MTNs RESPONSE IN RELATION TO THE NOTICE OF ICASA TO REVIEW THE NATIONAL RADIO FREQUENCY PLAN AS PUBLISHED IN GOVERNMENT GAZETTE 44803 DATED 9 JULY 2021

27 August 2021

1. INTRODUCTION

MTN (Pty) Ltd ("MTN") would like to thank ICASA for the opportunity to comment on General Notice 403 in terms of which the Authority invites comments on the proposed review of the National Radio Frequency Plan 2021 covering the range 8.3kHz to 3000 GHz as published in Government Gazette 44803 on 9 July 2021.

MTN welcomes the review of the National Radio Frequency Plan and appreciates the extensive work that has been done by ICASA in as far as the review of the National Radio Frequency Plan is concerned.

It is well documented that spectrum is the lifeblood of mobile connectivity, and licensed spectrum is the foundation for mobile broadband. Mobile broadband is seen as the main medium to access broadband services in Africa, and therefore, timely access to sufficient and affordable spectrum is critical.[1]
Likewise, the National Radio Frequency Plan is the foundation document for decisions relating to the use and licensing of spectrum. To provide ubiquitous mobile broadband, operators must invest vast amounts of capital to deploy radio access network (RAN) infrastructure to fully utilise the spectrum in the most effective and efficient manner.

Investment in a capital-intensive industry such as the telecoms sector requires a level of regulatory certainty which is usually provided through the legislation and regulations governing the sector, thus any ambiguity contained within this regulation could result in negative and unintended consequences for the telco sector.

[1] ATU-R Recommendation 004 - 0

- The National Radio Frequency Plan deviates from section 34 of the Electronic Communications Act, 36 of 2005 (ECA) as explained later in this submission. 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.

2. GENERAL COMMENTS REGARDING THE FORM AND CONTENT OF THE REGULATIONS

2.1 Purpose of Proposed Frequency Band Plan

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.

The National Radio Frequency Plan not only needs to be specific and comprehensive regarding the designation of radio frequency bands to be used for types of services but should also be sufficiently transparent and clear regarding the availability of clean and usable spectrum in the short, medium and long term.

MTN respectfully submits that the proposed National Radio Frequency Plan only addresses some portions of the above requirements and therefore does not seem to comply with the requirements of the ECA and will unfortunately fail to achieve

its purpose if promulgated in its current form. MTN's comments regarding specific shortcomings are set out in par 2.2 and 2.3 below.

2.2 Inclusion of a Migration Plan

MTN respectfully submits that the proposed National Radio Frequency Plan is deficient and non-compliant with the ECA in light of the fact that it does not contain a migration plan.

The reason for this statement is that the definition of a **radio frequency plan** in section 1 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; (own emphasis added)*

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."

Although the Authority published a Migration Plan in 2019 through Government Gazette 42337, it is a requirement that such a plan is amended and updated in conjunction with the publication of a National Radio Frequency Plan. The absence of a migration plan (or any indication as to when a migration plan is to be published) casts doubt on whether ICASA has indeed complied with the above statutory requirement. As such the proposed plan as published only addresses half of the statutory requirements and could therefore in law not be seen as the final plan even if published in this format.

2.3 Specification of existing spectrum allocations and planned migrations

Section 34(6) sets out the requirements that the National Radio Frequency Plan must comply with. It inter alia provides that the National Radio Frequency Plan must:

(a) designate the radio frequency bands to be used for particular types of services;

(b) ensure that the radio frequency spectrum is utilised and managed in an orderly, efficient and effective manner;

(c) aim at reducing congestion in the use of the radio frequency spectrum;

(d) aim at protecting radio frequency spectrum licensees from harmful interference;

(e) provide for flexibility and the rapid and efficient introduction of new-technologies;

(f) aim at providing opportunities for the introduction of the widest range of services and the maximum number of users thereof as is practically feasible.
(own emphasis added)

MTN respectfully submits that the proposed National Radio Frequency Plan only complies with section 34(6)(a), in that it merely designates the radio frequency bands to be used for particular services.

