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**INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA
NOTICE 266 OF 2018**



**PURSUANT TO SECTION 34 (2) AND 34 (5) OF THE ELECTRONIC COMMUNICATIONS
ACT 2005, (ACT NO. 36 OF 2005)**

**HEREBY ISSUES A NOTICE REGARDING THE FINAL NATIONAL RADIO
FREQUENCY PLAN 2018.**

1. The Independent Communications Authority of South Africa ("the Authority"), in terms of section 34 (2) and (5) of the Electronic Communications Act (Act No. 36 of 2005, as amended) hereby publishes a notice of the "**National Radio Frequency Plan 2018**".

**RUBBEN MOHLALOGA
CHAIRPERSON**

**NATIONAL RADIO FREQUENCY PLAN 2018
(NRFP-18)**

8.3 kHz – 3000 GHz

INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA

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1 TERMS, DEFINITIONS AND ACRONYMS

1.1 Terms and definitions

These definitions are for the purposes of the NRFP and do not necessarily apply elsewhere.

<i>adaptive system:</i>	A radiocommunication system which varies its radio characteristics according to channel quality.
<i>administration</i>	Any governmental department or service responsible for discharging the obligations undertaken in the Constitution of the International Telecommunication Union, in the Convention of the International Telecommunication Union and in the Administrative Regulations (CS 1002).
<i>allocation (of a frequency band)</i>	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.
<i>allotment (of a radio frequency or radio frequency channel)</i>	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.
<i>assignment (of a radio frequency or radio frequency channel)</i>	Authorization given by an administration for a radio station to use a radio frequency or radio frequency channel under specified conditions.
<i>aeronautical earth station:</i>	An <i>earth station</i> in the <i>fixed-satellite service</i> , or, in some cases, in the <i>aeronautical mobile-satellite service</i> , located at a specified fixed point on land to provide a <i>feeder link</i> for the <i>aeronautical mobile-satellite service</i> .
<i>aeronautical mobile (OR)** service:</i>	An <i>aeronautical mobile service</i> intended for communications, including those relating to flight coordination, primarily outside national or international civil air routes.
<i>aeronautical mobile (R)* service:</i>	An <i>aeronautical mobile service</i> reserved for communications relating to safety and regularity of flight, primarily along national or international civil air routes.
<i>aeronautical mobile service:</i>	A <i>mobile service</i> between <i>aeronautical stations</i> and <i>aircraft stations</i> , or between <i>aircraft stations</i> , in which <i>survival craft stations</i> may participate; <i>emergency position-indicating radiobeacon stations</i> may also participate in this service on designated distress and emergency frequencies.
<i>aeronautical mobile-satellite (OR)** service:</i>	An <i>aeronautical mobile-satellite service</i> intended for communications, including those relating to flight coordination, primarily outside national and international civil air routes.
<i>aeronautical mobile-satellite (R)* service:</i>	An <i>aeronautical mobile-satellite service</i> reserved for communications relating to safety and regularity of flights, primarily along national or international civil air routes.
<i>aeronautical mobile-satellite service:</i>	A <i>mobile-satellite service</i> in which <i>mobile earth stations</i> are located on board aircraft; <i>survival craft stations</i> and <i>emergency position-indicating radiobeacon stations</i> may also participate in this service.
<i>aeronautical radionavigation service:</i>	A <i>radionavigation service</i> intended for the benefit and for the safe operation of aircraft.

** (OR): off-route.

* (R): route.

<i>aeronautical radionavigation-satellite service:</i>	A <i>radionavigation-satellite service</i> in which <i>earth stations</i> are located on board aircraft.
<i>aeronautical station:</i>	A <i>land station</i> in the <i>aeronautical mobile service</i> . In certain instances, an aeronautical station may be located, for example, on board ship or on a platform at sea.
<i>aircraft earth station:</i>	A <i>mobile earth station</i> in the <i>aeronautical mobile-satellite service</i> located on board an aircraft.
<i>aircraft station:</i>	A <i>mobile station</i> in the <i>aeronautical mobile service</i> , other than a <i>survival craft station</i> , located on board an aircraft.
<i>amateur service:</i>	A <i>radiocommunication service</i> 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.
<i>amateur station:</i>	A <i>station</i> in the <i>amateur service</i> .
<i>amateur-satellite service:</i>	A <i>radiocommunication service</i> using <i>space stations</i> on <i>earth satellites</i> for the same purposes as those of the <i>amateur service</i> .
<i>base earth station:</i>	An <i>earth station</i> in the <i>fixed-satellite service</i> or, in some cases, in the <i>land mobile-satellite service</i> , located at a specified fixed point or within a specified area on land to provide a <i>feeder link</i> for the <i>land mobile-satellite service</i> .
<i>base station:</i>	A <i>land station</i> in the <i>land mobile service</i> .
<i>broadcasting service:</i>	A <i>radiocommunication service</i> in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, <i>television</i> transmissions or other types of transmission (CS).
<i>broadcasting station:</i>	A <i>station</i> in the <i>broadcasting service</i> .
<i>broadcasting-satellite service:</i>	A <i>radiocommunication service</i> in which signals transmitted or retransmitted by <i>space stations</i> are intended for direct reception by the general public. In the <i>broadcasting-satellite service</i> , the term “direct reception” shall encompass both <i>individual reception</i> and <i>community reception</i> .
<i>coast earth station:</i>	An <i>earth station</i> in the <i>fixed-satellite service</i> or, in some cases, in the <i>maritime mobile-satellite service</i> , located at a specified fixed point on land to provide a <i>feeder link</i> for the <i>maritime mobile-satellite service</i> .
<i>coast station:</i>	A <i>land station</i> in the <i>maritime mobile service</i> .
<i>Coordinated Universal Time (UTC):</i>	Time scale, based on the second (SI), as described in Resolution 655 (WRC-15). (WRC-15). For most practical purposes associated with the Radio Regulations, UTC is equivalent to mean solar time at the prime meridian (0° longitude), formerly expressed in GMT.
<i>Earth exploration-satellite service:</i>	A <i>radiocommunication service</i> between <i>earth stations</i> and one or more <i>space stations</i> , which may include links between <i>space stations</i> , 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 <i>active sensors</i> or <i>passive sensors</i> on <i>Earth satellites</i> ; – similar information is collected from airborne or Earth-based platforms; – such information may be distributed to earth stations within the system concerned; – platform interrogation may be included. This service may also include <i>feeder links</i> necessary for its operation.

