



GHANA
NATIONAL FREQUENCY ALLOCATION TABLE
2013

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INTRODUCTION

The Ghana Table of Frequency Allocations details the uses to which various frequency bands are put in Ghana (referred to as ‘allocations’). It provides the framework within which frequency assignments are to be made for all radio services in Ghana.

The Ghana Table may be amended as a result of changes in the National Communications Authority’s Licensing decisions, or in accordance to changes to the Radio Regulations made by the World Radiocommunication Conferences (WRC) of the International Telecommunication Union (ITU) such that these affect the Ghana table, or in accordance with the application of any other national frequency decisions.

Direct references have been made within the Ghana table to those footnotes in the Radio Regulations that apply to radio services in Ghana.

Where the provisions of the Radio Regulation differ from those of Ghana’s table, those of the latter will apply.

The Ghana table does not infer any right for use of radio services or equipment, which must be authorized in accordance with the relevant licensing requirements.

TERMS AND DEFINITIONS

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

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

Radiocommunication: Telecommunication by means of radio waves.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Fixed service: A radiocommunication service between specified fixed points.

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

the inter-satellite service; the fixed-satellite service may also include feeder links for other space radiocommunication services.

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

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

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

Mobile-satellite service: A radiocommunication service:

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

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

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

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

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

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

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

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

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

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

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

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

Aeronautical mobile-satellite (R)* service: An aeronautical mobile-satellite service reserved for communications relating to safety and regularity of flights, primarily along national or international civil air routes.¹

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

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

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

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

¹ * (R) indicates route

Radiodetermination-satellite service: A radiocommunication service for the purpose of radiodetermination involving the use of one or more space stations.

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

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

Radionavigation-satellite service: A radiodetermination-satellite service used for the purpose of radionavigation.

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

Maritime radionavigation service: A radionavigation service intended for the benefit and for the safe operation of ships.²

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

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

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

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

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

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

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

- information relating to the characteristics of the Earth and its natural phenomena, including data relating to the state of the environment, is obtained from active sensors or passive sensors on Earth satellites;
- similar information is collected from airborne or Earth-based platforms;

² ** (OR) indicate off route

- such information may be distributed to earth stations within the system concerned;
- platform interrogation may be included.

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

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

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

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

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

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

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

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

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

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

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

STRUCTURE OF THE NATIONAL TABLE OF FREQUENCY ALLOCATIONS

The National Table of Frequency Allocations consists of four (4) columns:

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

Column 2 – Services- Foot note. It contains different radiocommunications services in Ghana. This allocation corresponds to provisions of Article 5 of the Radio Regulations.

Column 3 – Remarks. This column gives a brief description of the footnotes for easy reference.

The following conventions apply throughout the Ghana table:

- PRIMARY services are printed in capital letters.
- Secondary services are printed in lower case

Where a footnote is printed in the same line as a radio service, it applies to that radio service only, whereas where a footnote is printed at the bottom of frequency band, it applies to that band or parts thereof.

TABLE OF FREQUENCY ALLOCATION (8.3 kHz – 3000GHz)

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
Below 8.3 kHz	Not allocated 5.53 5.54	All the footnotes are incorporated in the ITU Radio Regulations.
8.3 – 9 kHz	METEOROLOGICAL AIDS 5.54A	Passive use only.
9 – 11.3 kHz	METEOROLOGICAL AIDS RADIONAVIGATION 5.54A	For sharing Rec. ITU-R RS 1881 should be applied.
11.3 – 14 kHz	RADIONAVIGATION	
14 – 19.95kHz	FIXED MARITIME MOBILE 5.57 5.56	Stations that transmit standard frequency and time signals are protected. Maritime mobile service is limited to coast radiotelegraph stations (A1A & F1B).
19.95 – 20.05kHz	STANDARD FREQUENCY AND TIME SIGNAL (20 KHz)	
20.05 – 70 kHz	FIXED MARITIME MOBILE 5.57 5.56	Stations that transmit standard frequency and time signals are protected. Maritime mobile service is limited to coast radiotelegraph stations (A1A & F1B).
70 – 72 kHz	RADIONAVIGATION 5.60	
72 – 84 kHz	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60	Stations that transmit standard frequency and time signals are protected.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	5.56	Maritime mobile service is limited to coast radiotelegraph stations (A1A & F1B).
84 – 86 kHz	RADIONAVIGATION 5.60	
86 – 90 kHz	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56	Stations that transmit standard frequency and time signals are protected. Maritime mobile service is limited to coast radiotelegraph stations (A1A & F1B).
90 – 110 kHz	RADIONAVIGATION 5.62 Fixed	
110 – 112 kHz	FIXED MARITIME MOBILE RADIONAVIGATION	
112 – 115 kHz	RADIONAVIGATION 5.60	
115 – 117.6 kHz	RADIONAVIGATION 5.60 Fixed Maritime Mobile	Pulse radionavigation systems may be used on condition that they do not cause harmful interference to other services.
117.6 – 126kHz	FIXED MARITIME MOBILE RADIONAVIGATION 5.60	Pulse radionavigation systems may be used on condition that they do not cause harmful interference to other services.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
126 – 129 kHz	RADIONAVIGATION 5.60	
129 – 130 kHz	FIXED MARITIME MOBILE RADIONAVIGATION 5.60	Pulse radionavigation systems may be used on condition that they do not cause harmful interference to other services.
130 –135.7 kHz	FIXED MARITIME MOBILE	
135.7-137.8 kHz	FIXED MARITIME MOBILE Amateur 5.67A	Amateur Operators should not exceed 1Watt (e.i.r.p.).
137.8 -148.5 kHz	FIXED MARITIME MOBILE 5.64	Stations are authorized for only classes A1A or F1B, A2C, A3C, F1C or F3C. Exceptionally, class J2B or J7B emissions are also authorized for maritime mobile service.
148.5 – 255 kHz	BROADCASTING	
255 – 283.5 kHz	BROADCASTING AERONAUTICAL RADIONAVIGATION	
283.5 – 315 kHz	MARITIME RADIONAVIGATION (Radiobeacons) 5.73 AERONAUTICAL RADIONAVIGATION 5.74	
315 – 325kHz	AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (Radiobeacons) 5.73	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
325 – 405 kHz	AERONAUTICAL RADIONAVIGATION	
405 – 415 kHz	RADIONAVIGATION 5.76	
415 – 435 kHz	MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION	Maritime Mobile services are limited to radiotelegraphy.
435 – 472 kHz	MARITIME MOBILE 5.79 Aeronautical radionavigation	Maritime Mobile services are limited to radiotelegraphy.
472 – 479 kHz	MARITIME MOBILE 5.79 Amateur 5.80A Aeronautical radionavigation	Maritime Mobile services are limited to radiotelegraphy. Amateur Operators should not exceed 5Watt (e.i.r.p.), however they are to ensure that they don't cause harmful interference to the aeronautical radionavigation service.
479 – 495 kHz	MARITIME MOBILE 5.79 5.79A Aeronautical radionavigation 5.82	Maritime Mobile services are limited to radiotelegraphy. Coast stations in the NAVTEX service should refer to resolution 339 (Rev.WRC-07). For use of 490kHz refer to Articles 31 and 52 of the ITU RR..
495 - 505 kHz	MARITIME MOBILE	
505 – 526.5 kHz	MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	Maritime Mobile services are limited to radiotelegraphy. Coast stations in the NAVTEX service should refer to resolution 339 (Rev.WRC-07).

