THE UNITED REPUBLIC OF TANZANIA

TANZANIA COMMUNICATIONS REGULATORY AUTHORITY

ISO 9001:2015 CERTIFIED

NATIONAL FREQUENCY ALLOCATION TABLE

VERSION 2017

Table of Contents

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List of Abbreviations

AM	Amplitude Modulation
BS	Broadcasting Service
BSS	Broadcasting Satellite Service
E-GSM	Extended Global System for Mobile Communications
EHF	Extra High Frequency (30 GHz – 300 GHz)
FM	Frequency Modulation
FS	Fixed Service
FSS	Fixed Satellite Service
FWA	Fixed Wireless Access
FWS	Fixed Wireless Systems
GHz	gigahertz, 10^9 hertz (cycles per second)
GPS	Global Positioning System
GSM	Global System for Mobile Communications
HDFS	High Density Fixed Service
HDFSS	High Density Fixed Satellite Service
HF High	Frequency (3 MHz – 30 MHz)
ILS	Instrument Landing System (Not used anywhere in the document)
ISM	Industrial, Scientific and Medical
kHz	kilohertz, 10^3 hertz (cycles per second)
IMT	International Mobile Telecommunications
ITU	International Telecommunication Union
ITU-R	ITU Radiocommunication Sector
LF	Low Frequency (30 kHz – 300 kHz)
LMSS	Land Mobile Satellite Service
MF	Medium Frequency (300 kHz – 3 MHz)
MHz	megahertz, 10^6 hertz (cycles per second)

MS	Mobile Service
MSS	Mobile Satellite Service
NFAT	National Frequency Allocation Table
RF	Radio Frequency
Tx	Transmitter
UMTS	Universal Mobile Telecommunications System
UHF	Ultra High Frequency (300 MHz – 3 GHz)
VHF	Very High Frequency (30 – 300 MHz)
VLF	Very Low Frequency (9 kHz – 30 kHz)
VSAT	Very Small Aperture Terminal
WRC	World Radiocommunication Conference
WiMAX	Worldwide Interoperability for Microwave Access
WLAN	Wireless Local Area Network

1. Introduction

The National Frequency Allocation Table (NFAT) specifies purposes for which various frequency bands may be used in the United Republic of Tanzania. The Table, however, does not present any right for a frequency band use (or a specific frequency). The use of radio frequency in the United Republic of Tanzania requires Authorization from Tanzania Communication Regulatory Authority which has been mandated to manage spectrum resource under TCRA Act, 2003 and Electronic and Postal Communications Act, 2010.

The National Frequency Allocation Table has been developed in conformity with the International Telecommunications Union (ITU) Radio Regulations, 2016 governing radio spectrum and regional agreements concluded or acceded to TCRA, considering the existing and future requirements of the radio frequencies in the United Republic of Tanzania.

The objective of developing the National Frequency Allocation Table is to provide the framework for the allocation of radio frequencies to various Radiocommunications services to be used by Government and non-Government entities in the United Republic of Tanzania.

2. Amendments

The NFAT may be amended whenever necessary as a result of changes in the ITU radio regulations made by the World Radiocommunication Conference (WRC), Regional Agreements, Public Interests or change in Spectrum Licensing Policy.

3. General Terms

3.1 Administration

Any governmental department or service responsible for discharging the obligations undertaken in the Constitution of the International Telecommunication Union, in the Convention of the International Telecommunication Union and in the Administrative Regulations.

3.2 Coordinated Universal Time (UTC)

Time scale, based on the second (SI), as described in Resolution 655 (WRC-15).

3.3 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.

3.4 Radio

A general term applied to the use of radio waves.

3.5 Radio astronomy

Astronomy based on the reception of radio waves of cosmic origin.

3.6 Radio direction-finding

Radiodetermination using the reception of radio waves for the purpose of determining the direction of a station or object.

3.7 Radio waves or hertzian waves

Electromagnetic waves of frequencies arbitrarily lower than 3000 GHz, propagated in space without artificial guide.

3.8 Radiocommunication

Telecommunication by means of radio waves.

3.9 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.

3.10 Radiolocation

Radiodetermination used for purposes other than those of radionavigation.

3.11 Radionavigation

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

3.12 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.

3.13 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.

3.14 Terrestrial radiocommunication

Any radiocommunication other than space radiocommunication or radio astronomy.

4. Specific Terms Related to Frequency Management

4.1 Allocation (of a frequency band)

Refers to 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.

4.2 Allotment (of a radio frequency or radio frequency channel)

Refers to 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.

4.3 Assignment (of a radio frequency or radio frequency channel)

Refers to authorization given by an administration for a radio.

5. Classification of Radiocommunication Services

The allocation of frequencies shall be classified in accordance with the following services:

5.1 Aeronautical Fixed Service

Such term shall refer to a radiocommunication service between specified fixed points. It is provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air transportation.

5.2 Aeronautical Mobile Service

Such term shall refer to a mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate; emergency position-indicating radio beacon stations may also participate in this service on designated distress and emergency frequencies.

5.3 Aeronautical Mobile-Satellite Service

Such term shall refer to a mobile-satellite service in which mobile earth stations are located on board aircraft. Survival craft stations and emergency position-indicating radio beacon stations may also participate in this service.

5.4 Aeronautical Radionavigation Satellite Service

Such term shall refer to a radio-navigation satellite service in which earth stations are located in the aircraft.

5.5 Aeronautical Radionavigation Service

Such term shall refer to a radionavigation service intended for the benefit and the safe operation of aircraft.

5.6 Amateur Service

Such term shall refer to 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 personal aim and without pecuniary interest.

5.7 Amateur - Satellite Service

Such term shall refer to a radiocommunication service using space stations on earth satellites for the same purposes as those of the amateur service.

5.8 Broadcasting Service

Such term shall refer to a radiocommunication service in which the transmission is intended for direct reception by the general public. This service may include sound transmissions, television transmissions or other types of transmission.

5.9 Broadcasting-Satellite Service

Such term shall refer to 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.

5.10 Earth Exploration-Satellite Service

Such term shall refer to a radiocommunication service between earth stations and one or more space stations, it may include links between space stations. This service shall include the following:

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

(2) Similar data is collected from air or earth-based stations;

(3) Such data can be distributed to earth stations within the system concerned;

(4) Base station interrogation may be included.

5.11 Fixed Service

Such term shall refer to a radiocommunication service between specified fixed points.

5.12 Fixed-Satellite Service

Such term shall refer to a radiocommunication service between earth stations at given positions, when one or more satellites are used 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.

5.13 Inter-Satellite Service

Such term shall refer to a radiocommunication service for links between artificial satellites.

5.14 Land Mobile Service

Such term shall refer to a mobile service between base stations and land mobile stations, or between land mobile stations.

5.15 Land Mobile-Satellite Service

Such term shall refer to a mobile-satellite service in which mobile earth stations are located on land.

5.16 Maritime Mobile Service

Such term shall refer to 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 radio beacon stations may also participate in this service.

5.17 Maritime Mobile-Satellite Service

Such term shall refer to a mobile-satellite service in which mobile earth stations are located on board ships. Survival craft stations and emergency position-indicating radio beacon stations may also participate in this service.

5.18 Maritime Radionavigation Satellite Service

Such term shall refer to a radionavigation satellite service in which earth stations are located on board ships.

5.19 Maritime Radionavigation Service

Such term shall refer to a radionavigation service intended for the benefit and the safe operation of ships.

5.20 Meteorological Aids Service

Such term shall refer to a radiocommunication service used for meteorological (including hydrological) observation and exploration.

5.21 Meteorological-Satellite Service

Such term shall refer to an earth exploration-satellite service for meteorological purposes.

5.22 Mobile Service

Such term shall refer to a radiocommunication service between mobile and land stations, or between mobile stations.

5.23 Mobile-Satellite Service

Such term shall refer to the following services:

(1) A radiocommunication service between mobile earth stations and one or more space stations, or between space stations used by this service.

(2) A radiocommunication service executed between mobile earth stations by means of one or more space stations. This service may also include feeder links necessary for its operation.

5.24 Port Operations Service

Such term shall refer to 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, the communication for safety in case of emergency. Some communications which are correspondence nature shall be excluded from this service.

5.25 Radio Astronomy Service

Such term shall refer to a radiocommunication service involving the use of radio astronomy.

5.26 Radiodetermination Service

Such term shall refer to a radiocommunication service for the purpose of radiodetermination.

5.27 Radiodetermination-Satellite Service

Such term shall refer to a radiocommunication service for the purpose of radiodetermination involving the use of one or more space stations.

5.28 Radiolocation Service

Such term shall refer to a radiodetermination service for the purpose of radiolocation.

5.29 Radionavigation Satellite Service

Such term shall refer to a radiodetermination satellite service for the purpose of radionavigation.

5.30 Radionavigation Service

Such term shall refer to a radiodetermination service for the purpose of radionavigation.

5.31 Safety Service

Such term shall refer to a radiocommunication service used for the safeguarding of human life and property permanently or temporarily.

5.32 Ship Movement Service

Such term shall refer to a maritime mobile safety service between coast stations and ship stations, or between ship stations other than the port operations service. Its messages are restricted to those relating to the movement of ships.

5.33 Space Operation Service

Such term shall refer to 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.

5.34 Space Research Service

Such term shall refer to a radiocommunication service in which spacecraft or other objects in space are used for scientific or technological research purposes.

5.35 Special Service

Such term shall refer to a radiocommunication service, not otherwise carried on exclusively for specific needs of general utility, and not open to public correspondence.

5.36 Standard Frequency and Time Signal Service

Such term shall refer to a radiocommunication service for scientific, technical and other purposes; it provides the transmission of high precision frequencies, time signals, or both, intended for general reception.

5.37 Standard Frequency and Time Signal-Satellite Service

Such term shall refer to 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.

6. ITU's Radio Frequency Division

Band Number（N）	Band Name	Frequency Scope	Wave Length
4	VLF	3-30kHz	10,000m
5	LF	30-300 kHz	1000 m
6	MF	300-3000 kHz	100 m
7	HF	3-30MHz	10 m
8	VHF	30-300 MHz	1 m
9	UHF	300-3000 MHz	1/10 m
10	SHF	3-30GHz	1/100 m
11	EHF	30-300 GHz	1/1000 m
12	-	300-3000 GHz	1/10,000 m

Remark: Band Number（N）means band is between $0.3 * 10^n$ and $3 * 10^n$ Hz.

7. Categories of Services as Primary or Secondary

Where, in this plan, a band is indicated as allocated to more than one service, such services are listed in the following order:

(1) Services the names of which are printed in **"capital"** (example: FIXED); these are called **"primary"** services;

(2) Services the names of which are printed in **"normal characters"** (example: Mobile); these are called **"secondary"** services.

The Stations of secondary service:

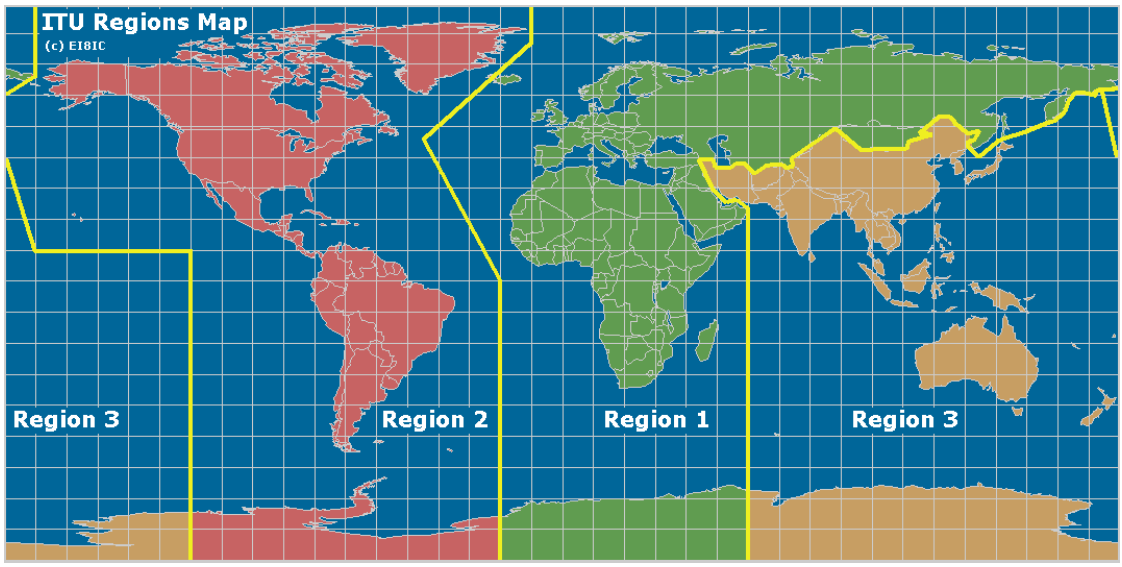
(i) shall not cause harmful interference to stations of primary service to which frequencies are already assigned or to which frequencies may be assigned at a later date;

(ii) 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;

(iii) can claim protection, however, from harmful interference from stations of the same or other secondary services(s) to which frequencies may be assigned at a later date.

8. ITU Regions of the world

For the allocation of frequencies, The ITU has divided the word into three Regions (United Republic of Tanzania is in Region 1) as shown on the following map:



9. National Table of Frequency Allocations Structure

The National Frequency Allocation Table consists of four columns:

(1) Colum 1- contains frequency bands arranged in kHz, MHz or GHz

(2) Column 2 – contains ITU allocation of frequency bands for various radiocommunication services in Region 1 and ITU-R article 5 footnotes of radio regulations relevant to Region 1.

(3) Column 3 – contains allocation of frequency bands for various radiocommunication services in Tanzania and ITU-R article 5 footnotes of Radio Regulations relevant to Tanzania.

(4) Column 4 – contains where appropriate information on the band plans, channel arrangement and the main use in Tanzania. However, the main use does not preclude other radiocommunication services allocated to the band. Other relevant information may also be included in this column.

10. National Frequency Allocation Table

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
Below 8.3 kHz	(Not allocated) 5.53 5.54	(Not allocated)	(Not allocated)
8.3-9 kHz	METEOROLOGICAL AIDS 5.54A 5.54B 5.54C	METEOROLOGICAL AIDS 5.54A	Lightning detection systems
9-11.3 kHz	METEOROLOGICAL AIDS 5.54A RADIONAVIGATION	METEOROLOGICAL AIDS 5.54A RADIONAVIGATION	Lightning detection systems Inductive short - range radiocommunications
11.3-14 kHz	RADIONAVIGATION	RADIONAVIGATION	Inductive short - range radiocommunications Radionavigational services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
14-19.95 kHz	FIXED MARITIME MOBILE 5.57 5.55 5.56	FIXED MARITIME MOBILE 5.57 5.56	Inductive short - range radiocommunications Maritime mobile communications
19.95-20.05 kHz	STANDARD FREQUENCY AND TIME SIGNAL (20kHz)	STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)	
20.05-70 kHz	FIXED MARITIME MOBILE 5.57 5.56 5.58	FIXED MARITIME MOBILE 5.57 5.56	Inductive short - range radiocommunications Maritime mobile communications
70-72 kHz	RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Inductive short - range radiocommunications Radionavigational services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
72-84 kHz	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	Inductive short - range radiocommunications Maritime mobile communications Radionavigational services
84-86 kHz	RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Inductive short - range radiocommunications Radionavigational services
86-90 kHz	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60	Inductive short - range radiocommunications Maritime mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
			Radionavigational services
90-110 kHz	RADIONAVIGATION 5.62 Fixed 5.64	RADIONAVIGATION 5.62 Fixed 5.64	Inductive short - range radiocommunications Radionavigational services
110-112 kHz	FIXED MARITIME MOBILE RADIONAVIGATION 5.64	FIXED MARITIME MOBILE RADIONAVIGATION 5.64	Inductive short - range radiocommunications Maritime mobile communications Radionavigational services
112-115 kHz	RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Inductive short - range radiocommunications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
			Radionavigational services
115-117.6 kHz	RADIONAVIGATION 5.60 Fixed Maritime mobile 5.64 5.66	RADIONAVIGATION 5.60 Fixed Maritime mobile 5.64	Inductive short - range radiocommunications Maritime mobile communications Radionavigational services
117.6-126 kHz	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	Inductive short - range radiocommunications Maritime mobile communications Radionavigational services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
126-129 kHz	RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Inductive short - range radiocommunications Radionavigational services
129-130 kHz	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	Inductive short - range radiocommunications Maritime mobile communications Radionavigational services
130-135.7 kHz	FIXED MARITIME MOBILE 5.64 5.67	FIXED MARITIME MOBILE 5.64	Inductive short - range radiocommunications Maritime mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
135.7-137.8 kHz	FIXED MARITIME MOBILE Amateur 5.67A 5.64 5.67 5.67B	FIXED MARITIME MOBILE Amateur 5.67A 5.64	Maritime mobile communications Amateur
137.8-148.5 kHz	FIXED MARITIME MOBILE 5.64 5.67	FIXED MARITIME MOBILE 5.64	Maritime mobile communications
148.5-255 kHz	BROADCASTING 5.68 5.69 5.70	BROADCASTING 5.70	Frequency assignment plan GE075 applies
255-283.5 kHz	BROADCASTING AERONAUTICAL RADIONAVIGATION 5.70 5.71	AERONAUTICAL RADIONAVIGATION 5.70	Aeronautical radionavigation service

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
283.5-315 kHz	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 5.73 5.74	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 5.73	Aeronautical radionavigation service
315-325 kHz	AERONAUTICAL RADIONAVIGATION Maritime radionavigation (radiobeacons) 5.73 5.75	AERONAUTICAL RADIONAVIGATION Maritime radionavigation (radiobeacons) 5.73	Aeronautical radionavigation service
325-405 kHz	AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Aeronautical radionavigation service

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
405-415 kHz	RADIONAVIGATION 5.76	RADIONAVIGATION 5.76	Radionavigation service
415-435 kHz	MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION	MARITIME MOBILE (radiotelegraphy) 5.79 AERONAUTICAL RADIONAVIGATION	Aeronautical radionavigation service Maritime mobile communications
435-472 kHz	MARITIME MOBILE 5.79 Aeronautical radionavigation 5.77 5.82	MARITIME MOBILE (radiotelegraphy) 5.79 Aeronautical radionavigation 5.82	Aeronautical radionavigation service Maritime mobile communications
472-479 kHz	MARITIME MOBILE 5.79 Amateur 5.80A Aeronautical radionavigation 5.77 5.80 5.80 B 5.82	MARITIME MOBILE (radiotelegraphy) Amateur 5.80A Aeronautical radionavigation 5.82	Aeronautical radionavigation service Maritime mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
479-495 kHz	MARITIME MOBILE 5.79 5.79A Aeronautical radionavigation 5.77 5.82	MARITIME MOBILE (radiotelegraphy) 5.79 5.79A Aeronautical radionavigation 5.82	Aeronautical radionavigation service Maritime mobile communications
495-505 kHz	MARITIME MOBILE	MARITIME MOBILE	Maritime mobile communications
505-526.5 kHz	MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	MARITIME MOBILE (radiotelegraphy) 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	Aeronautical radionavigation service Maritime mobile communications
526.5-1 606.5 kHz	BROADCASTING 5.87 5.87A	BROADCASTING	AM Radio broadcasting (Frequency assignment plan GE075 applies)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
1 606.5-1 625 kHz	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	Maritime mobile communications Land mobile communications
1 625-1 635 kHz	RADIOLOCATION 5.93	RADIOLOCATION	Radiolocation services
1635-1 800 kHz	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92 5.96	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	Maritime mobile communications Land mobile communications
1 800-1 810 kHz	RADIOLOCATION 5.93	RADIOLOCATION	Radiolocation services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
1 810-1 850 kHz	AMATEUR 5.98 5.99 5.100 5.101	AMATEUR	Amateur communications
1 850-2 000 kHz	FIXED MOBILE except aeronautical Mobile 5.92 5.96 5.103	FIXED MOBILE except aeronautical Mobile 5.92 5.103	Fixed/Land mobile communications
2000-2025 kHz	FIXED MOBILE except aeronautical Mobile 5.92 5.103	FIXED MOBILE except aeronautical Mobile 5.92 5.103	Fixed/Land mobile communications
2 025-2 045 kHz	FIXED MOBILE except aeronautical	FIXED MOBILE except aeronautical	Fixed/Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	mobile (R) Meteorological aids 5.104 5.92 5.103	mobile (R) Meteorological aids (oceanographic) 5.104 5.92 5.103	Oceanographic buoys
2 045-2 160 kHz	FIXED MARITIME MOBILE LAND MOBILE 5.92	FIXED MARITIME MOBILE LAND MOBILE 5.92	Maritime/Land mobile communications
2 160-2 170 kHz	RADIOLOCATION 5.93 5.107	RADIOLOCATION	Radiolocation Services
2 170-2 173.5 kHz	MARITIME MOBILE	MARITIME MOBILE	Maritime mobile communications
2 173.5-2 190.5 kHz	MOBILE (distress and calling) 5.108 5.109 5.110 5.111	MOBILE (distress and calling) 5.108 5.109 5.110 5.111	2 182 kHz is an international distress and calling frequency

