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13 June 2025

Mr Davis Kgosimolao Moshweunyane and Mr Richard Makgotlho
Block C
350 Witch-Hazel Avenue
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CENTURION

Per email: chairperson@icasa.org.za
dmoshweunyane@icasa.org.za
CC: rmakgotlho@icasa.org.za

Dear Mr Moshweunyane and Mr Makgotlho

RE: TELKOM SUBMISSION PERTAINING TO THE DRAFT NATIONAL RADIO FREQUENCY PLAN 2025

Telkom SA SOC Pty Ltd ("**Telkom**") thanks the Independent Communications Authority of South Africa ("**ICASA**" or "**the Authority**") for the opportunity to provide comments on the draft National Radio Frequency Plan 2025, as published on 4 April 2025 in Government Gazette 52449, under Notice No. 3109 of 2025 ("**draft Frequency Plan**").

Interested persons were initially invited to submit written representations on the draft Frequency Plan by no later than 16h00 on Friday, 30 May 2025. This deadline was extended to 16h00 on Friday, 13 June 2025 in terms of Government Gazette 52811, published under Notice No. 6281 of 2025.

Telkom requests an opportunity to make oral representations should the Authority elect to hold public hearings on the draft Frequency Plan.

Telkom's submission is supplemented by the attached Microsoft Word document, labelled as Annexure A, containing further proposed amendments and comments, as indicated in track changes mode.

Yours Sincerely

Nozipho Mngomezulu
Group Executive: Regulatory and Legal Services

Telkom Submission:

Draft National Radio Frequency Plan 2025

Telkom SA SOC Ltd
Submission date: 13 June 2025

1 CONTENTS

2 INTRODUCTION

1. Telkom's submission comprises of two parts:

    a. This main written submission, which highlights and explains Telkom's key concerns pertaining to the draft National Radio Frequency Plan 2025 ("**draft Frequency Plan**").

    b. Attached Annexure A, which is a Microsoft Word version of the draft Frequency Plan, reflecting Telkom's proposed changes and comments in track. These proposed changes and/or comments are either editorial, to assist in improving the draft Frequency Plan, or comments pertaining to the use of a frequency band contained in section 4 (Table of Frequency Allocations) of the draft Frequency Plan. The written submission and Annexure A should accordingly be read together. Where changes in Annexure A are proposed within a sub-band, for example 450-455 MHz, which is part of the broader 450-470 MHz band, the proposed changes should also be considered and applied in relation to the broader frequency band.

2. At the outset, we mention that Telkom did not review all the frequency bands in the Table of Frequency Allocations and only focused on assessing those frequency bands which are of particular importance. The frequency bands which were assessed are highlighted in turquoise (frequency band reflected in column 1 of the Table of Frequency Allocations). Telkom recommends that the Authority review and, to the extent necessary, revise all frequency bands, considering Telkom's proposals and comments.

3. This written submission is structured as follows:

    a. Section 3 sets out Telkom's general comments that apply to the draft Frequency Plan; and

    b. Section 4 sets out our specific comments on the frequency bands assessed by the Telkom.

4. For completeness, we note that the draft Frequency Plan refers to a list of the International Telecommunications Union ("**ITU")** footnotes, as contained in the ITU Radio Regulations. While we have assumed that these footnotes have been copied directly from the ITU footnotes, Telkom requests that the Authority ensure that this information is accurate and aligned with the ITU Radio Regulations, Edition 2024.

3 GENERAL COMMENTS

3.1 Telkom proposed amendments to the draft Frequency Plan

5. The Authority indicated that the proposed amendments to the draft Frequency Plan are aimed at reflecting:

    a. the Resolutions made at the 2023 World Radiocommunication Conference ("**WRC-23")**

    b. the updates to the Radio Frequency Spectrum Assignment Plans ("RFSAPs"), and

c. adding references to the Southern African Development Community ("**SADC**") Frequency Allocation Plan ("FAP") in the draft Frequency Plan.

6. Telkom recommends that the Authority use this opportunity to update the draft Frequency Plan, which generally happens only once every four years, to also give effect to the following:

a. Reflect changes in national spectrum use (e.g. remove references to planned migration or spectrum uses where such has been successfully implemented).

b. Update typical spectrum use (e.g. remove fixed links from International Mobile Telecommunications ("**IMT**") bands where fixed links have been migrated).

c. Make changes to national and ITU references in the draft Frequency Plan, where required (e.g. where the latest version of a Radio Frequency Spectrum Assignment Plan ("**RFSAP**") is reflected, the previous versions must be deleted).

d. Make editorial changes to the draft Frequency Plan, where required (e.g. remove duplicates in references, align frequency band information horizontally between columns on the Table of Frequency Allocations, reflect ITU footnotes in accordance with ITU practices either next to the applicable service allocation or at the end of each frequency block (as indicated in section 2.3 of the draft Frequency Plan), update date references of WRC Resolutions, etc.). These matters are discussed in more detail below.

e. The Authority also needs to align this draft Frequency Plan with the updating of the Frequency Migration Plan ("**FMP**") and the IMT Roadmap, both of which started in 2024 and are yet to be concluded. Where required, Telkom added comments in this regard in its submission.

7. Telkom also requests that the Authority consider the development of an online web-based tool for the National Table of Frequency Allocations.

a. This will allow for integration with all other relevant documents such as South African National Standards ("**SANS**") regulated standards, Government Gazettes, ITU Articles, Appendices and Resolutions, relevant ITU-R Recommendations, etc. relevant to each frequency band.

b. As an example, the Czech Republic, runs such a live web-based tool (see https://spektrum.ctu.gov.cz/en/band/24.05-24.25-ghz).

3.2 General comments of an editorial nature

8. Telkom has also identified issues of an editorial nature in several places, and respectfully recommends that the Authority consider these when finalising the draft Frequency Plan. These proposed changes, if adopted, should be applied throughout the draft Frequency Plan to ensure consistency. These are discussed below, in no specific order.

9. Telkom recommends that the Authority review and amend the following:

   a. Reference to ITU-R Recommendation M.1036:

      The Authority refers to this Recommendation in various ways throughout the draft Frequency Plan, including version M.1036-6, version M.1036-8, or to M.1036 latest version.

      Telkom recommends that the Authority refer to "M.1036 (latest version)" throughout the Frequency Plan since we do apply the latest version approved by ITU-R Study Group 5 (SG5).

      Following the above suggestion will avoid the situation where the Authority refers to version M.1036-8, which has not yet been approved by SG5. Also, other versions, such as M.1036-6 have been superseded and accordingly, these versions should not be referred to.

      Notwithstanding the above, Telkom recommends that the Authority consider deleting all references to Recommendation M.1036 from the draft Frequency Plan where a RFSAP has been developed and prescribed. This is because Recommendation M.1036 stipulates IMT channelling plans or options which form the basis for and IMT RFSAP. Once the IMT RFSAP is prescribed, this reference to Recommendation M.1036 in the draft Frequency Plan is no longer required. Furthermore, Recommendation M.1036 is contained in the table in National Footnote ("**NF**") 9, so it is not necessary to add the reference to Recommendation M.1036 throughout the draft Frequency Plan as it is an unnecessary duplication.

