

State Commission on Radio

Frequencies

of the Republic of Moldova

NATIONAL TABLE OF FREQUENCY ALLOCATIONS

Adopted by Decision
of the State Commission on Radio Frequencies
of the Republic of Moldova
no. 11 of 27.04.2000
with modifications adopted by Decisions
no. 12 of 6.10.2000
no. 13 of 17.01.2005
no. 14 of 31.01.2005

Chisinau – 2005

**This volume was prepared and published by
the State Communication Inspection
of the Ministry of Transport and Communications**

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INTRODUCTION

Publication in Moldova of National Table of Frequency Allocations (NTFA) is of great importance and responsibility.

NTFA corresponds to national priorities and it is in conformity with allocation of frequency bands established by competent entities of the International Telecommunication Union, which contains in Article 5 of the Radio Regulations of the ITU.

NTFA has such structure, which permits its public consultation and understanding. In that sense NTFA consists of two parts: general presentation and corresponding table followed by relevant annexes.

General presentation comprises the following paragraphs:

§ 1.1 Allocation of frequency bands.

That paragraph contains summary on problem of allocation of frequency bands on international and national levels as well as conditions under which many radiocommunication services could use the same frequency band.

§ 1.2 Terms and definitions.

That paragraph was introduced with the purpose that specific terms for all users of the NTFA have the same meaning. It contains all terms used in the Table and in international and national footnotes. Terms are followed by corresponding definitions as they appear in Article 1 of the ITU Radio Regulations.

§ 1.3 Structure of NTFA.

In that paragraph it is described structure of NTFA as well as meaning of codes used in columns of NTFA for indicating footnotes and national usage mode.

Part II - NTFA contains corresponding Table, Annexes 1 and 2 include footnotes within which frequencies could be used by services which a specific frequency band is allocated to, Annex 3 contains frequency bands for ISM applications and Annex 4 contains list of abbreviations.

NTFA is subject to periodical revision in conformity with requirements which are imposed by new national and international regulations which refer to allocation of frequency bands.

NATIONAL TABLE OF FREQUENCY ALLOCATIONS

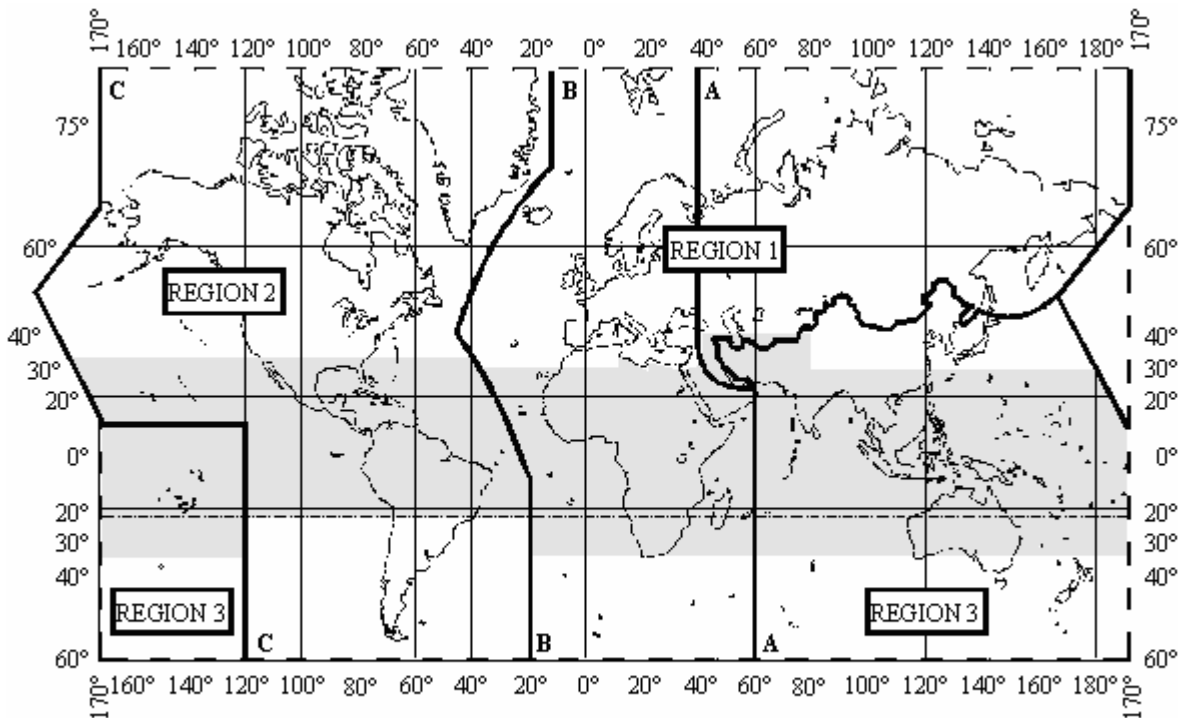
GENERAL PRESENTATION

§ 1.1 Allocation of frequency bands.

In conformity with Radio Regulations, an allocation of frequency band means an entry in Table of Frequency Allocations of that band with the purpose to use it by a terrestrial or space service or services or radioastronomy service under specified conditions.

On the international level allocation of frequency bands is done by World Radiocommunications Conferences (WRCs), which gather all Member States of the International Telecommunication Union (The Republic of Moldova is a Member State of the International Telecommunication Union since 1992).

For the allocation of frequencies the world has been divided into three Regions as shown on the following map:



The shaded part represents the Tropical Zones as defined in Nos. S5.16 to S5.20 and S5.21.

S5-01

Region 1 includes the area limited on the east by line A (lines A, B and C are defined below) 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, Russian Federation, Georgia, Kazakhstan, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Turkey and Ukraine and the area to the north of Russian Federation which lies between lines A and C.

Moldova is in Region 1.

Region 2 includes the area limited on the east by line B and on the west by line C.

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, Russian Federation, Georgia, Kazakstan, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Turkey and Ukraine and the area to the north of Russian Federation. It also includes that part of the territory of the Islamic Republic of Iran lying outside of those limits.

On the national level allocation of frequency bands is done by the State Commission on Radio Frequencies of the Republic of Moldova.

§ 1.2 Terms and definitions.

Telecommunication: Any transmission, **emission** or reception of signs, signals, writings, images and sounds or intelligence of any nature by wire, **radio**, optical or other electromagnetic systems.

Radio waves or hertzian waves: Electromagnetic waves of frequencies arbitrarily lower than 3 000 GHz, propagated in space without artificial guide.

Radiocommunication: **Telecommunication** by means of *radio waves*

Allocation (of a frequency band): Entry in the Table of Frequency Allocations of a given frequency band for the purpose of its use by one or more terrestrial or space **radiocommunication services** or the **radio astronomy service** under specified conditions. This term shall also be applied to the frequency band concerned.

Allotment (of a radio frequency or radio frequency channel): Entry of a designated frequency channel in an agreed plan, adopted by a competent conference, for use by one or more administrations for a terrestrial or **space radiocommunication service** in one or more identified countries or geographical areas and under specified conditions.

Assignment (of a radio frequency or radio frequency channel): Authorization given by an administration for a radio **station** to use a radio frequency or radio frequency channel under specified conditions.

Public correspondence: Any **telecommunication** which the offices and **stations** must, by reason of their being at the disposal of the public, accept for transmission

Terrestrial radiocommunication: Any **radiocommunication** other than **space radiocommunication** or **radio astronomy**.

Space radiocommunication: Any **radiocommunication** involving the use of one or more **space stations** or the use of one or more **reflecting satellites** or other objects in space.

Radiodetermination: The determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to these parameters, by means of the propagation properties of **radio waves**.

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

Radiolocation: **Radiodetermination** used for purposes other than those of **radionavigation**.

Radio astronomy: Astronomy based on the reception of **radio waves** of cosmic origin.

Industrial, scientific and medical (ISM) applications (of radio frequency energy): Operation of equipment or appliances designed to generate and use locally radio frequency energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of **telecommunications**.

Emission: **Radiation** produced, or the production of **radiation**, by a radio transmitting **station**. For example, the energy radiated by the local oscillator of a radio receiver would not be an emission but a **radiation**.

Harmful interference: Interference which endangers the functioning of a **radionavigation service** or of other **safety services** or seriously degrades, obstructs, or repeatedly interrupts a **radiocommunication service** operating in accordance with Radio Regulations.

Station: One or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a **radiocommunication service**, or the **radio astronomy service**.
Each station shall be classified by the service in which it operates permanently or temporarily.

Feeder link: A radio link from an **earth station** at a given location to a **space station**, or vice versa, conveying information for a **space radiocommunication service** other than for the **fixed-satellite service**. The given location may be at a specified fixed point, or at any fixed point within specified areas.

Radiocommunication service: A service as defined in this Section involving the transmission, **emission** and/or reception of **radio waves** for specific **telecommunication** purposes.
In this document, unless otherwise stated, any radiocommunication service relates to **terrestrial radiocommunication**.

Fixed service: A **radiocommunication service** between specified fixed points.

Fixed-satellite service: A **radiocommunication service** between **earth stations** at given positions, when one or more **satellites** are used; the given position may be a specified fixed point or any fixed point within specified areas; in some cases this service includes satellite-to-satellite links, which may also be operated in the **inter-satellite service**; the fixed-satellite service may also include **feeder links** for **other space radiocommunication services**.

Inter-satellite service: A **radiocommunication service** providing links between artificial **satellites**.

Space operation service: A **radiocommunication service** concerned exclusively with the operation of **spacecraft**, in particular **space tracking**, **space telemetry** and **space telecommand**. These functions will normally be provided within the service in which the **space station** is operating.

Mobile service: A **radiocommunication service** between **mobile** and **land stations**, or between **mobile stations**

Mobile-satellite service: A **radiocommunication service:**

- between **mobile earth stations** and one or more **space stations**, or between **space stations** used by this service; or
- between **mobile earth stations** by means of one or more **space stations**.

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

Land mobile service: A **mobile service** between **base stations** and **land mobile stations**, or between **land mobile stations**.

Maritime mobile service: A **mobile service** between **coast stations** and **ship stations**, or between **ship stations**, or between associated **on-board communication stations**; **survival craft stations** and **emergency position-indicating radiobeacon stations** may also participate in this service.

Port operations service: A **maritime mobile service** in or near a port, between **coast stations** and **ship stations**, or between **ship stations**, in which messages are restricted to those relating to the operational handling, the movement and the safety of ships and, in emergency, to the safety of persons.

Messages which are of a **public correspondence** nature shall be excluded from this service.

Ship movement service: A **safety service** in the **maritime mobile service** other than a **port operations service**, between **coast stations** and **ship stations**, or between **ship stations**, in which messages are restricted to those relating to the movement of ships.

Messages which are of a **public correspondence** nature shall be excluded from this service.

Aeronautical mobile service: A **mobile service** between **aeronautical stations** and **aircraft stations**, or between **aircraft stations**, in which **survival craft stations** may participate; **emergency position-indicating radiobeacon stations** may also participate in this service on designated distress and emergency frequencies.

Aeronautical mobile (R)^{*} service: An **aeronautical mobile service** reserved for communications relating to safety and regularity of flight, primarily along national or international civil air routes.

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

Aeronautical mobile-satellite service: A **mobile-satellite service** in which **mobile earth stations** are located on board aircraft; **survival craft stations** and **emergency position-indicating radiobeacon stations** may also participate in this service.

Aeronautical mobile-satellite (R)^{*} service: An **aeronautical mobile-satellite service** reserved for communications relating to safety and regularity of flights, primarily along national or international civil air routes.

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

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

Broadcasting-satellite service: A **radiocommunication service** in which signals transmitted or retransmitted by **space stations** are intended for direct reception by the general public. In the broadcasting-satellite service, the term “direct reception” shall encompass both **individual reception** and **community reception**.

Radiodetermination service: A **radiocommunication service** for the purpose of **radiodetermination**.

* (R): route.

** (OR): off-route

Radiodetermination-satellite service: A **radiocommunication service** for the purpose of **radiodetermination** involving the use of one or more **space stations**. This service may also include **feeder links** necessary for its own operation.

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

Radionavigation-satellite service: A **radiodetermination-satellite service** used for the purpose of **radionavigation**. This service may also include **feeder links** necessary for its operation.

Maritime radionavigation service: A **radionavigation service** intended for the benefit and for the safe operation of ships.

Aeronautical radionavigation service: A **radionavigation service** intended for the benefit and for the safe operation of aircraft.

Aeronautical radionavigation-satellite service: A **radionavigation-satellite service** in which **earth stations** are located on board aircraft.

Radiolocation service: A **radiodetermination service** for the purpose of **radiolocation**.

Radiolocation-satellite service: A **radiodetermination-satellite service** used for the purpose of **radiolocation**. This service may also include the **feeder links** necessary for its operation.

Meteorological aids service: A **radiocommunication service** used for meteorological, including hydrological, observations and exploration.

Earth exploration-satellite service: A **radiocommunication service** between **earth stations** and one or more **space stations**, which may include links between **space stations**, in which:

- information relating to the characteristics of the Earth and its natural phenomena, including data relating to the state of the environment, is obtained from active sensors or passive sensors on Earth satellites;
- similar information is collected from airborne or Earth-based platforms;
- such information may be distributed to earth stations within the system concerned;
- platform interrogation may be included.

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

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

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

Standard frequency and time signal-satellite service: A **radiocommunication service** using **space stations** on **earth satellites** for the same purposes as those of the **standard frequency and time signal service**.

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

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

Amateur service: A **radiocommunication service** for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.

Amateur-satellite service: A **radiocommunication service** using **space stations** on earth **satellites** for the same purposes as those of the **amateur service**.

Radio astronomy service: A service involving the use of **radio astronomy**.

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

Special service: A **radiocommunication service**, not otherwise defined in this Section, carried on exclusively for specific needs of general utility, and not open to **public correspondence**.

§ 1.3 Structure of the National Table of Frequency Allocations.

National Table of Frequency Allocations consists of four columns:

Column 1 – International allocation for Region 1. Frequency band – Services – Footnotes. It contains allocation of frequency bands for different radiocommunication services for Region 1 countries. Contents of this column is identical to the column 1 of the Table of Frequency Allocations of Article 5 of the Radio Regulations.

Columns, which correspond to national allocation, have the following contents:

Column 2 – Frequency Band – Services. It contains allocation of frequency bands for different radiocommunications services in Moldova. This allocation corresponds to provisions of Article 5 of the Radio Regulations.

Column 3 – Footnotes. This column contains reference numbers of footnotes under which corresponding service is permitted to be used in Moldova. Reference numbers have the following meaning:

- numbers of type 5.317A correspond to numbers under which corresponding footnotes could be found in Article 5 of the Radio Regulations. Texts of those footnotes are shown in Annex 1 to the National Table of Frequency Allocations
- three digit numbers followed by letters RN, correspond to national footnotes which describe national usage of specific frequency band. Texts of those footnotes are shown in Annex 2 to the National Table of Frequency Allocations

Footnotes are integral part of the NTFA.

Column 4 – Usage. It contains mode of use of frequency bands in Moldova. The meaning of remarks in this column is as follows:

- **G** – means that corresponding band is allocated exclusively for the governmental purposes (defense, national security, governmental communications, civil protection, police). Frequencies in those bands are assigned by interested entities;
- **NG** – means that corresponding band is allocated exclusively for the nongovernmental purposes. Frequencies in those bands are assigned by the State Communication Inspection.
- **P** – means that corresponding band is shared by governmental and nongovernmental users. Frequencies in those bands are assigned by interested parties and the State Communication Inspection in conformity with Procedure on mode of allocation of frequency bands and frequency assignments.

Status under which radiocommunication services could use allocated band can be:

- primary
- secondary

Services of the same status have equal rights.

Stations of a secondary service:

- a) shall not cause harmful interference to stations of primary services to which frequencies are already assigned or to which frequencies may be assigned at a later date;
- b) cannot claim protection from harmful interference from stations of a primary service to which frequencies are already assigned or may be assigned at a later date;
- c) can claim protection, however, from harmful interference from stations of the same or other secondary service(s) to which frequencies may be assigned at a later date.

Where it is indicated in the Table that a service may operate in a specific frequency band subject to not causing harmful interference, this means also that this service cannot claim protection from harmful interference caused by other services to which the band is allocated in conformity with the Table.

Status of services is indicated in the Table in the following manner:

- a) services the names of which are printed in “capitals” (example: FIXED); these are called primary services;
- b) services the names of which are printed in “normal characters” (example: Mobile); these are called secondary services

While delimiting frequency bands it is adopted conventionally that if frequency assignment corresponds to the lower limit of a band it refers to this band and if frequency assignment corresponds to the upper limit of a band it refers to the next upper band.

Note: Usage of radioelectronic applications in conformity with NTFA, is permitted only if standards, regulations in radiocommunications and procedures for authorisation in force are respected.