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
			for radiotelephony. 2 187.5 kHz – DSC for distress and calling; Article 31 applies. 2 174.5 kHz – international distress frequency for NBDP telegraphy; Article 31 applies. Article 21 and Article 22 applies
2 190.5-2 194 kHz	MARITIME MOBILE	MARITIME MOBILE	Maritime mobile communications
2 194-2 300 kHz	FIXED MOBILE except aeronautical mobile (R) 5.92 5.103 5.112	FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	Fixed/Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
2 300-2 498 kHz	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.103	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.103	Fixed/Land mobile communications
2 498-2 501 kHz	STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)	Standard Frequency and Time Signal Services (2500 kHz)
2 501-2 502 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	Standard Frequency and Time Signal Services
2 502-2 625 kHz	FIXED MOBILE except aeronautical	FIXED MOBILE except aeronautical	Fixed/Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	mobile (R) 5.92 5.103 5.114	mobile (R) 5.92 5.103	
2 625-2 650 kHz	MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	Maritime mobile communications Navigational Aids
2 650-2 850 kHz	FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	Fixed/Land mobile communications
2 850-3 025 kHz	AERONAUTICAL MOBILE (R) 5.111 5.115	AERONAUTICAL MOBILE (R) 5.111 5.115	Aeronautical communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
3 025-3 155 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical communications
3 155-3 200 kHz	FIXED MOBILE except aeronautical mobile (R) 5.116 5.117	FIXED MOBILE except aeronautical mobile (R) 5.116	Fixed/Land mobile communications
3 200-3 230 kHz	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116	Fixed/Land mobile communications
3 230-3 400 kHz	FIXED MOBILE except aeronautical mobile BROADCASTING 5.113	FIXED MOBILE except aeronautical mobile	Fixed/Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.116 5.118	BROADCASTING 5.113 5.116	
3 400-3 500 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical communications
3 500-3 800 kHz	AMATEUR FIXED MOBILE except aeronautical Mobile 5.92	AMATEUR FIXED MOBILE except aeronautical Mobile 5.92	Amateur communications Fixed/ Land mobile communications
3 800-3 900 kHz	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	Aeronautical communications Fixed/ Land mobile communications
3 900-3 950 kHz	AERONAUTICAL MOBILE (OR) 5.123	AERONAUTICAL MOBILE (OR)	Aeronautical

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
			communications
3 950-4 000 kHz	FIXED BROADCASTING	FIXED BROADCASTING	Fixed communications
4 000-4 063 kHz	FIXED MARITIME MOBILE 5.127 5.126	FIXED MARITIME MOBILE (radiotelephone) 5.127	Fixed Maritime mobile communications
4 063-4 438 kHz	MARITIME MOBILE 5.79A 5.109 5.110 5.130 5.131 5.132 5.128	MARITIME MOBILE 5.79A 5.109 5.110 5.130 5.131 5.132 5.128	Maritime mobile communications
4 438-4 488 kHz	FIXED MOBILE except aeronautical mobile (R) Radiolocation 5.132A	FIXED MOBILE except aeronautical mobile (R) Radiolocation 5.132A	Fixed/ Land mobile communications Radiolocation Services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.132B		
4 488-4 650 kHz	FIXED MOBILE except aeronautical mobile (R)	FIXED MOBILE except aeronautical mobile (R)	
4 650-4 700 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical communications
4 700-4 750 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical communications
4 750-4 850 kHz	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	Fixed/ Land mobile communications Aeronautical communications
4 850-4 995 kHz	FIXED	FIXED	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	LAND MOBILE BROADCASTING 5.113	LAND MOBILE BROADCASTING 5.113	
4 995-5 003 kHz	STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)	Standard Frequency And Time Signal Services
5 003-5 005 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research	Standard Frequency And Time Signal Services
5005-5 060 kHz	FIXED BROADCASTING 5.113	FIXED BROADCASTING 5.113	Fixed communications
5060-5 250 kHz	FIXED Mobile except aeronautical mobile 5.133	FIXED Mobile except aeronautical mobile	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
5250-5 275 kHz	FIXED MOBILE except aeronautical mobile Radiolocation 5.132A 5.133A	FIXED MOBILE except aeronautical mobile Radiolocation 5.132A	Fixed/ Land mobile communications Radiolocation services
5275- 5351.5 kHz	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile	Fixed/ Land mobile communications
5351.5-5366.5 kHz	FIXED MOBILE except aeronautical mobile Amateur 5.133B	FIXED MOBILE except aeronautical mobile Amateur	Fixed/ Land mobile communications Amateur services
5366.5-5 450 kHz	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		mobile	
5 450-5 480 kHz	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	Fixed/ Land mobile communications Aeronautical communications
5 480-5 680 kHz	AERONAUTICAL MOBILE (R) 5.111 5.115	AERONAUTICAL MOBILE (R) 5.111 5.115	Aeronautical communications
5 680-5 730 kHz	AERONAUTICAL MOBILE (OR) 5.111 5.115	AERONAUTICAL MOBILE (OR) 5.111 5.115	Aeronautical communications
5 730-5 900 kHz	FIXED LAND MOBILE	FIXED LAND MOBILE	Fixed/ Land mobile communications
5 900-5 950 kHz	BROADCASTING 5.134 5.136	BROADCASTING 5.134 5.136	HF sound broadcasting

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
5 950-6 200 kHz	5 950-6 200 kHz BROADCASTING	5 950-6 200 kHz BROADCASTING	HF sound broadcasting
6 200-6 525 kHz	MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137	MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137	Maritime mobile communications
6 525-6 685 kHz	AERONAUTICAL MOBILE (R)	6 525-6 685 kHz AERONAUTICAL MOBILE (R)	Aeronautical communications
6 685-6 765 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical communications
6 765-7 000 kHz	FIXED MOBILE except aeronautical mobile (R) 5.138	FIXED MOBILE except aeronautical mobile (R) 5.138	ISM band limited to 6765-6795 kHz
7 000-7 100 kHz	AMATEUR AMATEUR-SATELLITE 5.140 5.141 5.141A	AMATEUR AMATEUR-SATELLITE	Amateur communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
7 100-7 200 kHz	AMATEUR 5.141A 5.141B	AMATEUR	Amateur communications
7 200-7 300 kHz	BROADCASTING	BROADCASTING	HF sound broadcasting
7300-7400 kHz	BROADCASTING 5.134 5.143 5.143A 5.143B 5.143C 5.143D	BROADCASTING 5.134 5.143 5.143B	HF sound broadcasting
7400-7450 kHz	BROADCASTING 5.143B 5.143C	BROADCASTING 5.143B	HF sound broadcasting
7 450-8 100 kHz	FIXED MOBILE except aeronautical mobile (R) 5.144	FIXED MOBILE except aeronautical mobile (R)	Fixed/ Land mobile communications
8 100-8 195 kHz	FIXED MARITIME MOBILE	FIXED MARITIME MOBILE	Fixed communications Maritime mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
8 195-8 815 kHz	MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111	MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111	Maritime mobile communications
8 815-8 965 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical communications
8 965-9 040 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical communications
9 040-9 305 kHz	FIXED	FIXED	Fixed communications
9 305-9 355 kHz	FIXED Radiolocation 5.145A 5.145B	FIXED Radiolocation (oceanographic radars) 5.145A	Fixed communications Radiolocation services
9 355-9 400 kHz	FIXED	FIXED	Fixed communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
9400-9500 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	HF sound broadcasting
9 500-9 900 kHz	BROADCASTING 5.147	BROADCASTING 5.147	HF sound broadcasting
9 900-9 995 kHz	FIXED	FIXED	Fixed communications
9 995-10 003 kHz	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 5.111	Standard Frequency and Time Signal Services
10 003-10 005 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	Standard Frequency and Time Signal Services
10 005-10 100 kHz	AERONAUTICAL MOBILE (R) 5.111	AERONAUTICAL MOBILE (R) 5.111	Aeronautical communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
10 100-10 150 kHz	FIXED Amateur	FIXED Amateur	Fixed communications Amateur communications
10 150-11 175 kHz	FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)	Fixed/ Land mobile communications
11 175-11 275 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical communications
11 275-11 400 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical communications
11 400-11 600 kHz	FIXED	FIXED	Fixed communications
11 600-11 650 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	HF sound broadcasting

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
11 650-12 050 kHz	BROADCASTING 5.147	BROADCASTING 5.147	HF sound broadcasting
12 050-12 100 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	HF sound broadcasting
12 100-12 230 kHz	FIXED	FIXED	Fixed communications
12 230-13 200 kHz	MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132 5.145	Maritime mobile communications
13 200-13 260 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical communications
13 260-13 360 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical communications
13 360-13 410 kHz	FIXED	FIXED	Fixed communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	RADIO ASTRONOMY 5.149	RADIO ASTRONOMY 5.149	Radio Astronomy
13 410-13 450 kHz	FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)	Fixed/ Land mobile communications
13 450-13 550 kHz	FIXED Mobile except aeronautical mobile (R) Radiolocation 5.132A 5.149A	FIXED Mobile except aeronautical mobile (R) Radiolocation 5.132A	Fixed/ Land mobile communications Radiolocation services
13 550-13 570 kHz	FIXED Mobile except aeronautical mobile (R) 5.150	FIXED Mobile except aeronautical mobile (R) 5.150	Fixed/ Land mobile communications
13 570-13 600 kHz	BROADCASTING 5.134 5.151	BROADCASTING 5.134 5.151	HF sound broadcasting

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
13 600-13 800 kHz	BROADCASTING	BROADCASTING	HF sound broadcasting
13 800-13 870 kHz	BROADCASTING 5.134 5.151	BROADCASTING 5.134 5.151	HF sound broadcasting
13 870-14 000 kHz	FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)	Fixed/ Land mobile communications
14 000-14 250 kHz	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	Amateur communications
14 250-14 350 kHz	AMATEUR 5.152	AMATEUR	Amateur communications
14 350-14 990 kHz	FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
14 990-15 005 kHz	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 5.111	Standard Frequency and Time Signal Services
15 005-15 010 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research	Standard Frequency and Time Signal Services
15 010-15 100 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical communications
15 100-15 600 kHz	BROADCASTING	BROADCASTING	HF sound broadcasting
15 600-15 800 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	HF sound broadcasting
15 800-16 100 kHz	FIXED 5.153	FIXED	Fixed communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
16 100-16 200 kHz	FIXED Radiolocation 5.145A 5.145B	FIXED Radiolocation 5.145A	Fixed communications Radiolocation services
16 200-16 360 kHz	FIXED	FIXED	Fixed communications
16 360-17 410 kHz	MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132 5.145	Maritime mobile communications
17 410-17 480 kHz	FIXED	FIXED	Fixed communications
17 480-17 550 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	HF sound broadcasting
17 550-17 900 kHz	BROADCASTING	BROADCASTING	HF sound broadcasting

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
17 900-17 970 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical communications
17 970-18 030 kHz	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Aeronautical communications
18 030-18 052 kHz	FIXED	FIXED	Fixed communications
18 052-18 068 kHz	FIXED Space research	FIXED Space research	Fixed communications
18 068-18 168 kHz	AMATEUR AMATEUR-SATELLITE 5.154	AMATEUR AMATEUR-SATELLITE	Amateur services
18 168-18 780 kHz	FIXED Mobile except aeronautical mobile	FIXED Mobile except aeronautical mobile	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
18 780-18 900 kHz	MARITIME MOBILE	MARITIME MOBILE	Maritime mobile communications
18 900-19 020 kHz	BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	HF sound broadcasting
19 020-19 680 kHz	FIXED	FIXED	Fixed communications
19 680-19 800 kHz	MARITIME MOBILE 5.132	MARITIME MOBILE 5.132	Maritime mobile communications
19 800-19 990 kHz	FIXED	FIXED	Fixed communications
19 990-19 995 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	Standard Frequency and Time Signal Services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
19 995-20 010 kHz	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 5.111	Standard Frequency and Time Signal Services
20 010-21 000 kHz	FIXED	FIXED	Fixed communications
21 000-21 450 kHz	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	Amateur services
21 450-21 850 kHz	BROADCASTING	BROADCASTING	HF sound broadcasting
21 850-21 870 kHz	FIXED 5.155A 5.155	FIXED	Fixed communications
21 870-21 924 kHz	FIXED 5.155B	FIXED 5.155B	Fixed communications
21 924-22 000 kHz	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	Aeronautical

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
			communications
22 000-22 855 kHz	MARITIME MOBILE 5.132 5.156	MARITIME MOBILE 5.132	Maritime mobile communications
22 855-23 000 kHz	FIXED 5.156	FIXED 5.156	Fixed communications
23 000-23 200 kHz	FIXED Mobile except aeronautical mobile (R) 5.156	FIXED Mobile except aeronautical mobile (R)	Fixed/ Land mobile communications
23 200-23 350 kHz	FIXED 5.156A AERONAUTICAL MOBILE (OR)	FIXED (flight safety) 5.156A AERONAUTICAL MOBILE (OR)	Aeronautical communications
23 350-24 000 kHz	FIXED MOBILE except aeronautical mobile 5.157	FIXED MOBILE except aeronautical mobile 5.157	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
24 000-24 450 kHz	FIXED LAND MOBILE	FIXED LAND MOBILE	Fixed/ Land mobile communications
24 450-24 600 kHz	FIXED LAND MOBILE Radiolocation 5.132A 5.158	FIXED LAND MOBILE Radiolocation 5.132A	Fixed/ Land mobile communications Radiolocation services
24 600-24 890 kHz	FIXED LAND MOBILE	FIXED LAND MOBILE	Fixed/ Land mobile communications
24 890-24 990 kHz	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	Amateur communications
24 990-25 005 kHz	STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)	Standard Frequency and Time Signal Services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
25 005-25 010 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research	Standard Frequency and Time Signal Services
25 010-25 070 kHz	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile	Fixed/ Land mobile communications
25 070-25 210 kHz	MARITIME MOBILE	MARITIME MOBILE	Maritime mobile communications
25 210-25 550 kHz	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile	Fixed/ Land mobile communications
25 550-25 670 kHz	RADIO ASTRONOMY 5.149	RADIO ASTRONOMY 5.149	Radio Astronomy

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
25 670-26 100 kHz	BROADCASTING	BROADCASTING	HF sound broadcasting
26 100-26 175 kHz	MARITIME MOBILE 5.132	MARITIME MOBILE 5.132	Maritime mobile communications
26 175-26 200 kHz	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile	Fixed/ Land mobile communications
26 200-26 350 kHz	FIXED MOBILE except aeronautical mobile Radiolocation 5.132A 5.133A	FIXED MOBILE except aeronautical mobile Radiolocation 5.132A	Fixed/ Land mobile communications Radiolocation services
26 350-27 500 kHz	FIXED	FIXED	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	MOBILE except aeronautical Mobile 5.150	MOBILE except aeronautical Mobile 5.150	
27.5-28 MHz	METEOROLOGICAL AIDS FIXED MOBILE	METEOROLOGICAL AIDS FIXED MOBILE	Metrological Aids Fixed/ Land mobile communications
28-29.7 MHz	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	Amateur communications
29.7-30.005 MHz	FIXED MOBILE	FIXED MOBILE	Fixed/ Land mobile communications
30.005-30.01 MHz	SPACE OPERATION (satellite identification) FIXED MOBILE	SPACE OPERATION (satellite identification) FIXED	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	SPACE RESEARCH	MOBILE SPACE RESEARCH	
30.01-37.5 MHz	FIXED MOBILE	FIXED MOBILE	Fixed/ Land mobile communications
37.5-38.25 MHz	FIXED MOBILE Radio astronomy 5.149	FIXED MOBILE Radio astronomy 5.149	Fixed/ Land mobile communications Radio astronomy
38.25-39 MHz	FIXED MOBILE	FIXED MOBILE	Fixed/ Land mobile communications
39-39.5 MHz	FIXED MOBILE Radiolocation 5.132A	FIXED MOBILE Radiolocation 5.132A	Fixed/ Land mobile communications Radiolocation Services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.159		
39.5-39.986 MHz	FIXED MOBILE	FIXED MOBILE	Fixed/ Land mobile communications
39.986-40.02 MHz	FIXED MOBILE Space research	FIXED MOBILE Space research	Fixed/ Land mobile communications
40.02-40.98 MHz	FIXED MOBILE 5.150	FIXED MOBILE 5.150	ISM band limited to 40.66-40.70 MHz
40.98-41.015 MHz	FIXED MOBILE Space research 5.160 5.161	FIXED MOBILE Space research	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
41.015-42 MHz	FIXED MOBILE 5.160 5.161 5.161A	FIXED MOBILE	Fixed/ Land mobile communications
42-42.5 MHz	FIXED MOBILE Radiolocation 5.132A 5.160 5.161B	FIXED MOBILE Radiolocation 5.132A	Fixed/ Land mobile communications Radiolocation services
42.5-44 MHz	FIXED MOBILE 5.160 5.161 5.161A	FIXED MOBILE	Fixed/ Land mobile communications
44-47 MHz	FIXED MOBILE 5.162 5.162A	FIXED MOBILE	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
47-68 MHz	BROADCASTING 5.162A 5.163 5.164 5.165 5.169 5.171	BROADCASTING FIXED MOBILE except aeronautical mobile 5.165	HF sound broadcasting Fixed/ Land mobile communications
68-74.8 MHz	FIXED MOBILE except aeronautical mobile 5.149 5.175 5.177 5.179	FIXED MOBILE except aeronautical Mobile 5.149	Fixed/ Land mobile communications
74.8-75.2 MHz	AERONAUTICAL RADIONAVIGATION 5.180 5.181	AERONAUTICAL RADIONAVIGATION 5.180	Aeronautical Radionavigation services
75.2-87.5 MHz	FIXED MOBILE except aeronautical	FIXED MOBILE except aeronautical	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	Mobile 5.175 5.179 5.187	Mobile	
87.5-100 MHz	BROADCASTING 5.190	BROADCASTING	FM Radio broadcasting (in accordance to GE 84 agreement)
100-108 MHz	BROADCASTING 5.192 5.194	BROADCASTING	FM Radio broadcasting (in accordance to GE 84 agreement)
108-117.975 MHz	AERONAUTICAL RADIONAVIGATION 5.197 5.197A	AERONAUTICAL RADIONAVIGATION 5.197A	Aeronautical Radionavigation services
117.975-137 MHz	AERONAUTICAL MOBILE (R) 5.111 5.200 5.201 5.202	AERONAUTICAL MOBILE (R) 5.111 5.200	117.975-121.450 MHz Aeronautical mobile communications (Safety and regularity of flights)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
			121.450-121.550 MHz International Distress Frequency (121.5 MHz) (EPIRBs at 121.5 MHz ITU RR Article 31 applies)
			121.550-137.000 MHz Aeronautical mobile communications (123.1 MHz - auxiliary emergency frequency)
137-137.025 MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space-to-Earth) Fixed	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.208B 5.209	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	Mobile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208	SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.208	
137.025-137.175 MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.209 5.204 5.205 5.206 5.207 5.208	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.209 5.208	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
137.175-137.825 MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.208	Fixed/ Land mobile communications
137.825-138 MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth)	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	Mobile except aeronautical mobile (R) 5.206 5.207 5.208 Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.209 5.204 5.205 5.206 5.207 5.208	SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.209 5.208	
138-143.6 MHz	AERONAUTICAL MOBILE (OR) 5.210 5.211 5.212 5.214	AERONAUTICAL MOBILE (OR) MARITIME MOBILE MOBILE FIXED 5.211 5.214	Aeronautical communications Fixed/ Land mobile communications Maritime mobile communications
143.6-143.65 MHz	AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space-to-Earth)	AERONAUTICAL MOBILE (OR) SPACE RESEARCH MARITIME MOBILE	Aeronautical communications Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.211 5.212 5.214	MOBILE FIXED (space-to-Earth)5.211 5.214	Maritime mobile communications
143.65-144 MHz	AERONAUTICAL MOBILE (OR) 5.210 5.211 5.212 5.214	AERONAUTICAL MOBILE (OR) MARITIME MOBILE MOBILE FIXED 5.211 5.214	Aeronautical communications Fixed/ Land mobile communications Maritime mobile communications
144-146 MHz	AMATEUR AMATEUR-SATELLITE 5.216	AMATEUR AMATEUR-SATELLITE	Amateur services
146-148 MHz	FIXED MOBILE except aeronautical mobile (R)	FIXED MOBILE except aeronautical mobile (R)	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
148-149.9MHz	FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 5.221	FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 5.221	Fixed/ Land mobile communications Mobile satellite communications (little LEO)
149.9-150.05 MHz	MOBILE-SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.224B 5.220 5.222 5.223	MOBILE-SATELLITE (Earth-to-space) 5.209 RADIONAVIGATION-SATELLITE 5.224B 5.220 5.222 5.223	Mobile satellite communications (little LEO)
150.05-153 MHz	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
153-154 MHz	FIXED MOBILE except aeronautical mobile (R) Meteorological aids	FIXED MOBILE except aeronautical mobile (R) Meteorological aids	Fixed/ Land mobile communications Metrological services
154-156.4875 MHz	FIXED MOBILE except aeronautical mobile (R) 5.225A 5.226 5.227	FIXED MOBILE except aeronautical mobile (R) 5.226 5.227	Fixed/ Land mobile communications
156.4875-156.5625 MHz	MARITIME MOBILE (distress and calling via DSC) 5.111 5.226 5.227	MARITIME MOBILE (distress and calling via DSC) 5.111 5.226 5.227	156.00-156.4875 MHz Maritime mobile communications (Ship stations) Land mobile in areas remote from coast
156.5625-156.7625 MHz	FIXED MOBILE except aeronautical mobile (R)	FIXED MOBILE except aeronautical mobile (R)	156.5625-156.7625 MHz Maritime mobile communications. Land mobile in areas

