The United Republic of Tanzania

National Frequency Allocation Table

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Disclaimer

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Acronyms

Terms	Definition
ADSE	Airport Surface Detection Equipment
AID	Automatic Identification
AIS	Automatic Identification System
AM	Amplitude Modulation
Appendix 17	Appendix 17 of the Radio Regulations: Frequencies and channeling arrangements in the high-frequency bands for the maritime mobile service
Appendix 18	Appendix 18 of the Radio Regulations: Table of transmitting frequencies in the VHF maritime mobile band
Appendix 30	Appendix 30 of the Radio Regulations: Provisions for all services and associated plans and list for the broadcasting-satellite service in the frequency bands 11.7- 12.2 GHz (in Region 3), 11.7-12.5 GHz (in Region 1) and 12.2-12.7 GHz (in Region 2)
Appendix 30A	Appendix 30A of the Radio Regulations: Provisions and associated plans and list for feeder links for the broadcasting-satellite service (11.7-12.5 GHz in Region 1, 12.2-12.7 GHz in Region 2 and 11.7-12.2 GHz in Region 3) in the frequency bands 14.5-14.8 GHz and 17.3-18.1 GHz in Regions 1 and 3, and 17.3-17.8 GHz in Region 2
Appendix 30B	Appendix 30B of the Radio Regulations: Provisions and associated plan for the fixed-satellite service in the frequency bands 4 500-4 800 MHz, 6 725-7 025 MHz, 10.70-10.95 GHz, 11.20-11.45 GHz and 12.75-13.25 GHz
Appendix 4	Appendix 4 of the Radio Regulations: Consolidated list and tables of characteristics for use in the application of the procedures of Chapter III
Appendix 5	Appendix 5 of the Radio Regulations: Identification of administrations with which coordination is to be effected or agreement sought under the provisions of Article 9
Article 12	Article 12 of the Radio Regulations: Seasonal planning of the high frequency bands allocated to the broadcasting service between 5 900 kHz and 26 100 kHz
Article 23	Article 23 of the Radio Regulations: Broadcasting services
Article 26	Article 26 of the Radio Regulations: Standard frequency and time signal service
Article 31	Article 31 of the Radio Regulations: Frequencies for the global maritime distress and safety system (GMDSS)
Article 5	Article 5 of the Radio Regulations: Frequency allocations
BFWA	Broadband Fixed Wireless Access
BSS	Broadcasting Satellite Services
COSPAS	Space System for Search of Distress Vessels
DME	Distance Measuring Equipment
DSC	Digital Selective Calling
E.I.R.P	Equivalent isotopically radiated power - the product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna (absolute or isotropic gain)
EESS	Earth Exploration Satellite Service
EIRP	Effective Isotropic Radiated Power
ENG	Electronic News Gathering
EPIRB	Emergency Position Indicatiing Radio Beacons

FWA	Fixed Wireless Access
GLONASS	Global Navigation Satellite System
GMDSS	Global Maritime Distress and Safety System
GPS	Global Positioning System
GSO	Geostationary Satellite Orbit
HAPS	High-Altitude Platform System
HDFSS	High Density Fixed-Satellite Service
ICAO	International Civil Aviation Organization
ILS	Instrument Landing System
IMT	International Mobile Telecommunication
ISM	Industrial, Scientific and Medical applications
ITU	International Telecommunication Union
ITU GE-06 plan	The Plans for VHF/UHF analogue and digital broadcasting in parts of Regions 1 and 3, in the frequency bands 174-230 MHz and 470-862 MHz, Geneva 2006
ITU GE-75 plan	Plan for the assignment of frequencies to broadcasting stations in the medium frequency bands in Regions 1 and 3 and in the low frequency bands in Region 1
ITU GE-84 plan	Frequency assignment plan for FM sound broadcasting stations in Region 1 and part of Region 3 in the band 87.5-108 MHz
ITU RR	Wireless Local Area Network
ITU-R	Short Range Devises
LEO	Public Mobile Radio
MLS	Public Access Mobile Radio
MMDS	Airport Surface Detection Equipment
MMSI	Automatic Identification
MSI	Maritime Safety Information
MSS	Mobile Satellite Services
NAVTEX	Navigation Text Messaging System
NBDP	Narrow Band Direct Printing
NDB	Non-Directional radionBeacon
NFAT	National Frequency Allocations Table
PMR	Private Mobile Radio
PPDR	Public Protection and Disaster Relief
RACOM	Radio Telephony Communication
SAB	Service Ancillary to Broadcasting
SAP	Service Ancillary to Program making
SAR	Search and Rescue
SARSAT	Search and Rescue Satellite-Aided Tracking
SART	Search and Rescue Transponder
SENG	Satellite News Gathering
SRD	Short Range Device
SSB	Single Sideband
SSR	Secondary Surveillance Radar
VOR	VHF Omni-Directional Range
VSAT	Very Small Aperture Terminal
WAS	Wireless Access System
FRMC	Future Relating Mobile Communication
HDFS	High Density Fixed Services
BFWA	Broadband Fixed Wireless Access

PREFACE

GENERAL INFORMATION

Background

The International Telecommunication Union ("ITU"), a specialized agency under the United Nations, is responsible for the harmonization on the global use of the spectrum. The ITU Radio Regulations ("Radio Regulations") is an international treaty that contains the world's frequency allocation table ("ITU Allocation Table"). This table is important as it forms the framework for international, regional and national spectrum planning, allocations and assignments.

One (1) of the key features of the ITU Allocation Table is that it sets out the frequency bands which have been allocated to services and divides the world into three (3) distinctive regions. **Figure 1** illustrates the aforesaid division whilst the write-up beneath it lists out the countries that make up the relevant regions. United Republic of Tanzania falls within the perimeter of Region 1 in the ITU Allocation Table.

United Republic of Tanzania is a party to the Constitution and Convention of the ITU and the Radio Regulations. The Radio Regulations are revised at the ITU World Radiocommunication Conference ("WRC"), held every three (3) or four (4) years. The structure of the National Frequency Allocation Table (NFAT) is based on the ITU Allocation Table contained in the Radio Regulations. For easy reference, the ITU Region 1 Allocation Column has been reproduced in this National Frequency Allocation Table (NFAT) together with the relevant accompanying footnotes.

It should be noted that although the Tanzanian allocations are generally aligned with Article 5 of the Radio Regulations for Region 1, some differences do exist. This is because, where necessary, variations have been incorporated to reflect Tanzanian domestic requirements. However, any variation undertaken is subject to the conditions contained in the Radio Regulations that the associated radio installations do not cause harmful interference to, and shall not claim protection from harmful interference caused by the radio services or communications in the jurisdiction of the rest of the ITU Member States that operate in accordance with the provisions of the Radio Regulations.

This National Frequency Allocation Table (NFAT) Plan is updated to incorporate the latest version of the Radio Regulations (Edition 2020) and other information regarding use of spectrum in Tanzania.

1.0 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 radio frequency 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, 2020 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.

2.0 Principles of Spectrum Management

2.1 National level

As radio frequency spectrum is limited resource, efficient use of this resource is essential for the functioning of modern communication societies. Tanzania Communications Regulatory Authority Act, No.12 of 2003, includes a direct mandate for TCRA to manage radio spectrum and act appropriately in order to ensure efficient use of this resource. Regulation is fundamentally concerned with combining the various interests of frequency users and manufacturers within the aforementioned legal mandate. TCRA continuously analyses the radio frequency spectrum requirements for existing and planned radio services in the United Republic of Tanzania. This is necessary for efficient and equitable planning and coordination of frequencies in order to avoid interference.

TCRA strategy aims to efficiently regulate access to radio spectrum on a national and international level in a coordinated manner. It aims to ensure that Tanzanian's rights are respected in accordance with international framework. International bodies aim to harmonize the use of the radio frequency spectrum by the various radio services, thus any international decisions taken therefore play a part in national spectrum management.

2.2 International level

TCRA represents the United Republic of Tanzania in regional and international bodies dealing with the spectrum management, where it safeguards national interests in order to promote them on an international (regional and global) level.

The requirements of industry and the associated civil uses are handled via the international working activities of the ITU as radio signals propagate across international borders, cross-border agreements regarding spectrum use become vital both between neighboring countries and between economic interest blocks on a global scale. The use of all spectrum resources is being harmonized at the international level at the ITU World Radiocommunication Conferences in order to

ensure efficient and interference-free use of radio spectrum.

The Radio Sector of the International Telecommunication Union (ITU-R) allocates worldwide radio spectrum to various radio services in accordance with the Radio Regulations (RR). The RR is an international agreement, which regulates the use of radio spectrum resources for all radio applications, as well as the orbital positions of geostationary and non-geostationary satellites. This agreement is binding to ITU member states. The RR articles are revised as a result of the resolutions of the World Radiocommunication Conferences (WRC) to adapt the existing framework to ever changing radio spectrum requirements in order to refine the requirements of existing applications or facilitate the introduction of new ones. The results of ITU World Radiocommunication Conferences are set forth in “final acts”.

3.0 Basic Provisions

Direct references have been made within NFAT to the footnotes of the International Telecommunication Union Table of Frequency Allocations, which apply to Tanzania’s radio services or frequency bands concerned. All remaining international footnotes that are not specifically mentioned in the in the International Telecommunication Union Table of Frequency Allocations do not therefore apply in Tanzania.

The NFAT thus qualifies the provisions of the International Telecommunication Union Table of Frequency Allocations and makes additional provisions for domestic radio spectrum requirements; and it provides the framework within which frequency assignments are to be made for all services. The provisions of the NFAT shall therefore be applied to all radio services, transmitting or receiving within the territory or territorial waters of the United Republic of Tanzania as appropriate.

Where the provisions of the International Telecommunication Union Table of Frequency Allocations and NFAT differ, those of the latter will apply.

4.0 Uses of Spectrum

This document does not represent all uses of spectrum that are authorized in Tanzania or that may be authorized in future. The conditions that are attached to the use of different frequency bands are set out in licenses issued by TCRA, and/or in regulations made by TCRA, where such use regulated by TCRA under the TCRA Act, 2003.

TCRA may, having consulted, as it considers appropriate, vary existing conditions of use, and may issue new authorizations, under responsibilities entitled to it by the TCRA Act, 2003, and in accordance with the mandates of other Tanzanian laws and legislations. This document is therefore not binding on TCRA but TCRA will take due note of its contents and consult where necessary during the discharge of its statutory duties.

Where statutory regulations are in place to exempt radio spectrum systems from the need to issue license (license exempt), these regulations take precedence over the detail shown in NFAT.

5.0 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.

Chapter 1

Terms and Definitions

6.0 Radio communication Definitions

6.1 General terms

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.

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

Radio: A general term applied to the use of radio waves.

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

Radiocommunication: Telecommunication by means of radio waves.

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

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

Radio determination: 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.

Radio navigation: Radio determination used for the purposes of navigation, including obstruction warning.

Radiolocation: Radio determination used for purposes other than those of radio navigation.

Radio direction-finding: Radio determination using the reception of radio waves for the purpose of determining the direction of a station or object.

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

Industrial, Scientific and Medical (ISM) applications: 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.

6.2 Specific terms related to frequency management

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

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

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

6.3 Radio services

Radiocommunication service: A service as defined in this Section involving the transmission, emission and/or reception of radio waves for specific telecommunication purposes.

Fixed service: A radiocommunication service between specified fixed points.

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

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

Space operation service: A radiocommunication service concerned exclusively with the operation of spacecraft, in particular space tracking, space telemetry and space telecommand.

Mobile service: A radio communication service between mobile and land stations or between mobile stations.

Mobile-satellite service: A radiocommunication service between mobile earth stations and one or more space stations, or between space stations used by this service; or between mobile earth stations by means of one or more space stations. This service may also include feeder links necessary for its operation.

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

Land mobile-satellite service: A mobile-satellite service in which mobile earth stations are located on land.

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

Maritime mobile-satellite service: 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.

Port operations service: A maritime mobile service in or near a port, between coast stations and ship stations, or between ship stations, in which messages are restricted to those relating to the operational handling, the movement and the safety of ships and, in emergency, to the safety of persons. Messages which are of a public correspondence nature shall be excluded from this service.

Ship movement service: A safety service in the maritime mobile service other than a port operations service, between coast stations and ship stations, or between ship stations, in which messages are restricted to those relating to the movement of ships. Messages which are of a public correspondence nature shall be excluded from this service.

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

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

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

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

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

Aeronautical mobile-satellite (OR) service: An aeronautical mobile-satellite

service intended for communications, including those relating to flight coordination, primarily outside national and international civil air routes.

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

Broadcasting-satellite service: A radio communication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public.

Radio determination service: A radiocommunication service for the purpose of radio determination.

Radio determination-satellite service: A radiocommunication service for the purpose of radio determination involving the use of one or more space stations.

Radio navigation service: A radio determination service for the purpose of radio navigation.

Radio navigation-satellite service: A radio determination-satellite service used for the purpose of radio navigation.

Maritime radio navigation service: A radio navigation service intended for the benefit and for the safe operation of ships.

Maritime radio navigation-satellite service: A radio navigation-satellite service in which earth stations are located on board ships.

Aeronautical radio navigation service: A radio navigation service intended for the benefit and for the safe operation of aircraft.

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

Radiolocation service: A radio determination service for the purpose of radiolocation.

Radiolocation-satellite service: A radio determination-satellite service used for the purpose of radiolocation.

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

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

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

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

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

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

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

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

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

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

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

6.4 Radio stations and systems

Station: One or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a radiocommunication service, or the radio astronomy service.

Terrestrial station: A station effecting terrestrial radiocommunication.

Earth station: A station located either on the Earth's surface or within the major portion of the Earth's atmosphere and intended for communication with one or more space stations; or with one or more stations of the same kind by means of one or more reflecting satellites or other objects in space.

Space station: A station located on an object which is beyond, is intended to go beyond, or has been beyond, the major portion of the Earth's atmosphere.

Survival craft station: A mobile station in the maritime mobile service or the aeronautical mobile service intended solely for survival purposes and located on any lifeboat, life-raft or other survival equipment.

Fixed station: A station in the fixed service.

High altitude platform station: A station located on an object at an altitude of 20 to 50 km and at a specified, nominal, fixed point relative to the Earth.
Mobile station: A station in the mobile service intended to be used while in motion or during halts at unspecified points.

Mobile earth station: An earth station in the mobile-satellite service intended to be used while in motion or during halts at unspecified points.

Land station: A station in the mobile service not intended to be used while in motion.

Land earth station: An earth station in the fixed-satellite service or, in some cases, in the mobile-satellite service, located at a specified fixed point or within a specified area on land to provide a feeder link for the mobile-satellite service.

Base station: A land station in the land mobile service.

Base earth station: An earth station in the fixed-satellite service or, in some cases, in the land mobile-satellite service, located at a specified fixed point or within a specified area on land to provide a feeder link for the land mobile-satellite service.

Land mobile station: A mobile station in the land mobile service capable of surface movement within the geographical limits of a country or continent.

Land mobile earth station: A mobile earth station in the land mobile-satellite service capable of surface movement within the geographical limits of a country or continent.

Coast station: A land station in the maritime mobile service.

Coast earth station: An earth station in the fixed-satellite service or, in some cases, in the maritime mobile-satellite service, located at a specified fixed point on land to provide a feeder link for the maritime mobile-satellite service.

Ship station: A mobile station in the maritime mobile service located on board a vessel which is not permanently moored, other than a survival craft station.

Ship earth station: A mobile earth station in the maritime mobile-satellite service located on board ship.

On-board communication station: A low-powered mobile station in the maritime mobile service intended for use for internal communications on board a ship, or between a ship and its lifeboats and life-rafts during lifeboat drills or operations, or for communication within a group of vessels being towed or pushed, as well as for line handling and mooring instructions.

Port station: A coast station in the port operations service.

Aeronautical station: A land station in the aeronautical mobile service.

Aeronautical earth station: An earth station in the fixed-satellite service, or, in some cases, in the aeronautical mobile-satellite service, located at a specified fixed point on land to provide a feeder link for the aeronautical mobile-satellite service.

Aircraft station: A mobile station in the aeronautical mobile service, other than a survival craft station, located on board an aircraft.

Aircraft earth station: A mobile earth station in the aeronautical mobile-satellite service located on board an aircraft.

Broadcasting station: A station in the broadcasting service.

Radio determination station: A station in the radio determination service.

Radio navigation mobile station: A station in the radio navigation service intended to be used while in motion or during halts at unspecified points.

Radio navigation land station: A station in the radio navigation service not intended to be used while in motion.

Radiolocation mobile station: A station in the radiolocation service intended to be used while in motion or during halts at unspecified points.

Radiolocation land station: A station in the radiolocation service not intended to be used while in motion.

Radio direction-finding station: A radio determination station using radio direction-finding.

Radio beacon station: A station in the radio navigation service the emissions of which are intended to enable a mobile station to determine its bearing or direction in relation to the radio beacon station.

Emergency position-indicating radio beacon station: A station in the mobile service the emissions of which are intended to facilitate search and rescue operations.

Satellite emergency position-indicating radio beacon: An earth station in the mobile- satellite service the emissions of which are intended to facilitate search and rescue operations.

Standard frequency and time signal station: A station in the standard frequency and time signal service.

Amateur station: A station in the amateur service.

Radio astronomy station: A station in the radio astronomy service.

Experimental station: A station utilizing radio waves in experiments with a view to the development of science or technique.

Ship's emergency transmitter: A ship's transmitter to be used exclusively on a distress frequency for distress, urgency or safety purposes.

Radar: A radio determination system based on the comparison of reference signals with radio signals reflected, or retransmitted, from the position to be determined.

Primary radar: A radio determination system based on the comparison of reference signals with radio signals reflected from the position to be determined.

Secondary radar: A radio determination system based on the comparison of reference signals with radio signals retransmitted from the position to be determined.

Radar beacon (racon): A transmitter-receiver associated with a fixed navigational mark which, when triggered by a radar, automatically returns a distinctive signal which can appear on the display of the triggering radar, providing range, bearing and identification information.

Instrument landing system (ILS): A radio navigation system which provides aircraft with horizontal and vertical guidance just before and during landing and, at certain fixed points, indicates the distance to the reference point of landing.

Instrument landing system localizer: A system of horizontal guidance embodied in the instrument landing system which indicates the horizontal deviation of the aircraft from its optimum path of descent along the axis of the runway.

Instrument landing system glide path: A system of vertical guidance embodied in the instrument landing system which indicates the vertical deviation of the aircraft from its optimum path of descent.

Marker beacon: A transmitter in the aeronautical radio navigation service which radiates vertically a distinctive pattern for providing position information to aircraft.

Radio altimeter: Radio navigation equipment, on board an aircraft or spacecraft, used to determine the height of the aircraft or the spacecraft above the Earth's surface or another surface.

Meteorological aids land station: A station in the meteorological aids service not intended to be used while in motion.

Meteorological aids mobile station: A station in the meteorological aids service intended to be used while in motion or during halts at unspecified points. (WRC-15)

Radiosonde: An automatic radio transmitter in the meteorological aids service usually carried on an aircraft, free balloon, kite or parachute, and which transmits meteorological data.

Adaptive system: A radiocommunication system which varies its radio

characteristics according to channel quality.

Space system: Any group of cooperating earth stations and/or space stations employing space radiocommunication for specific purposes.

Satellite system: A space system using one or more artificial earth satellites.

Satellite network: A satellite system or a part of a satellite system, consisting of only one satellite and the cooperating earth stations.

Satellite link: A radio link between a transmitting earth station and a receiving earth station through one satellite. A satellite link comprises one up-link and one down-link.

Multi-satellite link: A radio link between a transmitting earth station and a receiving earth station through two or more satellites, without any intermediate earth station.

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

6.5 Technical terms relating to space

Deep space: Space at distances from the Earth equal to, or greater than, 2×10^6 km.

Spacecraft: A man-made vehicle which is intended to go beyond the major portion of the Earth's atmosphere.

Satellite: A body which revolves around another body of preponderant mass and which has a motion primarily and permanently determined by the force of attraction of that other body.

Active satellite: A satellite carrying a station intended to transmit or retransmit radiocommunication signals.

Reflecting satellite: A satellite intended to reflect radiocommunication signals.

Active sensor: A measuring instrument in the earth exploration-satellite service or in the space research service by means of which information is obtained by transmission and reception of radio waves.

Passive sensor: A measuring instrument in the earth exploration-satellite service or in the space research service by means of which information is obtained by reception of radio waves of natural origin.

Orbit: The path, relative to a specified frame of reference, described by the center of mass of a satellite or other object in space subjected primarily to natural forces, mainly the force of gravity.

Inclination of an orbit (of an earth satellite): The angle determined by the plane containing the orbit and the plane of the Earth's equator measured in degrees between 0o and 180o and in counterclockwise direction from the Earth's equatorial plane at the ascending node of the orbit.

Period (of a satellite): The time elapsing between two consecutive passages of a satellite through a characteristic point on its orbit.

Altitude of the apogee or of the perigee: The altitude of the apogee or perigee above a specified reference surface serving to represent the surface of the Earth.

Geo synchronous satellite: An earth satellite whose period of revolution is equal to the period of rotation of the Earth about its axis.

Geostationary satellite: A geosynchronous satellite whose circular and direct orbit lies in the plane of the Earth's equator and which thus remains fixed relative to the Earth; by extension, a geosynchronous satellite which remains approximately fixed relative to the Earth.

Geostationary-satellite orbit: The orbit of a geosynchronous satellite whose circular and direct orbit lies in the plane of the Earth's equator.

Steerable satellite beam: A satellite antenna beam that can be re-pointed.

7.0 The ITU Radio Regions

In the framework of the ITU Radio Regulations, the world is divided into three Regions, namely Region 1, Region 2 and Region 3 mainly for reasons of administrative and rationality and is largely based on the historical commonalities in the usage of the radio spectrum in the Regions. The United Republic of Tanzania is in Region . The map below depicts the three named Regions:

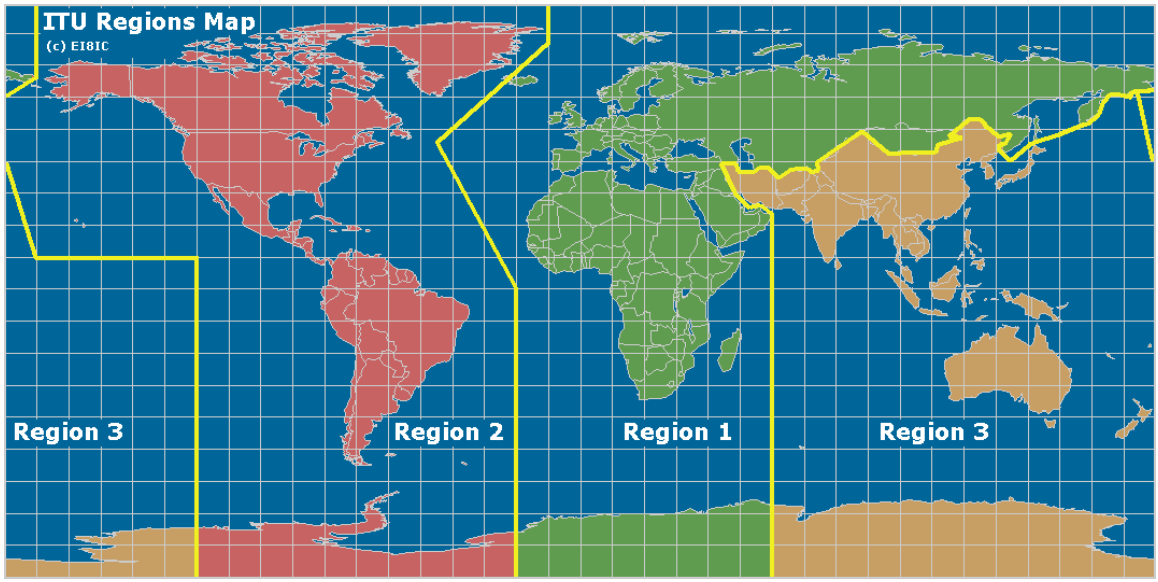


Figure 1: ITU Regions of the World

8.0 Frequency bands and wavelength

8.1 ITU's Radio Frequency Division

According to ITU Radio Regulations, the Radio Frequencies shall be subdivided into nine frequency bands, which shall be designated by progressive whole numbers in accordance with the following table.
The unit of frequency is the hertz (Hz), frequencies shall be expressed:

- in kilohertz (kHz), up to and including 3 000 kHz;
- in megahertz (MHz), above 3 MHz, up to and including 3 000 MHz;
- in gigahertz (GHz), above 3 GHz, up to and including 3 000 GHz.

Table 1: ITU Frequency bands and wavelength

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**

NOTE 1: "Band N" (N = band number) extends from 0.3×10^N Hz to 3×10^N Hz.
NOTE 2: Prefix: k = kilo (10^3), M = mega (10^6), G = Giga (10^9).

8.2 Other designations

According to IEEE Standard Letter Designations for Radar-Frequency Bands, the Radio Frequencies descriptions names generally were used for radar and RF dependent weapon and communication spectrum. L band stood for long wave, S band for short wave, C band for compromise between S and X band, X band was used for fire control with the X being the cross hair in a trigger. Ku band was from Kurz (German for short) Under with K band in the middle and Ka band Kurz Above. In addition to V, W and G bands.

Within V and W Band there are three bands allocated for fixed (but potentially mobile) services, two 5 GHz bands at 71- 76 and 81 - 86 GHz and a 3 GHz band at 92-95 GHz. These are known collectively as E band from the waveguide naming regime for 60 to 90 GHz.

Table 2: IEEE bands designations

Band	Frequency Range
L	1-2 GHz
S	2-4 GHz
C	4-8 GHz
X	8-12 GHz
Ku	12-18 GHz
K	18-27 GHz
Ka	27-40 GHz
Q/V	40-75 GHz
E/W	75-110 GHz
G	110-300 GHz

9.0 Categories of Radiocommunication Services and Footnotes

9.1 Radiocommunication Services

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

a) Services the names of which are printed in **"capital"** (example: FIXED); these are called **"primary"** services;
b) Services the names of which are printed in **"normal characters"** (example: Mobile); these are called **"secondary"** services.

The Stations of secondary service:

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

9.2 Footnotes

Where footnotes are employed, the following rules apply:

a) Where a footnote is printed on the same line as the name of a radio service the footnote applies only to that service.
b) Where a footnote is printed within the lower part of a frequency band and not on the same line as a radio service, the footnote applies to that band or some part thereof.
c) Footnotes in the International Telecommunication Union Table of Frequency Allocations are identified below the tables by their number, e.g. '5.12'. Where references are made in or below the table to these international footnotes, they are similarly identified.

Chapter 2

National Frequency Allocations Table Structure

The National Frequency Allocation Table consists of four columns:

a) Column 1 – 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.
b) Column 2 – It contains allocation of frequency bands for various radiocommunication services in Tanzania and ITU-R article 5 footnotes of Radio Regulations relevant to Tanzania.
c) Column 3 – Contains the main use in Tanzania. However, the main use does not preclude other radiocommunication services allocated to the band.
d) Column 4 – contains where appropriate relevant information on the band plans, channel arrangement and the main use in Tanzania.