      The reference to the "latest edition" as discussed above should also be applied to all other ITU-R recommendations, except for those recommendations which are incorporated by reference into the ITU Radio Regulations and therefore included in Volume four of the ITU Radio Regulations, edition 2024. Such recommendations must be referred to using the specific version that is in force.

   b. Reference to ITU Resolutions:

      Telkom recommends that the Authority review all references to ITU Resolutions to ensure that reference is made to the latest version, as contained in the ITU Radio Regulations, edition 2024.

      Telkom also recommends that the Authority indicate, after each Resolution, the topic relevant to the Resolution e.g. IMT, HIBS, etc. This will ease the reading and understanding of the draft Frequency Plan, especially also noting that there is no horizontal alignment between the various columns in the draft Frequency Plan. Telkom endeavoured to reflect this suggestion in Annexure A in the frequency bands it reviewed.

      Telkom also recommends that the Authority review all frequency bands in the draft Frequency Plan and that the Authority include all relevant references to applicable ITU Resolutions.

      Based on the above, Telkom recommends that a standard referencing for ITU Resolutions be used throughput the draft Frequency Plan, for example, "ITU Res xxx (Rev.WRC-23) (HIBS)".

The same principle should be applied for ITU Recommendations, which were adopted by a WRC.

c. Remove old references or statements:

Throughout the draft Frequency Plan, there are references to matters that have been concluded or replaced by an updated statement, which must be reviewed and updated.

- Old references, such as previous versions of a RFSAP, must be deleted where this has been replaced by a new version.
- Reference to old statements such as “New RFSAP to be developed” must be deleted where a RFSAP was developed and prescribed.
- Where migration has been completed, for example digital television migration in the bands above 694 MHz, references to “ongoing migration” must be deleted.

d. Use of acronyms and abbreviations:

To reduce the length of text, and to simplify the reading of the draft Frequency Plan, Telkom recommends the use of acronyms and abbreviations in the last two columns of the draft Frequency Plan.

For example, acronyms such as RFSAP (Radio Frequency Spectrum Assignment Plan), IMT (International Mobile Telecommunications), RFSR (Radio Frequency Spectrum Regulations), FMP (Frequency Migration Plan), etc. should be used throughout the draft Frequency Plan (this is done in some cases but not applied uniformly). Similarly, the acronym “GG” could be used instead of Government Gazettes, which is in any event used in many cases but not everywhere.

Telkom also recommends the use of abbreviations such as: Rec (for Recommendation), Res (for Resolution), etc. To distinguish between ITU-R and WRC Recommendations. The former could be referred to as “ITU-R Rec”.

The use of acronyms and abbreviations will simplify and shorten the draft Frequency Plan substantially. These acronyms and abbreviations should be included in section 1.2 of the draft Frequency Plan. Telkom attempted to capture the best suggestions in the frequency bands it reviewed and requests that the Authority review and incorporate these suggestions throughout the draft Frequency Plan.

e. Placement of ITU footnotes in the first two columns in the draft Frequency Plan:

Telkom recommends that the Authority review and correct the placement of references to ITU footnotes in columns 1 and 2 of the draft Frequency Plan. The methodology to be used, which is aligned with ITU practice, is addressed in the last paragraph of section 2.3.1 of the draft Frequency Plan. However, this is not always applied correctly.

f. References to Frequency Migration Plan (GG42337, Notice No. 166, dated 29 March 2019) ("FMP"):

The Authority refers to the FMP in various frequency bands throughout the draft Frequency Plan. This FMP was published in 2019 and is out of date in many instances. While Telkom recognises that the Authority published a draft amendment to the FMP on 27 March 2024 (GG50389, Notice No. 4559), this process has not been concluded.

It is not clear in which order the updating of the FMP, or the draft Frequency Plan will be concluded. It is also not clear how the Authority will manage the updating of the FMP and the Frequency Plan concurrently. These processes also interact with other ongoing projects such as the development of new RFSAPs (for example in the 6 GHz and 26 GHz bands for IMT) and the development of Regulations pertaining to the Dynamic Spectrum Allocation and Opportunistic Spectrum Management ("**DSA**").

Telkom recommends the following to address the above:

- That the Authority change all references to the FMP, 2019 in the draft Frequency Plan to "FMP as amended", in anticipation of the updating of the FMP. While the outcome of updating the FMP cannot be predicted, the Authority can indicate in the draft Frequency Plan which frequency bands may be impacted by migration, where the details of such migration will be stipulated in the updated FMP. This will ensure synergy between the two revisions, and it would also mean that the Frequency Plan will not be outdated the moment the new FMP is published.

- Where new RFSAPs will be developed, this should be reflected as, for example, "RFSAP to be developed for this band".

- In terms of the ongoing process associated with DSA in the 4 GHz and 6 GHz bands, this could be reflected in the draft Frequency Plan, noting that the Authority has already decided as part of the DSA Inquiry process and through the publication of Regulations on Dynamic Spectrum Access and Opportunistic Spectrum Management in the innovation spectrum 3800-4200 MHz and 5925-6425 MHz (published on 28 March 2025 in Government Gazette 52415, under Notice No. 6066 of 2025) that these two bands will be used for DSA. While the regulations have not yet been concluded, the principle of applying DSA in these two bands will probably not change.

g. References to the IMT Roadmap as published in GG 42829, under Notice No. 600 of 8 November 2019 ("IMT Roadmap"):

The Authority refers to the IMT Roadmap in various frequency bands throughout the draft Frequency Plan. This IMT Roadmap was published in 2019 and is also out of date in several respects. As an example, both WRC-19 and WRC-23 changes are not reflected.

As with the FMP, Telkom recommends that all references to the IMT Roadmap 2019 be changed to "IMT Roadmap, as amended". This will mean that the draft Frequency Plan will not be outdated the moment the new IMT Roadmap is published.

A reference to the IMT Roadmap could be added in the draft Frequency Plan in respect of all IMT frequency bands to be included in the IMT Roadmap.

h. Cross referencing between columns in the draft Frequency Plan:

It is important to align entries horizontally across the four columns in the draft Frequency Plan to avoid misinterpretation and regulatory uncertainty when interpreting the draft Frequency Plan.

In several places, there is no horizontal alignment between the different columns in the draft Frequency Plan. This may result in certain comments/notes/applications being associated with the wrong radiocommunication service allocation. For example, where a "return frequency" is reflected in column 4 of the draft Frequency Plan, it is not always clear with which frequency band (indicated in column 3) this is linked, especially where there are many applications in a frequency band.

Telkom recommends that there be horizontal alignment between all four columns in the Frequency Plan. This may be achieved by creating rows within each spectrum block in the Table of Frequency Allocations. A good example of this is the European Table of Frequency Allocations and Applications (European Radiocommunication Committee ("**ERC**") Report 25).

i. References to Government Services:

There are references to "Government Services" in several bands, mostly under "Typical Applications" without linking these to a specific service. While Telkom appreciates that this is in many cases confidential information, it is recommended that the draft Frequency Plan, as a minimum, reflect the relevant allocation in question. For example, in the 450 MHz band, there is a reference to "Government Services". Although it is assumed that this is related to the FIXED allocation, it is not always clear due to misalignment horizontally between the columns (as addressed above). Since frequency coordination is required in many cases where bands are shared with Government services, the additional allocation information pertaining to Government Services is important to facilitate such coordination.

j. Alignment with Article 5 of the ITU Radio Regulations

In terms of footnote 5.48 of the ITU Radio Regulations, radiocommunication services are listed alphabetically according to the French language. All primary allocations are listed first, followed by secondary allocations. Telkom recommends that the same methodology be followed in the draft Frequency Plan. In this regard, Telkom suggests that additional text be added to section 2.3.1 of the draft Frequency Plan. This is reflected in Annexure A.