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.226	5.226	remote from coast.
156.7625-156.7875 MHz	MARITIME MOBILE Mobile-satellite (Earth-to-space) 5.111 5.226 5.228	MARITIME MOBILE Mobile-satellite (Earth-to-space) 5.111 5.226 5.228	International distress, safety and calling frequency at 156.8 MHz for the maritime mobile VHF radiotelephone service.
156.7875-156.8125 MHz	MARITIME MOBILE (distress and calling) 5.111 5.226	MARITIME MOBILE (distress and calling) 5.111 5.226	Maritime communications
156.8125-156.8375 MHz	MARITIME MOBILE Mobile-satellite (Earth-to-space) 5.111 5.226 5.228	MARITIME MOBILE Mobile-satellite (Earth-to-space) 5.111 5.226 5.228	Maritime communications
156.8375-161.9375 MHz	FIXED MOBILE except aeronautical mobile 5.226	FIXED MOBILE except aeronautical mobile	156.8375-157.45 MHz Maritime mobile communications (ship stations). Land mobile in areas

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		5.226	remote from coast.
			157.450-160.6 MHz PMR and/or PAMR
			160.600-160.975 MHz Maritime mobile communications (Coast stations). Land mobile in areas remote from coast.
			160.975-161.475 MHz PMR and/or PAMR
			161.475-162.050 MHz Maritime mobile communications (Coast stations) Land mobile in areas remote from coast

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
			Automatic Identification System (AIS) (161.975 MHz and 162.025 MHz)
			PMR and/or PAMR (162.050-174 MHz)
161.9375-161.9625 MHz	FIXED MOBILE except aeronautical mobile Maritime mobile-satellite (Earth-to-space) 5.228AA 5.226	FIXED MOBILE except aeronautical mobile 5.226	PMR/PAMR Maritime Communications
161.9625-161.9875 MHz	FIXED MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space)	FIXED MOBILE except aeronautical mobile	Band 161.9625-161.9875 MHz is limited to the reception of automatic identification system

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.228F 5.226 5.228A 5.228B	Mobile-satellite (Earth-to-space) 5.228F	emissions from stations operating in the maritime mobile service.
161.9875-162.0125 MHz	FIXED MOBILE except aeronautical mobile Maritime mobile-satellite (Earth-to-space) 5.228AA 5.226 5.229	FIXED MOBILE except aeronautical mobile	Fixed/ Land mobile communications
162.0125-162.0375 MHz	FIXED MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.228F 5.226 5.228A 5.228B 5.229	FIXED MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.228F 5.226 5.228A 5.228B	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
162.0375-174 MHz	FIXED MOBILE except aeronautical mobile 5.226 5.229	FIXED MOBILE except aeronautical mobile 5.226	Fixed/ Land mobile communications
174-223 MHz	BROADCASTING 5.235 5.237 5.243	BROADCASTING	TV Broadcasting as per GE06.
223-230 MHz	BROADCASTING Fixed Mobile 5.243 5.246 5.247	BROADCASTING Fixed Mobile	TV Broadcasting as per GE06.
230-235MHz	FIXED MOBILE 5.247 5.251 5.252	FIXED MOBILE	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
235-267 MHz	FIXED MOBILE 5.111 5.252 5.254 5.256 5.256A	FIXED MOBILE 5.111 5.254 5.256	Fixed/ Land mobile communications
267-272 MHz	FIXED MOBILE Space operation (space-to-Earth) 5.254 5.257	FIXED MOBILE Space operation (space-to-Earth) 5.254 5.257	Fixed/ Land mobile communications
272-273 MHz	SPACE OPERATION (space-to-Earth) FIXED MOBILE 5.254	SPACE OPERATION (space-to-Earth) FIXED MOBILE 5.254	Fixed/ Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
273-312 MHz	FIXED MOBILE 5.254	FIXED MOBILE 5.254	Point to point Studio to Transmitter Links (STL) within the band 290-312 MHz
312-315 MHz	FIXED MOBILE Mobile-satellite (Earth-to-space) 5.254 5.255	FIXED MOBILE Mobile-satellite (Earth-to-space) 5.254 5.255	Fixed/ Land mobile communications
315-322 MHz	FIXED MOBILE 5.254	FIXED MOBILE 5.254	Fixed/ Land mobile communications
322-328.6 MHz	FIXED MOBILE RADIO ASTRONOMY	FIXED MOBILE RADIO ASTRONOMY	Fixed/ Land mobile communications Radio astronomy services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.149	5.149	
328.6-335.4 MHz	AERONAUTICAL RADIONAVIGATION 5.258 5.259	AERONAUTICAL RADIONAVIGATION 5.258	Band 328.6-335.4 MHz is limited to Instrument Landing Systems (glide path).
335.4-387 MHz	FIXED MOBILE 5.254	FIXED MOBILE 5.254	PMR and/or PAMR (335.4-336 MHz)
			Fixed Wireless Access (336-346 MHz)
			PMR and/or PAMR (346.0-356.0 MHz)
			Fixed Wireless Access (356.0-366.0 MHz)
			PMR and/or PAMR (366.0-380.0 MHz)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
			PPDR (380.0-385.0 MHz)
387-390 MHz	FIXED MOBILE Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.254 5.255	FIXED MOBILE Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.254 5.255	PMR and/or PAMR (387.0-390.0 MHz)
390-399.9 MHz	FIXED MOBILE 5.254	FIXED MOBILE 5.254	PPDR (390.0-395.0 MHz) PMR and/or PAMR (395.0-399.9 MHz)
399.9-400.05 MHz	MOBILE-SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.222 5.224B 5.260 5.220	MOBILE-SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION-SATELLITE 5.222 5.224B 5.260 5.220	Mobile satellite services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
400.05-400.15 MHz	STANDARD FREQUENCY AND TIME SIGNALSATELLITE (400.1 MHz) 5.261 5.262	STANDARD FREQUENCY AND TIME SIGNALSATELLITE (400.1 MHz) 5.261	Standard Frequency and Time Signal Satellite Services (400.1 MHz)
400.15-401 MHz	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space-to-Earth) 5.263 Space operation (space-to-Earth) 5.262 5.264	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space-to-Earth) 5.263 Space operation (space-to-Earth) 5.264	
401-402 MHz	METEOROLOGICAL AIDS	METEOROLOGICAL AIDS	Meteorological Aids (Weather satellite)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	SPACE OPERATION (space-to-Earth) EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	SPACE OPERATION (space-to-Earth) 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	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	Meteorological Aids (Weather satellite)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
403-406 MHz	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile 5.265	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile	Meteorological Aids Fixed/ Land mobile communications
406-406.1 MHz	MOBILE-SATELLITE (Earth-to-space) 5.265 5.266 5.267	MOBILE-SATELLITE (Earth-to-space) 5.266 5.267	Mobile Satellite Services
406.1-410 MHz	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149 5.265	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY	Fixed/ Land mobile communications Radio astronomy services
410-420 MHz	FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile	Fixed/ Land mobile communication

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	SPACE RESEARCH (space-to-space) 5.268	SPACE RESEARCH (space-to-space) 5.268	
420-430 MHz	FIXED MOBILE except aeronautical mobile Radiolocation 5.269 5.270 5.271	FIXED MOBILE except aeronautical mobile Radiolocation	Fixed/ Land mobile communications Radiolocation Services
430-432 MHz	AMATEUR RADIOLOCATION 5.271 5.274 5.275 5.276 5.277	FIXED MOBILE except aeronautical mobile AMATEUR RADIOLOCATION	Fixed/ Land mobile communications Amateur Communications Radiolocation Services
432-438 MHz	AMATEUR RADIOLOCATION Earth exploration-satellite (active) 5.279A 5.138 5.271 5.276 5.277 5.280 5.281 5.282	FIXED MOBILE except aeronautical mobile AMATEUR	Fixed/ Land mobile communications Amateur Communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		RADIOLOCATION Earth exploration-satellite (active) 5.138	Radiolocation Services
438-440 MHz	AMATEUR RADIOLOCATION 5.271 5.274 5.275 5.276 5.277 5.283	FIXED MOBILE except aeronautical mobile AMATEUR RADIOLOCATION	Fixed/ Land mobile communications Amateur Communications Radiolocation Services
440-450 MHz	FIXED MOBILE except aeronautical mobile Radiolocation 5.269 5.270 5.271 5.286	FIXED MOBILE except aeronautical mobile Radiolocation 5.286	Fixed/ Land mobile communications Amateur Communications Radiolocation Services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
450-455 MHz	FIXED MOBILE 5.286AA 5.209 5.271 5.286 5.286A 5.286B 5.286C 5.286D 5.286E	FIXED MOBILE 5.286AA 5.209 5.286 5.286A	International mobile telecommunications systems (IMT)
455-456 MHz	FIXED MOBILE 5.286AA 5.209 5.271 5.286A 5.286B 5.286C 5.286E	FIXED MOBILE 5.286AA 5.209 5.286A	International mobile telecommunication systems (IMT)
456-459 MHz	FIXED MOBILE 5.286AA 5.271 5.287 5.288	FIXED MOBILE 5.286AA 5.287	International Mobile telecommunication systems (IMT)
459-460 MHz	FIXED MOBILE 5.286AA 5.209 5.271 5.286A 5.286B 5.286C 5.286E	FIXED MOBILE 5.286AA 5.209 5.286A	International Mobile telecommunication systems (IMT)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
460-470 MHz	FIXED MOBILE 5.286AA Meteorological-satellite (space-to-Earth) 5.287 5.288 5.289 5.290	FIXED MOBILE 5.286AA Meteorological-satellite (space-to-Earth) 5.287 5.289	International Mobile telecommunication systems (IMT)
470-694 MHz	BROADCASTING 5.149 5.291A 5.294 5.296 5.300 5.304 5.306 5.311A 5.312	BROADCASTING 5.149 5.296 5.304 5.311A	Used for Digital TV broadcasting (in accordance to GE06 agreement)
694-790 MHz	FIXED MOBILE except aeronautical mobile 5.312A 5.317A BROADCASTING 5.300 5.311A 5.312	FIXED MOBILE except aeronautical mobile 5.312A 5.317A	Digital dividend band II for International mobile telecommunication systems (IMT)
790-862 MHz	FIXED	FIXED	Digital dividend band I for International mobile

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	MOBILE except aeronautical mobile 5.316B 5.317A BROADCASTING 5.312 5.319	MOBILE except aeronautical mobile 5.316B 5.317A	telecommunication systems (IMT)
862-890 MHz	FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 5.319 5.323	FIXED MOBILE except aeronautical mobile 5.317A	Mobile cellular networks
890-942 MHz	FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 Radiolocation 5.323	FIXED MOBILE except aeronautical mobile 5.317A Radiolocation	Mobile cellular networks

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
942-960 MHz	FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 5.323	FIXED MOBILE except aeronautical mobile 5.317A	Mobile cellular networks
960-1164 MHz	AERONAUTICAL MOBILE (R) 5.327A AERONAUTICAL RADIONAVIGATION 5.328 5.328AA	AERONAUTICAL MOBILE (R) 5.327A AERONAUTICAL RADIONAVIGATION 5.328	Distance measuring equipment Secondary surveillance radar
1164-1215 MHz	AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.328A	AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.328A	GPS systems-Galileo (1164-1214 MHz) GLONASS (1190.3-1213.8 MHz)
1215-1240 MHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION	EARTH EXPLORATION-SATELLITE (active)	GLONASS (1237.8-1253.8 MHz) GPS (1215.6-1239.6 MHz)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) 5.330 5.331 5.332	RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) 5.330 5.331 5.332	
1240-1300 MHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) Amateur 5.282 5.330 5.331 5.332 5.335 5.335A	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) Amateur 5.282 5.332 5.335A	GLONASS (1237.8-1253.8 MHz) Galileo (1260-1300 MHz)
1300-1350 MHz	RADIOLOCATION AERONAUTICAL	RADIOLOCATION AERONAUTICAL	ATC Radar

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	RADIONAVIGATION 5.337 RADIONAVIGATION-SATELLITE (Earth-to-space) 5.149 5.337A	RADIONAVIGATION 5.337 RADIONAVIGATION-SATELLITE (Earth-to-space) 5.149 5.337A	
1350-1400 MHz	FIXED MOBILE RADIOLOCATION 5.149 5.338 5.338A 5.339	FIXED MOBILE RADIOLOCATION 5.149 5.338A 5.339	1 353.75-1 371.25 MHz (1.4 GHz Tx Band for FWS point to point radio relay links according to ITU-R Rec F.1242).
1400-1427 MHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	Earth exploration satellite service (passive) Radio astronomy Space research (passive)
1427-1429 MHz	SPACE OPERATION (Earth-to-space) FIXED	SPACE OPERATION (Earth-to-space)	International mobile telecommunication systems (IMT)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	MOBILE except aeronautical mobile 5.341A 5.341C 5.338A 5.341	FIXED MOBILE except aeronautical mobile 5.338A 5.341	
1429-1452 MHz	FIXED MOBILE except aeronautical mobile 5.341A 5.338A 5.341 5.342	FIXED MOBILE except aeronautical mobile 5.338A 5.341 5.342	International mobile telecommunication systems (IMT)
1452-1492 MHz	FIXED MOBILE except aeronautical mobile 5.346 BROADCASTING BROADCASTING-SATELLITE 5.208B 5.341 5.342 5.345	FIXED MOBILE except aeronautical mobile 5.346 BROADCASTING BROADCASTING-SATELLITE 5.208B 5.341	International mobile telecommunication systems (IMT)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
1492-1518 MHz	FIXED MOBILE except aeronautical mobile 5.341A 5.341 5.342	FIXED MOBILE except aeronautical mobile 5.341A 5.341 5.342	International mobile telecommunication systems (IMT)
1518-1525 MHz	FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A 5.341 5.342	FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A 5.341	The band 1518-1559 MHz is identified for satellite component of IMT; Res.225 applies.
1525-1530 MHz	SPACE OPERATION (space-to-Earth) FIXED	SPACE OPERATION (space-to-Earth) FIXED	The band 1518-1559 MHz is identified for satellite component of IMT; Res.225

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A Earth exploration-satellite Mobile except aeronautical mobile 5.349 5.341 5.342 5.350 5.351 5.352A 5.354	MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A Earth exploration-satellite Mobile except aeronautical mobile 5.341 5.351 5.352A 5.354	applies.
1530-1535 MHz	SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208B 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) 5.208B 5.351A 5.353A Earth exploration-satellite Fixed Mobile except aeronautical mobile 5.341 5.351 5.354	The band 1518-1559 MHz is identified for satellite component of IMT; Res.225 applies. In the band 1530-1544 MHz priority for maritime mobile distress, urgency and safety communications (GMDSS); Res.222 applies.

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
1535-1559 MHz	MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.353A 5.354 5.355 5.356 5.357 5.357A 5.359 5.362A	MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.353A 5.354 5.355 5.356 5.357 5.357A 5.359 5.362A	The band 1518-1559 MHz is identified for satellite component of IMT; Res.225 applies. In the band 1530-1544 MHz priority for maritime mobile distress, urgency and safety communications (GMDSS); Res.222 applies.
1559-1610 MHz	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.208B 5.328B 5.329A 5.341	AERONAUTICAL-RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.208B 5.328B 5.329A 5.341	Galileo (1559.42-1591.42 MHz) GLONASS (1592.9-1610.5 MHz) GPS (1563.42-1587.42 MHz

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
1610-1610.6 MHz	MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION 5.341 5.355 5.359 5.364 5.366 5.367 5.368 5.369 5.371 5.372	MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION 5.341 5.364 5.366 5.367 5.368 5.369 5.371 5.372	GLONASS (1592.9-1610.5 MHz) The band 1610-1645.5 MHz is identified for satellite component of IMT; Res.225 applies. This band is designated world-wide for the MSS. Paired with 2483.5-2484.1 MHz for some systems.
1610.6-1613.8 MHz	MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 5.149 5.341 5.355 5.359 5.364	MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION	The band 1610-1645.5 MHz is identified for satellite component of IMT; Res.225 applies. This band is designated world-wide for the MSS. Paired with 2484.1-2487.3 MHz for some

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.366 5.367 5.368 5.369 5.371 5.372	5.149 5.341 5.355 5.364 5.366 5.367 5.368 5.371 5.372	systems.
1613.8-1626.5 MHz	MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION Mobile-satellite (space-to-Earth) 5.208B 5.341 5.355 5.359 5.364 5.365 5.366 5.367 5.368 5.369 5.371 5.372	MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION Mobile-satellite (space-to-Earth) 5.208B 5.341 5.355 5.364 5.365 5.366 5.367 5.368 5.369 5.371 5.372	The band 1610-1645.5 MHz is identified for satellite component of IMT; Res.225 applies. Paired with 1593-1594 MHz for aeronautical public correspondence

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
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	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	The bands 1610-1645.5 MHz and 1646.5-1660.5 MHz are identified for satellite component of IMT; Res.225 applies. In the band 1626.5-1645.5 MHz priority is given to maritime mobile distress, urgency and safety communications (GMDSS); Res.222 applies
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	MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149 5.341 5.351 5.354 5.362A 5.376A	The band 1610-1645.5 MHz and 1646.5-1660.5 MHz are identified for satellite component of IMT; Res.225 applies.

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
1660.5-1668 MHz	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379 5.379A	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379A	
1668-1668.4 MHz	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379 5.379A	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379A	The band 1668-1675 MHz is identified for satellite component of IMT; Res.225 applies.

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
1668.4-1670 MHz	METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY 5.149 5.341 5.379D 5.379E	METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY 5.149 5.341 5.379D 5.379E	The band 1668-1675 MHz is identified for satellite component of IMT; Res.225 applies.
1670-1675 MHz	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (Earth-to-space)	The band 1668-1675 MHz is identified for satellite component of IMT; Res.225 applies.

