

INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA  
NOTICE 784 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 1518 TO 1525  
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 1518 to 1525 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 1518 to 1525 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

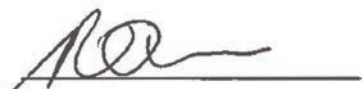
**Attention:**

Mr Manyapelo 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  
1518 MHz to 1525 MHz

**Critical issue is whether STL's can be deployed in this band in  
view of the activation of Alphasat using Inmarsat services**

**Comments are invited**

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The Frequency Migration Plan 2013 considers the possibility of making further assignments for single frequency links including notably Studio Transmitter Links in this band. However, this may cause harmful interference to IMT Satellite systems in this band including a service provided by Inmarsat that is in the process of being introduced. Stakeholders are requested to comment on this.

## 1 Glossary

In this Radio Frequency Spectrum Assignment Plan, terms used shall have the same meaning as in the Electronic Communications Act 2005 (no. 36 of 2005); unless the context indicates otherwise:

“Act”	means the Electronic Communications Act, 2005 (Act No. 36 of 2005) as amended
“BTX”	means Base Transceiver
“CEPT”	means European Conference of Postal and Telecommunications Administrations
“DF”	means Dual Frequency
“DM RS”	means Demodulation Reference Signal
“IMT”	means International Mobile Telecommunications
“ITU”	means the International Telecommunication Union;
“ITU-R”	means the International Telecommunication Union Radiocommunication Sector
“MTX”	means Mobile Transceiver
“NRFP”	means the National Radio Frequency Plan 2013 for South Africa
“PPDR”	means Public Protection and Disaster Relief as defined in ITU-R Report M.2033.
“RFSAP”	means Radio Frequency Spectrum Assignment Plan
“SF”	means Single Frequency
“STL”	means Studio Transmitter Link
“WRC-12”	means World Radio Conference 2012 held in Geneva
“WRC-15”	means the World Radio Conference planned to be held in 2015

## 2 Purpose

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 1518 MHz and 1525 MHz for the IMT Satellite component and Single Frequency Links (1517 – 1525MHz).

The single frequency links are typically used in private and communal radio repeaters, which boost and retransmit weak radio signal across a wider area.

The satellite component of IMT provides users with quality telecommunication services primarily on a virtually global coverage basis, and is economic outside those areas covered by the terrestrial component.

The intention of this RFSAP is ensure that there is no harmful interference to IMT Satellite Systems and to assign for single frequency links where there is no harmful interference to IMT Satellite services.

### 3 General

Technical characteristics of equipment used in Single Frequency Links and IMT Satellite 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.

Frequency bands assigned for IMT Satellite component includes bands 1518 – 1525 MHz. Frequency bands assigned for Single Frequency Links include bands 1517 – 1525 MHz.

The Satellite component of IMT is applicable for the provision of the satellite service and the typical technical and operational characteristics identified as appropriate by the ITU are described in the following documents

- ITU-R Recommendation M.1391: Methodology for the calculation of IMT-2000 satellite spectrum requirements.
- ITU-R Recommendation M.1167: Framework for the satellite component of International Mobile Telecommunications-2000 (IMT-2000).
- ITU-R Recommendation M.818 - Satellite operation within International Mobile Telecommunications-2000 (IMT-2000)

Single Frequency Links are applicable for the provision of the system and service and the typical technical and operational characteristics identified as appropriate by the ITU are described in the following documents

- CEPT Recommendation T/R 13-01 E (Preferred channel arrangements for fixed service systems operating in the frequency range 1 - 2.3 GHz
- ITU-R Recommendation F.1242: Radio-frequency channel arrangements for digital radio systems operating in the range 1 350 MHz to 1 530 MHz

## 4 Channelling Plan

The channelling plan for Single Frequency Links is as per ITU-R recommendation F.1242.

## 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 for single frequency links and IMT satellite.

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 are specified through the type approval process for the equipment used.

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 in the band 1518 – 1524 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**

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

## **9 Revocation**

Not applicable.

## **10 Frequency Migration**

Studio transmission links may be migrated into this band on condition that there is no harmful interference to IMT Satellite systems.

## **11**



## APPENDIX A - National Radio Frequency Plan

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Comments
<p>1518 – 1525 MHz</p> <p>FIXED</p> <p>MOBILE except aeronautical mobile</p> <p>MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A 5.341 5.342</p>	<p>1518 – 1525 MHz FIXED</p> <p>MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.351A 5.341</p>	<p>Single Frequency Links (1517-1525 MHz)</p> <p>IMT Satellite component</p>	<p>CEPT T/R 13-01 refers</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.