

INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA

NOTICE 125 OF 2019

**NOTICE REGARDING THE RADIO FREQUENCY SPECTRUM ASSIGNMENT PLAN FOR THE FREQUENCY BAND 1518 TO 1525 MHz.**

1. The Independent Communications Authority of South Africa ("the Authority"), hereby publishes **Radio Frequency Spectrum Assignment Plan for the frequency band 1518 to 1525 MHz** in terms of Regulation 3 of the Radio Frequency Spectrum Regulations 2015, as amended, and the Frequency Migration Plan 2013.
2. This Radio Frequency Spectrum Assignment Plan supersedes any previous spectrum assignment arrangements for the same spectrum location.

RUBBEN MOHLALOGA
CHAIRPERSON



Radio Frequency Spectrum Assignment Plan

Rules for Services operating in the Frequency
Band
1518 MHz to 1525 MHz

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1. Glossary

In this Assignment Plan, terms used shall have the same meaning as in the Electronic Communications Act, 2005 (Act 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

- 2.1 The RFSAP provides information on the requirements attached to the use of a frequency band in line with the allocation and other information in the 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.

- 2.2 This RFSAP 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).
- 2.3 This RFSAP seeks to 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

- 3.1 The single frequency links are typically used in private and communal radio repeaters, which boost and retransmit weak radio signal across a wider area.
- 3.2 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.
- 3.3 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.
- 3.4 All installations must comply with safety rules as specified in applicable standards.
- 3.5 The equipment used shall be certified under South African law and regulations.
- 3.6 The allocation of this frequency band and the information in this RFSAP are subject to review.
- 3.7 Frequency bands assigned for IMT Satellite component includes bands 1518 – 1525 MHz. Frequency bands assigned for Single Frequency Links include bands 1517 – 1525 MHz.
- 3.8 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:
 - 3.8.1 ITU-R Recommendation M.1391: Methodology for the calculation of IMT-2000 satellite spectrum requirements.
 - 3.8.2 ITU-R Recommendation M.1167: Framework for the satellite component of International Mobile Telecommunications-2000 (IMT-2000).

3.8.3 ITU-R Recommendation M.818 - Satellite operation within International Mobile Telecommunications-2000 (IMT-2000).

3.9 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:

3.9.1 CEPT Recommendation T/R 13-01 E (Preferred channel arrangements for fixed service systems operating in the frequency range 1 - 2.3 GHz; and

3.9.2 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

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

5. Requirements for usage of radio frequency spectrum

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

5.2 The use of the band is limited for single frequency links and IMT satellite.

5.3 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.

5.4 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.

5.5 The allocation of spectrum and shared services within these bands are found in the NRFP and an extract of NRFP is shown in **Appendix A**.

5.6 Maximum radiated power are specified through the type approval process for the equipment used.

5.7 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

- 6.1 This RFSAP shall be effective on the date of issue.
- 6.2 No new assignment for in the band 1518 – 1524 MHz shall be approved unless they comply with this RFSAP.

7. Co-ordination Requirements

- 7.1 Coordination with regard to non-shared spectrum shall be performed by the Authority during the process of assignment.
- 7.2 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 **0**.
- 7.3 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

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

9. Revocation

- 9.1 Not applicable.

10. Frequency Migration

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

Appendix A: National Radio Frequency Plan

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications		Comments
1 518-1 525 MHz FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A 5.341 5.342	1 518-1 525 MHz FIXED MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.351A 5.341	IMT Satellite component	The band 1518-1559 MHz is identified for satellite component of IMT; Res.225 applies.	1 518-1 525 MHz FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A 5.341 5.342

Appendix B: Interference Resolution Process

When requesting coordination, the relevant characteristics of the base station 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 coordination may be put into use with the characteristics given in the request for coordination.

The periods mentioned above may be extended by common consent.

End////