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.341 5.379D 5.379E 5.380A	5.351A 5.379B 5.341 5.379D 5.379E 5.380A	
1675-1690 MHz	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.341	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.341	Meteorological aids Fixed users Meteorological satellite downlink Land mobile users (Weather Satellite)
1690-1700 MHz	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile	Meteorological aids Meteorological satellite-downlink

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.289 5.341 5.382	5.289 5.341 5.382	
1700-1710 MHz	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) Mobile except aeronautical mobile 5.289 5.341	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) Mobile except aeronautical mobile 5.289 5.341	Fixed users Land mobile users Meteorological satellite users
1710-1930 MHz	FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.386 5.387 5.388	FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.388	Cellular mobile networks within 1710-1785/1805-1880 MHz and 1920 -1980
1930-1970 MHz	FIXED MOBILE 5.388A 5.388B 5.388	FIXED MOBILE 5.388A 5.388B 5.388	Cellular mobile networks within 1920 -1980 MHz

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
1970-1980 MHz	FIXED MOBILE 5.388A 5.388B 5.388	FIXED MOBILE 5.388A 5.388B 5.388	Cellular mobile networks within 1920 -1980 MHz
1980-2010 MHz	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388 5.389A 5.389B 5.389F	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388 5.389A	Fixed/Land mobile communications Maritime Satellite services (Earth stations)
2010-2025 MHz	FIXED MOBILE 5.388A 5.388B 5.388	FIXED MOBILE 5.388A 5.388B 5.388	Fixed/Land mobile communications
2025-2110 MHz	SPACE OPERATION (Earth-to-space) (space-to-space)	SPACE OPERATION (Earth-to-space) (space-to-space)	Fixed/Land mobile communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space) 5.392	EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space) 5.392	
2110-2120 MHz	FIXED MOBILE 5.388A 5.388B SPACE RESEARCH (deep space) (Earth-to-space) 5.388	FIXED MOBILE 5.388A 5.388B SPACE RESEARCH (deep space) (Earth-to-space) 5.388	Cellular mobile networks
2120-2160 MHz	FIXED MOBILE 5.388A 5.388B	FIXED MOBILE 5.388A 5.388B	Cellular mobile networks

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.388	5.388	
2 160-2 170 MHz	FIXED MOBILE 5.388A 5.388B 5.388	FIXED MOBILE 5.388A 5.388B 5.388	Cellular mobile networks
2170-2 200 MHz	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A 5.388 5.389A 5.389F	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A 5.388 5.389A	Fixed/Land mobile communications Mobile Satellite Services
2200-2290 MHz	SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED	SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED	TV point to point Studio to Transmitter Links(STL) within the band 2207.5-2277.5 MHz

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	MOBILE 5.391 SPACE RESEARCH (space-to-Earth) (space-to-space) 5.392	MOBILE 5.391 SPACE RESEARCH (space-to-Earth) (space-to-space) 5.392	
2290-2300 MHz	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth	Fixed/Land mobile communications
2300-2450 MHz	FIXED MOBILE 5.384A Amateur Radiolocation 5.150 5.282 5.395	FIXED MOBILE 5.384A Amateur Radiolocation 5.150	IMT within the band 2300-2400 MHz. Also allocated to ISM within 2400-2500 MHz

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
2450-2483.5 MHz	FIXED MOBILE Radiolocation 5.150 5.397	FIXED MOBILE Radiolocation 5.150	Allocated to ISM within 2400-2500 MHz
2483.5-2500 MHz	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIODETERMINATION SATELLITE (space-to-Earth) 5.398 Radiolocation 5.398A 5.150 5.399 5.401 5.402	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIODETERMINATION - SATELLITE (space-to-Earth) 5.398 Radiolocation 5.150 5.402	Allocated to within ISM 2400-2500 MHz

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
2500-2520 MHz	FIXED 5.410 MOBILE except aeronautical mobile 5.384A 5.412	FIXED 5.410 MOBILE except aeronautical mobile 5.384A 5.412	International mobile telecommunication systems (IMT)
2520-2655 MHz	FIXED 5.410 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 5.339 5.405 5.412 5.418B 5.418C	FIXED 5.410 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 5.339 5.405 5.412 5.418B 5.418C	International mobile telecommunication systems (IMT)
2655-2670 MHz	FIXED 5.410 MOBILE except aeronautical mobile	FIXED 5.410	International mobile telecommunication systems (IMT)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.384A BROADCASTING-SATELLITE 5.208B 5.413 5.416 Earth exploration-satellite (passive) Radio astronomy Space research (passive) 5.149 5.412	MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.208B 5.413 5.416 Earth exploration-satellite (passive) Radio astronomy Space research (passive) 5.149 5.412	
2670-2690 MHz	FIXED 5.410 MOBILE except aeronautical mobile 5.384A Earth exploration-satellite (passive) Radio astronomy Space research (passive) 5.149 5.412	FIXED 5.410 MOBILE except aeronautical mobile 5.384A Earth exploration-satellite (passive)	International mobile telecommunication systems (IMT)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		Radio astronomy Space research (passive) 5.149	
2690-2700 MHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.422	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	Radio Astronomy
2700-2900 MHz	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423 5.424	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423	Civilian, military and meteorological radars systems (weather radar)
2900-3100 MHz	RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 5.427	RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 5.427	Radiolocation services
3100-3300 MHz	RADIOLOCATION	RADIOLOCATION	Radiolocation services

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	Earth exploration-satellite (active) Space research (active) 5.149 5.428	Earth exploration-satellite (active) Space research (active) 5.149	
3300-3400 MHz	RADIOLOCATION 5.149 5.429 5.429A 5.429B 5.430	IMT Res.223 (Rev 2015) FIXED 5.149	IMT Res.223 (Rev 2015)
3400-3600 MHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 5.430A Radiolocation 5.431	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 5.430A Radiolocation 5.431	International mobile telecommunication systems (IMT)
3600-4200 MHz	FIXED FIXED-SATELLITE (space-to-Earth) Mobile	FIXED FIXED-SATELLITE (space-to-Earth)	Fixed-satellite (space-to-earth) C Band VSAT

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		Mobile	(Downlink)
4200-4400 MHz	AERONAUTICAL MOBILE (R) 5.440 AERONAUTICAL RADIONAVIGATION 5.438 5.437 5.439 5.440	AERONAUTICAL RADIONAVIGATION 5.438 5.440	Radio altimeters – aircraft radio station Wireless Intra-Avionic Communication (WIAC) (5.436)
4400-4500 MHz	FIXED MOBILE 5.440A	FIXED MOBILE	Point to point fixed links for network mobile operators
4500-4800 MHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE 5.440A	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE	Point to point fixed links for network mobile operators
4800-4990 MHz	FIXED MOBILE 5.440A 5.441A 5.441B 5.442	FIXED MOBILE 5.442	Point to point fixed links for network mobile operators

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	Radio astronomy 5.149 5.339 5.443	Radio astronomy 5.149 5.339	
4990-5000 MHz	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive) 5.149	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive) 5.149	Point to point fixed links for network mobile operators
5000-5010 MHz	AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (Earth-to-space)	AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (Earth-to-space)	Aeronautical radionavigation Radio-navigation satellite uplink Aeronautical Mobile-Satellite (R)
5010-5030 MHz	AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION	AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL 5.328B 5.443B RADIONAVIGATION	Aeronautical radionavigation Radio-navigation

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.443B	RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space)	satellite uplink & downlink Aeronautical Mobile-Satellite (R)
5030-5091 MHz	AERONAUTICAL MOBILE (R) 5.443C AERONAUTICAL MOBILE-SATELLITE (R) 5.443D AERONAUTICAL RADIONAVIGATION 5.444	AERONAUTICAL MOBILE (R) 5.443C AERONAUTICAL MOBILE-SATELLITE (R) 5.443D AERONAUTICAL-RADIONAVIGATION 5.444	Aeronautical radionavigation Aeronautical Mobile (R) Aeronautical Mobile-Satellite (R)
5091-5150 MHz	FIXED-SATELLITE (Earth-to-space) 5.444A AERONAUTICAL MOBILE 5.444B AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION 5.444	FIXED-SATELLITE (Earth-to-space) 5.444A AERONAUTICAL MOBILE 5.444B AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA	Fixed Satellite (Earth-to-Space) Aeronautical radionavigation Aeronautical Mobile Aeronautical Mobile-

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		AERONAUTICAL RADIONAVIGATION 5.444	Satellite (R)
5150-5250 MHz	FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except aeronautical mobile 5.446A 5.446B AERONAUTICAL RADIONAVIGATION 5.446 5.446C 5.447 5.447B 5.447C	FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except aeronautical mobile 5.446A 5.446B AERONAUTICAL RADIONAVIGATION 5.446C 5.447B 5.447C	Land mobile WLAN (5 150-5 250 MHz)
5250-5255 MHz	EARTH EXPLORATION-SATELLITE (active) MOBILE except aeronautical mobile 5.446A 5.447F RADIOLOCATION SPACE RESEARCH 5.447D 5.447E 5.448 5.448A	EARTH EXPLORATION-SATELLITE (active) MOBILE except aeronautical mobile 5.446A 5.447F RADIOLOCATION SPACE RESEARCH 5.447D	Land mobile WLAN (5 250-5 350 MHz)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		5.447E 5.448A	
5255-5350 MHz	EARTH EXPLORATION-SATELLITE (active) MOBILE except aeronautical mobile 5.446A 5.447F RADIOLOCATION SPACE RESEARCH (active) 5.447E 5.448 5.448A	EARTH EXPLORATION-SATELLITE (active) MOBILE except aeronautical mobile 5.446A 5.447F RADIOLOCATION SPACE RESEARCH (active) 5.447E 5.448A	Land mobile WLAN (5 250-5 350 MHz)
5350-5460 MHz	EARTH EXPLORATION-SATELLITE (active) 5.448B RADIOLOCATION 5.448D AERONAUTICAL RADIONAVIGATION 5.449 SPACE RESEARCH (active) 5.448C	EARTH EXPLORATION-SATELLITE (active) 5.448B RADIOLOCATION 5.448D AERONAUTICAL RADIONAVIGATION 5.449 SPACE RESEARCH (active)	Aeronautical radionavigation - airborne weather radar

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		5.448C	
5460-5470 MHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION 5.448D RADIONAVIGATION 5.449 SPACE RESEARCH (active) 5.448B	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION 5.448D RADIONAVIGATION 5.449 SPACE RESEARCH (active) 5.448B	Radionavigation - airborne weather radar Earth exploration satellite service Space research Radiolocation
5470-5570 MHz	EARTH EXPLORATION-SATELLITE (active) MOBILE except aeronautical mobile 5.446A 5.450A RADIOLOCATION 5.450B MARITIME RADIONAVIGATION SPACE RESEARCH (active) 5.448B 5.450 5.451	EARTH EXPLORATION-SATELLITE (active) MOBILE except aeronautical mobile 5.446A 5.450A RADIOLOCATION 5.450B MARITIME RADIONAVIGATION SPACE RESEARCH (active) 5.448B 5.450 5.451	Land mobile WLAN (5 470-5 725 MHz)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
5570-5650 MHz	MOBILE except aeronautical mobile 5.446A 5.450A RADIOLOCATION 5.450B MARITIME RADIONAVIGATION 5.450 5.451 5.452	MOBILE except aeronautical mobile 5.446A 5.450A RADIOLOCATION 5.450B MARITIME RADIONAVIGATION 5.450 5.451 5.452	Land mobile 5 470-5 725 MHz WLAN
5650-5725 MHz	MOBILE except aeronautical mobile 5.446A 5.450A RADIOLOCATION Amateur Space research (deep space) 5.282 5.451 5.453 5.454 5.455	MOBILE except aeronautical mobile 5.446A 5.450A RADIOLOCATION Amateur Space research (deep space) 5.282 5.451 5.453 5.454 5.455	Land mobile 5 470-5 725 MHz WLAN
5725-5830 MHz	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION	5 725-5 875 MHz WLAN and allocated to ISM within the band 5725-5875 MHz

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.150 5.451 5.453 5.455	Amateur 5.150 5.451 5.453 5.455	
5830-5850 MHz	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur-satellite (space-to-Earth) 5.150 5.451 5.453 5.455 5.456	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur FIXED 5.453 5.150	5 725-5 875 MHz WLAN and allocated to ISM within the band 5725-5875 MHz
5850-5925 MHz	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.150	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.150	5 725-5 875 MHz WLAN and ISM Band 5 850-5 925 MHz C Band VSAT (Uplink)
			5925-6425 MHz C

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
5925-6700 MHz	FIXED 5.457 FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B MOBILE 5.457C 5.149 5.440 5.458	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A MOBILE 5.149 5.440 5.458	Band VSAT (Uplink) 5925-6425 MHz FWS point to point microwave links (6 GHz Lower Band according to ITU-R Rec F. 383-8)
6700-7075 MHz	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441 MOBILE 5.458 5.458A 5.458B	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441 MOBILE 5.458 5.458A 5.458B	6 700-7 075 MHz FWS point to point microwave links (6 GHz Upper Band according to ITU-R Rec F. 384-10)
7075-7145 MHz	FIXED MOBILE 5.458 5.459	FIXED MOBILE 5.458	FWS point to point microwave links (6 GHz Upper Band according to ITU-R Rec F. 384.10)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
7145-7190 MHz	FIXED MOBILE SPACE RESEARCH (deep space) (Earth-to-space) 5.458 5.459	FIXED MOBILE SPACE RESEARCH (deep space) (Earth-to-space) 5.458 5.459	FWS point to point microwave links (7 GHz according to ITU-R Rec F. 385- 6).
7190-7235 MHz	EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A 5.460B FIXED MOBILE SPACE RESEARCH (Earth-to-space) 5.460 5.458 5.459	EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A 5.460B FIXED MOBILE SPACE RESEARCH (Earth-to-space) 5.460 5.458 5.459	FWS point to point microwave links (7 GHz according to ITU-R Rec F. 385- 6).
7235-7250 MHz	EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A	EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A	FWS point to point microwave links (7 GHz according to

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	FIXED MOBILE 5.458	FIXED MOBILE 5.458	ITU-R Rec F. 385- 6).
7250-7300 MHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 5.461	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 5.461	FWS point to point microwave links (7 GHz according to ITU-R Rec F. 385- 6).
7300-7375 MHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.461	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.461	FWS point to point microwave links (7 GHz according to ITU-R Rec F. 385- 6).

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
7375-7450 MHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA 5.461AB	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA 5.461AB	FWS point to point microwave links (7 GHz according to ITU-R Rec F. 385- 6).
7450-7550 MHz	FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA 5.461AB 5.461A	FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA 5.461AB	FWS point to point microwave links (7 GHz according to ITU-R Rec F. 385- 6).

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		5.461A	
7550-7750 MHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA 5.461AB	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA 5.461AB	FWS point to point microwave links (7 GHz according to ITU-R Rec F. 385- 6).
7750-7900 MHz	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 5.461B MOBILE except aeronautical mobile	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 5.461B MOBILE except aeronautical mobile	FWS point to point microwave links (8 GHz according to ITU-R Rec F. 386- 8).
7900-8025 MHz	FIXED FIXED-SATELLITE (Earth-to-space)	FIXED	FWS point to point microwave links (8 GHz according to

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	MOBILE 5.461	FIXED-SATELLITE (Earth-to-space) MOBILE 5.461	ITU-R Rec F. 386- 8).
8025-8175 MHz	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	FWS point to point microwave links (8 GHz according to ITU-R Rec F. 386- 8).
8 175-8215 MHz	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space)	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space)	FWS point to point microwave links (8 GHz according to ITU-R Rec F. 386- 8).

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	METEOROLOGICAL-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 5.463 5.462A	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	FWS point to point microwave links (8 GHz according to ITU-R Rec F. 386- 8).
8400-8500 MHz	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 5.465 5.466	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 5.465	FWS point to point microwave links (8 GHz according to ITU-R Rec F. 386- 8).

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
8500-8550 MHz	RADIOLOCATION 5.468 5.469	RADIOLOCATION 5.468 5.469	Radiolocation
8550-8650 MHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.468 5.469 5.469A	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.468 5.469 5.469A	Earth exploration satellite Radiolocation Space research
8650-8750 MHz	RADIOLOCATION 5.468 5.469	RADIOLOCATION 5.468 5.469	Radiolocation
8750-8850 MHz	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470 5.471	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470 5.471	Radars for aeronautical radionavigation

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
8850-9000 MHz	RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473	RADIOLOCATION MARITIME RADIONAVIGATION 5.472	Radars
9000-9200 MHz	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.337 5.471 5.473A	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.337 5.471	Radars for aeronautical radionavigation (precision approach radars)
9200-9300 MHz	EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473 5.474 5.474D	EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473 5.474	Earth Exploration-Satellite(active) Radiolocation radars for search & rescue radar transponders
9300-9500 MHz	EARTH EXPLORATION-SATELLITE (active)	EARTH EXPLORATION-SATELLITE (active)	Radiolocation - weather radar

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.427 5.474 5.475 5.475A 5.475B 5.476A	RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.427 5.474 5.475 5.475A 5.475B 5.476A	
9500-9800 MHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.476A	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.476A	Earth exploration-satellite Radiolocation Radionavigation Space research
9800-9900 MHz	RADIOLOCATION Earth exploration-satellite (active) Fixed Space research (active)	RADIOLOCATION Earth exploration-satellite (active) Fixed	Radiolocation

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.477 5.478 5.478A 5.478B	Space research (active) 5.478A 5.478B	
9900-10000 MHz	EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C RADIOLOCATION Fixed 5.474D 5.477 5.478 5.479	EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C RADIOLOCATION Fixed 5.474D 5.479	Earth Exploration-Satellite(active) Radiolocation
10-10.4 GHz	EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C FIXED MOBILE RADIOLOCATION Amateur 5.474D 5.479	EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C FIXED MOBILE RADIOLOCATION Amateur	Fixed point to multipoint microwave links (ITU-R F.1568)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		5.474D 5.479	
10.4-10.45 GHz	FIXED MOBILE RADIOLOCATION Amateur	FIXED MOBILE RADIOLOCATION Amateur	Radiolocation Fixed/Land mobile communication
10.45-10.5 GHz	RADIOLOCATION Amateur Amateur-satellite 5.481	RADIOLOCATION Amateur Amateur-satellite	Radiolocation services Amateur Services
10.5-10.55 GHz	FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation	Fixed point to multipoint microwave links (ITU-R F.1568)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
10.55-10.6 GHz	FIXED MOBILE except aeronautical mobile Radiolocation	FIXED MOBILE except aeronautical mobile Radiolocation	Fixed point to multipoint microwave links (ITU-R F.1568)
10.6-10.68 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482 5.482A	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482A	Fixed point to multipoint microwave links (ITU-R F.1568) Paired with 10.15-10.30 GHz Channeling plan for 10.5 GHz band in accordance with ITU-R Rec. F.1568 Annex 1. For sharing between EESS (passive) and the fixed and mobile service Res.751 applies.

