MTN'S SUBMISSION TO THE NOTICE REGARDING THE DRAFT NATIONAL RADIO FREQUENCY PLAN 2025 AS PUBLISHED IN GOVERNMENT GAZETTE 52449 DATED 4 APRIL 2025

30 MAY 2025

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1. INTRODUCTION

MTN (Pty) Ltd ("MTN") would like to thank the Authority for the opportunity to comment on General Notice 3109 in terms of which the Authority invites comments on the proposed review of the National Radio Frequency Plan 2025 covering the range 8.3kHz to 3000 GHz as published in Government Gazette 52449 on 4 April 2025.

MTN welcomes the review of the National Radio Frequency Plan and appreciates the extensive work that has been done by the Authority in relation to the review of the National Radio Frequency Plan.

Mobile broadband is a critical piece of economic infrastructure linked by many studies to economic growth, job creation, inclusiveness and empowerment and spectrum is the lifeblood to deliver these benefits through. Mobile broadband remains the main medium to access broadband services throughout Africa, and therefore, timely access to sufficient and affordable spectrum is critical.

The National Radio Frequency Plan is the foundation document that aligns with international developments, incorporating decisions and amendments based on the World Radiocommunications Conference. All associated spectrum regulations developed by the Authority stems from the National Radio Frequency Plan, thus it is vital that this document is void of any ambiguity as investment in this capital-intensive sector by licensees requires a level of regulatory certainty.

MTN commends the Authority for undertaking the updating of the National Radio Frequency Plan and are supportive of the consultative process. Additionally, MTN would like to participate in any public hearings that may be scheduled by the Authority in relation to the National Radio Frequency Plan.

MTN's submission comprises two parts namely general comments and specific comments in relation to International Mobile Telecommunications ("IMT") spectrum bands.

2. GENERAL COMMENTS

2.1 Radio Frequency Migration Plan

The National Radio Frequency Plan deviates from section 34 of the Electronic Communications Act, 36 of 2005 ("ECA"). MTN is therefore, concerned that the proposed National Radio Frequency Plan together with its Annexures seem not to be compliant with the ECA and that, in its current format, it may not fulfil the purpose the ECA.

It is clear from section 34(6) that the ECA regards the National Radio Frequency Plan as an indispensable tool that has to: -

- enable ICASA to fulfil its statutory mandate and ensure the realisation of the ECA's objectives, as well as
- enable operators and investors to identify opportunities for the introduction of new and innovative technologies and services which would ensure the widest choice in product and price for the consumer.

MTN 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."

MTN recognises that the Authority published a draft Migration Plan on 27 March 2024 through Government Gazette 50389, however these draft regulations were never finalised possibly due to the level of quality of the draft document which contained multiple errors and outdated information, consequently the Migration Plan 2019 published in Government Gazette 42337 remains in force.

The requirement remains that such a migration plan is amended and updated in conjunction with the publication of a National Radio Frequency Plan. Therefore, MTN suggests that the Authority address the absence of a migration plan (or any indication as to when a migration plan is to be published) as a priority and focus on the finalisation of a migration plan before developing radio frequency assignment plan for those radio frequency bands that have undergone a change in allocation following the conclusion of WRC-23. The implementation of changes in band usage is not automatic and the process to cater for these changes must be formulated in firstly a migration plan and then where necessary a radio frequency spectrum assignment plan as the former document may identify the need to migrate existing users out of the frequency spectrum band before the change in allocation can be translated into 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 MTNs 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 licence 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[1] and IMT2100 (UMTS/LTE).

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.

~~3500 MHz~~	~~3300 – 3400 MHz~~	~~100 MHz~~	~~5.429B~~	~~Recommendation ITU-R M.1036-6[18]~~	~~223 (Rev. WRC-19).~~
3.5 GHz	3400 – 3800 MHz	500 MHz	5.429B 5.430A 5.434A 5.434B	Recommendation ITU-R M.1036-~~6~~7 (F1)	~~NA~~ 223 (Rev. WRC-19)

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

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

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. Recommendation ITU-R M.1036-6, which addresses the frequency arrangements for implementation of the terrestrial component of International Mobile Telecommunications in the bands identified for IMT in the Radio Regulations. This reference is incorrectly used forty (40) times throughout the document. As indicated in several other sections this recommendation has been superseded by Recommendation ITUR M.1036-7 as from December 2023.

II. In addition, the Authority incorrectly references Recommendation ITUR M.1036-8 on page 4-156 in the "Notes and comments" column for 3 600- 3 800 MHz spectrum band instead of the aforementioned ITUR M.1036-7. MTN is aware that the update was provided to study group 5 late in 2024, however this updated recommendation is yet to be approved.

