MTN'S SUBMISSION TO THE NOTICE REGARDING THE SECOND DRAFT NATIONAL RADIO FREQUENCY PLAN 2025

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1. INTRODUCTION

Mobile Telephone Networks (Pty) Ltd ("MTN") appreciates the opportunity to comment on the Second Draft National Radio Frequency Plan 2025 ("NRFP-25") as published by the Independent Communication Authority of South Africa ("ICASA" or the Authority") on 07 November 2025. MTN commend ICASA for its consultative approach and the extensive work undertaken to align the NRFP-25 with international developments, particularly the outcomes of the World Radiocommunication Conference 2023 ("WRC-23"), to which South Africa is a signatory.

MTN welcomes the review of the National Radio Frequency Plan and appreciates the extensive work that has been done by the Authority in arriving at the current version of the Draft NRFP-25.

Mobile broadband is a critical enabler of economic growth, job creation and social inclusion. Radio frequency spectrum ("spectrum") is the essential resource underpinning these benefits. Given the high penetration of mobile devices in South Africa, timely access to sufficient and affordable spectrum is vital for continued broadband expansion and innovation.

The NRFP-25 is the foundational document for all spectrum regulation and must provide regulatory certainty to support investment in this capital-intensive sector.

MTN's submission comprises general comments on the NRFP-25 and specific comments on key frequency bands, with a focus on International Mobile Telecommunications ("IMT") spectrum.

2. GENERAL COMMENTS

2.1. Radio Frequency Migration Plan

MTN respectfully notes that the NRFP-25 deviates from section 34 of the Electronic Communications Act, 36 of 2005 ("the ECA"), particularly regarding the requirement for a migration plan. Section 34(6) and section 34(7(c)(iii) of the ECA mandate that the National Radio Frequency Plan must include a plan for the migration of existing users within specific radio frequency bands, developed in consultation with the

Minister. While the draft Migration Plan was published in March 2024[1], it was never finalised, and the outdated 2019 Migration Plan[2] remains in force.

MTN further highlights that Chapter 1, section 1 (Definitions) of the ECA, provides that a radio frequency plan is –

> *"a national plan that includes, but is not limited to –*
>
> *(a) a table of frequency allocations for all bands below 3000 GHz taking into account the ITU table of allotments, in so far as such allotments have been adopted and agreed upon by the Republic, which may include designations of certain utilisations; and*
>
> *(b) a plan, as applicable, for the migration of systems and equipment of existing users within specific radio frequency bands, including radio frequency bands for security services, to different frequency bands;"*

The above requirement is further recognized in section 34(7)(c)(iii) which mandates ICASA, when preparing a national Frequency Band Plan to –

> *"(c) consult with the Minister to –*
>
> *(iii) co-ordinate a plan for migration of existing users, as applicable, to make available radio frequency spectrum to satisfy the requirements of subsection (2) and the objects of this Act and of the related legislation."*

It remains essential that the migration plan is reviewed and updated at the same time as the publication of a new National Radio Frequency Plan. MTN respectfully recommends that the Authority prioritise addressing the current lack of an updated migration plan, or the absence of any clear timeline for its publication. The finalisation of a migration plan should take precedence before developing any radio frequency assignment plans for bands that have experienced a change in allocation following the conclusion of WRC-23. Changes in how spectrum bands are used do not

[1] 27 March 2024, Government Gazette 50389.
[2] 29 March 2019, Government Gazette 42337.

happen automatically; a clear process must first be set out in the migration plan. Only after this step, and where necessary, should a radio frequency spectrum assignment plan be developed, as the migration plan may identify situations where existing users need to be moved out of a frequency band before the new allocation can be implemented in an assignment plan.

2.2. Radio Frequency Assignment Plan

Notwithstanding the development and finalisation of the Migration plan, there remains several spectrum bands that should have assignment plans developed as a matter of urgency. To MTN's knowledge, the Authority has never developed radio frequency spectrum assignment plans for IMT 1800 (1 710 -1 785MHz paired with 1805 -1 880MHz) and IMT 2100 (1 920 -1 980MHz paired with 2 110 -2 170MHz), despite these bands being afforded a MOBILE (IMT) allocation for decades. Currently, existing licensees are bound to the technical specifications of their spectrum licences which were licensed based on GSM and UMTS parameters.