<i>earth station:</i>	A <i>station</i> located either on the Earth's surface or within the major portion of the Earth's atmosphere and intended for communication: <ul style="list-style-type: none"> – with one or more <i>space stations</i>; or – with one or more <i>stations</i> of the same kind by means of one or more reflecting <i>satellites</i> or other objects in space.
<i>emergency position-indicating radiobeacon station:</i>	A <i>station</i> in the <i>mobile service</i> the <i>emissions</i> of which are intended to facilitate search and rescue operations.
<i>experimental station:</i>	A <i>station</i> utilizing <i>radio waves</i> in experiments with a view to the development of science or technique. This definition does not include <i>amateur stations</i> .
<i>facsimile</i>	A form of telegraphy for the transmission of fixed images, with or without half-tones, with a view to their reproduction in a permanent form.
<i>feeder link:</i>	A radio link from an <i>earth station</i> at a given location to a <i>space station</i> , or vice versa, conveying information for a <i>space radiocommunication service</i> other than for the <i>fixed-satellite service</i> . The given location may be at a specified fixed point, or at any fixed point within specified areas.
<i>fixed service:</i>	A <i>radiocommunication service</i> between specified fixed points.
<i>fixed station:</i>	A <i>station</i> in the <i>fixed service</i> .
<i>fixed-satellite service:</i>	A <i>radiocommunication service</i> between <i>earth stations</i> at given positions, when one or more <i>satellites</i> 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 <i>inter-satellite service</i> ; the fixed-satellite service may also include <i>feeder links</i> for other <i>space radiocommunication services</i> .
<i>frequency-shift telegraphy</i>	Telegraphy by frequency modulation in which the telegraph signal shifts the frequency of the carrier between predetermined values.
<i>high altitude platform station:</i>	A station located on an object at an altitude of 20 to 50 km and at a specified, nominal, fixed point relative to the Earth.
<i>industrial, scientific and medical (ISM) applications (of radio frequency energy):</i>	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 <i>telecommunications</i> .
<i>instrument landing system (ILS):</i>	A <i>radionavigation system</i> which provides aircraft with horizontal and vertical guidance just before and during landing and, at certain fixed points, indicates the distance to the reference point of landing.
<i>instrument landing system glide path:</i>	A system of vertical guidance embodied in the <i>instrument landing system</i> which indicates the vertical deviation of the aircraft from its optimum path of descent.
<i>instrument landing system localizer:</i>	A system of horizontal guidance embodied in the <i>instrument landing system</i> which indicates the horizontal deviation of the aircraft from its optimum path of descent along the axis of the runway.
<i>inter-satellite service:</i>	A <i>radiocommunication service</i> providing links between artificial <i>satellites</i> .
<i>land earth station:</i>	An <i>earth station</i> in the <i>fixed-satellite service</i> or, in some cases, in the <i>mobile-satellite service</i> , located at a specified fixed point or within a specified area on land to provide a <i>feeder link</i> for the <i>mobile-satellite service</i> .
<i>land mobile earth station:</i>	A <i>mobile earth station</i> in the <i>land mobile-satellite service</i> capable of surface movement within the geographical limits of a country or continent.