III. 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.

IV. Furthermore, the Authority includes in the "Notes and Comments" column for both the 694-790 MHz and the 790-862 MHz spectrum bands make the following

reference *"to Band IV/V analogue television is to be migrated to digital television and ensure harmonisation with SADC. WRC-07, WRC-12 and WRC-15 allocated this band to Mobile service except aeronautical mobile and identified it for IMT. Fixed links operating in this band will have to be migrated in order to accommodate IMT."* MTN highlights that all necessary migrations that previously limited the deployment of IMT services in these frequency spectrum bands have been completed, consequently MTN recommends that the Authority removes these comments for both spectrum bands.

V. MTN notes that the Authority has mistakenly made an error on page 4-138 in the "Notes and comments" column with regard to the paired spectrum for 1 626.5-1 660 MHz which mistakenly pairs the spectrum with itself whereas it should state it is paired with 1 525MHz to 1 559MHz.

VI. 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.

VII. MTN has noted that the inclusion of text for several identified spectrum ranges for the use by high altitude platform stations as International Mobile Telecommunications (IMT) base stations (HIBS) in line with Resolution 221 and ITU footnote 5.388A. MTN highlights that in all of these instances where 5.388A is referenced, the Authority additionally amend the reference from Resolution 221 (Rev. WRC-07) to Resolution 221 (Rev. WRC-23) in line with the wording of 5.388A. For ease of reference the following radio frequency bands are impacted:

a. 1 710-1 930 MHz
b. 1 930-1 970 MHz
c. 1 970-1 980 MHz
d. 2 010-2 025 MHz
e. 2 110-2 120 MHz

f. 2 120-2 160 MHz

g. 2 160-2 170 MHz

3. SPECIFIC COMMENTS

3.1 Radio Frequency Spectrum Band 694-890MHz

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
FIXED MOBILE except aeronautical mobile 5.312B 5.317A BROADCASTING 5.322	FIXED MOBILE except aeronautical mobile 5.312B 5.317A NF10	Fixed Links (856 – 864.1 MHz) Wireless Access (872.775 877.695 MHz) GSM-R MTX (877.695 – 880 MHz) NF10 IMT900 MTX (880-915 MHz) IMT850 BTX (870-875 MHz) Wireless Audio systems and Wireless microphones (863 – 865 MHz) CT2 cordless phones (864.1 – 868.1 MHz) FWA (864.1 – 868.1 MHz) RFID (865 – 868 MHz) Non-specific SRD and RFID (869.4 – 869.65 MHz)	Paired with 868.1 – 876 MHz Paired with 827.775 – 832.695 MHz Paired with 921 – 925 MHz Paired with BTX (925 – 960 MHz) Paired with MTX (825-830 MHz) Radio Frequency Spectrum Regulations as amended (Annex B) (GG. No. 38641, 30 March 2015). Recommendation ITU-R M.1036-6 Radio Frequency Spectrum Assignment Plan GG 42337 Notice 165 of 2019 Radio Frequency Spectrum Assignment Plan (GG 38640 Notice 275 of 2015) as amended
5.319 5.323		Non Specific SRDs (868 – 868.6 MHz, 868.7 – 869.2 MHz, 869.4 – 869.65 MHz, 869.7 – 870.0 MHz) Alarms (868.6 – 868.7 MHz, 869.25 – 869.3 MHz, 869.65 – 869.7 MHz) HIBS – Resolution 213 (WRC-23) applies	International Mobile Telecommunication Roadmap GG No.42829 Notice 600 of 2019).

MTN is supports the amendment to the 694-890 MHz frequency spectrum band and the associated footnotes. MTN does highlight that there is an inconsistency specifically in the 862-890 MHz frequency spectrum band between National Footnote NF10 and what is indicated in the "Typical Applications" column regarding the spectrum allocated for GSM-R. The former states 876-880 paired with 921-925 MHz, while the latter indicates 877.695 - 880 MHz paired with 921 – 925 MHz band. MTN recommends that the Authority align between these two sections.