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		For use of 518kHz refer to Articles 31 and 52 of ITU RR.
526 .5– 1606.5 kHz	BROADCASTING	
1606.5 – 1625 kHz	MARITIME MOBILE FIXED LAND MOBILE	
1625 – 1635 kHz	RADIOLOCATION	
1635 – 1800 kHz	MARITIME MOBILE FIXED LAND MOBILE	
1800 – 1810kHz	RADIOLOCATION	
1810 – 1850 kHz	AMATEUR 5.99	Amateur Operators should coordinate the use of the band with Operators in Togo.
1850 – 2000 kHz	FIXED MOBILE except Aeronautical mobile 5.103	
2000 – 2025 kHz	FIXED MOBILE except aeronautical mobile (R) 5.103	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
2025 – 2045 kHz	FIXED MOBILE except Aeronautical mobile (R) Meteorological Aids 5.104 5.103	Meteorological aid services are limited to oceanographic buoy station.
2045 – 2160 kHz	MARITIME MOBILE FIXED LAND MOBILE	
2160 – 2170 kHz	RADIOLOCATION	
2170 – 2173.5 kHz	MARITIME MOBILE	
2173.5 – 2190.5 kHz	MOBILE (distress and calling) 5.108 5.109 5.110 5.111	Refer to Articles 31 & 52 of ITU RR.
2190.5 – 2194 kHz	MARITIME MOBILE	
2194 – 2300kHz	FIXED MOBILE except aeronautical mobile (R) 5.103	
2300 – 2498 kHz	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.103	For the use of 2498 kHz see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10 of the ITU RR.
2498 – 2501 kHz	STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	
2501 – 2502 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
2502 – 2625 kHz	FIXED MOBILE except aeronautical mobile (R) 5.103	
2625 – 2650 kHz	MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	Maritime Radionavigation service should not exceed 50W.
2650 – 2850 kHz	FIXED MOBILE except aeronautical mobile (R) 5.103	
2850 – 3025 kHz	AERONAUTICAL MOBILE (R) 5.111 5.115	For the use of 3023 kHz refer to Article 31 of the ITU RR.
3025 – 3155 kHz	AERONAUTICAL MOBILE (OR)	
3155 – 3200 kHz	FIXED MOBILE except aeronautical mobile (R) 5.116	Low power wireless hearing aids shall be used.
3200 – 3230 kHz	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116	Low power wireless hearing aids shall be used. For broadcasting services see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10 of ITU RR.
3230 – 3400 kHz	FIXED MOBILE except aeronautical mobile BROADCASTING 5.113 5.116	Low power wireless hearing aids shall be used. For broadcasting services see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10 of ITU RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
3400 – 3500 kHz	AERONAUTICAL MOBILE (R)	
3500 – 3800 kHz	AMATEUR FIXED MOBILE except aeronautical mobile	
3800 – 3900 kHz	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	
3900 – 3950 kHz	AERONAUTICAL MOBILE (OR)	
3950 – 4000 kHz	FIXED BROADCASTING	
4000 – 4063 kHz	FIXED MARITIME MOBILE 5.127	For Maritime mobile service see No. 52.220 and Appendix 17 of the ITU RR.
4063 – 4438 kHz	MARITIME MOBILE 5.109 5.110 5.130 5.131 5.132 5.79A	Coast stations in the NAVTEX service should refer to resolution 339 (Rev.WRC-07). For the use of 4125 kHz, 4177.5 kHz, 4207.5 kHz refer to Article 31 and 52 of the ITU RR. 4209.5kHz is used exclusively by coast stations for meteorological and navigational warnings and urgent information to ships 4210kHz is used for the transmission of maritime safety information (MSI) see Appendix 17 of ITU RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
4438 – 4488 kHz	FIXED MOBILE except aeronautical mobile (R) Radiolocation 5.132A	Radiolocation services are limited to oceanographic radars, refer to Resolution 612 (Rev.WRC-12).
4488 – 4650 kHz	FIXED MOBILE except aeronautical mobile (R)	
4650 – 4700 kHz	AERONAUTICAL MOBILE (R)	
4700 – 4750 kHz	AERONAUTICAL MOBILE (OR)	
4750 – 4850 kHz	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	For broadcasting services see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10 of ITU RR.
4850 – 4995 kHz	FIXED LAND MOBILE BROADCASTING 5.113	For broadcasting services see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10 of ITU RR.
4995 – 5003 kHz	STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz)	
5003 – 5005 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research	
5005 – 5060 kHz	FIXED BROADCASTING 5.113	For broadcasting services see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10 of ITU RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
5060 – 5250 kHz	FIXED Mobile except aeronautical mobile	
5250 – 5275 kHz	FIXED MOBILE except aeronautical mobile Radiolocation 5.132A	Radiolocation services are limited to oceanographic radars, refer to Resolution 612 (Rev.WRC-12).
5275 – 5450 kHz	FIXED MOBILE except aeronautical mobile	
5450 – 5480 kHz	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	
5480 – 5680 kHz	AERONAUTICAL MOBILE (R) 5.111 5.115	For the use of 5680 kHz refer to Article 31 of the ITU RR.
5680 – 5730 kHz	AERONAUTICAL MOBILE (OR) 5.111 5.115	For the use of 3023 kHz refer to Article 31 of the ITU RR.
5730 – 5900 kHz	FIXED LAND MOBILE	
5900 – 5950 kHz	BROADCASTING 5.134 5.136	Refer to Article 12 and Resolution 517 (Rev. WRC-07). Fixed and Land mobile services may operate with a minimum power.
5950 – 6200 kHz	BROADCASTING	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
6200 – 6525 kHz	MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137	For the use of 6215 kHz, 6268 kHz, 6312 kHz refer to Article 31 and 52 of the ITU RR. 6314 kHz is used for the transmission of maritime safety information (MSI) see Appendix 17 of ITU RR. Fixed services may operate with a mean power not exceeding 50W.
6525 – 6685 kHz	AERONAUTICAL MOBILE (R)	
6685 – 6765 kHz	AERONAUTICAL MOBILE (OR)	
6765 – 7000 kHz	FIXED MOBILE except aeronautical mobile (R) 5.138	Also designated for ISM applications, with reference to latest relevant ITU-R Recommendations.
7000 – 7100 kHz	AMATEUR AMATEUR-SATELLITE 5.140	Amateur Operators should coordinate the use of the band with Operators in Togo.
7100 – 7200 kHz	AMATEUR	
7200 – 7300 kHz	BROADCASTING	
7300 – 7400 kHz	BROADCASTING 5.134 5.143 5.143B	Refer to Article 12 and Resolution 517 (Rev. WRC-07). Fixed and Land mobile services may operate at a minimum power of 24 dBW.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
7400 – 7450 kHz	BROADCASTING	Fixed and Land mobile services may operate at a minimum power of 24 dBW.
7450 – 8100 kHz	FIXED MOBILE except aeronautical mobile (R)	
8100 – 8195 kHz	FIXED MARITIME MOBILE	
8195 – 8815 kHz	MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111	For the use of 8414.5 kHz, 8376.5 kHz, 8364 kHz, 8291 kHz refer to Article 31 and 52 of the ITU RR. 8416.5 kHz is used for the transmission of maritime safety information (MSI) see Appendix 17 of ITU RR.
8815 – 8965 kHz	AERONAUTICAL MOBILE (R)	
8965 – 9040 kHz	AERONAUTICAL MOBILE (OR)	
9040 – 9305 kHz	FIXED	
9305 – 9355 kHz	FIXED Radiolocation 5.145A	Radiolocation services are limited to oceanographic radars, refer to Resolution 612 (Rev.WRC-12).
9355 – 9400 kHz	FIXED	
9400 – 9500 kHz	BROADCASTING 5.134 5.146	Refer to Article 12 and Resolution 517 (Rev. WRC-07).

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
9500 – 9900 kHz	BROADCASTING 5.147	Fixed services may operate at a minimum power of 24 dBW.
9900 – 9995 kHz	FIXED	
9995 – 10003 kHz	STANDARD FREQUENCY AND TIME SIGNAL (10 MHz) 5.111	For the use of 10003 kHz refer to Article 31 of the ITU RR. Emissions must be confined in a band of ± 3 kHz about the frequency.
10003 – 10005 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	For the use of 10003 kHz refer to Article 31 of the ITU RR. Emissions must be confined in a band of ± 3 kHz about the frequency.
10005 – 10100 kHz	AERONAUTICAL MOBILE (R) 5.111	
10100 – 10150 kHz	FIXED Amateur	
10150 – 11175 kHz	FIXED MOBILE except aeronautical mobile (R)	
11175 – 11275 kHz	AERONAUTICAL MOBILE (OR)	
11275 – 11400 kHz	AERONAUTICAL MOBILE (R)	
11400 – 11600 kHz	FIXED	
11600 – 11650 kHz	BROADCASTING 5.134 5.146	Refer to Article 12 and Resolution 517 (Rev. WRC-07).

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
11650 – 12050 kHz	BROADCASTING 5.147	Fixed services may operate at a minimum power of 24 dBW.
12050 – 12100 kHz	BROADCASTING 5.134 5.146	Refer to Article 12 and Resolution 517 (Rev. WRC-07).
12100 – 12230 kHz	FIXED	
12230 – 13200 kHz	MARITIME MOBILE 5.109 5.110 5.132 5.145	For the use of 12577 kHz, 12520 kHz, 12290 kHz refer to Article 31 and 52 of the ITU RR. 12579 kHz is used for the transmission of maritime safety information (MSI) see Appendix 17 of ITU RR.
13200 – 13260 kHz	AERONAUTICAL MOBILE (OR)	
13260 – 13360 kHz	AERONAUTICAL MOBILE (R)	
13360 – 13410 kHz	FIXED RADIO ASTRONOMY 5.149	Fixed service operators should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
13410 – 13450 kHz	FIXED Mobile except aeronautical mobile (R)	
13450 – 13550 kHz	FIXED Mobile except aeronautical mobile (R) Radiolocation 5.132A	Radiolocation services are limited to oceanographic radars, refer to Resolution 612 (Rev. WRC-12).