The development of these Radio Frequency Assignment Plans ("RFSAP") should take into account advancements in technology and in particular revisit the power limits previously based on legacy networks such as GSM. The current licences are very restrictive and do not cater for active antenna systems ("AAS") that are now commonly used for 4G and 5G deployments in bands such as IMT1800 and IMT2100.

Within the technical specifications of current spectrum licences within the bands (IMT1800 and IMT2100), the maximum transmitted EIRP is limited to 53.5 dBm and 57.5dBm.

These parameters are no longer in line with best practice and are significantly lower than those set by international counterparts such as OFCOM where licenses allow for 65dBm/5MHz EIRP on both IMT1800[3] and IMT2100 (UMTS/LTE).

[3] https://www.ofcom.org.uk/__data/assets/pdf_file/0027/63747/1800_mhz_condoc.pdf

2.3. IMT Spectrum Bands

MTN suggests that the list contained in the National Footnote 9 (NF9) be corrected. NF9 provides a table of all possible IMT frequency bands identified by the ITU, relevant ITU Radio Regulation footnote as well as the applicable ITU-R channel plan. It is MTN's position that the band 3.5GHz should not encompass the full frequency band 3 300 – 3 800MHz, but rather the frequency band 3 600 – 3 800MHz should be identified separately under a new band 3.7GHz as the resolution 223 does not reference the 3 600 – 3 800MHz frequency band and Radio Regulation Footnotes 5.434A and 5.434B are specific to the 3 600 – 3 800MHz frequency band.

Additionally, MTN is supportive of the inclusion of the text into NF9 (IMT Frequency Bands - Terrestrial) as suggested by Telkom SOC in their submission on the National Radio Frequency Plan 2021 dated 9 July 2021:

> "The Authority will develop a RFSAP for all listed IMT frequency bands in terms of regulation 3 of the Radio Frequency Spectrum Regulations, 2015 as amended. The Radio Frequency Spectrum Assignment Plan will address, amongst others, sharing and migration of existing users, licensing process to be followed, whether the band will be shared or assigned on an exclusive basis, frequency channelling arrangements to be adopted, etc. The Authority will therefore license IMT frequency bands in terms of a Radio Frequency Spectrum Assignment Plan; no applications for new licenses in these bands will be considered prior to the publication of the assignment plans."

2.4 Errors and Obsolete References

MTN has identified numerous errors or obsolete references throughout the draft document. MTN recommends that the Authority correct these editorial mistakes which include the following

I. In both IMT700 and IMT800 bands the Authority has included in column 4 Consideration of the future spectrum needs of Broadband Public Protection and Disaster Relief (PPDR) in the range xxx-xxx MHz. MTN

recognises that WRC-15 identified spectrum in the 694-894 MHz frequency band to facilitate mobile broadband communications to support public protection and disaster relief (PPDR) and that the Authority is correct in using the "Notes and Comments" column to indicate any potential future use of a spectrum band, MTN suggests that this reference be deleted from the column. The Authority has developed and published radio frequency spectrum assignment plans for both of these bands which specify that the spectrum bands are to be used for mobile voice and data communications and is limited to IMT services. Additionally, the Authority has licensed these bands for these purposes and that the deployment of Broadband Public Protection and Disaster Relief (PPDR) within this band is no longer potentially feasible. Consequently, MTN is of the view that the reference to future PPDR use should be deleted.

II. MTN notes that the Authority states in the "Notes and comments" column for band 3 600-3 800 MHz on page 4-156 that the spectrum band identified will be used for IMT. The Authority further indicates that in the band 3 600-3 800 MHz, FS PTP and FSS applications will have to operate on coordinated basis. It then goes on to invite operators to apply for spectrum licenses including registering all C-Band Earth stations. MTNs view is that these comments are misplaced and re-iterate the need for the Authority to publish an updated migration plan, which should ensure alignment between the new allocation to IMT and the impact to incumbent users, which may be impacted by potential migration. Following which a RSFAP should be developed that addresses any potential migration and provide a channel assignment of the band. MTN therefore recommends that these statements should be deleted.