3.2 Radio Frequency Spectrum Band 890-942MHz

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
5.319 5.323		Non Specific SRDs (868 – 868.6 MHz, 868.7 – 869.2 MHz, 869.4 – 869.65 MHz, 869.7 – 870.0 MHz) Alarms (868.6 – 868.7 MHz, 869.25 – 869.3 MHz, 869.65 – 869.7 MHz) HIBS – Resolution 213 (WRC-23) applies	International Mobile Telecommunication Roadmap GG No.42829 Notice 600 of 2019).
890-942 MHz FIXED MOBILE except aeronautical mobile 5.312B 5.317A BROADCASTING 5.322 Radiolocation 5.323	**890-942 MHz** FIXED MOBILE except aeronautical mobile 5.312B 5.317A NF9 NF10 NF11 Radiolocation	IMT900 MTX (880 – 915 MHz) GSM-R (BTX) (921 - 925 MHz) RFID (including, passive tags and vehicle location (915.1 – 921 MHz)	Paired with BTX (925 – 960 MHz Paired with MTX (877.695 – 880 MHz) Radio Frequency Spectrum Assignment Plan (GG 38640 Notice 275 of 2015) as amended International Mobile Telecommunication Roadmap GG No.42829 Notice 600 of 2019). Final Frequency Migration Plan 2019 (GG No.42337 Notice 36 of 2019)

It was further noted that there is reference to National Footnote NF11 in the "South African allocations and footnotes" column, MTN highlights that this reference is obsolete as the National Footnote NF11 has been suppressed.

3.3 Radio Frequency Spectrum Band 1 626.5-1 660 MHz

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
1 626.5-1 660 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A	**1 626.5-1 645.5 MHz** MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.357A 5.374 5.375 5.376	GMDSS Maritime satellite (1 525 – 1 544 MHz) Mobile satellite (1544 – 1545 MHz) Aeronautical Mobile satellite (1545 – 1555 MHz) Land Mobile satellite (1555 – 1559 MHz)	Paired with 1 626.5 – 1 660.5 MHz The bands 1610-1645.5 MHz and 1646.5-1660.5 MHz are identified for satellite component of IMT; Res.225 applies. In the band 1626.5-1645.5 MHz priority is given to maritime mobile distress, urgency and safety communications (GMDSS) ; Res.222 applies.
	1 645.5-1 646.5 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.357A 5.374 5.375 5.376	GMDSS Maritime satellite (1 525 – 1 544 MHz) Mobile satellite (1544 – 1545 MHz) Aeronautical Mobile satellite (1545 – 1555 MHz) Land Mobile satellite (1555 – 1559 MHz) Distress and safety	Paired with 1 626.5 – 1 660.5 MHz The bands 1610-1645.5 MHz and 1646.5-1660.5 MHz are identified for satellite component of IMT; Res.225 applies. In the band 1626.5-1645.5 MHz priority is given to maritime mobile distress, urgency and safety communications (GMDSS) ; Res.222 applies.
	1 646.5-1 656.5 MHz AERONAUTICAL MOBILE (R) MOBILE-SATELLITE (Earth-to-space) 5.351A	GMDSS Maritime satellite (1 525 – 1 544 MHz)	Paired with 1 626.5 – 1 660.5 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 advocates that the Authority conduct a feasibility study on the viability to accommodate NTNs in these bands for direct-to-device satellite communications.

3.4 Radio Frequency Spectrum Band 1 710-1 980 MHz

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
1 710-1 930 MHz	**1 710-1 930 MHz**		
FIXED	FIXED	FWA (1880 – 1900 MHz) FWA TDD (1900 – 1920 MHz) Fixed Broadband data applications (1 785 – 1 805 MHz)	
MOBILE 5.384A 5.388A ~~5.388B~~	MOBILE 5.384A 5.388A NF9	IMT1800 MTX (1710 – 1785 MHz) DECT Cordless telephones (1880 – 1900 MHz) IMT1900 TDD (1900 – 1920 MHz) IMT2100 MTX (1920 – 1980 MHz) IMT 1800 BTX (1 805-1 880 MHz) IMT (terrestrial)	Paired with IMT 1800 BTX (1805 – 1880 MHz) IMT TDD applications Paired withIMT2100 BTX 2110 – 2170 MHz See NF8 for IMT frequency band – terrestrial (International Mobile Telecommunications (IMT)) Radio Frequency Spectrum Regulations as amended (Annex B) (GG. No. 38641, 30 March 2015). RFSAP's to be developed to address compatibility between TDD IMT in the band 1900-1920 MHz with FDD IMT systems deployed in the IMT2100 b
	Radio astronomy	Radio astronomy (1718.8-1722.2 MHz) Radio astronomy (OH radical and molecules)	See Section 5 for coordination with radio astronomy
5.149 5.341 5.385 5.386 5.387 5.388	5.149 5.341 5.385 5.388		

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).