10.0 National Frequency Allocation Table

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
Below 8.3 kHz			
(Not allocated) 5.53 5.54	(Not allocated) 5.53 5.54		
8.3 - 9 kHz			
METEOROLOGICAL AIDS 5.54A 5.54B 5.54C	METEOROLOGICAL AIDS 5.54A 5.54B 5.54C	▪ Lightning detection systems	
9 - 11.3 kHz			
METEOROLOGICAL AIDS 5.54A RADIONAVIGATION	METEOROLOGICAL AIDS 5.54A RADIONAVIGATION	SRD: ▪ Inductive applications (9 kHz-148.5 kHz) ▪ Ultra-Low Power Active Medical Implants (ULP-AMI)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report SM. 2153-7 ▪ Inductive SRD : ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
11.3 - 14 kHz			
RADIONAVIGATION	RADIONAVIGATION	Navigational Aids SRD: ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Rep. SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
14 - 19.95 kHz			
FIXED MARITIME MOBILE 5.57	FIXED MARITIME MOBILE 5.57	Maritime mobile communications SRD: ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Rep. SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
5.55 5.56	5.56		
19.95 - 20.05 kHz			
STANDARD FREQUENCY AND TIME SIGNAL (20kHz)	STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)	SRD: ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ Article 26 applies ▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
20.05 - 70 kHz			
FIXED MARITIME MOBILE 5.57	FIXED MARITIME MOBILE 5.57	Maritime mobile communications SRD: ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
5.56 5.58	5.56 5.58		
70 - 72 kHz			
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Navigational Aids SRD: ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report. SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
72 - 84 kHz			
FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60	Maritime mobile communications ▪ Navigational Aids SRD : ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report. SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
5.56	5.56		
84 - 86 kHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Navigational Aids SRD : ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec. SM.1896-1 ▪ ITU-R Rep. SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ▪ ETSI EN 302 195
86 - 90 kHz			
FIXED MARITIME MOBILE 5.57 RADIONAVIGATION	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION	Maritime mobile communications Navigational Aïds SRD : ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report. SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ▪ ETSI EN 302 195
5.56	**5.56**		
90 - 110 kHz			
RADIONAVIGATION 5.62 Fixed	RADIONAVIGATION 5.62 Fixed	Navigational Aids SRD : ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report.SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ▪ ETSI EN 302 195
5.64	**5.64**		
110 - 112 kHz			
FIXED MARITIME MOBILE RADIONAVIGATION	FIXED MARITIME MOBILE RADIONAVIGATION	Maritime mobile communications Navigational Aids SRD : ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report.SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
5.64	**5.64**		
112 - 115 kHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Navigational Aids SRD : ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-RReport.SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ▪ ETSI EN 302 195
115 - 117.6 kHz			
RADIONAVIGATION 5.60 Fixed Maritime mobile	RADIONAVIGATION 5.60 Fixed Maritime mobile	Navigational Aids Maritime mobile communications SRD : ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report.SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz ▪) ETSI EN 302 195
5.64 5.66	**5.64**		
117.6 - 126 kHz			
FIXED MARITIME MOBILE RADIONAVIGATION 5.60	FIXED MARITIME MOBILE RADIONAVIGATION 5.60	Navigational Aids Maritime mobile communications SRD : ▪ Utra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ Rec. ITU-R SM.1896-x ▪ Report. ITU-R SM. 2153-x ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN **302 195**
5.64	**5.64**		
126 - 129 kHz			
RADIONAVIGATION 5.60	RADIONAVIGATION 5.60	Navigational Aids SRD : ▪ Utra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report.SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
129 - 130 kHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
FIXED MARITIME MOBILE RADIONAVIGATION 5.60 **5.64**	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 **5.64**	Navigational Aids Maritime mobile communications SRD : ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report. SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
130 - 135.7 kHz			
FIXED MARITIME MOBILE **5.64 5.67**	FIXED MARITIME MOBILE **5.64.**	Maritime mobile communications SRD : ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report.SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
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 SRD : ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ Amateur (135.7-137.8 kHz) services are limited to maximum radiated power of 1 W (e.i.r.p). ▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ▪ ETSI EN 302 195
137.8 - 148.5 kHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
FIXED MARITIME MOBILE	FIXED MARITIME MOBILE	Maritime mobile communications SRD: ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ▪ ETSI EN 302 195
5.64 5.67	**5.64**		
148.5 - 255 kHz			
BROADCASTING	**148.5-200kHz** BROADCASTING	Broadcasting SRD: ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (148.5 - 5000 kHz)	▪ Frequency assignment Plan (GE75) applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m) ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
	5.68		
	200kHz-255kHz AERONAUTICAL RADIONAVIGATIONAL SERVICE 5.70	SRD: ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (148.5 - 5000 kHz)	▪ Frequency assignment Plan (GE75) applies ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195 ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m) ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
5.68 5.69 5.70	**5.70**		
255 - 283.5 kHz			
BROADCASTING AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	SRD: ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (148.5 - 5000 kHz)	▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195 ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.70	**5.70**		
283.5 - 315 kHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radio beacons) 5.73	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 5.73	Navigational Aids Maritime mobile communications SRD : ▪ Ultra-Low Power Active Medical Implants (ULP-AMI) ▪ Inductive applications (9 kHz-148.5 kHz)	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report.SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 ▪ ULP-AMI (9 kHz - 315 kHz) ETSI EN 302 195
5.74	**5.74**		
315 - 325 kHz			
AERONAUTICAL RADIONAVIGATION Maritime radionavigation (radio beacons) 5.73	AERONAUTICAL RADIONAVIGATION Maritime radionavigation (radiobeacons) 5.73	Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.75	**5.75**		
325 - 405 kHz			
AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	Aeronautical NDBs and locators Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
405 - 415 kHz			
RADIONAVIGATION 5.76	RADIONAVIGATION 5.76	Navigational Aids Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
415 - 435 kHz			
MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION	MARITIME MOBILE (radiotelegraphy) 5.79 AERONAUTICAL RADIONAVIGATION	Maritime mobile communications Inductive SRD applications (148.5 - 5000 kHz)	▪ Under the MMS the use of the band 415-495 kHz is limited to radiotelegraphy. ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
435 - 472 kHz			
MARITIME MOBILE 5.79 Aeronautical radio navigation 5.77	MARITIME MOBILE (radiotelegraphy) 5.79 Aeronautical radio navigation	Maritime mobile communications SRD: Inductive SRD applications (148.5 - 5000 kHz)	▪ Coast Stations in the NAVTEX service on 490 kHz; Res.339 applies. Transmission of navigational and meteorological warnings and urgent info for ships (NBDP telegraphy). Articles 31 and 52 apply ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.82	**5.82**		
472 - 479 kHz			
MARITIME MOBILE 5.79 Amateur 5.80A Aeronautical radionavigation 5.77 5.80	MARITIME MOBILE (radiotelegraphy) Amateur 5.80A Aeronautical radio navigation 5.82	Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.80 B 5.82			
479 - 495 kHz			
MARITIME MOBILE 5.79 5.79A Aeronautical radio navigation 5.77	MARITIME MOBILE (radiotelegraphy) 5.79 5.79A Aeronautical radio navigation 5.77	▪ Maritime mobile communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Coast Stations in the NAVTEX service on 490 kHz; Res.339 applies. Transmission of navigational and meteorological warnings and urgent info for ships (NBDP telegraphy). Articles 31 and 52 apply. ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.82	**5.82**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
495 - 505 kHz			
MARITIME MOBILE 5.82C	MARITIME MOBILE 5.82C	▪ Limited to radiotelegraphy ▪ Maritime GMDSS ▪ Broadcasting safety information from coast stations ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Articles 31 and 52 apply ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m) ▪ For international NAVDAT systems Rec. ITU-R M.2010 applies
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	▪ Maritime mobile communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Coast Stations in the NAVTEX service on 518 kHz; Res.339 applies. Articles 31 and 52 apply. ▪ Under the MMS the use of the band 505-526.5 kHz is limited to radiotelegraphy. ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
526.5 - 1606.5 kHz			
BROADCASTING	**526.5-535kHz** BROADCASTING Mobile	▪ MW Sound broadcasting (526.5 1606.5 kHz) ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Frequency assignment Plan (GE75) applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
	5.87		
	535-1606.5kHz BROADCASTING	▪ MW Sound broadcasting (526.5 1606.5 kHz) ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Frequency assignment Plan (GE75) applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.87 5.87A	**5.87**		
1606.5 - 1625 kHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
FIXED MARITIME MOBILE 5.90 LAND MOBILE	FIXED MARITIME MOBILE 5.90 LAND MOBILE	▪ Maritime mobile communications ▪ Land mobile communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.92	**5.92**		
1625 - 1635 kHz			
RADIOLOCATION 5.93	RADIOLOCATION 5.93	▪ Navigational Aids ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
1635 - 1800 kHz			
FIXED MARITIME MOBILE 5.90 LAND MOBILE	FIXED MARITIME MOBILE 5.90 LAND MOBILE	▪ Maritime mobile communications ▪ Land mobile communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.92 5.96	**5.92**		
1800 - 1810 kHz			
RADIOLOCATION 5.93	RADIOLOCATION 5.93	▪ Navigational Aids ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
1810 - 1850 kHz			
AMATEUR 5.98 5.99 5.100 5.101	AMATEUR 5.98 5.99 5.100 5.101	▪ Amateur communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
1850 - 2000 kHz			
FIXED MOBILE except aeronautical Mobile	FIXED MOBILE except aeronautical Mobile	▪ Maritime and/or land mobile communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.92 5.96 5.103	**5.92 5.103**		
2000 - 2025 kHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
FIXED MOBILE except aeronautical Mobile **5.92 5.103**	FIXED MOBILE except aeronautical Mobile **5.92 5.103**	▪ Maritime and/or land mobile communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2025 - 2045 kHz			
FIXED MOBILE except aeronautical mobile (R) Meteorological aids 5.104 5.92 5.103 	FIXED MOBILE except aeronautical mobile (R) Meteorological aids (oceanographic) 5.104 5.92 **5.103**	▪ Maritime and/or land mobile communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2045 - 2160 kHz			
FIXED MARITIME MOBILE LAND MOBILE **5.92**	FIXED MARITIME MOBILE LAND MOBILE **5.92**	▪ Maritime and/or land mobile communications ▪ Fixed Applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2160 - 2170 kHz			
RADIOLOCATION **5.93 5.107**	RADIOLOCATION **5.93 5.107**	▪ Navigational aids ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2170 - 2173.5 kHz			
MARITIME MOBILE 	MARITIME MOBILE 	▪ Maritime mobile communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
2173.5 -2190.5 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 for radiotelephony. ▪ 2 187.5 kHz – DSC for distress and calling ▪ 2 174.5 kHz – international distress frequency for NBDP telegraphy ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Articles 31 and 52 applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2190.5 - 2194 kHz			
MARITIME MOBILE	MARITIME MOBILE	▪ Maritime mobile communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2194 - 2300 kHz			
FIXED MOBILE except aeronautical mobile (R) **5.92 5.103 5.112**	FIXED MOBILE except aeronautical mobile (R) **5.92 5.103**	▪ Maritime and/or land mobile communications ▪ Fixed Applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2300 - 2498 kHz			
FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 **5.103**	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 **5.103**	▪ Maritime and/or land mobile communications ▪ Fixed Applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Article 23.3 to 23.10 applies for broadcasting ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
2498 - 2501 kHz			
STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)	▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Article 26 applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2501 - 2502 kHz			
STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research	▪ Inductive SRD applications (148.5-5000 kHz)	▪ Article 26 applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2502 - 2625 kHz			
FIXED MOBILE except aeronautical mobile (R) **5.92 5.103 5.114**	FIXED MOBILE except aeronautical mobile (R) **5.92 5.103**	▪ Maritime and/or land mobile communications ▪ Fixed Applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2625 - 2650 kHz ▪			
MARITIME MOBILE MARITIME RADIONAVIGATION **5.92**	MARITIME MOBILE MARITIME RADIONAVIGATION **5.92**	▪ Maritime mobile communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2650 - 2850 kHz			
FIXED MOBILE except aeronautical mobile (R) **5.92 5.103**	FIXED MOBILE except aeronautical mobile (R) **5.92 5.103**	▪ Maritime and/or land mobile communications ▪ Fixed Applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
2850 - 3025 kHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
AERONAUTICAL MOBILE (R) **5.111 5.115**	AERONAUTICAL MOBILE (R) **5.111 5.115**	▪ Aeronautical mobile (R) ▪ 3 023 kHz may be used under the MMS for search and rescue operations ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Appendix 27 Allotment Plan applies ▪ Article 31 applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
3025 - 3155 kHz			
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	▪ Aeronautical mobile (OR) ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Appendix 26 Allotment Plan applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
3155 - 3200 kHz			
FIXED MOBILE except aeronautical mobile (R) **5.116 5.117**	FIXED MOBILE except aeronautical mobile (R) **5.116**	▪ Maritime and/or land mobile communications ▪ Fixed Applications SRD: ▪ Wireless hearing aids ▪ Inductive applications (148.5 - 5000 kHz)	▪ Worldwide channel for low power hearing aids (3155-3195 kHz) Additional channels may be assigned in the band 3155-3400 kHz ▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
3200 - 3230 kHz			
FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113	▪ Maritime and/or land mobile communications ▪ Fixed applications SRD: ▪ Wireless hearing aids ▪ Inductive applications (148.5 - 5000 kHz)	▪ Article 23.3 to 23.10 applies for broadcasting ▪ Worldwide channel for low power hearing aids (3155-3195 kHz). Additional channels may be assigned in the band 3155-3400 kHz. ▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.116	**5.116**		
3230 - 3400 kHz			
FIXED MOBILE except aeronautical mobile BROADCASTING 5.113	FIXED MOBILE except aeronautical mobile BROADCASTING 5.113	▪ Maritime and/or land mobile communications ▪ Fixed applications SRD: ▪ Wireless hearing aids ▪ Inductive applications (148.5 - 5000 kHz)	▪ Article 23.3 to 23.10 applies for broadcasting ▪ Worldwide channel for low power hearing aids (3155-3195 kHz). Additional channels may be assigned in the band 3155-3400 kHz. ▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report SM. 2153-7 ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.116 5.118	**5.116**		
3400 - 3500 kHz			
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	▪ Aeronautical mobile (R) applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Appendix 27 Allotment Plan applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
3500 - 3800 kHz			
AMATEUR FIXED MOBILE except aeronautical Mobile **5.92**	AMATEUR FIXED MOBILE except aeronautical Mobile **5.92**	▪ Amateur communications ▪ Maritime and/or land mobile communications ▪ Fixed Applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Article 51 and 52 applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
3800 - 3900 kHz			
FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	▪ Aeronautical mobile (OR) applications ▪ Fixed and Mobile applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
3900 - 3950 kHz			
AERONAUTICAL MOBILE (OR) 5.123	AERONAUTICAL MOBILE (OR)	▪ Aeronautical mobile (OR) applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Appendix 26 Allotment Plan applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
3950 - 4000 kHz			
FIXED BROADCASTING	FIXED BROADCASTING	▪ Fixed Applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Article 23.3 to 23.10 applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
4000 - 4063 kHz			
FIXED MARITIME MOBILE 5.127	FIXED MARITIME MOBILE (radiotelephone) 5.127	▪ Maritime mobile communications ▪ Fixed Applications ▪ Inductive SRD applications	▪ Use of the band 4000-4063 kHz by the MMS is limited to ship stations using radiotelephony

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
		(148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBμA/m @ 10m)
5.126			
4063 - 4438 kHz			
MARITIME MOBILE	MARITIME MOBILE	▪ Maritime mobile communications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ ITU RR Appendix 17 Channelling Plan applies ▪ ITU RR Appendix 25 Allotment Plan applies ▪ 4209.5 kHz - Coast Stations in the NAVTEX service - Res.339 applies. Articles 31 and 52 apply. ▪ 4207.5 kHz – DSC for distress and calling; Article 31 applies. ▪ 4177.5 kHz – international distress frequency for NBDP telegraphy; Article 31 applies. ▪ 4125 kHz – use of this frequency prescribed in Article 31. ▪ 4209.5 kHz – exclusive for transmission by coast stations of meteorological and navigational warnings and urgent information to ships (NBDP)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
			▪ 4210 kHz – maritime safety information (MSI); App.17 applies. ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.79A 5.109 5.110 5.130 5.131 5.132 5.128	**5.79A 5.109 5.110 5.130 5.131 5.132 5.128**		
4438 - 4488 kHz			
FIXED MOBILE except aeronautical mobile (R) Radiolocation 5.132A	FIXED MOBILE except aeronautical mobile (R) Radiolocation 5.132A	▪ Maritime and/or land mobile communications ▪ Fixed Applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5.132B			
4488 - 4650 kHz			
FIXED MOBILE except aeronautical mobile (R)	FIXED MOBILE except aeronautical mobile (R)	▪ Fixed and Mobile applications ▪ Maritime applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
4650 - 4700 kHz			
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	▪ Aeronautical mobile (R) ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Appendix 27 Allotment Plan applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
4700 - 4750 kHz			
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	▪ Aeronautical mobile (OR) ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Appendix 26 Allotment Plan applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
4750 - 4850 kHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	▪ Aeronautical and/or land mobile ▪ Sound broadcasting ▪ Fixed and Mobile applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Article 23.3 to 23.10 applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
4850 - 4995 kHz			
FIXED LAND MOBILE BROADCASTING 5.113	FIXED LAND MOBILE BROADCASTING 5.113	▪ Land mobile ▪ Sound broadcasting ▪ Fixed Applications ▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Article 23.3 to 23.10 applies ▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
4995 - 5003 kHz			
STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)	▪ Inductive SRD applications (148.5 - 5000 kHz)	▪ Inductive SRD: ETSI EN 300 330 (magnetic field -15 dBµA/m @ 10m)
5003 - 5005 kHz			
STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research		
5005 - 5060 kHz			
FIXED BROADCASTING 5.113	FIXED BROADCASTING 5.113	▪ Sound broadcasting ▪ Fixed Applications	▪ Article 23.3 to 23.10 applies
5060 - 5250 kHz			
FIXED Mobile except aeronautical mobile 5.133	FIXED Mobile except aeronautical mobile	▪ Fixed and Mobile applications ▪ Maritime applications	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
5250 - 5275 kHz			
FIXED MOBILE except aeronautical mobile Radiolocation 5.132A **5.133A**	FIXED MOBILE except aeronautical mobile Radiolocation 5.132A	▪ Fixed Applications	
5275 - 5351.5 kHz			
FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical Mobile	▪ Aeronautical mobile ▪ Fixed and Mobile applications	
5351.5 -5366.5 kHz			
FIXED MOBILE except aeronautical mobile Amateur 5.133B	FIXED MOBILE except aeronautical mobile Amateur	▪ Fixed and Mobile Applications	▪ Amateur in 5 351.5 -5 366.5 kHz
5366.5 - 5450 kHz			
FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile	▪ Fixed and Mobile Applications	▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report SM. 2153-7
5450 - 5480 kHz			
FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	▪ Aeronautical mobile (OR)	▪ Appendix 27 Allotment plan applies
5480 - 5680 kHz			
AERONAUTICAL MOBILE (R) **5.111 5.115**	AERONAUTICAL MOBILE (R) **5.111 5.115**	▪ Aeronautical mobile	▪ Appendix 27 Allotment Plan applies ▪ Search and rescue operations at 5680 kHz

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
5680 - 5730 kHz			
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)		▪ Appendix 26 Allotment Plan applies ▪ 5 680 kHz may be used under the MMS for search and rescue operations (see Article 31). ▪ 6215 kHz – use of this frequency prescribed in Article 31.
5.111 5.115	**5.111 5.115**		
5730 - 5900 kHz			
FIXED LAND MOBILE	FIXED LAND MOBILE	▪ Land mobile	
5900 - 5950 kHz			
BROADCASTING 5.134 5.136	BROADCASTING 5.134 5.136	▪ HF Sound Broadcasting	▪ Article 12 Planning Procedures and Res.517 (WRC-19) applies
5950 - 6200 kHz			
BROADCASTING	BROADCASTING	▪ HF Sound Broadcasting	▪ ITU RR Article 12 Planning Procedures applies

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
6200 - 6525 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	▪ ITU RR Appendix 17 Channelling Plan applies ▪ ITU RR Appendix 25 Allotment Plan applies ▪ 6312 kHz and 6215 kHz – DSC for distress and calling; Article 31 applies ▪ 6268 kHz – international distress frequency for NBDP telegraphy; Article 31 applies. ▪ 6314 kHz – maritime safety information (MSI); App.17 applies
6525 - 6685 kHz			
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	▪ Aeronautical mobile communications	▪ Appendix 27 Allotment Plan applies
6685 - 6765 kHz			
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	▪ Aeronautical mobile communications	▪ Appendix 26 Allotment Plan applies
6765 - 7000 kHz			
FIXED MOBILE except aeronautical mobile (R) **5.138**	 **5.138**		▪ ITU-R Rec.SM.1896-1, ▪ ITU-R Report SM. 2153-7 ▪ ISM band (6765-6795 kHz): centre frequency 6 780 kHz
7000 - 7100 kHz			
AMATEUR AMATEUR-SATELLITE **5.140 5.141 5.141A**	AMATEUR AMATEUR-SATELLITE **5.140 5.141 5.141A**	▪ Amateur communications ▪ Amateur-satellite communications	
7100 - 7200 kHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
AMATEUR	AMATEUR	▪ Amateur communications	▪ This band is also used for fixed and Mobile Applications in some countries
5.141A 5.141B	**5.141A 5.141B**		
7200 - 7300 kHz			
BROADCASTING	BROADCASTING	▪ HF Sound Broadcasting	▪ ITU RR Article 12 Planning Procedures applies
7300 - 7400 kHz			
BROADCASTING 5.134	BROADCASTING 5.134	▪ HF Sound Broadcasting	▪ Article 12 Planning Procedures and Res.517 apply. ▪ This band is also used for fixed and Mobile Applications in some countries
5.143 5.143A 5.143B	**5.143 5.143A 5.143B**		
7400 - 7450 kHz			
BROADCASTING 5.143B	BROADCASTING 5.143B	▪ HF Sound Broadcasting ▪ SRD applications (7 400 – 8 800 kHz)	▪ ITU RR Article 12 Planning Procedures applies ▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report SM. 2153-7
5.143B 5.143C	**5.143B 5.143C**		
7450 - 8100 kHz			
FIXED MOBILE except aeronautical mobile (R)	FIXED MOBILE except aeronautical mobile (R)	▪ Maritime applications ▪ SRD applications (7 400 – 8 800 kHz)	▪ ITU-R Rec.SM.1896-1, ▪ ITU-R Report SM. 2153-7

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
8100 - 8195 kHz			
FIXED MARITIME MOBILE	FIXED MARITIME MOBILE	▪ Maritime mobile communications ▪ SRD applications (7 400 – 8 800 kHz)	▪ ITU-R Rec.SM.1896-1, ▪ ITU-R Report SM. 2153-7
8195 - 8815 kHz			
MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132 5.145	▪ Maritime mobile communications ▪ SRD applications (7 400 – 8 800 kHz)	▪ ITU RR Appendix 17 Channelling Plan applies ▪ ITU RR Appendix 25 Allotment Plan applies ▪ 8414.5 kHz – DSC for distress and calling; Article 31 applies ▪ 8 376.5 kHz – international distress frequency for NBDP telegraphy; Article 31 applies. ▪ 8416.5 kHz – maritime safety information (MSI); Appendix 17 applies. ▪ ITU-R Rec.SM.1896-1, ▪ ITU-R Report SM. 2153-7
5.111	**5.111**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
8815 - 8965 kHz			
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	▪ Aeronautical mobile communications	▪ Appendix 27 Allotment Plan applies
8965 - 9040 kHz			
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	▪ Aeronautical mobile communications	▪ Appendix 26 Allotment Plan applies
9040 - 9305 kHz			
FIXED	FIXED	▪ Fixed Applications	
9305 - 9355 kHz			
FIXED Radiolocation 5.145A **5.145B**	FIXED Radiolocation (oceanographic radars) 5.145A		
9355 - 9400 kHz			
FIXED	FIXED		
9400 - 9500 kHz			
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	▪ HF Sound Broadcasting	▪ Article 12 Planning Procedures and Res.517 (WRC-19) applies
9500 - 9900 kHz			
BROADCASTING 5.147	BROADCASTING 5.147	▪ HF Sound Broadcasting	▪ ITU RR Article 12 Planning Procedures applies

ITU RR Region 1 Allocations		Tanzania - Allocations	Main Usage	Additional Information
9900 - 9995 kHz				
FIXED		FIXED	▪ Fixed Applications	
9995 - 10003 kHz				
STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 5.111		STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 5.111	▪ Search and rescue operations at 10003 kHz ± 3 kHz	▪ Article 26 applies
10003 - 10005 kHz				
STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111		STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	▪ Search and rescue operations at 10003 kHz ± 3 kHz ▪ Inductive SRD applications (10.2 - 11 MHz)	▪ Article 26 applies
10005 - 10100 kHz				
	AERONAUTICAL MOBILE (R) 5.111	AERONAUTICAL MOBILE (R) 5.111	▪ Aeronautical mobile communications ▪ Search and rescue operations at 10003 kHz ± 3 kHz	▪ Appendix 27 Allotment Plan applies
10100 - 10150 kHz				
FIXED Amateur		FIXED Amateur	▪ Fixed Applications ▪ Amateur communications	
10150 - 11175 kHz				
	FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)	▪ Maritime applications	
11175 - 11275 kHz				
AERONAUTICAL MOBILE (OR)		AERONAUTICAL MOBILE (OR)	▪ Aeronautical mobile communications	▪ Appendix 26 Allotment Plan applies

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
11275 - 11400 kHz			
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	▪ Aeronautical mobile communications	▪ Appendix 27 Allotment Plan applies
11400 - 11600 kHz			
FIXED	FIXED	▪ Fixed Applications	
11600 - 11650 kHz			
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	▪ HF Sound Broadcasting	▪ Article 12 Planning Procedures and Res.517 (WRC-19) applies
11650 - 12050 kHz			
BROADCASTING 5.147	BROADCASTING 5.147	▪ HF Sound Broadcasting	▪ ITU RR Article 12 Planning Procedures applies ▪ ITU-R Rec.SM.1896-1 ▪ ITU-R Report SM. 2153-7
12050 - 12100 kHz			
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	▪ HF Sound Broadcasting	▪ Article 12 Planning Procedures and Res.517 (WRC-19) applies
12100 - 12230 kHz			
FIXED	FIXED	▪ Fixed Applications	
12230 - 13200 kHz			
MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132 5.145	▪ Maritime mobile communications	▪ ITU RR Appendix 17 Channelling Plan applies ▪ ITU RR Appendix 25 Allotment