It is MTN's view that to determine compliance with the requirements set out in section 34(6)(b) to (f) would require that ICASA include sufficiently clear specifications regarding spectrum allocated (systems, equipment, existing users, specific spectrum allocated) in the National Radio Frequency Plan, i.e. to evaluate whether the National Radio Frequency Plan would ensure orderly, effective and efficient utilisation of spectrum or whether it *provides for flexibility and the rapid and efficient introduction of new-technologies, thereby the widest range of services and the maximum number of users as is practically feasible.* This would require that already existing spectrum allocations are specified in the band plan and that a migration plan is included detailing required migrations together with timelines. Given that both the Final International Mobile Telecommunications

(IMT) Roadmap 2019, published in Government Gazette Number 42829 (Notice 600 of 2019) on 8 November 2019, as well as Final Radio Frequency Migration Plan 2019, published in Government Gazette Number 42337 (Notice 166 of 2019) on 29 March 2019 both state that any migration should not exceed 5 years unless otherwise specified, it is imperative that the Authority publish a migration plan in line with the National Radio Frequency Plan and not years after the publication of the NFRP otherwise South Africa risks lagging behind peer countries in the rollout of the latest technologies and widening the digital divide .

In Part D of the ATU Recommendations 004, Spectrum Management Principles on National Broadband Spectrum Plans Including Licensing Roadmaps, and Emerging and Future Spectrum Management, the ATU articulates the need and benefit of a licencing roadmap requiring the publication of a multi-year licencing or spectrum release roadmap which can assist in informing stakeholders of planned future spectrum awards or changes for frequency spectrum bands that are under consideration and that such roadmaps should include regulatory workplans.

MTN supports the adoption of such an initiative especially with regards to the current migration of broadcasters from frequency spectrum band 694 -862MHz. It would additionally provide a level of regulatory certainty in the Authority intention indicating which spectrum bands would be subject to migration and the process that will be followed. Historically, the Authority has been inconsistent in the application of migration plans, for example while the migration plan clearly states that no compensation will be provided, licensees have benefited from additional IMT spectrum to perform an in-band migration even though IMT is considered high demand spectrum. Additionally, the Authority has allowed another licensee to retain spectrum that was assigned to them prior to the band being determined for IMT.

3. COMMENTS ON SPECIFIC PROVISIONS OF THE NATIONAL RADIO FREQUENCY PLAN

A National Radio Frequency Plan provides the foundation for effective spectrum management. It provides a general plan for spectrum use and the basic structure to ensure efficient use of the spectrum and the prevention of interference between services. The designation of frequency bands for specific uses, by establishing a national frequency allocation plan, represents the first step in efficient and effective spectrum usage. ICASA must allocate frequency bands to the various radio services in accordance with national needs, but at the same time, base these allocations on the ITU Table of Frequency Allocations for Region 1, as contained in Article 5 of the ITU Radio Regulations.

3.1 Comments on Specific Frequency Bands of Interest to MTN

3.1.1 614-694 MHz

Is currently assigned as land mobile, with the increased adoption of streaming services, traditional terrestrial television is declining globally. Traditional networks have seen their share of the audience pie shrink for years. The reasons are obvious: the rise of Netflix and the flood of so many other streaming services such as Showmax, Amazon Prime, Disney+, Hulu. However, linear TV is not dead and is not expected to either but without any foreseeable growth the demand for spectrum requirements for digital terrestrial television is not expected to grow either.

As ICASA has already highlighted that the use of 'White Spaces' in this band is under consideration (subject to Non-Interference Non-Protection basis to users under a primary allocation). For this reason, MTN suggests it is reasonable that

this band could be used for mobile services on the same principles of TV white spaces.

3.1.2 694-790 MHz

MTN has noted the removal of BROADCASTING from the South African allocation, with MOBILE remaining (for IMT700 services). MTN request that the Authority make available regularly updates, monthly or quarterly would be preferable on the status and associated timelines in relation to the analogue TV shutdown and digital TV restacking in order to ensure a coordinated transition of the band to IMT in South Africa. This progress report should include the current channels being broadcast from each TV broadcast tower so that the MNOs can enable IMT services in areas without interference.

3.1.3 790-862 MHz

MTN has noted the removal of BROADCASTING from the South African allocation, with MOBILE remaining (for IMT700 services). MTN request that the Authority make available regularly updates, monthly or quarterly would be preferable on the status and associated timelines in relation to the analogue TV shutdown and digital TV restacking in order to ensure a coordinated transition of the band to IMT in South Africa. This progress report should include the current channels being broadcast from each TV broadcast tower so that the MNOs can enable IMT services in areas without interference.