<i>land mobile service:</i>	A <i>mobile service</i> between <i>base stations</i> and <i>land mobile stations</i> , or between <i>land mobile stations</i> .
<i>land mobile station:</i>	A <i>mobile station</i> in the <i>land mobile service</i> capable of surface movement within the geographical limits of a country or continent.
<i>land mobile-satellite service:</i>	A <i>mobile-satellite service</i> in which <i>mobile earth stations</i> are located on land.
<i>land station:</i>	A <i>station</i> in the <i>mobile service</i> not intended to be used while in motion.
<i>maritime mobile service:</i>	A <i>mobile service</i> between <i>coast stations</i> and <i>ship stations</i> , or between <i>ship stations</i> , or between associated <i>on-board communication stations</i> ; <i>survival craft stations</i> and <i>emergency position-indicating radiobeacon stations</i> may also participate in this service.
<i>maritime mobile-satellite service:</i>	A <i>mobile-satellite service</i> in which <i>mobile earth stations</i> are located on board ships; <i>survival craft stations</i> and <i>emergency position-indicating radiobeacon stations</i> may also participate in this service.
<i>maritime radionavigation service:</i>	A <i>radionavigation service</i> intended for the benefit and for the safe operation of ships.
<i>maritime radionavigation-satellite service:</i>	A <i>radionavigation-satellite service</i> in which <i>earth stations</i> are located on board ships.
<i>marker beacon:</i>	A transmitter in the <i>aeronautical radionavigation service</i> which radiates vertically a distinctive pattern for providing position information to aircraft.
<i>meteorological aids service:</i>	A <i>radiocommunication service</i> used for meteorological, including hydrological, observations and exploration.
<i>meteorological aids land station:</i> <i>meteorological aids mobile station:</i> <i>meteorological-satellite service:</i> <i>meteorological aids land station:</i> <i>meteorological aids mobile station:</i> <i>meteorological-satellite service:</i>	A station in the meteorological aids service not intended to be used while in motion.
<i>meteorological aids mobile station:</i>	A station in the meteorological aids service intended to be used while in motion or during halts at unspecified points.
<i>meteorological-satellite service:</i>	An <i>earth exploration-satellite service</i> for meteorological purposes.
<i>mobile earth station:</i>	An <i>earth station</i> in the <i>mobile-satellite service</i> intended to be used while in motion or during halts at unspecified points.
<i>mobile service:</i>	A <i>radiocommunication service</i> between <i>mobile</i> and <i>land stations</i> , or between <i>mobile stations</i> (CV).
<i>mobile station:</i>	A <i>station</i> in the <i>mobile service</i> intended to be used while in motion or during halts at unspecified points.
<i>mobile-satellite service:</i>	A <i>radiocommunication service:</i> <ul style="list-style-type: none"> – between <i>mobile earth stations</i> and one or more <i>space stations</i>, or between <i>space stations</i> used by this service; or – between <i>mobile earth stations</i> by means of one or more <i>space stations</i>.

	This service may also include <i>feeder links</i> necessary for its operation.
<i>multi-satellite link:</i>	A radio link between a transmitting <i>earth station</i> and a receiving <i>earth station</i> through two or more <i>satellites</i> , without any intermediate <i>earth station</i> . A multi-satellite link comprises one up-link, one or more satellite-to-satellite links and one down-link.
<i>on-board communication station:</i>	A low-powered <i>mobile station</i> in the <i>maritime mobile service</i> intended for use for internal communications on board a ship, or between a ship and its lifeboats and life-rafts during lifeboat drills or operations, or for communication within a group of vessels being towed or pushed, as well as for line handling and mooring instructions.
<i>port operations service:</i>	A <i>maritime mobile service</i> in or near a port, between <i>coast stations</i> and <i>ship stations</i> , or between <i>ship stations</i> , 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 <i>public correspondence</i> nature shall be excluded from this service.
<i>port station:</i>	A <i>coast station</i> in the <i>port operations service</i> .
<i>primary radar:</i>	A <i>radiodetermination</i> system based on the comparison of reference signals with radio signals reflected from the position to be determined.
<i>public correspondence</i>	Any <i>telecommunication</i> which the offices and <i>stations</i> must, by reason of their being at the disposal of the public, accept for transmission (CS).
<i>radar beacon (racon):</i>	A transmitter-receiver associated with a fixed navigational mark which, when triggered by a <i>radar</i> , automatically returns a distinctive signal which can appear on the display of the triggering <i>radar</i> , providing range, bearing and identification information.
<i>radar:</i>	A <i>radiodetermination</i> system based on the comparison of reference signals with radio signals reflected, or retransmitted, from the position to be determined.
<i>radio</i>	A general term applied to the use of radio waves.
<i>radio altimeter:</i>	<i>Radionavigation</i> equipment, on board an aircraft or <i>spacecraft</i> , used to determine the height of the aircraft or the <i>spacecraft</i> above the Earth's surface or another surface.
<i>radio astronomy</i>	Astronomy based on the reception of <i>radio waves</i> of cosmic origin.
<i>radio astronomy service:</i>	A service involving the use of <i>radio astronomy</i> .
<i>radio astronomy station:</i>	A <i>station</i> in the <i>radio astronomy service</i> .
<i>radio astronomy:</i>	Astronomy based on the reception of <i>radio waves</i> of cosmic origin.
<i>radio direction-finding station:</i>	A <i>radiodetermination station</i> using <i>radio direction-finding</i> .
<i>radio direction-finding:</i>	<i>Radiodetermination</i> using the reception of <i>radio waves</i> for the purpose of determining the direction of a <i>station</i> or object.
<i>radiobeacon station:</i>	A <i>station</i> in the <i>radionavigation service</i> the <i>emissions</i> of which are intended to enable a <i>mobile station</i> to determine its bearing or direction in relation to the radiobeacon station.
<i>radiocommunication</i>	<i>Telecommunication</i> by means of <i>radio waves</i> (CS) (CV).
<i>radiocommunication service:</i>	A service as defined in this Section involving the transmission, <i>emission</i> and/or reception of <i>radio waves</i> for specific <i>telecommunication</i> purposes. In these Regulations, unless otherwise stated, any radiocommunication service relates to <i>terrestrial radiocommunication</i> .