All radiocommunications services (listed in both columns 1 and 2) must therefore be aligned with the listings in Article 5 of the ITU Radio Regulations to avoid any perception of priority between radiocommunication services.

Care should be taken to reflect only those ITU footnotes applicable to Region 1, where there is a global allocation in ITU Radio Regulations Article 5 (or where Regions 1 and 2 have the

same allocations). In these cases, the footnotes not applicable to Region 1, should be removed from Column 1 in the draft Frequency Plan. An example of where this have been done is in the band 6700-7075 MHz (for Mobile allocation). This has however not been applied in all cases.

k. Reference to SADC use:

The Authority mentions SADC use in some bands, e.g. in the 450-455 MHz band (which is part of the broader 450 MHz band or 450-470 MHz) where there is a note stating: "*This band is currently used for a variety of fixed and mobile systems in the various SADC countries*". The intention of this note is not clear and seemingly does not add any value to the draft Frequency Plan. For example, why only this portion within the 450 MHz band, and not the other sub-bands in the 450 MHz band? Also, what should spectrum users in South Africa do with this information when using or considering using this band?

In some cases, the use of bands in neighbouring countries is important as this impacts cross border frequency coordination, for example in the 3.5 GHz and 3.7 GHz bands where IMT systems must comply with the stipulated Power Flux Density ("**pfd**") values at our borders. Another example is compliance with RFSAPs where cross border coordination is required and the use of IMT in neighbouring countries, including the use of either Frequency Division Duplex ("**FDD**") or Time Division Duplex ("**TDD**") is critical information as this impacts cross-border coordination. This detailed information is however not supplied in either the draft Frequency Plan or in the relevant RFSAP.

Telkom recommends that the addition of these general comments pertaining to spectrum use in SADC be reconsidered and where no value is added, be removed. Where specific information is required for purposes such as cross border coordination, this should be added in the Frequency Plan.

l. Dividing frequency spectrum blocks in the draft Frequency Plan:

Telkom agrees that the division of the Region 1 frequency allocation blocks, as contained in the ITU Radio Regulations (Article 5), may be sub-divided when reflecting the South African frequency allocations in column 2 of the Frequency Plan as this could facilitate the application of the Frequency Plan in South Africa. For example, the split between the band 5925-6425 MHz and 6425-7125 MHz in terms of Wireless Access Systems/Radio Local Area Network ("**WAS/RLAN**") and IMT use may better reflect the use of the 6 GHz in South Africa.

However, the splitting or sub-division of frequency bands in some instances in the draft Frequency Plan seems not needed as it doesn't add any obvious benefit but rather adds complexity in the reading of the Frequency Plan. For example, the frequency 6427 MHz (±2 MHz) can be used for Standard Frequency and Time signal. The spectrum block 5925-6700 MHz in this case was divided into three sub-spectrum blocks (5925-6425 MHz, 6425-6429 MHz and 6429-6700 MHz) to accommodate the allocation for the Standard Frequency and Time signal. The use of this frequency could have been reflected as an application in column 3, without dividing the band in three sub-bands.

The main concern with the sub-division of frequency bands for South Africa have, in many cases, introduces errors in terms of the radiocommunication services and footnotes applicable in the sub-spectrum blocks. These will have to be verified carefully to ensure that these errors are eliminated and to ensure regulatory certainty.

Also, it is not clear what principle/s have been used in deciding when to divide a spectrum allocation block and when not to. Where this principle has been applied, it was done only for one service and not all services applicable to South Africa, which further creates uncertainty as to the intend of the application of this methodology.

Telkom therefore recommends that the division of spectrum allocation blocks be limited to only exceptional instances where this will add value in the interpretation, use and application of the Frequency Plan.

10. As a general principle, Telkom recommends that the Authority be consistent throughout the Frequency Plan in reflecting service allocations, ITU and national footnotes, cross references to Recommendations (both WRC and ITU-R), Resolutions and Government Gazettes, the use/application of the columns, reflecting frequency bands, etc.

3.3 General comments of a technical nature

11. Introduction of new radiocommunication services and applications must be done in a controlled and procedurally fair manner.

    a. In previous National Radio Frequency Plans, column 3 ("Typical Applications") used to reflect mostly the typical existing uses of any frequency band. However, the draft Frequency Plan now also reflects many potential new or future services and applications in addition to the current uses and applications.

    b. Introduction of new services or applications must be done in a coordinated and controlled way, for example, the introduction of IMT, High Altitude Platform Services ("**HAPS**"), Earth Stations on Vessel ("**ESV**"), Earth Stations in Motion ("**ESIM**")s, etc.

    c. If these new services or applications are not introduced in a controlled manner in the frequency bands already licensed and used in South Africa, harmful interference may be caused to the incumbent licensees, which will have to be corrected possibly at a great expense to the incumbent and/or new user.

    d. In accordance with section 30(3) of the Electronic Communications Act ("**ECA**"), the Authority must, in performing its functions, including the use and licensing of spectrum, amongst others, ensure that harmful interference to authorised users of spectrum is eliminated or reduced to the extent possible. The introduction of new services and applications in a controlled way to ensure protection of the existing licensees is therefore mandated.

12. WRC-23 approved the use of various frequency bands identified for IMT for use by High Altitude IMT Base Stations ("**HIBS**").

a. Telkom agrees that HIBS should be added to the various frequency bands identified for HIBS in the Frequency Plan based on the decisions taken at WRC-23.

b. Implementation or deployment of HIBS in the relevant frequency bands must however be done in a coordinated and controlled manner to ensure that harmful inference is not caused to existing services, including IMT terrestrial services. One possible method to implement this is through an amendment to the relevant RFSAPs.

c. Telkom recommends that a suitable note be added in the "Notes and Comments" column stating that the deployment of HIBS shall be done in accordance with the necessary regulatory rules to be developed, or that the existing RFSAPs will be updated.

d. The above example for HIBS must also be applied to other new radiocommunication services and/or applications.

13. Alignment between the draft Frequency Plan and the RFSR

a. Telkom recommends that there be full alignment between the Frequency Plan and the RFSR. In several instances, the applicable frequency bands, the acronyms used, and the applications or service descriptions differ between these two documents (e.g. the table in NF6, and the Short-Range Devices ("**SRD**") applications in the band 5725-5830 MHz).

b. In some cases, for example WAS/RLAN in the 5 GHz band, certain technical parameters are captured in the draft Frequency Plan but not all applicable technical and operational conditions, as contained in the ITU Res 229 (Rev.WRC-23), have been included. This may create the impression that only the listed technical limits in the draft Frequency Plan are important, or more relevant, which is not the case.

c. It is also noted that in some bands, all the SRD applications are listed, whereas in other bands, only a general entry to "SRDs" is made. Telkom recommends that a general entry (e.g. SRDs) be added to the Frequency Plan, with the reference to the RFSR, as amended. This will avoid discrepancies and will assist in keeping the two documents aligned.

4 BAND SPECIFIC COMMENTS

14. Telkom's proposed changes to the various frequency bands referred to in the draft Frequency Plan are contained in Annexure A. Where Telkom felt it to be necessary, comments are also provided on specific frequency bands in this section of the submission. Comments in this section and/or Annexure A should both be considered.

