values given in Nos. **21.5A** and **21.16.2**, respectively. (WRC-2000)
- 522B The use of the band 18.6618.8 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)

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- 522C In the band 18.6618.8 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 18.8619.3 GHz (space-to-Earth) and 28.6629.1 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 19.3619.6 GHz (Earth-to-space) by the fixed-satellite service is limited to feeder links for non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. **9.11A**, and No. **22.2** does not apply.
- 523C No. **22.2** shall continue to apply in the bands 19.3619.6 GHz and 29.1629.4 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 19.3619.7 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 19.6619.7 GHz and 29.4629.5 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 Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Tanzania, Chad, Togo and Tunisia, the band 19.7621.2 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 19.7621.2 GHz and of space stations in the mobile-satellite service in the band 19.7620.2 GHz where the allocation to the mobile-satellite service is on a primary basis in the latter band. (WRC-12)
- 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 19.7620.2 GHz and 29.5630 GHz.
- 526 In the bands 19.7620.2 GHz and 29.5630 GHz in Region 2, and in the bands 20.1620.2 GHz and 29.9630 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 19.7620.2 GHz and 29.5630 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 19.7620.1 GHz in Region 2 and in the band 20.1620.2 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 19.7620.1 GHz and 29.5629.9 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**.

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- 530A Unless otherwise agreed between the administrations concerned, any station in the fixed or mobile services of an administration shall not produce a power flux-density in excess of  $-120.4 \text{ dB(W/(m}^2\cdot\text{MHz))}$  at 3 m above the ground of any point of the territory of any other administration in Regions 1 and 3 for more than 20% of the time. In conducting the calculations, administrations should use the most recent version of Recommendation ITU-R P.452 (see Recommendation ITU-R BO.1898). (WRC-12)
- 530B In the band 21.4622 GHz, in order to facilitate the development of the broadcasting<sup>ó</sup>satellite service, administrations in Regions 1 and 3 are encouraged not to deploy stations in the mobile service and are encouraged to limit the deployment of stations in the fixed service to point-to-point links. (WRC-12)
- 530C The use of the band 21.4622 GHz is subject to the provisions of Resolution **755 (WRC-12)**. (WRC-12)
- 530D See Resolution **555 (WRC-12)**. (WRC-12)
- 531 *Additional allocation:* in Japan, the band 21.4622 GHz is also allocated to the broadcasting service on a primary basis.
- 532 The use of the band 22.21622.5 GHz by the Earth exploration<sup>ó</sup>satellite (passive) and space research (passive) services shall not impose constraints upon the fixed and mobile, except aeronautical mobile, services.
- 532A The location of earth stations in the space research service shall maintain a separation distance of at least 54 km from the respective border(s) of neighbouring countries to protect the existing and future deployment of fixed and mobile services unless a shorter distance is otherwise agreed between the corresponding administrations. Nos. **9.17** and **9.18** do not apply.
- 532B Use of the band 24.65625.25 GHz in Region 1 and the band 24.656 24.75 GHz in Region 3 by the fixed<sup>ó</sup>satellite service (Earth-to-space) is limited to earth stations using a minimum antenna diameter of 4.5 m. (WRC-12)
- 533 The inter<sup>ó</sup>satellite service shall not claim protection from harmful interference from airport surface detection equipment stations of the radionavigation service.
- 535 In the band 24.75625.25 GHz, feeder links to stations of the broadcasting<sup>ó</sup>satellite service shall have priority over other uses in the fixed<sup>ó</sup>satellite service (Earth-to-space). Such other uses shall protect and shall not claim
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protection from existing and future operating feeder-link networks to such broadcasting satellite stations.