<i>radiodetermination:</i>	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 <i>radio waves</i> .
<i>radiodetermination service:</i>	A <i>radiocommunication service</i> for the purpose of <i>radiodetermination</i> .
<i>radiodetermination Station:</i>	A <i>station</i> in the <i>radiodetermination service</i> .
<i>radiodetermination-satellite service:</i>	A <i>radiocommunication service</i> for the purpose of <i>radiodetermination</i> involving the use of one or more <i>space stations</i> . This service may also include <i>feeder links</i> necessary for its own operation.
<i>radio direction-finding</i>	<i>Radiodetermination</i> using the reception of <i>radio waves</i> for the purpose of determining the direction of a <i>station</i> or object.
<i>radiolocation land station:</i>	A <i>station</i> in the <i>radiolocation service</i> not intended to be used while in motion.
<i>radiolocation mobile station:</i>	A <i>station</i> in the <i>radiolocation service</i> intended to be used while in motion or during halts at unspecified points.
<i>radiolocation:</i>	<i>Radiodetermination</i> used for purposes other than those of <i>radionavigation</i> .
<i>radiolocation service:</i>	A <i>radiodetermination service</i> for the purpose of <i>radiolocation</i> .
<i>radiolocation-satellite service:</i>	A <i>radiodetermination-satellite service</i> used for the purpose of <i>radiolocation</i> . This service may also include the <i>feeder links</i> necessary for its operation.
<i>radionavigation</i>	<i>Radiodetermination</i> used for the purposes of navigation, including obstruction warning.
<i>radionavigation land station:</i>	A <i>station</i> in the <i>radionavigation service</i> not intended to be used while in motion.
<i>radionavigation mobile station:</i>	A <i>station</i> in the <i>radionavigation service</i> intended to be used while in motion or during halts at unspecified points.
<i>radionavigation service:</i>	A <i>radiodetermination service</i> for the purpose of <i>radionavigation</i> .
<i>radionavigation:</i>	<i>Radiodetermination</i> used for the purposes of navigation, including obstruction warning.
<i>radionavigation-satellite service:</i>	A <i>radiodetermination-satellite service</i> used for the purpose of <i>radionavigation</i> . This service may also include <i>feeder links</i> necessary for its operation.
<i>radiosonde:</i>	An automatic radio transmitter in the <i>meteorological aids service</i> usually carried on an aircraft, free balloon, kite or parachute, and which transmits meteorological data.
<i>radiotelegram</i>	A telegram, originating in or intended for a mobile station or a mobile earth station transmitted on all or part of its route over the radiocommunication channels of the mobile service or of the mobile-satellite service.
<i>radiotelex call</i>	A telex call, originating in or intended for a mobile station or a mobile earth station, transmitted on all or part of its route over the radiocommunication channels of the mobile service or the mobile-satellite service.
<i>radio waves or hertzian waves</i>	Electromagnetic waves of frequencies arbitrarily lower than 3 000 GHz, propagated in space without artificial guide
<i>safety service:</i>	Any <i>radiocommunication service</i> used permanently or temporarily for the safeguarding of human life and property.
<i>satellite emergency position-indicating radiobeacon:</i>	An <i>earth station</i> in the <i>mobile-satellite service</i> the <i>emissions</i> of which are intended to facilitate search and rescue operations.
<i>satellite link:</i>	A radio link between a transmitting <i>earth station</i> and a receiving <i>earth station</i> through one <i>satellite</i> .