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
			Plan applies ▪ 12 577 kHz – DSC for distress and calling; Article 31 applies ▪ 12 520 kHz – international distress frequency for NBDP telegraphy; Article 31 applies. ▪ 12 579 kHz – maritime safety information (MSI); App.17 applies.
13200 - 13260 kHz			
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	▪ Aeronautical mobile communications ▪	▪ Appendix 26 Allotment Plan applies
13260 - 13360 kHz			
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	▪ Aeronautical mobile communications	▪ Appendix 27 Allotment Plan applies
13360 - 13410 kHz			
FIXED RADIO ASTRONOMY 5.149	FIXED RADIO ASTRONOMY 5.149	▪ Radio Astronomy (Observations of decametric radiation) ▪ Fixed Applications	
13410 - 13450 kHz			
FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)	▪ Maritime and/or land mobile communications	
13450 - 13550 kHz			
FIXED Mobile except aeronautical mobile (R) Radiolocation 5.132A	FIXED Mobile except aeronautical mobile (R) Radiolocation 5.132A		
5.149A			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
13550 - 13570 kHz			
FIXED Mobile except aeronautical mobile (R) 5.150	FIXED Mobile except aeronautical mobile (R) 5.150	▪ Inductive SRD applications (13 553-13 567kHz)	▪ ITU-R Rec.SM 1896-1 ▪ ITU-R Report SM. 2153-7 ▪ ISM band (13 553-13 567kHz)
13570 - 13600 kHz			
BROADCASTING 5.134 5.151	BROADCASTING 5.134 5.151	▪ HF Sound Broadcasting	▪ Article 12 Planning Procedures and Res.517 (WRC-19) applies
13600 - 13800 kHz			
BROADCASTING	BROADCASTING	▪ HF Sound Broadcasting	▪ ITU RR Article 12 Planning Procedures applies
13800 - 13870 kHz			
BROADCASTING 5.134	BROADCASTING 5.134	▪ HF Sound Broadcasting	▪ Article 12 Planning Procedures and Res.517 (WRC-19) applies
13870 - 14000 kHz			
FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)	▪ Maritime and/or land mobile communications	
14000 - 14250 kHz			
AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	▪ Amateur communications ▪ Amateur-satellite communications	
14250 - 14350 kHz			
AMATEUR 5.152	AMATEUR	▪ Amateur communications	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
14350 - 14990 kHz			
FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)	▪ Fixed Applications	
14990 - 15005 kHz			
STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 5.111	▪ Search and rescue operations at 14993 kHz	▪ Article 26 applies
15005 - 15010 kHz			
STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research		▪ Article 26 applies
15010 - 15100 kHz			
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	▪ Aeronautical mobile communications	▪ Appendix 26 Allotment Plan applies
15100 - 15600 kHz			
BROADCASTING	BROADCASTING	▪ HF Sound Broadcasting	▪ ITU RR Article 12 Planning Procedures applies ▪
15600 - 15800 kHz			
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	▪ HF Sound Broadcasting	▪ Article 12 Planning Procedures and Res.517 (WRC-19) applies
15800 - 16100 kHz			
FIXED 5.153	FIXED	▪ Fixed Applications	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
16100 - 16200 kHz			
FIXED Radiolocation 5.145A 5.145B	FIXED Radiolocation 5.145A		
16200 - 16360 kHz			
FIXED	FIXED		
16360 - 17410 kHz			
MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE 5.109 5.110 5.132 5.145	▪ Maritime mobile communications	▪ ITU RR Appendix 17 Channelling Plan applies ▪ ITU RR Appendix 25 Allotment Plan applies ▪ ▪ 16 804.5kHz – DSC for distress and calling; Article 31 applies. ▪ 16 695 kHz – international distress frequency for NBDP telegraphy; Article 31 applies. ▪ 16 806.5 kHz – maritime safety information (MSI); App.17 applies.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
17410 - 17480 kHz			
FIXED	FIXED	▪ Fixed Applications	
17480 - 17550 kHz			
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	▪ HF Sound Broadcasting	▪ Article 12 Planning Procedures and Res.517 (WRC-19) applies
17550 - 17900 kHz			
BROADCASTING	BROADCASTING	▪ HF Sound Broadcasting	▪ ITU RR Article 12 Planning Procedures applies
17900 - 17970 kHz			
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	▪ Aeronautical mobile communications	▪ Appendix 27 Allotment Plan applies
17970 - 18030 kHz			
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	▪ Aeronautical mobile communications	▪ Appendix 26 Allotment Plan applies
18030 - 18052 kHz			
FIXED	FIXED	▪ Fixed Applications	
18052 - 18068 kHz			
FIXED Space research	FIXED Space research	▪ Fixed Applications	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
18068 - 18168 kHz			
AMATEUR AMATEUR-SATELLITE 5.154	AMATEUR AMATEUR-SATELLITE	▪ Amateur communications ▪ Amateur-satellite communications	
18168 - 18780 kHz			
FIXED Mobile except aeronautical mobile	FIXED Mobile except aeronautical mobile	▪ Maritime and/or land mobile communications ▪ Fixed Applications	
18780 - 18900 kHz			
MARITIME MOBILE	MARITIME MOBILE	▪ Maritime mobile communications	▪ ITU RR Appendix 17 Channelling Plan applies
18900 - 19020 kHz			
BROADCASTING 5.134 5.146	BROADCASTING 5.134 5.146	▪ HF Sound Broadcasting	▪ Article 12 Planning Procedures and Res.517 (WRC-19) applies
19020 - 19680 kHz			
FIXED	FIXED	▪ Fixed Applications	
19680 - 19800 kHz			
MARITIME MOBILE 5.132	MARITIME MOBILE 5.132	▪ Maritime applications	▪ The frequency 19 680.5 kHz is the international frequency for transmission of MSI. Appendix 17 applies.
19800 - 19990 kHz			
FIXED	FIXED	▪ Fixed Applications	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
19990 - 19995 kHz			
STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	▪ Search and rescue operations at 19993 kHz ±3 kHz	▪ Article 26 applies
19995 - 20010 kHz			
STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 5.111	▪ Search and rescue operations at 19993 kHz ±3 kHz	▪ Article 26 applies
20010 - 21000 kHz			
FIXED	FIXED	▪ Fixed Applications	
21000 - 21450 kHz			
AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	▪ Amateur communications ▪ Amateur-satellite communications	
21450 - 21850 kHz			
BROADCASTING	BROADCASTING	▪ HF Sound Broadcasting	▪ ITU RR Article 12 Planning Procedures applies
21850 - 21870 kHz			
FIXED 5.155A 5.155	FIXED	▪ Fixed Applications	
21870 - 21924 kHz			
FIXED 5.155B	FIXED 5.155B	▪ Fixed Applications	▪ This band is used by the FS for services related to aircraft flight safety (5.155B) ▪
21924 - 22000 kHz			
AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	▪ Aeronautical mobile communications	▪ Appendix 27 Allotment Plan applies

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
22000 - 22855 kHz			
MARITIME MOBILE 5.132 5.156	MARITIME MOBILE 5.132	▪ Maritime applications	▪ ITU RR Appendix 17 Channelling Plan applies. ▪ ITU RR Appendix 25 Allotment Plan applies. ▪ The frequency 22 376 kHz is the international frequency for transmission of MSI.
22855 - 23000 kHz			
FIXED 5.156	FIXED 5.156	▪ Fixed Applications	▪ ITU-R Rec.SM.1896-1 ▪ Report ITU-R SM. 2153-7
23000 - 23200 kHz			
FIXED Mobile except aeronautical mobile (R) 5.156	FIXED Mobile except aeronautical mobile (R)	▪ Fixed Applications	
23200 - 23350 kHz			
FIXED 5.156A AERONAUTICAL MOBILE (OR)	FIXED (flight safety) 5.156A AERONAUTICAL MOBILE (OR)	▪ Aeronautical mobile communications	▪ The use of this band by the FS is limited to the provision of services related to aircraft flight safety (5.156A)
23350 - 24000 kHz			
FIXED MOBILE except aeronautical mobile 5.157	FIXED MOBILE except aeronautical mobile 5.157	▪ Fixed Applications	▪ The use of this band by the MMS is limited to inter-ship radiotelegraphy (5.157).

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
24000 - 24450 kHz			
FIXED LAND MOBILE	FIXED LAND MOBILE	▪ Fixed and mobile applications	
24450 - 24600 kHz			
FIXED LAND MOBILE Radiolocation 5.132A **5.158**	FIXED LAND MOBILE Radiolocation 5.132A	▪ Fixed Applications	
24600 - 24890 kHz			
FIXED LAND MOBILE	FIXED LAND MOBILE	▪ Fixed Applications	
24890 - 24990 kHz			
AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	▪ Amateur applications	
24990 - 25005 kHz			
STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)		▪ Article 26 applies
25005 - 25010 kHz			
STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research		▪ Article 26 applies
25010 - 25070 kHz			
FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile	▪ Fixed and Mobile applications	▪ ITU-R Rec.SM.1896-1 ▪ ITU-Report SM. 2153-7

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
25070 - 25210 kHz			
MARITIME MOBILE	MARITIME MOBILE	▪ Maritime applications	▪ ITU RR Appendix 17 Channelling Plan applies ▪ Maritime mobile communications ▪ International DSC calling at 25208.5 kHz
25210 - 25550 kHz			
FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile	▪ Fixed and Mobile Applications	
25550 - 25670 kHz			
RADIO ASTRONOMY 5.149	RADIO ASTRONOMY 5.149	▪ Radio Astronomy (Observations of decametric radiation)	
25670 - 26100 kHz			
BROADCASTING	BROADCASTING	▪ HF Sound Broadcasting	▪ ITU RR Article 12 Planning Procedures applies.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
26100 - 26175 kHz			
MARITIME MOBILE 5.132	MARITIME MOBILE 5.132	▪ Maritime applications	▪ ITU RR Appendix 17 Channelling Plan applies. ▪ ITU RR Appendix 25 Allotment Plan applies. ▪ The frequency 26 100.5 kHz is the international frequency for transmission of MSI. ▪ International DSC calling at 26121 kHz
26175 - 26200 kHz			
FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile	▪ Fixed Applications ▪ Mobile systems (single frequency) ▪ CB Radio (26.96-27.410 MHz)	
26200 - 26350 kHz			
FIXED MOBILE except aeronautical mobile Radiolocation 5.132 **5.133A**	FIXED MOBILE except aeronautical mobile Radiolocation 5.132A	▪ Fixed and mobile applications	
26350 - 27500 kHz			
FIXED MOBILE except aeronautical Mobile 5.150	FIXED MOBILE except aeronautical Mobile 5.150	▪ Fixed and mobile applications ▪ Inductive/non-specific SRD applications (26 957-27 283 kHz): ▪ Wireless control devices ▪ Measurement equipment	▪ Rec. ITU-R SM.1896-X ▪ Report ITU-R SM.2153-X ▪ Rec. ITU-R SM.2103-X

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
27.5 - 28 MHz			
METEOROLOGICAL AIDS FIXED MOBILE	METEOROLOGICAL AIDS FIXED MOBILE	▪ Fixed and mobile applications ▪ Meteorological applications	
28 - 29.7 MHz			
AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	▪ Amateur communications ▪ Amateur-satellite communications	
29.7 - 30.005 MHz			
FIXED MOBILE	FIXED MOBILE	▪ Fixed Applications	
30.005 - 30.01 MHz			
SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH	SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH		
30.01 - 37.5 MHz			
FIXED MOBILE	FIXED MOBILE	▪ Fixed and mobile applications ▪ Private Mobile Radio (walkie talkies)	
37.5 - 38.25 MHz			
FIXED MOBILE Radio astronomy	FIXED MOBILE Radio astronomy	▪ Private Mobile Radio (walkie talkies) ▪ Radio Astronomy (Observations of decametric radiation)	
5.149	**5.149**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
38.25 - 39 MHz			
FIXED MOBILE	FIXED MOBILE	▪ Private Mobile Radio (walkie talkies) ▪ Mobile applications	
39 - 39.5 MHz			
FIXED MOBILE Radiolocation 5.132A **5.159**	FIXED MOBILE Radiolocation 5.132A	▪ Mobile applications	
39.5 - 39.986 MHz			
FIXED MOBILE	FIXED MOBILE		
39.986 - 40.02 MHz			
FIXED MOBILE Space research	FIXED MOBILE Space research	▪ Private Mobile Radio (walkie talkies)	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
40.02 - 40.98 MHz			
FIXED MOBILE **5.150**	FIXED MOBILE **5.150**	▪ Private Mobile Radio (walkie talkies) ▪ Fixed applications ▪ SRD (40.66 – 40.7 MHz): ▪ Radio Microphone ▪ Wireless control devices ▪ Measurement equipment	▪ Rec. ITU-R SM.1896-X, ▪ Report ITU-R SM.2153-X ▪ ISM band (40.66-40.70 MHz): centre frequency 40.68 MHz
40.98 - 41.015 MHz			
FIXED MOBILE Space research **5.160 5.161**	FIXED MOBILE Space research	▪ Private Mobile Radio (walkie talkies)	
41.015 - 42 MHz			
FIXED MOBILE 5.160 5.161 5.161A	FIXED MOBILE	▪ Private Mobile Radio (walkie talkies) ▪ Fixed Applications	
42 - 42.5 MHz			
FIXED MOBILE Radiolocation 5.132A **5.160 5.161B**	FIXED MOBILE Radiolocation 5.132A		
42.5 - 44 MHz			
FIXED MOBILE **5.160 5.161 5.161A**	FIXED MOBILE	▪ Fixed and mobile applications	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
44 - 47 MHz			
FIXED MOBILE **5.162 5.162A**	FIXED MOBILE	▪ Private Mobile Radio (walkie talkies) ▪ Meteor Burst (45.3-46.9 MHz)	▪ Paired with 47.5-49.1 MHz)
47 - 50 MHz			
BROADCASTING **5.162A 5.163 5.164 5.165**	BROADCASTING **5.162A 5.163 5.164 5.165**	▪ Private Mobile Radio (walkie talkies) ▪ Meteor Burst (47.5-49.1 MHz) ▪ Broadcasting systems	▪ Paired with 45.3-46.9 MHz ▪ GE89 applies
50 - 52 MHz			
BROADCASTING Amateur 5.166A 5.166B 5.166C 5.166D 5.166E 5.169 5.169A 5.169B **5.162A 5.164 5.165**	BROADCASTING Amateur 5.166A 5.166B 5.166C 5.166D 5.166E 5.169 5.169A 5.169B **5.162A 5.164 5.165**	▪ Broadcasting systems	▪ GE89 applies ▪ This band is also used for Private Mobile Radio in some countries
52 - 68 MHz			
BROADCASTING 5.162A 5.163 5.164 5.165 5.169 5.169A 5.169 B 5.171	BROADCASTING 5.162A 5.163 5.164 5.165 5.169 5.169A 5.169 B 5.171	▪ Broadcasting systems	▪ GE89 applies ▪ This band is also used for Private Mobile Radio in some countries
68 - 74.8 MHz			
FIXED MOBILE except aeronautical mobile **5.149 5.175 5.177 5.179**	FIXED MOBILE except aeronautical Mobile 5.149	▪ Private Mobile Radio (walkie talkies) ▪ Fixed application	▪ In making assignments to stations in the frequency band 73 – 74.6 MHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
74.8 - 75.2 MHz			
AERONAUTICAL RADIONAVIGATION **5.180 5.181**	AERONAUTICAL RADIONAVIGATION **5.180**	▪ Instrument Landing System (ILS) ▪ Marker beacons (75 MHz)	
75.2 - 87.5 MHz			
FIXED MOBILE except aeronautical Mobile 5.175 5.179 5.187	FIXED MOBILE except aeronautical Mobile	▪ Private Mobile Radio (walkie talkies) ▪ Fixed and mobile application	
87.5 - 100 MHz			
BROADCASTING **5.190**	BROADCASTING	▪ FM Sound broadcasting (87.5-108 MHz)	▪ Geneva 1984 Agreement (GE84) applies
100 - 108 MHz			
BROADCASTING **5.192 5.194**	BROADCASTING	▪ FM Sound broadcasting (87.5-108 MHz)	▪ Geneva 1984 Agreement (GE84) applies

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
108 - 117.975 MHz			
AERONAUTICAL RADIONAVIGATION **5.197 5.197A**	AERONAUTICAL RADIONAVIGATION **5.197 5.197A**	▪ Instrument Landing System (ILS) / Localiser (108-112 MHz) ▪ VHF Omni-directional Range (VOR) (112-117.975 MHz) ▪ Aeronautical mobile communications (108-117.975 MHz)	▪ AM(R)S shall operate in accordance with Res.413(Rev.WRC-07). Safety and regularity of flights; in the band 108-112 MHz AM(R)S limited to ground based transmitters.
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 ▪ 121.450-121.550 MHz ▪ International Distress Frequency (121.5 MHz) ▪ 121.550-137.000 MHz ▪ Aeronautical mobile communications	▪ Safety and regularity of flights ▪ EPIRBs at 121.5 MHz ▪ ITU RR Article 31 applies ▪ 123.1 MHz - auxiliary emergency frequency
137 - 137.025 MHz			
SPACE OPERATION (space-to-Earth) 5.203C 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) 5.203C 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**		▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
137.025 - 137.175 MHz			
SPACE OPERATION (space-to-Earth) 5.203C 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) 5.203C 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**		▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)
137.175 - 137.825 MHz			
SPACE OPERATION (space-to-Earth)5.203C 5.2029A 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)5.203C 5.209A 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**	▪ NOAA[1] meteorology satellite (137.500-137.620 MHz)	▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)

▪ [1] National Oceanic and Atmospheric Administration

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
137.825 - 138 MHz			
SPACE OPERATION (space-to-Earth)5.203C 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)5.203C 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**		▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)
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 (OR)	▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)
143.6 - 143.65 MHz			
AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space-to-Earth) **5.211 5.212 5.214**	AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space-to-Earth) MARITIME MOBILE MOBILE FIXED **5.211 5.214**	▪ Aeronautical Communications (OR)	▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)
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 (OR)	▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)
144 - 146 MHz			
AMATEUR AMATEUR-SATELLITE 5.216	AMATEUR AMATEUR-SATELLITE	▪ Amateur satellite systems	▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
146 - 148 MHz			
FIXED MOBILE except aeronautical mobile (R)	FIXED MOBILE except aeronautical mobile (R)	▪ Private Mobile Radio (walkie talkies) ▪ Fixed applications	
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**	▪ Mobile satellite communications (Little LEO) ▪ Fixed applications ▪ Private Mobile Radio (walkie talkies)	▪ For some Little LEO systems this band is supplemented by the band 149.9-150.05 MHz
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)	▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
150.05 - 153 MHz			
FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	▪ Private Mobile Radio (walkie talkies) ▪ Paging ▪ Fixed applications ▪ Radio Astronomy (continuum band and also used for pulsar and solar observation)	
153 - 154 MHz			
FIXED MOBILE except aeronautical mobile (R) Meteorological aids	FIXED MOBILE except aeronautical mobile (R) Meteorological aids	▪ Private Mobile Radio (walkie talkies) ▪ Fixed applications	
154 -156.4875 MHz			
FIXED MOBILE except aeronautical mobile (R) 5.225A **5.226**	FIXED MOBILE except aeronautical mobile (R) 5.226	▪ 154-156 MHz ▪ Private Mobile Radio (walkie talkies)	
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	▪ Paired with 160.625-160.950 MHz, single frequency 156.3 MHz and in the band 156.375-156.475 MHz ▪ ITU RR Articles 31 and 52 and Appendix 18 apply.
156.5625 - 156.7625 MHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
FIXED MOBILE except aeronautical mobile (R) **5.226**	FIXED MOBILE except aeronautical mobile (R) 5.226	▪ Fixed and mobile applications ▪ Maritime mobile communications ▪ Land mobile in areas remote from coast ▪ Private Mobile Radio (walkie talkies)	▪ Single frequency applications, ITU RR Articles 31 and 52 and Appendix 18 apply
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**	▪ Maritime applications	▪ ITU RR Article 31 and Appendix 18 apply to the use of this band. ▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)
156.7875 - 156.8375 MHz			
MARITIME MOBILE (distress and calling) 5.111 **5.226**	MARITIME MOBILE (distress and calling) 5.111 **5.226**	▪ Maritime applications ▪ International distress, urgency, safety and calling by radiotelephony at 156.8 MHz (VHF-CH16) ▪ Search and rescue operations at 156.8 MHz	▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
156.8375 - 157.1875 MHz			
FIXED MOBILE except aeronautical mobile **5.226**	FIXED MOBILE except aeronautical mobile **5.226**	▪ Maritime applications	▪ In some countries this band is also used for Private Mobile Radio (walkie talkies) and/or Public Access Mobile Radio (walkie talkies)
157.1875 - 157.3375 MHz			
FIXED MOBILE except aeronautical mobile Maritime mobile-satellite 5.208A 5.208B 5.228AB 5.228 AC **5.226**	FIXED MOBILE except aeronautical mobile Maritime mobile-satellite 5.208A 5.208B 5.228AB 5.228 AC **5.226**	▪ Maritime mobile communications (ship Stations). ▪ Land mobile in areas remote from coast.	▪ ITU RR Articles 31 and 52 and Appendix 18 apply

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
157.3375 - 161.7875 MHz			
FIXED MOBILE except aeronautical mobile **5.226**	FIXED MOBILE except aeronautical mobile **5.226**	▪ PMR ▪ Maritime Communications ▪ 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. ▪ This frequency is Paired with 156.025-156.350 MHz; ITU RR Articles 31 and 52 and Appendix 18 applies ▪ 160.975-161.475 MHz(PMR)	▪ ITU RR Articles 31 and 52 and Appendix 18 apply
161.7875 - 161.9375 MHz			
FIXED MOBILE except aeronautical mobile Maritime mobile-satellite 5.208A 5.208B 5.228AB 5.228AC 5.226 **5.226**	FIXED MOBILE except aeronautical mobile Maritime mobile-satellite 5.208A 5.208B 5.228AB 5.228AC **5.226**	▪ Fixed/ Land `mobile communication	▪ ITU RR Articles 31 and 52 and Appendix 18 apply
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 Maritime mobile-satellite (Earth-to-space) 5.228AA **5.226**	▪ Maritime applications ▪ Private Mobile Radio (walkie talkies)	▪ ITU RR Articles 31 and 52 and Appendix 18 apply

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
161.9625-161.9875 MHz			
FIXED MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.228F **5.226 5.228A 5.228B**	FIXED MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.228F **5.226 5.228A 5.228B**	▪ Maritime applications ▪ Private Mobile Radio (walkie talkies)	▪ ITU RR Articles 31 and 52 and Appendix 18 apply
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 Maritime mobile-satellite (Earth-to-space) 5.228AA **5.226 5.229**	▪ Maritime applications ▪ Private Mobile Radio (walkie talkies)	▪ ITU RR Articles 31 and 52 and Appendix 18 apply
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**	▪ Maritime applications ▪ Private Mobile Radio (walkie talkies)	▪ ITU RR Articles 31 and 52 and Appendix 18 apply
162.0375 - 174 MHz			
FIXED MOBILE except aeronautical mobile 5.226 **5.229**	FIXED MOBILE except aeronautical mobile **5.226**	▪ Fixed and mobile applications ▪ Private Mobile Radio (walkie talkies)	▪ ITU RR Articles 31 and 52 and Appendix 18 apply

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
174 - 223 MHz			
BROADCASTING 5.235 5.237 5.243	BROADCASTING	▪ Geneva Agreement 2006 (GE06). ▪ Digital Sound Broadcasting ▪ T-DAB & DVB-T (174-230 MHz) ▪ SRD: Wireless (Radio) microphones (174 – 216 MHz)	▪ TV Band III ▪ Migration from analogue to digital in accordance with each African Country time lines ▪ GE06 Plan applies ▪ Wireless microphones, see Rec. ITU-R BT.1871-X, ETSI EN 300 422
223 - 230 MHz			
BROADCASTING Fixed Mobile **5.243 5.246 5.247**	BROADCASTING Fixed Mobile	▪ Geneva Agreement 2006 (GE06). ▪ Digital Sound Broadcasting ▪ T-DAB & DVB-T (174-230 MHz) ▪ SRD: Wireless (Radio) Microphone	▪ TV Band III ▪ Migration from analogue to digital in accordance with each African Country time lines ▪ GE06 Plan applies ▪ Wireless microphones, see Rec. ITU-R BT.1871-X
230 - 235MHz			
FIXED MOBILE **5.247 5.251 5.252**	FIXED MOBILE	▪ Fixed and Mobile Applications	▪ In some countries, the band 230-238 MHz is used for TV broadcasting (TV Band III).