MTN highlights that there is erroneous reference to National Footnote NF8 in the "Notes and comments" column. This national footnote pertains to the frequency band 430 - 440 MHz where sub-ranges have been allocated for amateur service in South Africa and ISM band in Region 1 and has no relation to 1 710-1 930 MHz frequency band. MTN recommends that this reference be deleted from the table of allocations.

3.5 Radio Frequency Spectrum Band 1 980-2 010 MHz

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
1 980-2 010 MHz FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388 5.389A 5.389B 5.389F	**1 980-2 010 MHz** FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388 5.389A NF13	Fixed links (1980 – 2010 MHz) CGC/ATC fixed systems (1980 – 2010 MHz) IMT (satellite) (1980-2010 MHz)	Paired with 2170 – 2200 MHz (International Mobile Telecommunications (IMT)) The development of satellites for IMT services to be monitored. Final Frequency Migration Plan 2019 (GG No.42337 Notice 36 of 2019)

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.

3.6 Radio Frequency Spectrum Band 2 500-2 690 MHz

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
5.150 5.368 5.372A 5.399 5.401 5.402	5.150 5.368 5.372A 5.399 5.401 5.402		
2 500-2 520 MHz FIXED 5.410 MOBILE except aeronautical mobile 5.384A 5.409A 5.412	**2 500-2 520 MHz** MOBILE except aeronautical mobile 5.384A 5.409A NF9	IMT2600 MTX (2500 – 2570 MHz)	Paired with 2620 – 2690 MHz International Mobile Telecommunication Roadmap (GG No.42829 Notice 600 of 2019). Radio Frequency Spectrum Assignment Plan on 22 May 2020 (Government Gazette 43341, Notice 285 of 2020). Radio Frequency Spectrum Assignment Plan GG 43341 Notice 285 of 2020 Recommendation ITU-R M.1036 (International Mobile Telecommunications (IMT)) Radio Frequency Spectrum Assignment Plan to be amended to incorporate capabilities and requirements for IMT2020.
2 520-2 655 MHz FIXED 5.410 MOBILE except aeronautical mobile 5.384A 5.409A	**2 520-2 655 MHz** MOBILE except aeronautical mobile 5.384A NF9 5.409A	IMT2600 MTX (2500 – 2570 MHz) IMT2600 TDD (2570 – 2620 MHz)	Paired with BTX (2620 – 2690 MHz) Paired with 2500 – 2570 MHz

MTN supports the amendment to the 1 710-1 980 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). MTN recommends that the Authority include the reference to Resolution 218 (Rev. WRC-23) where 5.409A is referenced. [Correction: MTN supports the amendment]

3.7 Radio Frequency Spectrum Band 3 300-3 400 MHz

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
3 300-3 400 MHz RADIOLOCATION	3 300-3 400 MHz RADIOLOCATION MOBILE except aeronautical mobile	Radio astronomy (CH Molecules) IMT Res. 223 (Rev.WRC-15)	See section 5 for coordination with radio astronomy Recommendation ITU-R M.1036-6 (International Mobile Telecommunications (IMT)) Develop a RFSAP for the band
5.149 5.429 5.429A 5.429B 5.430	5.149 5.429A 5.429B		

MTN supports the amendment to the 3 300-3 400 MHz frequency spectrum band and the associated footnotes. MTN does highlight that the reference used in column 3 Typical Applications is incorrect as the footnote 5.429B was amended at WRC-23 the correct reference should read IMT Res. 223 (Rev.WRC-23) instead of IMT Res. 223 (Rev.WRC-15).

3.8 Radio Frequency Spectrum Band 3 600-3 800 MHz

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
3 600-~~4 200~~3 800 MHz FIXED FIXED-SATELLITE (space-to-Earth) ~~Mobile~~MOBILE except aeronautical mobile 5.433B 5.434A 5.434B 5.435A	3 600-3 800~~4 200~~ MHz FIXED FIXED-SATELLITE (space-to-Earth) NF1409 MOBILE except aeronautical mobile 5.434A 5.434B	Fixed links (4 GHz) (3600 – 4200 MHz) C-band downlink (VSAT/SNG/PTP links)(3600 – 4200 MHz) BFWA (3600 – 3800 MHz) IMT (3600 – 3800 MHz)	~~The sub-band 3 600-3 800 MHz could be used for BFWA where frequency sharing with FS PTP and/or FSS is feasible.~~ The band 3 600-3 800 MHz shall be used for IMT notinz ITU-R Recommendation 1036-8. The channelling arrangement for PTP links in this band is based on
			ITU-R Recommendation F.635 latest versionAnnex 1. The sub-band 3 600-4 200 MHz is used for medium and high capacity PTP links and FSS. In the band 3 600-3 800 MHz, FS PTP and FSS applications will have to operate on coordinated basis. Operators are encouraged to apply for spectrum licenses including registering all C-Band Earth stations on the ICASA online database

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 5 945-6 425MHz

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
5 925-6 700 MHz	**5 925-6 425 MHz**		
FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B MOBILE 5.457C 5.457D 5.457E 5.457F	FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B MOBILE 5.149 5.440 5.458	Fixed-satellite uplinks (PTP/VSAT/SNG) (5850-6425 MHz) ESVs (5925 – 6425 MHz) Radio astronomy (observation of Methanol)	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 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
	6 429-6700 MHz		

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[2345]. 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.