4.1 IMT450 (450-470 MHz)

15. Throughout the band 450-470 MHz, there are references to Fixed links, Single Frequency Mobile, Paging, and Private Mobile Radio ("**PMR**") and/or Public Access Mobile Radio ("**PAMR**"). Telkom, and others, had to migrate fixed links from this band. In accordance with the RFSAP for the IMT450 band as published in GG 48353 of 31 March 2023, all licences pertaining to this band, other than Government Services, were revoked by the Authority as of 1 April 2023.

16. It is therefore not clear why these entries, other than IMT, have been retained, unless this is specifically for "Government Services". Telkom therefore recommends that all references to applications in this band be reviewed and that the draft Frequency Plan be updated accordingly.

17. In case some services are remaining, which still need to migrate, a reference to the FMP, as amended, should be added. Migration of these services must then be addressed in the updating of the FMP.

18. Following this, an updated RFSAP will also be required. This is needed before this band is made available through an Invitation to Apply ("**ITA**") to reflect the Government Services that will remain, and which must be protected when the band is licensed through an ITA.

4.2 IMT700 and IMT750 (694 – 790 MHz)

19. For the introduction of HIBS in these bands, see Telkom's comments above.

20. Telkom recommends that the reference to ITU-R Recommendation ITU-R M.2090 be deleted from the draft Frequency Plan as it is included in both the IMT700 and IMT750 RFSAPs. Also, in line with the comments above, references to M.1036 can be deleted since the prescribed RFSAPs have been based on this Recommendation. Thus, its inclusion serves no further purpose.

21. Consideration of spectrum needs for Public Protection and Disaster Relief ("**PPDR**"):

    a. The continued reference to PPDR in the range 694-790 MHz in the draft Frequency Plan needs to be reconsidered and clarified by the authority.

    b. SADC recommended ("*Framework for Harmonisation of Radio Frequency Spectrum for Public* Protection *and Disaster Relief (PPDR), edition 2020"*) the use of the sub-bands 698-703 MHz paired with 753-758 MHz (2x5 MHz) and 733-736 MHz paired with 788-791 MHz (2x3 MHz) for broadband PPDR services.

    c. The Authority prescribed the IMT750 RFSAP, which allocated 20 MHz for IMT (738-758 MHz) with a 5 MHz guard band (733-738 MHz). It is anticipated that the IMT750 band will be included in the upcoming High Demand Spectrum ("**HDS**") licensing process.

    d. Based on the above, in theory, only 2x3 MHz remains potentially available for PPDR in the 700 MHz band. Compatibility between the PPDR sub-band, which is based on an FDD frequency arrangement, and the 20 MHz IMT allocation, which is based on a TDD arrangement, is problematic and needs verification. Sharing is highly unlikely.

    e. Therefore, Telkom recommends that the Authority reviews the consideration of the band 694-790 MHz for PPDR and, if no longer an option, to delete this reference from the draft Frequency Plan. Keeping this in the Frequency Plan creates uncertainty for the IMT700 licensees as well as those to be licenced in the IMT750 band.

22. Reference to the migration of digital terrestrial television ("**DTT**") from Band IV/V:

    a. It is common cause that the band 694-790 MHz was previously used for analogue broadcasting services. These systems have since been migrated to the band below 694 MHz. The migration process above 694 MHz was concluded in 2023.

    b. The Authority also removed the allocation to broadcasting services from column 2 of the Frequency Plan (South African allocations) during the previous revision of the National Frequency Allocation Plan. It is therefore not clear why the Authority opted to keep the note pertaining to the migration of broadcasting services in the bands above 694 MHz in the draft Frequency Plan.

    c. Telkom therefore recommends that the note referencing the migration of DTT be deleted from the draft Frequency Plan.

23. In the third column (Notes and Comments) on the draft Frequency Plan, there is a note stating: "*Fixed links operating in this band will have to be migrated in order to accommodate IMT*".

    a. This note is obsolete or irrelevant and should be deleted. Keeping this note creates regulatory uncertainty for IMT licensees in both the IMT700 and IMT750 bands.

    b. The IMT700 band has been licensed in the auction and, according to our understanding, there should be no fixed links in this band. According to the IMT700 RFSAP, the band is to be used for IMT services only. The same applies to the IMT750 band.

    c. The band 694-790 MHz is also not allocated to the Fixed Services in Region 1, so such use seems irregular.

4.3 IMT800 and IMT850 (790-862 MHz)

24. The IMT850 RFSAP was repealed on 1 April 2024 (see section 13 of GG 48353 of 31 March 2023). References to this RFSAP must therefore be deleted.

25. Telkom is of the view that references to "Fixed Links" (856-864.1 MHz paired with 868.1-876 MHz and "Wireless Access" (827.775-832.695 MHz paired with 827.775- 832.695 MHz) are obsolete and should be deleted. This is for the following reasons:

    a. The IMT800 band was licensed by the Authority in the 2022 spectrum auction and is used exclusively for IMT applications. The sub-band 856-864.1 MHz partially overlaps with the IMT800 band, which should also be used exclusive for IMT services, as also reflected in the IMT800 RFSAP.

    b. There is also a statement in the "Notes and Comments" column that fixed links will have to be migrated to accommodate IMT, further indicating that the reference to fixed links is obsolete.

c. The use of this band for Wireless Access (i.e. 2x4.92 MHz) as reflected in the draft Frequency Plan is associated with the CDMA-2000 or IMT850 band, which has been repealed, and should therefore be deleted.

26. With regards to the introduction of HIBS, please refer to Telkom's comments relating to the 700 MHz band.

27. Reference to ITU-R Recommendation ITU-R M.2090 could be deleted as this reference is included in the IMT800 RFSAP.

28. Telkom also proposes the deletion of references to obsolete RFSAPs. A reference to the latest version of the IMT800 RFSAP should be added, as also indicated in Annexure A.

29. The refences to PPDR and broadcasting migration should also be deleted. See comments on this in the section above pertaining to the 700 MHz band.

4.4 Frequency range 862-960 MHz, including IMT900 and IMT850

30. The IMT850 RFSAP was repealed on 1 April 2024 (see GG 48353, 31 March 2023) as indicted above. References to this RFSAP must therefore be deleted.

31. With regards to NF10, Telkom noted the following:

a. NF10 refers to the GSM-R band, i.e. 876-880 MHz paired with 921-925 MHz (2x4 MHz). However, under "Typical Applications", GSM-R is indicated as operating in the band 877.695 – 880 MHz paired with 921 – 925 MHz. The discrepancy between NF10 and the draft Frequency Plan must be corrected.

b. Reference to IMT850 in the table of IMT bands in NF9 is no longer relevant and should be deleted (see also comments above re the IMT850 RFSAP).

32. The Authority refers to GG 38640, Notice No. 275 of 2015, as amended. Telkom recommends that the Authority refers to the latest version of the IMT900 RFSAP, which is prescribed in GG 49556, Notice No. 3999 of 2023.

33. The entry Fixed Wireless Access ("**FWA**") (864.1 – 868.1 MHz)" should be reviewed. Telkom was the exclusive user of this band for FWA many years ago. However, all FWA systems have been migrated and the spectrum license surrendered. The Authority must confirm if this band is used by anyone else and if not, it should be deleted from the Frequency Plan.

34. With regards to the introduction of HIBS, please refer to Telkom's comments on this as contained in the section pertaining to the 700 MHz band.