III. MTN notes that the Authority references Resolution 243 of WRC-19 for allocations between 41 and 43.5GHz for IMT (pages 350 and 351). MTN recommends that these references be updated to WRC-23.

2.5. The High Altitude IMT Base Stations (HIBS)

There is currently a lot of attention and attraction on the use of High-altitude platform stations (HIBS) as International Mobile Telecommunications (IMT) base stations. The World Radiocommunications Conference 2023 (WRC-23) resolved the use of HIBS in the frequency band between 694 and 2690MHz. The following frequency bands have been Identified frequency bands for use by HIBS;

- 694 – 960 MHz,
- 1 710-1 980 MHz,
- 2 010-2 025 MHz,
- 2 110-2 170 MHz and
- 2 500-2 690 MHz,

In the Draft IMT Roadmap published in Notice 4584 of Gazette No.50413 published on 28 March 2024 by the Authority, it was stated that …

> *"..The Authority is to develop a Regulatory Framework and to adopt appropriate frequency arrangements for HIBS in order to consider the benefits of harmonised utilisation of the spectrum for HIBS and protection of existing services and systems operating on a primary basis, taking into account the relevant ITU-R Recommendations and Reports".*

Accordingly, the Authority has included the HIBS in the Second Draft National Radio Frequency Plan 2025.

To ensure certainty around the future of HIBS and IMT allocations in South Africa, MTN suggests that The Authority fast-track and concludes the process of consultation and the development of a Regulatory Framework for HIBS to ensure that industry stakeholders make informed investment decisions on spectrum acquisitions for future use.

3. COMMENTS ON SPECIFIC FREQUENCY BANDS

3.1. Radio Frequency Spectrum Bands 450-470MHz

MTN has noted that the authority has identified spectrum ranges for IMT IoT and M2M services and is satisfied with the recommendations made.

3.2. Radio Frequency Spectrum Bands 694 – 960MHz

MTN has noted that the authority has identified spectrum ranges for use in HIBS (high-altitude IMT base stations) environments and is satisfied with the recommendations made. In addition, MTN would like to recommend to the Authority that this range be under consideration for Direct to Device/Direct to Cell LEO services.

3.3 Radio Frequency Spectrum Band 1 626.5-1 660 MHz

MTN supports the use of radio frequency spectrum band n255 which spans the frequency band 1 525 MHz to 1 660.5 MHz for IMT Non-Terrestrial Network (Satellite) use, and is pleased with latest draft of the RFSAP considering network trials conducted by operators and the demand for LEO services in the future.

3.4. Radio Frequency Spectrum Band 1 710-1 980 MHz

MTN supports the amendment to the 1 710-1 980 MHz frequency spectrum band and the associated footnotes, including ITU footnote 5.388A which has identified this band for use by high altitude platform stations as International Mobile Telecommunications (IMT) base stations (HIBS).

3.5 Radio Frequency Spectrum Band 1 980-2 010 MHz

MTN supports the use of radio frequency spectrum band n256 which spans the frequency band 1 980-2 010 MHz (Uplink) and 2 170-2 200 MHz (Downlink) for IMT Non-Terrestrial Network (Satellite) use, and advocates that the Authority conduct a feasibility study on the viability to accommodate NTNs in these bands for direct-to-device satellite communications. MTN has noted that the Authority, however, did not specify if this band allocation would be dedicated Non-Terrestrial Networking (NTN) services offered in the future as previously highlighted at WRC-23.

3.6. Radio Frequency Spectrum Band 2 500-2 690 MHz

MTN supports the amendment to the 2 500-2 690 MHz frequency spectrum band and the associated footnotes, specifically ITU footnote 5.409A which has identified this band for use by high altitude platform stations as International Mobile Telecommunications (IMT) base stations (HIBS).

3.7 Radio Frequency Spectrum Band 3 300 - 3 400 MHz

MTN supports the amendment to the 3 300 - 3 400 MHz frequency spectrum band and the associated footnotes. MTN is satisfied with the IMT band allocation recommendations made by the Authority.

3.8 Radio Frequency Spectrum Band 3 600 - 3 800 MHz

MTN has noted that the Authority has incorporated the outcome of WRC-23 and has identified this band as IMT which is subject to the provisions of 5.434A and 5.434B in which the frequency band 3 600-3 800 MHz was upgraded from secondary to Primary Service except aeronautical mobile. As 5.434A requires the regulator to certain limitations are introduced prior to deployment MTN considers that this band is not yet available for IMT, as the Authority has not yet made introduced those requirements through regulation.