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
13550 – 13570 kHz	FIXED Mobile except aeronautical mobile (R) 5.150	Also designated for ISM applications, subject to the provisions of No. 15.13 of the ITU-RR.
13570 – 13600 kHz	BROADCASTING 5.134 5.151	Refer to Article 12 and Resolution 517 (Rev. WRC-07).
13600 – 13800 kHz	BROADCASTING	
13800 – 13870 kHz	BROADCASTING 5.134 5.151	Refer to Article 12 and Resolution 517 (Rev. WRC-07).
13870 – 14000 kHz	FIXED Mobile expect aeronautical mobile (R)	
14000 – 14250 kHz	AMATEUR AMATEUR-SATELLITE	
14250 – 14350 kHz	AMATEUR	
14350 – 14990 kHz	FIXED Mobile except aeronautical mobile (R)	
14990 – 15005 kHz	STANDARD FREQUENCY AND TIME SIGNAL (15 MHz) 5.111	For the use of 14993 kHz refer to Article 31 of the ITU RR. Emissions must be confined in a band of ± 3 kHz about the frequency.
15005 – 15010 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research	
15010 – 15100 kHz	AERONAUTICAL MOBILE (OR)	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
15100 – 15600 kHz	BROADCASTING	
15600 – 15800 kHz	BROADCASTING 5.134 5.146	Refer to Article 12 and Resolution 517 (Rev. WRC-07).
15800 – 16100 kHz	FIXED	
16100 – 16200 kHz	FIXED Radiolocation 5.145A	Radiolocation services are limited to oceanographic radars, refer to Resolution 612 (Rev. WRC-12).
16200 – 16360 kHz	FIXED	
16360 – 17410 kHz	MARITIME MOBILE 5.109 5.110 5.132 5.145	For the use of 16804.5 kHz, 16695 kHz, 16420 kHz refer to Article 31 and 52 of the ITU RR. 16806.5 kHz is used for the transmission of maritime safety information (MSI) see Appendix 17 of ITU RR.
17410 – 17480 kHz	FIXED	
17480 – 17550 kHz	BROADCASTING 5.134 5.146	Refer to Article 12 and Resolution 517 (Rev. WRC-07).
17550 – 17900 kHz	BROADCASTING	
17900 – 17970 kHz	AERONAUTICAL MOBILE (R)	
17970 – 18030 kHz	AERONAUTICAL MOBILE (OR)	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
18030 – 18052 kHz	FIXED	
18052 – 18068 kHz	FIXED Space Research	
18068 – 18168 kHz	AMATEUR AMATEUR – SATELLITE	
18168 – 18780 kHz	FIXED Mobile except aeronautical mobile	
18780 – 18900 kHz	MARITIME MOBILE	
18900 – 19020 kHz	BROADCASTING 5.134 5.146	Refer to Article 12 and Resolution 517 (Rev. WRC-07).
19020 – 19680 kHz	FIXED	
19680 – 19800 kHz	MARITIME MOBILE 5.132	19680.5 kHz is used for the transmission of maritime safety information (MSI) see Appendix 17 of ITU RR.
19800 – 19990 kHz	FIXED	
19990 – 19995 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	For the use of 19993 kHz refer to Article 31 of the ITU RR. Emissions must be confined in a band of ± 3 kHz about the frequency.
19995 – 20010 kHz	STANDARD FREQUENCY AND TIME SIGNAL (20MHz) 5.111	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
20010 – 21000 kHz	FIXED Mobile	
21000 – 21450 kHz	AMATEUR AMATEUR-SATELLITE	
21450 – 21850 kHz	BROADCASTING	
21850 – 21870 kHz	FIXED	
21870 – 21924 kHz	FIXED 5.155B	Used by the fixed service for provision of services related to aircraft flight safety.
21924 – 22000 kHz	AERONAUTICAL MOBILE (R)	
22000 – 22855 kHz	MARITIME MOBILE 5.132	22376 kHz is used for the transmission of maritime safety information (MSI) see Appendix 17 of ITU RR.
22855 – 23000 kHz	FIXED	
23000 – 23200 kHz	FIXED Mobile except aeronautical mobile (R)	
23200 – 23350 kHz	AERONAUTICAL MOBILE (OR) FIXED 5.156A	Used by the fixed service for provision of services related to aircraft flight safety.
23350 – 24000 kHz	FIXED MOBILE except aeronautical mobile 5.157	Maritime mobile service is limited to inter-ship radiotelegraphy.
24000 – 24450 kHz	FIXED LAND MOBILE	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
24450 – 24600 kHz	FIXED LAND MOBILE Radiolocation 5.132A	Radiolocation services are limited to oceanographic radars, refer to Resolution 612 (Rev.WRC-12).
24600 – 24890 kHz	FIXED LAND MOBILE	
24890 – 24990 kHz	AMATEUR AMATEUR-SATELLITE	
24990 – 25005 kHz	STANDARD FREQUENCY AND TIME SIGNAL (25MHz)	
25005 – 25010 kHz	STANDARD FREQUENCY AND TIME SIGNAL Space Research	
25010 – 25070 kHz	FIXED MOBILE except aeronautical mobile	
25070 – 25210 kHz	MARITIME MOBILE	
25210 – 25550 kHz	FIXED MOBILE except aeronautical mobile	
25550 – 25670 kHz	RADIO ASTRONOMY	
25670 – 26100 kHz	BROADCASTING	
26100 – 26175 kHz	MARITIME MOBILE 5.132	26100.5 kHz is used for the transmission of maritime safety information (MSI) see Appendix 17 of ITU RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
26175 – 26200 kHz	FIXED MOBILE except aeronautical mobile	
26200 – 26350kHz	FIXED MOBILE except aeronautical mobile Radiolocation 5.132A	Radiolocation services are limited to oceanographic radars; refer to Resolution 612 (Rev.WRC-12).
26350 – 27500 kHz	FIXED MOBILE except aeronautical mobile 5.150	Also designated for ISM applications, subject to the provisions of No.15.13 of the ITU-RR.
27.5 – 28 MHz	METEOROLOGICAL AIDS FIXED MOBILE	
28 – 29.7 MHz	AMATEUR AMATEUR-SATELLITE	
29.7 – 30.005 MHz	FIXED MOBILE	
30.005 – 30.01 MHz	SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH	
30.01 – 37.5 MHz	FIXED MOBILE	
37.5 – 38.25 MHz	FIXED MOBILE Radio Astronomy 5.149	Fixed and mobile service operators should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
38.25 – 39 MHz	FIXED MOBILE	
39 – 39.5 MHz	FIXED MOBILE Radiolocation 5.132A	Radiolocation services are limited to oceanographic radars, refer to Resolution 612 (Rev.WRC-12).
39.5 – 39.986 MHz	FIXED MOBILE	
39.986 – 40.02 MHz	FIXED MOBILE Space Research	
40.02 – 40.98 MHz	FIXED MOBILE 5.150	Also designated for ISM applications, subject to the provisions of No.15.13 of the ITU-RR.
40.98 – 41.015 MHz	FIXED MOBILE Space Research	
41.015 - 42	FIXED MOBILE	
42 – 42.5 MHz	FIXED MOBILE Radiolocation 5.132A	Radiolocation services are limited to oceanographic radars, refer to Resolution 612 (Rev.WRC-12).

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
42.5 – 47 MHz	FIXED MOBILE	
47 – 68 MHz	BROADCASTING	
68 – 74.8 MHz	FIXED MOBILE except aeronautical mobile	
74.8 – 75.2 MHz	AERONAUTICAL RADIONAVIGATION 5.180	The frequency 75 MHz is assigned to marker beacons, other services should avoid causing harmful interference to it.
75.2 – 87.5 MHz	FIXED MOBILE except aeronautical mobile	
87.5 – 108 MHz	BROADCASTING	Used by Sound Broadcasting Operators.
108 – 117.975 MHz	AERONAUTICAL RADIONAVIGATION 5.197A	Refer to Resolution 413 (Rev.WRC-07).
117.975 - 137 MHz	AERONAUTICAL MOBILE (R) 5.111 5.200	Refer to Article 31 of the ITU RR.
137 - 137.025 MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE(space-to-Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.208	Refer to Resolution 739 (Rev. WRC-07). Mobile-satellite service is limited to non-geostationary-satellite systems. The mobile-satellite service is subject to coordination under No. 9.11A of the ITU-RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
137.025 - 137.175MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.208 Mobile-Satellite (space-to-earth) 5.209 5.208A 5.208B	Refer to Resolution 739 (Rev. WRC-07). Mobile-satellite service is limited to non-geostationary-satellite systems. The mobile-satellite service is subject to coordination under No. 9.11A of the ITU-RR.
137.175 – 137.825MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE(space-to-Earth) 5.209 5.208A 5.208B SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.208	Refer to Resolution 739 (Rev. WRC-07). Mobile-satellite service is limited to non-geostationary-satellite systems. The mobile-satellite service is subject to coordination under No. 9.11A of the ITU-RR.
137.825 – 138 MHz	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.208 Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.209	Refer to Resolution 739 (Rev. WRC-07). Mobile-satellite service is limited to non-geostationary-satellite systems. The mobile-satellite service is subject to coordination under No. 9.11A of the ITU RR.
138 – 144MHz	FIXED MOBILE 5.212	For use by 2-way Radio Networks.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
144 – 146 MHz	AMATEUR AMATEUR-SATELLITE	For use by Amateur Operators.
146 - 174 MHz	FIXED MOBILE except aeronautical mobile 5.221	For use by 2-way Radio Networks.
174 – 230 MHz	BROADCASTING	Used by Analogue Television Broadcasting Operators.
230 - 235 MHz	FIXED MOBILE	
235 - 267 MHz	FIXED MOBILE 5.111 5.254 5.256	For the use of 243 MHz refer to Article 31 of the ITU RR. May be used by the mobile-satellite service, subject to agreement obtained under No. 9.21 of the ITU RR.
267 – 272 MHz	FIXED MOBILE Space Operation (space-to-Earth) 5.254 5.257	Refer to No. 9.21 of the ITU RR.
272 - 273 MHz	SPACE OPERATION (space-to-Earth) FIXED MOBILE 5.254	May be used by the mobile-satellite service, subject to agreement obtained under No. 9.21 of the ITU RR.
273 – 312 MHz	FIXED MOBILE 5.254	May be used by the mobile-satellite service, subject to agreement obtained under No. 9.21 of the ITU RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
312 - 315 MHz	FIXED MOBILE Mobile-Satellite (Earth-to-space) 5.254 5.255	May be used by the mobile-satellite service, subject to agreement obtained under Nos. 9.21 and 9.11A of the ITU RR.
315 - 322 MHz	FIXED MOBILE 5.254	May be used by the mobile-satellite service, subject to agreement obtained under No. 9.21 of the ITU RR.
322 – 328.6 MHz	FIXED MOBILE RADIO ASTRONOMY 5.149	Fixed and Mobile service operators should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
328.6 - 335.4 MHz	AERONAUTICAL RADIONAVIGATION 5.258	Aeronautical radionavigation service is limited to Instrument Landing Systems (glide path).
335.4 - 399.9 MHz	FIXED MOBILE	Used for Studio-Transmitter-Links (STL) and Outside Broadcasting (OB) operations.
399.9 - 400.05 MHz	FIXED MOBILE	
400.05 - 401MHz	FIXED MOBILE 5.262	
401-406MHz	FIXED MOBILE except aeronautical mobile	
406-406.1MHz	MOBILE- SATELLITE(Earth-to-space) 5.266 5.257	Refer to Article 31.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
406.1-410MHz	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	Fixed and Mobile service operators should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
410-420MHz	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 5.268	
420-430MHz	FIXED MOBILE except aeronautical mobile Radiolocation	
430 -440MHz	AMATEUR RADIOLOCATION	
440-450MHz	FIXED MOBILE except aeronautical mobile Radiolocation	
450-470 MHz	FIXED MOBILE 5.286AA	Refer to Resolution 224 (Rev.WRC-07).
470-790MHz	BROADCASTING 5.296 5.312A 5.311A	Land mobile services may also be used on a secondary basis.
790-862MHz	FIXED MOBILE except aeronautical mobile 5.316B 5.317A BROADCASTING 5.316A	825-835 MHz used for IMT services. Refer to Resolutions 224(Rev.WRC-12) & 749 (Rev. WRC-12).

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
862-890MHz	FIXED MOBILE except aeronautical mobile 5.317A	870-880 MHz used for IMT services. Refer to Resolutions 224(Rev.WRC-12) & 749 (Rev. WRC-12).
890-960MHz	FIXED MOBILE except aeronautical mobile 5.317A	Used for IMT services. Refer to Resolutions 224(Rev.WRC-12) & 749 (Rev. WRC-12).
960-1164MHz	AERONAUTICAL MOBILE (R) 5.327A AERONAUTICAL RADIONAVIGATION 5.328	For Aeronautical Mobile (R), refer to Resolution 417 (Rev. WRC-12). 960-1215 MHz is reserved for the operation & development of airborne electronic aids to air navigation and any directly associated ground-based facilities.
1164 – 1215MHz	AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (space-to-earth)(space-to-space) 5.328B 5.328A	960-1215 MHz is reserved for the operation & development of airborne electronic aids to air navigation and any directly associated ground-based facilities, refer to the provisions of No. 21.18 in the ITU RR. For radionavigation satellite services, the provisions of Nos. 9.12, 9.12A & 9.13 of the ITU-RR and Resolution 610(WRC-03) shall apply. For radionavigation-satellite service refer to Resolution 609 (Rev.WRC-07).