	A satellite link comprises one up-link and one down-link.
<i>satellite network:</i>	A <i>satellite system</i> or a part of a <i>satellite system</i> , consisting of only one <i>satellite</i> and the cooperating <i>earth stations</i> .
<i>satellite system:</i>	A <i>space system</i> using one or more artificial earth <i>satellites</i> .
<i>secondary radar:</i>	A <i>radiodetermination</i> system based on the comparison of reference signals with radio signals retransmitted from the position to be determined.
<i>ship earth station:</i>	A <i>mobile earth station</i> in the <i>maritime mobile-satellite service</i> located on board ship.
<i>ship movement service:</i>	A <i>safety service</i> in the <i>maritime mobile service</i> other than a <i>port operations service</i> , between <i>coast stations</i> and <i>ship stations</i> , or between <i>ship stations</i> , in which messages are restricted to those relating to the movement of ships. Messages which are of a <i>public correspondence</i> nature shall be excluded from this service.
<i>ship station:</i>	A <i>mobile station</i> in the <i>maritime mobile service</i> located on board a vessel which is not permanently moored, other than a <i>survival craft station</i> .
<i>ship's emergency transmitter:</i>	A ship's transmitter to be used exclusively on a distress frequency for distress, urgency or safety purposes.
<i>space operation service:</i>	A <i>radiocommunication service</i> concerned exclusively with the operation of <i>spacecraft</i> , in particular <i>space tracking</i> , <i>space telemetry</i> and <i>space telecommand</i> . These functions will normally be provided within the service in which the <i>space station</i> is operating.
<i>space radiocommunication</i>	Any <i>radiocommunication</i> involving the use of one or more <i>space stations</i> or the use of one or more <i>reflecting satellites</i> or other objects in space.
<i>space research service:</i>	A <i>radiocommunication service</i> in which <i>spacecraft</i> or other objects in space are used for scientific or technological research purposes.
<i>space station:</i>	A <i>station</i> located on an object which is beyond, is intended to go beyond, or has been beyond, the major portion of the Earth's atmosphere.
<i>space system:</i>	Any group of cooperating <i>earth stations</i> and/or <i>space stations</i> employing <i>space radiocommunication</i> for specific purposes.
<i>special service:</i>	A <i>radiocommunication service</i> , not otherwise defined in this Section, carried on exclusively for specific needs of general utility, and not open to <i>public correspondence</i> .
<i>standard frequency and time signal service:</i>	A <i>radiocommunication service</i> for scientific, technical and other purposes, providing the transmission of specified frequencies, time signals, or both, of stated high precision, intended for general reception.
<i>standard frequency and time signal station:</i>	A <i>station</i> in the <i>standard frequency and time signal service</i> .
<i>standard frequency and time signal-satellite service:</i>	A <i>radiocommunication service</i> using <i>space stations</i> on earth <i>satellites</i> for the same purposes as those of the <i>standard frequency and time signal service</i> . This service may also include <i>feeder links</i> necessary for its operation.
<i>station:</i>	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 <i>radiocommunication service</i> , or the <i>radio astronomy service</i> . Each station shall be classified by the service in which it operates permanently or temporarily.
<i>survival craft station:</i>	A <i>mobile station</i> in the <i>maritime mobile service</i> or the <i>aeronautical mobile service</i> intended solely for survival purposes and located on any lifeboat, life-raft or other survival equipment.

<i>telecommunication</i>	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 (CS).
<i>telegraphy</i>	A form of telecommunication in which the transmitted information is intended to be recorded on arrival as a graphic document; the transmitted information may sometimes be presented in an alternative form or may be stored for subsequent use (CS 1016).
<i>telephony</i>	A form of telecommunication primarily intended for the exchange of information in the form of speech (CS 1017).
<i>telegram</i>	Written matter intended to be transmitted by telegraphy for delivery to the addressee. This term also includes radiotelegrams unless otherwise specified (CS). In this definition the term telegraphy has the same general meaning as defined in the Convention.
<i>terrestrial radiocommunication</i>	Any radiocommunication other than space radiocommunication or radio astronomy
<i>terrestrial station:</i>	A <i>station</i> effecting <i>terrestrial radiocommunication</i> . In these Regulations, unless otherwise stated, any <i>station</i> is a terrestrial station.

1.2 Acronyms

AAA	Astronomy Advantage Area
AGAA	Astronomy Geographic Advantage Act, 2007 (Act No. 21 of 2007)
ASDE	Airports Surface Detection Equipment
ATC/CGC	Auxiliary Terrestrial Component /Complimentary Ground Component
BFWA	Broadband Fixed Wireless Access
BSS	Broadcast Satellite Service
BTX	Base Transmit
C-band	Frequency range between about 4 and 6 GHz
CT2	Second generation cordless telephones operating to specification MPT1334.
dBW	Decibels relative to one Watt of power.
DECT	Digital European Cordless Telecommunication system. ERC Decision ERC/DEC/(94)03 refers.
DF	Duplex Frequency
DSC	Digital Selective Calling
DSSS	Direct Sequence Spread Spectrum
ECA	Electronic Communications Act No 36 of 2005
ENG	Electronic News Gathering
ENG/OB	Electronic News Gathering / Outside Broadcasting
EPIRB	Emergency Position Indicating Radio Beacon
FDDA	Field Disturbance and Doppler Apparatus
FM	Frequency Modulation
FSS	Fixed Satellite Service
FWA	Fixed Wireless Access