TABLE OF FREQUENCY ALLOCATIONS

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
Below 9 kHz (Not allocated) 5.53, 5.54	Below 9 kHz (Not allocated)	5.53, 5.54	
9 - 14 kHz RADIONAVIGATION	9 - 14 kHz RADIONAVIGATION	RN018, RN035	P
14 - 19.95 kHz FIXED MARITIME MOBILE 5.57 5.55, 5.56	14 - 19.95 kHz FIXED MARITIME MOBILE	5.57 RN018, RN035	P
19.95 – 20.05 kHz STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)	19.95 – 20.05 kHz STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)	RN018, RN035	P
20.05 - 70 kHz FIXED MARITIME MOBILE 5.57 5.56, 5.58	20.05 - 70 kHz FIXED MARITIME MOBILE	5.57 RN018, RN035	P
70 - 72 kHz RADIONAVIGATION 5.60	70 - 72 kHz RADIONAVIGATION	5.60 RN018, RN035	P
72 - 84 kHz FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	72 - 84 kHz FIXED MARITIME MOBILE RADIONAVIGATION	5.57, 5.60 RN001, RN018, RN035	P
84 - 86 kHz RADIONAVIGATION 5.60	84 - 86 kHz RADIONAVIGATION	5.60 RN018, RN035	P
86 - 90 kHz FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56	86 - 90 kHz FIXED MARITIME MOBILE RADIONAVIGATION	5.57 RN018, RN035	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
90 - 110 kHz RADIONAVIGATION 5.62 Fixed 5.64	90 - 110 kHz RADIONAVIGATION Fixed	5.62, 5.64 RN018, RN035	P
110 - 112 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.64	110 - 112 kHz FIXED MARITIME MOBILE RADIONAVIGATION	5.64 RN018, RN035	P
112 -115 kHz RADIONAVIGATION 5.60	112 -115 kHz RADIONAVIGATION	5.60 RN018, RN035	P
115 – 117.6 kHz RADIONAVIGATION 5.60 Fixed Maritime Mobile 5.64, 5.66	115 – 117.6 kHz RADIONAVIGATION Fixed Maritime Mobile	5.60, 5.64 RN018, RN035	P
117.6 - 126 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	117.6 - 126 kHz FIXED MARITIME MOBILE RADIONAVIGATION	5.60, 5.64 RN001, RN018, RN035	P
126 - 129 kHz RADIONAVIGATION 5.60	126 - 129 kHz RADIONAVIGATION	5.60 RN018, RN035	P
129 - 130 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	129 - 130 kHz FIXED MARITIME MOBILE RADIONAVIGATION	5.60, 5.64 RN018, RN035	P
130 – 148.5 kHz FIXED MARITIME MOBILE 5.64, 5.67	130 – 148.5 kHz FIXED MARITIME MOBILE	5.64 RN018, RN035	P
148.5 - 255.0 kHz BROADCASTING 5.68, 5.69, 5.70	148.5 - 255.0 kHz BROADCASTING	RN002, RN018	NG
255.0 – 283.5 kHz	255.0 – 283.5 kHz	RN002, RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
BROADCASTING AERONAUTICAL RADIONAVIGATION 5.70, 5.71	BROADCASTING AERONAUTICAL RADIONAVIGATION		
283.5 - 315 kHz MARITIME RADIONAVIGATION (radiobeacons) 5.73 AERONAUTICAL RADIONAVIGATION 5.72, 5.74	283.5 - 315 kHz MARITIME RADIONAVIGATION (radiobeacons) AERONAUTICAL RADIONAVIGATION	5.73, 5.74 RN018	P
315 - 325 kHz AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) 5.73 5.72, 5.75	315 - 325 kHz AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons)	5.73, 5.75 RN018	P
325 - 405 kHz AERONAUTICAL RADIONAVIGATION 5.72	325 - 405 kHz AERONAUTICAL RADIONAVIGATION	RN018	P
405 - 415 kHz RADIONAVIGATION 5.72, 5.76	405 - 415 kHz RADIONAVIGATION	5.76 RN003, RN018	P
415 - 435 kHz AERONAUTICAL RADIONAVIGATION MARITIME MOBILE 5.79 5.72	415 - 435 kHz AERONAUTICAL RADIONAVIGATION MARITIME MOBILE	5.79 RN018	P
435 - 495 kHz MARITIME MOBILE 5.79, 5.79A Aeronautical Radionavigation 5.72, 5.82	435 - 495 kHz MARITIME MOBILE Aeronautical Radionavigation	5.79, 5.79A, 5.82 RN018, RN035	P
495 - 505 kHz MOBILE (distress and calling) 5.83	495 - 505 kHz MOBILE (distress and calling)	5.83 RN018	P
505 – 526.5 kHz MARITIME MOBILE 5.79	505 – 526.5 kHz MARITIME MOBILE	5.79, 5.79A, 5.84	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.79A, 5.84 AERONAUTICAL RADIONAVIGATION 5.72	AERONAUTICAL RADIONAVIGATION	RN004, RN018	
526.5 – 1606.5 kHz BROADCASTING 5.87, 5.87A	526.5 – 1606.5 kHz BROADCASTING	RN005, RN018	P
1606.5 - 1625 kHz FIXED LAND MOBILE MARITIME MOBILE 5.90 5.92	1606.5 - 1625 kHz FIXED LAND MOBILE MARITIME MOBILE	5.90, 5.92 RN018	P
1625 - 1635 kHz RADIOLOCATION 5.93	1625 - 1635 kHz RADIOLOCATION FIXED LAND MOBILE	5.93 RN018	P
1635 - 1800 kHz MARITIME MOBILE 5.90 FIXED LAND MOBILE 5.92, 5.96	1635 - 1800 kHz MARITIME MOBILE FIXED LAND MOBILE	5.90, 5.92, 5.96 RN018	P
1800 - 1810 kHz RADIOLOCATION 5.93	1800 - 1810 kHz RADIOLOCATION FIXED LAND MOBILE	5.93 RN018	P
1810 - 1850 kHz AMATEUR 5.98, 5.99, 5.100, 5.101	1810 - 1830 kHz FIXED MOBILE except aeronautical mobile 1830 - 1850 kHz AMATEUR	5.98, 5.100 RN018	P NG
1850 - 2000 kHz FIXED MOBILE except	1850 - 2000 kHz FIXED MOBILE except	5.92, 5.96, 5.103 RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
aeronautical mobile 5.92, 5.96, 5.103	aeronautical mobile Amateur		
2000 - 2025 kHz FIXED MOBILE except aeronautical mobile (R) 5.92, 5.103	2000 - 2025 kHz FIXED MOBILE except aeronautical mobile (R)	5.92, 5.103 RN018	P
2025 - 2045 kHz FIXED MOBILE except aeronautical mobile (R) METEOROLOGICAL Aids 5.104 5.92, 5.103	2025 - 2045 kHz FIXED MOBILE except aeronautical mobile (R) METEOROLOGICAL Aids	5.92, 5.103, 5.104 RN018	P
2045 - 2160 kHz MARITIME MOBILE FIXED LAND MOBILE 5.92	2045 - 2160 kHz MARITIME MOBILE FIXED LAND MOBILE	5.92 RN018	P
2160 - 2170 kHz RADIOLOCATION 5.93, 5.107	2160 - 2170 kHz RADIOLOCATION	5.93 RN018	P
2170 – 2173.5 kHz MARITIME MOBILE	2170 – 2173.5 kHz MARITIME MOBILE	RN018	P
2173.5 – 2190.5 kHz MOBILE (distress and calling) 5.108, 5.109, 5.110, 5.111	2173.5 – 2190.5 kHz MOBILE (distress and calling)	5.108, 5.109, 5.110, 5.111 RN018	P
2190.5 - 2194 kHz MARITIME MOBILE	2190.5 - 2194 kHz MARITIME MOBILE	RN018	P
2194 - 2300 kHz FIXED MOBILE except aeronautical mobile (R)	2194 - 2300 kHz FIXED MOBILE except aeronautical mobile (R)	5.103 RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.92, 5.103, 5.112			
2300 - 2498 kHz FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.103	2300 - 2498 kHz FIXED MOBILE except aeronautical mobile (R) BROADCASTING	5.103, 5.113 RN018	P
2498 - 2501 kHz STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	2498 - 2501 kHz STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	RN018	P
2501 - 2502 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	2501 - 2502 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	RN018	P
2502 - 2625 kHz FIXED MOBILE except aeronautical mobile (R) 5.92, 5.103, 5.114	2502 - 2625 kHz FIXED MOBILE except aeronautical mobile (R)	5.92, 5.103 RN018	P
2625 - 2650 kHz MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	2625 - 2650 kHz MARITIME MOBILE MARITIME RADIONAVIGATION	5.92 RN018	P
2650 - 2850 kHz FIXED MOBILE except aeronautical mobile (R) 5.92, 5.103	2650 - 2850 kHz FIXED MOBILE except aeronautical mobile (R)	5.103 RN018	P
2850 - 3025 kHz AERONAUTICAL MOBILE (R) 5.111, 5.115	2850 - 3025 kHz AERONAUTICAL MOBILE (R)	5.115 RN018	P
3025 - 3155 kHz AERONAUTICAL MOBILE (OR)	3025 - 3155 kHz AERONAUTICAL MOBILE (OR)	RN018	P
3155 - 3200 kHz	3155 - 3200 kHz	5.116	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
FIXED MOBILE except aeronautical mobile (R) 5.116, 5.117	FIXED MOBILE except aeronautical mobile (R)	RN018	
3200 - 3230 kHz FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116	3200 - 3230 kHz FIXED MOBILE except aeronautical mobile (R) BROADCASTING	5.113, 5.116 RN018	P
3230 - 3400 kHz FIXED MOBILE except aeronautical mobile BROADCASTING 5.113 5.116, 5.118	3230 - 3400 kHz FIXED MOBILE except aeronautical mobile BROADCASTING	5.113, 5.116 RN018	P
3400 - 3500 kHz AERONAUTICAL MOBILE (R)	3400 - 3500 kHz AERONAUTICAL MOBILE (R)	RN018	P
3500 - 3800 kHz AMATEUR FIXED MOBILE except aeronautical mobile 5.92	3500 - 3800 kHz AMATEUR FIXED MOBILE except aeronautical mobile	5.92 RN018	P
3800 - 3900 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	3800 - 3900 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	RN018	P
3900 - 3950 kHz AERONAUTICAL MOBILE (OR) 5.123	3900 - 3950 kHz AERONAUTICAL MOBILE (OR)	RN018	P
3950 - 4000 kHz FIXED BROADCASTING	3950 - 4000 kHz FIXED BROADCASTING	RN018	P
4000 - 4063 kHz	4000 - 4063 kHz	5.127	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
FIXED MARITIME MOBILE 5.127 5.126	FIXED MARITIME MOBILE	RN018	
4063 - 4438 kHz MARITIME MOBILE 5.79A, 5.109, 5.110, 5.130, 5.131, 5.132 5.128, 5.129	4063 - 4438 kHz MARITIME MOBILE	5.79A, 5.109, 5.110, 5.129, 5.130, 5.131, 5.132, RN018	P
4438 - 4650 kHz FIXED MOBILE except aeronautical mobile (R)	4438 - 4650 kHz FIXED MOBILE except aeronautical mobile (R)	RN018, RN035	P
4650 - 4700 kHz AERONAUTICAL MOBILE (R)	4650 - 4700 kHz AERONAUTICAL MOBILE (R)	RN018	P
4700 - 4750 kHz AERONAUTICAL MOBILE (OR)	4700 - 4750 kHz AERONAUTICAL MOBILE (OR)	RN018	P
4750 - 4850 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	4750 - 4850 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING	5.113 RN018	P
4850 - 4995 kHz FIXED LAND MOBILE BROADCASTING 5.113	4850 - 4995 kHz FIXED LAND MOBILE BROADCASTING	RN018	P
4995 - 5003 kHz STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz)	4995 - 5003 kHz STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz)	RN018	P
5003 - 5005 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	5003 - 5005 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	RN018	P
5005 - 5060 kHz FIXED	5005 - 5060 kHz FIXED	5.113 RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
BROADCASTING 5.113	BROADCASTING		
5060 - 5250 kHz FIXED Mobile except aeronautical mobile 5.133	5060 - 5250 kHz FIXED Mobile except aeronautical mobile	5.133 RN018	P
5250 - 5450 kHz FIXED MOBILE except aeronautical mobile	5250 - 5450 kHz FIXED MOBILE except aeronautical mobile	RN018	P
5450 - 5480 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	5450 - 5480 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	RN018	P
5480 - 5680 kHz AERONAUTICAL MOBILE (R) 5.111, 5.115	5480 - 5680 kHz AERONAUTICAL MOBILE (R)	5.115 RN018	P
5680 - 5730 kHz AERONAUTICAL MOBILE (OR) 5.111, 5.115	5680 - 5730 kHz AERONAUTICAL MOBILE (OR)	5.115 RN018	P
5730 - 5900 kHz FIXED LAND MOBILE	5730 - 5900 kHz FIXED LAND MOBILE	RN018	P
5900 - 5950 kHz BROADCASTING 5.134, 5.136	5900 - 5950 kHz FIXED LAND MOBILE BROADCASTING	5.134, 5.136 RN006, RN018	P
5950 - 6200 kHz BROADCASTING	5950 - 6200 kHz BROADCASTING	RN018	NG
6200 - 6525 kHz MARITIME MOBILE 5.109 5.110, 5.130, 5.132, 5.137	6200 - 6525 kHz MARITIME MOBILE	5.109, 5.110, 5.130, 5.132, 5.137, RN018	P
6525 - 6685 kHz	6525 - 6685 kHz	RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)		
6685 - 6765 kHz AERONAUTICAL MOBILE (OR)	6685 - 6765 kHz AERONAUTICAL MOBILE (OR)	RN018	P
6765 - 7000 kHz FIXED Land Mobile 5.139 5.138, 5.138A	6765 - 7000 kHz FIXED LAND MOBILE	5.138, 5.138A, 5.139 RN018, RN035	P
7000 - 7100 kHz AMATEUR AMATEUR-SATELLITE 5.140, 5.141, 5.141A	7000 - 7100 kHz AMATEUR AMATEUR-SATELLITE	RN018	NG
7100 - 7200 kHz AMATEUR 5.141A, 5.141B, 5.141C, 5.142	7100 - 7300 kHz AMATEUR	5.141C RN018	NG
7200 - 7300 kHz BROADCASTING	7100 - 7300 kHz BROADCASTING	RN018	NG
7300 - 7400 kHz BROADCASTING 5.134, 5.143, 5.143A, 5.143B, 5.143C, 5.143D	7300 - 7400 kHz FIXED BROADCASTING Land Mobile	5.134, 5.143, 5.143B RN006, RN018	P
7400 - 7450 kHz BROADCASTING 5.143B, 5.143C	7400 - 7450 kHz BROADCASTING	5.143B, RN018	NG
7450 - 8100 kHz FIXED MOBILE except aeronautical mobile (R) 5.143E, 5.144	7450 - 8100 kHz FIXED MOBILE except aeronautical mobile (R)	5.143E, RN018, RN035	P
8100 - 8195 kHz FIXED MARITIME MOBILE	8100 - 8195 kHz FIXED MARITIME MOBILE	RN018, RN035	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
8195 - 8815 kHz MARITIME MOBILE 5.109, 5.110, 5.111 5.132, 5.145	8195 - 8815 kHz MARITIME MOBILE	5.109, 5.110, 5.132, 5.145 RN018, RN035	P
8815 - 8965 kHz AERONAUTICAL MOBILE (R)	8815 - 8965 kHz AERONAUTICAL MOBILE (R)	RN018	P
8965 - 9040 kHz AERONAUTICAL MOBILE (OR)	8965 - 9040 kHz AERONAUTICAL MOBILE (OR)	RN018	P
9040 - 9400 kHz FIXED	9040 - 9400 kHz FIXED	RN018	P
9400 - 9500 kHz BROADCASTING 5.134, 5.146	9400 - 9500 kHz BROADCASTING FIXED	5.134, 5.146 RN006, RN018	P
9500 - 9900 kHz BROADCASTING 5.147	9500 - 9900 kHz BROADCASTING	5.147 RN018	P
9900 - 9995 kHz FIXED	9900 - 9995 kHz FIXED	RN018	P
9995 - 10003 kHz STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 5.111	9995 - 10003 kHz STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz)	RN018	P
10003 - 10005 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	10003 - 10005 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	RN018	P
10005 - 10100 kHz AERONAUTICAL MOBILE (R) 5.111	10005 - 10100 kHz AERONAUTICAL MOBILE (R)	RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
10100 - 10150 kHz FIXED Amateur	10100 - 10150 kHz FIXED Amateur	RN018	P
10150 - 11175 kHz FIXED Mobile except aeronautical mobile (R)	10150 - 11175 kHz FIXED Mobile except aeronautical mobile (R)	RN018	P
11175 - 11275 kHz AERONAUTICAL MOBILE (OR)	11175 - 11275 kHz AERONAUTICAL MOBILE (OR)	RN018	P
11275 - 11400 kHz AERONAUTICAL MOBILE (R)	11275 - 11400 kHz AERONAUTICAL MOBILE (R)	RN018	P
11400 - 11600 kHz FIXED	11400 - 11600 kHz FIXED	RN018	P
11600 - 11650 kHz BROADCASTING 5.134, 5.146	11600 - 11650 kHz FIXED BROADCASTING	5.134, 5.146 RN006, RN018	P
11650 - 12050 kHz BROADCASTING 5.147	11650 - 12050 kHz BROADCASTING	5.147 RN018	NG
12050 - 12100 kHz BROADCASTING 5.134, 5.146	12050 - 12100 kHz FIXED BROADCASTING	5.134, 5.146 RN006, RN018	P
12100 - 12230 kHz FIXED	12100 - 12230 kHz FIXED	RN018	P
12230 - 13200 kHz MARITIME MOBILE 5.109, 5.110, 5.132, 5.145	12230 - 13200 kHz MARITIME MOBILE	5.109, 5.110, 5.132, 5.145 RN009, RN018	P
13200 - 13260 kHz AERONAUTICAL	13200 - 13260 kHz AERONAUTICAL	RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
MOBILE (OR)	MOBILE (OR)		
13260 - 13360 kHz AERONAUTICAL MOBILE (R)	13260 - 13360 kHz AERONAUTICAL MOBILE (R)	RN018	P
13360 - 13410 kHz FIXED RADIO ASTRONOMY 5.149	13360 - 13410 kHz FIXED RADIO ASTRONOMY	5.149 RN018	P
13410 - 13570 kHz FIXED Mobile except aeronautical mobile (R) 5.150	13410 - 13570 kHz FIXED Mobile except aeronautical mobile (R)	5.150 RN018, RN035	P
13570 - 13600 kHz BROADCASTING 5.134, 5.151	13570 - 13600 kHz BROADCASTING FIXED Mobile except aeronautical mobile (R)	5.134, 5.151 RN006, RN018	P
13600 - 13800 kHz BROADCASTING	13600 - 13800 kHz BROADCASTING	RN018	NG
13800 - 13870 kHz BROADCASTING 5.134, 5.151	13800 - 13870 kHz BROADCASTING FIXED Mobile except aeronautical mobile (R)	5.134, 5.151 RN006, RN018	P
13870 - 14000 kHz FIXED Mobile except aeronautical mobile (R)	13870 - 14000 kHz FIXED Mobile except aeronautical mobile (R)	RN018	P
14000 - 14250 kHz AMATEUR AMATEUR-SATELLITE	14000 - 14250 kHz AMATEUR AMATEUR-SATELLITE	RN018	NG
14250 - 14350 kHz	14250 - 14350 kHz	RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
AMATEUR 5.152	AMATEUR		
14350 - 14990 kHz FIXED Mobile except aeronautical mobile (R)	14350 - 14990 kHz FIXED Mobile except aeronautical mobile (R)	RN018	P
14990 - 15005 kHz STANDARD FREQUENCY AND TIME SIGNAL (15000 kHz) 5.111	14990 - 15005 kHz STANDARD FREQUENCY AND TIME SIGNAL (15000 kHz)	RN018	P
15005 - 15010 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	15005 - 15010 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	RN018	P
15010 - 15100 kHz AERONAUTICAL MOBILE (OR)	15010 - 15100 kHz AERONAUTICAL MOBILE (OR)	RN018	P
15100 - 15600 kHz BROADCASTING	15100 - 15600 kHz BROADCASTING	RN018	NG
15600 - 15800 kHz BROADCASTING 5.134, 5.146	15600 - 15800 kHz FIXED BROADCASTING	5.134, 5.146 RN006, RN018	P
15800 - 16360 kHz FIXED .153	15800 - 16360 kHz FIXED	RN018	P
16360 - 17410 kHz MARITIME MOBILE 5.109, 5.110, 5.132, 5.145	16360 - 17410 kHz MARITIME MOBILE	5.109, 5.110, 5.132, 5.145 RN009, RN018	P
17410 - 17480 kHz FIXED	17410 - 17480 kHz FIXED	RN018	P
17480 - 17550 kHz BROADCASTING 5.134, 5.146	17480 - 17550 kHz BROADCASTING FIXED	5.134, 5.146 RN006, RN018	P
17550 - 17900 kHz	17550 - 17900 kHz	RN018	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
BROADCASTING	BROADCASTING		
17900 - 17970 kHz AERONAUTICAL MOBILE (R)	17900 - 17970 kHz AERONAUTICAL MOBILE (R)	RN018	P
17970 - 18030 kHz AERONAUTICAL MOBILE (OR)	17970 - 18030 kHz AERONAUTICAL MOBILE (OR)	RN018	P
18030 - 18052 kHz FIXED	18030 - 18052 kHz FIXED	RN018	P
18052 - 18068 kHz FIXED Space Research	18052 - 18068 kHz FIXED Space Research	RN018	P
18068 - 18168 kHz AMATEUR AMATEUR-SATELLITE 5.154	18068 - 18168 kHz AMATEUR AMATEUR-SATELLITE	RN018	NG
18168 - 18780 kHz FIXED Mobile except aeronautical mobile	18168 - 18780 kHz FIXED Mobile except aeronautical mobile	RN018	P
18780 - 18900 kHz MARITIME MOBILE	18780 - 18900 kHz MARITIME MOBILE	RN009, RN018	P
18900 - 19020 kHz BROADCASTING 5.134, 5.146	18900 - 19020 kHz BROADCASTING	5.134, 5.146 RN006, RN018	P
19020 - 19680 kHz FIXED	19020 - 19680 kHz FIXED	RN018	P
19680 - 19800 kHz MARITIME MOBILE 5.132	19680 - 19800 kHz MARITIME MOBILE	5.132 RN009, RN018	P
19800 - 19990 kHz FIXED	19800 - 19990 kHz FIXED	RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
1990 - 1995 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	1990 - 1995 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	RN018	P
1995 - 20010 kHz STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 5.111	1995 - 20010 kHz STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz)	RN018	P
20010 - 21000 kHz FIXED Mobile	20010 - 21000 kHz FIXED Mobile	RN018	P
21000 - 21450 kHz AMATEUR AMATEUR-SATELLITE	21000 - 21450 kHz AMATEUR AMATEUR-SATELLITE	RN018	NG
21450 - 21850 kHz BROADCASTING	21450 - 21850 kHz BROADCASTING	RN018	NG
21850 – 21870 kHz FIXED 5.155, 5.155A	21850 - 21870 kHz FIXED AERONAUTICAL MOBILE (R)	5.155, 5.155A RN018	P
21870 – 21924 kHz FIXED 5.155B	21870 - 21924 kHz FIXED	5.155B RN018	P
21924 – 22000 kHz AERONAUTICAL MOBILE (R)	21924 - 22000 kHz AERONAUTICAL MOBILE (R)	RN018	P
22000 – 22855 kHz MARITIME MOBILE 5.132, 5.156	22000 - 22855 kHz MARITIME MOBILE	5.132 RN010, RN018	P
22855 – 23000 kHz FIXED 5.156	22855 - 23000 kHz FIXED	RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
23000 – 23200 kHz FIXED Mobile except aeronautical mobile (R) 5.156	23000 - 23200 kHz FIXED Mobile except aeronautical mobile (R)	RN018	P
23200 – 23350 kHz FIXED 5.156A AERONAUTICAL MOBILE (OR)	23200 - 23350 kHz FIXED AERONAUTICAL MOBILE (OR)	5.156A RN011, RN018	P
23350 – 24000 kHz FIXED MOBILE except aeronautical mobile 5.157	23350 - 24000 kHz FIXED MOBILE except aeronautical mobile	5.157 RN018	P
24000 – 24890 kHz FIXED LAND MOBILE	24000 - 24890 kHz FIXED LAND MOBILE	RN018	P
24890 – 24990 kHz AMATEUR AMATEUR-SATELLITE	24890 - 24990 kHz AMATEUR AMATEUR-SATELLITE	RN018	NG
24990 – 25005 kHz STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)	24990 - 25005 kHz STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)	RN018	P
25005 – 25010 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	25005 - 25010 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	RN018	P
25010 – 25070 kHz FIXED MOBILE except aeronautical mobile	25010 - 25070 kHz FIXED MOBILE except aeronautical mobile	RN018	P
25070 – 25210 kHz MARITIME MOBILE	25070 - 25210 kHz MARITIME MOBILE	RN010, RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
25210 – 25550 kHz FIXED MOBILE except aeronautical mobile	25210 - 25550 kHz FIXED MOBILE except aeronautical mobile	RN018	P
25550 – 25670 kHz RADIO ASTRONOMY 5.149	25550 - 25670 kHz RADIO ASTRONOMY	RN018	NG
25670 – 26100 kHz BROADCASTING	25670 - 26100 kHz BROADCASTING	RN018	NG
26100 – 26175 kHz MARITIME MOBILE 5.132	26100 - 26175 kHz MARITIME MOBILE	5.132 RN010, RN018	P
26175 – 27500 kHz FIXED MOBILE except aeronautical mobile 5.150	26175 - 27500 kHz FIXED MOBILE except aeronautical mobile	5.150 RN012, RN013, RN018, RN035	P
27.5 - 28 MHz METEOROLOGICAL AIDS FIXED MOBILE	27.5 - 28 MHz METEOROLOGICAL AIDS FIXED MOBILE	RN018	P
28 - 29.7 MHz AMATEUR AMATEUR-SATELLITE	28 - 29.7 MHz AMATEUR AMATEUR-SATELLITE	RN018	NG
29.7 – 30.005 MHz FIXED MOBILE	29.7 – 30.005 MHz FIXED MOBILE	RN018, RN035	P
30.005 – 30.01 MHz SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH	30.005 – 30.01 MHz SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH	RN018, RN035	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
30.01 – 37.5 MHz FIXED MOBILE	30.01 – 37.5 MHz FIXED MOBILE	RN015, RN018, RN035, RN038	P
37.5 – 38.25 MHz FIXED MOBILE Radio Astronomy 5.149	37.5 – 38.25 MHz FIXED MOBILE Radio Astronomy	5.149 RN015, RN018 RN035	P
38.25 – 39.986 MHz FIXED MOBILE	38.25 – 39.986 MHz FIXED MOBILE	RN015, RN018, RN035 RN038	P
39.986 – 40.02 MHz FIXED MOBILE Space Research	39.986 – 40.02 MHz FIXED MOBILE Space Research	RN018, RN035, RN038	P
40.02 – 40.98 MHz FIXED MOBILE 5.150	40.02 – 40.98 MHz FIXED MOBILE	5.150, RN018, RN035	P
40.98 - 41.015 MHz FIXED MOBILE Space Research 5.160, 5.161	40.98 - 41.015 MHz FIXED MOBILE Space Research	RN018, RN035	P
41.015 - 44 MHz FIXED MOBILE 5.160, 5.161	41.015 - 44 MHz FIXED MOBILE	RN018, RN035	P
44 - 47 MHz FIXED MOBILE 5.162, 5.162A	44 - 47 MHz FIXED MOBILE	5.162A RN018, RN035	P
47 - 68 MHz BROADCASTING	47 - 48.5 MHz BROADCASTING	5.162A, 5.163 RN014, RN017,	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.162A, 5.163, 5.164 5.165, 5.169, 5.171	Land Mobile Fixed 48.5 - 56.5 MHz BROADCASTING 56.5 - 58 MHz BROADCASTING Fixed Land Mobile 58 - 68 MHz BROADCASTING	RN018	NG P NG
68 - 74.8 MHz FIXED MOBILE except aeronautical mobile 5.149, 5.174, 5.175, 5.177, 5.179	68 - 73 MHz BROADCASTING 73 – 74 MHz BROADCASTING FIXED MOBILE except aeronautical mobile 74-74.6 MHz FIXED MOBILE except aeronautical mobile 74.6 - 74.8 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION	5.149, 5.175 5.177, 5.179 RN017, RN018	P
74.8 - 75.2 MHz AERONAUTICAL RADIONAVIGATION 5.180, 5.181	74.8 - 75.2 MHz AERONAUTICAL RADIONAVIGATION	5.180 RN018	P
75.2 - 87.5 MHz FIXED MOBILE except aeronautical mobile 5.175, 5.179, 5.184, 5.187	75.2 - 75.4 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION 75.4 - 76 MHz FIXED MOBILE except aeronautical mobile 76 - 87.5 MHz BROADCASTING	5.175, 5.179 RN014, RN016, RN018	P
87.5 - 100 MHz	87.5 - 100 MHz	RN014, RN016	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
BROADCASTING 5.190	BROADCASTING	RN017, RN018	
100 - 108 MHz BROADCASTING 5.192, 5.194	100-108 MHz BROADCASTING	RN017, RN018	NG
108 - 117.975 MHz AERONAUTICAL RADIONAVIGATION 5.197, 5.197A	108 - 117.975 MHz AERONAUTICAL RADIONAVIGATION	5.197A, RN018	G
117.975 - 137 MHz AERONAUTICAL MOBILE (R) 5.111, 5.198, 5.199, 5.200, 5.201, 5.202, 5.203, 5.203A, 5.203B	117.975 - 132 MHz AERONAUTICAL MOBILE (R) Aeronautical mobile-satellite (R) 132-136 MHz AERONAUTICAL MOBILE Aeronautical mobile-satellite (R) 136 - 137 MHz AERONAUTICAL MOBILE	5.198, 5.199, 5.200, 5.201, 5.202, 5.203, RN018	P
137 - 137.025 MHz SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.209, 5.208A Fixed Mobile except aeronautical mobile (R) 5.204, 5.205, 5.206, 5.207, 5.208	137 - 137.025 MHz SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) AERONAUTICAL MOBILE (OR) Fixed Mobile except aeronautical mobile (R)	5.206, 5.208 5.208A, 5.209 RN018	P
137.025 - 137.175 MHz SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) METEOROLOGICAL-	137.025 - 137.175 MHz SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) METEOROLOGICAL-	5.206, 5.208 5.208A, 5.209 RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
SATELLITE (space-to-Earth) Mobile-satellite (space-to-Earth) 5.209,5.208A Fixed Mobile except aeronautical mobile (R) 5.204, 5.205, 5.206, 5.207, 5.208	SATELLITE (space-to-Earth) Mobile-satellite (space-to-Earth) AERONAUTICAL MOBILE (OR) Fixed Mobile except aeronautical mobile (R)		
137.175 - 137.825 MHz SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.209, 5.208A Fixed Mobile except aeronautical mobile (R) 5.204, 5.205, 5.206, 5.207, 5.208	137.175 - 137.825 MHz SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) AERONAUTICAL MOBILE (OR) Fixed Mobile except aeronautical mobile (R)	5.206, 5.208 5.208A, 5.209 RN018	P
137.825 – 138 MHz SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) Mobile-satellite (space-to-Earth) 5.209, 5.208A Fixed Mobile except aeronautical mobile (R) 5.204, 5.205, 5.206, 5.207, 5.208	137.825 - 138 MHz SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) AERONAUTICAL MOBILE (OR) Mobile-satellite (space-to-Earth) Fixed Mobile except aeronautical mobile (R)	5.206, 5.208 5.208A, 5.209 RN018	P
138 - 143.6 MHz AERONAUTICAL MOBILE (OR) 5.210, 5.211, 5.212, 5.214	138 - 143.6 MHz AERONAUTICAL MOBILE (OR)	RN018, RN035	G
143.6 - 143.65 MHz AERONAUTICAL MOBILE (OR)	143.6 - 143.65 MHz AERONAUTICAL MOBILE (OR)	RN018	G

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
SPACE RESEARCH (space-to-Earth) 5.211, 5.212, 5.214	SPACE RESEARCH (space-to-Earth)		
143.65 - 144 MHz AERONAUTICAL MOBILE (OR) 5.210, 212, 5.214	143.65 - 144 MHz AERONAUTICAL MOBILE (OR)	RN018	G
144 - 146 MHz AMATEUR AMATEUR-SATELLITE 5.216	144 - 146 MHz AMATEUR AMATEUR-SATELLITE	RN018	NG
146 - 148 MHz FIXED MOBILE except aeronautical mobile (R)	146 - 148 MHz FIXED MOBILE except aeronautical mobile (R)	RN018, RN018A	G
148 – 149.9 MHz FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 5.209 5.218, 5.219, 5.221	148 - 149.9 MHz FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space)	5.209, 5.218, 5.219, 5.221 RN018	G
149.9 – 150.05 MHz RADIONAVIGATION- SATELLITE 5.224B MOBILE-SATELLITE (Earth-to-space) 5.209, 5.224A 5.220, 5.222, 5.223	149.9 - 150.05 MHz RADIONAVIGATION- SATELLITE MOBILE-SATELLITE (Earth-to-space)	5.209, 5.220, 5.222, 5.223, 5.224A, 5.224B RN018	P
150.05 - 153 MHz FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	150.05 - 153 MHz FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY	5.149 RN018, RN019	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
153 - 154 MHz FIXED MOBILE except aeronautical mobile (R) Meteorological Aids	153 - 154 MHz FIXED MOBILE except aeronautical mobile (R) Meteorological Aids	RN018, RN019	P
154 - 156.7625 MHz FIXED MOBILE except aeronautical mobile (R) 5.226, 5.227	154 - 156.7625 MHz FIXED MOBILE except aeronautical mobile (R)	5.226, 5.227 RN018, RN019	P
156.7625 – 156.8375 MHz MARITIME MOBILE (distress and calling) 5.111, 5.226	156.7625 - 156.8375 MHz MARITIME MOBILE (distress and calling) FIXED MOBILE except aeronautical mobile	5.226, RN018	P
156.8375 – 174 MHz FIXED MOBILE except aeronautical mobile 5.226, 5.229	156.8375 - 162.7625 MHz FIXED MOBILE except aeronautical mobile 162.7625 – 163.2 MHz FIXED MOBILE except aeronautical mobile 163.2 - 168.5 MHz FIXED MOBILE except aeronautical mobile 168.5 - 174 MHz FIXED MOBILE except aeronautical mobile	5.226 RN018, RN019, RN020, RN021 RN035	P G P G
174 - 223 MHz BROADCASTING 5.235, 5.237, 5.243	174 - 223 MHz BROADCASTING	RN014, RN018, RN023, RN035	P
223 - 230 MHz BROADCASTING Fixed Mobile 5.243, 5.246, 5.247	223 - 230 MHz BROADCASTING Fixed Mobile	RN014, RN018, RN023	P
230 - 235 MHz FIXED	230 - 235 MHz FIXED	RN018, RN023	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
MOBILE 5.247, 5.251, 5.252	MOBILE		
235 - 267 MHz FIXED MOBILE 5.111, 5.199, 5.252, 5.254, 5.256, 5.256A	235 -240 MHz FIXED MOBILE 240 – 267 MHz FIXED MOBILE	5.199, 5.254, 5.256 RN018, RN023	P G
267 - 272 MHz FIXED MOBILE Space Operation (space-to-Earth) 5.254, 5.257	267 - 272 MHz FIXED MOBILE Space Operation (space-to-Earth)	5.254, 5.257 RN018	G
272 - 273 MHz SPACE OPERATION (space-to-Earth) FIXED MOBILE 5.254	272 - 273 MHz FIXED MOBILE	5.254 RN018	G
273 - 312 MHz FIXED MOBILE 5.254	273 - 312 MHz FIXED MOBILE	5.254 RN018, RN024	P
312 - 315 MHz FIXED MOBILE Mobile-satellite (Earth-to-space) 5.254 5.255	312 - 315 MHz FIXED MOBILE Mobile-satellite (Earth-to-space)	5.254, 5.255 RN018	G
315 - 322 MHz FIXED MOBILE 5.254	315 - 322 MHz FIXED MOBILE	5.254 RN018	G
322 - 328.6 MHz FIXED	322 - 328.6 MHz FIXED	5.149 RN018	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
MOBILE RADIO ASTRONOMY 5.149	MOBILE RADIO ASTRONOMY		
328.6 - 335.4 MHz AERONAUTICAL RADIONAVIGATION 5.258, 5.259	328.6 - 335.4 MHz AERONAUTICAL RADIONAVIGATION	5.258 RN018	G
335.4 - 387 MHz FIXED MOBILE 5.254	335.4 - 387 MHz FIXED MOBILE	5.254 RN018, RN024, RN025	P
387 - 390 MHz FIXED MOBILE Mobile-satellite (space-to-Earth) 5.254, 5.255, 5.208A	387 - 390 MHz FIXED MOBILE Mobile-satellite (space-to-Earth)	5.254, 5.255, 5.208A RN018	G
390 - 399.9 MHz FIXED MOBILE 5.254	390 - 399.9 MHz FIXED MOBILE	5.254 RN018, RN025, RN026	P
399.9 - 400.05 MHz RADIONAVIGATION - SATELLITE 5.222, 5.224B, 5.260 MOBILE-SATELLITE (Earth-to-space) 5.209, 5.224A 5.220	399.9 - 400.05 MHz RADIONAVIGATION - SATELLITE MOBILE-SATELLITE (Earth-to-space)	5.209, 5.220, 5.222, 5.223, 5.224A, 5.224B, 5.260 RN018, RN026	P
400.05 - 400.15 MHz STANDARD FREQUENCY AND TIME SIGNAL- SATELLITE (400.1 MHz) 5.261, 5.262	400.05 - 400.15 MHz STANDARD FREQUENCY AND TIME SIGNAL- SATELLITE (400.1 MHz) FIXED MOBILE	5.261, 5.262 RN018, RN026	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
400.15 - 401 MHz METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) 5.263 MOBILE-SATELLITE (space-to-Earth) 5.208A, 5.209 Space Operation (space-to-Earth) 5.262, 5.264	400.15 - 401 MHz METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) FIXED MOBILE Space Operation (space-to-Earth)	5.208A, 5.209 5.262, 5.263, 5.264 RN018, RN026	P
401 - 402 MHz METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	401 - 402 MHz METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	RN018, RN026,	P
402 - 403 MHz METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	402 - 403 MHz METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	RN018, RN026, RN035	P
403 - 406 MHz METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile	403 - 406 MHz METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile	RN018, RN026, RN035	P
406 - 406.1 MHz MOBILE-SATELLITE (Earth-to-space) 5.266, 5.267	406 - 406.1 MHz MOBILE-SATELLITE (Earth-to-space)	5.266 5.267 RN018	P
406.1 - 410 MHz	406.1 - 410 MHz	5.149	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY	RN018, RN026, RN027	
410 - 420 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 5.268	410 - 420 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space)	5.268 RN018, RN028	P
420 - 430 MHz FIXED MOBILE except aeronautical mobile Radiolocation 5.269, 5.270, 5.271	420 - 430 MHz FIXED MOBILE except aeronautical mobile Radiolocation	RN018, RN028	P
430 - 432 MHz AMATEUR RADIOLOCATION 5.271, 5.272, 5.273, 5.274, 5.275, 5.276, 5.277	430 - 432 MHz AMATEUR FIXED RADIOLOCATION	5.277 RN018, RN026, RN035	P
432 - 438 MHz AMATEUR RADIOLOCATION Earth exploration-satellite (active) 5.279A, 5.138, 5.271, 5.272, 5.276, 5.277, 5.280, 5.281, 5.282	432 - 438 MHz AMATEUR RADIOLOCATION FIXED Earth exploration-satellite (active)	5.138, 5.277, 5.279A, RN018, RN026, RN035	P
438 - 440 MHz AMATEUR RADIOLOCATION 5.271, 5.273, 5.274, 5.275, 5.276, 5.277, 5.283	438 - 440 MHz AMATEUR RADIOLOCATION FIXED	5.277, RN018, RN026, RN035	P
440 – 450 MHz FIXED MOBILE except aeronautical mobile Radiolocation	440 - 446 MHz FIXED MOBILE except aeronautical mobile Radiolocation	5.286 RN018, RN026, RN028A	G