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
10.68-10.7 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.483	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	Earth exploration satellite Radio astronomy Space research
10.7-10.95 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 (Earth-to-space) 5.484 MOBILE except aeronautical mobile	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 (Earth-to-space) 5.484 MOBILE except aeronautical mobile	FWS point to point microwave links (11GHz Band according to ITU-R Rec F. 387-10)
10.95-11.2 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.484 5.484A 5.484B	FIXED FIXED-SATELLITE	FWS point to point radio relay links (11GHz Band according to ITU-R

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	(Earth-to-space) 5.484 MOBILE except aeronautical mobile	(space-to-Earth) 5.484 5.484A 5.484B (Earth-to-space) 5.484 MOBILE except aeronautical mobile	Rec F. 387-10)
11.2-11.45 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 (Earth-to-space) 5.484 MOBILE except aeronautical mobile	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 (Earth-to-space) 5.484 MOBILE except aeronautical mobile	FWS point to point radio relay links (11GHz Band according to ITU-R Rec F. 387-10)
11.45-11.7 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B	FWS point to point radio relay links (11GHz Band according to ITU-R Rec F. 387-10)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	(Earth-to-space) 5.484 MOBILE except aeronautical mobile	(Earth-to-space) 5.484 MOBILE except aeronautical mobile	
11.7-12.5 GHz	FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING-SATELLITE 5.492 5.487 5.487A	FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING-SATELLITE 5.492 5.487 5.487A	Broadcasting Satellite Services
12.5-12.75 GHz	FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B (Earth-to-space) 5.494 5.495 5.496	FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B (Earth-to-space)	Ku Band VSAT downlink

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
12.75-13.25 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.441 MOBILE Space research (deep space) (space-to-Earth)	FIXED FIXED-SATELLITE (Earth-to-space) 5.441 MOBILE Space research (deep space) (space-to-Earth)	FWS point to point radio relay links (13 GHz Band according to ITU-R Rec F. 497-7)
13.25-13.4 GHz	EARTH EXPLORATION-SATELLITE (active) AERONAUTICAL RADIONAVIGATION 5.497 SPACE RESEARCH (active) 5.498A	EARTH EXPLORATION-SATELLITE (active) AERONAUTICAL RADIONAVIGATION 5.497 SPACE RESEARCH (active) 5.498A	Airborne Navigation Aids
13.4-13.65 GHz	EARTH EXPLORATION-SATELLITE (active) FIXED-SATELLITE (space-to-Earth)	EARTH EXPLORATION-SATELLITE (active)	Earth exploration-satellite Fixed satellite

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.499A 5.499B RADIOLOCATION SPACE RESEARCH 5.499C 5.499D Standard frequency and time signal-satellite (Earth-to-space) 5.499E 5.500 5.501 5.501B	FIXED-SATELLITE (space-to-Earth) 5.499A 5.499B RADIOLOCATION SPACE RESEARCH 5.499C 5.499D Standard frequency and time signal-satellite (Earth-to-space) 5.499E 5.501B	(Space-to-Earth) Radiolocation Space research
13.65-13.75 GHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A Standard frequency and time signal-satellite (Earth-to-space) 5.500 5.501 5.501B	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A Standard frequency and time signal-satellite (Earth-to-space) 5.501B	Earth exploration-satellite Radiolocation Space research

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
13.75-14 GHz	FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Earth exploration-satellite Standard frequency and time signal-satellite (Earth-to-space) Space research 5.500 5.501 5.502 5.503	FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Earth exploration-satellite Standard frequency and time signal-satellite (Earth-to-space) Space research 5.502 5.503	Fixed satellite uplink Radiolocation
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) 5.504B 5.504C 5.506A Space research	FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.504B 5.506A Space research	Ku Band VSAT (uplink)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.504A 5.505	5.504A	
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) 5.504B 5.506A 5.508A Space research 5.504A 5.505 5.508	FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.504B 5.506A Space research 5.504A	Ku Band VSAT (uplink)
14.3-14.4 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B	Ku Band VSAT (uplink)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.504B 5.506A 5.509A Radionavigation-satellite 5.504A	MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.504B 5.506A Radionavigation-satellite 5.504A	
14.4-14.47 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.484B 5.506 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.504B 5.506A 5.509A Space research (space-to-Earth) 5.504A	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.484B 5.506 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.504B 5.506A	Ku Band VSAT (uplink)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		Space research (space-to-Earth) 5.504A	
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	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 Radio astronomy 5.149 5.504A	Ku Band VSAT (uplink)
14.5-14.75 GHz	FIXED	FIXED	FWS point to point radio relay links (15 GHz Band according

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	FIXED-SATELLITE (Earth-to-space) 5.509B 5.509C 5.509D 5.509E 5.509F 5.510 MOBILE Space research 5.509G	FIXED-SATELLITE (Earth-to-space) 5.509B 5.509C 5.509D 5.509E 5.509F 5.510 MOBILE Space research 5.509G	to ITU-R Rec F. 636-3)
14.75-14.8 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.510 MOBILE Space research 5.509G	FIXED FIXED-SATELLITE (Earth-to-space) 5.510 MOBILE Space research 5.509G	FWS point to point radio relay links (15 GHz Band according to ITU-R Rec F. 636-3)
14.8-15.35 GHz	FIXED MOBILE Space research 5.339	FIXED MOBILE Space research 5.339	FWS point to point radio relay links (15 GHz Band according to ITU-R Rec F. 636-3)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
15.35-15.4 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.511	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	Earth exploration satellite Radio astronomy Space research.
15.4-15.43 GHz	RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION	RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION	Aeronautical radionavigation Radiolocation
15.43-15.63 GHz	FIXED-SATELLITE (Earth-to-space) 5.511A RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511C	FIXED-SATELLITE (Earth-to-space) 5.511A RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511C	Fixed satellite-uplink Aeronautical radionavigation Radiolocation
15.63-15.7 GHz	RADIOLOCATION 5.511E 5.511F	RADIOLOCATION 5.511E 5.511F	Aeronautical-radionavigation

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Radiolocation
15.7-16.6 GHz	RADIOLOCATION 5.512 5.513	RADIOLOCATION	Radiolocation
16.6-17.1 GHz	RADIOLOCATION Space research (deep space) (Earth-to-space) 5.512 5.513	RADIOLOCATION Space research (deep space) (Earth-to-space)	Radiolocation
17.1-17.2 GHz	RADIOLOCATION 5.512 5.513	RADIOLOCATION	Radiolocation
17.2-17.3 GHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.512 5.513 5.513A	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.513A	Earth exploration-satellite Radiolocation Space research

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
17.3-17.7 GHz	FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation 5.514	FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation	17.3-17.7 GHz designated for HDFSS uncoordinated Earth station downlinks according to Res.143 (Rev. WRC-07) and 5.516B 17.3-17.7 GHz Feeder link plans for Broadcasting Satellite Service (Appendix 30A)
17.7-18.1 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	FWS point to point radio links (18 GHz Band according to ITU-R Rec F. 595-9)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
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	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B (Earth-to-space) 5.520 MOBILE 5.519	FWS point to point radio links (18 GHz Band according to ITU-R Rec F. 595-9)
18.4-18.6 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE	FWS point to point radio links (18 GHz Band according to ITU-R Rec F. 595-9)
18.6-18.8 GHz	EARTH-EXPLORATIONSATELLITE (passive) FIXED	EARTH-EXPLORATIONSATELLITE (passive)	FWS point to point radio links (18 GHz Band according to ITU-R Rec F. 595-9)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except aeronautical mobile Space research (passive) 5.522A 5.522C	FIXED FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except aeronautical mobile Space research (passive) 5.522A	
18.8-19.3 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.516.B 5.523A MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) 5.516.B 5.523A MOBILE	FWS point to point radio links (18 GHz Band according to ITU-R Rec F. 595-9)
19.3-19.7GHz	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B	FWS point to point radio links (18 GHz Band according to ITU-R Rec F. 595-9)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.523C 5.523D 5.523E MOBILE	5.523C 5.523D 5.523E MOBILE	
19.7-20.1 GHz	FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B 5.516B 5.527A Mobile-satellite (space-to-Earth) 5.524	FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B 5.516B 5.527A Mobile-satellite (space-to-Earth)	19.7-20.1 GHz designated for HDFSS uncoordinated Earth station downlinks according to Res.143 (Rev. WRC-07) and 5.516B.
20.1-20.2 GHz	FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B 5.516B 5.527A MOBILE-SATELLITE (space-to-Earth) 5.524 5.525 5.526 5.527 5.528	FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B 5.516B 5.527A MOBILE-SATELLITE (space-to-Earth) 5.525 5.526 5.527 5.528	20.1-20.2 GHz designated for HDFSS uncoordinated Earth station downlinks according to Res.143 (Rev. WRC-07) and 5.516B

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
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	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard frequency and time signal-satellite (space-to-Earth) FIXED MOBILE	Fixed satellite-downlink Mobile satellite-downlink
21.2-21.4 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	FWS point to point radio links (23GHz Band according to ITU-R Rec F. 637)
21.4-22 GHz	FIXED MOBILE	FIXED MOBILE	FWS point to point radio links (23GHz

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	BROADCASTING-SATELLITE 5.208B 5.530A 5.530B 5.530D	BROADCASTING-SATELLITE 5.208B 5.530A 5.530B 5.530D	Band according to ITU-R Rec F. 637)
22-22.21GHz	FIXED MOBILE except aeronautical mobile 5.149	FIXED MOBILE except aeronautical mobile 5.149	FWS point to point radio links (23GHz Band according to ITU-R Rec F. 637)
22.21-22.5 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.532	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.532	FWS point to point radio links (23GHz Band according to ITU-R Rec F. 637)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
22.5-22.55 GHz	FIXED MOBILE	FIXED MOBILE	FWS point to point radio links (23GHz Band according to ITU-R Rec F. 637)
22.55-23.15 GHz	FIXED INTER-SATELLITE 5.338A MOBILE SPACE RESEARCH (Earth-to-space) 5.532A 5.149	FIXED INTER-SATELLITE 5.338A MOBILE SPACE RESEARCH (Earth-to-space) 5.532A 5.149	FWS point to point radio links (23GHz Band according to ITU-R Rec F. 637)
23.15-23.55 GHz	FIXED INTER-SATELLITE 5.338A MOBILE	FIXED INTER-SATELLITE 5.338A MOBILE	FWS point to point radio links (23GHz Band according to ITU-R Rec F. 637)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
23.55-23.6 GHz	FIXED MOBILE	FIXED MOBILE	FWS point to point radio links (23GHz Band according to ITU-R Rec F. 637)
23.6-24 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	Earth exploration-satellite Radio astronomy Space research
24-24.05 GHz	AMATEUR AMATEUR-SATELLITE 5.150	AMATEUR AMATEUR-SATELLITE 5.150	Also allocated to ISM within the band 24-24.5 MHz
24.05-24.25 GHz	RADIOLOCATION Amateur	RADIOLOCATION Amateur Earth exploration-satellite	Amateur users Amateur satellite-users

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	Earth exploration-satellite (active) 5.150	(active) 5.150	Also allocated to ISM within the band 24-24.5 MHz
24.25-24.45 GHz	FIXED	FIXED	24.25-26.5 GHz (25 GHz Band) designated for FWS (e.g. point to point link or FWA according to ITU-R Rec F.748-4)
24.45-24.65 GHz	FIXED INTER-SATELLITE	FIXED INTER-SATELLITE	24.25-26.5 GHz (25 GHz Band) designated for FWS (e.g. point to point link or FWA according to ITU-R Rec F.748-4)
24.65-24.75 GHz	FIXED FIXED-SATELLITE	FIXED FIXED-SATELLITE	24.25-26.5 GHz (25 GHz Band) designated for FWS (e.g. point to point link or FWA

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	(Earth-to-space) 5.532B INTER-SATELLITE	(Earth-to-space) 5.532B INTER-SATELLITE	according to ITU-R Rec F.748-4)
24.75-25.25 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.532B	FIXED FIXED-SATELLITE (Earth-to-space) 5.532B	24.25-26.5 GHz (25 GHz Band) designated for FWS (e.g. point to point link or FWA according to ITU-R Rec F.748-4)
25.25-25.5 GHz	FIXED INTER-SATELLITE 5.536 MOBILE Standard frequency and time signal-satellite (Earth-to-space)	FIXED INTER-SATELLITE 5.536 MOBILE Standard frequency and time signal-satellite (Earth-to-space)	24.25-26.5 GHz (25 GHz Band) designated for FWS (e.g. point to point link or FWA according to ITU-R Rec F.748-4)
25.5-27 GHz	EARTH EXPLORATION-SATELLITE (space-to Earth) 5.536B	EARTH EXPLORATION-SATELLITE (space-to Earth) 5.536B	24.25-26.5 GHz (25 GHz Band) designated for FWS (e.g. point to point link or FWA

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (space-to-Earth) 5.536C Standard frequency and time signal-satellite (Earth-to-space) 5.536A	FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (space-to-Earth) 5.536C Standard frequency and time signal-satellite (Earth-to-space) 5.536A	according to ITU-R Rec F.748-4)
27-27.5 GHz	FIXED INTER-SATELLITE 5.536 MOBILE	FIXED INTER-SATELLITE 5.536 MOBILE	27-27.5 GHz (26 GHz Band) designated for FWS (e.g. point to point link or FWA according to ITU-R Rec F. 748-4)
27.5-28.5 GHz	FIXED 5.537A FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 MOBILE	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 MOBILE	Channeling plan for 28 GHz band in accordance with ITU-R Rec. F.748 Annex 2.

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.538 5.540	5.538 5.540	The band 27.5-27.82 GHz is identified for HDFFS; Res.143 applies. The band 27.5-30 GHz may be used by the FSS for BSS feeder links.
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	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	Channeling plan for 28 GHz band in accordance with ITU-R Rec. F.748 Annex 2. The band 28.45-28.94 GHz is identified for HDFFS; Res.143 applies. The band 27.5-30 GHz may be used by the FSS for BSS feeder links.

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
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	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	29.1-29.46 GHz (28 GHz Band) designated for FWS (e.g. point to point link or FWA according to ITU-R Rec F. 748-4) 29.46-29.5 GHz designated for HDFSS uncoordinated Earth station uplinks according to Res.143 (Rev. WRC-07) and 5.516B
29.5-29.9 GHz	FIXED-SATELLITE (Earth-to-space) 5.484A 5.484B 5.516B 5.527A 5.539	FIXED-SATELLITE (Earth-to-space) 5.484A 5.484B 5.516B 5.527A 5.539	29.5-29.9 GHz designated for HDFSS uncoordinated Earth station uplinks according to Res.143

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	Earth exploration-satellite (Earth-to-space) 5.541 Mobile-satellite (Earth-to-space) 5.540 5.542	Earth exploration-satellite (Earth-to-space) 5.541 Mobile-satellite (Earth-to-space) 5.540	(Rev. WRC-07) and 5.516B
29.9-30 GHz	FIXED-SATELLITE (Earth-to-space) 5.484A 5.484B 5.516B 5.527A 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	FIXED-SATELLITE (Earth-to-space) 5.484A 5.484B 5.516B 5.527A 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	29.9-30 GHz designated for HDFSS uncoordinated Earth station uplinks according to Res.143 (Rev. WRC-07) and 5.516B
30-31GHz	FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal-satellite	FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE-SATELLITE (Earth-to-space)	Fixed satellite-uplink Mobile satellite-uplink

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	(space-to-Earth) 5.542	Standard frequency and time signal-satellite (space-to-Earth)	
31-31.3 GHz	FIXED 5.338A 5.543A MOBILE Standard frequency and time signal-satellite (space-to-Earth) Space research 5.544 5.545 5.149	FIXED 5.338A MOBILE Standard frequency and time signal-satellite (space-to-Earth) Space research 5.544 5.149	31-31.3 GHz (31 GHz Band) designated for FWS (e.g. HDFS according to ITU-R Rec F. 746-9)
31.3-31.5 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	Earth exploration-satellite Radio astronomy Space research
31.5-31.8 GHz	EARTH EXPLORATION SATELLITE (passive)	EARTH EXPLORATION	Earth exploration-

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.546	SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149	satellite Radio astronomy Space research
31.8-32 GHz	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547 5.548	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547 5.548	31.8-32 GHz (32 GHz Band) designated for FWS (e.g. HDFS according to ITU-R Rec F. 1520-2)
32-32.3 GHz	FIXED 5.547A RADIONAVIGATION	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space)	32-32.3 GHz (32 GHz Band) designated for FWS (e.g. HDFS according to ITU-R

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	SPACE RESEARCH (deep space) (space-to-Earth) 5.547 5.548	(space-to-Earth) 5.547 5.548	Rec F. 1520-2)
32.3-33 GHz	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.548	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.548	32.3-33 GHz (32 GHz Band) designated for FWS (e.g. HDFS according to ITU-R Rec F. 1520-2)
33-33.4 GHz	FIXED 5.547A RADIONAVIGATION 5.547	FIXED 5.547A RADIONAVIGATION 5.547	33-33.4 GHz (32 GHz Band) designated for FWS (e.g. HDFS according to ITU-R Rec F. 1520-2)
33.4-34.2 GHz	RADIOLOCATION 5.549	RADIOLOCATION	Radiolocation services
34.2-34.7 GHz	RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space)	RADIOLOCATION SPACE RESEARCH (deep space)	Radiolocation services Space research

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.549	(Earth-to-space)	feeder-link
34.7-35.2 GHz	RADIOLOCATION Space research 5.550 5.549	RADIOLOCATION Space research	Radiolocation services
35.2-35.5 GHz	METEOROLOGICAL AIDS RADIOLOCATION 5.549	METEOROLOGICAL AIDS RADIOLOCATION	Meteorological aids Radiolocation
35.5-36 GHz	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.549 5.549A	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.549A	Meteorological aids Earth exploration-satellite Radiolocation Space research
36-37 GHz	EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)	Earth exploration-satellite

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	FIXED MOBILE SPACE RESEARCH (passive) 5.149 5.550A	FIXED MOBILE SPACE RESEARCH (passive) 5.149 5.550A	Fixed Mobile Space research
37-37.5 GHz	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 5.547	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 5.547	37-39.5 GHz (38 GHz Band) designated for FWS (e.g. point to point link or FWA according to ITU-R Rec F. 749-2)
37.5-38 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile SPACE RESEARCH (space-to-	37-39.5 GHz (38 GHz Band) designated for FWS (e.g. point to point link or FWA according to ITU-R Rec F. 749-2)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	Earth exploration-satellite (space-to-Earth) 5.547	Earth) 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	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration-satellite (space-to-Earth) 5.547	37-39.5 GHz (38 GHz Band) designated for FWS (e.g. point to point link or FWA according to ITU-R Rec F. 749-2)
39.5-40 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-	39.5-40 GHz designated for HDFSS uncoordinated Earth station downlinks according to Res.143 (Rev. WRC-07) and

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	Earth exploration-satellite (space-to-Earth) 5.547	Earth) Earth exploration-satellite (space-to-Earth) 5.547	5.516B
40-40.5 GHz	EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth)	EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth)	Earth exploration satellite-uplink Fixed Fixed satellite-downlink Mobile Mobile satellite-downlink Space research-uplink

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
40.5-41 GHz	FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547	FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547	Fixed Fixed satellite downlink Broadcasting Broadcasting-satellite
41-42.5 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B BROADCASTING BROADCASTING-SATELLITE Mobile 5.547 5.551F 5.551H 5.551I	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B BROADCASTING BROADCASTING-SATELLITE Mobile 5.547 5.551H 5.551I	Fixed Fixed satellite-downlink Broadcasting Broadcasting satellite

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
42.5-43.5 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149 5.547	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149 5.547	Fixed Fixed satellite-downlink
43.5-47 GHz	MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	Mobile Mobile satellite Radionavigation Radionavigation satellite
47-47.2 GHz	AMATEUR	AMATEUR	Amateur communications

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	AMATEUR-SATELLITE	AMATEUR-SATELLITE	Amateur satellite
47.2-47.5 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	Fixed Fixed satellite uplink Mobile
47.5-47.9 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A MOBILE	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A MOBILE	47.5.47.9 GHz designated for HDFSS uncoordinated Earth station downlinks according to Res.143 (Rev. WRC-07) and 5.516B
47.9-48.2 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE	FIXED FIXED-SATELLITE (Earth-to-space) 5.552	Fixed Fixed satellite uplink Mobile

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.552A	MOBILE 5.552A	
48.2-48.54 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	48.2-48.54 GHz designated for HDFSS uncoordinated Earth station downlinks according to Res.143 (Rev. WRC-07) and 5.516B
48.54-49.44 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.149 5.340 5.555	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.149 5.340 5.555	Fixed Fixed satellite uplink Mobile

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
49.44-50.2 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.338A 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	FIXED FIXED-SATELLITE (Earth-to-space) 5.338A 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	49.44-50.2 GHz designated for HDFSS uncoordinated Earth station downlinks according to Res.143 (Rev. WRC-07) and 5.516B
50.2-50.4 GHz	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	Earth exploration satellite Space research
50.4-51.4 GHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE Mobile-satellite (Earth-to-space)	FIXED FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE	Fixed Fixed satellite Mobile

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		Mobile-satellite (Earth-to-space)	
51.4-52.6 GHz	FIXED 5.338A MOBILE 5.547 5.556	FIXED 5.338A MOBILE 5.547 5.556	51.4-52.6 GHz (52 GHz Band) designated for FWS (e.g. short-range digital point-to-point radio links in HDFS according to ITU-R Rec F.1496-1)
52.6-54.25 GHz	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	Earth exploration satellite Space research
54.25-55.78 GHz	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.556A SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.556A SPACE RESEARCH (passive)	Earth exploration satellite Inter-satellite Space research

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
55.78-56.9 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	EARTH EXPLORATION-SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	55.78-59 GHz (57 GHz Band) designated for FWS (e.g. short-range digital point-to-point radio links in HDFS according to ITU-R Rec F.1497-1)
56.9-57 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	55.78-59 GHz (57 GHz Band) designated for FWS (e.g. short-range digital point-to-point radio links in HDFS according to ITU-R Rec F.1497-1)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
57-58.2 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	55.78-59 GHz designated for FWS (e.g. short-range digital point-to-point radio links in HDFS according to ITU- R Rec F.1497-1)
58.2-59 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547 5.556	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547 5.556	55.78-59 GHz designated for FWS (e.g. short-range digital point-to-point radio links in HDFS according to ITU- R Rec F.1497-1)

