

INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA  
NOTICE 783 OF 2017



PURSUANT TO SECTION 4 (1) OF THE ELECTRONIC COMMUNICATIONS ACT 2005,  
(ACT NO. 36 OF 2005)

HEREBY ISSUES A NOTICE REGARDING THE DRAFT RADIO FREQUENCY  
SPECTRUM ASSIGNMENT PLAN FOR THE FREQUENCY BAND 2285 TO 2300  
MHZ FOR CONSULTATION.

1. The Independent Communications Authority of South Africa ("the Authority"), hereby publishes **Draft Radio Frequency Spectrum Assignment Plan for the frequency band 2285 to 2300 MHz for consultation** in terms of sections 2 (d), (e) and 4, read with sections 30, 31(4), and 33 of the Electronic Communications Act (Act No. 36 of 2005) and read with Regulation 3 of the Radio Frequency Spectrum Regulations 2015 and read with the Frequency Migration Plan 2013.
2. This Radio Frequency Spectrum Assignment Plan supersedes any previous spectrum assignment arrangements for the same spectrum location.
3. Interested persons are hereby invited to submit written representations, including an electronic version of the representation in Microsoft Word, of their views on the **Draft Radio Frequency Spectrum Assignment Plan for the frequency band 2285 to 2300 MHz** by no by later than 16h00 on Friday 01 December 2017.
4. Written representations or enquiries may be directed to:

The Independent Communications Authority of South Africa (ICASA)

*Pinmill Farm Block A*

*164 Katherine Street*

*South Africa*

*or*

Private Bag XI0002

Sandton

2146

**Attention:**

Mr Manyapelolo Richard Makgotlho

e-mail: [rmakgotlho@icasa.org.za](mailto:rmakgotlho@icasa.org.za)

5. All written representations submitted to the Authority pursuant to this notice shall be made available for inspection by interested persons from 15 December 2017 at the ICASA Library or website and copies of such representations and documents will be obtainable on payment of a fee.

Where persons making representations require that their representation, or part thereof, be treated confidentially, then an application in terms of section 4D of the ICASA Act, 2000 (Act No. 13 of 2000) must be lodged with the Authority. Such an application must be submitted simultaneously with the representation on the draft regulations and plan. Respondents are requested to separate any confidential material into a clearly marked confidential annexure. If, however, the request for confidentiality is refused, the person making the request will be allowed to withdraw the representation or document in question.



**BOTLENYANA MOKHELE**  
**COUNCILLOR**



# Radio Frequency Spectrum Assignment Plan

## Rules for Services operating in the Frequency Band 2285 MHz to 2300 MHz

This band is being considered for broadband fixed wireless access. An alternative application is for broadband wireless access and for consideration as a future extension of IMT 2300. Stakeholders are invited to comment on this and other possible uses of the band.

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## 1. Glossary

<b>“Act”</b>	means the Electronic Communications Act, 2005 (Act No. 36 of 2005) as amended
<b>“BTX”</b>	means Base Transceiver
<b>“BFWA”</b>	means Broadband Fixed Wireless Access
<b>“BWA”</b>	Means Broadband Wireless Access
<b>“CEPT”</b>	means European Conference of Postal and Telecommunications Administrations
<b>“DF”</b>	means Dual Frequency
<b>“DM RS”</b>	means Demodulation Reference Signal
<b>“IMT”</b>	means International Mobile Telecommunications
<b>“ITU”</b>	means the International Telecommunication Union;
<b>“ITU-R”</b>	means the International Telecommunication Union Radiocommunication Sector
<b>“MTX”</b>	means Mobile Transceiver
<b>“NRFP”</b>	means the National Radio Frequency Plan 2013 for South Africa
<b>“RFSAP”</b>	means Radio Frequency Spectrum Assignment Plan
<b>“SF”</b>	means Single Frequency
<b>“STL”</b>	means Studio Transmitter Link

## 2. Purposes

The Radio Frequency Spectrum Assignment Plan (RFSAP) provides information on the requirements attached to the use of a frequency band in line with the allocation and other information in the National Radio Frequency Plan (NRFP). This information includes technical characteristics of radio systems, frequency channelling, coordination and details on required migration of existing users of the band and the expected method of assignment.

This Frequency Assignment Plan states the requirements for the utilization of the frequency band between 2290 MHz and 2300 MHz.

The intention of this RFSAP is to:

### 2.1 Use the band for Broadband Fixed Wireless Access (BFWA).

BFWA systems can be used to provide last mile connections to users' premises. The high data rates are offered by these links and have the potential to cater for a wide range of services, including, but not limited to:

- Internet access.
- Multimedia and interactive applications such as tele-medicine and tele-education.
- Intranet
- Videoconferencing.
- File transfer.
- Banking.
- Remote host access.
- MPEG video.
- Ethernet.
- Wireless local area network (LAN).
- Broadband service delivery to homes and business.
- Wireless broadband for trunk configurations for mobile telecommunications systems (e.g. PCS and GSM) in backhaul links, metropolitan area networks (MANs), and synchronous digital hierarchy (SDH) rings.
- Private automatic branch exchange (PABX) (virtual, e.g. wireless Centrex).

### 3. General

Technical characteristics of equipment used in BFWA and BWA systems shall conform to all applicable South African standards, international standards, International Telecommunications Union (ITU) and its radio regulations as agreed and adopted by South Africa

All installations must comply with safety rules as specified in applicable standards.

The equipment used shall be certified under South African law and regulations.

The allocation of this frequency band and the information in this Radio Frequency Spectrum Assignment Plan (RFSAP) are subject to review.

Use of this band will be for Broadband Fixed Wireless Access.