GLONASS	Global Navigation Satellite System
GMDSS	Global Maritime Distress and Safety System.
GPRS	General Packet Radio Service
GPS	Global Positioning System - a satellite radio navigation system.
GSM	Global System for Mobile communications. Originally Groupe Spécial Mobile. See ERC Decision ERC/DEC/(94)01.
GSM 900	GSM using 900 MHz frequencies
GSM-R	GSM Railways
GSO	Geostationary Orbit
HAP	High Altitude Platform
HDFS	High Density Fixed Service
HDFSS	High Density Fixed Satellite Service
HF	High Frequency (3 to 30 MHz)
HDFS	Hadoop Distributed File System
ICAO	International Civil Aviation Organisation
ILS	Instrument Landing System-aeronautical radio navigation system.
IMO	International Maritime Organisation
IMT	International Mobile Telecommunications
ISM	Industrial, Scientific and Medical. The use of radio for non-communication purposes such as microwave heating etc.
ITU	International Telecommunication Union.
Ka-band	Part of the frequency band between about 18 and 30 GHz
Ku-band	Part of the frequency band between about 12 and 18 GHz
L-band	Frequency band around 1.5 GHz

LEO	Low Earth Orbit satellite
LF	Low Frequency (30 to 300 kHz)
LMDS	Local Multipoint Distribution Services
LPVS	Low Power Video Surveillance
LTE	Long Term Evolution
MF	Medium Frequency (300 to 3000 kHz)
MMS	Maritime Mobile Service
MPT	Mobile Public Trunking
MSS	Mobile Satellite Service
NGSO	Non-geostationary Satellite Orbit
OB	Outside Broadcast.
PAMR	Public Access Mobile Radio.
PMR	Private Mobile Radio.
PPDR	Public Protection and Disaster Relief
PSTN	Public Switched Telephone Network
RFID	Radio Frequency Identification systems
RLAN	Radio Local Area Network
RNSS	Radio Navigation Satellite Service
RR	Radio Regulation of the International Telecommunication Union
RTT	Road Transport Telematics
SAB	Services Ancillary to Broadcasting
SABRE	South African Band Replanning Exercise
SADC	Southern African Development Community
SAP	Services Ancillary to Programme-making

S-DAB	Satellite Digital Audio Broadcasting
SHF	Super High Frequency (3 to 30 GHz)
SKA	Square Kilometre Array
SNG	Satellite News Gathering
SRDs	Short Range Devices, formerly referred to as Low Power Devices (LPDs).
T-DAB	Terrestrial Digital Audio Broadcasting.
TDD	Time Division Duplex
UHF	Ultra High Frequency (300 to 3000 MHz)
UAV	Unmanned Aerial Vehicle
VHF	Very High Frequency (30 to 300 MHz)
VLF	Very Low Frequency (3 to 30 kHz)
VOR	Very high frequency Omnidirectional Range (aeronautical radionavigation system).
VSAT	Very Small Aperture Terminal
WAS	Wireless Access Services
WARC	World Administrative Radio Conference. The last WARC was held in 1992. WARCs are now superseded by WRCs.
WLAN	Wireless Local Area Network
WRC	World Radiocommunication Conference.

2 PREAMBLE

2.1 Legislative Framework

The Electronic Communications Act, 2005 (Act No. 36 of 2005), herein after referred to as the Act; provides for the control of the radio frequency spectrum.

In carrying out its functions under the Act and the related legislation, the Authority controls, plans, administers and manages the use and licensing of the radio frequency spectrum in terms of section 30(1) of the Act.

This National Radio Frequency Plan 2018 (NRFP-18) has been prepared under Section 34 of the Act.

The NRFP-18 allocates the Radio Frequency Spectrum to Radio Services in the Frequency Bands between 8.3 kHz and 3000 GHz. All frequency assignments must be in accordance national radio frequency plan.

This revised NRFP-18 incorporates the decisions taken by 2015 World Radiocommunication Conferences (WRC-15). The revision reflects the 2016 version of the ITU Radio Regulations edition, including the frequency allocations relevant to Region 1 and its associated footnotes. It also includes updates on the Table of Frequency Allocations extending up to 3000 GHz and South African National Footnotes. The revised NRFP-18 further reflects agreements taken at regional level including that of the African Telecommunication Union (ATU) and the Southern African Development Community (SADC)¹ Frequency Allocation Plan (FAP)². These aforementioned agreements do not supersede any regulations developed by the Authority.

The Authority consulted with the government Department that is responsible for approving the frequency band plan as prescribed in the Electronic Communications Act, to incorporate the radio frequency spectrum allocated by the Minister for use by security services taking into account the Government's current and planned use of radio frequency spectrum, including but not limited to, civil aviation, and aeronautical services and scientific research. This updated version of the NRFP-18 incorporates the outcome of the public consultation as mandated by the EC Act.

A document containing relevant ITU – R Resolutions and Recommendations referred in this document can be found on the Authority's website.

The pattern of radio use is not static as it is continuously evolving to reflect the many changes that are taking place in the radio environment; particularly in the field of technology. Spectrum allocations must reflect these changes and the position set out in this plan is therefore subject to regular reviews.

In view of the above, it is the intention of the Authority to update the NRFP when necessary in order to keep the plan current with due regard given to the current and future usage of the radio frequency spectrum.

The following updates and amendments amongst others have been implemented in NRFP -18:

- National footnotes have been revised.