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
1215-1300MHz	RADIONAVIGATION 5.331	
1300-1350MHz	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.337 RADIONAVIGATION-SATELLITE (Earth-to-Space) 5.337A 5.149	Restricted to ground-base radars for aeronautical radionavigation services. Service operators should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
1350-1400MHz	FIXED MOBILE RADIOLOCATION 5.149 5.338A 5.339	Service operators should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR. Refer to Resolution 750 (Rev.WRC-12).
1400-1427MHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	
1427-1429MHz	SPACE OPERATION(Earth-to-space) FIXED MOBILE except aeronautical mobile 5.338A 5.341	Refer to Resolution 750 (Rev.WRC-12).
1429-1452MHz	FIXED MOBILE except aeronautical mobile 5.338A 5.341	Refer to Resolution 750 (Rev.WRC-12).
1452-1492MHz	FIXED MOBILE except aeronautical mobile BROADCASTING-SATELLITE 5.208B 5.341 5.345	Refer to Resolution 739 (Rev. WRC-07).

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
1492-1518MHZ	FIXED MOBILE except aeronautical mobile 5.341	
1518 – 1525MHz	FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348 5.351A 5.341	Mobile satellite services shall not claim protection from the fixed service. Refer to No. 9.11A of the ITU RR & Resolutions 212 (Rev. WRC-07) & 225(Rev. WRC-07).
1525-1530MHz	SPACE OPERATION(space-to-Earth) FIXED MOBILE- SATELLITE(space-to-Earth) 5.208B 5.351A Earth exploration-satellite Mobile except aeronautical mobile 5.341 5.351 5.354	Refer to Resolution 739 (Rev. WRC-07). For mobile satellite services see Resolutions 212 (Rev.WRC-07) and 225 (Rev.WRC-07). 1525-1544 MHz shall not be used for feeder links of any service. Mobile satellite service is subject to coordination under No. 9.11A.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
1530-1535MHz	SPACE OPERATION(space-to-Earth) MOBILE- SATELLITE(space-to-Earth) 5.208B 5.351A 5.353A Earth exploration-satellite Fixed Mobile except aeronautical mobile 5.341 5.351 5.354	Refer to Resolution 739 (Rev. WRC-07). For mobile satellite services see Resolutions 212, 225(Rev.WRC-07) and 222 (Rev.WRC-2000). 1525-1544 MHz shall not be used for feeder links of any service. Mobile satellite service is subject to coordination under No. 9.11A.
1535-1559MHz	MOBILE- SATELLITE (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.354 5.353A 5.356 5.357 5.357A	Refer to Resolution 739 (Rev. WRC-07). For mobile satellite services see Resolutions 212, 225(Rev.WRC-07) and 222 (Rev.WRC-2000). Mobile satellite service is subject to coordination under No. 9.11A. 1525-1544 MHz & 1545-1559 shall not be used for feeder links of any service. For the use of 1544-1545 MHz refer to Article 31 and 44. Transmissions in 1545-1555 MHz by terrestrial

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		aeronautical stations can be used to extend or supplement the satellite-to-aircraft links.
1559-1610MHz	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth)(space-to-space) 5.208B 5.328B 5.329A 5.341	Refer to Resolution 739 (Rev. WRC-07). For radionavigation satellite services, the provisions of Nos. 9.12, 9.12A & 9.13 of the ITU-RR and Resolution 610(WRC-03) shall apply.
1610-1610.6MHz	MOBILE- SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION 5.341 5.364 5.366 5.367 5.368 5.371 5.372	For mobile satellite services see Resolutions 212 & 225(Rev.WRC-07). Refer to Nos.9.11A, 5.366 & 5.359 of ITU RR. For the use of 1610 – 1626.5 MHz, refer to No. 9.21 of the ITU RR.
1610.6-1613.8MHz	MOBILE- SATELLITE (Earth-to-space) 5.351A RADIO-ASTRONOMY AERONAUTICAL RADIONAVIGATION 5.149 5.341 5.364 5.366 5.367 5.368 5.371 5.372	For mobile satellite services see Resolutions 212 & 225(Rev.WRC-07). Refer to Nos.9.11A, 5.366 & 5.359 of ITU RR. For the use of 1610 – 1626.5 MHz, refer to No. 9.21 of the ITU RR. Mobile satellite and aeronautical radionavigation services should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
1613.8-1626.5MHz	MOBILE- SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION Mobile- satellite (space-to-Earth) 5.208B 5.341 5.364 5.365 5.366 5.367 5.368 5.372	For mobile satellite services see Resolutions 212 & 225(Rev.WRC-07). Refer to Nos.9.11A, 5.366 & 5.359 of ITU RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		<p>For the use of 1610 – 1626.5 MHz, refer to No. 9.21 of the ITU RR.</p> <p>Refer to Resolution 739 (Rev. WRC-07).</p>
1626.5-1660MHz	MOBILE- SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.357A 5.375 5.376	<p>For mobile satellite services see Resolutions 212, 225(Rev.WRC-07) and 222 (Rev.WRC-2000).</p> <p>1626.5-1646.5 MHz shall not be used for feeder links of any service.</p> <p>1626.5 – 1660.5 MHz is subject to coordination under No. 9.11A.</p> <p>For the use of 1645.5-1646.5 MHz refer to Article 31.</p> <p>Transmissions in 1646.5-1656.5 MHz by terrestrial aeronautical stations can be used to extend or supplement the satellite-to-aircraft links.</p>
1660-1660.5MHz	MOBILE- SATELLITE (Earth-to-space) 5.351A RADIO-ASTRONOMY 5.149 5.341 5.351 5.354 5.376A	<p>For mobile satellite services see Resolutions 212 (Rev.WRC-07) and 225 (Rev.WRC-07).</p> <p>Mobile satellite services should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		<p>1660.5 MHz shall not be used for feeder links of any service.</p> <p>Mobile satellite service is subject to coordination under No. 9.11A.</p> <p>Mobile earth station shall not cause harmful interference to the radio astronomy service.</p>
1660.5-1668MHz	RADIO-ASTRONOMY SPACE RESEARCH(passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379A	<p>Space research, fixed and mobile except aeronautical mobile services should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.</p> <p>Meteorological aids services operating in 1664.4-1668.4 MHz should avoid using it for air-to-ground transmissions.</p>
1668 – 1668.4MHz	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	<p>For mobile satellite services see Resolutions 212 (Rev.WRC-07) and 225 (Rev.WRC-07).</p> <p>Refer to Resolution 904 (WRC-07).</p> <p>To protect the radio astronomy service the aggregate power flux density by the mobile earth stations should not exceed -181 dB(W/m²) in 10 MHz & -194 dB(W/m²) in 20kHz.</p> <p>Mobile satellite, space research, fixed and mobile except aeronautical mobile should refer</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		<p>to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.</p> <p>Meteorological aids services operating in 1664.4-1668.4 MHz should avoid using it for air-to-ground transmissions.</p>
1668.4-1670MHz	<p>METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 5.351A, 5.379B, 5.379C RADIO-ASTRONOMY 5.149, 5.341, 5.379D, 5.379E</p>	<p>For mobile satellite services see Resolutions 212 (Rev.WRC-07) and 225 (Rev.WRC-07).</p> <p>The use of 1668-1675 MHz by the Mobile satellite service is subject to coordination under No. 9.11A.</p> <p>To protect the radio astronomy service the aggregate power flux density by the mobile earth stations should not exceed -181 dB(W/m²) in 10 MHz & -194 dB(W/m²) in 20kHz.</p> <p>Meteorological Aids, Fixed, Mobile except aeronautical mobile and mobile satellite services should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.</p> <p>The use of 1668-1675 MHz by the Mobile satellite service is subject to coordination under No. 9.11A.</p> <p>For sharing of 1668.4-1670 MHz between the mobile satellite service & the fixed and mobile</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		services see Resolution 744 (Rev WRC-07).
1670-1675MHz	METEOROLOGICAL AIDS FIXED METEOROLOGICAL- SATELLITE(space-to-Earth) MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.341 5.379D 5.379E 5.380A	For mobile satellite services see Resolutions 212 (Rev.WRC-07) and 225 (Rev.WRC-07). The use of 1668-1675 MHz by the Mobile satellite service is subject to coordination under No. 9.11A. For sharing of 1668.4-1670 MHz between the mobile satellite service & the fixed and mobile services see Resolution 744 (Rev WRC-07).
1675-1690MHz	METEOROLOGICAL AIDS FIXED METEOROLOGICAL- SATELLITE(space-to-Earth) Mobile except aeronautical mobile 5.341	
1690-1700MHz	METEOROLOGICAL AIDS METEOROLOGICAL- SATELLITE(space-to-Earth) Fixed Mobile except aeronautical mobile 5.289 5.341	Earth Exploration satellite can also be used for space-to-earth transmissions provided it does not cause harmful interference to other services in this band.
1700 - 1710 MHz	FIXED METEOROLOGICAL-SATELLITE (space- to-earth) MOBILE except aeronautical mobile 5.289 5.341	Earth Exploration satellite can also be used for space-to-earth transmissions provided it does not cause harmful interference to other services in this band.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
1710 - 1980 MHz	FIXED MOBILE 5.384A 5.388B 5.388	Assigned to the mobile operators. HAPS operating as an IMT base station in neighbouring countries shall not exceed a co-channel power flux-density of -127 dB (W/m ²) See Resolution 212 (Rev.WRC-07) & Resolution 223 (Rev.WRC-07).
1980 - 2010 MHz	FIXED MOBILE MOBILE-SATELLITE (earth-to-space) 5.351A 5.388 5.389A	For mobile satellite services see Resolutions 212 (Rev.WRC-07) and 225 (Rev.WRC-07). See Resolution 223 (Rev. WRC-07). The Mobile satellite service is subject to coordination under No. 9.11A & Resolution 716 (Rev. WRC-2000).
2010 - 2025 MHz	FIXED MOBILE 5.388B 5.388	HAPS operating as an IMT base station in neighbouring countries shall not exceed a co-channel power flux-density of -127 dB (W/m ²). See Resolution 212 (Rev.WRC-07) & Resolution 223 (Rev.WRC-07).
2025 - 2110 MHz	SPACE OPERATION (earth-space) (space-space) EARTH EXPLORATION-SATELLITE (earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (earth-space) (space-space) 5.392	For mobile services, refer to Recommendation ITU-R SA. 1154. Space-space transmissions between two or more non-geostationary satellite service shall not impose any constraints on Earth-space, space – Earth and other space-space transmissions of the spce operation, space research and the earth

