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10 December 2025

RE: Public Consultation on Second Draft National Radio Frequency Plan 2025

Please find attached Qualcomm's comments on the Public Consultation on the Second Draft National Radio Frequency Plan issued by the Independent Communications Authority of South Africa.

Please feel free to contact me should you have any questions.

Kind regards,

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Qualcomm

Qualcomm Inc. (Qualcomm) welcomes the opportunity to provide input to the Independent Communications Authority of South Africa (ICASA) on the Second Draft National Radio Frequency Plan (NRFP-25).

Qualcomm is the world's leading wireless technology innovator and the driving force behind the development, launch, and expansion of 5G. When we connected the phone to the internet, the mobile revolution was born. Our technologies serve as the foundation of the mobile ecosystem and are found in every 3G, 4G, and 5G smartphone. We are bringing the benefits of mobile to new industries, including automotive, the internet of things (IoT), and compute, and are creating a world where everything and everyone communicates and interacts seamlessly. Qualcomm's Wi-Fi solutions build on our world-class engineering capabilities to provide highly reliable multi-gigabit connectivity to users and devices in homes, businesses, libraries, and on school campuses. Today, we are focused on advancing 5G, developing 6G, and continuing to improve Wi-Fi connectivity.

Qualcomm's vision is for 5G to enable new services and devices, connect new industries, and empower new user experiences. 5G is driven by heterogeneous services with vastly different requirements — from very low energy sensors, wearables and new form factors — to new mission-critical applications with high reliability and low latency (e.g., smart city and critical infrastructure, medical and emergency response, sensing and remote control)— to very high data rate backhaul and access transmissions across wide bandwidths for ultra-high-capacity broadband. 6G will be a smarter platform that brings more than just a new radio design. It will encompass a broader range of technologies to further drive the expansion of the connected intelligent edge at scale. 6G will fully unleash the combined potential of communications, artificial intelligence (AI), integrated sensing, system resiliency, and more sustainable networks.

The remainder of this submission presents information on Qualcomm's views on the content of the Second Draft NRFP-25.

1 General comments

Qualcomm commends ICASA for its continued commitment to aligning South Africa's spectrum management framework with the outcomes of the 2023 World Radiocommunication Conference (WRC-23), the updated ITU Radio Regulations (2024 edition), and relevant regional harmonisation initiatives in the Second Draft of the NRFP-25. We support ICASA's systematic approach to updating the National Radio Frequency Plan to reflect international and regional developments, ensuring that South Africa remains well positioned to maximize the long-term socioeconomic value of its spectrum resources. These updates provide clarity for industry, strengthen cross-border alignment, and promote a coordinated framework that benefits all spectrum users. Qualcomm further supports policies and regulations that enable the deployment of both Wi-Fi and mobile devices in the 6 GHz band and IMT devices in mid-band spectrum. We particularly support South Africa's adoption of allocations that enable the operation of radio local access networks (RLANs) in the 5925-6425 MHz range as well as International Mobile Telecommunications (IMT) systems in the C band and the 6425-7125 MHz range, with potential for future expansion of the upper mid-band spectrum in 7/8 GHz.

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2 Comments on specific frequency ranges

2.1 Upper 6 GHz band (6425-7125 MHz)

Qualcomm welcomes ICASA's recognition in the Second Draft NRFP-25 of IMT as a "typical application" in the 6425-7125 MHz band and strongly supports the continued inclusion of IMT as a key use of this band. The upper 6 GHz range is an essential mid-band resource for supporting the ongoing expansion for IMT networks and forming the foundation for early 6G deployments. International assessments, including a November 2025 GSMA report, show that mobile networks will require significantly more mid-band spectrum, typically -a total of 2-3 GHz per market in urban areas by 2035-2040, to meet demand.[1] Without access to additional mid-band capacity such as the upper 6 GHz range, mobile networks risk facing cost, performance, and energy-efficiency constraints that could limit South Africa's digital transformation ambitions.