3.1.4 3 300-3 400 MHz

MTN notes that the frequency band 3300-3400 MHz spectrum is identified for IMT in South Africa as per Res. 223 (Rev.WRC-15) and footnote 5.429B, and that coexistence and compatibility studies between IMT systems in 3300-3400 MHz and radiolocation systems in 3100-3400 MHz have been done, e.g. ITU-R M.2481-0 (09/2019) report. MTN urges the Authority to make this spectrum available for

assignment in South Africa as soon as possible, subject to the identification of whether there is a need to migrate Radars out of this band. The sooner this band is incorporated into infrastructure being deployed by MNOs the less infrastructure will need to be replaced/added (at significant cost) when this band is made available for IMT in South Africa. It would be beneficial to affected parties for the Authority to make available a public database of the extent of radar/radiolocation use within the 3300-3400 MHz spectrum in South Africa in order to facilitate the use of this spectrum for IMT as soon as possible.

3.1.5 3 600-4 200 MHz

MTN is aware of the recent assignments of spectrum 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. Hence coordination is required not only between BFWA, FS PTP and FSS services, but also between BWFA service providers with overlapping allocations. MTN is aware that 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 in order to protect their satellite systems from interference. MTN also notes that some countries have identified the 3600-3800 MHz band for IMT, and that WRC-19 resolved to conduct sharing and compatibility studies in preparation for WRC-23 to consider possible allocation of the 3600-3800 MHz band to mobile, except aeronautical mobile, service on a primary basis within Region 1 which would pave the way for this band to be identified for IMT services within Region 1 (and hence South Africa). MTN believes that the current overlapping allocations

for secondary use would not be conducive to IMT services and that harmonisation of the band would be required. Therefore, should the band be identified for IMT in Region 1, MTN proposes that this should trigger a high demand spectrum process whereby all secondary users could only acquire/retain spectrum in this band via a competitive process as defined in Regulation 7 of the radio frequency spectrum regulations of 2015. Any subjectivity between **shall**, as stated in the Radio Frequency Migration Plan 2019 section 5 and **may** as described in the ECA section 34(16) in relation to migration must be clarified as a matter of urgency.

For ease of reference both aforementioned sections are provided below;

Radio Frequency Migration Plan 2019

> *The Authority **shall** initiate a process of radio frequency migration in the following circumstances:*
>
> *(a) As specified in the Frequency Migration Plan;*
>
> *(b) Where a change in the use of a radio frequency band is required to bring the South African National Radio Frequency Plan in line with the final acts of the latest WRC and in turn, the latest ITU Radio-Regulations;*

whereas Section 34(16) of the ECA states that:

> *The Authority **may**, where the national radio frequency plan identifies radio frequency spectrum that is occupied and requires the migration of the users of such radio frequency spectrum to other radio frequency bands, migrate the users to such other radio frequency bands in accordance with the national radio frequency plan, except where such migration involves governmental entities or organisations, in which case the Authority—*
>
> *(a) must refer the matter to the Minister; and*
>
> *(b) may migrate the users after consultation with the Minister*

3.1.6 4 800-4 825 MHz, 4 825-4 835 MHz, 4 835-4 950 MHz, 4 950-4 990 MHz

MTN notes that the 4800-4990 MHz frequency range is identified for IMT in South Africa (as per WRC-19 5.441B), and that ITU-R M.1036-6 has a frequency arrangement for this frequency range. Although the IMT market is at an early stage for this spectrum, an increasing number of countries are considering this spectrum for IMT. At WRC-19 over 40 countries identified some or all of the spectrum in this range for IMT, and a few countries (such as China and Hong Kong) have assigned spectrum in this range already. Hence, MTN expects this to become a key band for IMT services in the future. It is therefore welcomed that there is currently a moratorium on any assignment of spectrum within this band as per the notice in government gazette 44167 published on 17 February 2021. Additionally, MTN would welcome a finalized migration plan for this particular radio frequency spectrum band which include licensing of this band on a competitive basis.

3.1.17 6GHz

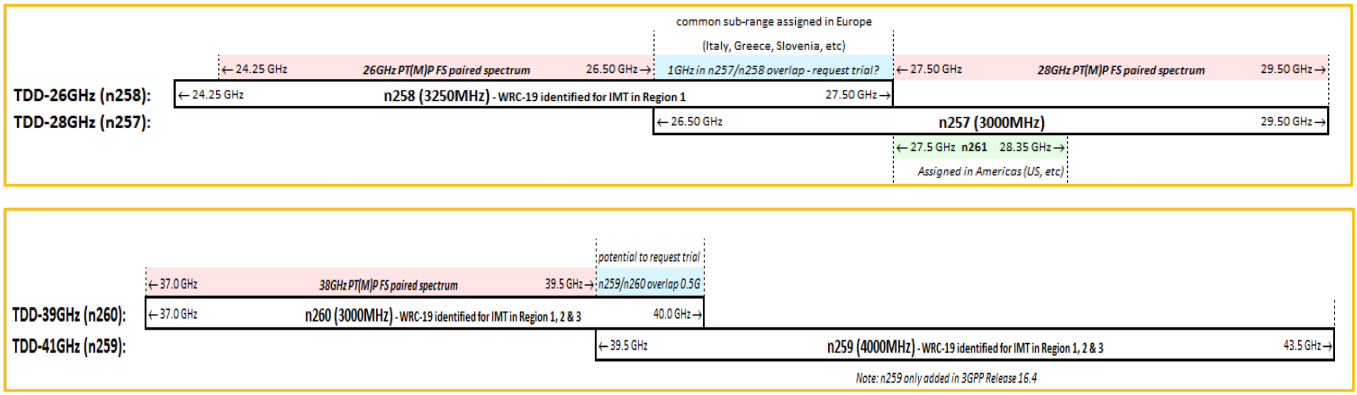
MTN notes that the 6GHz ISM band spectrum band have not been incorporated into the draft National Radio Frequency Plan which is highlighted for WiFi 6E