35. Reference to the 2019 Frequency Migration Plan ("FMP"):

a. A reference to the FMP is added to the band 890-942 MHz. It is assumed that this reference was added because of the planned IMT900 in-band migration and re-assigning of Liquid from IMT850 into the IMT900 band. The reference to the FMP is however not added to other

bands where IMT900 in-band or IMT850 migration applies. It is therefore not clear why the FMP applies only to the band 890-942 MHz.

b. Telkom recommends that this reference to the FMP be reviewed by the Authority and, if this has been completed, this entry should be deleted.

36. The reference to HIBS has been omitted from the 900 MHz band and must be added. Please also refer to Telkom's comments with regards to the introduction of HIBS as contained in the section relating to the 700 MHz band.

4.5 IMT1500 (1427 – 1518 MHz)

37. References are made to the Broadcasting Services ("BS") and Broadcasting Satellite Services ("BSS") in this band. In this regard, Telkom wishes to comment as follows:

a. The Authority retained the allocations to BS and BSS in the sub-band 1452-1492 MHz. As indicated in the IMT1500 RFSAP, these services (T-DAB and S-DAB) will no longer be considered for deployment in South Africa.

b. The Authority indicated in the IMT1500 RFSAP that "*There is also a clear trend of IMT seeking an exclusive identification of the band*". The band will therefore be used exclusively for IMT services going forward.

c. If this band is to be included in the next HDS licensing process, retaining these allocations as options in the Frequency Plan will create uncertainty for prospective licensees.

d. Telkom therefore recommends that these entries be deleted from the Frequency Plan.

38. With regards to references to the fixed links, Telkom comments as follow:

a. The Authority states in the IMT1500 RFSAP that "*existing radio frequency spectrum licences for the use of the band will be amended to a different destination band as necessary*". The Authority also states that there are no known current assignments in the band (i.e. 1427-1518 MHz).

b. Based on the above, it seems that the current allocations to fixed links is no longer valid.

c. Telkom therefore recommends that references to fixed links be deleted from this band since the band is earmarked for IMT on a national basis. If there are links in the band, these will have to be migrated before this band is made available for national IMT use in the next licensing process.

39. Reference to the IMT1500 RFSAP (GG 48353, Notice No. 3244 of 2023) must be added to all bands in the range 1427-1518 MHz.

40. Resolution 750 (Rev.WRC-19) must be added to the frequency band 1427-1452 MHz as it applies to the protection of passive services in the band 1400-1427 MHz (see 5.338A).

41. References to Resolution 528 (Rev.WRC-19) and Resolution 739 (Rev.WRC-19):

    a. Reference to Resolution 528 in the band 1427-1452 MHz should be deleted as this Resolution applies to BSS (sound) which is allocated to the band 1452-1492 MHz.

    b. Reference to Resolution 739 should also be deleted from the band 1427-1452 MHz as this Resolution deals with the protection of radioastronomy (operating in the band 1400-1427 MHz) from BSS and MSS operating in the band 1452-1492 MHz.

    c. In terms of the band 1452-1492 MHz, references to both Resolution 528 and Resolution 739 should also be deleted as South Africa does not intend to deploy BSS (sound) or other space stations in the band 1452-1492 MHz.

42. Telkom recommends that a reference to NF9 be added to all sub-bands in the range 1427-1518 MHz since the IMT1500 band is already included in NF9.

43. Telkom also recommends that the IMT band be indicated as IMT1500 (1427-1517 MHz) to make it clear that the full 90 MHz will be licensed for IMT in South Africa.

4.6 Frequency band 1710 – 1980 MHz

44. Telkom suggests that the Authority develop RFSAPs for both the IMT1800 and the IMT2100 frequency bands.

45. In addition to the above, Telkom also supports the development of a RFSAP for the band 1900-1920 MHz to deal with, amongst others, the compatibility with IMT2100, which is a concern. New proposed uses of the band 1900-1920 MHz, such as those considered for railway applications, must also be included in the assessment.

46. The reference to HIBS has been omitted from this band and must be added. Please also refer to Telkom's comments with regards to the introduction of HIBS as contained in the section relating to the 700 MHz band.

4.7 Frequency bands 1980 – 2010 MHz and 2170 – 2200 MHz

47. Telkom recommends that the allocation to fixed services be deleted from both these bands. With these two bands earmarked for IMT (terrestrial and satellite), they should not be used for fixed links. Fixed links could be deployed in the adjacent frequency band i.e. 2025-2110 MHz paired with 2200-2285 MHz.

48. The Complementary Ground Component / Ancillary Terrestrial Component ("**CGC/ATC**") system reflected in the draft Frequency Plan is complementary to the Mobile Satellite Service ("**MSS**") and operates under the mobile services allocation and not the fixed service. Details of the CGC system can be found in, amongst others, European Communication Committee ("**ECC**")/DEC/(06)09.

49. The reference to the FMP should only be retained if there are existing systems in the band which should be migrated, such as fixed links.

4.8 Frequency band 2290-2300 MHz

50. Telkom recommends adding additional text (see Annexure A) to clarify the meaning of "these services" in the Typical Applications column. In Telkom views, "These services" refer to fixed links or Broadband Fixed Wireless Access ("**BFWA**") systems to be introduced in this band.

51. Telkom's concern is that systems operating in the band 2290-2300 MHz, which are presumed to be TDD services, will have to coordinate with IMT2300 systems operating above 2300 MHz noting that there is no guard band, and with only 10 MHz allocations, there is little room for creating a guardband.

52. TDD synchronisation with the existing IMT2300 systems will have to be implemented to avoid interference. Since Telkom has already deployed TDD in the band above 2300 MHz, other TDD systems to be introduced in the band 2290-2300 MHz will have to apply the same uplink/downlink configuration ratios as deployed by Telkom.

4.9 Frequency band 2500-2690 MHz

53. Telkom notes that the previous FDD frequency arrangement for the IMT2600 band is still reflected in the draft Frequency Plan. This must be corrected by reflecting only the prescribed TDD channelling arrangement for the band 2500-2690 MHz, as per GG 43341, notice No. 285, 22 May 2020, which is reflected in the draft Frequency Plan.

54. Reference to HIBS has been omitted from this band and must be added. Please also refer to Telkom's comments with regards to the introduction of HIBS as contained in the section relating to the 700 MHz band.

55. Resolution 218 (WRC-23) applies to HIBS and should be added to the frequency band 2500-2690 MHz.

4.10 Frequency band 3600 – 4200 MHz

56. The Authority indicated that the band 3600-3800 MHz "shall be used for IMT noting ITU-R Recommendation 1036-8".

    a. Reference to ITR-R Recommendation M.1036-8 is premature noting that this version was not approved by SG5 during its last meeting held in December 2024 due to several studies called for in Res 220 (WRC-23) still being outstanding. The next SG5 meeting is scheduled for December 2025. Therefore, to avoid pre-empting the outcome of the next SG5 meeting, Telkom recommends that reference be made to "M.1036, latest version".

    b. Telkom agrees that this band could be used for IMT based on the outcome of WRC-23, which upgraded the mobile allocation to primary and identified the band for IMT. However, it is not clear what process the Authority will follow to licence IMT in this band.

        i. Telkom understands that this band is currently not licensed for mobile or IMT. In addition to the fixed links and satellite earth stations (downlink), the band has been licensed for Fixed Wireless Access / broadband FWA ("FWA/BFWA") systems to several

entities on shared basis (details of these licenses or sharing arrangements is not known to Telkom).