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
235 - 267 MHz			
FIXED MOBILE	**235-238 MHz** FIXED MOBILE	▪ Fixed/ Land mobile communications	
	238-246 MHz MOBILE	▪ 238-242.95 MHz PMR	
		▪ 242.95-243.05 MHz International Distress Frequency (243 MHz)	
		▪ 243.05-246.00 MHz Low-power devices ancillary to the broadcasting service.	
	5.111 5.254 5.256		
	246-254 MHz FIXED MOBILE	▪ Fixed/ Land mobile communications	
	254-267 MHz MOBILE	▪ PMR	
5.111 5.252 5.254 5.256 5.256A	**5.254**		
267 - 272 MHz			
FIXED MOBILE Space operation (space-to-Earth)	FIXED MOBILE Space operation (space-to-Earth)	▪ Fixed/ Land mobile communications	
5.254 5.257	**5.254 5.257**		
272 - 273 MHz			
SPACE OPERATION (space-to-Earth) FIXED MOBILE	SPACE OPERATION (space-to-Earth) FIXED MOBILE	▪ Fixed/ Land mobile communications	
5.254	**5.254**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
273 - 312 MHz			
FIXED MOBILE	FIXED MOBILE	▪ Point to point Studio to Transmitter Links (STL) within the band 290-312 MHz	
5.254	**5.254**		
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	FIXED MOBILE	▪ Fixed/ Land mobile communications	
5.254	**5.254**		
322 - 328.6 MHz			
FIXED MOBILE RADIO ASTRONOMY	FIXED MOBILE RADIO ASTRONOMY	▪ Fixed/ Land mobile communications ▪ Radio Astronomy services (Observation of deuterium)	
5.149	**5.149**		
328.6 - 335.4 MHz			
AERONAUTICAL RADIONAVIGATION 5.258	AERONAUTICAL RADIONAVIGATION 5.258	▪ Band 328.6-335.4 MHz is limited to Instrument Landing Systems (glide path).	
5.259			
335.4 - 387 MHz			
FIXED MOBILE	FIXED MOBILE	335.4-336 MHz PMR	
		336-346 MHz Fixed Wireless Access	PTP/PTMP rural system; Paired with 356-366 MHz
		346.0-356.0 MHz PMR	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
		356.0-366.0 MHz Fixed Wireless Access	PTP/PTMP rural system; Paired with 336-346 MHz
		366.0-380.0 MHz PMR	
		380.0-387.0 MHz Public Protection and Disaster Relief (PPDR) Private Mobile Radio (walkie talkies)	Paired with 390.0-397.0 MHz To be used mainly for digital systems.
5.254	**5.254**		
387 - 390 MHz			
FIXED MOBILE Mobile-satellite (space-to-Earth) 5.208A 5.208B	FIXED MOBILE Mobile-satellite (space-to-Earth) 5.208A 5.208B	▪ 387.0-390.0 MHz Private Mobile Radio (walkie talkies) ▪ Fixed applications	▪ Paired with 397.0-399.9 MHz To be used mainly for digital systems.
5.254 5.255	**5.254 5.255**		
390 - 399.9 MHz			
FIXED MOBILE	FIXED MOBILE	▪ 390.0-395.0 MHz Public Protection and Disaster Relief (PPDR)	▪ Paired with 380.0-387.0 MHz To be used mainly for digital systems.
		▪ 395.0-399.9 MHz PMR	▪ Paired with 387.0-390.0 MHz To be used mainly for digital systems.
5.254	**5.254**		
399.9 - 400.05 MHz			
MOBILE-SATELLITE (Earth-to-space) 5.209	MOBILE-SATELLITE (Earth-to-space) 5.209	▪ Mobile satellite services - Uplink	
5.220 5.260A 5.260B	**5.220 5.260A 5.260B**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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)	▪ Article 26 applies
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**	▪ Meteorological applications	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
401 - 402 MHz			
METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile **5.264A 5.264B**	METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile **5.264A 5.264B**	▪ Meteorological applications ▪ Fixed and Mobile applications SRD: ▪ Ultra-low power active medical implants (ULP-AMI)	▪ Report ITU-R SM.2153-X ▪ ULP-AMI (402 – 405 MHz) Rec. ITU-R RS.1346
402 - 403 MHz			
METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile **5.264A 5.264B**	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile **5.264A 5.264B**	▪ Meteorological applications (Weather Radars) ▪ Fixed and Mobile applications SRD: ▪ Ultra low power active medical implants (ULP-AMI)	▪ Report ITU-R SM.2153-X ▪ ▪ ULP-AMI (402 – 405 MHz) Rec. ITU-R RS.1346

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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 SRD: ▪ Ultra low power active medical implants (ULP-AMI)	▪ ULP-AMI (402 – 405 MHz) Rec. ITU-R RS.1346, Report ITU-R SM.2153-X, ETSI EN 302 537 (405 – 406 MHz)
406 - 406.1 MHz			
MOBILE-SATELLITE (Earth-to-space) 5.265 **5.266 5.267**	MOBILE-SATELLITE (Earth-to-space)5.265 **5.266 5.267**	▪ Low power satellite EPIRBs (distress and safety purposes)	▪ ITU RR Articles 32 and 34 and Appendix 15 applies
406.1 - 410 MHz			
FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY **5.149 5.265**	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY	▪ Private Mobile Radio (walkie talkies) ▪ PPDR ▪ Fixed applications	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
410 - 420 MHz			
FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 5.268	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 5.268	▪ Private Mobile Radio (walkie talkies) ▪ PPDR ▪ Fixed and Mobile applications ▪ Measurement and Remote-control equipment	
420 - 430 MHz			
FIXED MOBILE except aeronautical mobile Radiolocation **5.269 5.270 5.271**	FIXED MOBILE except aeronautical mobile Radiolocation **5.269 5.270 5.271**	▪ Private Mobile Radio (walkie talkies) ▪ PPDR ▪ Fixed applications	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
430 - 432 MHz			
AMATEUR RADIOLOCATION **5.271 5.274 5.275 5.276 5.277**	AMATEUR RADIOLOCATION **5.271 5.274 5.275 5.276 5.277**	▪ Amateur Applications ▪ PPDR	▪ In some countries this band is used for Public Mobile Radio and Public access Mobile Radio and fixed applications
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**	AMATEUR RADIOLOCATION Earth exploration-satellite (active) 5.279A **5.138 5.271 5.276 5.277 5.280 5.281 5.282**	▪ Amateur Applications (432-438 MHz) ▪ Amateur-satellite Applications (435-438 MHz) ▪ Non-specific SRD applications (433.05-434.79 MHz) ▪ PPDR	▪ In some countries this band is used for Public Mobile Radio and Public access Mobile Radio and fixed applications ▪ Conditions for amateur satellite service is given in 5.282 ▪ ISM band (433.05-434.79 MHz)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
438 - 440 MHz			
AMATEUR RADIOLOCATION **5.271 5.274 5.275 5.276 5.277 5.283**	AMATEUR RADIOLOCATION **5.271 5.274 5.275 5.276 5.277 5.283**	▪ Amateur ▪ PPDR	▪ In some countries this band is used for Public Mobile Radio and Public access Mobile Radio and fixed applications
440 - 450 MHz			
FIXED MOBILE except aeronautical mobile Radiolocation **5.269 5.270 5.271 5.286**	FIXED MOBILE except aeronautical mobile Radiolocation **5.269 5.270 5.271 5.286**	▪ Private Mobile Radio (walkie talkies) ▪ PPDR ▪ FIXED (telemetry, dual frequency alarm systems) SRD : ▪ Private Mobile Radio (PMR/PMR446 (446.0-446.2 MHz))	▪ PMR/dPMR446: -see Report ITU-R M.2474, ETSI EN 303 405 and ECC/DEC/(15)05
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 5.271 5.286 5.286A 5.286B 5.286C 5.286D 5.286E**	▪ IMT (450-470 MHz)	
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**	▪ IMT (450-470 MHz)	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
456 - 459 MHz			
FIXED MOBILE 5.286AA **5.271 5.287 5.288**	FIXED MOBILE 5.286AA **5.271 5.287 5.288**	▪ IMT (450-470 MHz)	
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**	▪ IMT (450-470 MHz)	
460 - 470 MHz			
FIXED MOBILE 5.286AA Meteorological-satellite (space-to-Earth) **5.288 5.289 5.290**	FIXED MOBILE 5.286AA Meteorological-satellite (space-to-Earth) **5.288 5.289 5.290**	▪ IMT (450-470 MHz)	
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**	▪ DTT broadcasting (470-694 MHz) ▪ VLBI Observations (608 – 614 MHz) ▪ Services ancillary to broadcasting and program making (SAB/SAP) SRD: ▪ Wireless Audio Applications Radio Microphones	▪ GE06 Plan applies ▪ SAB/SAP: Report ITU-R BT.2338-X and Report ITU-R BT.2344-X ▪ Wireless microphones, see Rec. ITU-R BT.1871-X and ETSI EN 300 422

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
694 - 790 MHz			
MOBILE except aeronautical mobile 5.312A 5.317A BROADCASTING **5.300 5.312**	MOBILE except aeronautical mobile 5.312A 5.317A **5.300 5.312**	▪ Digital dividend band II for International mobile telecommunication systems (IMT) ▪ IMT (703-733 MHz Uplink) ▪ IMT (758-788 MHz Downlink) ▪ Broadband PPDR (698 – 703 paired with 753 – 758 MHz) ▪Broadband PPDR (733 – 736 paired with 788-791 MHz SRD: ▪ Services ancillary to broadcasting and program making (SAB/SAP)	▪ Res 646 (rev. WRC-19), Rec. ITU-R M. 2015 , Rec. ITU-R M. 1036 and Res. 760 (rev. WRC-19) apply ▪ Res. 224 (rev. WRC-19) applies for IMT. ▪ With respect to SAB/SAP, ITU-R Rep BT.2338-0 and ITU-R Rep. BT.2344-2 applies.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
790 - 862 MHz			
FIXED MOBILE except aeronautical mobile 5.316B 5.317A BROADCASTING **5.312 5.319**	FIXED MOBILE except aeronautical mobile 5.316B 5.317A **5.312 5.319**	▪ Digital dividend band I for International mobile telecommunication systems (IMT) ▪ IMT (832-862 MHz Downlink) ▪ IMT (791-821MHz Uplink)	▪ Res 646 (rev. WRC-19) and Res. 749 (rev. WRC-19) apply. ▪ Res. 224 (REV. WRC-19) applies for 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 **5.319 5.323**	▪ Mobile cellular networks ▪ GSM-R/ FRMCS 874.4-880 MHz (Uplink) ▪ GSM-R/ FRMCS 919.4 - 925 MHz (Downlink) ▪ GSM (880-915 MHz (Uplink) /925-960 MHz (Downlink) ▪ IMT (880-915 MHz (Uplink)/925-960 MHz (Downlink)	
890 - 942 MHz			
FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 Radiolocation	FIXED MOBILE except aeronautical mobile 5.317A Radiolocation	▪ Mobile cellular networks ▪ GSM-R 874.4-880 MHz (Uplink) ▪ GSM-R/FRMCS 919.4 - 925 MHz (Downlink) ▪ GSM (880-915 MHz (Uplink)/ 925-960 MHz (Downlink) ▪ IMT (880-915 MHz (Uplink) /925-960 MHz (Downlink)	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
5.323			
942 - 960 MHz			
FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322	FIXED MOBILE except aeronautical mobile 5.317A	▪ Mobile cellular networks ▪ GSM-R (876-880/921-925 MHz) ▪ GSM (880-915 MHz (Uplink) /925-960 MHz (Downlink) ▪ IMT (880-915 MHz (Uplink) /925-960 MHz (Downlink)	
5.323			
960 - 1164 MHz			
AERONAUTICAL MOBILE (R) 5.327A AERONAUTICAL RADIONAVIGATION 5.328	AERONAUTICAL MOBILE (R) 5.327A AERONAUTICAL RADIONAVIGATION 5.328	▪ Distance measuring equipment Secondary surveillance radar ▪ 1087.7-1092.3 MHz Automatic Dependent Surveillance-Broadcast (ADS-B)	▪ Res. 425 (WRC-19) applies (global flight tracking for civil aviation)
5.328AA			
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) ▪ Aeronautical radionavigation systems: ▪ Distance Measurement Equipment (DME) ▪ Surveillance Radar	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
1215 - 1240 MHz			
EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) **5.330 5.331 5.332**	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) 5.330 5.331 5.332	▪ GLONASS (1237.8-1253.8 MHz) GPS (1215.6-1239.6 MHz)	
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)	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
1300 - 1350 MHz			
RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.337 RADIONAVIGATION-SATELLITE (Earth-to-space) 5.149 5.337A	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.337 RADIONAVIGATION-SATELLITE (Earth-to-space) 5.149 5.337A	▪ Aeronautical radionavigation systems: Ground Base Radar	▪ In making assignments to stations in the frequency band 1330-1350 MHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149
1350 - 1400 MHz			
FIXED MOBILE	FIXED MOBILE	▪ 1 350-1 375 MHz ▪ Fixed links (duplex)	▪ Paired with 1492-1517 MHz ▪ REC ITU- R F 1242

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
RADIOLOCATION	RADIOLOCATION		▪ In making assignments to stations in the frequency band 1350-1375 MHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149
		▪ 1 375-1 400 MHz ▪ Fixed links (duplex)	▪ Paired with 1427-1452 MHz ▪ REC ITU- R F 1242 ▪ In making assignments to stations in the frequency band 1375-1400 MHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149
5.149 5.338 5.338A	**5.149 5.338A 5.339**		
1400 - 1427 MHz			
EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	▪ Radio Astronomy (Hydrogen line and continuum observations)	▪ All emissions are prohibited in this band.
5.340 5.341			
1427 - 1429 MHz			
SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.341A 5.341B 5.341C	SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile	▪ International Mobile Telecommunications (IMT) 1427-1518 MHz	▪ Paired with 1375-1400 MHz; ▪ REC ITU- R F 1242/ REC ITU- R F 701 ▪ Identified for IMT (Rec.1036) ▪ Res.223 (Rev. WRC-19) applies for IMT.
5.338A 5.341	**5.338A 5.341**		
1429 - 1452 MHz			
FIXED MOBILE except aeronautical mobile 5.341A	FIXED MOBILE except aeronautical mobile	▪ International Mobile Telecommunications (IMT) 1427-1518 MHz	▪ Res.223 (Rev. WRC-19) applies for IMT. ▪ Recommendation 1036 ▪ REC ITU- R F 1242/ REC ITU- R F 701
5.338A 5.341 5.342	**5.338A 5.341 5.342**		
1452 - 1492 MHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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	▪ International Mobile Telecommunications (IMT) 1427-1518 MHz	▪ Res. 223 (Rev.WRC-19) applies for IMT
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 Telecommunications (IMT) 1427-1518 MHz	▪ Res. 223 (Rev.WRC-19) applies for 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**	▪ Fixed links ▪ The band 1518-1559 MHz is allocated for satellite component of IMT; Res.225 applies.	▪ REC ITU- R F 1242/ REC ITU-R F 701
1525 - 1530 MHz			
SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A Earth exploration-satellite Mobile except aeronautical mobile 5.349 5.341 5.342 5.350	SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A Earth exploration-satellite Mobile except aeronautical mobile	▪ Fixed links ▪ The band 1518-1559 MHz is allocated for satellite component of IMT; Res.225 applies.	▪ This band also carries Maritime safety Information (MSI) for vessels in Navigation Area ▪ REC ITU- R F 1242/ REC ITU-R F 701

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
5.351 5.352A 5.354	**5.341 5.351 5.352A 5.354**		
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	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	▪ GMDSS (SAT-COM) in 1 530–1 544 MHz ▪ Mobile satellite systems ▪ Fixed applications	▪ In the band 1530-1544 MHz priority for maritime mobile distress, urgency and safety communications (GMDSS); Res.222 applies. ▪ REC ITU- R F 1242/ REC ITU-R F 701 ▪ This band also carries Maritime safety Information (MSI) for vessels in Navigation Area
5.341 5.342 5.351 5.354	**5.354**		
1535 - 1559 MHz			
MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.353A 5.354 5.355 5.356	MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.353A 5.354 5.355 5.356	Mobile satellite systems GMDSS (SAT-COM) in 1 530–1 544 MHz / (D&S-OPS) in 1544–1545 MHz	▪ In the band 1530-1544 MHz priority for maritime mobile distress, urgency and safety communications (GMDSS); Res.222 applies. ▪ This band also carries Maritime safety Information (MSI) for vessels in Navigation Area
1559 - 1610 MHz			
AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.208B 5.328B 5.329A	AERONAUTICAL- RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.208B 5.328B 5.329A	▪ Galileo (1559.42-1591.42 MHz) ▪ GLONASS (1592.9-1610.5 MHz) ▪ GPS (1563.42-1587.42 MHz	
5.341	**5.341**		
1610 - 1610.6 MHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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**	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)	▪ This band is designated worldwide 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 5.3645.366 5.367 5.368 5.369**	MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION **5.149 5.341 5.355 5.359 5.364 5.366 5.367 5.368 5.369**	▪ Radio Astronomy (Observation of OH radical and molecules)	▪ This band is designated worldwide for the MSS. Paired with 2484.1-2487.3 MHz for some systems.
1613.8 - 1621.35 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**	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 **5.341 5.355 5.359 5.364 5.365 5.366 5.367 5.368 5.369**	▪ Mobile satellite systems	▪ Paired with 1593-1594 MHz for aeronautical public correspondence
1621.35 - 1626.5 MHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
MARITIME MOBILE-SATELLITE(space-to-Earth) 5.373 5.373A MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION Mobile-satellite (space-to-Earth) except maritime mobile satellite (space-to-Earth) **5.208B 5.341 5.355 5.359 5.364 5.365 5.366**	MARITIME MOBILE-SATELLITE (space-to-Earth) 5.373 5.373A MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION Mobile-satellite (space-to-Earth) except maritime mobile satellite (space-to-Earth) 5.208B 5.341 5.355 5.359 5.364 5.365 5.366 **5.208B 5.341 5.355 5.359 5.364 5.365 5.366**	▪ Used for distress and safety purposes in the Earth-to-space and space-to-Earth directions in the maritime mobile-satellite service ▪ Mobile satellite systems	▪ Paired with 1593-1594 MHz for aeronautical public correspondence
1 626.5-1 660 MHz			
MOBILE-SATELLITE (Earth-to-space) 5.351A **5.341 5.351 5.353A 5.354 5.355 5.357A 5.359 5.362A 5.359 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 **5.341 5.351 5.353A 5.354 5.355 5.357A 5.3595.362A 5.359 5.362A 5.374 5.375 5.376**	▪ GMDSS (SAT-COM) in 1626.5 – 1645.5 MHz ▪ GMDSS (D&S-OPS) in 1645.5-1646.5 MHz ▪ Mobile satellite systems	▪ In the band 1626.5-1645.5 MHz priority is given to maritime mobile distress, urgency and safety communications (GMDSS); Res.222 applies.
1 660-1 660.5 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 **5.149 5.341 5.351 5.354 5.362A 5.376A**	▪ Radio Astronomy (Observation of OH radical and molecules)	▪ REC ITU- R F 701

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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**	▪ Fixed Applications ▪ Radio Astronomy (Observation of OH radical and molecules)	▪ REC ITU- R F 701
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**	▪ Radio Astronomy (Observation of OH radical and molecules)	▪ REC ITU- R F 701

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
1668.4 - 1670 MHz			
METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY	METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY	▪ Radio Astronomy (Observation of OH radical and molecules)	▪ REC ITU- R F 701
5.149 5.341 5.379D 5.379E	**5.149 5.341 5.379D 5.379E**		
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) 5.351A 5.379B		▪ REC ITU- R F 701
5.341 5.379D 5.379E 5.380A	**5.341 5.379D 5.379E 5.380A**		
1675 - 1690 MHz			
METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	▪ Fixed Applications	▪ REC ITU- R F 701
5.341	**5.341**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
1690 - 1700 MHz			
METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile **5.289 5.341 5.382**	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile **5.289 5.341 5.382**	▪ Meteorological aids Meteorological satellite downlink	▪ REC ITU- R F 701
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 links (single frequency) ▪ Land mobile users ▪ Meteorological satellite users	▪ REC ITU- R F 701
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 MHz (Uplink)/1805-1880 MHz (Downlink) and 1920-1980 ▪ FRMCS: 1900-1910 MHz ▪ GSM/IMT	▪ Res.223 (Rev. WRC-19) applies for IMT. ▪ Paired with 1805-1880 MHz. ▪ REC ITU- R F 701/ REC ITU-R F 382/ REC ITU- R F 1098 ▪ In making assignments to stations in the frequency band 1718.8-1722.2 MHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
1930 - 1970 MHz			
FIXED MOBILE 5.388A 5.388B	FIXED MOBILE 5.388A 5.388B	▪ Cellular mobile networks within 1920-1980 MHz ▪ IMT ▪ Paired with 2110-2170 MHz	▪ Res.223 (Rev. WRC-19) applies for IMT. ▪ REC ITU- R F 701/ REC ITU-R F 382/ REC ITU- R F 1098
5.388	**5.388**		
1970 - 1980 MHz			
FIXED MOBILE 5.388A 5.388B	FIXED MOBILE 5.388A 5.388B	▪ Cellular mobile networks within 1920-1980 MHz ▪ IMT	▪ Res.223 (Rev. WRC-19) applies for IMT. ▪ REC ITU- R F 701/ REC ITU-R F 382/ REC ITU- R F 1098
5.388	**5.388**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
1980 - 2010 MHz			
FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A	▪ IMT (satellite) (1980-2010 MHz) Paired with 2170 - 2200 MHz.	▪ Paired with 2170 - 2200 MHz. ▪ The development of satellites for IMT services to be monitored. ▪ Res 212 (Rev. WRC-19) apply. ▪ REC ITU- R F 701/ REC ITU-R F 382/ REC ITU- R F 1098 ▪ Res.223 (Rev. WRC-19) applies for IMT.
5.388 5.389A 5.389B 5.389F	**5.388 5.389A 5.389B 5.389F**		
2010 - 2025 MHz			
FIXED MOBILE 5.388A 5.388B	FIXED MOBILE 5.388A 5.388B	▪ IMT (2010-2025 MHz) ▪ Fixed Applications	▪ TDD ▪ Res.223 (Rev. WRC-19) applies for IMT. ▪ REC ITU- R F 701/ REC ITU-R F 382/ REC ITU- R F 1098
5.388	**5.388**		
2025 - 2110 MHz			
SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space)	SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space)	▪ Fixed/Land mobile communications ▪ Fixed links (2025-2110 MHz paired with 2200-2285 MHz)	▪ Radio Frequency channel arrangement according to Rec. ITU-R F.1098. ▪ REC ITU- R F 701/ REC ITU-R F 382/ REC ITU- R F 1098
5.392	**5.392**		
2110 - 2120 MHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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 ▪ IMT (2110-2170 MHz) paired with 1920-1980 MHz	▪ Paired with 1920-1980 MHz ▪ Rec. ITU-R M.1036 applies ▪ Res.223 (Rev. WRC-19) applies for IMT.
2120 - 2160 MHz			
FIXED MOBILE 5.388A 5.388B **5.388**	FIXED MOBILE 5.388A 5.388B **5.388**	▪ Cellular mobile networks ▪ IMT (2110-2170 MHz) paired with 1920-1980 MHz	▪ Res.223 (Rev. WRC-19) applies for IMT.
2160 - 2170 MHz			
FIXED MOBILE 5.388A 5.388B **5.388**	FIXED MOBILE 5.388A 5.388B **5.388**	▪ Cellular mobile networks ▪ IMT (2110-2170 MHz) paired with 1920-1980 MHz	▪ Res.223 (Rev. WRC-19) applies for IMT.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
2170 - 2200 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 ▪ IMT (satellite) (2170-2200 MHz) ▪ Paired with 1980-2010 MHz.	▪ The development of satellites for IMT services to be monitored. ▪ Rec. ITU-R M.1036 applies ▪ Res 212 (Rev. WRC-19) apply. ▪ Res.223 (Rev. WRC-19) applies for IMT. ▪ Rec ITU- R F 701/ Rec ITU- R F 382/ Rec ITU- R F 1098
2200 - 2290 MHz			
SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (space-to-Earth) (space-to-space) **5.392**	SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (space-to-Earth) (space-to-space) **5.392**	▪ TV point to point Studio to Transmitter Links (STL) within the band 2207.5-2277.5 MHz ▪ Earth exploration satellite applications ▪ BFWA (2 285-2 300 MHz)	▪ Radio Frequency channel arrangement according to Rec. ITU-R F.1098.
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 ▪ BFWA (2 285-2 300 MHz)	
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. (TDD) ▪ Also allocated to ISM within 2400-2483.5 MHz ▪ BFWA	▪ IMT Radio Frequency Channel arrangement according to Rec. ITU-R M.1036
2450 - 2483.5 MHz			
FIXED	FIXED	▪ Allocated to ISM within	▪ Rec ITU- R F 701/ Rec ITU- R

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
MOBILE Radiolocation **5.150 5.397**	MOBILE Radiolocation **5.150**	2400-2483.5 MHz (5.150) ▪ SRD applications (2400-2 483.5 MHz)	F 746 / Rec ITU- R F 1243
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**	▪ Mobile Satellite Services	▪ Rec ITU- R F 701/ Rec ITU- R F 746 / Rec ITU- R F 1243
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 (IMT)	▪ Res.223 (Rev. WRC-19) applies for 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 (IMT)	▪ Res.223 (Rev. WRC-19) applies for IMT.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
2655 - 2670 MHz			
FIXED 5.410 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**	FIXED 5.410 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**	▪ International Mobile Telecommunication (IMT)	▪ Res.223 (Rev. WRC-19) applies for IMT.
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) Radio astronomy Space research (passive) 5.149	▪ International Mobile Telecommunication (IMT)	▪ Res.223 (Rev. WRC-19) applies for IMT.
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 Radio Astronomy (Continuum measurements and galactic studies)	
2700 - 2900 MHz			
AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation **5.423 5.424**	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423	▪ Aeronautical radionavigation radars: PSR (primary surveillance radar) ▪ Meteorological radar	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
2900 - 3100 MHz			
RADIOLOCATION5.424A RADIONAVIGATION 5.426 **5.425 5.427**	RADIOLOCATION5.424A RADIONAVIGATION 5.426 **5.425 5.427**	▪ Aeronautical radionavigation radars: PSR (primary surveillance radar) ▪ Meteorological radar	
3100 - 3300 MHz			
RADIOLOCATION Earth exploration-satellite (active) Space research (active) **5.149 5.428**	RADIOLOCATION Earth exploration-satellite (active) Space research (active) 5.149	▪ Radiolocation services	▪ In making assignments to stations in the frequency band 3100-3300 MHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149
3300 - 3400 MHz			
RADIOLOCATION **5.149 5.429 5.429A 5.429B 5.430**	RADIOLOCATION MOBILE except aeronautical mobile **5.149 5.429**	▪ International Mobile Telecommunication (IMT)	▪ Res. 223 (Rev.WRC-19) applies. ▪ IMT Radio Frequency Channel arrangement according to Rec. ITU-R M.1036 ▪ Report ITU-R M.2481 may be consulted ▪ In making assignments to stations in the frequency band 3300-3400 MHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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 (IMT)	
3600 - 4200 MHz			
▪ FIXED ▪ FIXED-SATELLITE (space-to-Earth) ▪ Mobile	▪ FIXED ▪ FIXED-SATELLITE (space-to-Earth) ▪ Mobile	▪ Fixed services for PTP in the range 3600-4200 MHz ▪ Fixed-satellite (space-to-Earth) for PTP/VSAT/SNG in the range 3600-4200 MHz ▪ BFWA/IMT in the range 3600-3800MHz	▪ The channelling arrangement for PTP links in this band is based on Rec. ITU-R F.635 ▪ ITU- R F 1488/ Rec ITU- R F 635 ▪ Resolution 246 (WRC-19) applies for BFWA. ▪ Some administrations are considering the use of the frequency band 3600 - 3800 MHz for future systems operating in the mobile service.
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)	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
4400 - 4500 MHz			
FIXED MOBILE 5.440A	FIXED MOBILE	▪ Point to point fixed links for network mobile operators	▪ REC ITU- R F 1099
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	▪ The band 4 500-4 800 MHz is part of the APP30B Plan (FSS space-to-Earth). ▪ Rec ITU- R F 1099 ▪ Ultra-wideband applications (UWB): see Rec. ITU-R SM.1896-X, Rec. ITU-R SM.1755 and Report ITU-R SM.2153-X
4800 - 4990 MHz			
FIXED MOBILE 5.440A 5.441A 5.441B 5.442 Radio astronomy **5.149 5.339 5.443**	FIXED MOBILE 5.442 Radio astronomy 5.149 5.339	▪ International Mobile Telecommunication (IMT) ▪ Point to point Fixed links for network mobile operators ▪ Radio Astronomy (Observations of formaldehyde (H2CO) interstellar clouds)	▪ Res. 223 (Rev.WRC-19) applies.
4990 - 5000 MHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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	▪ Rec ITU- R F 1099
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 RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) **5.328B 5.443B**	AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL 5.328B 5.443B RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space)	▪ Aeronautical radionavigation Radio-navigation 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 **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) ▪ Microwave landing system	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
5091 - 5150 MHz			
FIXED-SATELLITE (Earth-to-space) 5.444A AERONAUTICAL MOBILE 5.444B AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION 5.444 **5.444**	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) ▪ Aeronautical radionavigation ▪ Aeronautical mobile ▪ Aeronautical ▪ Mobile-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 5.446 5.447 5.447B 5.447C**	FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except aeronautical mobile 5.446A 5.446B AERONAUTICAL RADIONAVIGATION 5.446 **5.446C 5.446 5.447 5.447B 5.447C**	▪ Land mobile 5 150-5 250 MHz ▪ Wireless Access Systems (WAS)/RLAN	▪ Res. 229 (rev. WRC-19)
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 **5.447E 5.448 5.448A**	▪ Land mobile 5 250-5 255 MHz ▪ Wireless Access Systems (WAS)/RLAN	▪ Res. 229 (rev. WRC-19)
5255 - 5350 MHz			
EARTH EXPLORATION-SATELLITE (active) MOBILE except aeronautical mobile 5.446A 5.447F	EARTH EXPLORATION-SATELLITE (active) MOBILE except aeronautical mobile 5.446A 5.447F	▪ Land mobile 5 255-5 350 MHz ▪ Wireless Access Systems	▪ Res. 229 (rev. WRC-19)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
RADIOLOCATION SPACE RESEARCH (active) **5.447E 5.448 5.448A**	RADIOLOCATION SPACE RESEARCH (active) **5.447E 5.448 5.448A**	(WAS)/RLAN	
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) 5.448C	▪ Aeronautical radionavigation - Ground based and airborne weather radar	
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**	▪ Wireless Access Systems (WAS)/RLAN	▪ Res. 229 (rev. WRC-19)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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**	▪ Wireless Access Systems (WAS)/RLAN ▪ ▪ Ground-based meteorological radars (5600-5650 MHz)	▪ Res. 229 (rev. WRC-19)
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**	▪ Wireless Access Systems (WAS)/RLAN	▪ Res. 229 (rev. WRC-19)
5725 - 5830 MHz			
FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur **5.150 5.451 5.453 5.455**	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur **5.150 5.451 5.453 5.455**	▪ BFWA (5725-5850 MHz) ▪ SRD applications: ▪ Reservoir Level Probing Radar (RLPR) ▪ RTTT (Road Transport and Traffic Telematics) (5795-5815 MHz) ▪ Transport and information control systems (ITS) 5 805-5 815 MHz)	▪ Rec. ITU-R SM.1896-X ▪ Rec. ITU-R M.1453 ▪ ▪ Report ITU-R SM.2153-X