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.269, 5.270, 5.271, 5.284, 5.285, 5.286	446 – 446.1 MHz FIXED MOBILE except aeronautical mobile Radiolocation 446.1 - 450 MHz FIXED MOBILE except aeronautical mobile Radiolocation		NG G
450 - 455 MHz FIXED MOBILE 5.209, 5.271, 5.286 5.286A, 5.286B, 5.286C, 5.286D, 5.286E	450 - 453 MHz FIXED MOBILE 453 - 455 MHz FIXED MOBILE	5.286A, 5.286 RN018	P NG
455 - 456 MHz FIXED MOBILE 5.209, 5.271, 5.286A, 5.286B, 5.286C, 5.286E	455 - 456 MHz FIXED MOBILE	5.209, 5.286A RN018	NG
456 - 459 MHz FIXED MOBILE 5.271, 5.287, 5.288	456 – 457.5 MHz FIXED MOBILE 457.5 - 459 MHz FIXED MOBILE	5.287 RN018, RN030	NG P
459 - 460 MHz FIXED MOBILE 5.209, 5.271, 5.286A, 5.286B, 5.286C, 5.286E	459 - 460 MHz FIXED MOBILE	5.286A, RN018	G
460 - 470 MHz FIXED MOBILE Meteorological-satellite (space-to-Earth)	460 - 463 MHz FIXED MOBILE Meteorological-satellite (space-to-Earth) 463 – 467.5 MHz FIXED	5.287, 5.289 RN018, RN029, RN030	P NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.287, 5.288, 5.289, 5.290	MOBILE Meteorological-satellite (space-to-Earth) 467.5 - 470 MHz FIXED MOBILE Meteorological-satellite (space-to-Earth)		P
5.149, 5.291A, 5.294, 5.296, 5.300, 5.302, 5.304, 5.306, 5.311, 5.312	470-645 MHz BROADCASTING 645-790 MHz BROADCASTING AERONAUTICAL RADIONAVIGATION	5.149, 5.306, 5.311, 5.312 RN014, RN018, RN031, RN035	NG P
5.312, 5.314, 5.315, 5.316, 5.319, 5.321	790 - 862 MHz FIXED BROADCASTING 790 - 862 MHz BROADCASTING AERONAUTICAL RADIONAVIGATION FIXED Land mobile	5.312, 5.314 RN014, RN018, RN032, RN033, RN035	P
862 - 890 MHz FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322	862 - 880 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION 880 - 885 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION 885 - 890 MHz FIXED	5.323, 5.317A, RN018, RN032, RN033, RN033A, RN034, RN035, RN036	P P NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.319, 5.323	MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION		
890 – 942 MHz FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 Radiolocation	890 - 914 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION Radiolocation 914- 915 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION Radiolocation 915 - 925 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION Radiolocation 925 - 930 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION Radiolocation 930 - 935 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION Radiolocation 935 - 942 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION	5.323, 5.317A, RN018, RN036, RN037	P NG P P NG P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.323	Radiolocation		
942 – 960 MHz FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322	942 - 959 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION Radiolocation 959 - 960 MHz FIXED MOBILE except aeronautical mobile AERONAUTICAL RADIONAVIGATION Radiolocation	5.323, 5.317A, RN018, RN036, RN037	P NG
960 – 1164 MHz AERONAUTICAL RADIONAVIGATION 5.328	960 - 1164 MHz AERONAUTICAL RADIONAVIGATION	5.328, RN018	P
5.328A			
1164 - 1215 MHz AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B	1164 - 1215 MHz AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space)	5.328, 5.328A, 5.328B	P
5.328A			
1215 – 1240 MHz RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B, 5.329, 5.329A EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active)	1215 – 1240 MHz RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active)	5.328B, 5.329, 5.329A 5.332	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.330, 5.331, 5.332			
1240 – 1300 MHz RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B, 5.329, 5.329A EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) Amateur 5.282, 5.330, 5.331, 5.332,, 5.335, 5.335A	1240 - 1260 MHz RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) Amateur	5.329, 5.329A 5.332, 5.335A	P
1300 – 1350 MHz AERONAUTICAL RADIONAVIGATION 5.337 RADIONAVIGATION-SATELLITE (Earth-to-space) RADIOLOCATION 5.149, 5.337A	1300 - 1350 MHz AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (Earth-to-space) RADIOLOCATION	5.149, 5.337 5.337A	P
1350 – 1400 MHz FIXED MOBILE RADIOLOCATION 5.149, 5.338, 5.339, 5.339A	1350 - 1400 MHz FIXED MOBILE RADIOLOCATION	5.149, 5.339, 5.339A, RN039A	P
1400 – 1427 MHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	1400 - 1427 MHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340, 5.341	P
1427 – 1429 MHz SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.341	1427 - 1429 MHz SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile	5.341 RN039A	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
1429 – 1452 MHz FIXED MOBILE except aeronautical mobile 5.339A, 5.341, 5.342	1429 - 1452 MHz FIXED MOBILE except aeronautical mobile	5.339A, 5.341, RN039A	P
1452 – 1492 MHz FIXED MOBILE except aeronautical mobile BROADCASTING 5.345, 5.347 BROADCASTING- SATELLITE 5.345, 5.347, 5.347A 5.341, 5.342	1452 - 1492 MHz FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING- SATELLITE	5.341, 5.345, 5.347A, RN023	P
1492 - 1518 MHz FIXED MOBILE except aeronautical mobile 5.341 5.342	1492 - 1518 MHz FIXED MOBILE except aeronautical mobile	5.341 RN039A	P
1518 - 1525 MHz FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A, 5.348B, 5.348C, 5.341 5.342	1518 - 1525 MHz FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth)	5.341, 5.348, 5.348C	P
1525 - 1530 MHz SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.347A, 5.351A Earth Exploration-Satellite Mobile except aeronautical mobile 5.349 5.341, 5.342, 5.350, 5.351, 5.352A, 5.354	1525 - 1530 MHz SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite Mobile except aeronautical mobile	5.341, 5.347A, 5.351, 5.351A, 5.354	P
1530 – 1535 MHz	1530 - 1535 MHz	5.341, 5.347A,	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.347A, 5.351A, 5.353A Earth Exploration-Satellite Fixed Mobile except aeronautical mobile 5.341, 5.342, 5.351, 5.354	SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite Fixed Mobile except aeronautical mobile	5.351, 5.351A, 5.353A, 5.354	
1535 – 1559 MHz MOBILE-SATELLITE (space-to-Earth) 5.347A, 5.351A 5.341, 5.351, 5.353A, 5.354, 5.355 5.356, 5.357, 5.357A, 5.359, 5.362A	1535 - 1559MHz MOBILE-SATELLITE (space-to-Earth) FIXED	5.341, 5.347A, 5.351, 5.351A, 5.353A, 5.354, 5.359 RN040	P
1559 – 1610 MHz AERONAUTICAL RADIONAVIGATION RADIONAVIGATION- SATELLITE (space-to-Earth) (space-to-space) 5.328B, 5.329A 5.341, 5.362B, 5.362C, 5.363	1559 - 1610 MHz FIXED AERONAUTICAL RADIONAVIGATION RADIONAVIGATION- SATELLITE (space-to-Earth) (space-to-space)	5.328B, 5.329A, 5.341, 5.362B RN041, RN042	P
1610 – 1610.6 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION 5.341, 5.355, 5.359, 5.363, 5.364, 5.366, 5.367, 5.368, 5.369, 5.371, 5.372	1610 - 1610.6 MHz FIXED MOBILE-SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION	5.341, 5.351A, 5.359, 5.364, 5.366, 5.367, 5.368, 5.371, 5.372 RN042, RN043	P
1610.6 - 1613.8 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A	1610.6 - 1613.8 MHz MOBILE-SATELLITE (Earth-to-space)	5.149, 5.341, 5.351A, 5.359, 5.364, 5.366,	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 5.149, 5.341, 5.355, 5.359, 5.363, 5.364, 5.366, 5.367, 5.368, 5.369, 5.371, 5.372	RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION FIXED	5.367, 5.368, 5.371, 5.372 RN042, RN043	
1613.8 - 1626.5 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION Mobile-satellite (space-to-Earth) 5.341, 5.355, 5.359, 5.363, 5.364, 5.365, 5.366, 5.367, 5.368, 5.369, 5.371, 5.372	1613.8 - 1626.5 MHz MOBILE-SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION FIXED Mobile-satellite (space-to-Earth)	5.351A, 5.341, 5.359, 5.364, 5.365, 5.366, 5.367, 5.368, 5.371, 5.372 RN042, RN043	P
1626.5 - 1660 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341, 5.351, 5.353A, 5.354, 5.355, 5.357A, 5.359, 5.362A, 5.374, 5.375, 5.376	1626.5 - 1660 MHz MOBILE-SATELLITE (Earth-to-space) FIXED	5.351A, 5.341, 5.351, 5.353A, 5.354, 5.359 RN040	P
1660 - 1660.5 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149, 5.341, 5.351, 5.354, 5.362A, 5.376A	1660 - 1660.5 MHz MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY	5.351A, 5.149, 5.341, 5.351, 5.354, 5.376A	P
1660.5 - 1668.0 MHz RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149, 5.341, 5.379, 5.379A	1660.5 - 1668.0 MHz RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile	5.149, 5.341, 5.379A	P
1660.5 - 1668.0 MHz RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except	1660.5 - 1668.0 MHz RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except	5.149, 5.341, 5.379A	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
aeronautical mobile 5.149, 5.341, 5.379, 5.379A	aeronautical mobile		
1668.0 – 1668.4 MHz MOBILE-SATELLITE (Earth-to-space) 5.348C, 5.379B, 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149, 5.341, 5.379, 5.379A, 5.379D	1668.0 – 1668.4 MHz MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile	5.149, 5.341, 5.348C, 5.379A, 5.379B, 5.379C, 5.379D	P
1668.4 – 1670 MHz METEOROLOGICAL AIDS MOBILE-SATELLITE (Earth-to-space) 5.348C, 5.379B, 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) FIXED MOBILE except aeronautical mobile 5.149, 5.341, 5.379D, 5.379E	1668.4 – 1670 MHz METEOROLOGICAL AIDS MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY SPACE RESEARCH (passive) FIXED MOBILE except aeronautical mobile	5.149, 5.341, 5.348C, 5.379B, 5.379C, 5.379D	P
1670 – 1675 MHz METEOROLOGICAL AIDS FIXED METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE 5.380 MOBILE-SATELLITE (Earth-to-space) 5.348C, 5.379B, 5.341, 5.379D, 5.379E, 5.380A	1670 - 1675 MHz METEOROLOGICAL AIDS FIXED METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (Earth-to-space)	5.341, 5.380, 5.348C, 5.379B, 5.379D, 5.380A RN044	P
1675 – 1690 MHz METEOROLOGICAL AIDS FIXED METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	1675 - 1690 MHz METEOROLOGICAL AIDS FIXED METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	5.341	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.341			
<p align="center">1690 - 1700 MHz METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile</p> <p align="center">5.289, 5.341, 5.382</p>	<p align="center">1690 – 1700 MHz METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) FIXED MOBILE except aeronautical mobile</p>	5.289, 5.341, 5.382	P
<p align="center">1700 - 1710 MHz FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile</p> <p align="center">5.289, 5.341</p>	<p align="center">1700 - 1710 MHz FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile</p>	5.289, 5.341	P
<p align="center">1710 - 1930 MHz FIXED MOBILE 5.380, 5.384A, 5.388A</p>	<p align="center">1710 – 1747.5 MHz FIXED MOBILE 1747.5 – 1770 MHz FIXED MOBILE 1770 - 1785 MHz FIXED METEOROLOGICAL-</p>	<p align="center">5.149, 5.341, 5.380, 5.384A, 5.385, 5.388, 5.388A RN035, RN044, RN044A, RN045, RN046</p>	<p align="center">NG P P</p>

