To:	Independent Communications Authority of South Africa 350 Witch-Hazel Road, Eco Park Centurion Mr Davis Kgosimolao Moshweunyane Mr Manyaapelo Richard Makgotlho
Re:	Draft National Radio Frequency Plan 2025
Date:	13 June 2025
From:	Amazon, Inc. Apple, Inc. Broadcom, Inc. Cisco Systems, Inc. Hewlett Packard Enterprise Intel Corporation Meta Platforms, Inc.

The undersigned companies, representing an important cross-section of the world's leading silicon vendors, system manufacturers, and application providers, welcome the opportunity to comment on the Independent Communications Authority of South Africa ("the Authority") Draft National Radio Frequency Plan ("NRFP") 2025. Given the increasing economic and social value of wireless broadband connectivity, we fully support the Authority's efforts to ensure efficient and flexible use of spectrum and to support the introduction of new technologies and innovative wireless services.

We applaud the Authority's decision to update the NRFP 2025 to reflect its prior decision to allow licence-exempt radio local area networks ("WAS/RLAN") operation in the lower 6 GHz (5925-6425 MHz) band ("L6 GHz band") in line with African Telecommunications Union ("ATU") Recommendation ATU-R 005, SS4-1(3) and as captured in the Radio Frequency Spectrum Regulations[1]. This was an important first step that will assist the Authority to achieve its broadband connectivity goals.

In keeping with these efforts, we encourage the Authority to continue its support of WAS/RLAN services as it considers the future use of the 6425-7125 MHz band ("U6 GHz band"). While WRC-23 identified the U6 GHz band for IMT, WRC-23 also recognized the importance of this band for WAS/RLAN services. Therefore, as the Authority proceeds with its spectrum management work plan and makes decisions on the U6 GHz band, we recommend that it take an approach that supports both industry growth and broader societal needs while also fostering international cooperation. Such an approach will ultimately contribute to the successful and sustainable deployment of advanced wireless technology and services, strengthen South Africa's position in the global digital economy, and help achieve its connectivity targets as outlined in the ICASA Strategic Plan 2025-2030[2].

Over 21.1 billion Wi-Fi devices are currently in use worldwide, with 4.1 billion shipped annually, according to research firm IDC[3]. The technology has consistently enabled affordable internet access and facilitated business operations. New Wi-Fi advancements, such as Wi-Fi 6E and Wi-Fi 7, are expanding these benefits further, driving both social and economic progress.

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[1] Notice to amend Annexure B of the Radio Frequency Spectrum Regulations, 2023.

[2] https://static.pmg.org.za/Annexure_A_Signed_by_AA_and_AO_ICASA_SP_2025_-_30_Final_31_03_2025.pdf#:~:text=expand%20connectivity%20not%20only%20in%20urban%20and,attained%2C%20as%20this%20will%20be%20essential%20in.

[3] Source: https://www.wi-fi.org/beacon/the-beacon/wi-fi-by-the-numbers-technology-momentum-in-2023.

Traffic in existing licence-exempt bands (i.e. 2.4 GHz and 5 GHz) has intensified significantly in recent years. In many markets, Wi-Fi use of the 2.4 GHz band has become impractical given the myriad other short-range devices that access the same frequencies. Similarly, the 5 GHz band is becoming increasingly crowded with surveillance/doorbell cameras. Dynamic frequency selection ("DFS") restrictions make use of the 5 GHz band for certain broadband services particularly challenging in some locations and impossible for very low power portable operations.

The need for additional licence-exempt spectrum is becoming increasingly urgent. Some governments worldwide have harnessed the transformative potential of Wi-Fi by unlocking access to the full 6 GHz band[4]. South Africa has an excellent opportunity to follow this proven model by ensuring sufficient spectrum is available to support the latest generations of Wi-Fi technology. The undersigned companies anticipate that a minimum of fifteen 80 MHz channels or seven 160 MHz channels will be needed to exploit the full capabilities of the Wi-Fi 7 and future Wi-Fi 8 protocols for a variety of wireless broadband and very low power applications. We expect even more spectrum to be required in the future to support a minimum of four 320 MHz channels.