MTN is aware of the licensing of spectrum, prior to WRC-23, within the sub-band 3 600-3 800 MHz for BFWA on a secondary basis where frequency sharing with FS PTP and/or FSS is feasible, and that these assignments for BFWA to different parties overlap with each other. Thus, coordination was not only required between BFWA, FS PTP and FSS services, but also between BWFA service providers with overlapping allocations.

MTN is further aware that following the licencing of this spectrum (on a secondary basis) there have been instances of BFWA systems interfering with satellite ground stations and would urge the Authority to make available a central database of FSS ground station locations in order that the BFWA licensees of this spectrum are able to design their networks to avoid interference with the FSS ground stations. It would be expected that the entities/organisations with FSS ground stations that wish to be

protected from the BFWA systems would be willing to provide such information to protect their satellite systems from interference.

Now that the frequency spectrum band 3 600-3 800 MHz has been allocated MOBILE status and identified for IMT, it is critical that the Authority provide clarity on the process it will follow to create regulatory certainty and maintain its position of an investment friendly environment. The question required to be answered by the Authority is whether incumbents allocated spectrum for BFWA as secondary use (with FSS as primary use) be allowed to retain their allocations, or will they be required to migrate in order for the spectrum to be auctioned for IMT use?

Operators recently acquired 3 500MHz spectrum in the 2022 auction at significant expense and social obligations, whereas spectrum assigned in 3 600-3 800 MHz, which has similar characteristics, and which has been auctioned in other jurisdictions at similar value to the 3500MHz has not incurred those conditions. As these adjacent bands benefit from the same ecosystem, it is necessary that the process to assign this spectrum is transparent, fair and without discrimination.

Consequently, MTN outlines the assignment process to highlight disparities in the process followed.

In July 2019, the Minister issued a policy direction to the Authority in terms of 5G spectrum requirements. On 26 May 2020, the Authority delivered its 5G Report to the Minister setting out its views on how 5G can benefit South Africa. The report notes the very high importance of 5G to the South Africa nation and economy. The Authority correctly observes that the range 3 300 – 3 800 MHz is critical for 5G. It is where the largest volume of globally harmonised equipment is available and where most countries have launched 5G networks.

Despite its appreciation of the spectrum requirements for the deployment of 5G. The Authority, through an administrative process, awarded spectrum in the 3 600-3 800 MHz band to five (5) licensees for Fixed Wireless Access ("FWA") services on a secondary basis. This was despite a notice on 17 February 2021, in Government Gazette 44167, where ICASA issued a moratorium on the assignment of those specific

Spectrum Bands stating that they will no longer consider or process NEW applications for radio frequency spectrum assignments in several bands including 3 600MHz – 3 800MHz.

The Authority then assigned this spectrum on or about 08 April 2021 to 5 licensees, stating that in line with objectives of the ACT it was decided to give priority to SMMEs.

Additionally, the Authority reassigned a licensee's spectrum in the 3.7 GHz band from "FDD (CCDP Band) to TDD (BFWA)" during July 2018 without any public consultation.

MTN is of the opinion that ICASA is mandated to reclaim previously licensed spectrum as there has been a change in radio regulations by the ITU requiring a change to the national radio frequency band plan.

> *"Bands are identified for radio frequency migration according to the following hierarchy.*
>
> • *First Level – where the ITU radio regulations / decision of a World Radiocommunication Conference (WRC) require a change in national allocation that will require existing users to be migrated."*

This aspect highlights the need for a Migration plan as set out in section 2.1 above, which to allow for the migration of existing users and the clearing of the spectrum band which should then be assigned through an ITA in line with regulations developed in terms of section 31 (3) of the ACT, namely the procedures stipulated in RFS 2015 Section 7 assignment of spectrum where there is insufficient spectrum to meet demand.

3.9. Radio Frequency Spectrum Band 4.8-4.99GHz

MTN has noted that the authority now classifies this band as IMT and is satisfied with the recommendations made.