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.149, 5.341, 5.385, 5.386, 5.387, 5.388	SATELLITE (Earth-to-space) (space-to-Earth) MOBILE 1785 - 1790 MHz FIXED		P
	METEOROLOGICAL-SATELLITE (Earth-to-space) (space-to-Earth) MOBILE 1790 - 1805 MHz FIXED		P
	MOBILE 1805 – 1842.5 MHz FIXED		NG
	MOBILE 1842.5 – 1880 MHz FIXED MOBILE 1880 – 1930 MHz FIXED MOBILE		P NG
1930 – 1970 MHz FIXED MOBILE 5.388A 5.388	1930 - 1970 MHz FIXED MOBILE	5.388, 5.388A, RN046, RN047	P
1970 – 1980 MHz FIXED MOBILE 5.388A 5.388	1930 - 1970 MHz FIXED MOBILE	5.388, 5.388A, RN046, RN047	P
1980 – 2010 MHz FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388, 5.389A, 5.389B, 5.389F	1980 - 2010 MHz FIXED MOBILE MOBILE-SATELLITE (Earth-to-space)	5.351A, 5.388, 5.389A RN043, RN047	P
2010 – 2025 MHz	2010 - 2025 MHz	5.388, 5.388A,	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
FIXED MOBILE 5.388A 5.388	FIXED MOBILE	RN047	
2025 – 2110 MHz SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION- SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space) 5.392	2025 - 2110 MHz SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION- SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE SPACE RESEARCH (Earth-to-space) (space-to-space)	5.391, 5.392 RN039A, RN047	NG
2110 - 2120 MHz FIXED MOBILE 5.388A SPACE RESEARCH (deep space) (Earth-to-space) 5.388	2110 - 2120 MHz FIXED MOBILE SPACE RESEARCH (deep space) (Earth-to-space)	5.388, 5.388A	NG
2120 - 2160 MHz FIXED MOBILE 5.388A 5.388	2120 - 2160 MHz FIXED MOBILE	5.388, 5.388A, RN046	NG
2160 - 2170 MHz FIXED MOBILE 5.388A 5.388, 5.392A	2160 - 2170 MHz FIXED MOBILE	5.388, 5.388A RN046	NG
2170 - 2200 MHz FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A 5.388, 5.389A, 5.389F, 5.392A	2170 - 2200 MHz FIXED MOBILE MOBILE-SATELLITE (space-to-Earth)	5.351A, 5.388, 5.389A RN043	NG
2200 - 2290 MHz SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION- SATELLITE	2200 - 2290 MHz SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION- SATELLITE	5.391, 5.392 RN048	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
(space-to-Earth) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (space-to-Earth)(space-to-space) 5.392	(space-to-Earth) (space-to-space) FIXED MOBILE SPACE RESEARCH (space-to-Earth) (space-to-space)		
2290 - 2300 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)	2290 - 2300 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)	RN048	NG
2300 - 2450 MHz FIXED MOBILE Amateur Radiolocation 5.150, 5.282, 5.395	2300 - 2450 MHz FIXED MOBILE Amateur Radiolocation	5.150, 5.282 RN035, RN048	P
2450 - 2483.5 MHz FIXED MOBILE Radiolocation 5.150, 5.397	2450 - 2483.5 MHz FIXED MOBILE Radiolocation	5.150 RN035	P
2483.5 - 2500 MHz FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A Radiolocation 5.150, 5.371, 5.397, 5.398, 5.399, 5.400, 5.402	2483.5 – 2500 MHz FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) Radiolocation	5.150, 5.351A, 5.398, 5.399, 5.402 RN043	NG
2500 - 2520 MHz FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile 5.384A	2500 - 2520 MHz FIXED MOBILE except aeronautical mobile	5.351A, 5.384A, 5.403, 5.409, 5.410, 5.411, 5.414	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
MOBILE-SATELLITE (space-to-Earth) 5.403, 5.351A 5.405, 5.407, 5.412, 5.414	MOBILE-SATELLITE (space-to-Earth)	RN048	
2520 - 2655 MHz FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413, 5.416 5.339, 5.403, 5.405, 5.412, 5.417C, 5.417D, 5.418B, 5.418C	2520-2655 MHz FIXED MOBILE except aeronautical mobile BROADCASTING-SATELLITE	5.339, 5.384A, 5.403, 5.409, 5.410, 5.411, 5.417C, 5.417D, 5.418B, 5.418C, RN048	NG
2655 - 2670 MHz FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.347A, 5.413, 5.416 Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149, 5.412, 5.417, 5.420	2655 - 2670 MHz FIXED MOBILE except aeronautical mobile BROADCASTING-SATELLITE Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive)	5.149, 5.347A, 5.409, 5.410, 5.411, 5.413, 5.416, 5.420, 5.384A, RN048	NG
2670 - 2690 MHz FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE (Earth-to-space) 5.351A Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149, 5.412, 5.419, 5.420	2670 - 2690 MHz FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive)	5.149, 5.409, 5.410, 5.411, 5.419, 5.420 5.351A, 5.384A, RN048	NG
2690 - 2700 MHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY	2690 - 2700 MHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY	5.340, 5.422 RN048	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
SPACE RESEARCH (passive) 5.340, 5.422	SPACE RESEARCH (passive) FIXED		
2700 - 2900 MHz AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423, 5.424	2700 - 2900 MHz AERONAUTICAL RADIONAVIGATION Radiolocation	5.337, 5.423	P
2900 - 3100 MHz RADIONAVIGATION 5.426 RADIOLOCATION 5.424A 5.425, 5.427	2900 - 3100 MHz RADIONAVIGATION Radiolocation	5.424A, 5.425, 5.426, 5.427	P
3100 – 3300 MHz RADIOLOCATION Earth exploration- satellite (active) Space research (active) 5.149, 5.428	3100 – 3300 MHz RADIOLOCATION Earth exploration- satellite (active) Space research (active)	5.149	P
3300 – 3400 MHz RADIOLOCATION 5.149, 5.429, 5.430	3300 – 3400 MHz RADIOLOCATION	5.149	P
3400 – 3600 MHz FIXED FIXED-SATELLITE (space-to-Earth) Mobile Radiolocation 5.431	3400 – 3600 MHz FIXED FIXED-SATELLITE (space-to-Earth) Mobile Radiolocation		NG
3600 – 4200 MHz FIXED FIXED-SATELLITE (space-to-Earth) Mobile	3600 – 4200 MHz FIXED FIXED-SATELLITE (space-to-Earth) Mobile		NG
4200 – 4400 MHz AERONAUTICAL RADIONAVIGATION 5.438	4200 – 4400 MHz AERONAUTICAL RADIONAVIGATION	5.438, 5.440	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.437, 5.439, 5.440			
4400 – 4500 MHz FIXED MOBILE	4400 – 4500 MHz FIXED MOBILE		NG
4500 – 4800 MHz FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE	4500 – 4800 MHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	5.441	NG
4800 – 4990 MHz FIXED MOBILE 5.442 Radio Astronomy 5.149, 5.339, 5.443	4800 – 4990 MHz FIXED MOBILE Radio Astronomy	5.149, 5.339, 5.442	NG
4990 – 5000 MHz FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space Research (passive) 5.149	4990 – 5000 MHz FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space Research (passive)	5.149	NG
5000 – 5010 MHz AERONAUTICAL RADIONAVIGATION RADIONAVIGATION- SATELLITE (Earth-to-space) 5.367	5000 – 5010 MHz AERONAUTICAL RADIONAVIGATION RADIONAVIGATION- SATELLITE (Earth-to-space)	5.367	P
5010 – 5030 MHz AERONAUTICAL RADIONAVIGATION RADIONAVIGATION- SATELLITE (space-to-Earth) (space-space) 5.328B, 5.443B 5.367	5010 – 5030 MHz AERONAUTICAL RADIONAVIGATION	5.328B, 5.367, 5.443B	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5030 – 5150 MHz AERONAUTICAL RADIONAVIGATION 5.367, 5.444, 5.444A,	5030 – 5150 MHz AERONAUTICAL RADIONAVIGATION	5.367, 5.444, 5.444A	P
5150 – 5250 MHz AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except aeronautical mobile 5.446A, 5.446B 5.446, 5.447, 5.447B, 5.447C	5150 – 5250 MHz AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile	5.446, 5.446A, 5.446B, 5.447A, 5.447B, 5.447C RN035	P
5250 – 5255 MHz EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.447D MOBILE except aeronautical mobile 5.446A, 5.447F 5.447E, 5.448, 5.448A	5250 – 5255 MHz EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH MOBILE except aeronautical mobile	5.446A, 5.447A, 5.447B, 5.447C, 5.447F RN035	P
5255 – 5350 MHz EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 5.446A, 5.447F 5.447E, 5.448, 5.448A	5255 – 5350 MHz EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile	5.448A, 5.446A, 5.447F, RN035	P
5350 – 5460 MHz AERONAUTICAL RADIONAVIGATION 5.449 EARTH EXPLORATION- SATELLITE (active) 5.448B RADIOLOCATION 5.448D SPACE RESEARCH (active) 5.448C	5350 – 5460 MHz AERONAUTICAL RADIONAVIGATION EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active)	5.448B, 5.448C, 5.448D, 5.449	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5460 – 5470 MHz RADIONAVIGATION 5.449 EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.448D 5.448B	5460 – 5470 MHz RADIONAVIGATION EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION	5.448B, 5.448D, 5.449	P
5470 – 5570 MHz MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 5.446A 5.450A RADIONAVIGATION 5.449 EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.450B 5.448B 5.450 5.451	5470 – 5570 MHz MARITIME RADIONAVIGATION MOBILE except aeronautical mobile RADIONAVIGATION EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION	5.446A, 5.448B, 5.450A, 5.450B, RN035	P
5570 – 5650 MHz MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 5.446A 5.450A RADIOLOCATION 5.450B 5.450, 5.451, 5.452	5570 – 5650 MHz MARITIME RADIONAVIGATION MOBILE except aeronautical mobile RADIOLOCATION	5.446A, 5.450, 5.450A, 5.450B, 5.451, 5.452, RN035	NG
5650 – 5725 MHz RADIOLOCATION MOBILE except aeronautical mobile 5.446A 5.450A Amateur Space Research (deep space) 5.282, 5.451, 5.453, 5.454, 5.455	5650 – 5670 MHz RADIOLOCATION MOBILE except aeronautical mobile Amateur Space Research (deep space) 5670 – 5725 MHz FIXED RADIOLOCATION MOBILE except aeronautical mobile Amateur Space Research (deep space)	5.282, 5.455, 5.446A 5.450A RN035	P NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
<p>5725 – 5830 MHz FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur</p> <p>5.150, 5.451, 5.453, 5.455, 5.456</p>	<p>5725 – 5830 MHz FIXED-SATELLITE (Earth-to-space) RADIOLOCATION FIXED Amateur</p>	5.150, 5.455 RN035	NG
<p>5830 – 5850 MHz FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur-satellite (space-to-Earth)</p> <p>5.150, 5.451, 5.453, 5.455, 5.456</p>	<p>5830 – 5850 MHz FIXED-SATELLITE (Earth-to-space) RADIOLOCATION FIXED Amateur Amateur-satellite (space-to-Earth)</p>	5.150, 5.455	NG
<p>5850 – 5925 MHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE</p> <p>5.150</p>	<p>5850 – 5925 MHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE</p>	5.150	NG
<p>5925 – 6700 MHz FIXED FIXED-SATELLITE (Earth-to-space) 5.457A, 5.457B MOBILE</p> <p>5.149, 5.440, 5.458</p>	<p>5925 – 6700 MHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE</p>	5.149, 5.440, 5.457A, 5.458	NG
<p>6700 – 7075 MHz FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441 MOBILE</p> <p>5.458, 5.458A, 5.458B, 5.458C</p>	<p>6700 – 7075 MHz FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) MOBILE</p>	5.441, 5.458, 5.458A, 5.458B, 5.458C	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
7075 – 7145 MHz FIXED MOBILE 5.458, 5.459	7075 – 7145 MHz FIXED MOBILE	5.458	NG
7145 – 7235 MHz FIXED MOBILE SPACE RESEARCH (Earth-to-space) 5.460 5.458 5.459	7145 – 7235 MHz FIXED MOBILE SPACE RESEARCH (Earth-to-space)	5.458, 5.460	NG
7235 – 7250 MHz FIXED MOBILE 5.458	7235 – 7250 MHz FIXED MOBILE	5.458	NG
7250 – 7300 MHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 5.461	7250 – 7300 MHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	5.461	NG
7300 – 7450 MHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.461	7300 – 7450 MHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	5.461	NG
7450 – 7550 MHz FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.461A	7450 – 7550 MHz FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	5.461A	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
7550 – 7750 MHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	7550 – 7750 MHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	RN049	NG
7750 – 7850 MHz FIXED MOBILE except aeronautical mobile METEOROLOGICAL- SATELLITE (space-to-Earth) 5.461B	7750 – 7850 MHz FIXED MOBILE except aeronautical mobile METEOROLOGICAL- SATELLITE (space-to-Earth)	5.461B	NG
7850 – 7900 MHz FIXED MOBILE except aeronautical mobile	7850 – 7900 MHz FIXED MOBILE except aeronautical mobile		NG
7900 – 8025 MHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.461	7900 – 8025 MHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	5.461	NG
8025 – 8175 MHz EARTH EXPLORATION- SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	8025 – 8175 MHz EARTH EXPLORATION- SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	5.462A, 5.463	NG
8175 – 8215 MHz EARTH EXPLORATION- SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space)	8175 – 8215 MHz EARTH EXPLORATION- SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space)	5.462A, 5.463	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE		
8215 – 8400 MHz EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	8215 – 8400 MHz EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	5.462A, 5.463	NG
8400 – 8500 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 5.465, 5.466 5.467	8400 – 8500 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth)	5.465	NG
8500 – 8550 MHz RADIOLOCATION 5.468, 5.469	8500 – 8550 MHz RADIOLOCATION LAND MOBILE RADIONAVIGATION	5.469 RN049	P
8550 – 8650 MHz RADIOLOCATION SPACE RESEARCH (active) EARTH EXPLORATION-SATELLITE (active) 5.468, 5.469, 5.469A	8550 – 8650 MHz RADIOLOCATION SPACE RESEARCH (active) EARTH EXPLORATION-SATELLITE (active) LAND MOBILE RADIONAVIGATION	5.469, 5.469A RN049	P
8650 – 8750 MHz RADIOLOCATION 5.468, 5.469	8650 – 8750 MHz RADIOLOCATION LAND MOBILE RADIONAVIGATION	5.469 RN049	P
8750 – 8850 MHz RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470	8750 – 8850 MHz RADIOLOCATION AERONAUTICAL RADIONAVIGATION	5.470	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.471			
8850 – 9000 MHz RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473	8850 – 9000 MHz RADIOLOCATION RADIONAVIGATION	5.472, 5.473	P
9000 – 9200 MHz AERONATICAL RADIONAVIGATION 5.337 Radiolocation 5.471	9000 – 9200 MHz AERONATICAL RADIONAVIGATION Radiolocation	5.337	P
9200 – 9300 MHz RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473, 5.474	9200 – 9300 MHz RADIOLOCATION RADIONAVIGATION	5.472, 5.473, 5.474 RN035	P
9300 – 9500 MHz RADIONAVIGATION 5.476 Radiolocation 5.427, 5.474, 5.475	9300 – 9500 MHz RADIONAVIGATION Radiolocation	5.427, 5.474, 5.475, 5.476 RN035	P
9500 – 9800 MHz RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) EARTH EXPLORATION- SATELLITE (active) 5.476A	9500 – 9800 MHz RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) EARTH EXPLORATION- SATELLITE (active)	5.476A, RN035	P
9800 – 10000 MHz RADIOLOCATION Fixed 5.477, 5.478, 5.479	9800 – 10000 MHz RADIOLOCATION Fixed	5.479 RN035	P
10 – 10.45 GHz FIXED MOBILE RADIOLOCATION	10 – 10.45 GHz FIXED MOBILE RADIOLOCATION	5.479 RN039A, RN050	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
Amateur 5.479	Amateur		
10.45 – 10.5 GHz RADIOLOCATION Amateur Amateur-satellite 5.481	10.45 – 10.5 GHz RADIOLOCATION Amateur Amateur-satellite	RN050	P
10.5 – 10.55 GHz FIXED MOBILE Radiolocation	10.5 – 10.55 GHz FIXED MOBILE Radiolocation	RN035, RN039A, RN050	NG
10.55 – 10.6 GHz FIXED MOBILE except aeronautical mobile Radiolocation	10.55 – 10.6 GHz FIXED MOBILE except aeronautical mobile Radiolocation	RN035, RN039A, RN050	NG
10.6 – 10.68 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149, 5.482	10.6 – 10.68 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation	5.149, 5.482 RN039A, RN050	NG
10.68 – 10.7 GHz EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.483	10.68 – 10.7 GHz EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340	NG
10.7 – 11.7 GHz FIXED FIXED-SATELLITE (space- to-Earth) 5.441, 5.484A (Earth-to-space) 5.484 MOBILE except	10.7 – 11.7 GHz FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) MOBILE except aeronautical mobile	5.441, 5.484, 5.484A RN051	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
aeronautical mobile			
11.7 – 12.5 GHz FIXED BROADCASTING BROADCASTING-SATELLITE MOBILE except aeronautical mobile 5.487, 5.487A, 5.492	11.7 – 12.5 GHz FIXED BROADCASTING BROADCASTING-SATELLITE MOBILE except aeronautical mobile	5.487, 5.487A, 5.492	NG
12.5 – 12.75 GHz FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.494, 5.495, 5.496	12.5 – 12.75 GHz FIXED-SATELLITE (space-to-Earth) (Earth-to-space)	5.484A	NG
12.75 – 13.25 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.441 MOBILE Space Research (deep space) (space-to-Earth)	12.75 – 13.25 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Space Research (deep space) (space-to-Earth)	5.441 RN051	NG
13.25 – 13.4 GHz AERONAUTICAL RADIONAVIGATION 5.497 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) 5.498A, 5.499	13.25 – 13.4 GHz AERONAUTICAL RADIONAVIGATION EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active)	5.497, 5.498A	P
13.4 – 13.75 GHz RADIOLOCATION EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH 5.501A Standard frequency and time signal-satellite (Earth-to-space) 5.499, 5.500, 5.501, 5.501B	13.4 – 13.75 GHz RADIOLOCATION EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH Standard frequency and time signal-satellite (Earth-to-space)	5.501A, 5.501B RN035, RN053	P
13.75 – 14 GHz	13.75 – 14 GHz	5.484A, 5.502,	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
<p>FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Standard frequency and time signal-satellite (Earth-to-space) Space Research Earth exploration-satellite 5.499, 5.500, 5.501, 5.502, 5.503</p>	<p>FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Standard frequency and time signal-satellite (Earth-to-space) Space Research Earth exploration-satellite</p>	5.503, RN035	
<p>14 – 14.25 GHz FIXED-SATELLITE (Earth-to-space) 5.457A, 5.457B, 5.484A, 5.506, 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.504C, 5.506A Space Research 5.504A, 5.505, 5.508, 5.509</p>	<p>14 – 14.25 GHz FIXED-SATELLITE (Earth-to-space) RADIONAVIGATION Mobile-satellite (Earth-to-space) Space Research</p>	5.457A, 5.484A, 5.504, 5.504A, 5.506A	NG
<p>14.25 – 14.3 GHz FIXED-SATELLITE (Earth-to-space) 5.457A, 5.457B, 5.484A, 5.506, 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.506A, 5.508A Space Research 5.504A, 5.505, 5.508, 5.509</p>	<p>14.25 – 14.3 GHz FIXED-SATELLITE (Earth-to-space) RADIONAVIGATION Mobile-satellite (Earth-to-space) Space Research</p>	5.457A, 5.484A, 5.504, 5.504A, 5.506A, 5.506B	NG
<p>14.3 – 14.4 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.457A, 5.457B, 5.484A, 5.506, 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.506A, 5.509A Radionavigation-satellite 5.504A</p>	<p>14.3 – 14.4 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) Radionavigation-satellite</p>	5.484A, 5.457A, 5.504A, 5.506A, 5.506B	NG
<p>14.4 – 14.47 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.457A,</p>	<p>14.4 – 14.47 GHz FIXED FIXED-SATELLITE (Earth-to-space)</p>	5.484A, 5.457A, 5.504A, 5.506A, 5.506B RN051	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.457B, 5.484A, 5.506, 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.506A, 5.509A Space Research (space-to-Earth) 5.504A	MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) Space Research (space-to-Earth)		
14.47 – 14.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.457A, 5.457B, 5.484A, 5.506, 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.504B, 5.506A, 5.509A Radio Astronomy 5.149, 5.504A	14.47 – 14.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) Radio Astronomy	5.149, 5.484A, 5.457A, 5.504A, 5.506A, 5.506B RN051	NG
14.5 – 14.8 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.510 MOBILE Space Research	14.5 – 14.8 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Space Research	RN051	NG
14.8 – 15.35 GHz FIXED MOBILE Space Research 5.339	14.8 – 15.35 GHz FIXED MOBILE Space Research	5.339 RN051	NG
15.35 – 15.4 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.511	15.35 – 15.4 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340	NG
15.4 – 15.43 GHz AERONAUTICAL RADIONAVIGATION 5.511D	15.4 - 15.43 GHz AERONAUTICAL RADIONAVIGATION	5.511D	P
15.43 – 15.63 GHz	15.43 - 15.63 GHz	5.511A, 5.511C	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C	FIXED-SATELLITE (space-to-Earth) (Earth-to-space) AERONAUTICAL RADIONAVIGATION		
15.63 - 15.7 GHz AERONAUTICAL RADIONAVIGATION 5.511D	15.63 - 15.7 GHz AERONAUTICAL RADIONAVIGATION	5.511D	P
15.7 – 16.6 GHz RADIOLOCATION 5.512, 5.513	15.7 - 16.6 GHz RADIOLOCATION		P
16.6 – 17.1 GHz RADIOLOCATION Space Research (deep space) (Earth-to-space) 5.512, 5.513	16.6 - 17.1 GHz RADIOLOCATION Space Research (deep space) (Earth-to-space)		P
17.1 – 17.2 GHz RADIOLOCATION 5.512, 5.513	17.1 - 17.2 GHz RADIOLOCATION	RN035	P
17.2 – 17.3 GHz RADIOLOCATION EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) 5.512, 5.513, 5.513A	17.2 - 17.3 GHz RADIOLOCATION EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active)	5.513A, RN035	P
17.3 - 17.7 GHz FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A, 5.516B Radiolocation 5.514	17.3 - 17.7 GHz FIXED-SATELLITE (Earth-to-space) (space-to-Earth) Radiolocation	5.516, 5.516A, 5.516B	NG
17.7 – 18.1 GHz FIXED	17.7 – 18.1 GHz FIXED	5.484A, 5.516 RN054	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	FIXED-SATELLITE (space-to-Earth) (Earth-to-space) MOBILE		
18.1 – 18.4 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.484A, 5.516B (Earth-to-space) 5.520 MOBILE 5.519, 5.521	18.1 – 18.4 GHz FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) MOBILE	5.484A, 5.516B, 5.519, 5.520 RN054	NG
18.4 – 18.6 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE	18.4 – 18.6 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	5.484A, 5.516B, RN054	NG
18.6 – 18.8 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except aeronautical mobile EARTH EXPLORATION- SATELLITE (passive) Space Research (passive) 5.522A, 5.522C	18.6 – 18.8 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile EARTH EXPLORATION- SATELLITE (passive) Space Research (passive)	5.522A, 5.522B, 5.522C, RN054	NG
18.8 – 19.3 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.516B, 5.523A MOBILE	18.8 – 19.3 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	5.516B, 5.523A RN054	NG
19.3 – 19.7 GHz FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B,	19.3 – 19.7 GHz FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) MOBILE	5.523B, 5.523C, 5.523D, 5.523E RN054	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.523C, 5.523D, 5.523E MOBILE			
19.7 – 20.1 GHz FIXED-SATELLITE (space-to-Earth) 5.484A, 5.516B Mobile-satellite (space-to-Earth) 5.524	19.7 – 20.1 GHz FIXED-SATELLITE (space-to-Earth) Mobile-satellite (space-to-Earth)	5.484A, 5.516B	NG
20.1 – 20.2 GHz FIXED-SATELLITE (space-to-Earth) 5.484A, 5.516B MOBILE-SATELLITE (space-to-Earth) 5.524, 5.525, 5.526, 5.527, 5.528	20.1 – 20.2 GHz FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)	5.484A, 5.516B, 5.525, 5.526, 5.527, 5.528	NG
20.2 – 21.2 GHz FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard frequency and time signal-satellite (space-to-Earth) 5.524	20.2 – 21.2 GHz FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard frequency and time signal-satellite (space-to-Earth)		NG
21.2 – 21.4 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	21.2 – 21.4 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	RN055	NG
21.4 – 22 GHz FIXED MOBILE BROADCASTING- SATELLITE 5.530	21.4 – 22 GHz FIXED MOBILE BROADCASTING- SATELLITE	5.530 RN055	NG
22 – 22.21 GHz FIXED MOBILE except aeronautical mobile	22 – 22.21 GHz FIXED MOBILE except aeronautical mobile	5.149 RN055	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.149			
22.21 – 22.5 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149, 5.532	22.21 – 22.5 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive)	5.149, 5.532 RN055	NG
22.5 – 22.55 GHz FIXED MOBILE	22.5 – 22.55 GHz FIXED MOBILE	RN055	NG
22.55 – 23.55 GHz FIXED INTER-SATELLITE MOBILE 5.149	22.55 – 23.55 GHz FIXED INTER-SATELLITE MOBILE	5.149 RN055	NG
23.55 – 23.6 GHz FIXED MOBILE	23.55 – 23.6 GHz FIXED MOBILE	RN055	NG
23.6 – 24 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	23.6 – 24 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340	NG
24 – 24.05 GHz AMATEUR AMATEUR-SATELLITE 5.150	24 – 24.05 GHz AMATEUR AMATEUR-SATELLITE	5.150 RN035	NG
24.05 – 24.25 GHz RADIOLOCATION Amateur Earth Exploration-Satellite (active) 5.150	24.05 – 24.25 GHz RADIOLOCATION Amateur Earth Exploration-Satellite (active)	5.150 RN035	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
24.25 – 24.45 GHz FIXED	24.25 – 24.45 GHz FIXED		NG
24.45 – 24.65 GHz FIXED INTER-SATELLITE	24.45 – 24.65 GHz FIXED INTER-SATELLITE	RN039A	NG
24.65 – 24.75 GHz FIXED INTER-SATELLITE	24.65 – 24.75 GHz FIXED INTER-SATELLITE	RN039A	NG
24.75 – 25.25 GHz FIXED	24.75 – 25.25 GHz FIXED	RN039A	NG
25.25 – 25.5 GHz FIXED INTER-SATELLITE 5.536 MOBILE Standard frequency and time signal-satellite (Earth-to-space)	25.25 – 25.5 GHz FIXED INTER-SATELLITE MOBILE Standard frequency and time signal-satellite (Earth-to-space)	5.536, RN039A	NG
25.5 – 27 GHz EARTH EXPLORATION-SATELLITE (space-to-Earth) 5.536A, 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (space-to-Earth) 5.536A 5.536C Standard frequency and time signal-satellite (Earth-to-space)	25.5 – 27 GHz EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (space-to-Earth) Standard frequency and time signal-satellite (Earth-to-space)	5.536, 5.536A, 5.536B RN039A	NG
27 – 27.5 GHz FIXED INTER-SATELLITE 5.536 MOBILE	27 – 27.5 GHz FIXED INTER-SATELLITE MOBILE	5.536	NG
27.5 – 28.5 GHz FIXED 5.537A FIXED-SATELLITE (Earth-to-space) 5.484A, 5.516B, 5.539 MOBILE 5.538, 5.540	27.5 – 28.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	5.484A, 5.516B, 5.537A, 5.538, 5.539, 5.540	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
<p>28.5 – 29.1 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.484A, 5.516B, 5.523A, 5.539 MOBILE Earth Exploration-Satellite (Earth-to-space) 5.541 5.540</p>	<p>28.5 – 29.1 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Earth Exploration-Satellite (Earth-to-space)</p>	5.484A, 5.516B, 5.523A, 5.539, 5.540, 5.541	NG
<p>29.1 – 29.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.516B, 5.523C, 5.523E, 5.535A, 5.539, 5.541A MOBILE Earth Exploration-Satellite (Earth-to-space) 5.541 5.540</p>	<p>29.1 – 29.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Earth Exploration-Satellite (Earth-to-space)</p>	5.516B, 5.523C, 5.523E, 5.535A, 5.539, 5.540, 5.541, 5.541A	NG
<p>29.5 – 29.9 GHz FIXED-SATELLITE (Earth-to-space) 5.484A, 5.516B, 5.539 Earth Exploration-Satellite (Earth-to-space) 5.541 Mobile-satellite (Earth-to-space) 5.540, 5.542</p>	<p>29.5 – 29.9 GHz FIXED-SATELLITE (Earth-to-space) Earth Exploration-Satellite (Earth-to-space) Mobile-satellite (Earth-to-space)</p>	5.484A, 5.516B, 5.539, 5.540, 5.541	NG
<p>29.9 – 30 GHz FIXED-SATELLITE (Earth-to-space) 5.484A, 5.516B, 5.539 MOBILE-SATELLITE (Earth-to-space) Earth Exploration-Satellite (Earth-to-space) 5.541, 5.543 5.525, 5.526, 5.527, 5.538, 5.540, 5.542</p>	<p>29.9 – 30 GHz FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Earth Exploration-Satellite (Earth-to-space)</p>	5.484A, 5.516B, 5.525, 5.526, 5.527, 5.538, 5.539, 5.540, 5.543	NG
<p>30 – 31 GHz FIXED-SATELLITE</p>	<p>30 – 31 GHz FIXED-SATELLITE</p>		NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
(Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal-satellite (space-to-Earth) 5.542	(Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal-satellite (space-to-Earth)		
31 – 31.3 GHz FIXED 5.543A MOBILE Standard frequency and time signal-satellite (space-to-Earth) Space Research 5.544, 5.545 5.149	31 – 31.3 GHz FIXED MOBILE Standard frequency and time signal-satellite (space-to-Earth) Space Research	5.149, 5.544	NG
31.3 – 31.5 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	31.3 – 31.5 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340	NG
31.5 – 31.8 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149, 5.546	31.5 – 31.8 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) FIXED MOBILE except aeronautical mobile	5.149, 5.546	NG
31.8 – 32 GHz RADIONAVIGATION FIXED 5.547A SPACE RESEARCH (deep space) (space-to-Earth) 5.547, 5.547B, 5.548	31.8 – 32 GHz RADIONAVIGATION FIXED SPACE RESEARCH (deep space) (space-to-Earth)	5.547, 5.547A 5.548	P
32 – 32.3 GHz FIXED 5.547A RADIONAVIGATION SPACE RESEARCH	32 – 32.3 GHz FIXED RADIONAVIGATION SPACE RESEARCH	5.547, 5.548	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
(deep space) (space-to-Earth) 5.547, 5.547C, 5.548	(deep space) (space-to-Earth)		
32.3 – 33 GHz INTER-SATELLITE FIXED 5.547A RADIONAVIGATION 5.547, 5.547D, 5.548	32.3 – 33 GHz INTER-SATELLITE FIXED RADIONAVIGATION	5.547, 5.548	NG
33 – 33.4 GHz RADIONAVIGATION FIXED 5.547A 5.547, 5.547E	33 – 33.4 GHz RADIONAVIGATION FIXED	5.547, 5.547A	P
33.4 – 34.2 GHz RADIOLOCATION 5.549	33.4 – 34.2 GHz RADIOLOCATION		P
34.2 – 34.7 GHz RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) 5.549	34.2 – 34.7 GHz RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space)		P
34.7 – 35.2 GHz RADIOLOCATION Space Research 5.550 5.549	34.7 – 35.2 GHz RADIOLOCATION Space Research		P
35.2 – 35.5 GHz METEOROLOGICAL AIDS RADIOLOCATION 5.549	35.2 – 35.5 GHz METEOROLOGICAL AIDS RADIOLOCATION		P
35.5 – 36 GHz EARTH EXPLORATION- SATELLITE (active) METEOROLOGICAL AIDS RADIOLOCATION SPACE RESEARCH (active) 5.549, 5.549A	35.5 – 36 GHz EARTH EXPLORATION- SATELLITE (active) METEOROLOGICAL AIDS RADIOLOCATION SPACE RESEARCH (active)	5.549A	NG
36 – 37 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE	36 – 37 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE	5.149	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
SPACE RESEARCH (passive) 5.149	SPACE RESEARCH (passive)		
37 – 37.5 GHz FIXED MOBILE SPACE RESEARCH (space-to-Earth) 5.547	37 – 37.5 GHz FIXED MOBILE SPACE RESEARCH (space-to-Earth)	5.547	NG
37.5 – 38 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth Exploration-Satellite (space-to-Earth) 5.547	37.5 – 38 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth Exploration-Satellite (space-to-Earth)	5.547	NG
38 – 39.5 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth Exploration-Satellite (space-to-Earth) 5.547	38 – 39.5 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth Exploration-Satellite (space-to-Earth)	5.547	NG
39.5 – 40 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite (space-to-Earth) 5.547	39.5 – 40 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite (space-to-Earth)	5.516B, 5.547	NG
40 – 40.5 GHz EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE	40 – 40.5 GHz EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	5.516B RN056	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth Exploration-Satellite (space-to-Earth)	MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth Exploration-Satellite (space-to-Earth)		
40.5 – 41 GHz FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547	40.5 – 41 GHz FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile	5.547 RN056	NG
41 – 42.5 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.516B BROADCASTING BROADCASTING-SATELLITE Mobile 5.547, 5.551F, 5.551H, 5.551I	41 – 42.5 GHz FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile	5.547, 5.516B, 5.551H, 5.551I, RN056	NG
42.5 – 43.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149, 5.547	42.5 – 43.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile RADIO ASTRONOMY	5.149, 5.547, 5.552, RN056	NG
43.5 – 47 GHz MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	43.5 – 47 GHz MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE	5.553, 5.554	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
47 – 47.2 GHz AMATEUR AMATEUR-SATELLITE	47 – 47.2 GHz AMATEUR AMATEUR-SATELLITE		NG
47.2 – 47.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	47.2 – 47.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	5.552, 5.552A	NG
47.5 – 47.9 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A MOBILE 5.552A	47.5 – 47.9 GHz FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) MOBILE	5.516B, 5.552, 5.554A	NG
47.9 – 48.2 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	47.9 – 48.2 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	5.552, 5.552A	NG
48.2 – 48.54 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A, 5.555B MOBILE	48.2 – 48.54 GHz FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) MOBILE	5.516B, 5.552, 5.554A, 5.555B	NG
48.54 – 49.44 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.149, 5.340, 5.555	48.54 – 49.44 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	5.149, 5.340, 5.552	NG
49.44 – 50.2 GHz FIXED FIXED-SATELLITE	49.44 – 50.2 GHz FIXED FIXED-SATELLITE	5.516B, 5.552, 5.554A, 5.555B	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
(Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A, 5.555B MOBILE	(Earth-to-space) (space-to-Earth) MOBILE		
50.2 – 50.4 GHz EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive) 5.340	50.2 – 50.4 GHz EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive)	5.340	NG
50.4 – 51.4 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Mobile-satellite (Earth-to-space)	50.4 – 51.4 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Mobile-satellite (Earth-to-space)		NG
51.4 – 52.6 GHz FIXED MOBILE 5.547, 5.556	51.4 – 52.6 GHz FIXED MOBILE	5.547, 5.556	NG
52.6 – 54.25 GHz EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive) 5.340, 5.556	52.6 – 54.25 GHz EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive)	5.340, 5.556	NG
54.25 – 55.78 GHz EARTH EXPLORATION- SATELLITE (passive) INTER-SATELLITE 5.556A SPACE RESEARCH (passive) 5.556B	54.25 – 55.78 GHz EARTH EXPLORATION- SATELLITE (passive) INTER-SATELLITE SPACE RESEARCH (passive)	5.556A	NG
55.78 – 56.9 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A	55.78 – 56.9 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED INTER-SATELLITE	5.547, 5.556A 5.557A 5.558	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
MOBILE 5.558 SPACE RESEARCH (passive) 5.547, 5.557	MOBILE SPACE RESEARCH (passive)		
56.9 – 57 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED INTER-SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547, 5.557	56.9 – 57 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (passive)	5.547, 5.558, 5.558A	NG
57 – 58.2 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547, 5.557	57 – 58.2 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (passive)	5.547, 5.556A 5.558	NG
58.2 – 59 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547, 5.556	58.2 – 59 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	5.547, 5.556	NG
59 – 59.3 GHz EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559	59 – 59.3 GHz EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive) FIXED INTER-SATELLITE MOBILE RADIOLOCATION	5.556A, 5.558 5.559	NG
59.3 – 64 GHz FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559	59.3 – 64 GHz FIXED INTER-SATELLITE MOBILE RADIOLOCATION	5.138, 5.558, 5.559 RN035	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.138			
64 – 65 GHz FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.547, 5.556	64 – 65 GHz FIXED INTER-SATELLITE MOBILE except aeronautical mobile	5.547, 5.556	NG
65 – 66 GHz EARTH EXPLORATION- SATELLITE SPACE RESEARCH INTER-SATELLITE FIXED MOBILE except aeronautical mobile 5.547	65 – 66 GHz EARTH EXPLORATION- SATELLITE SPACE RESEARCH INTER-SATELLITE FIXED MOBILE except aeronautical mobile	5.547	NG
66 – 71 GHz MOBILE 5.553, 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION- SATELLITE INTER-SATELLITE 5.554	66 – 71 GHz MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION- SATELLITE INTER-SATELLITE	5.553, 5.554 5.558	NG
71 – 74 GHz FIXED FIXED-SATELLITE (space – to-Earth) MOBILE MOBILE-SATELLITE (space - to-Earth)	71 – 74 GHz FIXED FIXED-SATELLITE (space - to-Earth) MOBILE MOBILE-SATELLITE (space - to-Earth)		NG
74 – 76 GHz FIXED FIXED-SATELLITE (space - to-Earth) MOBILE BROADCASTING BROADCASTING- SATELLITE Space Research	74 – 76 GHz FIXED FIXED-SATELLITE (space - to-Earth) MOBILE BROADCASTING BROADCASTING- SATELLITE Space Research	5.561	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
(space-to-Earth) 5.561	(space-to-Earth)		
76 – 77.5 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space Research (space-to-Earth) 5.149	76 – 77.5 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space Research (space-to-Earth)	5.149 RN035	P
77.5 – 78 GHz AMATEUR AMATEUR-SATELLITE Radio Astronomy Space Research (space-to-Earth) 5.149	77.5 – 78 GHz AMATEUR AMATEUR-SATELLITE Radio Astronomy Space Research (space-to-Earth)	5.149	P
78 – 79 GHz RADIOLOCATION Amateur Amateur-satellite Radio Astronomy Space Research (space-to-Earth) 5.149, 5.560	78 – 79 GHz RADIOLOCATION Amateur Amateur-satellite Radio Astronomy Space Research (space-to-Earth)	5.149, 5.560	P
79 – 81 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space Research (space-to-Earth) 5.149	79 – 81 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space Research (space-to-Earth)	5.149	P
81 – 84 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space Research (space-to-Earth)	81 – 84 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space Research (space-to-Earth)	5.149, 5.561A	NG