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
59-59.3 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	Earth exploration satellite Fixed Inter-satellite Mobile Radiolocation Space research
59.3-64 GHz	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	61-61.5 GHz is allocated to ISM
64-65 GHz	FIXED INTER-SATELLITE	FIXED INTER-SATELLITE	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	MOBILE except aeronautical mobile 5.547 5.556	MOBILE except aeronautical mobile 5.547 5.556	
65-66 GHz	EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 5.547	EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 5.547	
66-71 GHz	INTER-SATELLITE MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION	INTER-SATELLITE MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	RADIONAVIGATION-SATELLITE 5.554	RADIONAVIGATION-SATELLITE 5.554	
71-74 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	
74-76 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING-SATELLITE Space research (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING-SATELLITE Space research (space-to-Earth)	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.561	5.561	
76-77.5 GHz	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	
77.5-78 GHz	AMATEUR AMATEUR-SATELLITE RADIOLOCATION 5.559B Radio astronomy Space research (space-to-Earth) 5.149	AMATEUR AMATEUR-SATELLITE RADIOLOCATION 5.559B Radio astronomy Space research (space-to-Earth) 5.149	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
78-79 GHz	RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 5.149 5.560	RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 5.149 5.560	
79-81 GHz	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	
81-84 GHz	FIXED 5.338A	FIXED 5.338A	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) 5.149 5.561A	FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) 5.149 5.561A	
84-86 GHz	FIXED 5.338A FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149	FIXED 5.338A FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
86-92 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	
92-94 GHz	FIXED 5.338A MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED 5.338A MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	
94-94.1 GHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active)	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.562 5.562A	Radio astronomy 5.562 5.562A	
94.1-95 GHz	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	
95-100 GHz	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
100-102 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	
102-105 GHz	FIXED MOBILE RADIO ASTRONOMY 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY 5.149 5.341	
105-109.5 GHz	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.149 5.341	5.149 5.341	
109.5-111.8 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	
111.8-114.25 GHz	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	
114.25-116 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY	EARTH EXPLORATION-SATELLITE (passive)	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	SPACE RESEARCH (passive) 5.340 5.341	RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	
116-119.98 GHz	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.341	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.341	
119.98-122.25 GHz	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138 5.341	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138 5.341	
122.25-123 GHz	FIXED	FIXED	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	INTER-SATELLITE MOBILE 5.558 Amateur 5.138	INTER-SATELLITE MOBILE 5.558 Amateur 5.138	
123-130 GHz	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.149 5.554	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.149 5.554	
130-134 GHz	EARTH EXPLORATION-SATELLITE (active) 5.562E FIXED	EARTH EXPLORATION-SATELLITE (active) 5.562E FIXED	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149 5.562A	INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149 5.562A	
134-136 GHz	AMATEUR AMATEUR-SATELLITE Radio astronomy	AMATEUR AMATEUR-SATELLITE Radio astronomy	
136-141 GHz	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.149	
141-148.5 GHz	FIXED	FIXED	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	
148.5-151.5 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	
151.5-155.5 GHz	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
155.5-158.5 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.562F 5.562G	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.562F 5.562G	
158.5-164 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
164-167 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	
167-174.5 GHz	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149	
174.5-174.8 GHz	FIXED INTER-SATELLITE MOBILE 5.558	FIXED INTER-SATELLITE MOBILE 5.558	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
174.8-182 GHz	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	
182-185 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	
185-190 GHz	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
190-191.8 GHz	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	
191.8-200 GHz	FIXED INTER-SATELLITE MOBILE 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.341 5.554	FIXED INTER-SATELLITE MOBILE 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.341 5.554	
200-209 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.340 5.341 5.563A	SPACE RESEARCH (passive) 5.340 5.341 5.563A	
209-217 GHz	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.341	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.341	
217-226 GHz	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive)	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	5.149 5.341	5.562B 5.149 5.341	
226-231.5 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	
231.5-232 GHz	FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation	
232-235 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
		Radiolocation	
235-238 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 5.563A 5.563B	EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 5.563A 5.563B	
238-240 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
240-241 GHz	FIXED MOBILE RADIOLOCATION	FIXED MOBILE RADIOLOCATION	
241-248 GHz	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.138 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.138 5.149	
248-250 GHz	AMATEUR AMATEUR-SATELLITE Radio astronomy 5.149	AMATEUR AMATEUR-SATELLITE Radio astronomy 5.149	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
250-252 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.563A	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.563A	
252-265 GHz	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	
265-275 GHz	FIXED	FIXED	

FREQUENCY BAND	ITU-REGION 1	TANZANIA ALLOCATION	APPLICATIONS/ COMMENTS
	FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.563A	FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.563A	
275-3 000 GHz	(Not allocated) 5.565	(Not allocated) 5.565	

11. ITU Radio Regulations Footnotes Relevant to Tanzania

5.53 Administrations authorizing the use of frequencies below 8.3 kHz shall ensure that no harmful interference is caused to services to which the bands above 8.3 kHz are allocated. (WRC-12)

5.54 Administrations conducting scientific research using frequencies below 8.3 kHz are urged to advise other administrations that may be concerned in order that such research may be afforded all practicable protection from harmful interference. (WRC-12) 5.54A Use of the 8.3-11.3 kHz frequency band by stations in the meteorological aids service is limited to passive use only. In the band 9-11.3 kHz, meteorological aids stations shall not claim protection from stations of the radionavigation service submitted for notification to the Bureau prior to 1 January 2013. For sharing between stations of the meteorological aids service and stations in the radionavigation service submitted for notification after this date, the most recent version of Recommendation ITU-R RS.1881 should be applied. (WRC-12)

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, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-12)

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.

5.70 Alternative allocation: in Angola, Botswana, Burundi, the Central African Rep., Congo (Rep. of the), Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, the Dem. Rep. of the Congo, South Africa, Swaziland, **Tanzania**, Chad, Zambia and Zimbabwe, the band 200-283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)

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. (WRC-97)

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

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-07)). (WRC-07) 5.80 In Region 2, the use of the band 435-495 kHz by the aeronautical radionavigation service is limited to non-directional beacons not employing voice transmission.

5.80A The maximum equivalent isotopically radiated power (e.i.r.p.) of stations in the amateur service using frequencies in the band 472-479 kHz shall not exceed 1 W. Administrations may increase this limit of e.i.r.p. to 5 W in portions of their territory which are at a distance of over 800 km from the borders of Algeria, Saudi Arabia, Azerbaijan, Bahrain, Belarus, China, Comoros, Djibouti, Egypt, United Arab Emirates, the Russian Federation, Iran (Islamic Republic of), Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Morocco, Mauritania, Oman, Uzbekistan, Qatar, Syrian Arab Republic,

Kyrgyzstan, Somalia, Sudan, Tunisia, Ukraine and Yemen. In this frequency band, stations in the amateur service shall not cause harmful interference to, or claim protection from, stations of the aeronautical radionavigation service. (WRC-12)

5.82 In the maritime mobile service, the frequency 490 kHz is to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles 31 and 52. In using the frequency band 415-495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz. In using the frequency band 472-479 kHz for the amateur service, administrations shall ensure that no harmful interference is caused to the frequency 490 kHz. (WRC-12)

5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles 31 and 52. (WRC-07)

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.

5.100 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. (WRC-07)

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, 156.525 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles. The conditions for the use of the frequencies are prescribed in Article 31. The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of r 3 kHz about the frequency. (WRC-07)

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, by stations of the maritime mobile service engaged in coordinated search and rescue operations. (WRC-07)

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. It should be noted that frequencies in the range 3 000 kHz to 4 000 kHz are suitable for hearing aid devices which are designed to operate over short distances within the induction field.

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**).

5.130 The conditions for the use of the carrier frequencies 4 125 kHz and 6 215 kHz are prescribed in Articles **31** and **52**. (WRC-07)

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. (WRC-97)

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**).

5.132A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed or mobile services. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution **612 (Rev.WRC-12)**. (WRC-12)

5.133B Stations in the amateur service using the frequency band 5 351.5-5 366.5 kHz shall not exceed a maximum radiated power of 15 W (e.i.r.p.). However, in Region 2 in Mexico, stations in the amateur service using the frequency band 5 351.5-5 366.5 kHz shall not exceed a maximum radiated power of 20 W (e.i.r.p.). In the following Region 2 countries: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Dominica, El Salvador, Ecuador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela, as well as the overseas territories of the Netherlands in Region 2, stations in the amateur service using the frequency band 5 351.5-5 366.5 kHz shall not exceed a maximum radiated power of 25 W (e.i.r.p.). (WRC-15)

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 is subject to the application of the procedure of Article **12**. Administrations are encouraged to use these bands to facilitate the introduction of digitally modulated emissions in accordance with the provisions of Resolution **517 (Rev.WRC-07)** *. (WRC-07)

5.136 *Additional allocation:* frequencies in the band 5 900-5 950 kHz may be used by stations in the following services, communicating only within the boundary of the country in which they are located: fixed service (in all three Regions), land mobile service (in Region 1), mobile except aeronautical mobile (R) service (in Regions 2 and 3), on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by

the broadcasting service published in accordance with the Radio Regulations. (WRC-07)

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 The following bands:

6 765-6 795 kHz	(center frequency 6 780 kHz),
433.05-434.79 MHz	(center frequency 433.92 MHz) in Region 1 except in the countries mentioned in No. **5.280**,
61-61.5 GHz	(center frequency 61.25 GHz),
122-123 GHz	(center frequency 122.5 GHz), and
244-246 GHz	(center frequency 245 GHz)

are designated for industrial, scientific and medical (ISM) applications. The use of these frequency bands for ISM applications shall be subject to special 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.

5.143 *Additional allocation:* frequencies in the band 7 300-7 350 kHz may be used by stations in the fixed service and in the land mobile service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)

5.143B In Region 1, 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 on condition that harmful interference is not caused to the broadcasting service. The total radiated power of each station shall not exceed 24 dBW. (WRC-12)

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**. (WRC-07)

5.145A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed service. Applications of the

radiolocation service are limited to oceanographic radars operating in accordance with Resolution **612 (Rev.WRC-12)**. (WRC-12)

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

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,
718.8-1 722.2 MHz,
655-2 690 MHz,
260-3 267 MHz,
3 332-3 339 MHz,
345.8-3 352.5 MHz,
825-4 835 MHz,
4 950-4 990 MHz,
4 990-5 000 MHz,
6 650-6 675.2 MHz,
10.6-10.68 GHz,
14.47-14.5 GHz,
22.01-22.21 GHz,
22.21-22.5 GHz,
22.81-22.86 GHz,
23.07-23.12 GHz,
31.2-31.3 GHz,
31.5-31.8 GHz in Regions 1 and 3,
36.43-36.5 GHz,
42.5-43.5 GHz,
48.94-49.04 GHz,
76-86 GHz,
92-94 GHz,
94.1-100 GHz,
102-109.5 GHz,
111.8-114.25 GHz,
128.33-128.59 GHz,
129.23-129.49 GHz,
130-134 GHz,
136-148.5 GHz,
151.5-158.5 GHz,
168.59-168.93 GHz,
171.11-171.45 GHz,
172.31-172.65 GHz,
173.52-173.85 GHz,
195.75-196.15 GHz,
209-226 GHz,
241-250 GHz,
252-275 GHz

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

5.150 The following bands:

13 553-13 567 kHz (center frequency 13 560 kHz),

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

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

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

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.

5.165 *Additional allocation:* in Angola, Cameroon, Congo (Rep. of the), Madagascar, Mozambique, Niger, Somalia, Sudan, South Sudan, **Tanzania** and Chad, the band 47-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

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

5.197A *Additional allocation:* the band 108-117.975 MHz is also allocated on a primary basis to the aeronautical mobile (R) service, limited to systems operating in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution **413 (Rev.WRC-07)** [*]. The use of the band 108-112 MHz by the aeronautical mobile (R) service shall be limited to systems composed of ground-based transmitters and associated receivers that provide navigational information in support of air navigation functions in accordance with recognized international aeronautical standards. (WRC-07)

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

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

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 the relevant ITU-R Recommendation. (WRC-07)

5.208B[*] In the frequency bands:

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

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

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. (WRC-97)

5.210 *Additional allocation:* in Italy, the Czech Rep. and the United Kingdom, the bands 138-143.6 MHz and 143.65-144 MHz are also allocated to the space research service (space-to-Earth) on a secondary basis. (WRC-07) **5.211** *Additional allocation:* in Germany, Saudi Arabia, Austria, Bahrain, Belgium, Denmark, the United Arab Emirates, Spain, Finland, Greece, Guinea, Ireland, Israel, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Liechtenstein, Luxembourg, Mali, Malta, Montenegro, Norway, the Netherlands, Qatar, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sweden, Switzerland, **Tanzania**, Tunisia and Turkey, the frequency band 138-144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis. (WRC-15)

5.218 *Additional allocation:* the band 148-149.9 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. **9.21**. The bandwidth of any individual transmission shall not exceed r 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 frequency bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service is subject to coordination under No. **9.11A**. (WRC-15)

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

Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia and Zimbabwe. (WRC-15)

5.226 The frequency 156.525 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service using digital selective calling (DSC). The conditions for the use of this frequency and the band 156.4875-156.5625 MHz are contained in Articles **31** and **52**, and in Appendix **18**. The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service. The conditions for the use of this frequency and the band 156.7625-156.8375 MHz are contained in Article **31** and Appendix **18**. In the bands 156-156.4875 MHz, 156.5625-156.7625 MHz, 156.8375-157.45 MHz, 160.6-160.975 MHz and 161.475-162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by the administration (see Articles **31** and **52**, and Appendix **18**). Any use of frequencies in these bands by stations of other services to which they are allocated should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service. However, the frequencies 156.8 MHz and 156.525 MHz and the frequency bands in which priority is given to the maritime mobile service may be used for radiocommunications on inland waterways subject to agreement between interested and affected administrations and taking into account current frequency usage and existing agreements. (WRC-07)

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

5.228 The use of the frequency bands 156.7625-156.7875 MHz and 156.8125-156.8375 MHz by the mobilesatellite service (Earth-to-space) is limited to the reception of automatic identification system (AIS) emissions of longrange AIS broadcast messages (Message 27, see the most recent version of Recommendation ITU-R M.1371). With the exception of AIS emissions, emissions in these frequency bands by systems operating in the maritime mobile service for communications shall not exceed 1 W. (WRC-12)

5.228A The frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz may be used by aircraft stations for the purpose of search and rescue operations and other safety-related communications. (WRC-12)

5.228AA The use of the frequency bands 161.9375-161.9625 MHz and 161.9875-162.0125 MHz by the maritime mobile-satellite (Earth-to-space) service is limited to the systems which operate in accordance with Appendix **18**. (WRC-15)

5.228B The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the fixed and land mobile services shall not cause harmful interference to, or claim protection from, the maritime mobile service. (WRC-12)

5.228F The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the mobile-satellite service (Earth-to-space) is limited to the reception of automatic identification system emissions from stations operating in the maritime mobile service. (WRC-12)

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**. (WRC-03)

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. (WRC-07)

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).

5.263 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.

5.265 In the frequency band 403-410 MHz, Resolution **205 (Rev.WRC-15)** applies. (WRC-15)

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**). (WRC-07)

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

5.279A The use of the frequency band 432-438 MHz by sensors in the Earth exploration-satellite service (active) shall be in accordance with Recommendation ITU-R RS.1260-1. Additionally, the Earth exploration-satellite service (active) in the frequency band 432-438 MHz shall not cause harmful interference to the aeronautical radionavigation service in China. The provisions of this footnote in no way diminish the obligation of the Earth exploration-satellite service (active) to operate as a secondary service in accordance with Nos. **5.29** and **5.30**. (WRC-15)

5.282 In the bands 435-438 MHz, 1 260-1 270 MHz, 2 400-2 450 MHz, 3 400-3 410 MHz (in Regions 2 and 3 only) and 5 650-5 670 MHz, the amateur-satellite service may operate subject to not causing harmful interference to other services operating in accordance with the Table (see No. **5.43**). Administrations authorizing such use shall ensure that any harmful interference caused by emissions from a station in the amateur-satellite service is immediately eliminated in accordance with the provisions of No. **25.11**. The use of the bands 1 260-1 270 MHz and 5 650-5 670 MHz by the amateur-satellite service is limited to the Earth-to-space direction.

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**. (WRC-97)

5.286AA The frequency band 450-470 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). See Resolution **224 (Rev.WRC-15)**. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.286B The use of the band 454-455 MHz in the countries listed in No. **5.286D**, 455-456 MHz and 459-460 MHz in Region 2, and 454-456 MHz and 459-460 MHz in the countries listed in No. **5.286E**, by stations in the mobile-satellite service, shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations. (WRC-97)

5.286C The use of the band 454-455 MHz in the countries listed in No. **5.286D**, 455-456 MHz and 459-460 MHz in Region 2, and 454-456 MHz and 459-460 MHz in the countries listed in No. **5.286E**, by stations in the mobile-satellite service, shall not constrain the development and use of the fixed and mobile services operating in accordance with the Table of Frequency Allocations. (WRC-97)

5.287 Use of the frequency bands 457.5125-457.5875 MHz and 467.5125-467.5875 MHz by the maritime mobile service is limited to on-board communication stations. The characteristics of the equipment and the channelling arrangement shall be in accordance with Recommendation ITU-R M.1174-3. The use of these frequency bands in territorial waters is subject to the national regulations of the administration concerned. (WRC-15)

5.288 In the territorial waters of the United States and the Philippines, the preferred frequencies for use by on-board communication stations shall be 457.525 MHz, 457.550 MHz, 457.575 MHz and 457.600 MHz paired, respectively, with 467.750 MHz, 467.775 MHz, 467.800 MHz and 467.825 MHz. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174-3. (WRC-15)

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.

5.296 *Additional allocation:* in Albania, Germany, Angola, Saudi Arabia, Austria, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Burundi, Cameroon, Vatican, Congo (Rep. of the), Côte d'Ivoire, Croatia, Denmark,

Djibouti, Egypt, United Arab Emirates, Spain, Estonia, Finland, France, Gabon, Georgia, Ghana, Hungary, Iraq, Ireland, Iceland, Israel, Italy, Jordan, Kenya, Kuwait, Lesotho, Latvia, The Former Yugoslav Republic of Macedonia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Malawi, Mali, Malta, Morocco, Mauritius, Mauritania, Moldova, Monaco, Mozambique, Namibia, Niger, Nigeria, Norway, Oman, Uganda, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Slovakia, the Czech Republic, the United Kingdom, Rwanda, San Marino, Serbia, Sudan, South Africa, Sweden, Switzerland, Swaziland, **Tanzania**, Chad, Togo, Tunisia, Turkey, Ukraine, Zambia and Zimbabwe, the frequency band 470-694 MHz is also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting and programme**-**making. Stations of the land mobile service in the countries listed in this footnote shall not cause harmful interference to existing or planned stations operating in accordance with the Table in countries other than those listed in this footnote. (WRC-15)

5.304 *Additional allocation:* in the African Broadcasting Area (see Nos. **5.10** to **5.13**), the band 606-614 MHz is also allocated to the radio astronomy service on a primary basis.

5.311A For the frequency band 620-790 MHz, see also Resolution **549 (WRC-07)**. (WRC-07)

5.312A In Region 1, the use of the frequency band 694-790 MHz by the mobile, except aeronautical mobile, service is subject to the provisions of Resolution **760 (WRC-15)**. See also Resolution **224 (Rev.WRC-15)**. (WRC-15)

5.316B In Region 1, the allocation to the mobile, except aeronautical mobile, service in the frequency band 790-862 MHz is subject to agreement obtained under No. **9.21** with respect to the aeronautical radionavigation service in countries mentioned in No. **5.312**. For countries party to the GE06 Agreement, the use of stations of the mobile service is also subject to the successful application of the procedures of that Agreement. Resolutions **224 (Rev.WRC-15)** and **749 (Rev.WRC-15)** shall apply, as appropriate. (WRC-15)

5.317A The parts of the frequency band 698-960 MHz in Region 2 and the frequency bands 694-790 MHz in Region 1 and 790-960 MHz in Regions 1 and 3 which are allocated to the mobile service on a primary basis are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) – see Resolutions **224 (Rev.WRC-15)**, **760 (WRC-15)** and **749 (Rev.WRC-15)**, where applicable. This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-15)

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

5.322 In Region 1, in the band 862-960 MHz, stations of the broadcasting service shall be operated only in the African Broadcasting Area (see Nos. **5.10** to **5.13**) excluding Algeria, Burundi, Egypt, Spain, Lesotho, Libya, Morocco, Malawi, Namibia, Nigeria, South Africa, **Tanzania**, Zimbabwe and Zambia, subject to agreement obtained under No. **9.21**. (WRC-12)

5.327A The use of the frequency band 960-1 164 MHz by the aeronautical mobile (R) service is limited to systems that operate in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution **417 (Rev.WRC-15)**. (WRC-15)

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. (WRC-2000)

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 (Rev.WRC-07)** 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. (WRC-07)

5.328AA The frequency band 1 087.7-1 092.3 MHz is also allocated to the aeronautical mobile-satellite (R) service (Earth-to-space) on a primary basis, limited to the space station reception of Automatic Dependent Surveillance-Broadcast (ADS-B) emissions from aircraft transmitters that operate in accordance with recognized international aeronautical standards. Stations operating in the aeronautical mobile-satellite (R) service shall not claim protection from stations operating in the aeronautical radionavigation service. Resolution **425 (WRC-15)** shall apply. (WRC-15)

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; however, in the case of radionavigation-satellite service (space-to-space) networks and systems, Resolution **610 (WRC-03)** shall only apply to transmitting space stations. In accordance with No. **5.329A**, for systems and networks in the radionavigation-satellite service (space-to-space) in the bands 1 215-1 300 MHz and 1 559-1 610 MHz, the provisions of Nos. **9.7**, **9.12**, **9.12A** and **9.13** shall only apply with respect to other systems and networks in the radionavigation-satellite service (space-to-space). (WRC-07)

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. (WRC-03)

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 radionavigation-satellite service (space-to-Earth) systems or on other services operating in accordance with the Table of Frequency Allocations. (WRC-07)

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. (WRC-2000)

5.335A In the band 1 260-1 300 MHz, active space-borne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service and other services allocated by footnotes on a primary basis. (WRC-2000)

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. (WRC-2000)

5.338A In the frequency bands 1 350-1 400 MHz, 1 427-1 452 MHz, 22.55-23.55 GHz, 30-31.3 GHz, 49.7-50.2 GHz, 50.4-50.9 GHz, 51.4-52.6 GHz, 81-86 GHz and 92-94 GHz, Resolution **750 (Rev.WRC-15)** applies. (WRC-15)

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.

