



MTN Submission
Notice of intention to amend Annexure B of the Radio Frequency
Spectrum Amendment Regulations, 2021.

30 January 2023

1. Introduction

Mobile Telephone Networks Pty Ltd ("MTN") welcomes the opportunity to provide written comments on the Notice of intention to amend Annexure B of the Radio Frequency Spectrum Amendment Regulations, 2021.

On 21 December 2022, the Independent Communications Authority of South Africa ("Authority") published a Notice of intention to amend Annexure B of the Radio Frequency Spectrum Amendment Regulations, 2021 in Government Gazette No. 47792 (Notice No. 1527 of 2022).

Annexure B of the Radio Frequency Spectrum Regulations, 2015 ("RFSR") contains a list of apparatus which are exempted from the requirement to have a radio frequency spectrum license to use radio frequency spectrum. The Authority originally published a draft amendment to Annexure B of the RFSR on 23 July 2019 (Government Gazette 42590, Notice 1003 of 2019). Given that the process to amend Annexure B of the RFSRs was initiated over three years ago but never concluded, it appears that the Authority has re-initiated a new consultation process in order to obtain current industry views on spectrum license exempted use prior to updating Annexure B.

MTN's submission is structured as follows:

- Section 1: Introduction;
- Section 2: General Comments; and
- Section 3: Specific Comments.

2. GENERAL COMMENTS

An incorrect reference can be found in point 3 of the introduction which explains the rational for amending Annexure B of the regulations (which addresses the relevant apparatus that are exempt from acquiring a Radio Frequency Spectrum Licenses) of the Authority's document. For reference the extract is provided below with the incorrect reference struck through.

Interested persons are hereby invited to submit written representations on the proposed amendments to Annexure B of the Radio Frequency Spectrum Amendment Regulations, 2021 (~~Government Gazette 45690 published on 24 December 2021~~). Written representations must include an electronic version of the representation in Microsoft Word and a signed pdf, by no later than 16h00 on 30 January 2023.

MTN recommends the correct reference, namely Government Gazette No. 47792 published on 21 December 2022 be inserted.

Furthermore, under the heading Schedule, point 2 Short title and Commencement, there appears to be an error regarding the title of the regulations. MTN proposes the date should be 2021 and not 2022 as stated.

These Regulations are called the Amended Radio Frequency Spectrum Regulations, ~~2022~~ 2021 and will come into force on the date of publication in the Government Gazette.

3. SPECIFIC COMMENTS

1880 -1900 MHz

The wireless standard for DECT was first introduced by the European Telecommunications Standards Institute (ETSI) in 1993, and the frequencies in which DECT operates have been the same ever since.

The technology is more than 25 years old. MTN thus has questions on the current relevance and future of DECT. If this technology is no longer relevant to the South African market, then MTN proposes the deletion of this assignment.

3400 –4200 MHz

MTN notes a repetition of 3400 –4200 MHz and recommends the duplicated row be deleted.

Frequency	Application Type	Maximum Radiated Power, Field Strength or Sensitivity Limits	Relevant Performance Standards	Additional Requirements
3400-4200MHz	Ultra-Wide Band (UWB) Location tracking application for emergency and disaster situations (LAES)	0 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03

Additionally, it would be beneficial if the Authority could provide more detail or descriptions for the categories forming part of this frequency range especially 'Ultra-Wide Band (UWB) Applications.

5725-5875 MHz

Frequency	Application Type	Maximum Radiated Power, Field Strength or Sensitivity Limits	Relevant Performance Standards	Additional Requirements
5725-5875Mhz	Broadband Fixed Wireless Access systems (BFWA)	36 dBm e.i.r.p.	SANS 302 502	ECC/REC/(06)04
5725-5875Mhz	Broadband Fixed Wireless Access systems (BFWA)	30 dBm e.i.r.p.	FCC 47 CRF Part 15.247	

MTN notes that for 5725-5875 MHz, Annexure B makes mention of two different performance standards, one for SANS and then another by the FCC. While the e.i.r.p. are different MTN suggests that there only be one standard associated with a category and that should be SANS 302 502.

5925-6425MHz

It is accepted that there is a need to assign additional license exempt spectrum. Assigning additional radio frequency spectrum for Wi-Fi 6 specifically in the lower 6GHz band, namely 5925-6425MHz, and reserving the upper band in 6GHz (6 425-7 125 MHz) for IMT services, would be a strategic approach to balancing the needs of both Wi-Fi and mobile broadband in South Africa. Both licensed and unlicensed licensing schemes have their strengths and weaknesses, and it is incumbent on regulatory authorities to find the right balance between the two methods and this is particularly vital within the frequency spectrum mid-bands.

By assigning the lower 6GHz band for Wi-Fi 6, organizations and individuals will be able to deploy Wi-Fi 6 networks that perform at their best, which will in turn provide users with faster speeds and greater capacity.

Limiting the assignment of spectrum to support Wi-Fi 6 to the lower 6GHz enables the upper 6GHz band to be assigned for IMT services, subject to the successful adoption of agenda item 1.2 at WRC-23. Such an assignment to IMT would assist in the development of mobile broadband throughout Africa. By identifying this frequency range for IMT services, mobile network operators will be able to use it to deploy mobile broadband networks that can further support the growing demand for high-bandwidth applications.

Within the developing continent of Africa, connectivity is predominately either mobile first or mobile only. This connectivity model is very different to developed economies in other regions mainly as penetration of fixed infrastructure on the African continent is extremely low in comparison to developed economies.

While there has been advocacy to expand the licencing of spectrum to the full 6GHz for Wi-Fi 6, MTN suggests that this suggestion should be resisted. As the volume of mobile data traffic continues to increase, the traditional way to release the congestion on mobile networks was through wi-fi offloading. However, the offloading of mobile data to complementarity networks such as wi-fi can only practically work where fixed infrastructure such as fibre is prevalent and as addressed this is not the case in South Africa and Africa in general. In reality, wireless routers connect over mobile networks and therefore access to the full 6 GHz band for Wi-Fi would not solve the connectivity challenges as identified in the South African national broadband plan.

Consequently, while MTN is supportive of the Authority's proposal of incorporation of the lower 6 GHz in Annexure B of the Radio Frequency Spectrum Amendment Regulations, 2021, we caution the Authority to not expand beyond the lower 6 Ghz range.

In summation, assigning additional radio frequency spectrum for Wi-Fi 6 specifically in the lower 6GHz band, and reserving the upper band in 6GHz (6 425-7 125 MHz) for IMT services, would be a strategic approach to balancing the needs of both Wi-Fi and

mobile broadband in South Africa. This approach would ensure that Wi-Fi 6 is able to operate with the least amount of interference, assist in the development of mobile broadband, balance the needs of both wireless services, alleviate the potential interference between the bands, and ensure enough spectrum available for 5G deployment in the future.

Additionally, the identification of this band for Wi-Fi / RLAN (Radio Local Area Network) is in line with ATU recommendations as detailed in Section 4-1(3) for Wi-Fi in 6 GHz Band (5 925 – 6 425 MHz) and is in line with the Technical and Operating Conditions for Wireless Access Systems Including Radio Local Area Networks (WAS/RLAIN) specified in Annex 3.

122-246 GHz

The application type for 122-246 GHz is categorised as non-specific short range devices, based on the maximum radio power specification MTN assumes that this would be for Bluetooth technology and specifically Class-1 BT devices that have a range of up to 100m.