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.149, 5.561A			
84 – 86 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.561A MOBILE RADIO ASTRONOMY 5.149	84 – 86 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY	5.149	NG
86 – 92 GHz EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	86 – 92 GHz EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340	NG
92 – 94 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	92 – 94 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION	5.149	P
94 – 94.1 GHz RADIOLOCATION EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) Radio astronomy 5.562, 5.562A	94 – 94.1 GHz RADIOLOCATION EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) Radio astronomy	5.562, 5.562A	P
94.1 – 95 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	94.1 – 95 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION	5.149	P
95 – 100 GHz FIXED MOBILE RADIO ASTRONOMY	95 – 100 GHz FIXED MOBILE RADIO ASTRONOMY	5.149, 5.554	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149, 5.554	RADIOLOCATION RADIONAVIGATION RADIONAVIGATION - SATELLITE		
100 – 102 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	100 – 102 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340, 5.341	P
102 – 105 GHz FIXED MOBILE RADIO ASTRONOMY 5.149, 5.341	102 – 105 GHz FIXED MOBILE RADIO ASTRONOMY	5.149, 5.341	P
105 – 109.5 GHz FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149, 5.341	105 – 109.5 GHz FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive)	5.149, 5.341 5.562B	P
109.5 - 111.8 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	109.5 - 111.8 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340, 5.341	P
111.8 – 114.25 GHz FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH	111.8 – 114.25 GHz FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH	5.149, 5.341 5.562B	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
(passive) 5.562B 5.149, 5.341	(passive)		
114.25 – 116 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	114.25 – 116 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340, 5.341	P
116 – 119.98 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.341	116 – 119.98 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE SPACE RESEARCH (passive)	5.341, 5.562C	P
119.98 – 122.25 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138, 5.341	119.98 – 122.25 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE SPACE RESEARCH (passive)	5.138, 5.341, 5.562C, RN035	P
122.25 - 123 GHz FIXED INTER-SATELLITE MOBILE 5.558 Amateur 5.138	122.25 - 123 GHz FIXED INTER-SATELLITE MOBILE Amateur	5.138, 5.558 RN035	P
123 - 130 GHz FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio Astronomy 5.562D 5.149, 5.554	123 - 130 GHz FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio Astronomy	5.149, 5.554	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
130 – 134 GHz EARTH EXPLORATION-SATELLITE (active) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149, 5.562A	130 – 134 GHz EARTH EXPLORATION-SATELLITE (active) FIXED INTER-SATELLITE MOBILE RADIO ASTRONOMY	5.149, 5.558, 5.562A, 5.562E	P
134 – 136 GHz AMATEUR AMATEUR-SATELLITE Radio Astronomy	134 – 136 GHz AMATEUR AMATEUR-SATELLITE Radio Astronomy		NG
136 – 141 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.149	136 – 141 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite	5.149	P
141– 148.5 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	141– 148.5 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION	5.149	P
148.5 – 151.5 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	148.5 – 151.5 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340	P
151.5 – 155.5 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	151.5 – 155.5 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION	5.149	P
155.5 – 158.5 GHz EARTH EXPLORATION-SATELLITE (passive) 5.562F FIXED MOBILE RADIO ASTRONOMY	155.5 – 158.5 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY	5.149, 5.385, 5.562F, 5.562G, 5.562B	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
SPACE RESEARCH (passive) 5.562B 5.149, 5.562G	SPACE RESEARCH (passive)		
158.5 – 164 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	158.5 – 164 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)		P
164 – 167 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	164 – 167 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340	P
167 – 174.5 GHz FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149, 5.562D	167 – 174.5 GHz FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE	5.558	P
174.5 – 174.8 GHz FIXED INTER-SATELLITE MOBILE 5.558	174.5 – 174.8 GHz FIXED INTER-SATELLITE MOBILE	5.558	P
174.8 – 182 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	174.8 – 182 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE SPACE RESEARCH (passive)	5.562H	P
182 – 185 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	182 – 185 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
5.340			
185 – 190 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	185 – 190 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE SPACE RESEARCH (passive)	5.562H	P
190 – 191.8 GHz EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive)	190 – 191.8 GHz EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive)	5.340	P
5.340			
191.8 – 200 GHz FIXED INTER-SATELLITE MOBILE 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE	191.8 – 200 GHz FIXED INTER-SATELLITE MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE	5.149, 5.341, 5.554, 5.558	P
5.149, 5.341, 5.554			
200 – 202 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	200 – 202 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340, 5.341, 5.563A	P
5.340, 5.341, 5.563A			
202 – 209 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	202 – 209 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340, 5.341, 5.563A	P
5.340, 5.341, 5.563A			
209 – 217 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	209 – 217 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	5.149, 5.341	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
RADIO ASTRONOMY 5.149, 5.341	RADIO ASTRONOMY		
217 – 226 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149, 5.341	217 – 226 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive)	5.562B 5.149, 5.341	P
226 – 231.5 GHz EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	226 – 231.5 GHz EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340	P
231.5 – 232 GHz FIXED MOBILE Radiolocation	231.5 – 232 GHz FIXED MOBILE Radiolocation		P
232 – 235 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation	232 – 235 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation		P
235 – 238 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 5.563A, 5.563B	235 – 238 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive)	5.563A, 5.563B	P
238 – 240 GHz FIXED FIXED-SATELLITE (space-to-Earth)	238 – 240 GHz FIXED FIXED-SATELLITE (space-to-Earth)		P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION – SATELLITE	MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION - SATELLITE		
240 – 241 GHz FIXED MOBILE RADIOLOCATION	240 – 241 GHz FIXED MOBILE RADIOLOCATION		P
241 – 248 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.138, 5.149	241 – 248 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite	5.138, 5.149 RN035	P
248 – 250 GHz AMATEUR AMATEUR-SATELLITE Radio Astronomy 5.149	248 – 250 GHz AMATEUR AMATEUR-SATELLITE Radio Astronomy	5.149	NG
250 – 252 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.563A	250 – 252 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	5.340, 5.563A	P
252 – 265 GHz FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149, 5.554	252 – 265 GHz FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE	5.149, 5.554	P
265 – 275 GHz FIXED	265 – 275 GHz FIXED	5.149, 5.563A	P

Region 1	National allocation		
Frequency band – services - footnotes	Frequency band - services	Footnotes	Usage
FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149, 5.563A	FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY		
275 – 1000 GHz (Not allocated) 5.565	275 – 1000 GHz (Not allocated)	5.565	

Relevant footnotes (Extract from Article 5 of the Radio Regulations)

5.53	Administrations authorizing the use of frequencies below 9 kHz shall ensure that no harmful interference is caused thereby to the services to which the bands above 9 kHz are allocated.
5.54	Administrations conducting scientific research using frequencies below 9 kHz are urged to advise other administrations that may be concerned in order that such research may be afforded all practicable protection from harmful interference.
5.56	The stations of services to which the bands 14-19.95 kHz and 20.05-70 kHz and in Region 1 also the bands 72-84 kHz and 86-90 kHz are allocated may transmit standard frequency and time signals. Such stations shall be afforded protection from harmful interference. In Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Mongolia, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan and Turkmenistan, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions.
5.57	The use of the bands 14-19.95 kHz, 20.05-70 kHz and 70-90 kHz (72-84 kHz and 86-90 kHz in Region 1) by the maritime mobile service is limited to coast radiotelegraph stations (A1A and F1B only). Exceptionally, the use of class J2B or J7B emissions is authorized subject to the necessary bandwidth not exceeding that normally used for class A1A or F1B emissions in the band concerned.
5.60	In the bands 70-90 kHz (70-86 kHz in Region 1) and 110-130 kHz (112-130 kHz in Region 1), pulsed radionavigation systems may be used on condition that they do not cause harmful interference to other services to which these bands are allocated.
5.62	Administrations which operate stations in the radionavigation service in the band 90-110 kHz are urged to coordinate technical and operating characteristics in such a way as to avoid harmful interference to the services provided by these stations.
5.64	Only classes A1A or F1B, A2C, A3C, F1C or F3C emissions are authorized for stations of the fixed service in the bands allocated to this service between 90 kHz and 160 kHz (148.5 kHz in Region 1) and for stations of the maritime mobile service in the bands allocated to this service between 110 kHz and 160 kHz (148.5 kHz in Region 1). Exceptionally, class J2B or J7B emissions are also authorized in the bands between 110 kHz and 160 kHz (148.5 kHz in Region 1) for stations of the maritime mobile service.
5.73	The band 285-325 kHz (283.5-325 kHz in Region 1) in the maritime radionavigation service may be used to transmit supplementary navigational information using narrow-band techniques, on condition that no harmful interference is caused to radiobeacon stations operating in the radionavigation service.
5.74	<i>Additional Allocation:</i> in Region 1, the frequency band 285.3-285.7 kHz is also allocated to the maritime radionavigation service (other than radiobeacons) on a primary basis.

5.75	<i>Different category of service:</i> in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Moldova, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine and the Black Sea areas of Bulgaria and Romania, the allocation of the band 315-325 kHz to the maritime radionavigation service is on a primary basis under the condition that in the Baltic Sea area, the assignment of frequencies in this band to new stations in the maritime or aeronautical radionavigation services shall be subject to prior consultation between the administrations concerned.
5.76	The frequency 410 kHz is designated for radio direction-finding in the maritime radionavigation service. The other radionavigation services to which the band 405-415 kHz is allocated shall not cause harmful interference to radio direction-finding in the band 406.5-413.5 kHz.
5.79	The use of the bands 415-495 kHz and 505-526.5 kHz (505-510 kHz in Region 2) by the maritime mobile service is limited to radiotelegraphy.
5.79A	When establishing coast stations in the NAVTEX service on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organization (IMO) (see Resolution 339 (Rev.WRC-97)).
5.82	In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution 331 (Rev.WRC-97)), to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles 31 and 52. In using the band 415-495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz.
5.83	The frequency 500 kHz is an international distress and calling frequency for Morse radiotelegraphy. The conditions for its use are prescribed in Articles 31 and 52, and in Appendix 13.
5.84	The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles 31 and 52 and in Appendix 13.
5.90	In the band 1 605-1 705 kHz, in cases where a broadcasting station of Region 2 is concerned, the service area of the maritime mobile stations in Region 1 shall be limited to that provided by ground-wave propagation.
5.92	Some countries of Region 1 use radiodetermination systems in the bands 1 606.5-1 625 kHz, 1 635-1 800 kHz, 1 850-2 160 kHz, 2 194-2 300 kHz, 2 502-2 850 kHz and 3 500-3 800 kHz, subject to agreement obtained under No. 9.21. The radiated mean power of these stations shall not exceed 50 W.
5.93	<i>Additional allocation:</i> in Angola, Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan, Chad, Turkmenistan and Ukraine, the bands 1 625-1 635 kHz, 1 800-1 810 kHz and 2 160-2 170 kHz and, in Bulgaria, the bands 1 625-1 635 kHz and 1 800-1 810 kHz, are also allocated to the fixed and land mobile services on a primary basis, subject to agreement obtained under No. 9.21.
5.96	In Germany, Armenia, Austria, Azerbaijan, Belarus, Denmark, Estonia, the Russian

	Federation, Finland, Georgia, Hungary, Ireland, Iceland, Israel, Kazakhstan, Latvia, Liechtenstein, Lithuania, Malta, Moldova, Norway, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., the United Kingdom, Sweden, Switzerland, Tajikistan, Turkmenistan and Ukraine, administrations may allocate up to 200 kHz to their amateur service in the bands 1 715-1 800 kHz and 1 850-2 000 kHz. However, when allocating the bands within this range to their amateur service, administrations shall, after prior consultation with administrations of neighbouring countries, take such steps as may be necessary to prevent harmful interference from their amateur service to the fixed and mobile services of other countries. The mean power of any amateur station shall not exceed 10 W.
5.98	<i>Alternative allocation:</i> in Angola, Armenia, Azerbaijan, Belarus, Belgium, Bulgaria, Cameroon, Congo (Rep. of the), Denmark, Egypt, Eritrea, Spain, Ethiopia, the Russian Federation, Georgia, Greece, Italy, Kazakhstan, Lebanon, Lithuania, Moldova, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Tunisia, Turkmenistan, Turkey and Ukraine, the band 1 810-1 830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.
5.100	In Region 1, the authorization to use the band 1 810-1 830 kHz by the amateur service in countries situated totally or partially north of 40° N shall be given only after consultation with the countries mentioned in Nos. 5.98 and 5.99 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. 5.98 and 5.99.
5.103	In Region 1, in making assignments to stations in the fixed and mobile services in the bands 1 850-2 045 kHz, 2 194-2 498 kHz, 2 502-2 625 kHz and 2 650-2 850 kHz, administrations should bear in mind the special requirements of the maritime mobile service.
5.104	In Region 1, the use of the band 2 025-2 045 kHz by the meteorological aids service is limited to oceanographic buoy stations.
5.108	The carrier frequency 2 182 kHz is an international distress and calling frequency for radiotelephony. The conditions for the use of the band 2 173.5-2 190.5 kHz are prescribed in Articles 31 and 52 and in Appendix 13.
5.109	The frequencies 2 187.5 kHz, 4 207.5 kHz, 6 312 kHz, 8 414.5 kHz, 12 577 kHz and 16 804.5 kHz are international distress frequencies for digital selective calling. The conditions for the use of these frequencies are prescribed in Article 31.
5.110	The frequencies 2 174.5 kHz, 4 177.5 kHz, 6 268 kHz, 8 376.5 kHz, 12 520 kHz and 16 695 kHz are international distress frequencies for narrow-band direct-printing telegraphy. The conditions for the use of these frequencies are prescribed in Article 31.
5.111	The carrier frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz and the frequencies 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles. The conditions for the use of the frequencies are prescribed in Article 31 and in Appendix 13.
5.113	For the conditions for the use of the bands 2 300-2 495 kHz (2 498 kHz in Region 1), 3 200-3 400 kHz, 4 750-4 995 kHz and 5 005-5 060 kHz by the broadcasting service, see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10.

5.115	The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Article 31 and Appendix 13 by stations of the maritime mobile service engaged in coordinated search and rescue operations.
5.116	Administrations are urged to authorize the use of the band 3 155-3 195 kHz to provide a common worldwide channel for low power wireless hearing aids. Additional channels for these devices may be assigned by administrations in the bands between 3 155 kHz and 3 400 kHz to suit local needs.
5.127	The use of the band 4 000-4 063 kHz by the maritime mobile service is limited to ship stations using radiotelephony (see No. 52.220 and Appendix 17).
5.129	On condition that harmful interference is not caused to the maritime mobile service, the frequencies in the bands 4 063-4 123 kHz and 4 130-4 438 kHz may be used exceptionally by stations in the fixed service communicating only within the boundary of the country in which they are located with a mean power not exceeding 50 W.
5.130	The conditions for the use of the carrier frequencies 4 125 kHz and 6 215 kHz are prescribed in Articles 31 and 52 and in Appendix 13.
5.131	The frequency 4 209.5 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques.
5.132	The frequencies 4 210 kHz, 6 314 kHz, 8 416.5 kHz, 12 579 kHz, 16 806.5 kHz, 19 680.5 kHz, 22 376 kHz and 26 100.5 kHz are the international frequencies for the transmission of maritime safety information (MSI) (see Appendix 17).
5.133	<i>Different category of service:</i> in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 5 130-5 250 kHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33).
5.134	The use of the bands 5 900-5 950 kHz, 7 300-7 350 kHz, 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 13 570-13 600 kHz, 13 800-13 870 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz by the broadcasting service as from 1 April 2007 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-03).
5.136	The band 5 900-5 950 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis, as well as to the following services: in Region 1 to the land mobile service on a primary basis, in Region 2 to the mobile except aeronautical mobile (R) service on a primary basis, and in Region 3 to the mobile except aeronautical mobile (R) service on a

	secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, 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 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.
5.137	On condition that harmful interference is not caused to the maritime mobile service, the bands 6 200-6 213.5 kHz and 6 220.5-6 525 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W. At the time of notification of these frequencies, the attention of the Bureau will be drawn to the above conditions.
5.138	<p>The following bands:</p> <p>6 765-6 795 kHz (centre frequency 6 780 kHz), 433.05-434.79 MHz (centre frequency 433.92 MHz) in Region 1 except in the countries mentioned in No. 5.280, 61-61.5 GHz (centre frequency 61.25 GHz), 122-123 GHz (centre frequency 122.5 GHz), and 244-246 GHz (centre frequency 245 GHz)</p> <p>are designated for industrial, scientific and medical (ISM) applications. The use of these frequency bands for ISM applications shall be subject to special authorization by the administration concerned, in agreement with other administrations whose radiocommunication services might be affected. In applying this provision, administrations shall have due regard to the latest relevant ITU-R Recommendations.</p>
5.138A	Until 29 March 2009, the band 6 765-7 000 kHz is allocated to the fixed service on a primary basis and to the land mobile service on a secondary basis. After this date, this band is allocated to the fixed and the mobile except aeronautical mobile (R) services on a primary basis.
5.139	<i>Different category of service:</i> until 29 March 2009, in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 6 765-7 000 kHz to the land mobile service is on a primary basis (see No. 5.33).
5.141C	In Regions 1 and 3, the band 7 100-7 200 kHz is allocated to the broadcasting service until 29 March 2009 on a primary basis.
5.143	The band 7 300-7 350 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis and to the land mobile service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, 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.
5.143B	In Region 1, the band 7 350-7 450 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, on condition that harmful interference is not caused to the broadcasting service, frequencies in the band 7 350-7 450 kHz may be used by stations in the fixed and land mobile services communicating only within the boundary of the country in which they are located, each station using a total radiated power that shall not exceed 24 dBW.
5.143E	Until 29 March 2009, the band 7 450-8 100 kHz is allocated to the fixed service on a primary basis and to the land mobile service on a secondary basis.
5.145	The conditions for the use of the carrier frequencies 8 291 kHz, 12 290 kHz and 16 420 kHz are prescribed in Articles 31 and 52 and in Appendix 13.
5.146	The bands 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz are allocated to the fixed service on a primary basis until 1 April 2007, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in these bands may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.
5.147	On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9 775-9 900 kHz, 11 650-11 700 kHz and 11 975-12 050 kHz may be used by stations in the fixed service communicating only within the boundary of the country in which they are located, each station using a total radiated power not exceeding 24 dBW.
5.149	In making assignments to stations of other services to which the bands: 13 360-13 410 kHz, 25 550-25 670 kHz, 37.5-38.25 MHz, 73-74.6 MHz in Regions 1 and 3, 150.05-153 MHz in Region 1, 322-328.6 MHz, 406.1-410 MHz, 608-614 MHz in Regions 1 and 3, 1 330-1 400 MHz, 1 610.6-1 613.8 MHz, 1 660-1 670 MHz, 1 718.8-1 722.2 MHz, 2 655-2 690 MHz, 3 260-3 267 MHz, 3 332-3 339 MHz, 3 345.8-3 352.5 MHz, 4 825-4 835 MHz, 4 950-4 990 MHz, 4 990-5 000 MHz, 6 650-6 675.2 MHz, 10.6-10.68 GHz, 14.47-14.5 GHz, 22.01-22.21 GHz, 22.21-22.5 GHz, 22.81-22.86 GHz, 23.07-23.12 GHz, 31.2-31.3 GHz, 31.5-31.8 GHz in Regions 1 and 3, 36.43-36.5 GHz,

	42.5-43.5 GHz, 42.77-42.87 GHz, 43.07-43.17 GHz, 43.37-43.47 GHz, 48.94-49.04 GHz, 76-86 GHz, 92-94 GHz, 94.1-100 GHz, 102-109.5 GHz, 111.8-114.25 GHz, 128.33-128.59 GHz, 129.23-129.49 GHz, 130-134 GHz, 136-148.5 GHz, 151.5-158.5 GHz, 168.59-168.93 GHz, 171.11-171.45 GHz, 172.31-172.65 GHz, 173.52-173.85 GHz, 195.75-196.15 GHz, 209-226 GHz, 241-250 GHz, 252-275 GHz are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from spaceborne or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 4.5 and 4.6 and Article 29).
5.150	<p>The following bands:</p> <p style="padding-left: 40px;">13 553-13 567 kHz (centre frequency 13 560 kHz),</p> <p style="padding-left: 40px;">26 957-27 283 kHz (centre frequency 27 120 kHz),</p> <p style="padding-left: 40px;">40.66-40.70 MHz (centre frequency 40.68 MHz),</p> <p style="padding-left: 40px;">902-928 MHz in Region 2 (centre frequency 915 MHz),</p> <p style="padding-left: 40px;">2 400-2 500 MHz (centre frequency 2 450 MHz),</p> <p style="padding-left: 40px;">5 725-5 875 MHz (centre frequency 5 800 MHz), and</p> <p style="padding-left: 40px;">24-24.25 GHz (centre frequency 24.125 GHz)</p> <p>are also designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within these bands must accept harmful interference which may be caused by these applications. ISM equipment operating in these bands is subject to the provisions of No. 15.13.</p>
5.151	The bands 13 570-13 600 kHz and 13 800-13 870 kHz are allocated, until 1 April 2007, to the fixed service on a primary basis and to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in these bands may be used by stations in the above-mentioned services, 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.
5.155	<i>Additional allocation:</i> in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan, Turkmenistan and Ukraine, the band 21 850-21 870 kHz is also allocated to the aeronautical mobile (R) services on a primary basis.
5.155A	In Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan, Turkmenistan and Ukraine, the use of the band 21 850-21 870 kHz by the fixed service is limited to provision of services related to aircraft flight safety.
5.155B	The band 21 870-21 924 kHz is used by the fixed service for provision of services related to aircraft flight safety.
5.156A	The use of the band 23 200-23 350 kHz by the fixed service is limited to provision of

	services related to aircraft flight safety.
5.157	The use of the band 23 350-24 000 kHz by the maritime mobile service is limited to inter-ship radiotelegraphy.
5.162A	<i>Additional allocation:</i> 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, Moldova, Monaco, Norway, the Netherlands, Poland, Portugal, Slovakia, the Czech Rep., the United Kingdom, Sweden and Switzerland the band 46-68 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution 217 (WRC-97).
5.163	<i>Additional allocation:</i> in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Rep., Tajikistan, Turkmenistan and Ukraine, the bands 47-48.5 MHz and 56.5-58 MHz are also allocated to the fixed and land mobile services on a secondary basis.
5.175	<i>Alternative allocation:</i> in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 68-73 MHz and 76-87.5 MHz are allocated to the broadcasting service 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.
5.177	<i>Additional allocation:</i> in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Latvia, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 73-74 MHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21.
5.179	<i>Additional allocation:</i> in Armenia, Azerbaijan, Belarus, Bulgaria, China, the Russian Federation, Georgia, Kazakhstan, Lithuania, Moldova, Mongolia, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the bands 74.6-74.8 MHz and 75.2-75.4 MHz are also allocated to the aeronautical radionavigation service, on a primary basis, for ground-based transmitters only.
5.180	The frequency 75 MHz is assigned to marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services which, because of their power or geographical position, might cause harmful interference or otherwise place a constraint on marker beacons.
5.197A	The band 108-117.975 MHz may also be used by the aeronautical mobile (R) service on a primary basis, limited to systems that transmit navigational information in support of air navigation and surveillance functions in accordance with recognized international aviation standards. Such use shall be in accordance with Resolution 413 (WRC-03) and shall not cause harmful interference to nor claim protection from stations operating in the

	aeronautical radionavigation service which operate in accordance with international aeronautical standards.
5.198	<i>Additional allocation:</i> the band 117.975-136 MHz is also allocated to the aeronautical mobile-satellite (R) service on a secondary basis, subject to agreement obtained under No. 9.21.
5.199	The bands 121.45-121.55 MHz and 242.95-243.05 MHz are also allocated to the mobile-satellite service for the reception on board satellites of emissions from emergency position-indicating radiobeacons transmitting at 121.5 MHz and 243 MHz (see Appendix 13).
5.200	In the band 117.975-136 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 and Appendix 13 for distress and safety purposes with stations of the aeronautical mobile service.
5.201	<i>Additional allocation:</i> 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, Slovakia, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 132-136 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service.
5.202	<i>Additional allocation:</i> in Saudi Arabia, Armenia, Azerbaijan, Belarus, Bulgaria, the United Arab Emirates, the Russian Federation, Georgia, Iran (Islamic Republic of), Jordan, Latvia, Moldova, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Slovakia, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 136-137 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service.
5.203	In the band 136-137 MHz, existing operational meteorological satellites may continue to operate, under the conditions defined in No. 4.4 with respect to the aeronautical mobile service, until 1 January 2002. Administrations shall not authorize new frequency assignments in this band to stations in the meteorological-satellite service.
5.206	<i>Different category of service:</i> in Armenia, Azerbaijan, Belarus, Bulgaria, Egypt, the Russian Federation, Finland, France, Georgia, Greece, Kazakhstan, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Syrian Arab Republic, Slovakia, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 137-138 MHz to the aeronautical mobile (OR) service is on a primary basis (see No. 5.33).