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		exploration satellite service.
2110 - 2170 MHz	FIXED MOBILE 5.388B 5.388	HAPS operating as an IMT base station in neighbouring countries shall not exceed a co-channel power flux-density of -127 dB (W/m ²). See Resolution 212 (Rev.WRC-07) & Resolution 223 (Rev.WRC-07).
2170 - 2200 MHz	FIXED MOBILE MOBILE- SATELLITE (space-earth) 5.351A 5.388 5.389A	For mobile satellite services see Resolutions 212 (Rev.WRC-07) and 225 (Rev.WRC-07). See Resolution 223 (Rev. WRC-07). The Mobile satellite service is subject to coordination under No. 9.11A & Resolution 716 (Rev. WRC-2000).
2200 - 2290 MHz	SPACE OPERATION (space-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	For mobile services, refer to Recommendation ITU-R SA. 1154. Space-space transmissions between two or more non-geostationary satellite services shall not impose any constraints on Earth-space, space – Earth and other space-space transmissions of the spce operation, space research and the earth exploration satellite service.
2290 - 2300 MHz	FIXED MOBILE except aeronautical mobile	
2300 – 2450 MHz	FIXED MOBILE 5.384A	Used by Internet and Data Service Providers. For IMT services in 2300-2400 MHz, see

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	5.150	Resolution 223 (Rev. WRC-07). The frequency 2400-2483.5 MHz is designated for ISM applications, subject to the provisions of No.15.13 of the ITU-RR.
2450 – 2483.5 MHz	FIXED MOBILE 5.150	Designated for ISM applications, subject to the provisions of No.15.13 of the ITU-RR.
2483.5 - 2500 MHz	FIXED MOBILE	
2500 - 2690 MHz	FIXED MOBILE except aeronautical mobile 5.384A	Used by Broadband Wireless Access (BWA) Operators.
2690 - 2700 MHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	
2700 - 2900 MHz	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423	Use by aeronautical radionavigation services is restricted to ground based radars & to associated air-borne transponders. Also authorized for Ground base radars used for meteorological purposes.
2900 - 3100 MHz	RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 5.427	Radionavigation services using radar systems are protected. The aeronautical radionavigation service is

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		<p>limited to ground-base radars.</p> <p>2930-2950 MHz is allocated for shipborne interrogator-transponder.</p> <p>The radiolocation service shall not cause harmful interference to the radionavigation service.</p>
3100 - 3300 MHz	RADIOLOCATION Earth Exploration-Satellite Space Research (Active)	
3300 - 3400 MHz	FIXED MOBILE except aeronautical mobile	Used by Internet and Data Service Providers.
3400 - 3600 MHz	FIXED FIXED-SATELLITE (space-earth) Mobile 5.430A 5.431	<p>Used by Internet and Data Service Providers. A base or mobile station in the mobile service shall ensure that the power flux density produced at 3m above ground does not exceed - 154.5 dB(W/m² – 4kHz) at the border.</p> <p>Fixed and mobile service operators should coordinate their use with the satellite service providers. See Nos. 9.17 and 9.18.</p>
3600 - 4200 MHz	FIXED FIXED-SATELLITE (space-earth) Mobile	<p>Used by Internet and Data Service Providers.</p> <p>Fixed and mobile service operators should coordinate their use with the satellite service providers. See Nos. 9.17 and 9.18.</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
4200 - 4400 MHz	AERONAUTICAL RADIONAVIGATION 5.438 5.440	
4400 - 4500 MHz	FIXED MOBILE	
4500 - 4800 MHz	FIXED FIXED-SATELLITE (space-Earth) 5.441 MOBILE	For fixed-satellite services refer to Appendix 30B.
4800 - 4990 MHz	FIXED MOBILE Radio Astronomy 5.149 5.339	Fixed and mobile services should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR. 4950-4990 MHz is also allocated to space research (passive) and earth exploration-satellite (passive) services on a secondary basis.
4990 - 5000 MHz	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space Research (passive) 5.149	Fixed and mobile except aeronautical mobile services should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
5000 – 5010 MHz	AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (Earth-to-space)	The aeronautical mobile-satellite service is subject to agreement obtained under No. 9.21 of the ITU-RR.
5010 – 5030 MHz	AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-earth) (space-to-space)	The aeronautical mobile-satellite service is subject to agreement obtained under No. 9.21 of the ITU-RR. For radionavigation satellite services, the

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	5.328B 5.443B	<p>provisions of Nos. 9.12, 9.12A & 9.13 of the ITU-RR and Resolution 610(WRC-03) shall apply.</p> <p>Radionavigation satellite service system shall not exceed -124.5 dB(W/m²) in a 150 kHz band to avoid harmful interference to the microwave landing system operating above 5030 MHz.</p>
5030 – 5091 MHz	<p>AERONAUTICAL MOBILE (R) 5.443C AERONAUTICAL MOBILE-SATELLITE (R) 5.443D AERONAUTICAL RADIO NAVIGATION 5.444</p>	<p>The aeronautical mobile (R) service is limited to internationally standardized aeronautical systems. Unwanted emissions of this service should not exceed -75 dBW/MHz.</p> <p>The aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems & is subject to coordination under No. 9.11A.</p> <p>International standard system (Microwave landing system) would have priority. For the use of 5091-5150 MHz, see No. 5.444A & Resolution 114 (Rev.WRC-12).</p>
5091- 5150 MHz	<p>AERONAUTICAL MOBILE 5.444B AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION 5.444 5.444A</p>	<p>For use by aeronautical mobile service, see No.1.83 of Resolution 418(Rev.WRC-12) & Resolution 748 (Rev.WRC-12).</p> <p>The aeronautical mobile-satellite service is subject to agreement obtained under No. 9.21 of the ITU-RR.</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		<p>International standard system (Microwave landing system) would have priority. For the use of 5091-5150 MHz, see No. 5.444A & Resolution 114 (Rev.WRC-12).</p> <p>Also allocated to the fixed satellite service (Earth-to-space) on a primary basis & is subject to coordination under No. 9.11A.</p>
5150- 5250 MHz	FIXED MOBILE except aeronautical mobile	Designated for ISM applications, subject to the provisions of No.15.13 of the ITU-RR. Maximum E.I.R.P. should be 200mW. For Indoor operations.
5250- 5350 MHz	FIXED MOBILE except aeronautical mobile	Designated for ISM applications, subject to the provisions of No.15.13 of the ITU-RR. Maximum E.I.R.P. should be 200mW. For Indoor operations.
5350- 5470 MHz	EARTH EXPLORATION- SATELLITE (active) 5.448B RADIOLOCATION 5.448D RADIONAVIGATION 5.449 SPACE RESEARCH (active) 5.448C	<p>Radar systems in the aeronautical radionavigation service are protected in accordance with No. 5.449 of the ITU-RR.</p> <p>Space research service in 5350-5460MHz shall not cause harmful interference to, nor claim protection from other services.</p>
5470 – 5725 MHz	FIXED MOBILE except aeronautical mobile 5.446A	Designated for ISM applications, subject to the provisions of No.15.13 of the ITU-RR. Maximum E.I.R.P. should be 1W. Used for both indoor and outdoor applications.
5725 – 5830 MHz	FIXED MOBILE except aeronautical mobile 5.446A	Designated for ISM applications, subject to the provisions of No.15.13 of the ITU-RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		Maximum E.I.R.P. should be 4W.
5830 – 5850 MHz	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur-Satellite (space-to-Earth)	
5850 – 5925 MHz	FIXED FIXED-SATELLITE (Earth-to-space)	
5925 – 6700 MHz	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A	5925 – 6425 MHz is designated for long haul fixed links.
6700 – 7075 MHz	FIXED FIXED-SATELLITE (earth-to-space) (space-to-earth) 5.441	5925 – 6425 MHz & 6425 – 7110 MHz are designated for long haul fixed links.
7075 – 7145 MHz	FIXED	7110 - 7750 MHz is designated for long haul fixed links.
7145 – 7235 MHz	FIXED SPACE RESEARCH (earth-space) 5.460	7110 - 7750 MHz is designated for long haul fixed links.
7235- 7250 MHz	FIXED	7110 - 7750 MHz is designated for long haul fixed links.
7250 – 7300 MHz	FIXED	7110 - 7750 MHz is designated for long haul fixed links.
7300 – 7450 MHz	FIXED FIXED-SATELLITE (space-earth)	7110 - 7750 MHz is designated for long haul fixed links.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
7450 – 7550 MHz	FIXED FIXED-SATELLITE (space-earth)	7110 - 7750 MHz is designated for long haul fixed links.
7550 – 7750 MHz	FIXED FIXED-SATELLITE (space-earth)	7110 - 7750 MHz & 7725 – 8275 MHz is designated for long haul fixed links. See Recommendation ITU-R F.386.
7750 -7900 MHz	FIXED	7725 – 8275 MHz is designated for long haul fixed links. See Recommendation ITU-R F.386.
7900 – 8025 MHz	FIXED FIXED-SATELLITE (earth-space)	7725 – 8275 MHz is designated for long haul fixed links. See Recommendation ITU-R F.386.
8025- 8175 MHz	FIXED FIXED-SATELLITE (earth-space)	7725 – 8275 MHz is designated for long haul fixed links. See Recommendation ITU-R F.386.
8175 -8215 MHz	FIXED FIXED-SATELLITE (earth-space)	7725 – 8275 MHz is designated for long haul fixed links. See Recommendation ITU-R F.386.
8215 – 8400 MHz	FIXED FIXED-SATELLITE (earth-to- space)	7725 – 8275 MHz & 8275 – 8500 MHz is designated for long haul fixed links. See Recommendation ITU-R F.386.
8400 – 8500 MHz	FIXED	8275 – 8500 MHz is designated for long haul fixed links. See Recommendation ITU-R F.386.
8500 – 8550 MHz	RADIOLOCATION	
8550 – 8650 MHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.469A	The earth exploration satellite and the space research services should not cause harmful interference to the radiolocation service.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
8650 – 8750 MHz	RADIOLOCATION	
8750 – 8850 MHz	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470	The aeronautical radionavigation service is limited to airborne Doppler navigation aids on a centre frequency of 8800 MHz.
8850 – 9000 MHz	RADIOLOCATION MARITIME RADIONAVIGATION 5.472	The maritime radionavigation service is limited to shore-based radars.
9000 – 9200 MHz	AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION 5.473A	Use by aeronautical radionavigation services is restricted to ground based radars & to associated air-borne transponders. The radiolocation service shall not cause harmful interference to the radionavigation service.
9200 – 9300 MHz	RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.474	The maritime radionavigation service is limited to shore-based radars. Search & rescue transponders (SART) may be used, refer to Article 31.
9300 – 9500 MHz	EARTH EXPLORATION SATELLITE (active) SPACE RESEARCH (active) RADIONAVIGATION RADIOLOCATION 5.427 5.474 5.475 5.475A 5.475B 5.476A	The radiolocation service shall not cause harmful interference to the radionavigation service. Search & rescue transponders (SART) may be used, refer to Article 31. Aeronautical radionavigation service is limited to airborne weather radars & ground-based