5.340 All emissions are prohibited in the following bands: 400-1 427 MHz, 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[1],	
52.6-54.25 GHz,	
86-92 GHz,	
100-102 GHz,	
109.5-111.8 GHz,	
114.25-116 GHz,	
148.5-151.5 GHz,	
164-167 GHz,	
182-185 GHz,	
190-191.8 GHz,	
200-209 GHz,	
226-231.5 GHz,	
250-252 GHz. (WRC-03)	

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 extra-terrestrial origin.

5.341A In Region 1, the frequency bands 1 427-1 452 MHz and 1 492-1 518 MHz are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223 (Rev.WRC-15)**. This identification does not preclude the use of these frequency bands by any other application of the services to which it is allocated and does not establish priority in the Radio Regulations. The use of IMT stations is subject to agreement obtained under No. **9.21** with respect to the aeronautical mobile service used for aeronautical telemetry in accordance with No. **5.342**. (WRC-15)

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)** *.

5.346 In Algeria, Angola, Saudi Arabia, Bahrain, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Congo (Rep. of the), Côte d'Ivoire, Djibouti, Egypt, United Arab Emirates, Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Kenya, Kuwait, Lesotho, Lebanon, Liberia, Madagascar, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Palestine**, Qatar, Dem. Rep. of the Congo, Rwanda, Senegal, Seychelles, Sudan, South Sudan, South Africa, Swaziland, **Tanzania**, Chad, Togo, Tunisia, Zambia, and Zimbabwe, the frequency band 1 452-1 492 MHz is identified for use by administrations listed above wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223 (Rev.WRC-15)**. This identification does not preclude the use of this frequency band by any other application of the services to which it is allocated and does not establish priority in the Radio Regulations. The use of this frequency band for the implementation of IMT is subject to agreement obtained under No. **9.21** with respect to the aeronautical mobile service used for aeronautical telemetry in accordance with No. **5.342**. See also Resolution **761 (WRC-15)**. (WRC-15)

5.346A The frequency band 1 452-1 492 MHz is identified for use by administrations in Region 3 wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223 (Rev.WRC-15)** and Resolution **761 (WRC-15)**. The use of this frequency band by the above administrations for the implementation of IMT is subject to agreement obtained under No. **9.21** from countries using stations of the aeronautical mobile service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-15)

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. (WRC-03)

5.348A In the band 1 518-1 525 MHz, the coordination threshold in terms of the power flux-density levels at the surface of the Earth in application of No. **9.11A** for space stations in the mobile-satellite (space-to-Earth) service, with respect to the land mobile service use for specialized mobile radios or used in conjunction with public switched telecommunication networks (PSTN) operating within the territory of Japan, shall be –150 dB(W/m^2) in any 4 kHz band for all angles of arrival, instead of those given in Table 5-2 of Appendix **5**. In the band 1 518-1 525 MHz stations in the mobile-satellite service shall not claim protection from stations in the mobile service in the territory of Japan. No. **5.43A** does not apply. (WRC-03)

5.348B In the band 1 518-1 525 MHz, stations in the mobile-satellite service shall not claim protection from aeronautical mobile telemetry stations in the mobile service in the territory of the United States (see Nos. **5.343** and **5.344**) and in the countries listed in No. **5.342**. No. **5.43A** does not apply. (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 1 518-1 544 MHz, 1 545-1 559 MHz, 1 610-1 645.5 MHz, 1 646.5-1 660.5 MHz, 1 668-1 675 MHz, 1 980-2 010 MHz, 2 170-2 200 MHz, 2 483.5-2 520 MHz and 2 670-2 690 MHz by the mobilesatellite service, see Resolutions **212 (Rev.WRC-07)** * and **225 (Rev.WRC-07)** **. (WRC-07)

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.) (WRC-2000)

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 frequency bands 1 545-1 555 MHz and 1 646.5-1 656.5 MHz, priority shall be given to accommodating the spectrum requirements of the aeronautical mobile-satellite (R) service providing transmission of messages with priority 1 to 6 in Article **44**. Aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article **44** shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article **44**. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution **222 (Rev.WRC-12)** * shall apply.) (WRC-12)

5.362A In the United States, in the bands 1 555-1 559 MHz and 1 656.5-1 660.5 MHz, the aeronautical mobilesatellite (R) service shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article **44**. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (WRC-97)

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 *Additional allocation*: The frequency band 1 610-1 626.5 MHz is also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-12)

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

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**. (WRC-97)

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. (WRC-97)

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**. In the band 1 668-1 668.4 MHz, Resolution **904 (WRC-07)** shall apply. (WRC-07)

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

5.379D For sharing of the band 1 668.4-1 675 MHz between the mobile-satellite service and the fixed and mobile services, Resolution **744 (Rev.WRC-07)** shall apply. (WRC-07)

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 before 1 January 2004. Any new assignment to these earth stations in this band shall also be protected from harmful interference from stations in the mobile-satellite service. (WRC-07)

5.384A The frequency bands 1 710-1 885 MHz, 2 300-2 400 MHz and 2 500-2 690 MHz, or portions thereof, are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223 (Rev.WRC-15)**. This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.385 *Additional allocation:* the band 1 718.8-1 722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. (WRC-2000)

5.388 The frequency bands 1 885-2 025 MHz and 2 110-2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications (IMT). Such use does not preclude the use of these frequency bands by other services to which they are allocated. The frequency bands should be made available for IMT in accordance with Resolution **212 (Rev.WRC-15)** (see also Resolution **223 (Rev.WRC-15)**). (WRC-15)

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 (IMT), in accordance with Resolution **221 (Rev.WRC-07)**. Their use by IMT applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-12)

5.388B In Algeria, Saudi Arabia, Bahrain, Benin, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, China, Cuba, Djibouti, Egypt, United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, India, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Libya, Mali, Morocco, Mauritania, Nigeria, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, Senegal, Singapore, Sudan, South Sudan, **Tanzania**, Chad, Togo, Tunisia, Yemen, Zambia and Zimbabwe, for the purpose of protecting fixed and mobile services, including IMT mobile stations, in their territories from co-channel interference, a high altitude platform station (HAPS) operating as an IMT base station in neighbouring countries, in the bands referred to in No. **5.388A**, shall not exceed a co-channel power flux-density of -127 dB(W/(m^2 · MHz)) at the Earth's surface outside a country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS. (WRC-12)

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 (Rev.WRC-2000)** *. (WRC-07)

5.391 In making assignments to the mobile service in the frequency bands 2 025-2 110 MHz and 2 200-2 290 MHz, administrations shall not introduce high-density mobile systems, as described in Recommendation ITU-R SA.1154-0, and shall take that Recommendation into account for the introduction of any other type of mobile system. (WRC-15)

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.

5.396 Space stations of the broadcasting-satellite service in the band 2 310-2 360 MHz operating in accordance with No. **5.393** that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance

with Resolution **33 (Rev.WRC-97)** *. Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use.

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.

5.402 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 may also be used for the mobile-satellite (space-to-Earth), except aeronautical mobile-satellite, service for operation limited to within national boundaries. The provisions of No. **9.11A** apply. (WRC-07)

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**. No. **9.21** does not apply to tropospheric scatter links situated entirely outside Region 1. Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in this band. When planning new tropospheric scatter radio-relay links in this band, all possible measures shall be taken to avoid directing the antennas of these links towards the geostationary-satellite orbit. (WRC-12)

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) is subject to coordination under No. **9.11A**. (WRC-07).

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**. The provisions of No. **9.19** shall be applied by administrations in this band in their bilateral and multilateral negotiations. (WRC-07)

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

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

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

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. (WRC-03)

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**.

5.429A *Additional allocation*: in Angola, Benin, Botswana, Burkina Faso, Burundi, Ghana, Guinea, Guinea-Bissau, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sudan, South Sudan, South Africa, Swaziland, **Tanzania**, Chad, Togo, Zambia and Zimbabwe, the frequency band 3 300-3 400 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis. Stations in the mobile service operating in the frequency band 3 300-3 400 MHz shall

not cause harmful interference to, or claim protection from, stations operating in the radiolocation service. (WRC-15)

5.429B In the following countries of Region 1 south of 30° parallel north: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Congo (Rep. of the), Côte d'Ivoire, Egypt, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Uganda, the Dem. Rep. of the Congo, Rwanda, Sudan, South Sudan, South Africa, Swaziland, **Tanzania**, Chad, Togo, Zambia and Zimbabwe, the frequency band 3 300-3 400 MHz is identified for the implementation of International Mobile Telecommunications (IMT). The use of this frequency band shall be in accordance with Resolution **223 (Rev.WRC-15)**. The use of the frequency band 3 300-3 400 MHz by IMT stations in the mobile service shall not cause harmful interference to, or claim protection from, systems in the radiolocation service, and administrations wishing to implement IMT shall obtain the agreement of neighbouring countries to protect operations within the radiolocation service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.430A The allocation of the frequency band 3 400-3 600 MHz to the mobile, except aeronautical mobile, service is subject to agreement obtained under No. **9.21**. This frequency band is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. The provisions of Nos. **9.17** and **9.18** shall also apply in the coordination phase. Before an administration brings into use a (base or mobile) station of the mobile service in this frequency band, it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB (W/(m^2·4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station) and with the assistance of the Bureau if so requested. In case of disagreement, calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the frequency band 3 400-3 600 MHz shall not claim more protection from space stations than that provided in Table **21-4** of the Radio Regulations (Edition of 2004). (WRC-15)

5.436 Use of the frequency band 4 200-4 400 MHz by stations in the aeronautical mobile (R) service is reserved exclusively for wireless avionics intra-communication systems that operate in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution **424 (WRC-15)**. (WRC-15)

5.437 Passive sensing in the Earth exploration-satellite and space research services may be authorized in the frequency band 4 200-4 400 MHz on a secondary basis. (WRC-15)

5.438 Use of the frequency band 4 200-4 400 MHz by the aeronautical radionavigation service is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground. (WRC-15)

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 r 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. (WRC-2000)

5.443AA In the frequency bands 5 000-5 030 MHz and 5 091-5 150 MHz, the aeronautical mobile-satellite (R) service is subject to agreement obtained under No.

9.21. The use of these bands by the aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems. (WRC-12)

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 frequency band 5 030-5 150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the frequency band 5 010-5 030 MHz shall not exceed −124.5 dB(W/m^2) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the frequency band 4 990-5 000 MHz, radionavigation-satellite service systems operating in the frequency band 5 010-5 030 MHz shall comply with the limits in the frequency band 4 990-5 000 MHz defined in Resolution **741 (Rev.WRC-15)**. (WRC-15)

5.443C The use of the frequency band 5 030-5 091 MHz by the aeronautical mobile (R) service is limited to internationally standardized aeronautical systems. Unwanted emissions from the aeronautical mobile (R) service in the frequency band 5 030-5 091 MHz shall be limited to protect RNSS system downlinks in the adjacent 5 010-5 030 MHz band. Until such time that an appropriate value is established in a relevant ITU-R Recommendation, the e.i.r.p. density limit of −75 dBW/MHz in the frequency band 5 010-5 030 MHz for any AM(R)S station unwanted emission should be used. (WRC-12)

5.443D In the frequency band 5 030-5 091 MHz, the aeronautical mobile-satellite (R) service is subject to coordination under No. **9.11A**. The use of this frequency band by the aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems. (WRC-12)

5.444 The frequency band 5 030-5 150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. In the frequency band 5 030-5 091 MHz, the requirements of this system shall have priority over other uses of this frequency band. For the use of the frequency band 5 091-5 150 MHz, No. **5.444A** and Resolution **114 (Rev.WRC-15)** apply. (WRC-15)

5.444A The use of the allocation to the fixed-satellite service (Earth-to-space) in the frequency band 5 091-5 150 MHz is limited to feeder links of non-geostationary satellite systems in the mobile-satellite service and is subject to coordination under No. **9.11A**. The use of the frequency band 5 091-5 150 MHz by feeder links of non-geostationary satellite systems in the mobile-satellite service shall be subject to application of Resolution **114 (Rev.WRC-15)**. Moreover, to ensure that the aeronautical radionavigation service is protected from harmful interference, coordination is required for feeder-link earth stations of the non-geostationary satellite

systems in the mobile-satellite service which are separated by less than 450 km from the territory of an administration operating ground stations in the aeronautical radionavigation service. (WRC-15)

5.444B The use of the frequency band 5 091-5 150 MHz by the aeronautical mobile service is limited to: systems operating in the aeronautical mobile (R) service and in accordance with international aeronautical standards, limited to surface applications at airports. Such use shall be in accordance with Resolution **748 (Rev.WRC-15)**; aeronautical telemetry transmissions from aircraft stations (see No. **1.83**) in accordance with Resolution **418 (Rev.WRC-15)**. (WRC-15)

5.446A The use of the bands 5 150-5 350 MHz and 5 470-5 725 MHz by the stations in the mobile, except aeronautical mobile, service shall be in accordance with Resolution **229 (Rev.WRC-12)**. (WRC-12)

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. (WRC-03)
5.447A The allocation to the fixed-satellite service (Earth-to-space) in the band 5 150-5 250 MHz is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to coordination under No. **9.11A**.

5.447B *Additional allocation*: the band 5 150-5 216 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. This allocation is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to provisions of No. **9.11A**. The power flux-density at the Earth's surface produced by space stations of the fixed-satellite service operating in the space-to-Earth direction in the band 5 150-5 216 MHz shall in no case exceed –164 dB(W/m^2) in any 4-kHz band for all angles of arrival.

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 space borne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)

5.447F In the frequency band 5 250-5 350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth exploration-satellite service (active) and the space research service (active). These services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendations ITU-R M.1638-0 and ITU-R RS.1632-0. (WRC-15)

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

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. (WRC-03)

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**. (WRC-03)

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 frequency band 5 470-5 725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. Radiodetermination services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITU-R M.1638-0. (WRC-15)

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. (WRC-03)

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.

5.453 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Djibouti, Egypt, the United Arab Emirates, Gabon, Guinea, Equatorial Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya, Madagascar, Malaysia, Niger, Nigeria, Oman, Uganda, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Sri Lanka, Swaziland**, Tanzania**, Chad, Thailand, Togo, Viet Nam and Yemen, the band 5 650-5 850 MHz is also allocated to the fixed and mobile services on a primary basis. In this case, the provisions of Resolution **229 (Rev.WRC-12)** do not apply. (WRC-12)

5.457A In the frequency bands 5 925-6 425 MHz and 14-14.5 GHz, earth stations located on board vessels may communicate with space stations of the fixed-satellite service. Such use shall be in accordance with Resolution **902 (WRC-03)**. In the frequency band 5 925-6 425 MHz, earth stations located on board vessels and communicating with space stations of the fixed-satellite service may employ transmit antennas with minimum diameter of 1.2 m and operate without prior agreement of any administration if located at least 330 km away from the low-water mark as officially recognized by the coastal State. All other provisions of Resolution **902 (WRC-03)** shall apply. (WRC-15)

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 6 425-7 075 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**.

5.460 No emissions from space research service (Earth-to-space) systems intended for deep space shall be effected in the frequency band 7 190-7 235 MHz. Geostationary satellites in the space research service operating in the frequency band 7 190-7 235 MHz shall not claim protection from existing and future stations of the fixed and mobile services and No. **5.43A** does not apply. (WRC-15)

5.460A The use of the frequency band 7 190-7 250 MHz (Earth-to-space) by the Earth exploration-satellite service shall be limited to tracking, telemetry and command for the operation of spacecraft. Space stations operating in the Earth exploration-satellite service (Earth-to-space) in the frequency band 7 190-7 250 MHz shall not claim protection from existing and future stations in the fixed and mobile services, and No. **5.43A** does not apply. No. **9.17** applies. Additionally, to ensure protection of the existing and future deployment of fixed and mobile services, the location of earth stations supporting spacecraft in the Earth exploration-satellite service in non-geostationary orbits or geostationary orbit shall maintain a separation distance of at least 10 km and 50 km, respectively, from the respective border(s) of neighbouring countries, unless a shorter distance is otherwise agreed between the corresponding administrations. (WRC-15)

5.460B Space stations on the geostationary orbit operating in the Earth exploration-satellite service (Earth-to-space) in the frequency band 7 190-7 235 MHz shall not claim protection from existing and future stations of the space research service, and No. **5.43A** does not apply. (WRC-15)

5.461 *Additional allocation:* the bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space) are also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. **9.21**.

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. (WRC-97)

5.461AA The use of the frequency band 7 375-7 750 MHz by the maritime mobile-satellite service is limited to geostationary-satellite networks. (WRC-15)

5.461AB In the frequency band 7 375-7 750 MHz, earth stations in the maritime mobile-satellite service shall not claim protection from, nor constrain the use and development of, stations in the fixed and mobile, except aeronautical mobile, services. No. **5.43A** does not apply. (WRC-15)

5.461B The use of the band 7 750-7 900 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems. (WRC-12)

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

-135 dB(W/m^2) in a 1 MHz band	for $0 \leq \theta < 5°$
$-135 + 0.5\ (\theta - 5)$ dB(W/m^2) in a 1 MHz band	for $5 \leq \theta < 25°$
-125 dB(W/m^2) in a 1 MHz band	for $25 \leq \theta < 90°$ (WRC-12)

5.463 Aircraft stations are not permitted to transmit in the band 8 025-8 400 MHz. (WRC-97)

5.465 In the space research service, the use of the band 8 400-8 450 MHz is limited to deep space.

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. (WRC-97)

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.

5.473A In the band 9 000-9 200 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, systems identified in No. **5.337** operating in the aeronautical radionavigation service, or radar systems in the maritime radionavigation service operating in this band on a primary basis in the countries listed in No. **5.471**. (WRC-07)

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**).

5.474A The use of the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz by the Earth exploration-satellite service (active) is limited to systems requiring necessary

bandwidth greater than 600 MHz that cannot be fully accommodated within the frequency band 9 300-9 900 MHz. Such use is subject to agreement to be obtained under No. **9.21** from Algeria, Saudi Arabia, Bahrain, Egypt, Indonesia, Iran (Islamic Republic of), Lebanon and Tunisia. An administration that has not replied under No. **9.52** is considered as not having agreed to the coordination request. In this case, the notifying administration of the satellite system operating in the Earth exploration-satellite service (active) may request the assistance of the Bureau under Sub-Section IID of Article **9**. (WRC-15)

5.474B Stations operating in the Earth exploration-satellite (active) service shall comply with Recommendation ITU-R RS.2066-0. (WRC-15)

5.474C Stations operating in the Earth exploration-satellite (active) service shall comply with Recommendation ITU-R RS.2065-0. (WRC-15)

5.474D Stations in the Earth exploration-satellite service (active) shall not cause harmful interference to, or claim protection from, stations of the maritime radionavigation and radiolocation services in the frequency band 9 200-9 300 MHz, the radionavigation and radiolocation services in the frequency band 9 900-10 000 MHz and the radiolocation service in the frequency band 10.0-10.4 GHz. (WRC-15)

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. (WRC-07)

5.475A The use of the band 9 300-9 500 MHz by the Earth exploration-satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 300 MHz that cannot be fully accommodated within the 9 500-9 800 MHz band. (WRC-07)

5.475B In the band 9 300-9 500 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, radars operating in the radionavigation service in conformity with the Radio Regulations. Ground-based radars used for meteorological purposes have priority over other radiolocation uses. (WRC-07)

5.476 (SUP - WRC-07)

5.476A In the band 9 300-9 800 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful

interference to, nor claim protection from, stations of the radionavigation and radiolocation services. (WRC-07)

5.478A The use of the band 9 800-9 900 MHz by the Earth exploration-satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 500 MHz that cannot be fully accommodated within the 9 300-9 800 MHz band. (WRC-07)

5.478B In the band 9 800-9 900 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, nor claim protection from stations of the fixed service to which this band is allocated on a secondary basis. (WRC-07)

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.