5.208	The use of the band 137-138 MHz by the mobile-satellite service is subject to coordination under No. 9.11A.
5.208A	In making assignments to space stations in the mobile-satellite service in the bands 137-138 MHz, 387-390 MHz and 400.15-401 MHz, administrations shall take all practicable steps to protect the radio astronomy service in the bands 150.05-153 MHz, 322-328.6 MHz, 406.1-410 MHz and 608-614 MHz from harmful interference from unwanted emissions. The threshold levels of interference detrimental to the radio astronomy service are shown in Table 1 of Recommendation ITU-R RA.769-1.
5.209	The use of the bands 137-138 MHz, 148-150.05 MHz, 399.9-400.05 MHz, 400.15-401 MHz, 454-456 MHz and 459-460 MHz by the mobile-satellite service is limited to non-geostationary-satellite systems.
5.218	<i>Additional allocation:</i> the band 148-149.9 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. 9.21. The bandwidth of any individual transmission shall not exceed ± 25 kHz.
5.219	The use of the band 148-149.9 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The mobile-satellite service shall not constrain the development and use of the fixed, mobile and space operation services in the band 148-149.9 MHz.
5.220	The use of the bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The mobile-satellite service shall not constrain the development and use of the radionavigation-satellite service in the bands 149.9-150.05 MHz and 399.9-400.05 MHz.
5.221	Stations of the mobile-satellite service in the band 148-149.9 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations in the following countries: Albania, Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bosnia and Herzegovina, Botswana, Brunei Darussalam, Bulgaria, Cameroon, China, Cyprus, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Croatia, Cuba, Denmark, Egypt, the United Arab Emirates, Eritrea, Spain, Estonia, Ethiopia, the Russian Federation, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, Iran (Islamic Republic of), Ireland, Iceland, Israel, Italy, the Libyan Arab Jamahiriya, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, 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, Slovakia,

	Romania, the United Kingdom, Senegal, Serbia and Montenegro, Sierra Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia, and Zimbabwe.
5.222	Emissions of the radionavigation-satellite service in the bands 149.9-150.05 MHz and 399.9-400.05 MHz may also be used by receiving earth stations of the space research service.
5.223	Recognizing that the use of the band 149.9-150.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigation-satellite service, administrations are urged not to authorize such use in application of No. 4.4.
5.224A	The use of the bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service (Earth-to-space) is limited to the land mobile-satellite service (Earth-to-space) until 1 January 2015.
5.224B	The allocation of the bands 149.9-150.05 MHz and 399.9-400.05 MHz to the radionavigation-satellite service shall be effective until 1 January 2015.
5.226	<p>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 are contained in Article 31 and Appendix 13.</p> <p>In the bands 156-156.7625 MHz, 156.8375-157.45 MHz, 160.6-160.975 MHz and 161.475-162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by the administration (see Articles 31 and 52, and Appendix 13).</p> <p>Any use of frequencies in these bands by stations of other services to which they are allocated should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service.</p> <p>However, the frequency 156.8 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.</p>
5.227	In the maritime mobile VHF service the frequency 156.525 MHz is to be used exclusively for digital selective calling for distress, safety and calling. The conditions for the use of this frequency are prescribed in Articles 31 and 52, and Appendices 13 and 18.
5.254	The bands 235-322 MHz and 335.4-399.9 MHz may be used by the mobile-satellite service, subject to agreement obtained under No. 9.21, on condition that stations in this service do not cause harmful interference to those of other services operating or planned to be operated in accordance with the Table of Frequency Allocations except for the additional allocation made in footnote No. 5.256A.
5.255	The bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) in the mobile-satellite service may also be used by non-geostationary-satellite systems. Such use is subject to coordination under No. 9.11A.
5.256	The frequency 243 MHz is the frequency in this band for use by survival craft stations and equipment used for survival purposes (see Appendix 13).

5.257	The band 267-272 MHz may be used by administrations for space telemetry in their countries on a primary basis, subject to agreement obtained under No. 9.21.
5.258	The use of the band 328.6-335.4 MHz by the aeronautical radionavigation service is limited to Instrument Landing Systems (glide path).
5.260	Recognizing that the use of the band 399.9-400.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigation satellite service, administrations are urged not to authorize such use in application of No. 4.4.
5.261	Emissions shall be confined in a band of ± 25 kHz about the standard frequency 400.1 MHz.
5.262	<i>Additional allocation:</i> in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Botswana, Bulgaria, Colombia, Costa Rica, Cuba, Egypt, the United Arab Emirates, Ecuador, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Liberia, Malaysia, Moldova, Uzbekistan, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Kyrgyzstan, Romania, Serbia and Montenegro, Singapore, Somalia, Tajikistan, Turkmenistan and Ukraine, the band 400.05-401 MHz is also allocated to the fixed and mobile services on a primary basis.
5.263	The band 400.15-401 MHz is also allocated to the space research service in the space-to-space direction for communications with manned space vehicles. In this application, the space research service will not be regarded as a safety service.
5.264	The use of the band 400.15-401 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The power flux-density limit indicated in Annex 1 of Appendix 5 shall apply until such time as a competent world radiocommunication conference revises it.
5.266	The use of the band 406-406.1 MHz by the mobile-satellite service is limited to low power satellite emergency position-indicating radiobeacons (see also Article 31 and Appendix 13).
5.267	Any emission capable of causing harmful interference to the authorized uses of the band 406-406.1 MHz is prohibited.
5.268	Use of the band 410-420 MHz by the space research service is limited to communications within 5 km of an orbiting, manned space vehicle. The power flux-density at the surface of the Earth produced by emissions from extra-vehicular activities shall not exceed -153 dB(W/m ²) for $0^\circ \leq \delta \leq 5^\circ$, $-153 + 0.077 (\delta - 5)$ dB(W/m ²) for $5^\circ \leq \delta \leq 70^\circ$ and -148 dB(W/m ²) for $70^\circ \leq \delta \leq 90^\circ$, where δ is the angle of arrival of the radio-frequency wave and the reference bandwidth is 4 kHz. No. 4.10 does not apply to extra-vehicular activities. In this frequency band the space research (space-to-space) service shall not claim protection from, nor constrain the use and development of, stations of the fixed and mobile services.

5.277	<i>Additional allocation:</i> in Angola, Armenia, Azerbaijan, Belarus, Cameroon, Congo (Rep. of the), Djibouti, the Russian Federation, Georgia, Hungary, Israel, Kazakhstan, Mali, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., Romania, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the band 430-440 MHz is also allocated to the fixed service on a primary basis.
5.279A	The use of this band by sensors in the Earth exploration-satellite service (active) shall be in accordance with Recommendation ITU-R SA.1260-1. Additionally, the Earth exploration-satellite service (active) in the band 432-438 MHz shall not cause harmful interference to the aeronautical radionavigation service in China. The provisions of this footnote in no way diminish the obligation of the Earth exploration-satellite service (active) to operate as a secondary service in accordance with Nos. 5.29 and 5.30.
5.280	In Germany, Austria, Bosnia and Herzegovina, Croatia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Portugal, Serbia and Montenegro, Slovenia and Switzerland, the band 433.05-434.79 MHz (centre frequency 433.92 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services of these countries operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 15.13.
5.286	The band 449.75-450.25 MHz may be used for the space operation service (Earth-to-space) and the space research service (Earth-to-space), subject to agreement obtained under No. 9.21.
5.286A	The use of the bands 454-456 MHz and 459-460 MHz by the mobile-satellite service is subject to coordination under No. 9.11A.
5.287	In the maritime mobile service, the frequencies 457.525 MHz, 457.550 MHz, 457.575 MHz, 467.525 MHz, 467.550 MHz and 467.575 MHz may be used by on-board communication stations. Where needed, equipment designed for 12.5 kHz channel spacing 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 (see Resolution 341 (WRC-97)).
5.289	Earth exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands 460-470 MHz and 1 690-1 710 MHz for space-to-Earth transmissions subject to not causing harmful interference to stations operating in accordance with the Table.
5.306	<i>Additional allocation:</i> in Region 1, except in the African Broadcasting Area (see Nos. 5.10 to 5.13), and in Region 3, the band 608-614 MHz is also allocated to the radio astronomy service on a secondary basis.
5.311	Within the frequency band 620-790 MHz, assignments may be made to television

	stations using frequency modulation in the broadcasting-satellite service subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Resolutions 33 (Rev.WRC-03) and 507 (Rev.WRC-03)). Such stations shall not produce a power flux-density in excess of the value $-129 \text{ dB(W/m}^2\text{)}$ for angles of arrival less than 20° (see Recommendation 705) within the territories of other countries without the consent of the administrations of those countries. Resolution 545 (WRC-03) applies.
5.312	<i>Additional allocation:</i> in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Hungary, Kazakhstan, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 645-862 MHz is also allocated to the aeronautical radionavigation service on a primary basis.
5.314	<i>Additional allocation:</i> in Austria, Italy, Moldova, Uzbekistan, the United Kingdom and Swaziland, the band 790-862 MHz is also allocated to the land mobile service on a secondary basis.
5.317A	Administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000) may use those parts of the band 806-960 MHz which are allocated to the mobile service on a primary basis and are used or planned to be used for mobile systems (see Resolution 224 (WRC-2000)). 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.
5.323	<i>Additional allocation:</i> in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Hungary, Kazakhstan, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 862-960 MHz is also allocated to the aeronautical radionavigation service on a primary basis. Such use is subject to agreement obtained under No. 9.21 with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime.
5.328	The use of the band 960-1 215 MHz by the aeronautical radionavigation service is reserved on a worldwide basis for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities.
5.328A	Stations in the radionavigation-satellite service in the band 1 164-1 215 MHz shall operate in accordance with the provisions of Resolution 609 (WRC-03) and shall not claim protection from stations in the aeronautical radionavigation service in the band 960-1 215 MHz. No. 5.43A does not apply. The provisions of No. 21.18 shall apply.
5.328B	The use of the bands 1 164-1 300 MHz, 1 559-1 610 MHz and 5 010-5 030 MHz by systems and networks in the radionavigation-satellite service for which complete coordination or notification information, as appropriate, is received by the Radiocommunication Bureau after 1 January 2005 is subject to the application of the provisions of Nos. 9.12, 9.12A and 9.13. Resolution 610 (WRC-03) shall also apply.
5.329	Use of the radionavigation-satellite service in the band 1 215-1 300 MHz shall be subject to the condition that no harmful interference is caused to, and no protection is claimed from, the radionavigation service authorized under No. 5.331. Furthermore, the use of the radionavigation-satellite service in the band 1 215-1 300 MHz shall be subject to the condition that no harmful interference is caused to the radiolocation service. No. 5.43 shall not apply in respect of the radiolocation service. Resolution 608 (WRC-03) shall

	apply.
5.329A	Use of systems in the radionavigation-satellite service (space-to-space) operating in the bands 1 215-1 300 MHz and 1 559-1 610 MHz is not intended to provide safety service applications, and shall not impose any additional constraints on other systems or services operating in accordance with the Table.
5.332	In the band 1 215-1 260 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, the radionavigation-satellite service and other services allocated on a primary basis.
5.335A	In the band 1 260-1 300 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service and other services allocated by footnotes on a primary basis.
5.337	The use of the bands 1 300-1 350 MHz, 2 700-2 900 MHz and 9 000-9 200 MHz by the aeronautical radionavigation service is restricted to ground-based radars and to associated airborne transponders which transmit only on frequencies in these bands and only when actuated by radars operating in the same band.
5.337A	The use of the band 1 300-1 350 MHz by earth stations in the radionavigation-satellite service and by stations in the radiolocation service shall not cause harmful interference to, nor constrain the operation and development of, the aeronautical-radionavigation service.
5.339	The bands 1 370-1 400 MHz, 2 640-2 655 MHz, 4 950-4 990 MHz and 15.20-15.35 GHz are also allocated to the space research (passive) and Earth exploration-satellite (passive) services on a secondary basis.
5.339A	<i>Additional allocation:</i> the band 1 390-1 392 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a secondary basis and the band 1 430-1 432 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis. These allocations are limited to use for feeder links for non-geostationary-satellite networks in the mobile-satellite service with service links below 1 GHz, and Resolution 745 (WRC-03) applies.
5.340	All emissions are prohibited in the following bands: 1 400-1 427 MHz, 2 690-2 700 MHz, except those provided for by No. 5.422, 10.68-10.7 GHz, except those provided for by No. 5.483, 15.35-15.4 GHz, except those provided for by No. 5.511, 23.6-24 GHz, 31.3-31.5 GHz, 31.5-31.8 GHz, in Region 2, 48.94-49.04 GHz, from airborne stations 50.2-50.4 GHz,

	<p>52.6-54.25 GHz, 86-92 GHz, 100-102 GHz, 109.5-111.8 GHz, 114.25-116 GHz, 148.5-151.5 GHz, 164-167 GHz, 182-185 GHz, 190-191.8 GHz, 200-209 GHz, 226-231.5 GHz, 250-252 GHz.</p>
5.341	In the bands 1 400-1 727 MHz, 101-120 GHz and 197-220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extraterrestrial origin.
5.345	Use of the band 1 452-1 492 MHz by the broadcasting-satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (WARC-92).
5.347A	<p>In the bands:</p> <p>1 452-1 492 MHz, 1 525-1 559 MHz, 1 613,8-1 626,5 MHz, 2 655-2 670 MHz, 2 670-2 690 MHz, 21.4-22 GHz, Resolution 739 (WRC-03) applies.</p>
5.348	The use of the band 1 518-1 525 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. In the band 1 518-1 525 MHz stations in the mobile-satellite service shall not claim protection from the stations in the fixed service. No. 5.43A does not apply.
5.348C	For the use of the bands 1 518-1 525 MHz and 1 668-1 675 MHz by the mobile-satellite service, see Resolution 225 (Rev.WRC-03).
5.351	The bands 1 525-1 544 MHz, 1 545-1 559 MHz, 1 626.5-1 645.5 MHz and 1 646.5-1 660.5 MHz shall not be used for feeder links of any service. In exceptional circumstances, however, an earth station at a specified fixed point in any of the mobile-satellite services may be authorized by an administration to communicate via space stations using these bands.
5.351A	For the use of the bands 1 525-1 544 MHz, 1 545-1 559 MHz, 1 610-1 626.5 MHz, 1 626.5-1 645.5 MHz, 1 646.5-1 660.5 MHz, 1 980-2 010 MHz, 2 170-2 200 MHz,

	2 483.5-2 500 MHz, 2 500-2 520 MHz and 2 670-2 690 MHz by the mobile-satellite service, see Resolutions 212 (Rev.WRC-97) and 225 (WRC-2000).
5.353A	In applying the procedures of Section II of Article 9 to the mobile-satellite service in the bands 1 530-1 544 MHz and 1 626.5-1 645.5 MHz, priority shall be given to 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.)
5.354	The use of the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz by the mobile-satellite services is subject to coordination under No. 9.11A.
5.356	The use of the band 1 544-1 545 MHz by the mobile-satellite service (space-to-Earth) is limited to distress and safety communications (see Article 31).
5.357	Transmissions in the band 1 545-1 555 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links.
5.357A	In applying the procedures of Section II of Article 9 to the mobile-satellite service in the bands 1 545-1 555 MHz and 1 646.5-1 656.5 MHz, priority shall be given to accommodating the spectrum requirements of the aeronautical mobile-satellite (R) service providing transmission of messages with priority 1 to 6 in Article 44. Aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44 shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution 222 (WRC-2000) shall apply.)
5.359	<i>Additional allocation:</i> in Germany, Saudi Arabia, Armenia, Austria, Azerbaijan, Belarus, Benin, Bosnia and Herzegovina, Bulgaria, Cameroon, Spain, the Russian Federation, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, Hungary, the Libyan Arab Jamahiriya, Jordan, Kazakhstan, Kuwait, Lebanon, Lithuania, Mauritania, Moldova, Mongolia, Uganda, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Swaziland, Tajikistan, Tanzania, Tunisia, Turkmenistan and Ukraine, the bands 1 550-1 559 MHz, 1 610-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a primary basis. Administrations are urged to make all practicable efforts to avoid the implementation of new fixed-service stations in these bands.
5.362B	<i>Additional allocation:</i> The band 1 559-1 610 MHz is also allocated to the fixed service on a primary basis until 1 January 2005 in Germany, Armenia, Azerbaijan, Belarus, Benin, Bosnia and Herzegovina, Bulgaria, Spain, the Russian Federation, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, Hungary, Kazakhstan, Lithuania, Moldova,

	Mongolia, Nigeria, Uganda, Uzbekistan, Pakistan, Poland, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Senegal, Swaziland, Tajikistan, Tanzania, Turkmenistan and Ukraine, and until 1 January 2010 in Saudi Arabia, Cameroon, the Libyan Arab Jamahiriya, Jordan, Kuwait, Lebanon, Mali, Mauritania, the Syrian Arab Republic and Tunisia. After these dates, 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. 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.
5.364	The use of the band 1 610-1 626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to coordination under No. 9.11A. A mobile earth station operating in either of the services in this band shall not produce a peak e.i.r.p. density in excess of -15 dB(W/4 kHz) in the part of the band used by systems operating in accordance with the provisions of No. 5.366 (to which No. 4.10 applies), unless otherwise agreed by the affected administrations. In the part of the band where such systems are not operating, the mean e.i.r.p. density of a mobile earth station shall not exceed -3 dB(W/4 kHz). Stations of the mobile-satellite service shall not claim protection from stations in the aeronautical radionavigation service, stations operating in accordance with the provisions of No. 5.366 and stations in the fixed service operating in accordance with the provisions of No. 5.359. Administrations responsible for the coordination of mobile-satellite networks shall make all practicable efforts to ensure protection of stations operating in accordance with the provisions of No. 5.366.
5.365	The use of the band 1 613.8-1 626.5 MHz by the mobile-satellite service (space-to-Earth) is subject to coordination under No. 9.11A.
5.366	The band 1 610-1 626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under No. 9.21.
5.367	<i>Additional allocation:</i> The bands 1 610-1 626.5 MHz and 5 000-5 150 MHz are also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. 9.21.
5.368	With respect to the radiodetermination-satellite and mobile-satellite services the provisions of No. 4.10 do not apply in the band 1 610-1 626.5 MHz, with the exception of the aeronautical radionavigation-satellite service.
5.369	<i>Different category of service:</i> in Angola, Australia, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Israel, the Libyan Arab Jamahiriya, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, the Dem. Rep. of the Congo, Sudan, Swaziland, Togo and Zambia, the allocation of the band 1 610-1 626.5 MHz to the radiodetermination-satellite service (Earth-to-space) is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21 from countries not listed in this provision.
5.371	<i>Additional allocation:</i> in Region 1, the bands 1 610-1 626.5 MHz (Earth-to-space) and 2 483.5-2 500 MHz (space-to-Earth) are also allocated to the radiodetermination-satellite service on a secondary basis, subject to agreement obtained under No. 9.21.

5.372	Harmful interference shall not be caused to stations of the radio astronomy service using the band 1 610.6-1 613.8 MHz by stations of the radiodetermination-satellite and mobile-satellite services (No. 29.13 applies).
5.374	Mobile earth stations in the mobile-satellite service operating in the bands 1 631.5-1 634.5 MHz and 1 656.5-1 660 MHz shall not cause harmful interference to stations in the fixed service operating in the countries listed in No. 5.359.
5.375	The use of the band 1 645.5-1 646.5 MHz by the mobile-satellite service (Earth-to-space) and for inter-satellite links is limited to distress and safety communications (see Article 31).
5.376	Transmissions in the band 1 646.5-1 656.5 MHz from aircraft stations in the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.
5.376A	Mobile earth stations operating in the band 1 660-1 660.5 MHz shall not cause harmful interference to stations in the radio astronomy service.
5.379A	Administrations are urged to give all practicable protection in the band 1 660.5-1 668.4 MHz for future research in radio astronomy, particularly by eliminating air-to-ground transmissions in the meteorological aids service in the band 1 664.4-1 668.4 MHz as soon as practicable.
5.379B	The use of the band 1 668-1 675 MHz by the mobile-satellite service is subject to coordination under No. 9.11A.
5.379C	In order to protect the radio astronomy service in the band 1 668-1 670 MHz, the aggregate power flux-density values produced by mobile earth stations in a network of the mobile-satellite service operating in this band shall not exceed $-181 \text{ dB(W/m}^2\text{)}$ in 10 MHz and $-194 \text{ dB(W/m}^2\text{)}$ in any 20 kHz at any radio astronomy station recorded in the Master International Frequency Register, for more than 2% of integration periods of 2 000 s.
5.379D	For sharing of the band 1 668-1 675 MHz between the mobile-satellite service and the fixed, mobile and space research (passive) services, Resolution 744 (WRC-03) shall apply.
5.380	The bands 1 670-1 675 MHz and 1 800-1 805 MHz are intended for use, on a worldwide basis, by administrations wishing to implement aeronautical public correspondence. The use of the band 1 670-1 675 MHz by stations in the systems for public correspondence with aircraft is limited to transmissions from aeronautical stations and the use of the band 1 800-1 805 MHz is limited to transmissions from aircraft stations.
5.380A	In the band 1 670-1 675 MHz, stations in the mobile-satellite service shall not cause harmful interference to, nor constrain the development of, existing earth stations in the meteorological-satellite service notified in accordance with Resolution 670 (WRC-03).

5.382	<i>Different category of service:</i> in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Bulgaria, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Guinea, Hungary, Iraq, Israel, Jordan, Kazakhstan, Kuwait, the Former Yugoslav Republic of Macedonia, Lebanon, Mauritania, Moldova, Mongolia, Oman, Uzbekistan, Poland, Qatar, the Syrian Arab Republic, Kyrgyzstan, Romania, Serbia and Montenegro, Somalia, Tajikistan, Tanzania, Turkmenistan, Ukraine and Yemen, the allocation of the band 1 690-1 700 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33), and in the Dem. People's Rep. of Korea, the allocation of the band 1 690-1 700 MHz to the fixed service is on a primary basis (see No. 5.33) and to the mobile, except aeronautical mobile, service on a secondary basis.
5.384A	The bands, or portions of the bands, 1 710-1 885 MHz and 2 500-2 690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000) in accordance with Resolution 223 (WRC-2000). 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
5.385	<i>Additional allocation:</i> the band 1 718.8-1 722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations.
5.388	The bands 1 885-2 025 MHz and 2 110-2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT-2000 in accordance with Resolution 212 (Rev.WRC-97). (See also Resolution 223 (WRC-2000).)
5.388A	In Regions 1 and 3, the bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz and, in Region 2, the bands 1 885-1 980 MHz and 2 110-2 160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications-2000 (IMT-2000), in accordance with Resolution 221 (Rev.WRC-03). Their use by IMT-2000 applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations.
5.389A	The use of the bands 1 980-2 010 MHz and 2 170-2 200 MHz by the mobile-satellite service is subject to coordination under No. 9.11A and to the provisions of Resolution 716 (WRC-95). The use of these bands shall not commence before 1 January 2000; however the use of the band 1 980-1 990 MHz in Region 2 shall not commence before 1 January 2005.
5.391	In making assignments to the mobile service in the bands 2 025-2 110 MHz and 2 200-2 290 MHz, administrations shall not introduce high-density mobile systems, as described in Recommendation ITU-R SA.1154, and shall take that Recommendation into account for the introduction of any other type of mobile system.
5.392	Administrations are urged to take all practicable measures to ensure that space-to-space transmissions between two or more non-geostationary satellites, in the space research, space operations and Earth exploration-satellite services in the bands 2 025-2 110 MHz and 2 200-2 290 MHz, shall not impose any constraints on Earth-to-space, space-to-Earth

	and other space-to-space transmissions of those services and in those bands between geostationary and non-geostationary satellites.
5.398	In respect of the radiodetermination-satellite service in the band 2 483.5-2 500 MHz, the provisions of No. 4.10 do not apply.
5.399	In Region 1, in countries other than those listed in No. 5.400, harmful interference shall not be caused to, or protection shall not be claimed from, stations of the radiolocation service by stations of the radiodetermination satellite service.
5.402	The use of the band 2 483.5-2 500 MHz by the mobile-satellite and the radiodetermination-satellite services is subject to the coordination under No. 9.11A. Administrations are urged to take all practicable steps to prevent harmful interference to the radio astronomy service from emissions in the 2 483.5-2 500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4 990-5 000 MHz band allocated to the radio astronomy service worldwide.
5.403	Subject to agreement obtained under No. 9.21, the band 2 520-2 535 MHz (until 1 January 2005 the band 2 500-2 535 MHz) may also be used for the mobile-satellite (space-to-Earth), except aeronautical mobile-satellite, service for operation limited to within national boundaries. The provisions of No. 9.11A apply.
5.409	Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in the band 2 500-2 690 MHz.
5.410	The band 2 500-2 690 MHz may be used for tropospheric scatter systems in Region 1, subject to agreement obtained under No. 9.21.
5.411	When planning new tropospheric scatter radio-relay links in the band 2 500-2 690 MHz, all possible measures shall be taken to avoid directing the antennae of these links towards the geostationary-satellite orbit.
5.413	In the design of systems in the broadcasting-satellite service in the bands between 2 500 MHz and 2 690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690-2 700 MHz.
5.414	The allocation of the frequency band 2 500-2 520 MHz to the mobile-satellite service (space-to-Earth) shall be effective on 1 January 2005 and is subject to coordination under No. 9.11A.
5.416	The use of the band 2 520-2 670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under No. 9.21.
5.417C	Use of the band 2 605-2 630 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.417A, 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.

5.417D	Use of the band 2 605-2 630 MHz by geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, has been received after 4 July 2003 is subject to the application of the provisions of No. 9.13 with respect to non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.417A, and No. 22.2 does not apply.
5.418B	Use of the band 2 630-2 655 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.418, 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.
5.418C	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. 5.418 and No. 22.2 does not apply.
5.419	The allocation of the frequency band 2 670-2 690 MHz to the mobile-satellite service shall be effective from 1 January 2005. When introducing systems of the mobile-satellite service in this band, 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.
5.420	The band 2 655-2 670 MHz (until 1 January 2005 the band 2 655-2 690 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.
5.422	<i>Additional allocation:</i> in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Brunei Darussalam, Congo (Rep. of the), Côte d'Ivoire, Cuba, Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Gabon, Georgia, Guinea, Guinea-Bissau, Iran (Islamic Republic of), Iraq, Israel, Jordan, Lebanon, Mauritania, Moldova, Mongolia, Nigeria, Oman, Uzbekistan, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, the Dem. Rep. of the Congo, Romania, Serbia and Montenegro, Somalia, Tajikistan, Tunisia, Turkmenistan, Ukraine and Yemen, the band 2 690-2 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985.
5.423	In the band 2 700-2 900 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the aeronautical radionavigation service.
5.424A	In the band 2 900-3 100 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the radionavigation service.
5.425	In the band 2 900-3 100 MHz, the use of the shipborne interrogator-transponder (SIT) system shall be confined to the sub-band 2 930 -2 950 MHz.