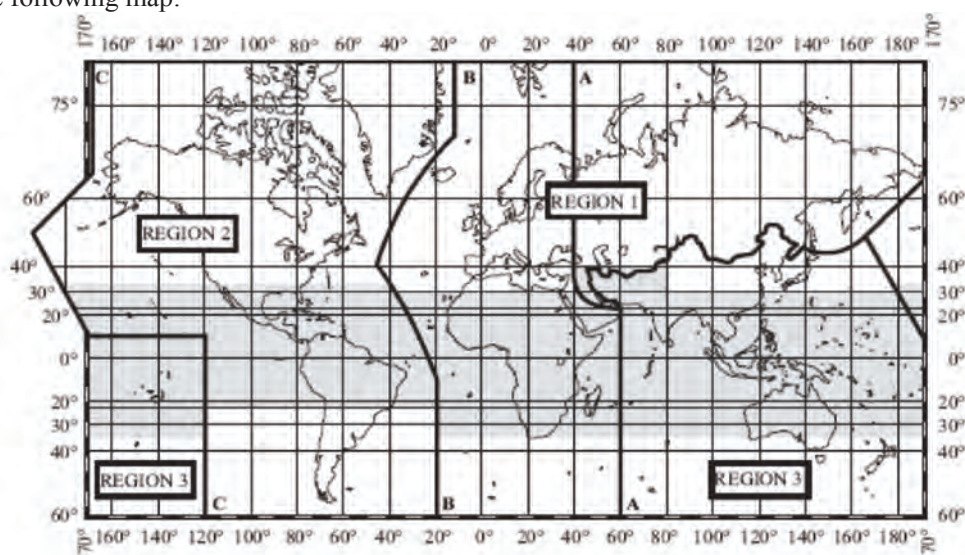
¹ <http://www.crasa.org/crasa-publication/cat/18/regulatory-guidelines/>

² http://www.crasa.org/common_up/crasa-setup/10-11-2016_SADC%20FREQUENCY%20ALLOCATION%20PLAN%202016.pdf

- The resolutions and decisions taken by World Radiocommunication Conferences preceding WRC-15.
- The resolutions and decisions taken by the WRC-15, as ratified by the South Africa (Republic of), have been reflected.
- The Astronomy Geographic Advantage Act, 2007 (Act No. 21 of 2007) covered in a separate chapter in view of the award of the Square Kilometre Array (SKA) to South Africa. The commencement of the Astronomy Geographic Advantage Act, 2007 (Act No. 21 of 2007) in terms of section 53 of the Astronomy Geographic Advantage Act, 2007 (Act No. 21 of 2007), the 24 April 2009 has been determined as the date on which the said Act comes into operation.
- The Regulations apply to the Karoo Central Astronomy Advantage Areas declared for the purpose of radio astronomy and related scientific endeavours in terms of sections 9(1) and 9(2) of the Act.
- Incorporated references to the SADC Frequency Allocation Plan (FAP) and SADC Harmonised Guidelines

2.2 ITU-R Radio Regions

For the purposes of allocating frequencies, the ITU has divided the world into three Regions as shown on the following map:



Region 1: Region 1 includes the area limited on the east by line A (lines A, B and C are defined below) and on the west by line B, excluding any of the territory of the Islamic Republic of Iran which lies between these limits. It also includes the whole of the territory of Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Turkey and Ukraine and the area to the north of Russian Federation which lies between lines A and C.

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

Region 3: Region 3 includes the area limited on the east by line C and on the west by line A, except any of the territory of Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Turkey and Ukraine and the area to the north of Russian Federation. It also includes that part of the territory of the Islamic Republic of Iran lying outside of those limits.

The Republic of South Africa falls under ITU Region 1 and thus aligns its frequency allocations with those specified for ITU Region 1 in the ITU Radio Regulations as required by the Act.

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2.3 Structure of the Table of Frequency Allocations

The Table of Frequency Allocations lists all the allocations in the radio-frequency spectrum in the Republic of South Africa. The structure of the Table, which is outlined below, is similar to that of the International Table of Frequency Allocations as it appears in Article 5 of the ITU Radio Regulations.

The Table of Frequency Allocations covers the frequency range 8.3 kilohertz (kHz) to 3 000 Gigahertz. The table of frequency allocations list for each frequency range the radiocommunication services that are permitted and which ones are currently in use in South Africa. Information is also given on possible future uses or changes in use of particular frequency bands.

2.3.1 Column 1 - ITU Region 1 Allocations and footnotes

This column shows the type of radiocommunications service allocated to the frequency band by ITU. These allocations are defined in the ITU Radio Regulations. Entries in UPPER CASE denote primary services while entries in lower case denote secondary services as defined in the ITU Radio Regulations. Footnotes (e.g., 5.149) are the footnotes to the Table of Frequency Allocations as detailed in Article 5 of the Radio Regulations.