ii. Telkom cannot support "upgrading" the FWA/BFWA licenses to allow mobile/IMT operations based on the WRC-23 decision (or the fact that there is a recommended channelling plan in ITU-R M.1036). A public consultation process and a competitive licencing process will be required to licence this band for IMT. This principle was also applied in other bands, for example the 2300 MHz band.

iii. In the adjacent IMT3500 band, licences were issued at a substantial spectrum acquisition fee. Several obligations were also attached to these licences.

iv. Further, the statement that the band "shall be used for IMT" seems to negate the fact that the band is currently also used for PTP links as well as satellite earth stations (downlink). It is therefore not clear why the Authority proposes to delete the note: "*The sub-band 3 600-3 800 MHz could be used for BFWA where frequency sharing with FS PTP and/or FSS is feasible*". Existing fixed links and satellite earth stations are licensed in the band, and these will remain valid until migrated and the corresponding licenses are cancelled, an action which is not supported by Telkom. The current licensees in the band 3600-3800 MHz can only provide FWA/BFWA services, and the coordination with FS Point-to-Point ("**PTP**") and FSS (space-to-Earth) remains valid. Telkom insists that this note be retained.

v. Telkom recommends that a RFSAP be developed urgently for the band 3600-3800 MHz, which must include the envisaged process for IMT introduction in the band. Telkom also recommends that a note be added to make it clear that the band can be used for IMT only in accordance with the RFSAP to be developed.

57. In the sub-band 3800-4200 MHz, the purpose of the note: "*Operators are encouraged to apply for spectrum licenses including registering all C-Band Earth stations on the ICASA online database*" is not clear and needs clarification.

a. The licensing of C-Band earth stations in this band, like any other frequency band, is required (both transmit and/or receive stations must be licensed, unless it has been exempted by the Authority in terms of section 31(1) of the Electronic Communications Act ("**ECA**"). Telkom is not aware of any C-Band earth stations that have been exempt from requiring a spectrum licence. It is therefore not clear why the Authority requests operators to apply for spectrum licences if this is mandated by legislation.

b. It seems that this request is linked to the currently ongoing development of Regulations for Dynamic Spectrum Access and Opportunistic Spectrum Management in the bands 3800-4200 MHz and 5925-6425 MHz ("DSA process"). This must be clarified and properly references in the draft Frequency Plan.

c. The process of "registering" of C-band earth stations, other than the standard process for spectrum licencing, is also not clear. Again, it is assumed that this registration process refers

to the ongoing DSA process, which must be clarified. The note should be amended to clearly refer the registration process being considered in the DSA process.

4.11 Frequency band 4800 – 5000 MHz

58. Telkom supports the development of a RFSAP for the band 4800-4990 MHz.

59. Telkom recommends addition of a reference to the "FMP as amended" be added to the frequency range 4500-5000 MHz, noting that the migration of some fixed links in this broader frequency range may be required to implement IMT in the band 4800-4990 MHz.

60. Telkom also recommends the inclusion of a reference to ITU-R F.1099 as the channelling plan for this band based on the "Harmonised Radio Frequency Channelling Arrangements For Terrestrial Fixed And Mobile Systems In SADC, 29 March 2011".

61. Telkom recommends that NF9 be added to the band 4800-4990 MHz as this band is already included in the table in NF9. Telkom also proposes the addition of a reference to IMT to all bands within the range 4800-4990 MHz (see Annexure A).

62. Several other editorial changes to this band are also reflected in Annexure A.

4.12 Frequency band 5925 – 6700 MHz

63. Telkom supports the introduction of IMT in the band 6425-7125 MHz, as decided by WRC-23 and supported by South Africa, SADC and African Telecommunications Union ("**ATU**"). WAS/RLAN systems have been accommodated in the band 5925-6425 MHz, in line with ATU recommendation (ATU-R Recommendation 005-0 dated July 2021).

64. Telkom recommends that the Authority develop a RFSAP for IMT in the band 6425-7125 MHz. This is needed to ensure a transparent introduction of IMT in the band. The development of a RFSAP for this band could however be delayed until after WRC-27 seeing that WRC-27 Agenda Item 1.7 may increase the identification of IMT. Telkom also recommended text to be added to the "Notes and Comments" column to indicate that the use of the band for IMT shall be in accordance with the RFSAP to be developed.

65. Telkom also recommends the addition of Resolution 220 (WRC-23), as this relates to the use of IMT in the 6 GHz band.

66. Telkom recommends that reference to BFWA as part of U6 fixed links entry be removed. BFWA is not part of fixed links and not included in ITU-R Rec F.384 (which is limited for PTP links). Sharing of BFWA with IMT (future) will be difficult.

4.13 Frequency band 10.7-11.7 GHz

67. See Telkom's comments in Annexure A regarding the use of the band 10.7-11.7 GHz for BSS feeder links under the Fixed Satellite Service ("**FSS**") (Earth-to-space) allocation. BSS feeder links should not be added with Very Small Aperture Terminal ("**VSAT**") and Satellite News Gathering ("**SNG**"),

which operate in the FSS (downlink) in this band. Telkom also made changes to indicate that the use of the band 10.7-11.7 GHz for FSS (uplink) is limited to BSS feeder links as per footnote 5.484.

68. From a satellite use perspective, the band 10.7-11.7 GHz could be divided into four sub-bands, namely 10.7-10.95 GHz, 10.95-11.2 GHz, 11.2-11.45 GHz, and 11.45-11.7 GHz. These are used as follows:

    a. 10.7-10.95 GHz and 11.2-11.45 GHz: The use of FSS downlink in this band shall be in accordance with Appendix 30B (see 5.441). Therefore, Direct-To-Home ("**DTH**"), Very Small Aperture Terminals ("VSAT") and SNG applications do not apply to these two sub-bands.

    b. 10.95-11.2 GHz and 11.45-11.7 GHz: These two sub-bands are used for VSAT, SNG and DTH (secondary).

    c. The entire band 10.7-11.7 GHz could also be used for BSS feeder links (uplink) according to footnote 5.484. The entire band is also used for fixed links.

69. Telkom recommends that a RFSAP for the band 10.7-11.7 GHz be developed. This is required for the following reasons:

    a. Part of the band is shared between fixed links and FSS (downlink) applications such as VSAT and SNG. Coordination between these services is required. Sharing between VSAT and fixed links is generally feasible since these links are limited (mostly in rural areas) and use high performance antennae with very small beamwidths.

    b. The Authority also licenced the band for Point-To-Multipoint ("**PTMP**") type services, with the use of lower performance antenna. This creates several complexities in terms of sharing with satellite services.

    c. Part of the band is also used for DTH applications (on a secondary basis as per NF14) as the location of the DTH terminals is not recorded, thus making it impossible to coordinate with fixed services.

    d. VSAT terminals operating in parts of the band are also not individually registered and therefore coordination with fixed services is not possible. The Authority currently applies a blanket licensing of VSAT and DTH terminals.

4.14 Frequency band 21.2 - 23.6 GHz

70. Telkom agrees with the Authority that the alternative 23 GHz channelling plan for FS links (i.e. for the band 22.0-23.6 GHz) be removed from the Frequency Plan. This channelling plan was introduced to accommodate BSS in the band 21.4-22 GHz, and this is no longer supported in South Africa.