TDMA techniques can be used for the provision of the system and service and the typical technical and operational characteristics identified as appropriate by the ITU can be found in:

Recommendation ITU-R F.1098-1\*: Radio-frequency channel arrangements for fixed wireless systems in the 1900-2300MHz band.

Recommendation ITU-R F.746-10\*, Radio-frequency arrangements for fixed service systems

Recommendation ITU-R F.1490-1\*, Generic requirements for fixed wireless access systems

Recommendation ITU-R F.757-4 Basic system requirements and performance objectives for fixed wireless access using mobile-derived technologies offering telephony and data communication services

ITU-R Handbook – Land Mobile (including Wireless Access) Volume 1: Fixed Wireless Access – 2nd Edition, 2001.

## 4. Channelling Plan

The frequency band 2290-2300 MHz provides a total bandwidth of 10 MHz.

## 5. Requirements for usage of radio frequency spectrum

This chapter covers the minimum key characteristics considered necessary in order to make the best use of the available frequencies.

The use of the band is limited to BFWA.

Only systems using digital technologies that promote spectral efficiency will be issued with an assignment. Capacity enhancing digital techniques is being rapidly developed and such techniques that promote efficient use of spectrum, without reducing quality of service are encouraged.

In some cases, a radio system conforming to the requirements of this RFSAP may require modifications if harmful interference is caused to other radio stations or systems.

The allocation of spectrum and shared services within these bands are found in the National Radio Frequency Plan (NRFP) and an extract of NRFP is shown in Appendix A

Maximum radiated power:

Base Station transmissions should not exceed 61dBm/5MHz EIRP.

Mobile Station transmissions should not exceed 23dBm EIRP.

On a case to case basis, higher EIRP may be permitted if acceptable technical justification is provided.

In some cases, a radio system conforming to the requirements of this RFSAP may require modifications if major interference is caused to other radio stations or systems.

## 6. Implementation

This RFSAP shall be effective on the date of issue.

No new assignment for BFWA in the band 2285 MHz – 2300 MHz shall be approved unless they comply with this RFSAP.

## 7. Co-ordination Requirements

Coordination is performed by the Authority during the process of assignment.

In the event of any interference, the Authority will require affected parties to carry out coordination. In the event that the interference continues to be unresolved after 24 hours, the affected parties may refer the matter to the Authority for a resolution. The Authority will decide the necessary modifications and schedule of modifications to resolve the dispute. The Authority will be guided by the interference resolution process as shown in **Appendix B**. Assignment holders shall take full advantage of interference mitigation techniques such as antenna discrimination, tilt, polarization, frequency discrimination, shielding/blocking



(introduce diffraction loss), site selection, and/or power control to facilitate the coordination of systems.

## **8. Assignment**

### Standard Approach

The assignment of frequency will take place according to the Standard Application Procedures in the Radio Frequency Spectrum Regulations 2015.

### Extended Approach

The assignment of frequency will take place according to the Extended Application Procedures in the Radio Frequency Spectrum Regulations 2015.

Further details are in the Appendix.

## **9. Revocation**

This band is currently unused Existing licences for the use of the band will be revoked.

## **10. Frequency Migration**

### Specific Procedure

The band is to be used for BFWA (or alternatively) BWA (in line with SADC proposed common sub-allocation/ utilization).

## Appendix A: National Radio Frequency Plan

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Comments
<p><b>2200 – 2290 MHz</b></p> <p>SPACE OPERATION (space-to-Earth)(space-to-space)</p> <p>EARTH EXPLORATION-SATELLITE(space-to-Earth)(space-to-space)</p> <p>FIXED</p> <p>MOBILE 5.391</p> <p>SPACE RESEARCH (space-to-Earth)(space-to-space)</p> <p>5.392</p>	<p><b>2200 – 2290 MHz</b></p> <p>SPACE OPERATION (space-to-Earth)(space-to-space)</p> <p>FIXED NF14</p> <p>MOBILE 5.391</p> <p>5.392</p>	<p>TT&amp;C received from space</p> <p>Fixed Links (2200-2285MHz)</p>	<p>Paired with 2025-2110 MHz ITU-R Rec. F.1098 refers.</p>
<p>2290 – 2300 MHz</p> <p>FIXED</p> <p>MOBILE except aeronautical mobile</p> <p>SPACE RESEARCH (deep space)(space-to-Earth)</p>	<p>2290 – 2300 MHz</p> <p>FIXED</p> <p>MOBILE except aeronautical mobile</p> <p>SPACE RESEARCH (deep space)(space-to-Earth)</p>	<p>Fixed Links</p>	

## Appendix B: Interference Resolution Process

When requesting coordination the relevant characteristics of the base station and the code or PCI group number should be forwarded to the Administration affected. All of the following characteristics should be included:

- a) carrier frequency [MHz]
- b) name of transmitter station
- c) country of location of transmitter station
- d) geographical coordinates [latitude, longitude]
- e) effective antenna height [m]
- f) antenna polarisation
- g) antenna azimuth [deg]
- h) antenna gain [dBi]
- i) effective radiated power [dBW]
- j) expected coverage zone or radius [km]
- k) date of entry into service [month, year].
- l) code group number used
- m) antenna tilt [deg]

The Administration affected shall evaluate the request for coordination and shall within 30 days notify the result of the evaluation to the Administration requesting coordination. If in the course of the coordination procedure the Administration affected requires additional information, it may request such information.

If in the course of the coordination procedure, an Administration may request additional information.

If no reply is received by the Administration requesting coordination within 30 days, it may send a reminder to the Administration affected. An Administration not having responded within 30 days following communication of the reminder shall be deemed to have given its consent and the code co-ordination may be put into use with the characteristics given in the request for coordination.

The periods mentioned above may be extended by common consent.