- 535A The use of the band 29.1629.5 GHz (Earth-to-space) by the fixed-satellite service is limited to geostationary-satellite systems and feeder links to non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. **9.11A**, but not subject to the provisions of No. **22.2**, except as indicated in Nos. **523C** and **523E** where such use is not subject to the provisions of No. **9.11A** and shall continue to be subject to Articles **9** (except No. **9.11A**) and **11** procedures, and to the provisions of No. **22.2**. (WRC-97)
- 536 Use of the 25.25627.5 GHz band by the inter-satellite service is limited to space research and Earth exploration-satellite applications, and also transmissions of data originating from industrial and medical activities in space.
- 536A Administrations operating earth stations in the Earth exploration-satellite service or the space research service shall not claim protection from stations in the fixed and mobile services operated by other administrations. In addition, earth stations in the Earth exploration-satellite service or in the space research service should be operated taking into account the most recent version of Recommendation ITU-R SA.1862. (WRC-12)
- 536B In Saudi Arabia, Austria, Belgium, Brazil, Bulgaria, China, Korea (Rep. of), Denmark, Egypt, United Arab Emirates, Estonia, Finland, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, Libya, 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 25.5627 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-12)
- 536C In Algeria, Saudi Arabia, Bahrain, Botswana, Brazil, Cameroon, Comoros, Cuba, Djibouti, Egypt, United Arab Emirates, Estonia, Finland, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Lithuania, Malaysia, Morocco, Nigeria, Oman, Qatar, Syrian Arab Republic, Somalia, Sudan, South Sudan, Tanzania, Tunisia, Uruguay, Zambia and Zimbabwe, earth stations operating in the space research service in the band 25.5627 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-12)

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- 537 Space services using non-geostationary satellites operating in the interó satellite service in the band 27.627.5 GHz are exempt from the provisions of No. **22.2**.
- 537A In Bhutan, Cameroon, Korea (Rep. of), the Russian Federation, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 27.9628.2 GHz may also be used by high altitude platform stations (HAPS) within the territory of these countries. Such use of 300 MHz of the fixed-service allocation by HAPS in the above countries is further limited to operation in the HAPS-to-ground direction and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems or other co-primary services. Furthermore, the development of these other services shall not be constrained by HAPS. See Resolution **145 (Rev.WRC-12)**. (WRC-12)
- 538 *Additional allocation:* the bands 27.500627.501 GHz and 29.999630.000 GHz are also allocated to the fixedó 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 27.5630 GHz may be used by the fixedó satellite service (Earth-to-space) for the provision of feeder links for the broadcastingó satellite service.
- 540 *Additional allocation:* the band 27.501629.999 GHz is also allocated to the fixedó satellite service (space-to-Earth) on a secondary basis for beacon transmissions intended for up-link power control.
- 541 In the band 28.5630 GHz, the Earth explorationó 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 mobileó satellite service and geostationary networks in the fixedó satellite service operating in the band 29.1629.5 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
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submitting Appendix 4 information for coordination before this date are encouraged to utilize these techniques to the extent practicable. (WRC-2000)

- 542 *Additional allocation:* in Algeria, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, India, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Oman, Pakistan, Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Somalia, Sudan, South Sudan, Sri Lanka and Chad, the band 29.5631 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. **21.3** and **21.5** shall apply. (WRC-12)
- 543 The band 29.95630 GHz may be used for space-to-space links in the Earth exploration-satellite service for telemetry, tracking, and control purposes, on a secondary basis.
- 543A In Bhutan, Cameroon, Korea (Rep. of), the Russian Federation, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 31.631.3 GHz may also be used by systems using high altitude platform stations (HAPS) in the ground-to-HAPS direction. The use of the band 31.631.3 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 31.631.3 GHz shall not cause harmful interference to the radio astronomy service having a primary allocation in the band 31.3631.8 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 31.3631.8 GHz shall be limited to 106 dB(W/MHz) under clear-sky conditions, and may be increased up to 100 dB(W/MHz) under rainy conditions to mitigate fading due to rain, provided the effective impact on the passive satellite does not exceed the impact under clear-sky conditions. See Resolution **145 (Rev.WRC-12)**. (WRC-12)
- 544 In the band 31.631.3 GHz the power flux-density limits specified in Article **21**, Table **21-4**, shall apply to the space research service.