71. Furthermore, the 23 GHz band is used extensively for fixed links in support of mobile networks as well as other various applications. With the 26 GHz band identified for IMT at WRC-19, it is critical that the 23 GHz band be retained for FS links.

72. In NF9, there is still a note (Note 5) indicating that the band is to be shared with BSS. Telkom recommends that this note be deleted since BSS will not be deployed in South Africa in the 23 GHz band. Telkom made several changes to the relevant Resolutions pertaining to the BSS which will apply in case another neighbouring country deploys BSS in the band 21.4-22 GHz.

4.15 Frequency band 24.25 – 27.5 GHz

73. Telkom supports the identification of the 26 GHz band for IMT, as decided by WRC-19. In this regard, Telkom also supports the development of a RFSAP for the band. This RFSAP will introduce IMT in the band but will also address the use of other services in the band, for example fixed links. Telkom supports the shared used of the band i.e. shared between IMT and FS links. The RFSAP should therefore be for the shared use of the band, and not only IMT use in the band.

74. In addition to the above, Telkom also recommends the inclusion of a reference to the "FMP as amended" to this band. The details pertaining to migration in this band will be concluded in the FMP when updated.

75. Telkom is of the view that migration of some fixed links may be required over time to allow deployment of IMT systems, mainly in urban areas. However, Telkom supports the ongoing use of the 26 GHz band for fixed link albeit on a shared basis with IMT.

76. In terms of IMT in the band 24.25-27.5 GHz, the band will be used for TDD only (there is no FDD or Supplementary Downlink ("**SDL**") option in M.1036 for this band). Therefore, Telkom recommends that the TDD use for IMT be reflected in the band.

4.16 Frequency bands used for Local Multipoint Distribution System ("LMDS") (NF18)

77. In accordance with NF18, the band 27.5-28.35 GHz paired with 31.0-31.3 GHz is used for LMDS under the FS using PTMP topology. Telkom understands that this technology is no longer being used. The Authority should verify and confirm if this is the case.

78. If it is indeed no longer being used, Telkom recommends that it be removed from the draft Frequency Plan for the following reasons:

    a. The concept LMDS doesn't appear in the European Frequency Allocation Table (ERC Report 25).

    b. The 28 GHz band is used extensively for links as well as FSS uplinks and sharing with a PTMP systems (LMDS), of which the frequency arrangement differs, will be problematic.

    c. According to ITU-Rec. F.746, Annex 6, the 31 GHz band can be used for fixed services links (both FDD and TDD). This is also aligned with ECC/REC/(02)02. This Recommendation is not compatible with the LMDS allocation.

79. Alternative options for the use of the band 31.0-31.3 GHz should be considered, for example, fixed links as mentioned above.

4.17 Frequency band 37 – 43.5 GHz

80. The frequency band 37-43.5 GHz has been identified for IMT by WRC-19.

    a. Telkom supports the development of a RFSAP for this frequency range, including the consideration of sub-bands within the range 37-43.5 GHz.

    b. Telkom is of the view that the use of this band for IMT will be required only after IMT has been implemented in the band 24.25-27.5 GHz. Following the band 24.25-27.5 GHz, the sub-band 40.5-43.5 GHz should be considered for IMT (in line with ITU Region 1 developments) and based on the availability of IMT devices in this frequency range.

    c. Also, Telkom is of the view that within the frequency range 37-43.5 GHz, other services may take precedence and the use of this frequency range for IMT may not necessarily include the entire range 37-43.5 GHz. The use of IMT in this band should be determined at the time when the RFSAP is developed.

    d. Notwithstanding the above, Telkom recommends that IMT (TDD) be indicated as a "Typical application" in the entire band 37-43.5 GHz with a note indicating that a RFSAP is to be developed. This could be changed once the RFSAP for this band has been prescribed. The use of this band for TDD (only) is aligned with Rec.M.1036 and could be reflected.

81. Telkom is of the view that the moratorium contained in GG 44167, Notice No. 47 of 2021 on the use of the 38 GHz band for fixed links is not needed at this stage. Telkom recommends that the moratorium for this band be lifted. It may be several years before the 37 GHz band is use for IMT services, and even at that stage, the band could be used on a shared basis between IMT and fixed links (geographic separation basis). If the moratorium for fixed links is lifted, it must be made clear that the band cannot be used for IMT until the completion and implementation of the RFSAP for this part of the band.

82. Reference to Resolution 75 should be deleted as this Resolution was abrogated as from 19 December 2023.

83. The use of the band 39.5-40 GHz for fixed links (under Typical Applications) should be verified. This band, although part of the High-Density Fixed Services ("**HDFS**") identification, falls outside the 38 GHz band use in South Africa (and SADC) for fixed links (see ITU-R Rec. F.749, Annex 1). Telkom recommends that this entry be verified and deleted if not in use.

84. With regards to the use of HAPS in the band 38-39.5 GHz:

    a. Telkom supports the use of the band 38-39.5 GHz by HAPS under the fixed services.

    b. However, Telkom recommends that the introduction of HAPS in this band (and other bands) be done on a coordinated basis to ensure the protection of other services already operating in the band.

    c. Telkom therefore recommends that the use of this band for HAPS be preceded by a RFSAP, as part of the RFSAP to be developed for the band 37-43.5 GHz or as a standalone RFSAP.

d. A note should also be added to the Frequency Plan to indicate that HAPS must be deployed based on the RFSAP to be developed.

85. With regards to fixed services in the band 40.5-43.5 GHz:

a. Telkom recommends that the fixed links channelling plan used in South Africa in the band 40.5-43.5 GHz be added to the Frequency Plan.

b. In line with ITU channelling plan for this band and NF14, a reference to Recommendation F.2005 must be added to the Frequency Plan.

c. Furthermore, in line with Europe, Telkom is of the view that Annex 1 of this recommendation applies in South Africa.

d. Reference to Multimedia Wireless Systems ("**MWS**") in this band should be verified. ECC withdrew ERC Decision (99)15 which previously designated the band 40.5-43.5 GHz to MWS (see ECC Decision (22)05). Reference to BFWA could also be deleted as this is contained in ITU-R Recommendation F.2005.

4.18 Frequency band 45.5 – 47 GHz

86. The frequency band 45.5-47 GHz was identified for IMT by WRC-19. Telkom supports the development of a RFSAP for this frequency range.

87. Telkom is of the view that the use of this band for IMT will be feasible only after IMT has been implemented in the band 24.25-27.5 GHz. This band could be considered for IMT based on the availability of IMT devices in this frequency range.

88. Telkom recommends that a note be added to indicate that the band could be used for IMT in line with an RFSAP to be developed.

4.19 Frequency band 47.2 – 48.2 GHz

89. With regards to the use of IMT in the band 47.2-48.2 GHz:

a. The frequency band 47.2-48.2 GHz was identified for IMT by WRC-19. Telkom supports the development of a RFSAP for this frequency band.

b. Telkom is of the view that the use of this band for IMT will be required only after IMT has been implemented in the band 24.25-27.5 GHz. This band could be considered for IMT based on the availability of IMT devices in this frequency range.

c. Telkom recommends that a note be added to indicate that the band could be used for IMT in line with an RFSAP to be developed.