Global momentum behind the use of the upper 6 GHz band for IMT services continues to accelerate. Several major markets, including countries in the European Union (EU), China, and India, are actively studying or preparing the upper 6 GHz band for IMT licensing, and commercial awards in parts of the upper 6 GHz/lower 7 GHz range, such as in Hong Kong, demonstrate its viability for wide-area mobile broadband. Consequently, Qualcomm encourages ICASA to prioritize the allocation of spectrum in the upper 6 GHz band for IMT use.

Qualcomm notes ICASA's intent to monitor the European Conference of Postal and Telecommunications Administrations' (CEPT) work on potential IMT/RLAN coexistence conditions in Region 1. While recognizing the value of tracking regional studies, it is essential that South Africa's approach be guided primarily by its national broadband needs and long-term mobile network capacity requirements. The upper 6 GHz band's strategic importance, particularly its contiguity with the 7/8 GHz band identified for study under WRC-27 Agenda Item 1.7, makes it a cornerstone for future 6G planning. Preserving this band for IMT use will ensure that South Africa remains aligned with global developments and well positioned to benefit from contiguous blocks of prime mid-band spectrum that enable wide-area capacity, support emerging XR and AI-driven applications, and provide the foundation for next-generation mobile broadband. Qualcomm also encourages ICASA's continued participation in international fora, including activities in ITU-R study groups leading up to and including WRC-27, to ensure early alignment and harmonization of future 6G bands, including the upper 6 GHz band and the 7/8 GHz band.

As South Africa considers how best to enable and contribute to the development and deployment of 6G, it is important to get an early start. Spectrum planning takes time, and 6G standards are targeted for completion in 2030 – only about five years away. Such forward-looking planning will ensure that South Africa's approach to 6G spectrum enables rapid deployment of 6G technology.

2.2 Lower 6 GHz band (5925-6425 MHz)

Qualcomm supports ICASA's proposed allocations for the 5925-6425 MHz band (the lower 6 GHz band) in the Second Draft NRFP-25 for mobile services, which appropriately aligns with global developments and South Africa's increasing demand for high-capacity wireless connectivity. The lower 6 GHz band is particularly important due to growing demand for wireless internet access, the need to facilitate the deployment of new

[1] GSMA, Vision 2040: Spectrum for the future of mobile connectivity, November 2025, https://www.gsma.com/connectivity-for-good/spectrum/wp-content/uploads/2025/11/Vision-2040-Future-Spectrum-Needs-v2.pdf.

networks, and promoting the efficient use of internet access technologies. Global demand for connectivity continues to grow, especially driven by the rapid rise in the number of users working, learning, and consuming entertainment from home.

As noted in our previous comments on the Draft National Radio Frequency Plan 2025, Qualcomm further welcomes ICASA's recognition, reflected both in the recent amendments to the Radio Frequency Spectrum Regulations, 2015 and in this draft NRFP, that the lower 6 GHz band should support license-exempt (WAS)/RLAN technologies, including low-power indoor (LPI) and very-low-power (VLP) use. Qualcomm continues to support policies and regulations that enable and promote Wi-Fi in the 6 GHz band, noting that the availability of a new allocation of wide and contiguous mid-band spectrum is critical to meet demands for license-exempt wireless access systems (WAS)/RLAN technologies, including Wi-Fi 6E.

Expanding the spectrum available for Wi-Fi will enable increased capacity for local-area networks that deliver an increasing percentage of traffic to users' mobile devices. The 2.4 GHz and 5 GHz bands used globally for Wi-Fi have become increasingly congested due to their popularity and ease of use. Unencumbered 6 GHz spectrum occupied only by efficient Wi-Fi 6 – and soon, Wi-Fi 7 – traffic designed to deliver significant reductions in latency will not only add capacity but will increase responsiveness for latency-sensitive applications. By enabling Wi-Fi 6 and upcoming Wi-Fi 7 deployments in this range, South Africa can unlock additional capacity for local area networks, support increased device density, and promote innovation across consumer, industrial, and enterprise environments.