Opening the entire 6 GHz band (5925-7125 MHz) for licence-exempt use is essential for deploying next-generation Wi-Fi technologies, which will help achieve South Africa's goals of bridging the digital divide and creating inclusive economic opportunities.

Highlighting the Relevance of WRC-23 Outcomes in the Upper 6 GHz (6425-7125 MHz) Band

We encourage the Authority to consider the implications of WRC-23 outcomes regarding the upper 6 GHz (6425-7125 MHz) band. Footnote 5.457E in the Radio Regulations states:

> "*The frequency bands 6 425-7 125 MHz in Region 1 and 7 025-7 125 MHz in Region 3 are identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Resolution* ***220 (WRC-23)*** *applies.*
> *The frequency bands are also used for the implementation of wireless access systems (WAS), including radio local area networks (RLANs). (WRC-23)*."

This provision empowers administrations to choose the mobile applications that best suit their needs, be it IMT, WAS/RLAN, or both. Finding the right balance is vital for South Africa to maximise socio-economic benefits.

Other administrations are engaged in similar efforts to determine the best use of the U6 GHz band. For example, the European Conference of Postal and Telecommunications Administrations ("CEPT") is currently studying technical and regulatory aspects of enabling both IMT and WAS/RLAN in the U6 GHz band.

While it may not be realistic to expect that the entire U6 GHz band will be opened for exclusive use by either service, we note that there are numerous Wi-Fi products available today that support both the L6 GHz and U6 GHz bands. These products supporting full 6 GHz have had Wi-Fi Alliance certification for some time and products supporting the U6 GHz could be made available quickly. Furthermore, the introduction of WAS/RLAN into the U6 GHz band would not affect incumbents' operations, whereas the band would have to be cleared of most, if not all, incumbents were IMT to be introduced.

[4] See https://6ghz.info/.

In order to take advantage of the availability of U6 GHz Wi-Fi equipment today, we suggest a multi-phased approach that begins with allocating the first 160 MHz of the U6 GHz band in the immediate future under the same conditions as the L6 GHz band for Wi-Fi followed by opportunistic access to the remainder of the U6 GHz band. As sharing/coordination mechanisms are developed to enable sharing between business-critical WAS/RLAN enterprise networks and IMT networks across the rest of the U6 GHz band, the introduction of IMT could be decided at that time.

Specific Comments on the NRFP 2025

1. 5925-6425 MHz

   The NRFP 2025 should reflect all of the typical applications, including WAS/RLAN.
   As the first column deals with allocations and footnotes for Region 1, we suggest removing from the MOBILE allocation footnotes 5.457C (which applies to Region 2), 5.457D (which applies to countries in Region 3), and 5.457F (which applies to countries in Region 2).

2. 6425-7125 MHz

   The NRFP 2025 should reflect all of the typical applications, including WAS/RLAN. Additionally, Annexure B of the Radio Frequency Spectrum Regulations 2015 should be amended to include the power limits for WAS/RLAN operation in the U6 GHz band. We recommend that, at a minimum, the Authority should allow Very Low Power (“VLP”) and Low Power Indoor (“LPI”) licence-exempt operation of WAS/RLAN, similar to what is authorized in the L6 GHz band.

3. 2300-2450 MHz

   WLAN is listed as a typical application in the sub band 2400-2483.5 MHz with the corresponding note “Radio Frequency Spectrum Regulations as amended (Annex B) (GG. No. 38641, 30 March 2015).” The Government Gazette number and date references in this note should be removed so that the reference is to the latest version of Annexure B of the regulations. This change would bring the reference in line with that for WAS/RLAN in the L6 GHz band.