3.10. Radio Frequency Spectrum Band 5 945-6 425MHz

MTN is aware that the Authority has published draft Regulations on Dynamic Spectrum Access and Opportunistic Spectrum Management in the Innovation Spectrum frequency ranges 3 800 – 4 200 MHz and 5 925 – 6 425MHz in Government

Gazette 52415, dated 14 August 2024. MTN would like to highlight that the industry trend is to use 5 945 to 6 425MHz (Lower-6GHz band), as Innovation Spectrum Frequency Range 2 (ISFR 2) as published in Wi-Fi 6E in both the US and European markets[4567]. Additionally, the Authority should be cognisant of the probable future use of the lower-6GHz band for 5G NR-U (i.e. 5G operating on unlicensed bands) as 3GPP band 102. It is MTN summation that the use of this spectrum in this configuration is likely to be prolific in urban areas.

3.11. Radio Frequency Spectrum Band 6.425-7.125 GHz

MTN supports ICASA's adoption of the WRC-23 footnote and the identification of the upper 6 GHz band for IMT. This decision aligns South Africa with a growing number of countries that have already taken similar steps, collectively representing more than 80% of the global population. Consistent with the African Telecommunications Union (ATU) and South Africa's position at WRC-23, MTN submits that the upper portion of the band should be designated for exclusive IMT use.

No additional utilization of the band should be introduced until a structured migration process is developed and completed. International sharing studies have demonstrated that coexistence between IMT and unlicensed RLAN in this band is not feasible, as the risk of harmful interference remains high. Furthermore, the band is currently heavily utilized by fixed link services. MTN recommends the reference to use by RLAN is removed, however, if the Authority, proceeds with the proposal of RLAN usage in the upper 6GHz, the Authority should be aware that any premature deployment of RLAN in the upper 6 GHz band could result in irreversible interference.

3.11. Radio Frequency Spectrum Band 24.25-27.50GHz

WRC-23 Resolution 242 and footnote 5.532AB identified this spectrum band for IMT. MTN notes that various countries in ITU Region 1 have already assigned spectrum for IMT within this range e.g., Denmark, Finland, Greece, Italy & Slovenia. This 26GHz mmWave 5G spectrum is ideal for new 5G use cases requiring low latency and high

[4] https://www.wi-fi.org/beacon/alex-roytblat/wi-fi-6e-insights-q3-2021-editorial

[5] https://www.wi-fi.org/regulations-enabling-6-ghz-wi-fi

[6] https://globalvalidity.com/recent-developments-in-the-global-landscape-of-wi-fi-6-and-6e/

[7] https://www.telecomrevieweurope.com/articles/reports-and-coverage/wi-fi-6e-in-europe-the-potential-of-the-6-ghz-band/

bandwidth, hence it is important for South Africa to make this spectrum available as soon as possible to keep up with the global pace of the 4th industrial revolution.

MTN recommends that the migration plan address the frequency band following its change of allocation to MOBILE with IMT identification. MTN welcomes the decision by the Authority to develop a radio frequency spectrum assignment plan in this band.

3.12. Radio Frequency Spectrum Band 37.00-40.00GHz

MTN supports the amendment to the 37.00-40.00GHz frequency spectrum band and the associated footnotes, which have been introduced to protect the passive earth exploration-satellite service.

While the IMT market is at an early stage for this radio frequency spectrum band, it is already being deployed for 5G in some countries e.g. AT&T is deploying 39GHz spectrum (within the 37-40 GHz frequency range) for 5G in the USA. MTN suggests that the inclusion of this radio frequency spectrum band should be incorporated in the next reiteration of the IMT roadmap that the Authority will develop. MTN welcomes the decision by the Authority to develop a radio frequency spectrum assignment plan in this band.

3.13. Radio Frequency Spectrum Band 47.2-48.20GHz

MTN has noted that the Authority's recommendation to use the 47GHz band (n262) for IMT services and is satisfied with the recommendations made. Mention is also made of the IMT (TDD) (45.5-47GHz) allocation as well on p.352, however, is not aligned to 3GPP V-band allocations and needs to be reviewed.

3.14. Radio Frequency Spectrum Band 66-71.0GHz

MTN has noted that the Authority's recommendation to use the 60GHz band (n263) for IMT services and is satisfied with the recommendations mad