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- 545 *Different category of service:* in Armenia, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 31631.3 GHz to the space research service is on a primary basis (see No. **33**). (WRC-12)
- 546 *Different category of service:* in Saudi Arabia, Armenia, Azerbaijan, Belarus, Egypt, the United Arab Emirates, Spain, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Israel, Jordan, Lebanon, Moldova, Mongolia, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, the United Kingdom, South Africa, Tajikistan, Turkmenistan and Turkey, the allocation of the band 31.56 31.8 GHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. **33**). (WRC-12)
- 547 The bands 31.8633.4 GHz, 37640 GHz, 40.5643.5 GHz, 51.4652.6 GHz, 55.78659 GHz and 64666 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 39.5640 GHz and 40.5642 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 31.8633.4 GHz band, taking into account the operational needs of the airborne radar systems. (WRC-2000)
- 547B *Alternative allocation:* in the United States, the band 31.8632 GHz is allocated to the radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-97)
- 547C *Alternative allocation:* in the United States, the band 32632.3 GHz is allocated to the radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-03)
- 547D *Alternative allocation:* in the United States, the band 32.3633 GHz is allocated to the inter-satellite and radionavigation services on a primary basis. (WRC-97)
- 547E *Alternative allocation:* in the United States, the band 33633.4 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 32.3633 GHz, for the radionavigation service in the band 32633 GHz, and for the space
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research service (deep space) in the band 31.8632.3 GHz, administrations shall take all necessary measures to prevent harmful interference between these services, bearing in mind the safety aspects of the radionavigation service (see Recommendation **707**). (WRC-03)

- 549 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Singapore, Somalia, Sudan, South Sudan, Sri Lanka, Togo, Tunisia and Yemen, the band 33.46 36 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)
- 549A In the band 35.5636.0 GHz, the mean power flux-density at the Earth's surface, generated by any spaceborne sensor in the Earth exploration satellite service (active) or space research service (active), for any angle greater than  $0.8^\circ$  from the beam centre shall not exceed  $-73.3 \text{ dB(W/m}^2\text{)}$  in this band. (WRC-03)
- 550 *Different category of service:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 34.7635.2 GHz to the space research service is on a primary basis (see No. **33**). (WRC-12)
- 550A For sharing of the band 36637 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 41.56 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 42.56 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 42.56 43.5 GHz band, shall not exceed the following values at the site of any radio astronomy station for more than 2% of the time:
- $-230 \text{ dB(W/m}^2\text{)}$  in 1 GHz and  $-246 \text{ dB(W/m}^2\text{)}$  in any 500 kHz of the 42.56 43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and

- 209 dB(W/m<sup>2</sup>) in any 500 kHz of the 42.5643.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.

These epfd values shall be evaluated using the methodology given in Recommendation ITU-R S.1586-1 and the reference antenna pattern and the maximum gain of an antenna in the radio astronomy service given in Recommendation ITU-R RA.1631 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle *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 42.5643.5 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth), or the broadcasting-satellite service operating in the 42.642.5 GHz band, shall not exceed the following values at the site of any radio astronomy station:

- 137 dB(W/m<sup>2</sup>) in 1 GHz and 153 dB(W/m<sup>2</sup>) in any 500 kHz of the 42.5643.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and
- 116 dB(W/m<sup>2</sup>) in any 500 kHz of the 42.5643.5 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 radiocommunications 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 radio navigation-satellite service. (WRC-2000)
- 554A The use of the bands 47.5-47.9 GHz, 48.2-48.54 GHz and 49.4-50.2 GHz by the fixed-satellite service (space-to-Earth) is limited to geostationary satellites. (WRC-03)
- 555 *Additional allocation:* the band 48.9-49.04 GHz is also allocated to the radio astronomy service on a primary basis. (WRC-2000)
- 555B The power flux-density in the band 48.9-49.04 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 49.4-50.2 GHz shall not exceed 151.8 dB(W/m<sup>2</sup>) in any 500 kHz band at the site of any radio astronomy station. (WRC-03)