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
5 925-6 700 MHz FIXED 5.457 FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B MOBILE ~~5.457C 5.457D~~ 5.457E ~~5.457F~~	**5 925-6 425 MHz** FIXED 5.457 NF14 FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B MOBILE 5.149 5.440 5.458	Fixed links - Lower 6 GHz (5925-6425 MHz) BFWA WAS/RLAN (5925 - 6425 MHz) Fixed-satellite uplinks (PTP/VSAT/SNG) (5850-6425 MHz) ESVs (5925 – 6425 MHz) Radio astronomy (observation of Methanol)	Channelling plan for L6 GHz band in accordance with ITU-R Rec. F.383 latest version. Earth Station onboard vessels (ESV) also allowed under FSS. Resolution 902 (WRC-03) Consideration may be made for future License exempt provided it is feasible for the protection of incumbent service. Radio Frequency Spectrum Regulations, 2015 – Annexure B (as amended)
	6 425-6 429 MHz FIXED 5.457 NF14 FIXED-SATELLITE (Earth-to-space) MOBILE 5.457E STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (6 427 MHz) (space-to-Earth) 5.149 5.440 5.458	Upper 6 GHz (6425-7110 MHz), BFWA WAS/RLAN (6425 – 7125 MHz) Fixed-satellite uplinks (PTP/VSAT/SNG) (5850-6425 MHz) Radio astronomy (observation of Methanol) IMT Identification (6425 -6429 MHz)	Channelling plan for U6 GHz band in accordance with ITU-R Rec. F.384 latest version. Resolution 150 (WRC-12) ITU-R Recommendation M1036.8 Radio Frequency Spectrum Regulations 2015 – Annexure B (as amended)
	6 429-6700 MHz		

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
5.149 5.440 5.458	FIXED 5.457 MOBILE 5.457E 5.458	Upper 6 GHz (6425-7110 MHz), BFWA WAS/RLAN (6425 – 7125 MHz) Radio astronomy (observation of Methanol) IMT Identification (6429 -6700 MHz)	Channelling plan for U6 GHz band in accordance with ITU-R Rec. F.384 latest version. Resolution 150 (WRC-12) ITU-R Recommendation M1036.8 Radio Frequency Spectrum Regulations 2015 – Annexure B (as amended)
6 700-7 075 MHz FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441 MOBILE 5.457E 5.458 5.458A 5.458B	**6 700-7 075 MHz** FIXED NF14 FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441 MOBILE 5.457E 5.458 5.458A 5.458B	Fixed Links (U6) (6425 – 7110 MHz) IMT Identification (6700 -7125 MHz) WAS/RLAN (6425 – 7125 MHz)	Channelling plan for U6 GHz band in accordance with ITU-R Rec. F.384 latest version. The band 6 725-7 025 MHz is part of the APP30B Plan (FSS Earth-to-space); refer to Annex B. ITU-R Recommendation M1036.8 Radio Frequency Spectrum Regulations 2015 – Annexure B (as amended)
7 075-7 145 MHz FIXED MOBILE 5.457E 5.458 5.459	**7 075-7 145 MHz** FIXED NF14 MOBILE 5.457E 5.458	Fixed Links (U6) (6425 – 7110 MHz) Fixed Links (L7) (7110 – 7425 MHz) IMT Identification (6700 -7125 MHz) WAS/RLAN	Channelling plan for U6 band in accordance with ITU-R Rec. F.384 latest version. Channelling plan for L7 band is in accordance with ITU-R Rec. F.385 latest version Annex 3. ITU-R Recommendation M1036.8 Radio Frequency Spectrum Regulations 2015 – Annexure B (as amended)

Conclusion

The undersigned are committed to supporting the Authority in its efforts to ensure spectrum is managed in an efficient and flexible manner and to enable different users and industries to take advantage of technological advancements. We look forward to working with the Authority on the successful and sustainable deployment of advanced wireless technology and services and strengthening South Africa's position in the global digital economy.

We would welcome the opportunity to deliver an oral presentation, if the Authority decides to host public hearings.

/s

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