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		<p>radars.</p> <p>The earth exploration-satellite service (active) & the space research service (active) is limited to systems requiring necessary bandwidth greater than 300 MHz that cannot be fully accommodated within the 9500-9800 MHz band.</p> <p>The earth exploration satellite & space research (active) shall not cause harmful interference to the radionavigation and radiolocation services.</p>
9500- 9800 MHz	EARTH EXPLORATION-SATELLITE RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.476A	The earth exploration satellite & space research (active) shall not cause harmful interference to the radionavigation and radiolocation services.
9800 – 9900 MHz	RADIOLOCATION Earth exploration-satellite (active) Space research (active) Fixed 5.478A 5.478B	<p>The earth exploration-satellite service (active) & the space research service (active) is limited to systems requiring necessary bandwidth greater than 500 MHz that cannot be fully accommodated within the 9300-9800 MHz band.</p> <p>The earth exploration satellite service (active) & the space research service (active) shall not cause harmful interference to the fixed service.</p>
9900 – 10000MHz	RADIOLOCATION Fixed 5.479	9975 – 10025MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
10-10.45 GHz	FIXED MOBILE RADIOLOCATION Amateur 5.479	9.975-10.025 GHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars. 10.15 – 10.30 GHz is designated for point-multipoint services.
10.45-10.5 GHz	RADIOLOCATION Amateur Amateur Satellite	
10.5-10.55 GHz	FIXED	10.50 – 10.68 GHz is designated for point-multipoint services.
10.55-10.6 GHz	FIXED MOBILE except aeronautical mobile	10.50 – 10.68 GHz is designated for point-multipoint services.
10.6-10.68 GHz	FIXED	10.50 – 10.68 GHz is designated for point-multipoint services.
10.68-10.7 GHz	EARTH EXPLORATION SATELLITE(passive) RADIO ASTRONOMY SPACE RESEARCH(passive)	
10.7-11.7 GHz	FIXED FIXED-SATELLITE (Earth-Space) (Space-Earth) 5.441, 5.484, 5.484A	Used for point –point fixed links. The fixed-satellite service (Earth-to-space) is limited to feeder links for broadcasting-satellite service.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	MOBILE except aeronautical mobile	
11.7-12.5 GHz	FIXED BROADCASTING BROADCASTING-SATELLITE 5.492 MOBILE except aeronautical 5.487 5.487A	Other services in this band shall not cause harmful interference to the broadcasting satellite service. Fixed satellite services (space-to-Earth) can also be operated on a primary basis.
12.5-12.75 GHz	FIXED MOBILE except aeronautical mobile FIXED SATELLITE(Earth-to- Space) (Space-to-Earth)5.484A 5.494	
12.75-13.25 GHz	FIXED FIXED-SATELLITE 5.441 (Earth-Space) MOBILE Space Research (deep space) (Space-to-Earth)	Used for point –point fixed links.
13.25-13.4 GHz	AERONAUTICAL RADIONAVIGATION 5.497 EARTH EXPLORATION SATELLITE (active) SPACE RESEARCH (active) 5.498A	Aeronautical radionavigation service is limited to Doppler navigation aids. The earth exploration satellite service (active) & the space research service (active) shall not cause harmful interference to the aeronautical radionavigation service.
13.4-13.75 GHz	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A Standard Frequency and Time Signal-Satellite (Earth – to- space)	Space research services is limited to active spaceborne sensors. The earth exploration satellite service (active) & the space research service (active) shall not

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		cause harmful interference to the radiolocation service.
13.75- 14 GHz	FIXED- SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Standard Frequency and Time Signal- satellite(Earth-to-space) Space Research Earth Exploration Satellite 5.502 5.503	For fixed satellite services using non-geostationary systems refer to No. 9.12.
14-14.3 GHz	FIXED- SATELLITE (Earth-to-Space) 5.457A 5.457B 5.484A 5.506 RADIONAVIGATION 5.504 Mobile satellite (earth –to-Space) 5.504B 5.506A Space Research 5.504A	For fixed satellite services see Resoultion 902 (WRC-03). For fixed satellite service using non-geostationary systems refer to No. 9.12. 14-14.5 GHz may be used as feeder links for the broadcasting satellite service subject to coordination with other networks in the fixed satellite service. Radionavigation service shall provide sufficient protection to space stations of the fixed-satellite service. Aeronautical mobile satellite service operating in the band 14 – 14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M. 1643. For ship earth stations refer to Resolution 902

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		<p>(WRC-03).</p> <p>In 14-14.5 GHz, aircraft earth stations in the aeronautical mobile satellite service may communicate with space stations in the fixed satellite service, see Nos. 5.29, 5.30 & 5.31.</p>
14.3-14.4 GHz	<p>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)except aeronautical mobile-satellite 5.504B 5.506A Radionavigation-satellite 5.504A</p>	<p>For ship earth stations refer to Resolution 902 (WRC-03).</p> <p>For fixed satellite services using non-geostationary systems refer to No. 9.12.</p> <p>14-14.5 GHz may be used as feeder links for the broadcasting satellite service subject to coordination with other networks in the fixed satellite service.</p> <p>Aeronautical mobile satellite service operating in the band 14 – 14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M. 1643.</p> <p>For ship earth stations refer to Resolution 902 (WRC-03).</p> <p>In 14-14.5 GHz, aircraft earth stations in the aeronautical mobile satellite service may communicate with space stations in the fixed satellite service, see Nos. 5.29, 5.30 & 5.31.</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
14.4-14.47 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 Space Research (space-to-Earth) 5.504A	<p>For ship earth stations refer to Resolution 902 (WRC-03).</p> <p>For fixed satellite services using non-geostationary systems refer to No. 9.12.</p> <p>14-14.5 GHz may be used as feeder links for the broadcasting satellite service subject to coordination with other networks in the fixed satellite service.</p> <p>Aeronautical mobile satellite service operating in the band 14 – 14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M. 1643.</p> <p>For ship earth stations refer to Resolution 902 (WRC-03).</p> <p>In 14-14.5 GHz, aircraft earth stations in the aeronautical mobile satellite service may communicate with space stations in the fixed satellite service, see Nos. 5.29, 5.30 & 5.31.</p>
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	<p>For ship earth stations refer to Resolution 902 (WRC-03).</p> <p>For fixed satellite services using non-geostationary systems refer to No. 9.12.</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	Mobile satellite (Earth-to-space) 5.504B 5.506A Radio Astronomy 5.149 5.504A	<p>14-14.5 GHz may be used as feeder links for the broadcasting satellite service subject to coordination with other networks in the fixed satellite service.</p> <p>Aeronautical mobile satellite service operating in the band 14 – 14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M. 1643.</p> <p>Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.</p> <p>In 14-14.5 GHz, aircraft earth stations in the aeronautical mobile satellite service may communicate with space stations in the fixed satellite service, see Nos. 5.29, 5.30 & 5.31.</p>
14.5-15.35 GHz	FIXED MOBILE	14.5 – 15.35 GHz is designated for point-point fixed links. See Recommendation ITU-R F.636.
15.35-15.4 GHz	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	
15.4 – 15.43 GHz	RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511D	<p>Radiolocation services shall not cause harmful interference to aeronautical radionavigation services.</p> <p>Radiolocation stations operating in 15.4-15.7</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		<p>GHz shall not exceed the power flux-density level of -156 dB(W/m²) in a 50MHz bandwidth in order to protect the radioastronomy service in 15.35-15.4 GHz.</p> <p>Emissions from non-geostationary satellite shall not exceed -146 dB (W/(m² – MHz)).</p>
15.43- 15.63 GHz	FIXED-SATELLITE (space –to- Earth) 5.511A RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511C	<p>The fixed-satellite service (space-to-Earth) (Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile satellite service subject to coordination under 9.11A.</p> <p>Radiolocation services shall not cause harmful interference to aeronautical radionavigation services.</p> <p>Radiolocation stations operating in 15.4-15.7 GHz shall not exceed the power flux-density level of -156 dB(W/m²) in a 50MHz bandwidth in order to protect the radioastronomy service in 15.35-15.4 GHz.</p> <p>For aeronautical radionavigation, see ITU-R S.1340.</p>
15.63-15.7 GHz	RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIO NAVIGATION 5.511D	<p>Radiolocation services shall not cause harmful interference to aeronautical radionavigation services.</p> <p>Radiolocation stations operating in 15.4-15.7</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		<p>GHz shall not exceed the power flux-density level of -156 dB(W/m²) in a 50MHz bandwidth in order to protect the radioastronomy service in 15.35-15.4 GHz.</p> <p>Emissions from non-geostationary satellite shall not exceed -146 dB (W/(m² – MHz)).</p>
15.7-16.6 GHz	RADIOLOCATION	
16.6-17.1 GHz	RADIOLOCATION Space Research(deep space) (Earth to-space)	
17.1- 17.2 GHz	RADIOLOCATION	
17.2- 17.3 GHz	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.513A	Space borne active sensors shall not cause harmful interference to the radiolocation and other services allocated on a primary basis.
17.3-17.7 GHz	FIXED-SATELLITE (Earth-to- space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation	<p>For fixed satellite services refer to No. 9.12 of the ITU-R.</p> <p>Earth stations of the fixed satellite service shall not claim protection from feeder links of the Broadcasting satellite service.</p>
17.7-18.1 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth- to- space) 5.516 MOBILE	<p>Designated for point-point fixed links. See Recommendation ITU-R F.595.</p> <p>For fixed satellite services using non-geostationary systems refer to No. 9.12.</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
18.1- 18.4 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B (Earth- to- space) 5.520 MOBILE 5.519	<p>Designated for point-point fixed links. See Recommendation ITU-R F.595.</p> <p>For fixed satellite service using non-geostationary systems refer to No. 9.12.</p> <p>The fixed satellite service is limited to feeder links of geostationary-satellite systems in the broadcasting satellite service.</p> <p>Also allocated on a primary basis to the meteorological satellite service using geostationary satellite.</p>
18.4-18.6 GHz	FIXED FIXED-SATELLITE 5.484A (space-to-Earth) MOBILE	<p>Designated for point-point fixed links. See Recommendation ITU-R F.595.</p> <p>For fixed satellite services using non-geostationary systems refer to No. 9.12.</p>
18.6-18.8 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except aeronautical mobile 5.522A	<p>Designated for point-to-point fixed links. See Recommendation ITU-R F.595.</p> <p>Fixed satellite service is limited to geostationary systems & systems with an orbit of apogee greater than 20,000 km.</p> <p>For emission values of the fixed service & fixed satellite service refer to Nos. 21.5A & 21.16.2 of the ITU-RR.</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
18.8-19.3 GHz	FIXED FIXED-SATELLITE (space-to-Earth) 5.523A MOBILE	Designated for point-to-point fixed links. See Recommendation ITU-R F.595. For fixed satellite services refer to No. 9.11A of the ITU-RR.
19.3-19.7 GHz	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B 5.523C 5.523D 5.523E MOBILE	Designated for point-to-point fixed links. See Recommendation ITU-R F.595. Fixed satellite services is limited to feeder links for non-geostationary satellite systems in the mobile satellite service. see No. 9.11A.
19.7-20.1 GHz	FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B Mobile-Satellite (space-to-Earth)	For fixed satellite services using non-geostationary systems refer to No. 9.12.
20.1-20.2 GHz	FIXED-SATELLITE(space-to-Earth) 5.484A 5.516B MOBILE-SATELLITE(space-to-Earth) 5.525 5.526 5.527 5.528	For fixed satellite services using non-geostationary systems refer to No. 9.12.
20.2-21.2 GHz	FIXED-SATELLITE(space-to-Earth) MOBILE-SATELLITE(space-to-Earth) Standard Frequency and Time Signal (space-to-Earth)	
21.2-21.4 GHz	FIXED MOBILE EARTH EXPLORATION SATELLITE(passive) SPACE RESEARCH(passive)	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
21.4-22 GHz	FIXED MOBILE BROADCASTING-SATELLITE 5.208B 5.530A 5.530B 5.530C 5.530D	Refer to Resolution 555 & 755 (WRC-12). For broadcasting-satellite services refer to Resolution 739 (Rev.WRC). Fixed & Mobile services shall not produce a power flux density in excess of -120.4 dB (W/(m ² -MHz)) at 3m above the ground.
22-22.21 GHz	FIXED MOBILE except aeronautical mobile 5. 149	Designated for point-to-point fixed links. See Recommendation ITU-R F.637. Allocated services should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
22.21-22.5 GHz	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	Designated for point-to-point fixed links. See Recommendation ITU-R F.637. Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
22.5 - 22.55 GHz	FIXED MOBILE	Designated for point-to-point fixed links. See Recommendation ITU-R F.637.
22.55 – 23.55 GHz	FIXED INTER-SATELLITE 5.338A MOBILE	Designated for point-to-point fixed links. See Recommendation ITU-R F.637. See Resolution 750.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
23.55 - 23.6 GHz	FIXED MOBILE	Designated for point-to-point fixed links. See Recommendation ITU-R F.637.
23.6-24 GHz	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	
24-24.05 GHz	AMATEUR AMATEUR-SATELLITE 5.150	Designated for ISM applications, subject to the provisions of No.15.13 of the ITU-RR.
24.05-24.25 GHz	RADIOLOCATION Amateur Earth Exploration-satellite (active) 5.150	Designated for ISM applications, subject to the provisions of No.15.13 of the ITU-RR.
24.25-24.45 GHz	FIXED	
24.45-24.65 GHz	FIXED INTER-SATELLITE	24.5-26.5 GHz is designated for point-to-multipoint links. See Recommendation ITU-R F.748 Annex 1.
24.65-24.75 GHz	FIXED FIXED SATELLITE (Earth-to-space) 5.532B INTER-SATELLITE	24.5-26.5 GHz is designated for point-to-multipoint links. See Recommendation ITU-R F.748 Annex 1. The fixed satellite service (Earth-to-space) is limited to earth stations using a minimum antenna diameter of 4.5m.
24.75-25.25 GHz	FIXED FIXED SATELLITE (Earth-to-space) 5.532B	24.5-26.5 GHz is designated for point-to-multipoint links. See Recommendation ITU-R