5.426	The use of the band 2 900-3 100 MHz by the aeronautical radionavigation service is limited to ground-based radars.
5.427	In the bands 2 900-3 100 MHz and 9 300-9 500 MHz, the response from radar transponders shall not be capable of being confused with the response from radar beacons (racons) and shall not cause interference to ship or aeronautical radars in the radionavigation service, having regard, however, to No. 4.9.
5.438	Use of the band 4 200-4 400 MHz by the aeronautical radionavigation service is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground. However, passive sensing in the Earth exploration-satellite and space research services may be authorized in this band on a secondary basis (no protection is provided by the radio altimeters).
5.440	The standard frequency and time signal-satellite service may be authorized to use the frequency 4 202 MHz for space-to-Earth transmissions and the frequency 6 427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of ± 2 MHz of these frequencies, subject to agreement obtained under No. 9.21.
5.441	The use of the bands 4 500-4 800 MHz (space-to-Earth), 6 725-7 025 MHz (Earth-to-space) by the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated.
5.442	In the bands 4 825-4 835 MHz and 4 950-4 990 MHz, the allocation to the mobile service is restricted to the mobile, except aeronautical mobile, service.
5.443B	In order not to cause harmful interference to the microwave landing system operating

	above 5 030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5 030-5 150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the band 5 010-5 030 MHz shall not exceed $-124.5 \text{ dB(W/m}^2\text{)}$ in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4 990-5 000 MHz, radionavigation-satellite service systems operating in the band 5 010-5 030 MHz shall comply with the limits in the band 4 990-5 000 MHz defined in Resolution 741 (WRC-03).
5.444	The band 5 030-5 150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. The requirements of this system shall take precedence over other uses of this band. For the use of this band, No. 5.444A and Resolution 114 (Rev.WRC-03) apply.
5.444A	<p><i>Additional allocation:</i> the band 5 091-5 150 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis. This allocation is limited to feeder links of non-geostationary mobile-satellite systems in the mobile-satellite service and is subject to coordination under No. 9.11A.</p> <p>In the band 5 091-5 150 MHz, the following conditions also apply:</p> <ul style="list-style-type: none"> – prior to 1 January 2018, the use of the band 5 091-5 150 MHz by feeder links of non-geostationary-satellite systems in the mobile-satellite service shall be made in accordance with Resolution 114 (Rev.WRC-03); – prior to 1 January 2018, the requirements of existing and planned international standard systems for the aeronautical radionavigation service which cannot be met in the 5 000-5 091 MHz band, shall take precedence over other uses of this band; – after 1 January 2012, no new assignments shall be made to earth stations providing feeder links of non-geostationary mobile-satellite systems; – after 1 January 2018, the fixed-satellite service will become secondary to the aeronautical radionavigation service.
5.446	<i>Additional allocation:</i> in the countries listed in Nos. 5.369 and 5.400, the band 5 150-5 216 MHz is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis, subject to agreement obtained under No. 9.21. In Region 2, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis. In Regions 1 and 3, except those countries listed in Nos. 5.369 and 5.400, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a secondary basis. The use by the radiodetermination-satellite service is limited to feeder links in conjunction with the radiodetermination-satellite service operating in the bands 1 610-1 626.5 MHz and/or 2 483.5-2 500 MHz. The total power flux-density at the Earth's surface shall in no case exceed $-159 \text{ dB(W/m}^2\text{)}$ in any 4 kHz band for all angles of arrival.
5.446A	The use of the bands 5 150-5 350 MHz and 5 470-5 725 MHz by the stations in the mobile service shall be in accordance with Resolution 229 (WRC-03).
5.446B	In the band 5 150-5 250 MHz, stations in the mobile service shall not claim protection from earth stations in the fixed-satellite service. No. 5.43A does not apply to the mobile

	service with respect to fixed-satellite service earth stations.
5.447A	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.
5.447B	<i>Additional allocation:</i> the band 5 150-5 216 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. This allocation is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to provisions of No. 9.11A. The power flux-density at the Earth's surface produced by space stations of the fixed-satellite service operating in the space-to-Earth direction in the band 5 150-5 216 MHz shall in no case exceed -164 dB(W/m ²) in any 4 kHz band for all angles of arrival.
5.447C	Administrations responsible for fixed-satellite service networks in the band 5 150-5 250 MHz operated under Nos. 5.447A and 5.447B shall coordinate on an equal basis in accordance with No. 9.11A with administrations responsible for non-geostationary-satellite networks operated under No. 5.446 and brought into use prior to 17 November 1995. Satellite networks operated under No. 5.446 brought into use after 17 November 1995 shall not claim protection from, and shall not cause harmful interference to, stations of the fixed-satellite service operated under Nos. 5.447A and 5.447B.
5.447D	The allocation of the band 5 250-5 255 MHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis.
5.447F	In the band 5 250-5 350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth exploration-satellite service (active) and the space research service (active). These services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendations ITU-R M.1638 and ITU-R SA.1632.
5.448A	The Earth exploration-satellite (active) and space research (active) services in the frequency band 5 250-5 350 MHz shall not claim protection from the radiolocation service. No. 5.43A does not apply.
5.448B	The Earth exploration-satellite service (active) operating in the band 5 350-5 570 MHz and space research service (active) operating in the band 5 460-5 570 MHz shall not cause harmful interference to the aeronautical radionavigation service in the band 5 350-5 460 MHz, the radionavigation service in the band 5 460-5 470 MHz and the maritime radionavigation service in the band 5 470-5 570 MHz.
5.448C	The space research service (active) operating in the band 5 350-5 460 MHz shall not cause harmful interference to nor claim protection from other services to which this band is allocated.
5.448D	In the frequency band 5 350-5 470 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the aeronautical radionavigation service operating in accordance with No. 5.449.
5.449	The use of the band 5 350-5 470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

5.450A	In the band 5 470-5 725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. Radiodetermination services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITU-R M.1638.
5.450B	In the frequency band 5 470-5 650 MHz, stations in the radiolocation service, except ground-based radars used for meteorological purposes in the band 5 600-5 650 MHz, shall not cause harmful interference to, nor claim protection from, radar systems in the maritime radionavigation service.
5.452	Between 5 600 MHz and 5 650 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the maritime radionavigation service.
5.455	<i>Additional allocation:</i> in Armenia, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 5 670-5 850 MHz is also allocated to the fixed service on a primary basis.
5.457A	In the bands 5 925-6 425 MHz and 14-14.5 GHz, earth stations located on board vessels may communicate with space stations of the fixed-satellite service. Such use shall be in accordance with Resolution 902 (WRC-03).
5.458	In the band 6 425-7 075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7 075-7 250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration-satellite (passive) and space research (passive) services in their future planning of the bands 6 425-7 025 MHz and 7 075-7 250 MHz.
5.458A	In making assignments in the band 6 700-7 075 MHz to space stations of the fixed-satellite service, administrations are urged to take all practicable steps to protect spectral line observations of the radio astronomy service in the band 6 650-6 675.2 MHz from harmful interference from unwanted emissions.
5.458B	The space-to-Earth allocation to the fixed-satellite service in the band 6 700-7 075 MHz is limited to feeder links for non-geostationary satellite systems of the mobile-satellite service and is subject to coordination under No. 9.11A. The use of the band 6 700-7 075 MHz (space-to-Earth) by feeder links for non-geostationary satellite systems in the mobile-satellite service is not subject to No. 22.2.
5.458C	Administrations making submissions in the band 7 025-7 075 MHz (Earth-to-space) for geostationary-satellite systems in the fixed-satellite service after 17 November 1995 shall consult on the basis of relevant ITU-R Recommendations with the administrations that have notified and brought into use non-geostationary-satellite systems in this frequency band before 18 November 1995 upon request of the latter administrations. This consultation shall be with a view to facilitating shared operation of both geostationary-satellite systems in the fixed-satellite service and non-geostationary-satellite systems in this band.
5.460	The use of the band 7 145-7 190 MHz by the space research service (Earth-to-space) is

	restricted to deep space; no emissions to deep space shall be effected in the band 7 190-7 235 MHz. Geostationary satellites in the space research service operating in the band 7 190-7 235 MHz shall not claim protection from existing and future stations of the fixed and mobile services and No. 5.43A does not apply.
5.461	<i>Additional allocation:</i> the bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space) are also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. 9.21.
5.461A	The use of the band 7 450-7 550 MHz by the meteorological-satellite service (space-to-Earth) is limited to geostationary-satellite systems. Non-geostationary meteorological-satellite systems in this band notified before 30 November 1997 may continue to operate on a primary basis until the end of their lifetime.
5.461B	The use of the band 7 750-7 850 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems.
5.462A	In Regions 1 and 3 (except for Japan), in the band 8 025-8 400 MHz, the Earth exploration-satellite service using geostationary satellites shall not produce a power flux-density in excess of the following provisional values for angles of arrival (θ), without the consent of the affected administration: $-174 \text{ dB(W/m}^2\text{)} \text{ in a 4 kHz band} \quad \text{for } 0^\circ \leq \theta < 5^\circ$ $-174 + 0.5 (\theta - 5) \text{ dB(W/m}^2\text{)} \text{ in a 4 kHz band} \quad \text{for } 5^\circ \leq \theta < 25^\circ$ $-164 \text{ dB(W/m}^2\text{)} \text{ in a 4 kHz band} \quad \text{for } 25^\circ \leq \theta \leq 90^\circ$ These values are subject to study under Resolution 124 (WRC-97).
5.463	Aircraft stations are not permitted to transmit in the band 8 025-8 400 MHz.
5.465	In the space research service, the use of the band 8 400-8 450 MHz is limited to deep space.
5.469	<i>Additional allocation:</i> in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Lithuania, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 8 500-8 750 MHz is also allocated to the land mobile and radionavigation services on a primary basis.
5.469A	In the band 8 550-8 650 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radiolocation service.
5.470	The use of the band 8 750-8 850 MHz by the aeronautical radionavigation service is limited to airborne Doppler navigation aids on a centre frequency of 8 800 MHz.
5.472	In the bands 8 850-9 000 MHz and 9 200-9 225 MHz, the maritime radionavigation service is limited to shore-based radars.
5.473	<i>Additional allocation:</i> in Armenia, Austria, Azerbaijan, Belarus, Bulgaria, Cuba, the Russian Federation, Georgia, Hungary, Moldova, Mongolia, Uzbekistan, Poland,

	Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the bands 8 850-9 000 MHz and 9 200-9 300 MHz are also allocated to the radionavigation service on a primary basis.
5.474	In the band 9 200-9 500 MHz, search and rescue transponders (SART) may be used, having due regard to the appropriate ITU-R Recommendation (see also Article 31).
5.475	The use of the band 9 300-9 500 MHz by the aeronautical radionavigation service is limited to airborne weather radars and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band 9 300-9 320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. In the band 9 300-9 500 MHz, ground-based radars used for meteorological purposes have priority over other radiolocation devices.
5.476	In the band 9 300-9 320 MHz in the radionavigation service, the use of shipborne radars, other than those existing on 1 January 1976, is not permitted until 1 January 2001.
5.476A	In the band 9 500-9 800 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 radionavigation and radiolocation services.
5.479	The band 9 975-10 025 MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars.
5.482	In the band 10.6-10.68 GHz, stations of the fixed and mobile, except aeronautical mobile, services shall be limited to a maximum equivalent isotropically radiated power of 40 dBW and the power delivered to the antenna shall not exceed –3 dBW. These limits may be exceeded subject to agreement obtained under No. 9.21. However, in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, China, the United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Kuwait, Latvia, Lebanon, Moldova, Nigeria, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Tajikistan and Turkmenistan, the restrictions on the fixed and mobile, except aeronautical mobile, services are not applicable.
5.484	In Region 1, the use of the band 10.7-11.7 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service.
5.484A	The use of the bands 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) in Region 2, 12.2-12.75 GHz (space-to-Earth) in Region 3, 12.5-12.75 GHz (space-to-Earth) in Region 1, 13.75-14.5 GHz (Earth-to-space), 17.8-18.6 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 27.5-28.6 GHz (Earth-to-space), 29.5-30 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-

	geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated.
5.487	In the band 11.7-12.5 GHz in Regions 1 and 3, the fixed, fixed-satellite, mobile, except aeronautical mobile, and broadcasting services, in accordance with their respective allocations, shall not cause harmful interference to, or claim protection from, broadcasting-satellite stations operating in accordance with the Regions 1 and 3 Plan in Appendix 30.
5.487A	<i>Additional allocation:</i> in Region 1, the band 11.7-12.5 GHz, in Region 2, the band 12.2-12.7 GHz and, in Region 3, the band 11.7-12.2 GHz, are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis, limited to non-geostationary systems and subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the broadcasting-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated.
5.492	Assignments to stations of the broadcasting-satellite service which are in conformity with the appropriate regional Plan or included in the Regions 1 and 3 List in Appendix 30 may also be used for transmissions in the fixed-satellite service (space-to-Earth), provided that such transmissions do not cause more interference, or require more protection from interference, than the broadcasting-satellite service transmissions operating in conformity with the Plan or the List, as appropriate.
5.497	The use of the band 13.25-13.4 GHz by the aeronautical radionavigation service is limited to Doppler navigation aids.
5.498A	The Earth exploration-satellite (active) and space research (active) services operating in the band 13.25-13.4 GHz shall not cause harmful interference to, or constrain the use and development of, the aeronautical radionavigation service.
5.501A	The allocation of the band 13.4-13.75 GHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis.

5.501B	In the band 13.4-13.75 GHz, the Earth exploration-satellite (active) and space research (active) services shall not cause harmful interference to, or constrain the use and development of, the radiolocation service.
5.502	<p>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 size smaller than 4.5 m, it shall ensure that the power flux-density produced by this earth station does not exceed:</p> <ul style="list-style-type: none"> – –115 dB(W/(m² · 10 MHz)) for more than 1% of the time produced at 36 m above sea level at the low water mark, as officially recognized by the coastal State; – –115 dB(W/(m² · 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. <p>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.</p>

5.503	<p>In the band 13.75-14 GHz, geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the fixed-satellite service; after that date, new geostationary space stations in the space research service will operate on a secondary basis. Until those geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this band:</p> <ul style="list-style-type: none"> – in the band 13.77-13.78 GHz, the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in geostationary-satellite orbit shall not exceed: <ul style="list-style-type: none"> i) $4.7D + 28$ dB(W/40 kHz), where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 1.2 m and less than 4.5 m; ii) $49.2 + 20 \log(D/4.5)$ dB(W/40 kHz), where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 4.5 m and less than 31.9 m; iii) 66.2 dB(W/40 kHz) for any fixed-satellite service earth station for antenna diameters (m) equal to or greater than 31.9 m; iv) 56.2 dB(W/4 kHz) for narrow-band (less than 40 kHz of necessary bandwidth) fixed-satellite service earth station emissions from any fixed-satellite service earth station having an antenna diameter of 4.5 m or greater; – the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in non-geostationary-satellite orbit shall not exceed 51 dBW in the 6 MHz band from 13.772 to 13.778 GHz. <p>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.</p>
5.504	The use of the band 14-14.3 GHz by the radionavigation service shall be such as to provide sufficient protection to space stations of the fixed-satellite service.
5.504A	In the band 14-14.5 GHz, aircraft earth stations in the secondary aeronautical mobile-satellite service may also communicate with space stations in the fixed-satellite service. The provisions of Nos. 5.29, 5.30 and 5.31 apply.
5.506A	In the band 14-14.5 GHz, ship earth stations with an e.i.r.p. greater than 21 dBW shall operate under the same conditions as earth stations located on board vessels, as provided in Resolution 902 (WRC-03). This footnote shall not apply to ship earth stations for which the complete Appendix 4 information has been received by the Bureau prior to 5 July 2003.

5.506B	Earth stations located on board vessels communicating with space stations in the fixed-satellite service may operate in the frequency band 14-14.5 GHz without the need for prior agreement from Cyprus, Greece and Malta, within the minimum distance given in Resolution 902 (WRC-03) from these countries.
5.511A	The band 15.43-15.63 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. Use of the band 15.43-15.63 GHz by the fixed-satellite service (space-to-Earth and Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under No. 9.11A. The use of the frequency band 15.43-15.63 GHz by the fixed-satellite service (space-to-Earth) is limited to feeder links of non-geostationary systems in the mobile-satellite service for which advance publication information has been received by the Bureau prior to 2 June 2000. In the space-to-Earth direction, the minimum earth station elevation angle above and gain towards the local horizontal plane and the minimum coordination distances to protect an earth station from harmful interference shall be in accordance with Recommendation ITU-R S.1341. In order to protect the radio astronomy service in the band 15.35-15.4 GHz, the aggregate power flux-density radiated in the 15.35-15.4 GHz band by all the space stations within any feeder-link of a non-geostationary system in the mobile-satellite service (space-to-Earth) operating in the 15.43-15.63 GHz band shall not exceed the level of $-156 \text{ dB(W/m}^2\text{)}$ in a 50 MHz bandwidth, into any radio astronomy observatory site for more than 2% of the time.
5.511C	Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340. The minimum coordination distance required to protect the aeronautical radionavigation stations (No. 4.10 applies) from harmful interference from feeder-link earth stations and the maximum e.i.r.p. transmitted towards the local horizontal plane by a feeder-link earth station shall be in accordance with Recommendation ITU-R S.1340.
5.511D	Fixed-satellite service systems for which complete information for advance publication has been received by the Bureau by 21 November 1997 may operate in the bands 15.4-15.43 GHz and 15.63-15.7 GHz in the space-to-Earth direction and 15.63-15.65 GHz in the Earth-to-space direction. In the bands 15.4-15.43 GHz and 15.65-15.7 GHz, emissions from a non-geostationary space station shall not exceed the power flux-density limits at the Earth's surface of $-146 \text{ dB(W/(m}^2 \cdot \text{MHz))}$ for any angle of arrival. In the band 15.63-15.65 GHz, where an administration plans emissions from a non-geostationary space station that exceed $-146 \text{ dB(W/(m}^2 \cdot \text{MHz))}$ 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 15.63-15.65 GHz in the Earth-to-space direction shall not cause harmful interference to stations in the aeronautical radionavigation service (No. 4.10 applies).
5.513A	Spaceborne active sensors operating in the band 17.2-17.3 GHz shall not cause harmful interference to, or constrain the development of, the radiolocation and other services allocated on a primary basis.

5.516	<p>The use of the band 17.3-18.1 GHz by geostationary-satellite systems in the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. The use of the band 17.3-17.8 GHz in Region 2 by systems in the fixed-satellite service (Earth-to-space) is limited to geostationary satellites. For the use of the band 17.3-17.8 GHz in Region 2 by feeder links for the broadcasting-satellite service in the band 12.2-12.7 GHz, see Article 11. The use of the bands 17.3-18.1 GHz (Earth-to-space) in Regions 1 and 3 and 17.8-18.1 GHz (Earth-to-space) in Region 2 by non-geostationary-satellite systems in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated.</p>
5.516A	<p>In the band 17.3-17.7 GHz, earth stations of the fixed-satellite service (space-to-Earth) in Region 1 shall not claim protection from the broadcasting-satellite service feeder-link earth stations operating under Appendix 30A, nor put any limitations or restrictions on the locations of the broadcasting-satellite service feeder-link earth stations anywhere within the service area of the feeder link.</p>
5.516B	<p>The following bands are identified for use by high-density applications in the fixed-satellite service:</p> <ul style="list-style-type: none"> 17.3-17.7 GHz (space-to-Earth) in Region 1, 18.3-19.3 GHz (space-to-Earth) in Region 2, 19.7-20.2 GHz (space-to-Earth) in all Regions, 39.5-40 GHz (space-to-Earth) in Region 1, 40-40.5 GHz (space-to-Earth) in all Regions, 40.5-42 GHz (space-to-Earth) in Region 2, 47.5-47.9 GHz (space-to-Earth) in Region 1, 48.2-48.54 GHz (space-to-Earth) in Region 1, 49.44-50.2 GHz (space-to-Earth) in Region 1, and 27.5-27.82 GHz (Earth-to-space) in Region 1, 28.35-28.45 GHz (Earth-to-space) in Region 2, 28.45-28.94 GHz (Earth-to-space) in all Regions, 28.94-29.1 GHz (Earth-to-space) in Region 2 and 3, 29.25-29.46 GHz (Earth-to-space) in Region 2, 29.46-30 GHz (Earth-to-space) in all Regions, 48.2-50.2 GHz (Earth-to-space) in Region 2. <p>This identification does not preclude the use of these bands by other fixed-satellite service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in these Radio Regulations among users of the bands. Administrations should take this into account when considering regulatory provisions in relation to these bands. See Resolution 143 (WRC-03).</p>

5.519	<i>Additional allocation:</i> the band 18.1-18.3 GHz is also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Its use is limited to geostationary satellites and shall be in accordance with the provisions of Article 21, Table 21-4.
5.520	The use of the band 18.1-18.4 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links of geostationary-satellite systems in the broadcasting-satellite service.
5.522A	The emissions of the fixed service and the fixed-satellite service in the band 18.6-18.8 GHz are limited to the values given in Nos. 21.5A and 21.16.2, respectively.
5.522B	The use of the band 18.6-18.8 GHz by the fixed-satellite service is limited to geostationary systems and systems with an orbit of apogee greater than 20 000 km.
5.523A	The use of the bands 18.8-19.3 GHz (space-to-Earth) and 28.6-29.1 GHz (Earth-to-space) by geostationary and non-geostationary fixed-satellite service networks is subject to the application of the provisions of No. 9.11A and No. 22.2 does not apply. Administrations having geostationary-satellite networks under coordination prior to 18 November 1995 shall cooperate to the maximum extent possible to coordinate pursuant to No. 9.11A with non-geostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view to reaching results acceptable to all the parties concerned. Non-geostationary-satellite networks shall not cause unacceptable interference to geostationary fixed-satellite service networks for which complete Appendix 4 notification information is considered as having been received by the Bureau prior to 18 November 1995.
5.523B	The use of the band 19.3-19.6 GHz (Earth-to-space) by the fixed-satellite service is limited to feeder links for non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, and No. 22.2 does not apply.
5.523C	No. 22.2 shall continue to apply in the bands 19.3-19.6 GHz and 29.1-29.4 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995.
5.523D	The use of the band 19.3-19.7 GHz (space-to-Earth) by geostationary fixed-satellite service systems and by feeder links for non-geostationary-satellite systems in the mobile-satellite service is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2. The use of this band for other non-geostationary fixed-satellite service systems, or for the cases indicated in Nos. 5.523C and 5.523E, is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. 22.2.
5.523E	No. 22.2 shall continue to apply in the bands 19.6-19.7 GHz and 29.4-29.5 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau by 21 November 1997.

5.525	In order to facilitate interregional coordination between networks in the mobile-satellite and fixed-satellite services, carriers in the mobile-satellite service that are most susceptible to interference shall, to the extent practicable, be located in the higher parts of the bands 19.7-20.2 GHz and 29.5-30 GHz.
5.526	In the bands 19.7-20.2 GHz and 29.5-30 GHz in Region 2, and in the bands 20.1-20.2 GHz and 29.9-30 GHz in Regions 1 and 3, networks which are both in the fixed-satellite service and in the mobile-satellite service may include links between earth stations at specified or unspecified points or while in motion, through one or more satellites for point-to-point and point-to-multipoint communications.
5.527	In the bands 19.7-20.2 GHz and 29.5-30 GHz, the provisions of No. 4.10 do not apply with respect to the mobile-satellite service.
5.528	The allocation to the mobile-satellite service is intended for use by networks which use narrow spot-beam antennas and other advanced technology at the space stations. Administrations operating systems in the mobile-satellite service in the band 19.7-20.1 GHz in Region 2 and in the band 20.1-20.2 GHz shall take all practicable steps to ensure the continued availability of these bands for administrations operating fixed and mobile systems in accordance with the provisions of No. 5.524.
5.530	In Regions 1 and 3, the allocation to the broadcasting-satellite service in the band 21.4-22 GHz shall come into effect on 1 April 2007. The use of this band by the broadcasting-satellite service after that date and on an interim basis prior to that date is subject to the provisions of Resolution 525 (WARC-92).
5.532	The use of the band 22.21-22.5 GHz by the Earth exploration-satellite (passive) and space research (passive) services shall not impose constraints upon the fixed and mobile, except aeronautical mobile, services.
5.535A	The use of the band 29.1-29.5 GHz (Earth-to-space) by the fixed-satellite service is limited to geostationary-satellite systems and feeder links to non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2, except as indicated in Nos. 5.523C and 5.523E where such use is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. 22.2.
5.536	Use of the 25.25-27.5 GHz band by the inter-satellite service is limited to space research and Earth exploration-satellite applications, and also transmissions of data originating from industrial and medical activities in space.
5.536A	Administrations operating earth stations in the Earth exploration-satellite service or the space research service shall not claim protection from stations in the fixed and mobile services operated by other administrations. In addition, earth stations in the Earth exploration-satellite service or in the space research service should be operated taking into account Recommendations ITU-R SA.1278 and ITU-R SA.1625, respectively.
5.536B	In Germany, Saudi Arabia, Austria, Belgium, Brazil, Bulgaria, China, Korea (Rep. of), Denmark, Egypt, United Arab Emirates, Spain, Estonia, Finland, France, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, Italy, the Libyan Arab Jamahiriya, Jordan,

	Kenya, Kuwait, Lebanon, Liechtenstein, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, the Syrian Arab Republic, Slovakia, the Czech Rep., Romania, the United Kingdom, Singapore, Sweden, Switzerland, Tanzania, Turkey, Viet Nam and Zimbabwe, earth stations operating in the Earth exploration-satellite service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services.
5.538	<i>Additional allocation:</i> the bands 27.500-27.501 GHz and 29.999-30.000 GHz are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis for the beacon transmissions intended for up-link power control. Such space-to-Earth transmissions shall not exceed an equivalent isotropically radiated power (e.i.r.p.) of +10 dBW in the direction of adjacent satellites on the geostationary-satellite orbit. In the band 27.500-27.501 GHz, such space-to-Earth transmissions shall not produce a power flux-density in excess of the values specified in Article 21, Table 21-4 on the Earth's surface.
5.539	The band 27.5-30 GHz may be used by the fixed-satellite service (Earth-to-space) for the provision of feeder links for the broadcasting-satellite service.
5.540	<i>Additional allocation:</i> the band 27.501-29.999 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis for beacon transmissions intended for up-link power control.
5.541	In the band 28.5-30 GHz, the earth exploration-satellite service is limited to the transfer of data between stations and not to the primary collection of information by means of active or passive sensors.
5.541A	Feeder links of non-geostationary networks in the mobile-satellite service and geostationary networks in the fixed-satellite service operating in the band 29.1-29.5 GHz (Earth-to-space) shall employ uplink adaptive power control or other methods of fade compensation, such that the earth station transmissions shall be conducted at the power level required to meet the desired link performance while reducing the level of mutual interference between both networks. These methods shall apply to networks for which Appendix 4 coordination information is considered as having been received by the Bureau after 17 May 1996 and until they are changed by a future competent world radiocommunication conference. Administrations submitting Appendix 4 information for coordination before this date are encouraged to utilize these techniques to the extent practicable.
5.543	The band 29.95-30 GHz may be used for space-to-space links in the Earth exploration-satellite service for telemetry, tracking, and control purposes, on a secondary basis.
5.544	In the band 31-31.3 GHz the power flux-density limits specified in Article 21, Table 21-4 shall apply to the space research service.
5.546	<i>Different category of service:</i> in Saudi Arabia, Armenia, Azerbaijan, Belarus, Egypt, the United Arab Emirates, Spain, Estonia, the Russian Federation, Finland, Georgia, Hungary, Iran (Islamic Republic of), Israel, Jordan, Latvia, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, the United Kingdom, South Africa, Tajikistan, Turkmenistan and Turkey, the allocation of

	the band 31.5-31.8 GHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33).
5.547	The bands 31.8-33.4 GHz, 37-40 GHz, 40.5-43.5 GHz, 51.4-52.6 GHz, 55.78-59 GHz and 64-66 GHz are available for high-density applications in the fixed service (see Resolutions 75 (WRC-2000) and 79 (WRC-2000)). Administrations should take this into account when considering regulatory provisions in relation to these bands. Because of the potential deployment of high-density applications in the fixed-satellite service in the bands 39.5-40 GHz and 40.5-42 GHz (see No. 5.516B), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate.
5.547A	Administrations should take practical measures to minimize the potential interference between stations in the fixed service and airborne stations in the radionavigation service in the 31.8-33.4 GHz band, taking into account the operational needs of the airborne radar systems.
5.549A	In the band 35.5-36.0 GHz, the mean power flux-density at the Earth's surface, generated by any spaceborne sensor in the Earth exploration-satellite service (active) or space research service (active), for any angle greater than 0.8° from the beam centre shall not exceed $-73.3 \text{ dB(W/m}^2\text{)}$ in this band.
5.551H	The equivalent power flux-density (epfd) produced in the band 42.5-43.5 GHz by all space stations in any non-geostationary-satellite system in the fixed-satellite service (space-to-Earth), or in the broadcasting-satellite service (space-to-Earth) operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station for more than 2% of the time: $-230 \text{ dB(W/m}^2\text{)}$ in 1 GHz and $-246 \text{ dB(W/m}^2\text{)}$ in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and

	<p>–209 dB(W/m²) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.</p> <p>These epfd values shall be evaluated using the methodology given in Recommendation ITU-R S.1586 and the reference antenna pattern and the maximum gain of an antenna in the radio astronomy service given in Recommendation ITU-R RA.1631 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle θ_{min} of the radiotelescope (for which a default value of 5° should be adopted in the absence of notified information).</p> <p>These values shall apply at any radio astronomy station that either:</p> <ul style="list-style-type: none"> – 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. <p>Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution 743 (WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed.</p>
5.551I	<p>The power flux-density in the band 42.5-43.5 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth), or the broadcasting-satellite service (space-to-Earth) operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station:</p> <ul style="list-style-type: none"> –137 dB(W/m²) in 1 GHz and –153 dB(W/m²) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and –116 dB(W/m²) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.