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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 ▪ BFWA (5725-5850 MHz) ▪ SRD applications: ▪ Reservoir Level Probing Radar (RLPR)	▪ Rec. ITU-R SM.1896-X ▪ Report ITU-R SM.2153-X
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)	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
5925 - 6700 MHz			
FIXED 5.457 FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B MOBILE 5.457C	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A MOBILE 5.149 5.440 5.458	▪ Fixed links - Lower 6 GHz (5925-6425 MHz) and Upper 6 GHz (6425-7110 MHz) ▪ Fixed-satellite uplinks (PTP/VSAT/SNG) (5850-6425 MHz) ▪ UWB SRD application (6000 - 9000 MHz) ▪ Licence-exempt WAS/RLAN in the range 5925 – 6425 MHz.	▪ Channelling plan for L6 GHz band in accordance with Rec. ITU-R F.383 ▪ ATU-R Recommendation 005-X applies in the range (5925 – 6425 MHz) ▪ Channelling plan for U6 GHz band in accordance with Rec. ITU-R F.384 ▪ Earth Station on board vessels (ESV) also allowed under FSS. ▪ Ultra-wideband applications (UWB): see Rec. ITU-R SM.1755, Rec. ITU-R SM.1756, Rec. ITU-R SM. 1757and Report ITU-R SM.2153-X ▪ In making assignments to stations in the frequency band 6650 – 6675.2 MHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149
5.149 5.440 5.458	**5.149 5.440 5.458**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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**	▪ Fixed links - Upper 6 GHz (6425-7110 MHz)	▪ Rec. ITU-R F.384 applies ▪ The band 6 725-7 025 MHz is part of the APP30B Plan (FSS Earth-to-space);
7075 - 7145 MHz			
FIXED MOBILE **5.458 5.459**	FIXED MOBILE **5.458**	▪ Fixed links - Upper 6 GHz (6425-7110 MHz) and Lower 7 GHz (7110-7425 MHz)	▪ Rec. ITU-R F.384 applies ▪ Rec. ITU-R F.385 applies.
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**	▪ Fixed links - Lower 7 GHz (7110-7425 MHz)	▪ Rec. ITU-R F.385 applies.
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**	▪ Fixed links - Lower 7 GHz (7110-7425 MHz)	▪ Rec. ITU-R F.385 applies
7235 - 7250 MHz			
EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A FIXED MOBILE **5.458**	EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A FIXED MOBILE **5.458**	▪ Fixed links - Lower 7 GHz (7110-7425 MHz)	▪ Rec. ITU-R F.385 applies.
7250 - 7300 MHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
FIXED FIXED-SATELLITE (space-to-Earth) MOBILE **5.461**	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE **5.461**	▪ Fixed links - Lower 7 GHz (7110-7425 MHz)	▪ Rec. ITU-R F.385 applies.
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**	▪ Fixed links - Lower 7 GHz (7110-7425 MHz) and Upper 7 GHz (7425-7750 MHz)	▪ Rec. ITU-R F.385 applies
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**	▪ Fixed links - Lower 7 GHz (7110-7425 MHz) and Upper 7 GHz (7425-7750 MHz)	▪ Rec. ITU-R F.385 applies
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 **5.461A**	▪ Fixed links - Upper 7 GHz (7425-7750 MHz)	▪ Rec. ITU-R F.385 applies
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**	▪ Fixed links - Upper 7 GHz (7425-7750 MHz)	▪ Rec. ITU-R F.385 applies

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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	▪ Fixed links - Lower 8 GHz (7725-8275 MHz)	▪ Rec. ITU-R F.386 applies
7900 - 8025 MHz			
FIXED FIXED-SATELLITE (Earth-to-space) MOBILE **5.461**	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE **5.461**	▪ Fixed links - Lower 8 GHz (7725-8275 MHz)	▪ Rec. ITU-R F.386/ ITU-R. F.385 applies
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**	▪ Fixed links - Lower 8 GHz (7725-8275 MHz) ▪ Earth exploration satellite systems	▪ Rec. ITU-R F.386 applies

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
8175 - 8215 MHz			
EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 5.463 **5.462A**	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 5.463 **5.462A**	▪ Fixed links - Lower 8 GHz (7725-8275 MHz) ▪ Earth exploration satellite systems	▪ Rec. ITU-R F.386 applies
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**	▪ Fixed links - Lower 8 GHz (7725-8275 MHz) and Upper 8 GHz (8275-8500 MHz)	▪ Rec. ITU-R F.386 applies.
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**	▪ Fixed links - Upper 8 GHz (8275-8500 MHz)	▪ Rec. ITU-R F.386 applies.
8500 - 8550 MHz			
RADIOLOCATION **5.468 5.469**	RADIOLOCATION **5.468 5.469**	▪ RADARS e.g. precision airfield approach radars.	
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**	▪ RADARS e.g. precision airfield approach radars	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
8650 - 8750 MHz			
RADIOLOCATION **5.468 5.469**	RADIOLOCATION **5.468 5.469**	▪ RADARS e.g. precision airfield approach radars	
8750 - 8850 MHz			
RADIOLOCATION AERONAUTICAL RADIONAVIGATION **5.4705.471**	RADIOLOCATION AERONAUTICAL RADIONAVIGATION **5.470 5.471**	▪ RADARS e.g. precision airfield approach radars	
8850 - 9000 MHz			
RADIOLOCATION MARITIME RADIONAVIGATION **5.472 5.473**	RADIOLOCATION MARITIME RADIONAVIGATION **5.472**	▪ RADARS e.g. precision airfield approach radars	
9000 - 9200 MHz			
RADIOLOCATION AERONAUTICAL RADIONAVIGATION **5.3375.471 5.473A**	RADIOLOCATION AERONAUTICAL RADIONAVIGATION **5.3375.471**	▪ RADARS e.g. precision airfield 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**	▪ RADARS e.g. precision airfield approach radars	
9300 - 9500 MHz			
EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION 5.475 SPACE RESEARCH (active) **5.427 5.474 5.475A 5.475B 5.476A**	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION 5.475 SPACE RESEARCH (active) **5.427 5.474 5.475A 5.475B 5.476A**	▪ RADARS e.g. precision airfield approach radars	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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**	▪ RADARS e.g. precision airfield approach radars	
9800 - 9900 MHz			
RADIOLOCATION Earth exploration-satellite (active) Fixed Space research (active) **5.477 5.478 5.478A 5.478B**	RADIOLOCATION Earth exploration-satellite (active) Fixed Space research (active) **5.478A 5.478B**	▪ Radiolocation	
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**	▪ RADARS e.g. precision airfield approach radars	
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 **5.474D 5.479**	▪ Fixed point to multipoint microwave links (ITU-R F.1568)	
10.4 - 10.45 GHz			
FIXED MOBILE RADIOLOCATION Amateur	FIXED MOBILE RADIOLOCATION Amateur	▪ Radiolocation ▪ Fixed/Land mobile communication ▪ BFWA – 10.5 GHz (10.15-10.30 GHz)	▪ Paired with 10.50-10.65 GHz ▪ Rec. ITU-R F.1568 applies.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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	▪ BFWA – 10.5 GHz (10.50-10.65 GHz)	▪ Paired with 10.15-10.30 GHz ▪ Rec. ITU-R F.1568 applies
10.55 - 10.6 GHz			
FIXED MOBILE except aeronautical mobile Radiolocation	FIXED MOBILE except aeronautical mobile Radiolocation	▪ BFWA – 10.5 GHz (10.50-10.65 GHz)	▪ Paired with 10.15-10.30 GHz ▪ Rec. ITU-R F.1568 applies.
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**	▪ BFWA – 10.5 GHz (10.50-10.65 GHz) ▪ Radio Astronomy (Non-thermal synchrotron and enigmatic quasars)	▪ Rec. ITU-R F.1568 applies. ▪ For sharing between EESS (passive) and the fixed and mobile service, Res.751 applies.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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 services ▪ Radio astronomy[1]Space research ▪ Non-thermal synchrotron and enigmatic quasars	
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) ▪ DTH Applications under the FSS	▪ Rec. ITU-R F.387 applies
10.95 - 11.2 GHz			
FIXED FIXED-SATELLITE (space-to-Earth) 5.484 5.484A 5.484B (Earth-to-space) 5.484 MOBILE except aeronautical mobile	FIXED FIXED-SATELLITE (space-to-Earth) 5.484 5.484A 5.484B (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) ▪ DTH Applications under the FSS	▪ Rec. ITU-R F.387 applies
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) ▪ DTH Applications under the FSS	▪ Rec. ITU-R F.387 applies

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
11.45 - 11.7 GHz			
FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B (Earth-to-space) 5.484 MOBILE except aeronautical Mobile	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B (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) ▪ Fixed-satellite downlinks (PTP/VSAT/SNG) ▪ DTH Applications under the FSS	▪ Rec. ITU-R F.387 applies
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**	▪ Fixed Links ▪ Broadcasting satellite systems	▪ This band is available for BSS in accordance with Appendix 30 of ITU RR. Refer to Annex C.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
12.5 - 12.75 GHz			
FIXED (space-to-Earth) 5.484A 5.484B (Earth-to-space) **5.494 5.495 5.496**	FIXED (space-to-Earth) 5.484A 5.484B (Earth-to-space)	▪ FSS uplinks (VSAT/SNG) (12.5-12.75 GHz) ▪ Ku band VSAT downlink ▪ Aeronautical Earth Stations/ ESV/ESIM Applications ▪ NGSO FSS ▪ Fixed links	▪ Article 9.12 applies ▪ Res. 155 (WRC – 15) applies
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)	▪ Fixed links - 13 GHz (12.75-13.25 GHz)	▪ Channelling plan for 13 GHz band in accordance with Rec. ITU-R F.497 ▪ The band 12.75-13.25 GHz is part of the APP30B Plan (FSS Earth-to-space); refer to Annex C. ▪ Article 9.12 applies ▪ Res. 172 (WRC-19) applies
13.25 - 13.4 GHz			
EARTH EXPLORATION-SATELLITE (active) AERONAUTICAL RADIONAVIGATION 5.497 SPACE RESEARCH (active) **5.498A 5.499**	EARTH EXPLORATION-SATELLITE (active) AERONAUTICAL RADIONAVIGATION 5.497 SPACE RESEARCH (active) **5.498A 5.499**	▪ Airborne Navigation Aids	
13.4 - 13.65 GHz			
EARTH EXPLORATION-SATELLITE (active) 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 5.500 5.501 5.501B**	EARTH EXPLORATION-SATELLITE (active) 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**	▪ SRD: ▪ Radio determination Applications	▪ Report ITU-R SM.2153-X

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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	
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**	▪ FSS uplinks (PTP/VSAT/SNG) ▪ 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 **5.504A 5.505**	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**	▪ FSS uplinks (PTP/VSAT/SNG) ▪ Aeronautical Earth Stations/ ESV/ESIM Applications ▪ NGSO FSS ▪ Fixed links	▪ Res. 902 applies. ▪ Rec. ITU-R M.1643 applies.
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 researc **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 5.508A Space research **5.504A**	▪ FSS uplinks (PTP/VSAT/SNG) ▪ Aeronautical Earth Stations/ ESV/ESIM Applications ▪ Fixed links	▪ Res. 902 applies. ▪ Rec. ITU-R M.1643 applies.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
14.3 - 14.4 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.504B 5.506A 5.509A Radionavigation-satellite **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 Radionavigation-satellite **5.504A**	▪ FSS uplinks (PTP/VSAT/SNG) ▪ Aeronautical Earth Stations/ ESV/ESIM Applications ▪ NGSO FSS ▪ Fixed links	▪ Res. 902 applies. ▪ Rec. ITU-R M.1643 applies.
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)	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 Space research (space-to-Earth)	▪ FSS uplinks (PTP/VSAT/SNG) ▪ Aeronautical Earth Stations/ ESV/ESIM Applications ▪ Fixed links	▪ Res. 902 applies. ▪ Rec. ITU-R M.1643 applies.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
5.504A	**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	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	▪ FSS uplinks (PTP/VSAT/SNG) ▪ Radio Astronomy (non-thermal synchrotron and enigmatic quasars) ▪ Aeronautical Earth Stations/ ESV/ESIM Applications ▪ Fixed Links	▪ Res. 902 applies. ▪ Rec. ITU-R M.1643 applies.
5.149 5.504A	**5.149 5.504A**		
14.5 - 14.75 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.509B 5.509C 5.509D 5.509E 5.509F 5.510 MOBILE Space research 5.509G	FIXED FIXED-SATELLITE (Earth-to-space) 5.509B 5.509C 5.509D 5.509E 5.509F 5.510 MOBILE Space research 5.509G	▪ Fixed links - 15 GHz (14.5-15.35 GHz)	▪ Channelling plan for 15 GHz band in accordance with Rec. ITU-R F.636 ▪ The band 14.5-14.8 GHz is part of the APP30A Plan (Feeder Links for BSS) for some countries.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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	▪ Fixed links - 15 GHz (14.5-15.35 GHz)	▪ Channelling plan for 15 GHz band in accordance with Rec. ITU-R F.636 ▪ The band 14.5-14.8 GHz is part of the APP30A Plan (Feeder Links for BSS) for some countries.
14.8 - 15.35 GHz			
FIXED MOBILE Space research 5.339	FIXED MOBILE Space research 5.339	▪ Fixed links - 15 GHz (14.5-15.35 GHz)	▪ Channelling plan for 15 GHz band in accordance with Rec. ITU-R F.636
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**	▪ Radio Astronomy (for observation of non-thermal synchrotron sources and quasars)	
15.4 - 15.43 GHz			
RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION	RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION	▪ Radio altimeters / Doppler Radars	▪ ICAO Guidelines on Radiocommunications (Annex 10)
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	▪ Doppler Radars	▪ ICAO Guidelines on Radiocommunications (Annex 10)
15.63 - 15.7 GHz			
RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION	RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION	▪ Doppler Radars	▪ ICAO Guidelines on Radiocommunications (Annex

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
			10)
15.7 - 16.6 GHz			
RADIOLOCATION **5.512 5.513**	RADIOLOCATION	▪ Doppler Radars	▪ ICAO Guidelines on Radio communications (Annex 10)
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 ▪ Radars	
17.1 - 17.2 GHz			
RADIOLOCATION **5.512 5.513**	RADIOLOCATION	▪ Radiolocation ▪ WAS/RLAN (17.1-17.3 GHz	
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 ▪ WAS/RLAN (17.1-17.3 GHz	
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. ▪ Broadcasting Satellite Systems feeder	▪ The band 17.3-17.7 GHz is part of the APP30A Plan (Feeder Links for BSS) for many countries; refer to Annex C. ▪ Res.143 applies for HDFS.
		▪ 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	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A	▪ FWS point to point radio links - 18 GHz (17.7-	▪ Channelling plan for 18 GHz band in accordance with Rec.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
5.517A (Earth-to-space) 5.516 MOBILE	5.517A (Earth-to-space) 5.516 MOBILE	19.7 GHz) ▪ ESIM (under the FSS) ▪ Broadcasting satellite systems feeder link	ITU-R F.595 ▪ Res 169 (WRC-19) apply for ESIM.
18.1 - 18.4 GHz			
FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B 5.517A (Earth-to-space) 5.520 MOBILE **5.519 5.521**	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B 5.517A (Earth-to-space) 5.520 MOBILE **5.519**	▪ FWS point to point radio links - 18 GHz (17.7-19.7 GHz) ▪ ESIM (under the FSS)	▪ Channelling plan for 18 GHz band in accordance with Rec. ITU-R F.595 ▪ Res 169 (WRC-19) apply for ESIM.
18.4 - 18.6 GHz			
FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B 5.517A MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B 5.517A MOBILE	▪ FWS point to point radio links - 18 GHz (17.7-19.7 GHz) ▪ ESIM (under the FSS	▪ Channelling plan for 18 GHz band in accordance with Rec. ITU-R F.595 ▪ Res 169 (WRC-19) apply for ESIM.
18.6 - 18.8 GHz			
EARTH-EXPLORATION -SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.517A 5.522B MOBILE except aeronautical mobile Space research (passive) **5.522A 5.522C**	EARTH-EXPLORATIONSATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.517A 5.522B MOBILE except aeronautical mobile Space research (passive) **5.522A**	▪ FWS point to point radio links - 18 GHz (17.7-19.7 GHz) ▪ ESIM (under the FSS)	▪ Channelling plan for 18 GHz band in accordance with Rec. ITU-R F.595 ▪ Res 169 (WRC-19) apply for ESIM.
18.8 - 19.3 GHz			
FIXED	FIXED FIXED-SATELLITE (space-to-Earth) 5.516.B	▪ FWS point to point radio links - 18 GHz (17.7-	▪ Channelling plan for 18 GHz band in accordance with Rec.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
FIXED-SATELLITE (space-to-Earth) 5.516.B 5.517A 5.523A MOBILE	5.517A 5.523A MOBILE	19.7 GHz) ▪ ESIM (under the FSS)	ITU-R F.595 ▪ Res 169 (WRC-19) applies for ESIM.
19.3 - 19.7GHz			
FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.517A 5.523B 5.523C 5.523D 5.523E MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.517A 5.523B 5.523C 5.523D 5.523E MOBILE	▪ FWS point to point radio links - 18 GHz (17.7-19.7 GHz) ▪ ESIM (under the FSS)	▪ Channelling plan for 18 GHz band in accordance with Rec. ITU-R F.595 ▪ Res 169 (WRC-19) apply for ESIM.
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 ▪ ESIM (under the FSS)	▪ Res.143 applies for HDFS. ▪ Res 156 (WRC-15) applies for ESIM
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 ▪ ESIM (under the FSS)	▪ Res.143 applies for HDFS ▪ Res 156 (WRC-15) apply for ESIM.
20.2 - 21.2 GHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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 Systems	
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 - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	▪ Channelling plan for 23 GHz band in accordance with Rec. ITU-R F.637
21.4 - 22 GHz			
FIXED MOBILE BROADCASTING-SATELLITE 5.208B **5.530A 5.530B**	FIXED MOBILE BROADCASTING-SATELLITE 5.208B **5.530A 5.530B**	▪ FWS point to point radio links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz) ▪ Broadcasting satellite systems	▪ Channelling plan for 23 GHz band in accordance with Rec. ITU-R F.637
22 - 22.21GHz			
FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile	▪ FWS point to point radio links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	▪ Channelling plan for 23 GHz band in accordance with Rec. ITU-R F.637

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
			▪ In making assignments to stations in the frequency band 22.01-22.21 GHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149
5.149	**5.149**		
22.21 - 22.5 GHz			
EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive)	▪ FWS point to point radio links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	▪ Channelling plan for 23 GHz band in accordance with Rec. ITU-R F.637 ▪ In making assignments to stations in the frequency band 22.21-22.5 GHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149
5.149 5.532	**5.149 5.532**		
22.5 - 22.55 GHz			
FIXED MOBILE	FIXED MOBILE	▪ FWS point to point radio links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	▪ Channelling plan for 23 GHz band in accordance with Rec. ITU-R F.637
22.55 - 23.15 GHz			
FIXED INTER-SATELLITE 5.338A MOBILE SPACE RESEARCH (Earth-to-space) 5.532A	FIXED INTER-SATELLITE 5.338A MOBILE SPACE RESEARCH (Earth-to-space) 5.532A	▪ FWS point to point radio links – 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	▪ Channelling plan for 23 GHz band in accordance with Rec. ITU-R F.637 ▪ In making assignments to stations in the frequency band 22.81 – 22.86 GHz and 23.07 – 23.12 GHz, administrations are urged to give consideration to

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
			Radio Astronomy applications as per RR n° 5.149
5.149	**5.149**		
23.15 - 23.55 GHz			
FIXED INTER-SATELLITE 5.338A MOBILE	FIXED INTER-SATELLITE 5.338A MOBILE	▪ Fixed links	
23.55 - 23.6 GHz			
FIXED MOBILE	FIXED MOBILE	▪ FWS point to point radio links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	▪ Channelling plan for 23 GHz band in accordance with Rec. ITU-R F.637
23.6 - 24 GHz			
EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	▪ Radio Astronomy (Observation of ammonia and continuum observations	
5.340	**5.340**		
24 - 24.05 GHz			
AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	▪ AMATEUR ▪ AMATEUR-SATELLITE ▪ ISM (24.0-24.25 GHz) ▪ SRD applications (24-24.25 GHz)	▪ ISM band (24.0-24.25 GHz) Centre frequency 24.125 GHz ▪ Rec. ITU-R SM.1896-X ▪ Report ITU-R SM.2153-X
5.150	**5.150**		
24.05 - 24.25 GHz			
RADIOLOCATION Amateur Earth exploration-satellite (active) 5.150	RADIOLOCATION Amateur Earth exploration-satellite (active) 5.150	▪ SRD: ▪ Reservoir Level Probing Radar (RLPR)	▪ ISM band (24.0-24.25 GHz) Centre frequency 24.125 GHz ▪ Rec. ITU-R SM.1896-X ▪ Report ITU-R SM.2153-X

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
24.25 - 24.45 GHz			
FIXED MOBILE except aeronautical Mobile 5.338A 5.532AB	FIXED MOBILE except aeronautical Mobile 5.338A 5.532AB	▪ IMT (24.25-27.5 GHz)	▪ Channelling plan in accordance with Rec. ITU-R F.748 (Note: In this recommendation, this band is known as 26 GHz). ▪ Temporary fixed links for ENG/OB ▪ Res. 242 (WRC-19) applies
24.45 - 24.65 GHz			
FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.338A **5.532AB**	FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.338A **5.532AB**	▪ IMT (24.25-27.5 GHz))	▪ Channelling in accordance with Rec. ITU-R F.748 (Note: In this recommendation, this band is known as 26 GHz) ▪ Res. 242 (WRC-19) applies
24.65 - 24.75 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.532B INTER-SATELLITE MOBILE except aeronautical mobile 5.338A 5.532AB	FIXED FIXED-SATELLITE (Earth-to-space) 5.532B INTER-SATELLITE MOBILE except aeronautical mobile 5.338A 5.532AB	▪ Fixed links - 26 GHz (24.25-26.5 GHz) ▪ BFWA (24.5-26.5 GHz) ▪ IMT (24.25-27.5 GHz)	▪ Channelling plan in accordance with Rec. ITU-R F.748 (Note: In this recommendation, this band is known as 26 GHz). ▪ Res. 242 (WRC-19) applies

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
24.75 - 25.25 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.532B MOBILE except aeronautical mobile 5.338A 5.532AB	FIXED FIXED-SATELLITE (Earth-to-space) 5.532B MOBILE except aeronautical mobile 5.338A 5.532AB	▪ Fixed links - 26 GHz (24.5-26.5 GHz) ▪ BFWA (24.5-26.5 GHz) ▪ IMT (24.25-27.5 GHz)	▪ Channelling plan in accordance with Rec. ITU-R F.748 (Note: In this recommendation, this band is known as 26 GHz). ▪ Res. 242 (WRC-19) applies
25.25 - 25.5 GHz			
FIXED 5.534A INTER-SATELLITE 5.536 MOBILE 5.338A 5.532AB Standard frequency and time signal-satellite (Earth-to-space)	FIXED 5.534A INTER-SATELLITE 5.536 MOBILE 5.338A 5.532AB Standard frequency and time signal-satellite (Earth-to-space)	▪ Fixed links - 26 GHz (24.5-26.5 GHz) ▪ BFWA (24.5-26.5 GHz) ▪ IMT (24.25-27.5 GHz)	▪ Channelling plan in accordance with Rec. ITU-R F.748. (Note: In this recommendation, this band is known as 26 GHz). ▪ Res. 242 (WRC-19) applies
25.5 - 27 GHz			
EARTH EXPLORATION-SATELLITE (space-to Earth) 5.536B FIXED 5.534A INTER-SATELLITE 5.536 MOBILE 5.338A 5.532AB SPACE RESEARCH (space-to-Earth) 5.536C Standard frequency and time signal-satellite (Earth-to-space) 5.536A	EARTH EXPLORATION-SATELLITE (space-to Earth) 5.536B FIXED 5.534A INTER-SATELLITE 5.536 MOBILE 5.338A 5.532AB SPACE RESEARCH (space-to-Earth) 5.536C Standard frequency and time signal-satellite (Earth-to-space) 5.536A	▪ Fixed links - 26 GHz (24.5-26.5 GHz) ▪ BFWA (24.5-26.5 GHz) ▪ IMT (24.25-27.5 GHz)	▪ Channelling plan in accordance with Rec. ITU-R F.748 (Note: In this recommendation, this band is known as 26 GHz). ▪ Res. 242 (WRC-19) applies