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		<p>F.748 Annex 1.</p> <p>The fixed satellite service (Earth-to-space) is limited to earth stations using a minimum antenna diameter of 4.5m.</p>
25.25-25.5 GHz	<p>FIXED INTER-SATELLITE 5.536 MOBILE Standard Frequency and Time Signal-satellite (Earth-to-space)</p>	<p>24.5-26.5 GHz is designated for point-to-multipoint links. See Recommendation ITU-R F.748 Annex 1.</p>
25.5-27 GHz	<p>FIXED INTER-SATELLITE 5.536 MOBILE EARTH EXPLORATION-SATELLITE (space-to-Earth) SPACE RESEARCH Standard Frequency and Time Signal-satellite (Earth-to-space) 5.536A</p>	<p>24.5-26.5 GHz is designated for point-to-multipoint links. See Recommendation ITU-R F.748 Annex 1.</p> <p>The Earth exploration satellite service & the space research service shall not claim protection from stations in the fixed & mobile service. Also see Recommendation ITU-R SA.1862.</p>
27-27.5 GHz	<p>FIXED INTER-SATELLITE 5.536 MOBILE</p>	
27.5-28.5 GHz	<p>FIXED FIXED-SATELLITE(Earth-to-space) 5.484A 5.516B 5.539 MOBILE 5.538 5.540</p>	<p>Designated for point-to-multipoint links. See Recommendation ITU-R F.748 Annex 2. For fixed satellite services using non-geostationary systems refer to No. 9.12.</p> <p>Fixed satellite service (space-to-Earth) is also allocated in 27.500-27.501 GHz. Transmissions</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		<p>shall not exceed an e.i.r.p of +10 dBW.</p> <p>27.5-30 GHz may be used by the fixed satellite service (Earth-to-space) for feeder links for the Broadcast satellite service.</p>
28.5 – 29.1 GHz	<p>FIXED FIXED- SATELLITE (Earth-to-space) 5.484A 5.516B 5.523A 5.539 MOBILE Earth Exploration-Satellite (Earth-to-space) 5.541 5.540</p>	<p>Designated for point-to-multipoint links. See Recommendation ITU-R F.748 Annex 2.</p> <p>For fixed satellite services using non-geostationary systems refer to No. 9.12.</p> <p>27.5-30 GHz may be used by the fixed satellite service (Earth-to-space) for feeder links for the Broadcast satellite service.</p>
29.1– 29.5 GHz	<p>FIXED MOBILE FIXED- SATELLITE (Earth-to-space) 5.516B 5.523C 5.523E 5.535A 5.539 5.541A Earth Exploration-Satellite (earth to space)5.541 5.540</p>	<p>For fixed satellite service refer to No. 9.11A of the ITU-RR.</p> <p>27.5-30 GHz may be used by the fixed satellite service (Earth-to-space) for feeder links for the Broadcast satellite service.</p>
29.5– 29.9 GHz	<p>FIXED- SATELLITE(Earth-to-space) 5.484A 5.516B 5.539 Earth Exploration–Satellite(Earth-to-space) 5.541 Mobile-Satellite (Earth-to-space) 5.540</p>	<p>For fixed satellite services using non-geostationary systems refer to No. 9.12.</p> <p>27.5-30 GHz may be used by the fixed satellite service (Earth-to-space) for feeder links for the Broadcast satellite service.</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
29.9– 30 GHz	FIXED-SATELLITE (Earth-to-space) 5.539 5.516B 5.484A MOBILE-SATELLITE (Earth-to-space) Earth Exploration–Satellite (Earth-to-space) 5.541 5.543 5.525 5.526 5.527 5.538 5.540	For fixed satellite services using non-geostationary systems refer to No. 9.12. 27.5-30 GHz may be used by the fixed satellite service (Earth-to-space) for feeder links for the Broadcast satellite service. Fixed satellite service (space-to-Earth) is also allocated in 29.999-30.000 GHz. Transmissions shall not exceed an e.i.r.p of +10 dBW.
30 – 31 GHz	FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE-SATELLITE (Earth-to-space) Standard Frequency and Time Signal-Satellite(space-to-Earth)	Refer to Resolution 750 (Rev.WRC-12).
31 – 31.3 GHz	FIXED 5.338A MOBILE Standard Frequency and Time Signals-Satellite(space-to-Earth) Space Research 5.544 5.149	Refer to Resolution 750 (Rev.WRC-12).
31.3 – 31.5 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	
31.5 – 31.8 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	Fixed Mobile except aeronautical mobile 5.149	
31.8 – 32.3 GHz	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547 5.548	Designated for point-to-multipoint links. See Recommendation ITU-R F.1520 Annex 1. For radionavigation services see Recommendation 707.
32.3 – 33 GHz	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.548	Designated for point-to-multipoint links. See Recommendation ITU-R F.1520 Annex 1. For radionavigation services see Recommendation 707.
33 – 33.4 GHz	FIXED 5.547A RADIONAVIGATION 5.547	Designated for point-to-multipoint links. See Recommendation ITU-R F.1520 Annex 1.
33.4 – 34.2 GHz	RADIOLOCATION	
34.2 – 34.7 GHz	RADIOLOCATION SPACE RESEARCH (deep space) (space-to-Earth)	
34.7– 35.2 GHz	RADIOLOCATION Space Research	
35.2 – 35.5 GHz	METEOROLOGICAL AIDS RADIOLOCATION	
35.5 - 36.0	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	SPACE RESEARCH (active) 5.549A	
36 – 37GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.550A	Refer to Resolution 752 (WRC-07) of the ITU-RR.
37 – 37.5 GHz	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 5.547	Designated for point-to-multipoint links. See Recommendation ITU-R F.749 Annex 1.
37.5 – 38 GHz	FIXED FIXED SATELLITE (space-to-Earth) MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) Earth Exploration –Satellite(space-to- Earth) 5.547	Designated for point-to-multipoint links. See Recommendation ITU-R F.749 Annex 1.
38 – 39.5 GHz	FIXED FIXED SATELLITE (space-to-Earth) MOBILE Earth Exploration –Satellite (space-to- Earth) 5.547	Designated for point-to-multipoint links. See Recommendation ITU-R F.749 Annex 1.
39.5 – 40 GHz	FIXED FIXED SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE SATELLITE (space-to-Earth) Earth Exploration –Satellite(space-to- Earth) 5.547	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
40 – 40.5 GHz	EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth Exploration –Satellite(space-to- Earth)	
40.5 – 42.5 GHz	FIXED FIXED-SATELLITE (space-to- Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547 5.551H 5.551I	
42.5 – 43.5 GHz	FIXED FIXED SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149 5.547	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
43.5 – 47 GHz	MOBILE 5.553 MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	
47 – 47.2 GHz	AMATEUR AMATEUR SATELLITE	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
47.2 - 47.5 GHz	FIXED FIXED SATELLITE (Earth-to-space) 5.552 MOBILE	
47.5 - 50.2GHz	FIXED FIXED SATELLITE (Earth-to-space) 5.552 5.338A (space-to-Earth) 5.516B 5.554A 5.555B MOBILE 5.149 5.555	47.5-47.9 GHz, 48.2-48.54 GHz & 49.44 – 50.2 GHz by the fixed satellite service (space-to-Earth) is limited to geostationary satellites. 48.94-49.04 GHz is also allocated to the radio astronomy service on a primary basis. Also refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR. For fixed satellite service (Earth-to-space) see Resolution 750 (WRC-12).
50.2 - 50.4 GHz	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	
50.4– 51.4 GHz	FIXED FIXED SATELLITE (Earth-to-space) 5.338A MOBILE Mobile-Satellite (Earth-to-space)	For fixed satellite service (Earth-to-space) in 50.4-50.9 GHz, see Resolution 750 (WRC-12).
51.4 - 52.6GHz	FIXED 5.338A MOBILE	For fixed services, see Resolution 750 (WRC-12).