	<p>These values shall apply at the site of any radio astronomy station that either:</p> <ul style="list-style-type: none"> – 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. <p>Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution 743 (WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed.</p>
5.552	The allocation of the spectrum for the fixed-satellite service in the bands 42.5-43.5 GHz and 47.2-50.2 GHz for Earth-to-space transmission is greater than that in the band 37.5-39.5 GHz for space-to-Earth transmission in order to accommodate feeder links to broadcasting satellites. Administrations are urged to take all practicable steps to reserve the band 47.2-49.2 GHz for feeder links for the broadcasting-satellite service operating in the band 40.5-42.5 GHz.
5.552A	The allocation to the fixed service in the bands 47.2-47.5 GHz and 47.9-48.2 GHz is designated for use by high altitude platform stations. The use of the bands 47.2-47.5 GHz and 47.9-48.2 GHz is subject to the provisions of Resolution 122 (WRC-97).
5.553	In the bands 43.5-47 GHz and 66-71 GHz, stations in the land mobile service may be operated subject to not causing harmful interference to the space radiocommunication services to which these bands are allocated (see No. 5.43).
5.554	In the bands 43.5-47 GHz, 66-71 GHz, 95-100 GHz, 123-130 GHz, 191.8-200 GHz and 252-265 GHz, satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service.
5.554A	The use of the bands 47.5-47.9 GHz, 48.2-48.54 GHz and 49.44-50.2 GHz by the fixed-satellite service (space-to-Earth) is limited to geostationary satellites.
5.555	<i>Additional allocation:</i> the band 48.94-49.04 GHz is also allocated to the radio astronomy service on a primary basis.
5.555B	The power flux-density in the band 48.94-49.04 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth) operating in the bands 48.2-48.54 GHz and 49.44-50.2 GHz shall not exceed -151.8 dB(W/m ²) in any 500 kHz band at the site of any radio astronomy station.
5.556	In the bands 51.4-54.25 GHz, 58.2-59 GHz and 64-65 GHz, radio astronomy observations may be carried out under national arrangements.
5.556A	Use of the bands 54.25-56.9 GHz, 57-58.2 GHz and 59-59.3 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, shall not exceed -147 dB(W/(m ² · 100 MHz)) for all angles of arrival.

5.557A	In the band 55.78-56.26 GHz, in order to protect stations in the Earth exploration-satellite service (passive), the maximum power density delivered by a transmitter to the antenna of a fixed service station is limited to -26 dB(W/MHz).
5.558	In the bands 55.78-58.2 GHz, 59-64 GHz, 66-71 GHz, 122.25-123 GHz, 130-134 GHz, 167-174.8 GHz and 191.8-200 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 5.43).
5.558A	Use of the band 56.9-57 GHz by inter-satellite systems is limited to links between satellites in geostationary-satellite orbit and to transmissions from non-geostationary satellites in high-Earth orbit to those in low-Earth orbit. For links between satellites in the geostationary-satellite orbit, the single entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface, for all conditions and for all methods of modulation, shall not exceed -147 dB(W/(m ² · 100 MHz)) for all angles of arrival.
5.559	In the band 59-64 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 5.43).
5.559A	The band 75.5-76 GHz is also allocated to the amateur and amateur-satellite services on a primary basis until the year 2006.
5.560	In the band 78-79 GHz radars located on space stations may be operated on a primary basis in the Earth exploration-satellite service and in the space research service.
5.561	In the band 74-76 GHz, stations in the fixed, mobile and broadcasting services shall not cause harmful interference to stations of the fixed-satellite service or stations of the broadcasting-satellite service operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting-satellite service.
5.561A	The 81-81.5 GHz band is also allocated to the amateur and amateur-satellite services on a secondary basis.
5.562	The use of the band 94-94.1 GHz by the Earth exploration-satellite (active) and space research (active) services is limited to spaceborne cloud radars.
5.562A	In the bands 94-94.1 GHz and 130-134 GHz, transmissions from space stations of the Earth exploration-satellite service (active) that are directed into the main beam of a radio astronomy antenna have the potential to damage some radio astronomy receivers. Space agencies operating the transmitters and the radio astronomy stations concerned should mutually plan their operations so as to avoid such occurrences to the maximum extent possible.
5.562B	In the bands 105-109.5 GHz, 111.8-114.25 GHz, 155.5-158.5 GHz and 217-226 GHz, the use of this allocation is limited to space-based radio astronomy only.

5.562C	Use of the band 116-122.25 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 km to 1 000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed $-148 \text{ dB(W/(m}^2 \cdot \text{MHz))}$ for all angles of arrival.
5.562E	The allocation to the Earth exploration-satellite service (active) is limited to the band 133.5-134 GHz.
5.562F	In the band 155.5-158.5 GHz, the allocation to the Earth exploration-satellite (passive) and space research (passive) services shall terminate on 1 January 2018.
5.562G	The date of entry into force of the allocation to the fixed and mobile services in the band 155.5-158.5 GHz shall be 1 January 2018.
5.562H	Use of the bands 174.8-182 GHz and 185-190 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 to 1 000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed $-144 \text{ dB(W/(m}^2 \cdot \text{MHz))}$ for all angles of arrival.
5.563A	In the bands 200-209 GHz, 235-238 GHz, 250-252 GHz and 265-275 GHz, ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents.
5.563B	The band 237.9-238 GHz is also allocated to the Earth exploration-satellite service (active) and the space research service (active) for spaceborne cloud radars only.
5.565	<p>The frequency band 275-1 000 GHz may be used by administrations for experimentation with, and development of, various active and passive services. In this band a need has been identified for the following spectral line measurements for passive services:</p> <ul style="list-style-type: none"> – radio astronomy service: 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz and 926-945 GHz; – Earth exploration-satellite service (passive) and space research service (passive): 275-277 GHz, 294-306 GHz, 316-334 GHz, 342-349 GHz, 363-365 GHz, 371-389 GHz, 416-434 GHz, 442-444 GHz, 496-506 GHz, 546-568 GHz, 624-629 GHz, 634-654 GHz, 659-661 GHz, 684-692 GHz, 730-732 GHz, 851-853 GHz and 951-956 GHz. <p>Future research in this largely unexplored spectral region may yield additional spectral lines and continuum bands of interest to the passive services. Administrations are urged to take all practicable steps to protect these passive services from harmful interference until the date when the allocation Table is established in the above-mentioned frequency band.</p>

National footnotes

RN001	Frequencies 78 kHz and 120 kHz with ± 10 kHz bandwidth can be used by cable multi-channel broadcasting equipment under condition that all necessary measures are undertaken in this equipment to protect it from interference from other radio services.
RN002	Within the band 148.5 - 283.5 kHz separate frequencies are used by aeronautical radionavigation service provided that no interference is caused to broadcasting service and safety of flights.
RN003	Frequency band 405 – 415 kHz can be used by aeronautical mobile service on a secondary basis.
RN004	Frequency band 505 - 526.5 kHz can be used by aeronautical mobile service provided that no interference is caused to maritime mobile and aeronautical radionavigation services.
RN005	Within the band 526.5 – 1606.5 kHz separate frequencies can be used by aeronautical radionavigation service provided that no interference is caused to broadcasting service and safety of flights.
RN006	Frequency bands 5900 - 5950 kHz, 7300 - 7350 kHz, 9400 - 9500 kHz, 11600 - 11650 kHz, 12050 - 12100 kHz, 13570 - 13600 kHz, 13800 - 13870 kHz, 15600 - 15800 kHz, 17480 - 17550 kHz and 18900 - 19020 kHz are reserved for broadcasting service in conformity with provisions of the Radio Regulations. Conditions, under which broadcasting service can use these bands, will be adopted additionally.
RN007	Not used
RN008	Not used
RN009	Frequency bands 12330 - 13200 kHz, 16360 - 17410 kHz, 18780 - 18900 kHz and 19680 - 19800 kHz can be used by land mobile stations provided that no interference is caused to maritime mobile service.
RN010	Frequency bands 22720 - 22855 kHz, 25110 - 25210 kHz and 26100 - 26175 kHz can be used by fixed and land mobile services provided that no interference is caused to maritime mobile service.
RN011	Frequency band 23200 - 23350 kHz can be used by land mobile service provided that no interference is caused to fixed and aeronautical mobile services.
RN012	Frequency band 26.96 - 27.41 MHz can be used by low power radiotelephony stations in conformity with ERC Decision ERC/DEC/(96)02.
RN013	Frequencies 26945 kHz and 26960 kHz can be used by alarm systems with power up to 2 W on a secondary basis.

RN014	<p>Frequency channels used for television broadcasting in Moldova (R1..R69) Carrier frequency video/sound analog TV (D/K TV standard, PAL or SECAM colour system):</p> <p>BAND I Carrier frequencies video/sound 48.5 - 56.5 MHz channel 1 TV 49.75 / 56.25 MHz 58.0 - 66.0 MHz channel 2 TV 59.25 / 65.75 MHz</p> <p>BAND II 76.0 - 84.0 MHz channel 3 TV 77.25 / 83.75 MHz 84.0 - 92.0 MHz channel 4 TV 85.25 / 91.75 MHz 92.0 - 100 MHz channel 5 TV 93.25 / 99.75 MHz</p> <p>BAND III 174 – 182 MHz channel 6 TV 175.25 / 181.75 MHz 182 – 190 MHz channel 7 TV 183.25 / 189.75 MHz 190 – 198 MHz channel 8 TV 191.25 / 197.75 MHz 198 – 206 MHz channel 9 TV 199.25 / 205.75 MHz 206 – 214 MHz channel 10 TV 207.25 / 213.75 MHz 214 – 222 MHz channel 11 TV 215.25 / 221.75 MHz 222 – 230 MHz channel 12 TV 223.25 / 229.75 MHz</p> <p>BAND IV 470 - 478 MHz channel 21 TV 471.25 / 477.75 MHz 478 - 486 MHz channel 22 TV 479.25 / 485.75 MHz 574 - 582 MHz channel 34 TV 575.25 / 581.75 MHz</p> <p>BAND V 582 - 590 MHz channel 35 TV 583.25 / 589.75 MHz 614 - 622 MHz channel 39 TV 615.25 / 621.75 MHz 854 - 862 MHz channel 69 TV 855.25 / 861.75 MHz Frequency bands III-IV can be used by digital terrestrial television DVB-T.</p>
RN015	<p>Frequency band 31.25 – 39.25 MHz is an intermediate frequencies band for TV sets (SECAM) (31.5 – intermediate frequency for sound carrier; 38 MHz - intermediate frequency for video carrier).</p>
RN016	<p>TV channels R4 and R5 are in use up to the end of lifetime of the TV transmitters. New R4 or R5 assignments are prohibited.</p>
RN017	<p>Frequency bands 66 – 74 MHz and 87.5 – 108 MHz are designated for mono and stereo FM broadcasting.</p>

RN018	Band 9 – 1000 MHz can be used by cable broadcasting networks for providing TV programs, radio broadcasting and transport data provided that requirements for external interference are respected and no interference is caused to other radiocommunication stations operating in accordance with the Table. Use of such networks, satisfying the requirements, can not serve as a basis for any requests with respect to interference caused by other radiocommunication stations and can not claim restriction on operation of other radiocommunication stations.
RN018A	Frequency 146.225 MHz can be used by Moldavian railway in organisation of radiocommunications at the Ungheni Custom station, with maximum transmitter power 8W.
RN019	Within frequency bands 150.05 – 156.7625 MHz and 156.8375 – 168.5 MHz it is permitted to use alarm systems on a primary basis with the following conditions: - maximum transmitter power is 5 W; - channel spacing is 12.5 kHz or 25 kHz. - frequencies shall be coordinated in accordance with procedure in force.
RN020	Frequency bands 159.425 – 159.9 MHz paired with 164.025 – 164.5 MHz and 160.825 – 161.4 MHz paired with 165.425 – 166 MHz are designated for non-governmental trunked land mobile systems, on the all territory of the country, assigned non-governmental, with the following conditions: - channel spacing is 25 kHz with a perspective transition to the 12.5 kHz channel spacing; - frequency separation Tx/Rx is 4.6 MHz.
RN021	Frequency band 163.2 – 164.2 MHz is used by the land mobile stations of civil aviation in airports to provide technological and internal communications.
RN022	Not used
RN023	Parts of the frequency band 174 – 240 MHz and band 1452-1479.5 MHz can be used for digital terrestrial broadcasting (T-DAB).
RN024	Within frequency bands 299.6 – 300.0 MHz, 300.525 – 301.125 MHz, 305.825 – 307.0 MHz, 308.0 – 308.4 MHz, 335.6 – 336.0 MHz, 336.525 – 337.125 MHz, 341.825 – 343.0 MHz and 344.0 – 344.4 MHz separate frequencies can be used by non-governmental users subject to agreement with competent state security entities.
RN025	Frequency band 380 – 385 MHz paired with 390 – 395 MHz is designated to be used in conformity with ERC Decision ERC/DEC/(96)01.
RN026	Frequency bands 396 – 406 MHz, 406.1 – 409 MHz and 436 – 449 MHz are used by line-of-sight radio relay links.
RN027	Frequency band 406.1 – 410 MHz can be used by digital systems with channel bandwidth of 10 kHz, 12.5 kHz or 25 kHz of land mobile systems, in conformity with Decision ERC/DEC/(02)03.

RN028	<p>Within frequency band 410 – 430 MHz priority is given to assigning frequencies to trunked mobile systems under the following conditions:</p> <ul style="list-style-type: none"> - channel spacing is 25 kHz or 12.5 kHz; - frequency separation Tx/Rx is 10 MHz.
RN028A	<p>Frequency band 446 – 446.1 MHz can be used by personal mobile radiocommunications PMR446 on the territory of Republic of Moldova, in conformity with Decision ERC/DEC/(98)25.</p>
RN029	<p>Not used</p>
RN030	<p>In frequency bands 457.6 – 458.1 MHz paired with 467.6 – 468.1 MHz separate frequencies can be assigned for railway communications (in conformity with reservations on the European level). It is mandatory the use of phase or frequency modulation with a bandwidth that not exceed 16 kHz and, as far as possible, efficient radiated power has to be a small value for the served area.(See CEPT Recommendation T/R 22-01).</p>
RN031	<p>In frequency band 726 – 790 MHz separate frequencies are used by radionavigation equipment till the end of its lifetime and implementation of the analog systems in perspective bands.</p>
RN032	<p>Frequency band 824 – 830 MHz paired with 869 – 875 MHz is designated for implementation of cellular mobile system for non-public use.</p>
RN033	<p>Separate frequencies within frequency band 833 – 885 MHz are used by radiolocation stations for air traffic control systems till the end of their lifetime.</p>
RN033A	<p>Frequencies 865 MHz, 867 MHz and 869 MHz can be used on the secondary basis by Automatic Vehicle Identification for Railways in the railway network, with maximum transmitter power 2 W.</p>
RN034	<p>Not used</p>
RN035	<p>It is permitted to use short range devices on a secondary basis in the bands and with technical parameters indicated in corresponding annexes of CEPT Recommendation T/R 70-03</p>
RN036	<p>Separate frequencies within the frequency band 873.6 – 960 MHz are used by the ground based stations of aeronautical radionavigation service till the end of their lifetime.</p>
RN037	<p>Parts of the band 880 – 915 MHz paired with 925 – 960 MHz are designated for GSM mobile cellular radiotelephony. Network operators can also implement fixed wireless access in these bands.</p>

RN038	<p>In frequency bands 30.075 – 30.3 MHz paired with 39.775 – 40 MHz it is permitted to use cordless telephones on a primary basis in all territory of the country, with the following parameters: 30.075 – 30.3 (transmitting frequencies for base unit Tx) 39.775 – 40 MHz (transmitting frequencies for remote unit Tx) max. erp = 50 mW channel spacing = 25 kHz frequency separation = 9.7 MHz capacity = 10 channels (automatic scanning)</p>
RN039	<p>Frequency 1030 MHz is used by terrestrial air traffic control equipment and frequency 1090 MHz is used by on-board air traffic control equipment.</p>
RN039A	<p>Frequency bands 1350 – 1375 MHz paired with 1492 – 1517 MHz, 1375 – 1400 MHz paired with 1427 – 1452 MHz, 10.15 – 10.3 GHz paired with 10.5 – 10.65 GHz and parts of the band 24.5-26.5 GHz are designated for implementation of point-multi-point systems in conformity with CEPT Recommendations CEPT/ERC/REC 13-01, CEPT/ERC/REC 12-05, CEPT/ERC/REC 13-04.</p>
RN040	<p>Frequency bands 1550 – 1559 MHz, 1626.5 – 1645.5 MHz and 1646.5 - 1660 MHz are used by radio relay stations provided that no interference is caused to stations of mobile satellite service.</p>
RN041	<p>Frequency band 1559 – 1610 MHz is used by radio relay stations provided that no interference is caused to stations of radionavigation-satellite service.</p>
RN042	<p>In the band 1592 – 1622.5 MHz separate frequencies with ± 1 MHz bandwidth are used by on-board equipment to avoid aircraft collisions.</p>
RN043	<p>It is permitted to use frequency bands 1610-1626.5 MHz, 1980-2010 MHz, 2170-2200 MHz, 2483.5-2500 MHz by Satellite Personal Communication Systems (S-PCS) on the territory of Republic of Moldova, in conformity with ERC Decision ERC/DEC(97)03.</p>
RN044	<p>Not used</p>
RN044A	<p>Parts of the band 1710 – 1785 MHz paired with 1805 – 1880 MHz can be used for implementation of Digital Communication System DCS1800 in conformity with ERC Decision ERC/DEC/(95)03. In some localities these parts can be used subject to solving the electromagnetic compatibility problem with existing radio relay links. New frequency assignments for radio relay links in this bands are not permitted.</p>
RN045	<p>It is permitted to use Digital European Cordless Telecommunications system (DECT) in the band 1880 – 1900 MHz on the territory of Republic of Moldova, in conformity with ERC Decision ERC/DEC/(94)03. In some localities band 1880 – 1885 MHz can be used subject to solving the electromagnetic compatibility problem with existing radio relay links. New assignments in the band 1880 – 1900 MHz for other radio relay links are not permitted.</p>

RN046	Frequency bands 1900-1930 MHz, 1965–1980 MHz and 2125-2170 MHz will be used from 1 January 2002 for implementation Universal Mobile Telecommunications System (UMTS) on the territory of the Republic of Moldova, in conformity with ERC Decision ERC/DEC/(97)07. Further spectrum from bands 1900-1980 MHz, 2010-2025 MHz and 2110-2170 MHz could be made available by 1 January 2005, subject to market demand;
RN047	Frequency band 1940 – 2060 MHz can be used by existing aeronautical radionavigation applications (radio altimeters) till the end of their lifetime. Elaboration and purchasing abroad new aeronautical radionavigation applications in this band is prohibited.
RN048	In the frequency bands 2200 – 2400 MHz and 2500 – 2700 MHz it is permitted implementation of microwave video distribution systems (MVDS). Starting with 1 January 2008, systems which use frequency band 2500-2700 MHz will be gradually removed from operation in order to provide necessities of UMTS/IMT-2000 systems development, , in conformity with Decision ERC/DEC(02)06.
RN049	Parts of the bands 7550 – 7750 MHz and 8500 – 8700 MHz can be used for radio links of fixed and mobile television cameras with transmitter power up to 1 W subject to coordination of locations of these stations in conformity with procedure in force.
RN050	Frequency band 10.2 – 10.68 GHz can be used by low power radiolocation stations, which are using Doppler's effect for measurements of velocity of moving terrestrial objects.
RN051	Separate frequencies in the bands 10.7 – 11.7 GHz, 12.75 – 13.25 GHz and 14.4 – 15.35 GHz can be used for line-of-sight radio relay stations.
RN052	Not used
RN053	Separate frequencies in the band 13.56 – 13.62 GHz can be used by low power radiolocation stations, which are using Doppler's effect for measurements of velocity of moving terrestrial objects.
RN054	Frequency band 17.7 – 19.7 GHz can be used by line-of-sight radio relay stations.
RN055	Parts of the band 21.2 – 23.6 GHz can be used by line-of-sight radio relay stations.
RN056	In the frequency band 40.5 – 43.5 GHz it is permitted implementation of multimedia wireless systems (MWS), in conformity with Decision ERC/DEC(99)15.

**Table of frequency bands
designated for industrial, scientific, medicinal and household applications***

No.	Nominal frequencies and permitted deviations	Permitted Frequency bands	Permitted applications
1	18 kHz \pm 7.5 %	16.7 - 19.4 kHz	Industrial
2	22 kHz \pm 7.5 %	20.4 - 23.7 kHz	Industrial, scientific, medicinal
3	44 kHz \pm 10 %	40 - 48 kHz	Industrial, scientific, medicinal
4	66 kHz + 12 % - 10 %	59 - 74 kHz	Industrial, scientific, medicinal
5	440 kHz \pm 2.5 %	429 - 451 kHz	Industrial, scientific, medicinal
6	880 kHz \pm 1.0 %	871 - 889 kHz	Industrial, scientific, medicinal
7	1760 kHz \pm 2.5 %	1720 - 1800 kHz	Industrial, scientific, medicinal
8	2640 kHz \pm 1.0 %	2610 - 2670 kHz	Industrial, medicinal
9	5280 kHz \pm 2.5 %	5150 - 5410 kHz	Industrial, scientific, medicinal
10	6780 kHz \pm 0.2 %	6767 - 6794 kHz	Industrial, scientific, medicinal
11	13560 kHz \pm 1.0 %	13424 - 13696 kHz	Industrial
12	13560 kHz \pm 0.05 %	13553.2 - 13566.8 kHz	Scientific, medicinal
13	27120 kHz \pm 1.0 %	26850 - 27390 kHz	Industrial
14	27120 kHz \pm 0.6 %	26957 - 27283 kHz	Scientific, medicinal
15	40.68 MHz \pm 1.0 %	40.3 - 41.1 MHz	Industrial, scientific
16	40.68 MHz \pm 0.05 %	40.66 - 40.70 MHz	Medicinal
17	81.36 MHz \pm 1.0 %	80.6 - 82.2 MHz	Industrial
18	433.92 MHz \pm 0.2 %	433.05 - 434.79 MHz	Industrial, scientific, medicinal
19	915 MHz \pm 1.4 %	902 - 928 MHz	Industrial, scientific, medicinal
20	2450 MHz \pm 2.0 %	2400 - 2500 MHz	Industrial, scientific, medicinal, household
21	5800 MHz \pm 1.3 %	5725 - 5875 MHz	Industrial, scientific, medicinal
22	24.125 GHz \pm 0.5 %	24.0 - 24.25 GHz	Industrial, scientific, medicinal
23	42.3 GHz \pm 2.5 %	41.3 - 43.4 GHz	Industrial, scientific, medicinal
24	46.2 GHz \pm 2.5 %	45.0 - 47.4 GHz	Industrial, scientific, medicinal
25	48.4 GHz \pm 2.5 %	47.2 - 49.6 GHz	Industrial, scientific, medicinal
26	61.25 GHz \pm 0.4 %	61.0 - 61.5 GHz	Industrial, scientific, medicinal
27	122.5 GHz \pm 0.4 %	122.0 - 123.0 GHz	Industrial, scientific, medicinal
28	245 GHz \pm 0.4 %	244.0 - 246.0 GHz	Industrial, scientific, medicinal

Order of frequency use

1. Frequencies indicated in the table are designated for use in high frequency industrial, scientific, medicinal and household applications on a secondary basis without getting decisions on allocation of these frequencies under the following conditions:
 - high frequency applications shall correspond to Norms on permitted levels of industrial interference;
 - high frequency applications, on which Norms on permitted levels of industrial interference are not established, shall not cause interference to radioelectronic applications.

2. On necessity to use frequencies other than those indicated in the table, it is necessary to get a decision following procedure in force, except for those frequencies used in high frequency applications to which power on the load is less than 5 W without open radiation.
3. Frequency $81.36 \text{ MHz} \pm 1\%$ could be used in high frequency applications under condition that value of interference field from these applications will not exceed 46 dB relative to 1 mkV at the distance of 30 m from the installation.
4. This table does not abrogate decisions granted earlier for designing, manufacturing and purchasing abroad of in high frequency industrial, scientific, medicine and household applications, which are using frequencies and permitted deviations other than those mentioned in the table.

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* Industrial, scientific and medicinal application (of radio frequency energy): It is work of equipment or devices, which are designated for generation and local utilization of radio frequency energy for industrial, scientific, medicinal, household or similar purposes, except telecommunications.

List of abbreviations

WARC-92	- World Administrative Conference 1992
WRC-(97)	- World Radiocommunication Conference 1997 (or other year)
CEPT	- European Conference of Postal and Telecommunications Administrations
CSFR	- State Commission on Radio Frequencies at the Government of the Republic of Moldova
DECT	- Digital European Cordless Telecommunication System
GMDSS	- Global Maritime Distress and Safety system
GSM	- Global System for Mobile Communications
IMT-2000	- International Mobile Telecommunications
ISM	- Industrial, Scientific and Medical applications
MMDS, MVDS	- Multimedia distribution system, Multipoint video distribution system
MRE	- Radioelectronic applications
MTC	- Ministry of Transport and Communications of the Republic of Moldova
S-PCS	- Satellite Personal Communication System
SECAM	- Color television system
ITU	- International Telecommunication Union
UMTS	- Universal Mobile Telecommunication System