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
27 - 27.5 GHz			
FIXED INTER-SATELLITE 5.536 MOBILE 5.338A 5.532AB	FIXED INTER-SATELLITE 5.536 MOBILE 5.338A 5.532AB	▪ IMT (24.25-27.5 GHz)	▪ Res. 242 (WRC-19) applies
27.5 - 28.5 GHz			
FIXED 5.537A FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.517A 5.539 MOBILE **5.538 5.540**	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.517A 5.539 MOBILE **5.538 5.540**	▪ Fixed links – 28 GHz (27.5-29.5 GHz) ▪ ESIM (under the FSS)	▪ Channelling plan in accordance with Rec. ITU-R F.748 (Note: In this recommendation, this band is known as 28 GHz) ▪ Res.143 applies for HDFS. ▪ The band 27.5-30 GHz may be used by the FSS for BSS feeder links ▪ Res 169 (WRC-19) apply for ESIM.
28.5 - 29.1 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.517A 5.523A 5.539 MOBILE Earth exploration-satellite (Earth-to-space) 5.541	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.517A 5.523A 5.539 MOBILE Earth exploration-satellite (Earth-to-space) 5.541	▪ Fixed links – 28 GHz (27.5-29.5 GHz) ▪ ESIM (under the FSS)	▪ Channelling plan in accordance with Rec. ITU-R F.748 (Note: In this recommendation, this band is known as 28 GHz) ▪ Res.143 applies for HDFS. ▪ The band 27.5-30 GHz may

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
			be used by the FSS for BSS feeder links ▪ Res 169 (WRC-19) apply for ESIM.
5.540	**5.540**		
29.1 - 29.5 GHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
FIXED FIXED-SATELLITE (Earth-to-space) 5.516B 5.517A 5.523C 5.523E 5.335A 5.539 5.541A MOBILE Earth exploration-satellite (Earth-to-space) 5.541	FIXED FIXED-SATELLITE (Earth-to-space) 5.516B 5.517A 5.523C 5.523E 5.535A 5.539 5.541A MOBILE Earth exploration-satellite (Earth-to-space) 5.541	▪ Fixed links – 28 GHz (27.5-29.5 GHz) ▪ ESIM (under the FSS) ▪ Fixed links – 28 GHz (27.5-29.5 GHz) ▪ ESIM (under the FSS)	▪ Channelling plan in accordance with Rec. ITU-R F.748 (Note: In this recommendation, this band is known as 28 GHz) ▪ Res.143 applies for HDFS. ▪ The band 27.5-30 GHz may be used by the FSS for BSS feeder links ▪ Res 169 (WRC-19) apply for ESIM. ▪ Channelling plan in accordance with Rec. ITU-R F.748 (Note: In this recommendation, this band is known as 28 GHz) ▪ Res.143 applies for HDFS. ▪ The band 27.5-30 GHz may be used by the FSS for BSS feeder links ▪ Res 169 (WRC-19) apply for ESIM.
5.540	**5.540**		
29.5 - 29.9 GHz			
FIXED-SATELLITE (Earth-to-space) 5.484A 5.484B 5.516B 5.527A 5.539 Earth exploration-satellite (Earth-to-space) 5.541 Mobile-satellite (Earth-to-space)	FIXED-SATELLITE (Earth-to-space) 5.484A 5.484B 5.516B 5.527A 5.539 Earth exploration-satellite (Earth-to-space) 5.541 Mobile-satellite (Earth-to-space)	▪ Fixed links – 28 GHz (27.5-29.5 GHz) ▪ ESIM (under the FSS)	▪ Channelling plan in accordance with Rec. ITU-R F.748 (Note: In this recommendation, this band is known as 28 GHz) ▪ Res.143 applies for HDFS.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
			▪ The band 27.5-30 GHz may be used by the FSS for BSS feeder links ▪ Res 169 (WRC-19) apply for ESIM.
5.540 5.542	**5.540**		
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	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	▪ ESIM (under the FSS)	▪ Res.143 applies for HDFS. ▪ Res 156 (WRC-15) apply for ESIM.
5.525 5.526 5.527 5.538 5.540 5.542	**5.525 5.526 5.527 5.538 5.540**		
30 - 31GHz			
FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal-satellite (space-to-Earth)	FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal-satellite (space-to-Earth)	▪ Fixed satellite uplink Mobile satellite uplink	
5.542			
31 - 31.3 GHz			
FIXED 5.338A 5.543B MOBILE Standard frequency and time signal-satellite (space-to-Earth) Space research 5.544 5.545 5.149	FIXED 5.338A 5.543B MOBILE Standard frequency and time signal-satellite (space-to-Earth) Space research 5.544 5.545	▪ Fixed links ▪ Fixed satellite systems	▪ Channelling plan in accordance with Rec. ITU-R F.746 (Note: In this recommendation, this band is known as 31 GHz).Res 167 (WRC-19) applies for HAPS
31.3 - 31.5 GHz			
EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	▪ Radio Astronomy (Continuum Observations)	
5.340	**5.340**		
31.5 - 31.8 GHz			
EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed	▪ Radio Astronomy (Continuum Observations)	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
Mobile except aeronautical mobile	Mobile except aeronautical mobile		
5.149 5.546	**5.149**		
31.8 - 32 GHz			
FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth)	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth)	▪ Fixed links (PTP/PTMP) (31.8-33.4 GHz)	▪ Channelling plan in accordance with Rec. ITU-R F.1520 (Note: In this recommendation, this band is known as 32 GHz). ▪ Res.75 applies for HDFS.
5.547 5.548	**5.547 5.548**		
32 - 32.3 GHz			
FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth)	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth)	▪ Fixed links (PTP/PTMP) (31.8-33.4 GHz)	▪ Channelling plan in accordance with Rec. ITU-R F.1520 (Note: In this recommendation, this band is known as 32 GHz). ▪ Res.75 applies for HDFS.
5.547 5.548	**5.547 5.548**		
32.3 - 33 GHz			
FIXED 5.547A INTER-SATELLITE RADIONAVIGATION	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION	▪ Fixed links (PTP/PTMP) (31.8-33.4 GHz)	▪ Channelling plan in accordance with Rec. ITU-R F.1520 (Note: In this recommendation, this band is known as 32 GHz). ▪ Res.75 applies for HDFS.
5.547 5.548	**5.547 5.548**		
33 - 33.4 GHz			
FIXED 5.547A RADIONAVIGATION	FIXED 5.547A RADIONAVIGATION	▪ Fixed links (PTP/PTMP) (31.8-33.4 GHz)	▪ Channelling plan in accordance with Rec. ITU-R F.1520 (Note: In this recommendation, this band is known as 32 GHz). ▪ Res.75 applies for HDFS.
5.547	**5.547**		
33.4 - 34.2 GHz			
RADIOLOCATION 5.549	RADIOLOCATION 5.549	▪ Radiolocation services	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
34.2 - 34.7 GHz			
RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) 5.549	RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) 5.549	▪ Radiolocation services ▪ Space research feeder link	
34.7 - 35.2 GHz			
RADIOLOCATION Space research 5.550 **5.549**	RADIOLOCATION Space research 5.550	▪ 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) FIXED MOBILE SPACE RESEARCH (passive) **5.149 5.550A**	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) **5.149 5.550A**	▪ Earth exploration satellite Fixed ▪ Mobile ▪ Space research	▪ In making assignments to stations in the frequency band 36.43-36.5 GHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149
37 - 37.5 GHz			
FIXED	FIXED	▪ FWS point to point radio	▪ Res.75 applies for HDFS.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
MOBILE except aeronautical mobile 5.550B SPACE RESEARCH (space-to-Earth) **5.547**	MOBILE except aeronautical mobile 5.550B SPACE RESEARCH (space-to-Earth) **5.547**	links - 38 GHz (37.0-39.5 GHz) ▪ IMT (37-43.5 GHz)	▪ Res 243 (WRC-19) applies for IMT ▪ Channelling plan in accordance with Rec. ITU-R F.749 (Note: In this recommendation, this band is known as 38 GHz)
37.5 - 38 GHz			
FIXED FIXED-SATELLITE (space-to-Earth)5.550C MOBILE except aeronautical mobile 5.550B SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) **5.547**	FIXED FIXED-SATELLITE (space-to-Earth) 5.550C MOBILE except aeronautical mobile 5.550B SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) **5.547**	▪ FWS point to point radio links - 38 GHz (37.0-39.5 GHz) ▪ IMT (37-43.5 GHz)	▪ Res.75 applies for HDFS. ▪ Res 243 (WRC-19) applies for IMT ▪ Channelling plan in accordance with Rec. ITU-R F.749 (Note: In this recommendation, this band is known as 38 GHz) ▪ Res 167 (WRC-19) applies for HAPS
38 - 39.5 GHz			
FIXED 5.550D FIXED-SATELLITE (space-to-Earth) 5.550C MOBILE 5.550B Earth exploration-satellite (space-to-Earth) **5.547**	FIXED 5.550D FIXED-SATELLITE (space-to-Earth)5.550C MOBILE 5.550B Earth exploration-satellite (space-to-Earth) **5.547**	▪ Fixed links - 38 GHz (37.0-39.5 GHz) ▪ IMT (37-43.5 GHz)	▪ Res 243 (WRC-19) applies for IMT ▪ Channelling plan in accordance with Rec. ITU-R F.749 (Note: In this recommendation, this band is known as 38 GHz) ▪ Res.75 applies for HDFS. ▪ Res 168 (WRC-19) applies for HAPS

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
39.5 - 40 GHz			
FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.550C MOBILE 5.550B MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) **5.547 5.550E**	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.550C MOBILE 5.550B MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) **5.547 5.550E**	▪ IMT (37-43.5 GHz) ▪ Fixed Links	▪ Res.75 applies for HDFS. ▪ Res.143 applies for HDFS. ▪ Res 243 (WRC-19) applies for IMT
40 - 40.5 GHz			
EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.550C MOBILE 5.550B MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth) **5.550E**	EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.550C MOBILE 5.550B MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth) **5.550E**	▪ IMT (37-43.5 GHz)	▪ Res.143 applies for HDFS. ▪ Res 243 (WRC-19) applies for IMT
40.5 - 41 GHz			
FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.550C LAND MOBILE 5.550B BROADCASTING BROADCASTING-SATELLITE Aeronautical mobile Maritime mobile (space-to-Earth) **5.547**	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.550C LAND MOBILE 5.550B BROADCASTING BROADCASTING-SATELLITE Aeronautical mobile Maritime mobile (space-to-Earth) **5.547**	▪ Fixed links (40.5 – 43.5 GHz ▪ IMT (37-43.5 GHz)	▪ BFWA or MWS (40.5-43.5 GHz) ▪ Res.75 applies for HDFS. ▪ Channelling plan in accordance with Rec. ITU-R F.2005 (Note: In this recommendation, this band is known as 42 GHz) ▪ Res 243 (WRC-19) applies for IMT

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
41 - 42.5 GHz			
FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.550C LAND MOBILE 5.550B BROADCASTING BROADCASTING-SATELLITE Aeronautical mobile Maritime mobile **5.547 5.551F 5.551H 5.551I**	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.550C LAND MOBILE 5.550B BROADCASTING BROADCASTING-SATELLITE Aeronautical mobile Maritime mobile **5.547 5.551F 5.551H 5.551I**	▪ Fixed links (40.5 – 43.5 GHz) ▪ IMT (37-43.5 GHz)	▪ BFWA or MWS (40.5-43.5 GHz) ▪ Res.75 applies for HDFS. ▪ Channelling plan in accordance with Rec. ITU-R F.2005 (Note: In this recommendation, this band is known as 42 GHz) ▪ Res 243 (WRC-19) applies for IMT
42.5 - 43.5 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile 5.550B RADIO ASTRONOMY **5.149 5.547**	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile 5.550B RADIO ASTRONOMY **5.149 5.547**	▪ Fixed links (40.5 – 43.5 GHz) ▪ IMT (37-43.5 GHz ▪ Radio Astronomy (Observation of silicon monoxide)	▪ BFWA or MWS (40.5-43.5 GHz) ▪ Res.75 applies for HDFS. ▪ Res 243 (WRC-19) applies for IMT ▪ Channelling plan in accordance with Rec. ITU-R F.2005 (Note: In this recommendation, this band is known as 42 GHz)
43.5 - 47 GHz			
MOBILE 5.553 5.553A MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE **5.554**	MOBILE 5.553 5.553A MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE **5.554**	▪ IMT (45.5-47 GHz)	▪ Res 244 (WRC-19) applies
47 - 47.2 GHz			
AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE	▪ Amateur communications ▪ Amateur satellite	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
47.2 - 47.5 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.550C 5.552 MOBILE 5.553B **5.552A**	FIXED FIXED-SATELLITE (Earth-to-space) 5.550C 5.552 MOBILE 5.553B **5.552A**	▪ IMT (47.2-48.2 GHz)	▪ Res 243 (WRC-19) applies ▪ Res 122 (rev. WRC-19) applies for HAPS
47.5 - 47.9 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.550C 5.552 (space-to-Earth) 5.516B 5.554A MOBILE 5.553B	FIXED FIXED-SATELLITE (Earth-to-space) 5.550C 5.552 (space-to-Earth) 5.516B 5.554A MOBILE 5.553B	▪ IMT (47.2-48.2 GHz)	▪ Res.143 applies for HDFSS. ▪ Res 243 (WRC-19) applies
47.9 - 48.2 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.550C 5.552 MOBILE 5.553 B **5.552A**	FIXED FIXED-SATELLITE (Earth-to-space) 5.550C.552 MOBILE 5.553B **5.552A**	▪ IMT (47.2-48.2 GHz)	▪ Res 243 (WRC-19) applies ▪ Res 122 (rev. WRC-19) applies for HAPS
48.2 - 48.54 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.550C 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	FIXED FIXED-SATELLITE (Earth-to-space) 5.550C 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	▪ Res.143 applies for HDFS.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
48.54 - 49.44 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.550C 5.552 MOBILE **5.149 5.340 5.555**	FIXED FIXED-SATELLITE (Earth-to-space) 5.550C 5.552 MOBILE **5.149 5.340 5.555**	▪ Fixed ▪ Fixed satellite uplink Mobile	▪ In making assignments to stations in the frequency band 48.94-49.04 GHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149
49.44 - 50.2 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.338A 5.550C 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	FIXED FIXED-SATELLITE (Earth-to-space) 5.338A 5.550C 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	▪ Res.143 applies for HDFS.
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 Mobile-satellite (Earth-to-space)	▪ Fixed Links ▪ Fixed satellite Mobile	
51.4 - 52.4 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) 5.555C MOBILE **5.338A 5.547 5.556**	FIXED FIXED-SATELLITE (Earth-to-space) 5.555C MOBILE **5.338A 5.547 5.556**	▪ 51.4-52.4 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)	▪ Res.75 applies for HDFS.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
52.4 - 52.6GHz			
FIXED MOBILE **5.547 5.556**	FIXED MOBILE **5.547 5.556**	▪ Fixed services ▪ Mobile services	
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**	▪ Passive sensing (53.6 – 59.3 GHz)	
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)	▪ Passive sensing (53.6 – 59.3 GHz)	
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**	▪ Passive sensing (53.6 – 59.3 GHz)	▪ Res.75 applies for HDFS.
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**	▪ Passive sensing (53.6 – 59.3 GHz)	▪ Res.75 applies for HDFS.

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
57 - 58.2 GHz			
EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive)	▪ Passive sensing (53.6 – 59.3 GHz) ▪ Fixed Links ▪ Licence-exempt WAS/RLAN in the range 57 - 66 MHz e.g. Multiple GIGABIT wireless systems WAS/RLAN (57-66 GHz) ▪ SRD Applications (57 – 64 GHz)	▪ Res.75 applies for HDFS. ▪ Report ITU-R M.2227-X and Rec. ITU-R M.2003-X, EN 302 567 and ▪ EN305 550 ▪ ATU-R Recommendation 005-X applies in the range (57 – 66 GHz)
5.547	**5.547**		
58.2 - 59 GHz			
EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	▪ Licence-exempt WAS/RLAN in the range 57 - 66 MHz e.g. Multiple GIGABIT wireless systems WAS/RLAN ▪ Passive sensing (53.6 – 59.3 GHz)	▪ Res.75 applies for HDFS. ▪ EN 302567 applies for WiGig ▪ ATU-R Recommendation 005-0 applies in the range (57 – 66 GHz)
5.547 5.556	**5.547 5.556**		
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)	▪ Licence-exempt WAS/RLAN in the range 57 - 66 MHz e.g. Multiple GIGABIT wireless systems WAS/RLAN ▪ Passive sensing (53.6 – 59.3 GHz)	▪ EN 302567 applies for WiGig ▪ ATU-R Recommendation 005-0 applies in the range (57 – 66 GHz)
59.3 - 64 GHz			
FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559	▪ SRD applications (61-61.5 GHz): Reservoir Level Probing Radar (RLPR) ▪ Licence-exempt WAS/RLAN in the range 57 - 66 MHz e.g. Multiple GIGABIT wireless systems WAS/RLAN	▪ ISM band (61-61.5 GHz) Centre frequency 61.25 GHz ▪ Rec. ITU-R SM.1896-X, Report ITU-R SM.2153-X ▪ EN 302567 applies for WiGig ▪ ATU-R Recommendation 005-0 applies in the range (57 – 66 GHz)
5.138	**5.138**		
64 - 65 GHz			

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
FIXED INTER-SATELLITE MOBILE except aeronautical mobile **5.547 5.556**	FIXED INTER-SATELLITE MOBILE except aeronautical mobile **5.547 5.556**	▪ Licence-exempt WAS/RLAN in the range 57 - 66 MHz e.g. Multiple GIGABIT wireless systems WAS/RLAN	▪ Res.75 applies for HDFS. ▪ EN 302567 applies for WiGig ▪ ATU-R Recommendation 005-0 applies in the range (57 – 66 GHz)
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	▪ Licence-exempt WAS/RLAN in the range 57 - 66 MHz e.g. Multiple GIGABIT wireless systems WAS/RLAN	▪ Res.75 applies for HDFS. ▪ EN 302567 applies for WiGig ▪ ATU-R Recommendation 005-0 applies in the range (57 – 66 GHz)
66 - 71 GHz			
INTER-SATELLITE MOBILE 5.553 5.558 5.559AA MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE **5.554**	INTER-SATELLITE MOBILE 5.553 5.558 5.559AA MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE **5.554**	▪ IMT (66-71 GHz)	▪ Res 241 (WRC-19) applies ▪ The use of the band 66-71 GHz by WAS (e.g. WiGig) is subject to coexistance study under Res 241
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)	▪ Fixed links (71-76 GHz)	▪ Channelling plan in accordance with Rec. ITU-R F.2006 (Note: In this recommendation, this band is known as 70/80 GHz)
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)	▪ Fixed links (71-76 GHz) ▪ E-Band point to point links	▪ Channelling plan in accordance with Rec. ITU-R F.2006 (Note: In this recommendation, this band is known as 70/80 GHz)

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
5.561	**5.561**		
76 - 77.5 GHz			
RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth)	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth)	▪ Radio Astronomy (Observations of continuum lines and celestial objects) SRD: ▪ Road Transport and Traffic Telematics Radar (76 – 77 GHz) ▪ Reservoir Level Probing Radar (RLPR)	▪ ISM Band (76 – 77 GHz Rec. ITU-R M.1452, Report ITU-R .SM. 2153-X
5.149	**5.149**		
77.5 - 78 GHz			
AMATEUR AMATEUR-SATELLITE RADIOLOCATION 5.559B Radio astronomy Space research (space-to-Earth)	AMATEUR AMATEUR-SATELLITE RADIOLOCATION 5.559B Radio astronomy Space research (space-to-Earth)	▪ Radio Astronomy (Observations of continuum lines and celestial objects)	
5.149	**5.149**		
78 - 79 GHz			
RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth)	RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth)	▪ Radio Astronomy (Observations of continuum lines and celestial objects)	
5.149 5.560	**5.149 5.560**		
79 - 81 GHz			
RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth)	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth)	▪ Radio Astronomy (Observations of continuum lines and celestial objects)	
5.149	**5.149**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
81 - 84 GHz			
FIXED 5.338A FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth)	FIXED 5.338A FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth)	▪ Radio Astronomy (Observations of continuum lines and celestial objects) ▪ Fixed links (81-86 GHz) ▪ E-Band point to point links	▪ Channelling plan in accordance with Rec. ITU-R F.2006 (Note: In this recommendation, this band is known as 70/80 GHz).
5.149 5.561A	**5.149 5.561A**		
84 - 86 GHz			
FIXED 5.338A FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY	FIXED 5.338A FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY	▪ Radio Astronomy (Observations of continuum lines and celestial objects) ▪ Fixed links (81-86 GHz)	▪ Channelling plan in accordance with Rec. ITU-R F.2006 (Note: In this recommendation, this band is known as 70/80 GHz)
5.149	**5.149**		
86 - 92 GHz			
EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	▪ Radio Astronomy (Observations of continuum lines and celestial objects)	
5.340	**5.340**		
92 - 94 GHz			
FIXED 5.338A MOBILE RADIO ASTRONOMY RADIOLOCATION	FIXED 5.338A MOBILE RADIO ASTRONOMY RADIOLOCATION	▪ Radio Astronomy (Observations of continuum lines and celestial objects and Spectral line observation of diazenylium)	
5.149	**5.149**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
94 - 94.1 GHz			
EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy **5.562 5.562A**	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy **5.562 5.562A**	▪ Radio Astronomy (Observations of continuum lines and celestial objects and Spectral line observation of diazenylium) ▪ Short Range Radar Systems ▪ Cloud Profile Radar	
94.1 - 95 GHz			
FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION **5.149**	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION **5.149**	▪ Radio Astronomy (Observations of continuum lines and celestial objects and Spectral line observation of diazenylium) ▪ Short Range Radar Systems	
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**	▪ Radio Astronomy (Observations of continuum lines and celestial objects and Observation of carbon monosulphide, sulphur monoxide and methyl acetylene)	
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**	▪ Radio Astronomy (Observations of continuum lines and celestial objects and Observation of carbon monosulphide, sulphur monoxide and methyl acetylene)	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
102 - 105 GHz			
FIXED MOBILE RADIO ASTRONOMY **5.149 5.341**	FIXED MOBILE RADIO ASTRONOMY **5.149 5.341**	▪ Radio Astronomy (Observations of continuum lines and celestial objects and Observation of carbon monosulphide, sulphur monoxide and methyl acetylene) ▪	
105 - 109.5 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**	▪ Radio Astronomy (Observations of continuum lines and celestial objects and Spectral line observation and observations of carbon monoxide)	
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	▪ Radio Astronomy (Observations of continuum lines and celestial objects and Spectral line observation and observations of carbon monoxide)	
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**	▪ Radio Astronomy (Observations of continuum lines and celestial objects and Spectral line observation and observations of carbon monoxide)	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
114.25 - 116 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**	▪ Radio Astronomy (Observations of continuum lines and celestial objects and Spectral line observation and observations of carbon monoxide)	
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**	▪ SRD Applications	
122.25 - 123 GHz			
FIXED INTER-SATELLITE MOBILE 5.558 Amateur **5.138**	FIXED INTER-SATELLITE MOBILE 5.558 Amateur **5.138**	▪ SRD Applications	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
123 - 130 GHz			
FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy	▪ Radio Astronomy (Observation of Formaldehyde, Deuterated Hydrogen cyanide and carbon monoxide)	
5.149 5.554	**5.149 5.554**		
130 - 134 GHz			
EARTH EXPLORATION-SATELLITE (active) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY	EARTH EXPLORATION-SATELLITE (active) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY	▪ Radio Astronomy (Observation of Formaldehyde, Deuterated Hydrogen cyanide and carbon monoxide)	
5.149 5.562A	**5.149 5.562A**		
134 - 136 GHz			
AMATEUR AMATEUR-SATELLITE Radio astronomy	AMATEUR AMATEUR-SATELLITE Radio astronomy	▪ Radio Astronomy (Observation of Formaldehyde, Deuterated Hydrogen cyanide and carbon monoxide)	
136 - 141 GHz			
RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite	▪ Radio Astronomy (Observation of Formaldehyde, Deuterated Hydrogen cyanide and carbon monoxide)	
5.149	**5.149**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
141 - 148.5 GHz			
FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	▪ Radio Astronomy (Observation of Formaldehyde, Deuterated Hydrogen cyanide and carbon monoxide)	
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**	▪ Radio Astronomy (Observation of Formaldehyde, Deuterated Hydrogen cyanide, and carbon monoxide)	
151.5 - 155.5 GHz			
FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION **5.149**	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION **5.149**	▪ Radio Astronomy (Observation of Formaldehyde, Deuterated Hydrogen cyanide and carbon monoxide)	
155.5 - 158.5 GHz			
FIXED MOBILE RADIO ASTRONOMY **5.149**	FIXED MOBILE RADIO ASTRONOMY **5.149**	▪ Radio Astronomy (Observation of Formaldehyde, Deuterated Hydrogen cyanide and carbon monoxide)	
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)		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
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**	▪ Radio Astronomy (Continuum Observations)	
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**		▪ In making assignments to stations in the frequency band 168-174.5 GHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149
174.5 - 174.8 GHz			
FIXED INTER-SATELLITE MOBILE 5.558	FIXED INTER-SATELLITE MOBILE 5.558		
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**	▪ Radio Astronomy (Observation of H20)	
185 - 190 GHz			
EARTH EXPLORATION-SATELLITE (passive)	EARTH EXPLORATION-SATELLITE (passive)		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	INTER-SATELLITE 5.562H SPACE RESEARCH (passive)		
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**		▪ In making assignments to stations in the frequency band 191.8 – 231.5 GHz, administrations are urged to give consideration to Radio Astronomy applications as per RR n° 5.149 ▪
200 - 209 GHz			
EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) **5.340 5.341 5.563A**	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) **5.340 5.341 5.563A**	▪ Radio Astronomy (Observation of carbon monoxide)	
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**	▪ Radio Astronomy (Observation of carbon monoxide)	
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)5.562B	▪ Radio Astronomy (Observation of carbon monoxide)	

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
5.149 5.341	**5.149 5.341**		
226 - 231.5 GHz			
EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	▪ Radio Astronomy (Observation of carbon monoxide)	
5.340	**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 Radiolocation		
235 - 238 GHz			
EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive)		
5.563A 5.563B	**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		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
240 - 241 GHz			
FIXED MOBILE RADIOLOCATION	FIXED MOBILE RADIOLOCATION		
241 - 248 GHz			
RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite	▪ Radio Astronomy (Observation of spectral lines of C2H, HCN Hydrogen cyanide, HCO+ and formallyl) ▪ SRD Applications	▪ ISM Band (244 – 246 GHz) centre frequency 245 GHz ▪ Rec. ITU-R SM.1896-X ▪ Report ITU-R SM.2153-X
5.138 5.149	**5.138 5.149**		▪
248 - 250 GHz			
AMATEUR AMATEUR-SATELLITE Radio astronomy	AMATEUR AMATEUR-SATELLITE Radio astronomy	▪ Radio astronomy (Observation of spectral lines of C2H, HCN Hydrogen cyanide, HCO+ and formally)	
5.149	**5.149**		
250 - 252 GHz			
EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	▪ Radio Astronomy (Observation of spectral lines of C2H, HCN Hydrogen cyanide, HCO+ and formally)	
5.340 5.563A	**5.340 5.563A**		
252 - 265 GHz			
FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE	▪ Radio Astronomy (Observation of spectral lines of C2H, HCN Hydrogen cyanide, HCO+ and formally)	
5.149 5.554	**5.149 5.554**		

ITU RR Region 1 Allocations	Tanzania - Allocations	Main Usage	Additional Information
265 - 275 GHz			
FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY **5.149 5.563A**	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY **5.149 5.563A**	▪ Radio Astronomy (Observation of spectral lines of C2H, HCN Hydrogen cyanide, HCO+ and formally)	▪ Radio Astronomy (Observation of spectral lines of C2H, HCN Hydrogen cyanide, HCO+ and formally)
275 - 3000 GHz			
(Not allocated) **5.564A 5.565**	(Not allocated) **5.564A 5.565**		

11.0 ITU RR Footnotes In Region 1 Applicable to Tanzania (Article 5- Section Iv)

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), Eswatini, Ethiopia, Kenya, Lesotho, Madagascar, Malawi,

Mozambique, Namibia, Nigeria, Oman, the Dem. Rep. of the Congo, South Africa, Tanzania, Chad, Zambia and Zimbabwe, the frequency band 200-283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. (WRC-19)

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 radio beacons) 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 In the maritime mobile service, the frequency bands 415-495 kHz and 505-526.5 kHz are limited to radiotelegraphy and may also be used for the NAVDAT system in accordance with the most recent version of Recommendation ITU-R M.2010, subject to agreement between interested and affected administrations. NAVDAT transmitting stations are limited to coast stations. (WRC-19)

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).