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

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

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

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

MTN does highlight that the ITU footnote reference used in column 2 South African allocations and footnotes contains an inaccuracy in that the FIXED SATELLITE references 5.457B reference several countries but not including South Africa, for ease of reference the text of the footnote is provided below.

> *"5.457B In the frequency bands 5 925-6 425 MHz and 14-14.5 GHz, earth stations located on board vessels may operate with the characteristics and under the conditions contained in Resolution 902 (Rev.WRC-23) in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Jordan, Kuwait, Libya, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, Tunisia and Yemen, in the maritime mobile-satellite service on a secondary basis. Such use shall be in accordance with Resolution 902 (Rev.WRC-23)."*

3.10 Radio Frequency Spectrum Band 24.25-27.50GHz

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
MOBILE except aeronautical mobile 5.338A 5.532AB	MOBILE except aeronautical mobile 5.338A 5.532AB NF9	IMT (24.25 – 27.5 GHz)	Recommendation ITU-R M.1036-6 currently being updated and revised within the ITU-R (International Mobile Telecommunications (IMT)) RFSAP to be developed
24.65-24.75 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.532B INTER-SATELLITE MOBILE except aeronautical mobile 5.338A 5.532AB	**24.65-24.75 GHz** FIXED NF14 FIXED-SATELLITE (Earth-to-space) 5.532B INTER-SATELLITE MOBILE except aeronautical mobile 5.338A 5.532AB NF9	Fixed links – 26 GHz (24.5-26.5 GHz) BFWA (24.5-26.5 GHz) IMT (24.25 – 27.5 GHz)	Channelling plan for 26 GHz band in accordance with ITU-R Rec. F.748 latest version Annex 1. Resolution 242 (WRC-19) Recommendation ITU-R M.1036-6 currently being updated and revised within the ITU-R (International Mobile Telecommunications (IMT)) RFSAP to be developed
24.75-25.25 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.532B MOBILE except aeronautical mobile 5.338A 5.532AB	**24.75-25.25 GHz** FIXED NF14 FIXED-SATELLITE (Earth-to-space) 5.532B MOBILE except aeronautical mobile 5.338A 5.532AB NF9	Fixed links - 26 GHz (24.5-26.5 GHz) BFWA (24.5-26.5 GHz) IMT (24.25 – 27.5 GHz)	Channelling plan for 26 GHz band in accordance with ITU-R Rec. F.748 latest version Annex 1. Resolution 242 **(WRC-19)** Recommendation ITU-R M.1036-6 currently being updated and revised within the ITU-R (International Mobile Telecommunications (IMT)) RFSAP to be developed

WRC-19 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 bandwidth, hence it is important for South Africa to make this spectrum available as soon as possible in order 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.

3.11 Radio Frequency Spectrum Band 37.00-40.00GHz

ITU Region 1 allocations and footnotes	South African allocations and footnotes	Typical Applications	Notes and Comments
37.5-38 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.550C 5.550CA MOBILE except aeronautical mobile 5.550B SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth)	**37.5-38 GHz** FIXED NF14 FIXED-SATELLITE (space-to-Earth) 5.550C 5.550CA MOBILE except aeronautical mobile 5.550B SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth)	Fixed Links (38 GHz) (37.0 – 39.5 GHz) IMT	The band 37-40 GHz is identified for HDFS; Res.75 applies. Resolution 770 **(WRC-19)** Resolution **243 (WRC-19)** Channelling plan for 38 GHz band in accordance with ITU Rec. F.749 Annex 1. Recommendation ITU-R M.1036-6 currently being updated and revised within the ITU-R (International Mobile Telecommunications (IMT)) RFSAP to be developed
5.547	5.547		

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.

MTN does highlight that the reference used in column 4 Notes and Comments as Res 75 is no longer applicable and should read Res. 76. Additionally, Resolution 770 and Resolution 243 were also amended at WRC-23 and as such reference to WRC-19 should be replaced with WRC-23.

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.