Values in this column denote the radio-frequency band. Magnitude of frequency units used in the column header are: kHz indicates kilohertz, MHz indicates Megahertz and GHz indicates Gigahertz. Secondary services are on a non-interference and non-protection basis (NINP) to the primary services³. Spectrum assigned on a secondary basis means that the secondary station:

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

The frequency band referred to in each allocation is indicated in the left hand top corner of the part of the Table concerned.

The order of listing does not indicate relative priority within each category.

The footnote references are those that appear in Article 5 of the ITU Radio Regulations and are applicable to region 1.

- The footnote references which appear in the bottom of the table reflect the allocated service or services which apply to more than one of the allocated services, or to the whole of the allocation concerned.
- The footnote references which appear to the right of the name of a service are applicable only to that particular service.

2.3.2 Column 2 – South African allocations and footnotes

This column indicates the allocations of radiocommunication service(s) specified for South Africa, based on Article 5 of the ITU Radio Regulations. Names of services are based on the definitions in the ITU Radio Regulations and footnotes relevant to South Africa are included. The allocations highlighted with UPPER-CASE letters correspond to primary status allocations; the allocations with secondary status are written in lower-case.

³ Article 4.4 of the Radio Regulations: Administrations of the Member States shall not assign to a station any frequency in derogation of either the Table of Frequency Allocations in this Chapter or the other provisions of these Regulations, except on the express condition that such a station, when using such a frequency assignment, shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the Constitution, the Convention and these Regulations.

Values in this column denote the radio-frequency band. The magnitude of the frequency units used in the column header are: kilohertz(kHz), Megahertz(MHz) and GHz indicates Gigahertz.

Whilst the South African allocations are broadly aligned with the ITU Region 1 requirements, a number of variations exist. In accordance with Radio Regulations No. 4.4, such variations are subject to the condition that the associated radio installations do not cause harmful interference to the radio services or communications of other ITU Member States that operate in accordance with the provisions of the Radio Regulations, and that the possibility of harmful interference from such services and communications is accepted.

The column further makes reference to national footnotes (e.g., NF xx) that are indicated as 'NF' and appear in the table of allocation on the same basis as the ITU footnotes.

2.3.3 Column 3 – Typical Applications

This column indicates the current national usage of the frequency band in South Africa and contains allowed applications. Contains the main service, systems and application(s) of this frequency band or a part of it, authorized in South Africa. If the use covers more than one frequency band or concerns only one part of the band, the frequency range is generally indicated.

2.3.4 Column 4 – Notes and comments

This column gives relevant document references as well as other additional information applicable to the frequency band. This column contains information about reference documents and relevant standards as well as other guidelines applicable to the frequency band, e.g., Government Gazette Notices pertinent to specific frequency bands, future requirements in specific bands, and ITU-R Recommendations or Resolutions which require implementation.

2.3.5 ITU-R Region 1 and National Footnotes

South African National Footnotes and ITU-R footnotes applicable to Region 1 are contained in sections 5 and 6 respectively.

2.3.6 List of frequency bands used for Maritime services

The List of frequency bands used for Maritime services is contained in section 7.

2.3.7 Frequency and wavelength bands

The radio spectrum shall be subdivided into nine frequency bands, which shall be designated by progressive whole numbers in accordance with the following table. As the unit of frequency is the hertz (Hz), frequencies shall be expressed:

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

However, where adherence to these provisions would introduce serious difficulties, for example in connection with the notification and registration of frequencies, the lists of frequencies and related matters, reasonable departures may be made. (WRC-15).

Table 1: Frequency and wavelength bands

Band number	Symbols	Frequency Range (lower limit exclusive, upper limit inclusive)	Corresponding metric subdivision
4	VLF	3 to 30 kHz	Myriametric waves
5	LF	30 to 300 kHz	Kilometric waves
6	MF	300 to 3 000 kHz	Hectometric waves
7	HF	3 to 30 MHz	Decametric waves
8	VHF	30 to 300 MHz	Metric waves
9	UHF	300 to 3000 MHz	Decimetric waves
10	SHF	3 to 30 GHz	Centimetric waves
11	EHF	30 to 300 GHz	Millimetric waves
12		300 to 3000 GHz	Decimillimetric waves

NOTE 1: "Band N" (N = band number) extends from 0.3×10^N Hz to 3×10^N Hz.

NOTE 2: Prefix: k = kilo (10^3), M = mega (10^6), G = giga (10^9).

Table 2: Standard Frequency Band Nomenclature

Table 2 below illustrates the standard letter-band designations.

Band	Frequency Range (GHz)	Wavelength in Free Space (centimeters)
L band	1 to 2	30.0 to 15.0
S band	2 to 4	15 to 7.5
C band	4 to 8	7.5 to 3.8
X band	8 to 12	3.8 to 2.5
Ku band	12 to 18	2.5 to 1.7
K band	18 to 27	1.7 to 1.1
Ka band	27 to 40	1.1 to 0.75
V band	40 to 75	0.75 to 0.40
W band	75 to 110	0.40 to 0.27
Millimetre band	110 to 300	0.27 to 0.10

2.5 Contact details

Further information on the South African Table of Frequency Allocations and its interpretation can be obtained by contacting:

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