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	5.547 5.556	In 51.4-54.25 GHz,radio astronomy observations may be carried out under national arrangements.
52.6– 54.25 GHz	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	In 51.4-54.25 GHz,radio astronomy observations may be carried out under national arrangements.
54.25 – 55.78 GHz	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.556A SPACE RESEARCH (passive)	The use of 54.25-56.90 GHz by the inter-satellite service is limited to satellites in the geostationary satellite orbit. The power flux-density shall not exceed -147 dB(W/(m ² – 100MHz)).
55.78 – 58.2 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	<p>To protect the earth exploration satellite service (passive) in the 55.78-56.26 GHz, the maximum power density of a fixed service station from transmitter to antenna is limited to 26 dB(W/MHz).</p> <p>The use of 56.9-57 GHz& 57-58.2 GHz by the inter-satellite service is limited to satellites in the geostationary satellite orbit. The power flux-density shall not exceed -147 dB (W/(m² – 100MHz)).</p> <p>The use of 55.78-58.2 GHz by the aeronautical mobile service shall not cause harmful interference to the inter-satellite services. See No. 5.43 of the ITU-RR.</p>

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
58.2 - 59 GHz	EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547 5.556	In 51.4-54.25 GHz, radio astronomy observations may be carried out under national arrangements.
59-59.3 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED INTERSATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	The inter-satellite service is limited to satellites in the geostationary satellite orbit. The power flux-density shall not exceed -147 dB (W/(m ² – 100MHz)). The use of 59-64 GHz by the aeronautical mobile service & airborne radars in the radiolocation services shall not cause harmful interference to the inter-satellite services. See No. 5.43 of the ITU-RR.
59.3-64 GHz	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	The use of 59-64 GHz by the aeronautical mobile service & airborne radars in the radiolocation services shall not cause harmful interference to the inter-satellite services. See No. 5.43 of the ITU-RR. 61-61.5 GHz is designated for ISM applications, with regard to the latest ITU-R Recommendations.
64-65 GHz	FIXED INTER-SATELLITE MOBILE except aeronautical mobile	Radio astronomy observations may be carried out under national arrangements.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	5.547 5.556	
65 - 66 GHz	EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE SPACE RESEARCH MOBILE except aeronautical mobile 5.547	
66 - 71 GHz	MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE INTER-SATELLITE 5.554	The use of 66-71 GHz by the aeronautical mobile service shall not cause harmful interference to the inter-satellite service. See No. 5.43 of the ITU-RR.
71 - 74 GHz	FIXED FIXED SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	
74 – 76 GHz	FIXED FIXED SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING-SATELLITE Space Research (space-to-Earth) 5.561	Stations in the fixed, mobile and broadcasting services should not cause harmful interference to stations in the fixed and broadcasting satellite services.
76-77.5 GHz	RADIO ASTRONOMY RADIOLOCATION Amateur	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	Amateur-satellite Space-research (space-to-Earth) 5.149	
77.5-78 GHz	AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) 5.149	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
78-79GHz	RADIOLOCATION Amateur Amateur-Satellite Radio astronomy Space Research (Space-to-Earth) 5.149 5.560	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR. Radars on space stations may be operated on a primary basis in the space research service.
79-81 GHz	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
81 - 84 GHz	FIXED 5.338A FIXED SATELLITE (Earth-to-Space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) 5.149 5.561A	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR. For fixed services, see Resolution 750 (WRC-12). Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
		81-81.5 GHz is also allocated to the amateur & amateur-satellite services on a secondary basis.
84-86 GHz	FIXED 5.338A FIXED SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149	For fixed services, see Resolution 750 (WRC-12). Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
86-92GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH(passive) 5.340	
92-94 GHz	FIXED 5.338A MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	For fixed services, see Resolution 750 (WRC-12). Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
94-94.1 GHz	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.562 5.562A	The Earth exploration-satellite (active) & space research (active) services is limited to spaceborne cloud radars. Earth exploration satellite providers should coordinate their operations with the radio astronomy stations.
94.1-95 GHz	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	5.149	
95-100 GHz	FIXED MOBILE RADIONAVIGATION RADIONAVIGATION-SATELLITE RADIO ASTRONOMY RADIO LOCATION 5.149 5.554	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
100-102 GHz	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	
102-105 GHz	FIXED MOBILE RADIO ASTRONOMY 5.149 5.341	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
105-109.5 GHz	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	The use of this allocation is limited to space-based radio astronomy only. Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
109.5 - 111.8 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	
111.8 – 114.25GHz	FIXED	The use of this allocation is limited to space-

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	based radio astronomy only. Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
114.25-116 GHz	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH(passive) 5.340 5.341	
116 – 122.25 GHz	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138 5.341	The inter-satellite service is limited to satellites in the geostationary satellite orbit. The power flux-density shall not exceed -148 dB (W/(m ² .MHz)). 122-123 GHz is designated for ISM applications, with regard to the latest ITU-R Recommendations.
122.25 – 123 GHz	FIXED INTER-SATELLITE MOBILE 5.558 Amateur 5.138	122-123 GHz is designated for ISM applications, with regard to the latest ITU-R Recommendations. The aeronautical mobile service shall not cause harmful interference to the inter-satellite service. See No. 5.43 of the ITU-RR.
123 - 130 GHz	FIXED SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.149 5.554	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
130 - 134GHz	EARTH EXPLORATION SATELLITE (active) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149 5.562A	<p>The Earth Exploration-satellite service (active) is limited to the band 133.5-134 GHz.</p> <p>The aeronautical mobile service shall not cause harmful interference to the inter-satellite service. See No. 5.43 of the ITU-RR.</p> <p>Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.</p> <p>Earth exploration satellite providers should coordinate their operations with the radio astronomy stations.</p>
134 – 136 GHz	AMATEUR AMATEUR SATELLITE Radio astronomy	
136 – 141 GHz	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.149	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
141 – 148.5 GHz	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
148.5 - 151.5 GHz	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	
151.5 – 155.5 GHz	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
155.5 – 158.5 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE RADIO ASTROMOMY SPACE RESEARCH (passive) 5.562B 5.149 5.562F 5.562G	The use of this allocation is limited to space-based radio astronomy only. Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR. The allocation to the Earth exploration satellite (passive) & space research (passive) services shall terminate on 1 January 2018. The allocation to the fixed & mobile services shall take effect from 1 st January, 2018.
158.5 – 164 GHz	FIXED FIXED SATELLITE (space-to-Earth) MOBILE MOBILE SATELLITE (space-to-Earth)	
164- 167 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
167 – 174.5 GHz	FIXED FIXED SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149	In 167-174.8 GHz, the aeronautical mobile service shall not cause harmful interference to the inter-satellite service. See No. 5.43 of the ITU-RR. Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
174.5 – 174.8 GHz	FIXED INTER-SATELLITE MOBILE 5.558	In 167-174.8 GHz, the aeronautical mobile service shall not cause harmful interference to the inter-satellite service. See No. 5.43 of the ITU-RR.
174.8 – 182 GHz	EARTH EXPLORATION SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	The inter-satellite service is limited to satellites in the geostationary satellite orbit. The power flux-density shall not exceed -144 dB (W/(m ² .MHz)).
182 - 185 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	
185 - 190 GHz	EARTH EXPLORATION SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	The inter-satellite service is limited to satellites in the geostationary satellite orbit. The power flux-density shall not exceed -144 dB (W/(m ² .MHz)).
190 – 191.8 GHz	EARTH EXPLORATION SATELLITE (passive) SPACE RESEARCH (passive) 5.340	
191.8 – 200 GHz	FIXED INTER SATELLITE	The aeronautical mobile service shall not cause harmful interference to the inter-satellite

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	MOBILE 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.341 5.554	service. See No. 5.43 of the ITU-RR. Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
200 – 209 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341 5.563A	Ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents.
209 - 217GHz	FIXED FIXED -SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.341	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
217 – 226 GHz	FIXED FIXED SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	The use of this allocation is limited to space-based radio astronomy only. Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
226 – 231.5 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	
231.5 – 232 GHz	FIXED MOBILE Radiolocation	

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
232 – 235 GHz	FIXED FIXED SATELLITE (space-to-Earth) MOBILE Radiolocation	
235 - 238 GHz	EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 5.563A 5.563B	Ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents. 237.9-238GHz is also allocated to the Earth exploration-satellite service (active)& the space research service (active) for spaceborne cloud radars only.
238 - 240 GHz	FIXED FIXED SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE	
240 – 241 GHz	FIXED MOBILE RADIOLOCATION	
241 - 248 GHz	RADIOLOCATION RADIO ASTRONOMY Amateur Amateur-Satellite 5.138 5.149	244-246 GHz is designated for ISM applications, with regard to the latest ITU-R Recommendations. Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
248 - 250 GHz	AMATEUR AMATEUR-SATELLITE Radio astronomy	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.

FREQUENCY BAND	GHANA'S ALLOCATION TO SERVICES	REMARKS
	5.149	
250 - 252 GHz	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.563A	Ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents.
252 - 265 GHz	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR.
265 - 275 GHz	FIXED FIXED SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.563A	Other services either than the radioastronomy service should refer to Nos. 4.5, 4.6 and Article 29 of the ITU-RR. Ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents.
275 - 3000 GHz	(Not allocated) 5.565	