Wi-Fi 6 provides greater capacity, multi-gigabit data rates, better power efficiency, and high performance even in densely populated environments and is based on IEEE 802.11ax standard.

Additionally, within Region 1, the European Commission have opened up the 5925-6425 MHz range for license exempt services, including Wi-Fi. MTN recommends that the Authority consider international best practices and global spectrum trends for the 6GHz ISM band and consider updating the draft National Radio Frequency Plan with this allocation.

3.1.8 24.25-27.5 GHz

MTN notes the allocation of the 24.25-27.5 GHz for mobile in South Africa, and that WRC-19 Resolution 242 and footnote 5.532AB identified this 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 so called mmWave 5G spectrum is required 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 for the country to keep up with the global pace of the 4th Industrial Revolution. While parts of this spectrum range may require harmonisation requiring incumbents to migrate existing systems, MTN believes there are portions that may be fast tracked for allocation. The 26.5–27.5 GHz seems to be a popular subrange allocated in many countries; and a potential subrange to focus on in South Africa. This is depicted in the graphic below.



3.1.9 27.5-29.5 GHz

While the 27.5-29.5GHz frequency range has not been identified for IMT in Region 1 at WRC-19, MTN notes that it is allocated for MOBILE in the Draft National Radio Frequency Plan. This spectrum range has been allocated for IMT in various countries, mostly in ITU Region 2 & 3, and hence may be considered for IMT in South Africa in the future. ICASA should accelerate the harmonization process

on 26/39Ghz bands in line with Region-1 trend and what was tabled at WRC-19 to allow for TDD assignments.

3.1.10 37-43.5 GHz

MTN notes that the 37-43.5GHz frequency range has been identified for IMT (WRC-19 5.550B) across all ITU regions, and this is reflected for South Africa in the Draft National Radio Frequency Plan. While the IMT market is at an early adoption stage for this spectrum, it is being deployed for 5G in some countries already, e.g. AT&T is deploying 39GHz spectrum (within the 37-40 GHz frequency range) for 5G in the USA. Hence, MTN recommends that the Authority focus on IMT allocations in this band (in particular the 37-40 GHz sub range) along with the 26GHz band to cater for new 5G use cases requiring low latency and high bandwidth.

3.1.11 45.5-47 GHz and 47.2-48.2 GHz

MTN notes that the 45.5-47 GHz as well as the 47.2-48.2 GHz frequency ranges have been identified for IMT in South Africa (among other countries) at WRC-19 (Notes 5.553A & 5.553B). MTN's understanding is that these frequency ranges do not yet have a 5G ecosystem and hence the authorities initial focus should be on assigning spectrum for IMT within the 26GHz and 39GHz bands.

4. Conclusion

The drive by Government for South Africa to be at the forefront of the 4th Industrial Revolution cannot be successful without the Authority navigating the correct course to promote the early adoption of current and future technologies, such as 5G. Failure to do so will result in South Africa being left behind and the

digital divide between South Africa and peer countries widening. Already other markets have been quicker to deploy 5G in many of these bands.

The amount of spectrum that can be used for 5G in the high demand spectrum falls short of expectations to efficiently deploy and scale 5G. The GSMA emphasizes that 5G requires significant new harmonised spectrum and as such Regulators should prioritise the clearing of prime bands in order to meet market demand in a timely manner.

Consequently, the overall concern is that given what the National Radio Frequency Plan is supposed to encompass, the lack of clear indications on timeframes or process to license the IMT bands identified as far back as WRC-15 are not part of this document, which results in a lack of clarity for the sector and provides little regulatory certainty.