5.482A For sharing of the band 10.6-10.68 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile, except aeronautical mobile, services, Resolution **751 (WRC-07)** applies. (WRC-07)

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. (WRC-2000)

5.484B Resolution **155 (WRC-15)** shall apply. (WRC-15)

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**. (WRC-03)

5.487A *Additional allocation:* in Region 1, the band 11.7-12.5 GHz, in Region 2, the band 12.2-12.7 GHz and, in Region 3, the band 11.7-12.2 GHz, are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis, limited to non-geostationary systems and subject to application of the provisions of No. **9.12** for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the broadcasting-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. **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. (WRC-03)

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

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. (WRC-2000)

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. (WRC-97)

5.499A The use of the frequency band 13.4-13.65 GHz by the fixed-satellite service (space-to-Earth) is limited to geostationary-satellite systems and is subject to agreement obtained under No. **9.21** with respect to satellite systems operating in the space research service (space-to-space) to relay data from space stations in the geostationary-satellite orbit to associated space stations in non-geostationary satellite orbits for which advance publication information has been received by the Bureau by 27 November 2015. (WRC-15)

5.499B Administrations shall not preclude the deployment and operation of transmitting earth stations in the standard frequency and time signal-satellite service (Earth-to-space) allocated on a secondary basis in the frequency band 13.4-13.65 GHz due to the primary allocation to FSS (space-to-Earth). (WRC-15)

5.499C The allocation of the frequency band 13.4-13.65 GHz to the space research service on a primary basis is limited to: satellite systems operating in the space research service (space-to-space) to relay data from space stations in the geostationary-satellite orbit to associated space stations in non-geostationary satellite orbits for which advance publication information has been received by the Bureau by 27 November 2015, active space borne sensors, satellite systems operating in the space research service (space-to-Earth) to relay data from space stations in the geostationary-satellite orbit to associated earth stations. Other uses of the frequency band by the space research service are on a secondary basis. (WRC-15)

5.499D In the frequency band 13.4-13.65 GHz, satellite systems in the space research service (space-to-Earth) and/or the space research service (space-to-space) shall not cause harmful interference to, nor claim protection from, stations in the fixed, mobile, radiolocation and Earth exploration-satellite (active) services. (WRC-15)

5.499E In the frequency band 13.4-13.65 GHz, geostationary-satellite networks in the fixed-satellite service (space-to-Earth) shall not claim protection from space stations in the Earth exploration-satellite service (active) operating in accordance with these Regulations, and No. **5.43A** does not apply. The provisions of No. **22.2** do not apply to the Earth exploration-satellite service (active) with respect to the fixed-satellite service (space-to-Earth) in this frequency band. (WRC-15)

5.501A The allocation of the frequency band 13.65-13.75 GHz to the space research service on a primary basis is limited to active space borne sensors. Other uses of the frequency band by the space research service are on a secondary basis. (WRC-15)

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. (WRC-97)

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

–115 dB (W/(m^2 ·10 MHz)) for more than 1% of the time produced at 36 m above sea level at the low water mark, as officially recognized by the coastal State;

–115 dB (W/(m^2 ·10 MHz)) for more than 1% of the time produced 3 m above ground at the border of the territory of an administration deploying or planning to deploy land mobile radars in this band, unless prior agreement has been obtained.

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

5.503 In the band 13.75-14 GHz, geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the fixed-satellite service; after that date, new geostationary space stations in the space research service will operate on a secondary basis. Until those geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this band: in the band 13.77-13.78 GHz, the e.i.r.p. density of emissions from any earth station in the fixed satellite service operating with a space station in geostationary-satellite orbit shall not exceed:

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

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;

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;
56.2 dB (W/4 kHz) for narrow-band (less than 40 kHz of necessary bandwidth) fixed-satellite service earth station emissions from any fixed-satellite service earth station having an antenna diameter of 4.5 m or greater;
the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in non-geostationary-satellite orbit shall not exceed 51 dBW in the 6 MHz band from 13.772 to 13.778 GHz.

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

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. (WRC-03)

5.504B Aircraft earth stations operating in the aeronautical mobile-satellite service in the frequency band 14-14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643-0, with respect to any radio astronomy station performing observations in the 14.47-14.5 GHz frequency band located on the territory of Spain, France, India, Italy, the United Kingdom and South Africa. (WRC-15)

5.506 The band 14-14.5 GHz may be used, within the fixed-satellite service (Earth-to-space), for feeder links for the broadcasting-satellite service, subject to coordination with other networks in the fixed-satellite service. Such use of feeder links is reserved for countries outside Europe.

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. (WRC-03)

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 and Malta, within the minimum distance given in Resolution **902 (WRC-03)** from these countries. (WRC-15)

5.509B The use of the frequency bands 14.5-14.75 GHz in countries listed in Resolution **163 (WRC-15)** and 14.5-14.8 GHz in countries listed in Resolution **164 (WRC-15)** by the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service is limited to geostationary-satellites. (WRC-15)

5.509C For the use of the frequency bands 14.5-14.75 GHz in countries listed in Resolution **163 (WRC-15)** and 14.5-14.8 GHz in countries listed in Resolution **164 (WRC-15)** by the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service, the fixed-satellite service earth stations shall have a minimum antenna diameter of 6 m and a maximum power spectral density of −44.5 dBW/Hz at the input of the antenna. The earth stations shall be notified at known locations on land. (WRC-15)

5.509D Before an administration brings into use an earth station in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service in the frequency bands 14.5-14.75 GHz (in countries listed in Resolution **163 (WRC-15)**) and 14.5-14.8 GHz (in countries listed in Resolution **164 (WRC-15)**), it shall ensure that the power flux-density produced by this earth station does not exceed −151.5 dB(W/(m^2 · 4 kHz)) produced at all altitudes from 0 m to 19 000 m above sea level at 22 km seaward from all coasts, defined as the low-water mark, as officially recognized by each coastal State. (WRC-15)

5.509E In the frequency bands 14.50-14.75 GHz in countries listed in Resolution **163 (WRC-15)** and 14.50-14.8 GHz in countries listed in Resolution **164 (WRC-15)**, the location of earth stations in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service shall maintain a separation distance of at least 500 km from the border(s) of other countries unless shorter distances are explicitly agreed by those administrations. No. **9.17** does not apply. When applying this provision, administrations should consider the relevant parts of these Regulations and the latest relevant ITU-R Recommendations. (WRC-15)

5.509F In the frequency bands 14.50-14.75 GHz in countries listed in Resolution **163 (WRC-15)** and 14.50-14.8 GHz in countries listed in Resolution **164 (WRC-15)**, earth stations in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service shall not constrain the future deployment of the fixed and mobile services. (WRC-15)

5.509G The frequency band 14.5-14.8 GHz is also allocated to the space research service on a primary basis. However, such use is limited to the satellite systems

operating in the space research service (Earth-to-space) to relay data to space stations in the geostationary-satellite orbit from associated earth stations. Stations in the space research service shall not cause harmful interference to, or claim protection from, stations in the fixed and mobile services and in the fixed satellite service limited to feeder links for the broadcasting-satellite service and associated space operations functions using the guard bands under Appendix **30A** and feeder links for the broadcasting-satellite service in Region 2. Other uses of this frequency band by the space research service are on a secondary basis. (WRC-15)

5.510 Except for use in accordance with Resolution **163 (WRC-15)** and Resolution **164 (WRC-15)**, the use of the frequency band 14.5-14.8 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. This use is reserved for countries outside Europe. Uses other than feeder links for the broadcasting-satellite service are not authorized in Regions 1 and 2 in the frequency band 14.75-14.8 GHz. (WRC-15)

5.511A Use of the frequency band 15.43-15.63 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under No. **9.11A**. (WRC-15)

5.511C Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340-0. The minimum coordination distance required to protect the aeronautical radionavigation stations (No. **4.10** applies) from harmful interference from feeder-link earth stations and the maximum e.i.r.p. transmitted towards the local horizontal plane by a feeder-link earth station shall be in accordance with Recommendation ITU-R S.1340-0. (WRC-15)

5.511E In the frequency band 15.4-15.7 GHz, stations operating in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the aeronautical radionavigation service. (WRC-12)

5.511F In order to protect the radio astronomy service in the frequency band 15.35-15.4 GHz, radiolocation stations operating in the frequency band 15.4-15.7 GHz shall not exceed the power flux-density level of −156 dB(W/m^2) in a 50 MHz bandwidth in the frequency band 15.35-15.4 GHz, at any radio astronomy observatory site for more than 2 per cent of the time. (WRC-12)

5.513 *Additional allocation:* in Israel, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. These services shall not claim protection from or cause harmful interference to services operating in accordance with the Table in countries other than those included in No. **5.512**.

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. (WRC-97)

5.515 In the band 17.3-17.8 GHz, sharing between the fixed-satellite service (Earth-to-space) and the broadcasting-satellite service shall also be in accordance with the provisions of § 1 of Annex 4 of Appendix **30A**.

5.516 The use of the band 17.3-18.1 GHz by geostationary-satellite systems in the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. The use of the band 17.3-17.8 GHz in Region 2 by systems in the fixed-satellite service (Earth-to-space) is limited to geostationary satellites. For the use of the band 17.3-17.8 GHz in Region 2 by feeder links for the broadcasting-satellite service in the band 12.2-12.7 GHz, see Article **11**. The use of the bands 17.3-18.1 GHz (Earth-to-space) in Regions 1 and 3 and 17.8-18.1 GHz (Earth-to-space) in Region 2 by non-geostationary-satellite systems in the fixed-satellite service is subject to application of the provisions of No. **9.12** for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. **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. (WRC-2000)

5.516A In the band 17.3-17.7 GHz, earth stations of the fixed-satellite service (space-to-Earth) in Region 1 shall not claim protection from the broadcasting-satellite service feeder-link earth stations operating under Appendix **30A**, nor put any limitations or restrictions on the locations of the broadcasting-satellite service feeder-link earth stations anywhere within the service area of the feeder link. (WRC-03)

5.516B The following bands are identified for use by high-density applications in the fixed-satellite service:

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

40.5-42 GHz	(space-to-Earth) in Region 2,
47.5-47.9 GHz	(space-to-Earth) in Region 1,
48.2-48.54 GHz	(space-to-Earth) in Region 1,
49.44-50.2 GHz	(space-to-Earth) in Region 1,
and	
27.5-27.82 GHz	(Earth-to-space) in Region 1,
28.35-28.45 GHz	(Earth-to-space) in Region 2,
28.45-28.94 GHz	(Earth-to-space) in all Regions,
28.94-29.1 GHz	(Earth-to-space) in 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.

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

5.519 *Additional allocation:* the bands 18-18.3 GHz in Region 2 and 18.1-18.4 GHz in Regions 1 and 3 are also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Their use is limited to geostationary satellites. (WRC-07)

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. (WRC-2000)

5.521 *Alternative allocation:* in the United Arab Emirates and Greece, the frequency band 18.1-18.4 GHz is allocated to the fixed, fixed-satellite (space-to-Earth) and mobile services on a primary basis (see No. **5.33**). The provisions of No. **5.519** also apply. (WRC-15)

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. (WRC-2000)

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. (WRC-2000)

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. (WRC-97)

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. (WRC-97)

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**. (WRC-97)

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. (WRC-97)

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 29.930 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.

5.527A The operation of earth stations in motion communicating with the FSS is subject to Resolution **156 (WRC-15)**. (WRC-15)

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**. **5.529** The use of the bands 19.7-20.1 GHz and 29.5-29.9 GHz by the mobile-satellite service in Region 2 is limited to satellite networks which are both in the fixed-satellite service and in the mobile-satellite service as described in No. **5.526**.

5.530A Unless otherwise agreed between the administrations concerned, any station in the fixed or mobile services of an administration shall not produce a power flux-density in excess of −120.4 dB(W/(m^2 · MHz)) at 3 m above the ground of any point of the territory of any other administration in Regions 1 and 3 for more than 20% of the time. In conducting the calculations, administrations should use the most recent version of Recommendation ITU-R P.452 (see also the most recent version of Recommendation ITU-R BO.1898). (WRC-15)

5.530B In the band 21.4-22 GHz, in order to facilitate the development of the broadcasting-satellite service, administrations in Regions 1 and 3 are encouraged not to deploy stations in the mobile service and are encouraged to limit the deployment of stations in the fixed service to point-to-point links. (WRC-12)

5.530D See Resolution **555 (WRC-12)** *. (WRC-12)

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.

5.532A The location of earth stations in the space research service shall maintain a separation distance of at least 54 km from the respective border(s) of neighbouring countries to protect the existing and future deployment of fixed and mobile services unless a shorter distance is otherwise agreed between the corresponding administrations. Nos. **9.17** and **9.18** do not apply. (WRC-12)

5.532B Use of the band 24.65-25.25 GHz in Region 1 and the band 24.65-24.75 GHz in Region 3 by the fixed satellite service (Earth-to-space) is limited to earth stations using a minimum antenna diameter of 4.5 m. (WRC-12)

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

5.535 In the band 24.75-25.25 GHz, feeder links to stations of the broadcasting-satellite service shall have priority over other uses in the fixed-satellite service (Earth-to-space). Such other uses shall protect and shall not claim protection from existing and future operating feeder-link networks to such broadcasting satellite stations.

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**. (WRC-97)

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 the most recent version of Recommendation ITU-R SA.1862. (WRC-12)

5.536B In Saudi Arabia, Austria, Bahrain, Belgium, Brazil, China, Korea (Rep. of), Denmark, Egypt, United Arab Emirates, Estonia, Finland, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, Libya, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the Czech Rep., Romania, the United Kingdom, Singapore, Sweden, **Tanzania**, Turkey, Viet Nam and Zimbabwe, earth stations operating in the Earth exploration-satellite service in the frequency band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-15)

5.536C In Algeria, Saudi Arabia, Bahrain, Botswana, Brazil, Cameroon, Comoros, Cuba, Djibouti, Egypt, United Arab Emirates, Estonia, Finland, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Lithuania, Malaysia, Morocco, Nigeria, Oman, Qatar, Syrian Arab Republic, Somalia, Sudan, South Sudan, **Tanzania**, Tunisia, Uruguay, Zambia and Zimbabwe, earth stations operating in the space research service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-12)

5.537 Space services using non-geostationary satellites operating in the inter-satellite service in the band 27-27.5 GHz are exempt from the provisions of No. **22.2**.

5.538 *Additional allocation:* the bands 27.500-27.501 GHz and 29.999-30.000 GHz are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis for the beacon transmissions intended for up-link power control. Such space-to-Earth transmissions shall not exceed an equivalent isotopically radiated power (e.i.r.p.) of 10 dBW in the direction of adjacent satellites on the geostationary-satellite orbit. (WRC-07)

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 *Additional allocation:* the band 27.501-29.999 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis for beacon transmissions intended for up-link power control.

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. (WRC-2000)

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.

5.547 The bands 31.8-33.4 GHz, 37-40 GHz, 40.5-43.5 GHz, 51.4-52.6 GHz, 55.78-59 GHz and 64-66 GHz are available for high-density applications in the fixed service (see Resolution **75 (WRC-2000)** *). Administrations should take this into account when considering regulatory provisions in relation to these bands. Because of the potential deployment of high-density applications in the fixed-satellite service in the bands 39.5-40 GHz and 40.5-42 GHz (see No. **5.516B**), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate. (WRC-07)

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. (WRC-2000)

5.548 In designing systems for the inter-satellite service in the band 32.3-33 GHz, for the radionavigation service in the band 32-33 GHz, and for the space research service (deep space) in the band 31.8-32.3 GHz, administrations shall take all necessary measures to prevent harmful interference between these services, bearing in mind the safety aspects of the radionavigation service (see Recommendation **707**). (WRC-03)

5.549A In the band 35.5-36.0 GHz, the mean power flux-density at the Earth's surface, generated by any space borne sensor in the Earth exploration-satellite service (active) or space research service (active), for any angle greater than 0.8° from the beam centre shall not exceed 73.3 dB(W/m^2) in this band. (WRC-03)

5.550A For sharing of the band 36-37 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile services, Resolution **752 (WRC-07)** shall apply. (WRC-07)

5.551H The equivalent power flux-density (epfd) produced in the frequency band 42.5-43.5 GHz by all space stations in any non-geostationary-satellite system in the fixed-satellite service (space-to-Earth), or in the broadcasting satellite service operating in the frequency band 42-42.5 GHz, shall not exceed the following values at the site of any radio astronomy station for more than 2% of the time:

> −230 dB(W/m^2) in 1 GHz and −246 dB(W/m^2) in any 500 kHz of the frequency band 42.5-43.5 GHz at the site of any radio astronomy station registered as a single-dish telescope; and
> −209 dB(W/m^2) in any 500 kHz of the frequency band 42.5-43.5 GHz at the site of any radio astronomy station registered as a very long baseline interferometry station.

These epfd values shall be evaluated using the methodology given in Recommendation ITU-R S.1586-1 and the reference antenna pattern and the maximum gain of an antenna in the radio astronomy service given in Recommendation ITU-R RA.1631-0 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle θ_{min} of the radio-telescope (for which a default value of 5° should be adopted in the absence of notified information).

These values shall apply at any radio astronomy station that either: was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or was notified before the date of receipt of the complete Appendix **4** information for coordination or notification, as appropriate, for the space station to which the limits apply.

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have 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. (WRC-15)

5.551I The power flux-density in the band 42.5-43.5 GHz produced by any geostationary space station in the fixed satellite service (space-to-Earth), or the broadcasting-satellite service operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station:

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

These values shall apply at the site of any radio astronomy station that either: was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or was notified before the date of receipt of the complete Appendix **4** information for coordination or notification, as appropriate, for the space station to which the limits apply.

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have 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. (WRC-03)

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 (Rev.WRC-07)**. (WRC-07)

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**). (WRC-2000)

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. (WRC-2000)

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. (WRC-03)

5.555 *Additional allocation:* the band 48.94-49.04 GHz is also allocated to the radio astronomy service on a primary basis. (WRC-2000)

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. (WRC-03)

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. (WRC-2000)

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. (WRC-97)

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). (WRC-2000)

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**). (WRC-2000)

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. (WRC-97)

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**). (WRC-2000)

5.559B The use of the frequency band 77.5-78 GHz by the radiolocation service shall be limited to short-range radar for ground-based applications, including automotive radars. The technical characteristics of these radars are provided in the most recent version of Recommendation ITU-R M.2057. The provisions of No. **4.10** do not apply. (WRC-15)

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. (WRC-2000)

5.561A The 81-81.5 GHz band is also allocated to the amateur and amateur-satellite services on a secondary basis. (WRC-2000)

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 space borne cloud radars. (WRC-97)

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. (WRC-2000)

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. (WRC-2000)

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

5.562E The allocation to the Earth exploration-satellite service (active) is limited to the band 133.5-134 GHz. (WRC-2000)

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. (WRC-2000)

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. (WRC-2000)

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

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. (WRC-2000)

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 space borne cloud radars only. (WRC-2000)

5.565 The following frequency bands in the range 275-1 000 GHz are identified for use by administrations for passive service applications:

- radio astronomy service: 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz and 926-945 GHz;
- Earth exploration-satellite service (passive) and space research service (passive): 275-286 GHz, 296-306 GHz, 313-356 GHz, 361-365 GHz, 369-392 GHz, 397-399 GHz, 409-411 GHz, 416-434 GHz, 439-467 GHz, 477-502 GHz, 523-527 GHz, 538-581 GHz, 611-630 GHz, 634-654 GHz, 657-692 GHz, 713-718 GHz, 729-733 GHz, 750-754 GHz, 771-776 GHz, 823-846 GHz, 850-854 GHz, 857-862 GHz, 866-882 GHz, 905-928 GHz, 951-956 GHz, 968-973 GHz and 985-990 GHz.

The use of the range 275-1 000 GHz by the passive services does not preclude use of this range by active services. Administrations wishing to make frequencies in the 275-

1 000 GHz range available for active service applications are urged to take all practicable steps to protect these passive services from harmful interference until the date when the Table of Frequency Allocations is established in the above-mentioned 275-1 000 GHz frequency range.

All frequencies in the range 1 000-3 000 GHz may be used by both active and passive services. (WRC-12)