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- 556 In the bands 51.4654.25 GHz, 58.2659 GHz and 64665 GHz, radio astronomy observations may be carried out under national arrangements. (WRC-2000)
- 556A Use of the bands 54.25656.9 GHz, 57658.2 GHz and 59659.3 GHz by the interósatellite 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 interósatellite service, for all conditions and for all methods of modulation, shall not exceed 147 dB(W/(m<sup>2</sup>·100 MHz)) for all angles of arrival. (WRC-97)
- 556B *Additional allocation:* in Japan, the band 54.25655.78 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 55.78658.2 GHz is also allocated to the radiolocation service on a primary basis. (WRC-97)
- 557A In the band 55.78656.26 GHz, in order to protect stations in the Earth explorationósatellite 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 55.78658.2 GHz, 59664 GHz, 66671 GHz, 122.256123 GHz, 1306134 GHz, 1676174.8 GHz and 191.86200 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the interósatellite service (see No. 43). (WRC-2000)
- 558A Use of the band 56.9657 GHz by interósatellite systems is limited to links between satellites in geostationary-satellite orbit and to transmissions from non-geostationary satellites in high-Earth orbit to those in low-Earth orbit. For links between satellites in the geostationary-satellite orbit, the single entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface, for all conditions and for all methods of modulation, shall not exceed 147 dB(W/(m<sup>2</sup>·100 MHz)) for all angles of arrival. (WRC-97)
- 559 In the band 59664 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the interósatellite service (see No. 43). (WRC-2000)
- 560 In the band 78679 GHz radars located on space stations may be operated on a primary basis in the Earth explorationósatellite service and in the space research service.
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- 561 In the band 74676 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 81681.5 GHz band is also allocated to the amateur and amateur-satellite services on a secondary basis.
- 561B In Japan, use of the band 84686 GHz, by the fixed-satellite service (Earth-to-space) is limited to feeder links in the broadcasting-satellite service using the geostationary-satellite orbit. (WRC-2000)
- 562 The use of the band 94694.1 GHz by the Earth exploration-satellite (active) and space research (active) services is limited to spaceborne cloud radars. (WRC-97)
- 562A In the bands 94694.1 GHz and 1306134 GHz, transmissions from space stations of the Earth exploration-satellite service (active) that are directed into the main beam of a radio astronomy antenna have the potential to damage some radio astronomy receivers. Space agencies operating the transmitters and the radio astronomy stations concerned should mutually plan their operations so as to avoid such occurrences to the maximum extent possible. (WRC-2000)
- 562B In the bands 1056109.5 GHz, 111.86114.25 GHz, 155.56158.5 GHz and 2176226 GHz, the use of this allocation is limited to space-based radio astronomy only. (WRC-2000)
- 562C Use of the band 1166122.25 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<sup>2</sup>·MHz)) for all angles of arrival. (WRC-2000)
- 562D *Additional allocation:* In Korea (Rep. of), the bands 1286130 GHz, 1716171.6 GHz, 172.26172.8 GHz and 173.36174 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 service (active) is limited to the band 133.56134 GHz. (WRC-2000)
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- 562F In the band 155.56158.5 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 155.56158.5 GHz shall be 1 January 2018. (WRC-2000)
- 562H Use of the bands 174.86182 GHz and 1856190 GHz by the interósatellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the interósatellite 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<sup>2</sup>·MHz)) for all angles of arrival. (WRC-2000)
- 563A In the bands 2006209 GHz, 2356238 GHz, 2506252 GHz and 2656275 GHz, ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents. (WRC-2000)
- 563B The band 237.96238 GHz is also allocated to the Earth explorationósatellite service (active) and the space research service (active) for spaceborne cloud radars only. (WRC-2000)
- 565 The following frequency bands in the range 27561 000 GHz are identified for use by administrations for passive service applications:
- radio astronomy service: 2756323 GHz, 3276371 GHz, 3886424 GHz, 4266442 GHz, 4536510 GHz, 6236711 GHz, 7956909 GHz and 9266945 GHz;
  - Earth explorationósatellite service (passive) and space research service (passive): 2756286 GHz, 2966306 GHz, 3136356 GHz, 3616365 GHz, 3696392 GHz, 3976399 GHz, 4096411 GHz, 4166434 GHz, 4396467 GHz, 4776502 GHz, 5236527 GHz, 5386581 GHz, 6116630 GHz, 6346654 GHz, 6576692 GHz, 7136718 GHz, 7296733 GHz, 7506754 GHz, 7716776 GHz, 8236846 GHz, 8506854 GHz, 8576862 GHz, 8666882 GHz, 9056928 GHz, 9516956 GHz, 9686973 GHz and 9856990 GHz.

The use of the range 27561 000 GHz by the passive services does not preclude use of this range by active services. Administrations wishing to make frequencies in the 27561 000 GHz range available for active service applications are urged to take all practicable steps to protect these passive services from harmful interference until the date when the Table of Frequency Allocations is established in the above-mentioned 27561 000 GHz frequency range. All frequencies in the range 1 00063 000 GHz may be used by both active and passive services. (WRC-12)