5.82 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)

5.82C The frequency band 495-505 kHz is used for the international NAVDAT system as described in the most recent version of Recommendation ITU-R M.2010. NAVDAT transmitting stations are limited to coast stations. (WRC-19)

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 radio determination 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**).

5.128 Frequencies in the frequency bands 4 063-4 123 kHz and 4 130-4 438 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W, on condition that harmful interference is not caused to the maritime mobile service. In addition, in Afghanistan, Argentina, Armenia, Belarus, Botswana, Burkina Faso, the Central African Rep., China, the Russian Federation, Georgia, India, Kazakhstan, Mali, Niger, Pakistan, Kyrgyzstan, Tajikistan, Chad, Turkmenistan and Ukraine, in the frequency bands 4 063-4 123 kHz, 4 130-4 133 kHz and 4 408-4 438 kHz, stations in the fixed service, with a mean power not exceeding 1 kW, can be operated on condition that they are situated at least 600 km from the coast and that harmful interference is not caused to the maritime mobile service. (WRC-19)

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 countries and territories within the Kingdom 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-19)

5.134 The use of the frequency 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 frequency bands to facilitate the introduction of digitally modulated emissions in accordance with the provisions of Resolution **517 (Rev.WRC-19)**. (WRC-19)

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. (WRC-07).

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.

5.142 The use of the band 7 200-7 300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. (WRC-12)

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. (WRC-07)

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,	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,	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,

345.8-3 352.5 MHz, 825-4 835 MHz,	94.1-100 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), Egypt, Madagascar, Mozambique, Niger, Somalia, Sudan, South Sudan, Tanzania and Chad, the frequency band 47-68 MHz is also allocated to the fixed and mobile,

except aeronautical mobile, services on a primary basis. (WRC-19).

5.166B In Region 1, stations in the amateur service operating on a secondary basis shall not cause harmful interference to, or claim protection from, stations of the broadcasting service. The field strength generated by an amateur station in Region 1 in the frequency band 50-52 MHz shall not exceed a calculated value of +6 dB(μV/m) at a height of 10 m above ground for more than 10% of time along the border of a country with operational analogue broadcasting stations in Region 1 and of neighbouring countries with broadcasting stations in Region 3 listed in Nos. **5.167** and **5.168**. (WRC-19).

5.166C In Region 1, stations in the amateur service in the frequency band 50-52 MHz, with the exception of those countries listed in No. **5.169**, shall not cause harmful interference to, or claim protection from, wind profiler radars operating in the radiolocation service under No. **5.162A**. (WRC-19)

5.169A *Alternative allocation:* in the following countries in Region 1: Angola, Saudi Arabia, Bahrain, Burkina Faso, Burundi, the United Arab Emirates, Gambia, Jordan, Kenya, Kuwait, Mauritius, Mozambique, Oman, Uganda, Qatar, South Sudan and **Tanzania,** the frequency band 50-54 MHz is allocated to the amateur service on a primary basis. In Guinea-Bissau, the frequency band 50.0-50.5 MHz is allocated to the amateur service on a primary basis. In Djibouti, the frequency band 50-52 MHz is allocated to the amateur service on a primary basis. With the exception of those countries listed in No. **5.169**, stations in the amateur service operating in Region 1 under this footnote, in all or part of the frequency band 50-54 MHz, shall not cause harmful interference to, or claim protection from, stations of other services operating in accordance with the Radio Regulations in Algeria, Egypt, Iran (Islamic Republic of), Iraq, Israel, Libya, Palestine*, the Syrian Arab Republic, the Dem. People's Republic of Korea, Sudan and Tunisia. The field strength generated by an amateur station in the frequency band 50-54 MHz shall not exceed a value of +6 dB(μV/m) at a height of 10 m above ground for more than 10% of time along the borders of listed countries requiring protection. (WRC-19).

5.169B Except countries listed under No. **5.169**, stations in the amateur service used in Region 1, in all or part of the 50-54 MHz frequency band, shall not cause harmful interference to, or claim protection from, stations of other services used in accordance with the Radio Regulations in Algeria, Armenia, Azerbaijan, Belarus, Egypt, Russian Federation, Iran (Islamic Republic of), Iraq, Kazakhstan, Kyrgyzstan, Libya, Uzbekistan, Palestine*, the Syrian Arab Republic, Sudan, Tunisia and Ukraine. The field strength generated by an amateur station in the frequency band 50-54 MHz shall not exceed a value of +6 dB(μV/m) at a height of 10 m above ground for more than 10% of time along the borders of the countries listed in this provision. (WRC-19).

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. (WRC-12).

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).

5.203C The use of the space operation service (space-to-Earth) with non-geostationary satellite short-duration mission systems in the frequency band 137-138 MHz is subject to Resolution **660 (WRC-19)**. Resolution **32 (WRC-19)** applies. These systems shall not cause harmful interference to, or claim protection from, the existing services to which the frequency band is allocated on a primary basis. (WRC-19).

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 frequency bands 137- 138 MHz, 387-390 MHz and 400.15-401 MHz and in the maritime mobile-satellite service (space-to-Earth) in the frequency bands 157.1875-157.3375 MHz and 161.7875-161.9375 MHz, administrations shall take all practicable steps to protect the radio astronomy service in the frequency bands 150.05-153 MHz, 322-328.6 MHz, 406.1-410 MHz and 608-614MHz from harmful interference from unwanted emissions as shown in the most recent version of Recommendation ITU-R RA.769. (WRC-19).

5.208B* In the frequency bands:

137-138 MHz,
157.1875-157.3375 MHz,
161.7875-161.9375 MHz,
387-390 MHz,
400.15-401 MHz,
1 452-1 492 MHz,
1 525-1 610 MHz,
1 613.8-1 626.5 MHz,
2 655-2 690 MHz,
21.4-22 GHz,

Resolution **739 (Rev.WRC-19)** applies. (WRC-19).

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).

5.209A The use of the frequency band 137.175-137.825 MHz by non-geostationary-satellite systems in the space operation service identified as short-duration mission in accordance with Appendix **4** is not subject to No. **9.11A**. (WRC-19).

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).

5.211 *Additional allocation:* in Germany, Saudi Arabia, Austria, Bahrain, Belgium, Denmark, the United Arab Emirates, Spain, Finland, Greece, Guinea, Ireland, Israel, Kenya, Kuwait, Lebanon, Liechtenstein, Luxembourg, North Macedonia, 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-19).

5.214 *Addition alallocation:* in Eritrea, Ethiopia, Kenya, North Macedonia, Montenegro,Serbia,Somalia,Sudan,South Sudan and Tanzania, the frequency band 138-144 MHz is also allocated to the fixed service on a primary basis. (WRC-19).

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 25 kHz. (WRC -15).

5.218A The frequency band 148-149.9 MHz in the space operation service (Earth-to-space) may be used by non- geostationary-satellite systems with short-duration missions. Non-geostationary-satellite systems in the space operation service used for a short-duration mission in accordance with Resolution **32 (WRC-19)** of the Radio Regulations are not subject to agreement under No. **9.21**. At the stage of coordination, the provisions of Nos. **9.17** and **9.18** also apply. In the frequency band 148-149.9 MHz, non-geostationary-satellite systems with short-duration missions shall not cause unacceptable interference to, or claim protection from, existing primary services within this frequency band, or impose additional constraints on the space operation and mobile-satellite services. In addition, earth stations in non-geostationary-satellite systems in the space operation service with short-duration missions in the frequency band 148-149.9 MHz shall ensure that the power flux-density does not exceed −149 dB(W/(m^2 4 kHz)) for more than 1% of time at the

border of the territory of the following countries: Armenia, Azerbaijan, Belarus, China, Korea (Rep. of), Cuba, Russian Federation, India, Iran (Islamic Republic of), Japan, Kazakhstan, Malaysia, Uzbekistan, Kyrgyzstan, Thailand and Viet Nam. In case this power flux-density limit is exceeded, agreement under No. **9.21** is required to be obtained from countries mentioned in this footnote. (WRC-19).

5.219 The use of the frequency 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 frequency band 148-149.9 MHz. The use of the frequency band 148-149.9 MHz by non- geostationary-satellite systems in the space operation service identified as short-duration mission is not subject to No. **9.11A**. (WRC-19).

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, Eswatini, 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, Lesotho, Latvia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, North Macedonia, 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, **Tanzania,** Chad, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia and Zimbabwe. (WRC-19)

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 mobile satellite service (Earth-to-space) is limited to the reception of automatic identification system (AIS) emissions of long range AIS broadcast messages (Message 27, see the most recent version of Recommendation ITU-R M.1371). With the exception of AIS emissions, emissions in these frequency bands by systems operating in the maritime mobile service for communications shall not exceed 1 W. (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).

5.228AB The use of the frequency bands 157.1875-157.3375 MHz and 161.7875-161.9375 MHz by the maritime mobile-satellite service (Earth-to-space) is limited to non-geostationary-satellite systems operating in accordance with Appendix **18**. (WRC-19)..

5.228AC The use of the frequency bands 157.1875-157.3375 MHz and 161.7875-161.9375 MHz by the maritime mobile-satellite service (space-to-Earth) is limited to non-geostationary-satellite systems operating in accordance with Appendix **18**. Such use is subject to agreement obtained under No. **9.21** with respect to the terrestrial services in Azerbaijan, Belarus, China, Korea (Rep. of), Cuba, the Russian Federation, the Syrian Arab Republic, the Dem. People's Rep. of Korea, South Africa and Viet Nam. (WRC-19).

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).

5.228C The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the maritime mobile service and the mobile-satellite (Earth-to-space) service is limited to the automatic identification system (AIS). The use of these frequency bands by the aeronautical mobile (OR) service is limited to AIS

emissions from search and rescue aircraft operations. The AIS operations in these frequency bands shall not constrain the development and use of the fixed and mobile services operating in the adjacent frequency bands. (WRC-12).

5.228D The frequency bands 161.9625-161.9875 MHz (AIS 1) and 162.0125-162.0375 MHz (AIS 2) may continue to be used by the fixed and mobile services on a primary basis until 1 January 2025, at which time this allocation shall no longer be valid. Administrations are encouraged to make all practicable efforts to discontinue the use of these bands by the fixed and mobile services prior to the transition date. During this transition period, the maritime mobile service in these frequency bands has priority over the fixed, land mobile and aeronautical mobile services. (WRC-12).

5.228E The use of the automatic identification system in the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the aeronautical mobile (OR) service is limited to aircraft stations for the purpose of search and rescue operations and other safety-related communications. (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**. (WRC-07).

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).

5.260A In the frequency band 399.9-400.05 MHz, the maximum e.i.r.p. of any emission of earth stations in the mobile-satellite service shall not exceed 5 dBW in any 4 kHz band and the maximum e.i.r.p. of each earth station in the mobile-satellite service shall not exceed 5dBW in the whole 399.9-400.05MHz frequency band. Until 22 November 2022, this limit shall not apply to satellite systems for which complete notification information has been received by the Radiocommunication Bureau by 22 November 2019 and that have been brought into use by that date. After 22 November 2022, these limits shall apply to all systems within the mobile-satellite

service operating in this frequency band. In the frequency band 399.99-400.02 MHz, the e.i.r.p. limits as specified above shall apply after 22 November 2022 to all systems within the mobile-satellite service. Administrations are requested that their mobile- satellite service satellite links in the 399.99-400.02 MHz frequency band comply with the e.i.r.p. limits as specified above, after 22 November 2019. (WRC-19).

5.260B In the frequency band 400.02-400.05MHz, the provisions of No.5.260A are not applicable for telecommand uplinks within the mobile-satellite service. (WRC-19).

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.

5.264A In the frequency band 401-403 MHz, the maximum e.i.r.p. of any emission of each earth station in the meteorological-satellite service and the Earth exploration-satellite service shall not exceed 22 dBW in any 4 kHz band for geostationary-satellite systems and non-geostationary-satellite systems with an orbit of apogee equal or greater than 35 786 km.

The maximum e.i.r.p. of any emission of each earth station in the meteorological-satellite service and the Earth exploration-satellite service shall not exceed 7 dBW in any 4 kHz band for non-geostationary-satellite systems with an orbit of apogee lower than 35 786 km.

The maximum e.i.r.p. of each earth station in the meteorological-satellite service and the Earth exploration- satellite service shall not exceed 22 dBW for geostationary-satellite systems and non-geostationary-satellite systems with an orbit of apogee equal or greater than 35 786 km in the whole 401-403 MHz frequency band. The maximum e.i.r.p. of each earth station in the meteorological-satellite service and the Earth exploration-satellite service shall not exceed 7 dBW for non-geostationary-satellite systems with an orbit of apogee lower than 35 786 km in the whole 401-403 MHz frequency band.

Until 22 November 2029, these limits shall not apply to satellite systems for which complete notification information has been received by the Radiocommunication Bureau by 22 November 2019 and that have been brought into use by that date. After 22 November 2029, these limits shall apply to all systems within the meteorological-satellite service and the Earth exploration-satellite service operating in this frequency band. (WRC-19).

5.264B Non-geostationary-satellite systems in the meteorological-satellite service and the Earth exploration- satellite service for which complete notification information has been received by the Radiocommunication Bureau before 28 April 2007 are

exempt from provisions of No. **5.264A** and may continue to operate in the frequency band 401.898- 402.522 MHz on a primary basis without exceeding a maximum e.i.r.p. level of 12 dBW. (WRC-19).

5.265 In the frequency band 403-410 MHz, Resolution **205 (Rev.WRC-19)** applies. (WRC-19)

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.1260-2. 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-19).

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-19)**. 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-19).

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.1174-4. The use of these frequency

bands in territorial waters is subject to the national regulations of the administration concerned. (WRC-19).

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, Eswatini, Finland, France, Gabon, Georgia, Ghana, Hungary, Iraq, Ireland, Iceland, Israel, Italy, Jordan, Kenya, Kuwait, Lesotho, Latvia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, North Macedonia, 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, Romania, the United Kingdom, Rwanda, San Marino, Serbia, Sudan, South Africa, Sweden, Switzerland, **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-19).

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 (Rev.WRC-19)**. See also Resolution **224 (Rev.WRC-19)**. (WRC-19).

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-19)** and **749 (Rev.WRC-19)** shall apply, as appropriate. (WRC-19).

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-19)**, **760 (Rev.WRC-19)** and **749 (Rev.WRC-19)**,

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-19).

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 (Rev.WRC-19)** shall apply. (WRC-19)

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 frequency 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 frequency band 1215- 1300 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 (Rev.WRC-19)** shall apply. (WRC-19)

5.329A Use of systems in the radio navigation-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 radio navigation-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 radio navigation-satellite service and other services allocated on a primary basis. (WRC-2000)

5.335A In the band 1 260-1 300 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service and other services allocated by footnotes on a primary basis. (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 radio navigation 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 radio navigation-satellite service and by stations in the radiolocation service shall not cause harmful interference to, nor constrain the operation and development of, the aeronautical-radio navigation service. (WRC-2000)

5.338A In the frequency bands 1 350-1 400 MHz, 1 427-1 452 MHz, 22.55-23.55 GHz, 24.25-27.5 GHz, 30- 31.3 GHz, 49.7-50.2 GHz, 50.4-50.9 GHz, 51.4-52.4 GHz, 52.4-52.6 GHz, 81-86 GHz and 92-94 GHz, Resolution **750 (Rev.WRC-19)** applies. (WRC-19)

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[2],	
52.6-54.25 GHz,	
86-92 GHz,	
100-102 GHz,	
109.5-111.8 GHz,	
114.25-116 GHz,	
148.5-151.5 GHz,	
164-167 GHz,	
182-185 GHz,	
190-191.8 GHz,	
200-209 GHz,	
226-231.5 GHz,	
250-252 GHz. **(WRC-03)**	

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)

5.341B In Region 2, the frequency band 1 427-1 518 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223 (Rev.WRC-15)**. This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.345 Use of the frequency band 1 452-1 492 MHz by the broadcasting-satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution **528 (Rev.WRC-19)**. (WRC-19)

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, Eswatini, 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, **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-19)**. 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 (Rev.WRC-19)**. (WRC-19)

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-19)** and Resolution **761 (Rev.WRC-19)**. 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-19)

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 mobile satellite 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)

5.364 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)

5.368 The provisions of No. **4.10** do not apply with respect to the radiodetermination-satellite and mobile-satellite services in the frequency band 1 610-1 626.5 MHz. However, No. **4.10** applies in the frequency band 1 610-1 626.5 MHz with respect to the aeronautical radionavigation-satellite service when operating in accordance with No. **5.366**, the aeronautical mobile satellite (R) service when operating in accordance with No. **5.367**, and in the frequency band 1 621.35-1 626.5 MHz with respect to the maritime mobile-satellite service when used for GMDSS. (WRC-19)

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 frequency band 1 610.6-1 613.8 MHz by stations of the radiodetermination-satellite and mobile-satellite services (No. **29.13** applies). The equivalent power flux-density (epfd) produced in the frequency band 1 610.6-1 613.8 MHz by all space stations of a non-geostationary-satellite system in the mobile-satellite service (space-to-Earth) operating in frequency band 1 613.8-1 626.5 MHz shall be in compliance with the protection criteria provided in Recommendations ITU-R RA.769-2 and ITU-R RA.1513-2, using the methodology given in Recommendation ITU-R M.1583-1, and the radio astronomy antenna pattern described in Recommendation ITU-R RA.1631-0. (WRC-19)

5.373 Maritime mobile earth stations receiving in the frequency band 1 621.35-1 626.5 MHz shall not impose additional constraints on earth stations operating in the maritime mobile-satellite service or maritime earth stations of the radiodetermination-satellite service operating in accordance with the Radio Regulations in the frequency band 1 610- 1 621.35 MHz or on earth stations operating in the maritime mobile-satellite service operating in accordance with the Radio Regulations in the frequency band 1626.5-1660.5MHz, unless otherwise agreed between the notifying administrations. (WRC-19)

5.373A Maritime mobile earth stations receiving in the frequency band 1 621.35-1 626.5 MHz shall not impose constraints on the assignments of earth stations of the mobile-satellite service (Earth-to-space) and the radiodetermination- satellite service (Earth-to-space) in the frequency band 1 621.35-1 626.5 MHz in networks for which complete coordination information has been received by the Radiocommunication Bureau before 28 October 2019. (WRC-19)

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 intersatellite 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, Lebanon, 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 frequency 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-19)

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, spaceto-Earth and other space-to-space transmissions of those services and in those bands between geostationary and nongeostationary satellites.

5.398 In respect of the radiodetermination-satellite service in the band 2 483.5-2 500 MHz, the provisions of No. **4.10** do not apply.

5.402 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 mobilesatellite (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, Djibouti, Eswatini, Ghana, Guinea, Guinea-Bissau, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sudan, South Sudan, South Africa, **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-19)

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, Eswatini, 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, **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-19)**. 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-19)

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)

5.441B In Angola, Armenia, Azerbaijan, Benin, Botswana, Brazil, Burkina Faso, Burundi, Cambodia, Cameroon, China, Côte d'Ivoire, Djibouti, Eswatini, Russian Federation, Gambia, Guinea, Iran (Islamic Republic of), Kazakhstan, Kenya, Lao P.D.R., Lesotho, Liberia, Malawi, Mauritius, Mongolia, Mozambique, Nigeria, Uganda, Uzbekistan, the Dem. Rep. of the Congo, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, South Africa, **Tanzania,** Togo, Viet Nam, Zambia and Zimbabwe, the frequency band 4 800-4 990 MHz, or portions thereof, is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. The use of IMT stations is subject to agreement obtained under No. **9.21** with concerned administrations, and IMT stations shall not claim protection from stations of other applications of the mobile service. In addition, before an administration brings into use an IMT station in the mobile service, it shall ensure that the power flux-density (pfd) produced by this station does not exceed −155 dB(W/(m^2 · 1 MHz)) produced up to 19 km above sea level at 20 km from the coast, defined as the low-water mark, as officially recognized by the coastal State. This pfd criterion is subject to review at WRC-23. Resolution**223 (Rev.WRC-19)** applies. This identification shall be effective after WRC-19. (WRC-19)

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 dB/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-19)**;

– aeronautical telemetry transmissions from aircraft stations (see No. **1.83**) in accordance with Resolution **418 (Rev.WRC-19)**. (WRC-19)

5.446A The use of the frequency 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-19)**. (WRC-19)

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)

5.446C *Additional allocation:* in Region 1 (except in Algeria, Saudi Arabia, Bahrain, Egypt, United Arab Emirates, Iraq, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Syrian Arab Republic, Sudan, South Sudan and Tunisia), the frequency band 5 150-5 250 MHz is also allocated to the aeronautical mobile service on a primary basis, limited to aeronautical telemetry transmissions from aircraft stations (see No.**1.83**), in accordance with Resolution **418 (Rev.WRC-19)**. These stations shall not claim protection from other stations operating in accordance with Article **5**. No. **5.43A** does not apply. (WRC-19)

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 spaceborne 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). The radiolocation service, the Earth exploration-satellite service (active) and the space research service (active) shall not impose more stringent conditions upon the mobile service than those stipulated in Resolution **229 (Rev.WRC-19)**. (WRC-19)

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. The radiodetermination services shall not impose more stringent conditions upon the mobile service than those stipulated in Resolution **229 (Rev.WRC-19)**. (WRC-19)

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, Eswatini, Gabon, Guinea, Equatorial Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, 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, **Tanzania,** Chad, Thailand, Togo, Viet Nam and Yemen, the frequency 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-19**) do not apply. In addition, in Afghanistan, Angola, Benin, Bhutan, Botswana, Burkina Faso, Burundi, Dem. Rep. of the Congo, Fiji, Ghana, Kiribati, Lesotho, Malawi, Maldives, Mauritius, Micronesia, Mongolia, Mozambique, Myanmar, Namibia, Nauru, New Zealand, Papua New Guinea, Rwanda, Solomon Islands, South Sudan, South Africa, Tonga, Vanuatu, Zambia and Zimbabwe, the frequency band 5 725-5 850 MHz is allocated to the fixed service on a primary basis, and stations operating in the fixed service shall not cause harmful interference to and shall not claim protection from other primary services in the frequency band. (WRC-19)

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 (T), without the consent of the affected administration:

−135 dB(W/m^2) in a 1 MHz band for 0 dT 5°
−135 + 0.5 (T− 5) dB(W/m^2) in a 1 MHz band for 5 dT 25°
−125 dB(W/m^2) in a 1 MHz band for 25 dTd 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)

5.476A 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.

5.482 In the band 10.6-10.68 GHz, the power delivered to the antenna of stations of the fixed and mobile, except aeronautical mobile, services shall not exceed −3 dBW. This limit may be exceeded, subject to agreement obtained under No. **9.21**. However, in Algeria, Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Egypt, United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Morocco, Mauritania, Moldova, Nigeria, Oman, Uzbekistan, Pakistan, Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, Singapore, Tajikistan, Tunisia, Turkmenistan and Viet Nam, this restriction on the fixed and mobile, except aeronautical mobile, services is not applicable. (WRC-07)

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 spaceborne sensors, satellite systems operating in the space research service (space-to-Earth) to relay data from space stations in the geostationary-satellite orbit to associated earth stations. 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)

5.508A In the frequency band 14.25-14.3 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Bahrain, Botswana, China, Côte d'Ivoire, Egypt, France, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom and Tunisia by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643-0, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. **5.29**. (WRC-15)

5.509A In the frequency band 14.3-14.5 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Bahrain, Botswana, Cameroon, China, Côte d'Ivoire, Egypt, France, Gabon, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Morocco, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom, Sri Lanka, Tunisia and Viet Nam by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643-0, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. **5.29**. (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-tospace) 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)

5.513A 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 frequency bands by other fixed-satellite service applications or by other services to which these frequency bands are allocated on a co-primary basis and does not establish priority in these Radio Regulations among users of the frequency bands. Administrations should take this into account when considering regulatory provisions in relation to these frequency bands. See Resolution **143 (Rev.WRC-19)**. (WRC-19)

5.517A The operation of earth stations in motion communicating with geostationary fixed-satellite service space stations within the frequency bands 17.7-19.7 GHz (space-to-Earth) and 27.5-29.5 GHz (Earth-to-space) shall be subject to the application of Resolution **169 (WRC-19)**.