2.3 Upper mid-band (7125-8400 MHz)

As noted in Qualcomm's previous comments on the Draft National Radio Frequency Plan 2025, we particularly emphasize the importance of exploring the potential for enabling IMT deployment in the 7125-8400 MHz range, as this range is the natural extension of the upper 6 GHz band. The upper 6 GHz band and 7/8 GHz band will be critical to support 6G mobile broadband, improve connectivity for smart cities, and support advanced applications. In alignment with the ITU conclusions, the upper mid-band range combines the wide-area coverage of bands below 5 GHz with the greater throughputs of millimeter wave (mmWave) bands. Potential use cases will be more capacity for wide-area broadband, expanded use of XR, and support for high-resolution radio frequency (RF) sensing. These use cases will provide additional benefits to smartphone users in the mass market, enhance smart cities and automotive connectivity, and improve support of industry verticals.

Qualcomm encourages ICASA's participation in international fora, including activities in ITU-R study groups leading up to and including WRC-27, to ensure early alignment and harmonization of future 6G bands, including the 7125–8400 MHz band.

2.4 C band (3600-3800 MHz and 3300-3400 MHz)

Qualcomm welcomes ICASA's proposed revisions to C-band NRFP entries, particularly the designation of IMT as the primary application in the 3600-3800 MHz range and the identification of IMT as a typical application in the 3300-3400 MHz range. These updates reflect international developments following WRC-23 and align with the global trend of making additional mid-band spectrum available to support 5G deployment and the emerging transition toward 5G and future 6G systems.[2] The availability of IMT across these C-band ranges will

[2] GSA, Mid-Band Spectrum, July 2025, https://gsacom.com/download.php?id=19518.

strengthen South Africa's overall mid-band capacity and support high-speed, wide-area mobile broadband connectivity.

Mid-band spectrum, especially within the C-band, remains crucial for advanced mobile networks. The updates in the Second Draft NRFP-25 will help ensure that operators have access to harmonized, globally supported frequency ranges that benefit from a mature device and equipment ecosystem. The expanded availability of IMT-identified spectrum in the C band will allow operators to deliver improved network performance, increase resilience, and support data-intensive applications across consumer, enterprise, and industrial sectors.

Qualcomm encourages ICASA to make these C-band ranges available for IMT use at the earliest feasible opportunity through the forthcoming RFSAP processes. Ensuring timely access to 3300-3400 MHz and 3600-3800 MHz will help South Africa meet rising data-traffic demands, support its digital transformation objectives, and maintain alignment with global mid-band deployment strategies.

2.5 26 GHz band

In addition to spectrum in the mid-band range, mmWave bands (24-71 GHz) enable 5G and 6G networks to bring additional local-area capacity for communications and sensing. Higher frequencies with wide bandwidths in the sub-Terahertz range will provide greater precision. Currently, Qualcomm is focused on aligning our 6G vision and engaging in foundational research to determine timelines and requirements to enable this next cycle of cellular innovation. Additional characteristics and benefits of 6G are presented in Figure 1.

Figure 1. 6G areas of development

Source: Qualcomm

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Qualcomm is encouraged to note that the Second Draft NRFP-25 updates the relevant notes related to the 26 GHz band (24.25-27.5 GHz) and indicates planned alignment with ATU-R Recommendation 008-0, the IMT Spectrum Roadmap for Africa. We encourage South Africa to take current and potential future IMT use cases enabled by 5G and 6G into account as a Radio Frequency Spectrum Allocation Plan for this band is developed.

3 Conclusion

Qualcomm welcomes the opportunity to convey our views to ICASA regarding the Second Draft NRFP-25 and look forward to continuing engagement with ICASA on the issues raised in this and future consultations. As South Africa develops its plans for enabling the successful deployment of 5G and 6G services, consideration of international and regional developments and domestic use will be important inputs into the planning process. Qualcomm looks forward to continuing engagement with ICASA as an active contributor of technical information into the South African WRC-27 preparation process.

Should you have any questions or comments on this submission, please do not hesitate to contact me at +27 82 616 3604 or emigwall@qualcomm.com.