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)

5.522A 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)**.**

5.532 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)

5.532AB The frequency band 24.25-27.5 GHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. Resolution **242 (WRC-19)** applies. (WRC-19).

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. Resolution **242 (WRC-19)** applies. (WRC-19).

5.536B In Algeria, Saudi Arabia, Austria, Bahrain, Belgium, Brazil, China, Korea (Rep. of), Denmark, Egypt, United Arab Emirates, Estonia, Finland, Hungary, India, Iran (Islamic Republic of), Iraq, Ireland, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, Libya, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, Qatar, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the Czech Rep., Romania, the United Kingdom, Singapore, Slovenia, Sudan, 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. Resolution **242 (WRC-19)** applies. (WRC-19)

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 isotropically 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 (spaceto-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.

5.543B The allocation to the fixed service in the frequency band 31-31.3 GHz is identified for worldwide use by high-altitude platform stations (HAPS). This identification does not preclude the use of this frequency band by other fixed-service applications or by other services to which this frequency band is allocated on a co-primary basis, and does not establish priority in the Radio Regulations. Such use of the fixed-service allocation by HAPS shall be in accordance with the provisions of Resolution **167 (WRC-19)**. (WRC-19)

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.

5.545 *Different category of service:* in Armenia, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 31-31.3 GHz to the space research service is on a primary basis (see No. **5.33**). (WRC-12)

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 spaceborne sensor in the Earth exploration-satellite service (active) or space research service (active), for any angle greater than 0.8° from the beam centre shall not exceed 73.3 dB(W/m^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)

5.550B The frequency band 37-43.5 GHz, or portions thereof, is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. Because of the potential deployment of FSS earth stations within the frequency range 37.5-42.5 GHz and high-density applications in the fixed-satellite service in the frequency bands 39.5-40 GHz in Region 1, 40-40.5 GHz in all Regions and 40.5-42 GHz in Region 2 (see No. **5.516B**), administrations should further take into account potential constraints to IMT in these frequency bands, as appropriate. Resolution **243 (WRC-19)** applies. (WRC-19)

5.550C The use of the frequency bands 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space-to-Earth), 47.2- 50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed- satellite service is subject to the application of the provisions of No. **9.12** for coordination with other non-geostationary- satellite systems in the fixed-satellite service but not with non-geostationary-satellite systems in other services. Resolution **770 (WRC-19)** shall also apply, and No. **22.2** shall continue to apply. (WRC-19)

5.550D The allocation to the fixed service in the frequency band 38-39.5 GHz is identified for worldwide use by administrations wishing to implement high-altitude platform stations (HAPS). In the HAPS-to-ground direction, the HAPS ground station

shall not claim protection from stations in the fixed, mobile and fixed-satellite services; and No. **5.43A** does not apply. This identification does not preclude the use of this frequency band by other fixed-service applications or by other services to which this frequency band is allocated on a co-primary basis and does not establish priority in the Radio Regulations. Furthermore, the development of the fixed-satellite, fixed and mobile services shall not be unduly constrained by HAPS. Such use of the fixed-service allocation by HAPS shall be in accordance with the provisions of Resolution **168 (WRC-19)**. (WRC-19)

5.550E The use of the frequency bands 39.5-40 GHz and 40-40.5 GHz by non-geostationary-satellite systems in the mobile-satellite service (space-to-Earth) and by non-geostationary-satellite systems in the fixed-satellite service (space-to-Earth) is subject to the application of the provisions of No. **9.12** for coordination with other non-geostationary- satellite systems in the fixed-satellite and mobile-satellite services but not with non-geostationary-satellite systems in other services. No. **22.2** shall continue to apply for non-geostationary-satellite-systems. (WRC-19)

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 radiotelescope (for which a default value of 5° should be adopted in the absence of notified information).

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

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have 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 frequency bands 47.2-47.5 GHz and 47.9-48.2 GHz is identified for use by high-altitude platform stations (HAPS). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated on a co-primary basis, and does not establish priority in the Radio Regulations. Such use of the fixed-service allocation in the frequency bands 47.2-47.5 GHz and 47.9-48.2 GHz by HAPS shall be in accordance with the provisions of Resolution **122 (Rev.WRC-19)**. (WRC-19)

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)

5.553A In Algeria, Angola, Bahrain, Belarus, Benin, Botswana, Brazil, Burkina Faso, Cabo Verde, Korea (Rep. of), Côte d'Ivoire, Croatia, United Arab Emirates, Estonia, Eswatini, Gabon, Gambia, Ghana, Greece, Guinea, Guinea- Bissau, Hungary, Iran (Islamic Republic of), Iraq, Jordan, Kuwait, Lesotho, Latvia, Liberia, Lithuania, Madagascar, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Qatar, Senegal, Seychelles, Sierra Leone, Slovenia, Sudan, South Africa, Sweden, **Tanzania,** Togo, Tunisia, Zambia and Zimbabwe, the frequency band 45.5-47 GHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT), taking into account No. **5.553**. With respect to the aeronautical mobile service and radionavigation service, the use of this frequency band for the implementation of IMT is subject to agreement obtained under No. **9.21** with concerned administrations and shall not cause harmful interference to, or claim protection from these services. 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. Resolution **244 (WRC-19**) applies. (WRC-19)

5.553B In Region 2 and Algeria, Angola, Saudi Arabia, Australia, Bahrain, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Rep., Comoros, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Djibouti, Egypt, United Arab Emirates, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Equatorial Guinea, India, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kenya, Kuwait, Lesotho, Liberia, Libya, Lithuania, Madagascar, Malaysia, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Singapore, Slovenia, Somalia, Sudan, South Sudan, South Africa, Sweden, **Tanzania,** Chad, Togo, Tunisia, Zambia and Zimbabwe, the frequency band 47.2-48.2 GHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated, and does not establish any priority in the Radio Regulations. Resolution **243 (WRC-19)** applies. (WRC-19)

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)

5.555C The use of the frequency band 51.4-52.4 GHz by the fixed-satellite service (Earth-to-space) is limited to geostationary-satellite networks. The earth stations shall be limited to gateway earth stations with a minimum antenna diameter of 2.4 metres. (WRC-19)

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)

5.559AA The frequency band 66-71 GHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which this frequency band is allocated and does not establish priority in the Radio Regulations. Resolution **241 (WRC-19)** applies. (WRC-19)

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 spaceborne 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 frequency bands 105-109.5 GHz, 111.8-114.25 GHz and 217-226 GHz, the use of this allocation is limited to space-based radio astronomy only. (WRC-19)

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)

5.562H 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 spaceborne cloud radars only. (WRC-2000)

5.564A For the operation of fixed and land mobile service applications in frequency bands in the range 275- 450 GHz:
The frequency bands 275-296 GHz, 306-313 GHz, 318-333 GHz and 356-450 GHz are identified for use by administrations for the implementation of land mobile and fixed service applications, where no specific conditions are necessary to protect Earth exploration-satellite service (passive) applications.
The frequency bands 296-306 GHz, 313-318 GHz and 333-356 GHz may only be used by fixed and land mobile service applications when specific conditions to

ensure the protection of Earth exploration-satellite service (passive) applications are determined in accordance with Resolution **731 (Rev.WRC-19)**.
In those portions of the frequency range 275-450 GHz where radio astronomy applications are used, specific conditions (e.g. minimum separation distances and/or avoidance angles) may be necessary to ensure protection of radio astronomy sites from land mobile and/or fixed service applications, on a case-by-case basis in accordance with Resolution **731 (Rev.WRC-19)**.
The use of the above-mentioned frequency bands by land mobile and fixed service applications does not preclude use by, and does not establish priority over, any other applications of radio services in the range of 275-450 GHz. (WRC-19)

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)

12.0 Annexes

12.1 Annex 1: Frequencies for distress and safety communications for the Global Maritime Distress and Safety System (GMDSS)

Frequency (kHz)	Description of Usage	Notes
490	MSI	The frequency 490 kHz is used exclusively for maritime safety information (MSI). (WRC-03)
518	MSI	The frequency 518 kHz is used exclusively by the international NAVTEX system.
***2 174.5**	NBDP-COM	
***2182**	RTP-COM	The frequency 2 182 kHz uses class of emission J3E. See also No. 52.190
***2187.5**	DSC	
3023	AERO-SAR	The aeronautical carrier (reference) frequencies 3 023 kHz and 5 680 kHz may be used for intercommunication between mobile stations engaged in coordinated search and rescue operations, and for communication between these stations and participating land stations, in accordance with the provisions of Appendix 27 (see Nos. 5.111 and 5.115).
***4125**	RTP-COM	See also No. 52.221. The carrier frequency 4 125 kHz may be used by aircraft stations to communicate with stations of the maritime mobile service for distress and safety purposes, including search and rescue (see No. 30.11).
***4177.5**	NBDP-COM	
***4207.5**	DSC	
4209.5	MSI	The frequency 4 209.5 kHz is exclusively used for NAVTEX-type transmissions (see Resolution 339 (Rev.WRC-07)).
4210	MSI-HF	
5680	AERO-SAR	See note under 3 023 kHz above.
***6215**	RTP-COM	See also Provision No. 52.221 of Radio Regulation.
***6268**	NBDP-COM	
***6312**	DSC	
6314	MSI-HF	
***8291**	RTP-COM	
***8376.5**	NBDP-COM	
***8414.5**	DSC	
8416.5	MSI-HF	
***12290**	RTP-COM	
***12520**	NBDP-COM	
***12577**	DSC	
12579	MSI-HF	
***16420**	RTP-COM	
***16695**	NBDP-COM	
***16804.5**	DSC	
16806.5	MSI-HF	
19680.5	MSI-HF	
22376	MSI-HF	

26100.5	MSI-HF	

Frequency (MHz)	Description of Usage	Notes
***121.5**	AERO-SAR	The aeronautical emergency frequency 121.5 MHz is used for the purposes of distress and urgency for radiotelephony by stations of the aeronautical mobile service using frequencies in the frequency band between 117.975 MHz and 137 MHz. This frequency may also be used for these purposes by survival craft stations. Use of the frequency 121.5 MHz by emergency position-indicating radio beacons shall be in accordance with Recommendation ITU-R M.690-3. Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated search and rescue operations, using class A3E emissions for both frequencies (see also Nos. 5.111 and 5.200). They shall then comply with any special arrangement between governments concerned by which the aeronautical mobile service is regulated.
123.1	AERO-SAR	The aeronautical auxiliary frequency 123.1 MHz, which is auxiliary to the aeronautical emergency frequency 121.5 MHz, is for use by stations of the aeronautical mobile service and by other mobile and land stations engaged in coordinated search and rescue operations (see also No. 5.200). Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated search and rescue operations, using class A3E emissions for both frequencies (see also Nos. 5.111 and 5.200). They shall then comply with any special arrangement between governments concerned by which the aeronautical mobile service is regulated.

156.3	VHF-CH06	The frequency 156.3 MHz may be used for communication between ship stations and aircraft stations engaged in coordinated search and rescue operations. It may also be used by aircraft stations to communicate with ship stations for other safety purposes (see also Note *f*) in Appendix 18).
***156.525**	VHF-CH70	The frequency 156.525 MHz is used in the maritime mobile service for distress and safety calls using digital selective calling (see also Nos. 4.9, 5.227, 30.2 and 30.3).
156.650	VHF-CH13	The frequency 156.650 MHz is used for ship-to-ship communications relating to the safety of navigation in accordance with Note *k*) in Appendix 18.
***156.8**	VHF-CH16	The frequency 156.8 MHz is used for distress and safety communications by radiotelephony. Additionally, the frequency 156.8 MHz may be used by aircraft stations for safety purposes only.
***161.975**	AIS-SART VHF CH AIS 1	AIS 1 is used for AIS search and rescue transmitters (AIS-SART) for use in search and rescue operations.
***162.025**	AIS-SART VHF CH AIS 2	AIS 2 is used for AIS search and rescue transmitters (AIS-SART) for use in search and rescue operations.
***406-406.1**	406-EPIRB	This frequency band is used exclusively by satellite emergency position-indicating radio beacons in the Earth-to-space direction (see No.5.266)
1 530-1 544	SAT-COM	In addition to its availability for routine non-safety purposes, the band 1 530-1 544 MHz is used for distress and safety purposes in the space-to- Earth direction in the maritime mobile-satellite service. GMDSS distress, urgency and safety communications have priority in this band (see No. 5.353A).
***1 544-1 545**	D&S-OPS	Use of the band 1 544-1 545 MHz (space-to-Earth) is limited to distress and safety operations (see No. 5.356), including feeder links of satellites needed to relay the emissions of satellite emergency position-indicating radio beacons to earth

		stations and narrow-band (space-to-Earth) links from space stations to mobile stations.
1 621.35-1 626.5	SAT-COM	In addition to its availability for routine non-safety purposes, the frequency band 1 621.35-1 626.5 MHz is used for distress and safety purposes in the Earth-to-space and space-to-Earth directions in the maritime mobile-satellite service. GMDSS distress, urgency and safety communications have priority in this band over non-safety communications within the same satellite system. (WRC-19)
1 626.5-1 645.5	SAT-COM	In addition to its availability for routine non-safety purposes, the band 1 626.5-1 645.5 MHz is used for distress and safety purposes in the Earth- to-space direction in the maritime mobile-satellite service. GMDSS distress, urgency and safety communications have priority in this band (see No. 5.353A).
***1 645.5-1 646.5**	D&S-OPS	Use of the band 1645.5-1646.5MHz (Earth-to-space) is limited to distress and safety operations (see No. 5.375).
9 200-9 500	SARTS	This frequency band is used by radar transponders to facilitate search and rescue.

** Except as provided in the ITU Radio Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies denoted by an asterisk (*) is prohibited. Any emission causing harmful interference to distress and safety communications on any of the discrete frequencies identified in this Appendix is prohibited. (WRC 07*)

Legend:

- **AERO-SAR:** These aeronautical carrier (reference) frequencies may be used for distress and safety purposes by mobile stations engaged in coordinated search and rescue operations.

- **DSC:** These frequencies are used exclusively for distress and safety calls using digital selective calling in accordance with No. 32.5 (see Nos. 33.8 and 33.32). (WRC-07)

- **MSI:** In the maritime mobile service, these frequencies are used exclusively for the transmission of maritime safety information (MSI) (including meteorological and navigational warnings and urgent information) by coast stations to ships, by means of narrow-band direct-printing telegraphy.

- **MSI-HF:** In the maritime mobile service, these frequencies are used exclusively for the transmission of high seas MSI by coast stations to ships, by means of narrow-band direct-printing telegraphy.

- **NBDP-COM:** These frequencies are used exclusively for distress and safety communications (traffic) using narrow-band direct-printing telegraphy.

- **RTP-COM:** These carrier frequencies are used for distress and safety communications (traffic) by radiotelephony.

- **D&S-OPS** : The use of these bands is limited to distress and safety operations of satellite emergency position-indicating radio beacons (EPIRBs).

- **SAT-COM:** These frequency bands are available for distress and safety purposes in the maritime mobile-satellite service (see Notes).

- **VHF-CH#:** These VHF frequencies are used for distress and safety purposes. The channel number (CH#) refers to the VHF channel as listed in Appendix 18, which should also be consulted.

- **AIS:** These frequencies are used by automatic identification systems (AIS), which should operate in accordance with the most recent version of Recommendation ITU-R M.1371. (WRC-07)

12.2 Annex 2: Frequency allotment Plan for the Aeronautical Mobile (OR) Service (Appendix 26)

The frequencies allotted to Tanzania for exclusive use for aeronautical mobile (OR) service within the area of Tanzania are as follows:

S/No	Frequency (kHz)
1	3023
2	5680
3	6718
4	6721

Notes:

- The carrier (reference) frequencies 3023 kHz and 5680 kHz are intended for worldwide common use
- A bandwidth of up to a maximum of 2.8 kHz, situated wholly within the frequency channel concerned should be utilizable.
- The frequencies should only be used for Telephony (J3E, SSB, suppressed carrier) and Telegraphy (including Automatic Data transmission) {A1A, A1B, F1B; (A,H)2(A,B); (R,J)2(A,B,D); J(7,9)(B,D,X)}
- Power limits, class of emission and limits to unwanted emission shall be in accordance with the Appendix 26 of the Radio Regulations 2019

12.3 Annex 3: Frequency allotment Plan for coast radiotelephone Stations operating in the exclusive maritime mobile bands between 4000 kHz and 27500 kHz (Appendix 25)

The frequencies allotted to Tanzania for coast radiotelephone Stations operating in the exclusive maritime mobile service are as follows:

S. No.	Channel Number	Assigned Frequency (kHz)	Carrier Frequency (kHz)
1	417	4406.4	4405
2	419	4412.4	4411
3	820	8777.4	8776
4	823	8786.4	8785
5	1227	13156.4	13155

12.4 Annex 4: Frequency allotment Plan for BSS in the frequency band 11.7 - 12.2 GHz (Appendix 30)

Details of the allotment for Tanzania as per RR Appendix 30 are as follows:

Beam ID	TZA22500
Nominal Orbital Position	11.00°E
Longitude of boresight	34.60°
Latitude of boresight	-6.20°
Major Axis (Space Station Antenna	2.41°
Minor axis (Space Station Antenna)	1.72°
Orientation (Space Station Antenna)	129.00
Space Station antenna gain/code	38.27/R13TSS
Earth Station antenna gain/code	33.50/MODRES
Polarization	CR
EIRP	58.7
Designation of Emission	27MOG7W

Notes

- *Minimum Equivalent Protection Margin (EPM) should be as per as per Table 6B of the Appendix 30 of the RR.*
- *Requirements of article 9 and 11 of RR to be fulfilled.*

12.5 Annex 5: Frequency allotment Plan for BSS Uplink in the frequency band 17.3-18.1 GHz (Appendix 30A)

Details of the allotment for Tanzania as per RR Appendix 30A are as follows:

Beam ID	TZA22500
Nominal Orbital Position	11.00°E
Longitude of boresight	34.60°
Latitude of boresight	-6.20°
Major Axis (Space Station Antenna	2.41
Minor axis (Space Station Antenna)	1.72°

Orientation (Space Station Antenna)	129.00
Space Station antenna gain/code	38.27/MODRSS
Earth Station antenna gain/code	57.00/MODTES
Polarization	CR
EIRP	84.0
Designation of Emission	27MOG7W

Notes

- Minimum Equivalent Protection Margin (EPM) should be as per as per Table 6B of the Appendix 30A of the RR.
- Requirements of article 9 and 11 of RR to be fulfilled.

12.6 Annex 6: Frequency allotment Plan/List for Fixed-satellite service in the frequency bands 4500-4800 MHz and 6725-7025 MHz (Appendix 30B)

Details of the allotment plan for Egypt as per RR Appendix 30B are as follows:

Allotment name	**TZA00000**
Frequency Bands	4500 – 4800 MHz (Space to Earth) 6725 – 7025 MHz (Earth to Space)
Nominal Orbital Position	67.50°E
Longitude of boresight	35.40°
Latitude of boresight	-5.90°
Major axis of the elliptical cross-section half-power beam	2.40°
Minor axis of the elliptical cross-section half-power beam	1.60°
Orientation of the ellipse	117.00
Earth station EIRP density	-9.6dB (W/Hz)
Satellite E.I.R.P. density	-39.3dB (W/Hz)

12.7 Annex 7: Frequency allotment Plan/List for Fixed-satellite service in the frequency bands 10.70-10.95 GHz, 11.2-11.45, GHz and 12.75- 13.25 GHz (Appendix 30B)

Details of the allotment plan for Egypt as per RR Appendix 30B are as follows:

Allotment name	**TZA00000**
Frequency Bands	10.70 – 10.95 GHz (Space to Earth) 11.20 – 11.45 GHz (Space to Earth) 12.75 – 13.25 GHz (Earth to Space)
Nominal Orbital Position	67.50°E
Longitude of boresight	35.40°
Latitude of boresight	-5.90°
Major axis of the elliptical cross-section half-power beam	2.40°
Minor axis of the elliptical cross-section half-power beam	1.60°

Orientation of the ellipse	117.00
Earth station EIRP density	-1.3 dB (W/Hz)
Satellite E.I.R.P. density	-27.8 dB (W/Hz)

12.8 Annex 8: Terrestrial Broadcasting Plans

Tanzania is signatory of number of ITU-R regional agreements and assigns the frequencies according to associated plans. Current recorded/coordinated Broadcasting plan/frequencies with respect to their associated agreements are given below:

8.1 GE-75 Agreement

Regional Agreement concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in ITU-R Regions 1 and 3 and in the Low Frequency Bands in ITU-R Region 1.

LF: 150-285 kHz
MF: 525-1605 kHz
GE-75 planning area is shown in the below map below

GE75 Planning area:

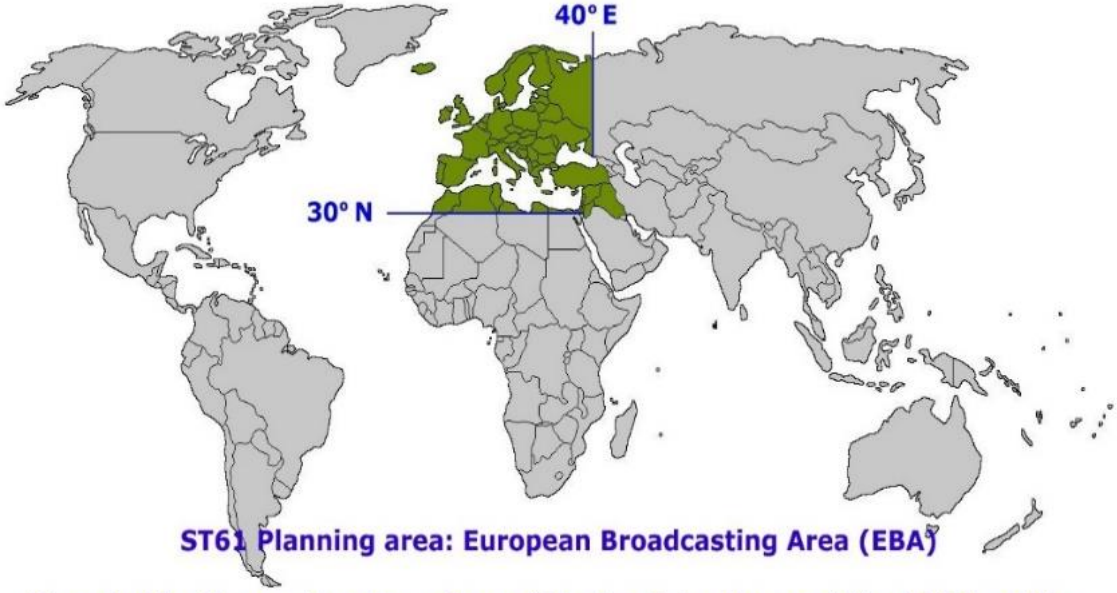
The countries of Region 1 and 3 for medium frequency band and Region 1 for low frequency band.

8.2 GE-84 Agreement

It is relating to the Use of the Band **87.5 - 108 MHz** for FM Sound Broadcasting and include the countries of Region 1 as defined in No. 393 of the Radio Regulations together with the Democratic Republic of Afghanistan and the Islamic Republic of Iran. The plan includes assignments in VHF-FM band **i.e. Band II: 87.5-108 MHz**.
GE-84 planning area is shown in the below map below

8.3 ST61Agreement

Plan for television and sound broadcasting in the European broadcasting area, Stockholm, 1961 Rev.2006 (ST61).
BandI: 41-68MHz
BandII: 87.5-100MHz
Band III: 162-174 MHz
ST61 planning area is shown in the below map below



ST61 Planning area: European Broadcasting Area (EBA)

Bounded by the western boundary of Region 1, by the meridian 40° E and by the parallel 30° N so as to include the northern part of Saudi Arabia and that part of those countries bordering the Mediterranean within these limits. In addition, Iraq, Jordan and that part of the territory of Syrian Arab Republic, Turkey and Ukraine lying outside the above limits are included in the EBA.

8.4 GE-89Agreement

Plan for VHF/UHF television broadcasting in the African Broadcasting Area and neighboring countries, Geneva, 1989 Rev. 2006 (GE89).

Band I: 47-68MHz

Band III: 230-238 MHz, 246-254 MHz

GE-89 planning area is shown in the below map below

GE89 Planning Area:

African Broadcasting Area (ABA) and neighbouring countries: parts of countries, territories and groups of territories situated between the parallels 40° S and 30° N; islands in the Indian Ocean west of meridian 60° E, between the parallel 40° S and the great circle arc joining the points 45° E, 11° 30' N and 60° E, 15° N; and islands in the Atlantic Ocean situated between the parallels 40° S and 30° North.

8.5 GE-06 Agreement

Plans for VHF/UHF analogue and digital broadcasting in parts of Regions 1 and 3, in the frequency bands 174-230 MHz and 470-862 MHz, Geneva 2006 (GE06).

Band III: 174-230 MHz

Band IV: 470-582 MHz

BandV: 582-862MHz

GE-06 planning area is shown in the below map below

GE06 Planning Area:

Region 1 (those parts of Region 1, as defined in No. 5.3 of the Radio Regulations, situated to the west of meridian 170° E and to the north of parallel 40° S, except the territories of Mongolia) and the Islamic Republic of Iran.

12.9 Annex 9: Means of identification allocated to Tanzania (Article 19 of the Radio Regulations)

According to RR Article 19, all transmissions in the services: amateur service; broadcasting service; fixed service in the bands below 28 000 kHz; mobile service; standard frequency and time signal service, as well as satellite emergency position-indicating radiobeacons (EPIRBs) operating in the band 406-406.1 MHz or the band 1 645.5-1 646.5 MHz, or by EPIRBs using digital selective calling techniques should carry identification signals, except:

a) Survival craft stations when transmitting distress signals automatically.
b) Emergency position-indicating radiobeacons (except for those in No. 19.11).

A station can be identified in the following ways:

- By a call sign.
- By a maritime mobile service identity.
- By other means, such as name of station, location of station, operating agency, official registration mark, flight identification number, selective call number or signal, selective call identification number or signal, characteristic signal, characteristic of emission, etc.

9.1 International Call Sign Series (Appendix 42 (Rev. WRC - 19))

5HA-5IZ

- ***Note 1:*** The first two characters of each call sign identify the nationality of the radio station. Individual national assignments are made by Tanzania Communication Regulatory Authority in Tanzania from this national allocation.
- ***Note 2****:* Formation of call signs and associated stations types for identification are based on Section III of RR Article 19.

9.2 Maritime Identification Digits (ITU Table of Maritime Identification Digits)

674 **677**

- ***Note 1:*** Formation of identity resources for station operating in the maritime mobile service or the maritime mobile-satellite service is based on Section VI of RR Article 19.
- ***Note2:*** Identity types for ship stations, which utilize the satellite services of the global maritime distress and safety system (GMDSS) including maritime mobile service identities (MMSI) and other types of maritime devices are based on Recommendation ITU-R M.585-8.