90. With regards to the use of the bands 47.2-47.5 GHz and 47.9-48.2 GHz for HAPS:

a. Telkom supports the use of these bands by HAPS under the fixed services.

b. However, Telkom recommends that the introduction of HAPS in these bands be done on a coordinated basis to ensure the protection of other services already operating in the band.

c. Telkom therefore recommends that the use of these bands for HAPS be proceeded by a RFSAP (as part of the RFSAP to be developed for the band for the introduction of IMT).

d. A note should therefore be added in the Frequency Plan to indicate that HAPS must be deployed in line with a RFSAP to be developed.

4.20 Frequency band 51.4-52.6 GHz

91. Telkom supports the use of this band for fixed links, also noting that the band is identified for HDFS. The use of this band for links is also listed in ITU-Recommendation F.746. The channelling arrangement for FS in this band is as per ITU-R Recommendation F.1496. Annex 1.

92. Sharing with FSS (uplink) should be feasible since the FSS use in this band is limited to Geostationary Satellite Orbit ("**GSO**") systems and since Earth stations deployed in this band is limited to gateway earth stations with a minimum antenna diameter of 2.4 meters (see ITU footnote 5.555C).

93. Resolution 750 (Rev.WRC-19) applies with regards to the protection of passive services in the adjacent band and should be listed.

94. Reference to Resolution 75 should be deleted as it was abrogated from 16 December 2023.

95. Telkom also recommends that this band be added to NF14.

4.21 Frequency band 55.78 – 66 GHz

96. The band 55.78-66 GHz is used for fixed services links and is listed as the 62 GHz band in ITU-R F.746-11. The channelling arrangements for this band is contained in ITU-R F.1497. The band is divided into three sub-bands:

a. Band 55.78-57 GHz:

i. Annex 1 of ITU-R Rec.F1497applies to this band. Both FDD and TDD could be used.

ii. This is a standard licensed frequency band.

b. Band 57-64 GHz:

i. Annex 2 of ITU-R Rec.F1497applies to this band. Both FDD and TDD could be used.

ii. This band is part of the V-Band as contained in the Annexure B of the RFSR and can be used on licensed exempt basis.

iii. ECC/REC(09)01 applies to the use of this band, as per Annexure B of the RFSR.

iv. Rather than referring to GG 40436 of 22 Nov 2016, which introduced the V-band into the RFSR, Telkom recommends that reference be made to the RFSR, 2015 as amended,

as is done in all other bands where there is a reference to the RFSR. This reference will then also apply to the other license exempt applications such as Multi-Gigabit Wireless Systems ("**MGWS**") and SRDs.

c. Band 64-66 GHz:

i. Annex 3 of ITU-R Rec.F1497applies to this band. Both FDD and TDD could be used.

ii. This band is also part of the V-Band as contained in the Annexure B of the RFSR and can be used on licensed exempt basis.

iii. ECC/REC(09)01 is listed in the Annexure B of the RFSR. However, this should be ECC/REC(05)01. An amendment to the Annexure B of the RFSR is therefore required.

97. The frequency bands 55.78-59 GHz and 64-66 GHz are also identified for HDFS as per footnote 5.547. The bottom band does not fully align with ITU-R Rec F.746 but can be implemented as is.

98. The band 57-71 GHz is also available for MGWS as per the Annexure B of the RFSR. Several other applications are also operating in this band, or parts thereof, on a licence exempt basis (see Annexure B of the RFSR).

99. For completeness, Telkom recommends that the above three frequency bands be listed in NF14. See Annexure A for Telkom's proposal.

4.22 Frequency band 66 – 71 GHz

100. With regards to the use of the band 66-71 GHz for IMT:

a. The frequency band 66-71 GHz was identified for IMT by WRC-19. Telkom supports the development of a RFSAP for this frequency band.

b. Telkom is of the view that the use of this band for IMT will only be feasible after IMT has been implemented in the band 24.25-27.5 GHz. This band could be considered for IMT based on the availability of IMT devices in this frequency range.

c. Telkom recommends that a note be added to indicate that the band could be used for IMT in line with a RFSAP to be developed.

101. Telkom recommends the following with regards to the band 57-71 GHz:

a. GG 40436 of 22 November 2016 deals with the introduction of the V-Band (57-66 GHz) and E-Band (71-76 GHz paired with 81-86 GHz) into the RFSR. Reference to this GG is therefore correct. However, since this GG amended the RFSR, 2015, Telkom recommends that the Frequency Plan refers to the RFSR (GG38641, Notice No. 279 of 2015) as amended. It is best practice to refer to the RFSR, 2015 and not to specific amendments to the RFSR.

b. The band 57-71 GHz can also be used for MGWS on a licence exempt basis (as per Annexure B of the RFSR, 2015 as amended). The entry "fixed links" is therefore assumed to refer to applications in the "V-Band". This must be verified.

c. Telkom also recommends that a reference to "Annexure B of the RFSR (GG 38641, Notice No. 279 of 2015) as amended" be added to address the SRD use of the band 57-64 GHz.

d. Telkom recommends that the Authority develop a RFSAP for the band 57-71 GHz to get clarity on the use of these bands for the various services reflected in the draft Frequency Plan.

e. Reference to GG 40436, Notice No. 781 of 2016 in the band 66-71 GHz is not applicable and should be deleted. This GG refers to the E-Band, which is 71-76 GHz paired with 81-86 GHz and the V-Band which refers to the band 57-66 GHz. Telkom recommends that a reference to Annexure B of the RFSR, 2015 be added to cater for MGWS.

4.23 NF9 (IMT Frequency Bands – Terrestrial)

102. Telkom proposes amendments to the structure/content of the table of IMT bands as contained in NF9 to improve readability and to facilitate the provision of additional information. See also proposal on NF9 in Annexure A. Telkom proposed the following amendments:

a. Column 2 refers to the "Frequency Band". This is, in some cases, listing the broader ITU identification for IMT (e.g. 694-790 MHz) whereas in other bands, the specific channelling plan is listed (e.g. 825-830 MHz paired with 870-875 MHz for IMT850). The information supplied must be consistent for all bands. Telkom recommends that the spectrum that is licensed (or to be licensed) be reflected in this column, which is then also linked to the "Bandwidth", see comments below. The broader IMT frequency range is reflected in the Frequency Plan and does not have to be repeated in NF9.

b. In terms of column 3 ("Bandwidth"), it is important to acknowledge that there is a difference between the allocated bandwidth and the actual bandwidth available for IMT licensing in South Africa, which excludes guard bands and spectrum not available for IMT licensing in South Africa. For example, the band 790-862 MHz is identified for IMT use, however, only 2x30 MHz (IMT800) is available for licensing in South Africa, and this is what should be reflected under "bandwidth". In this column, the bandwidth is indicated as either FDD or TDD.

c. Column 4 ("Radio Regulations ("**RR**") Footnotes ("**FN**")") seems to include all ITU footnotes related to IMT in the listed bands. In addition to the footnotes, where the band is identified for IMT, other footnotes (and Resolutions listed in last column) related to IMT are also listed. Telkom recommends that the Authority consider listing only the ITU footnote where the specific band is identified for IMT in NF9. Other relevant ITU footnotes and Resolutions are listed in the table of frequency allocations and should not be repeated in NF9. If the Authority decides to list all ITU footnotes (and Resolutions) in NF9, these should be verified as some relevant ITU footnotes and Resolutions have not been listed.

d. In terms of column 5 ("Channel Plan"), it is recommended that a reference to ITU-R Rec M.1036 (latest version) be added in the title row. This will then avoid the need to repeat the same information for each IMT frequency band. Only the channelling option as contained in M.1036 applicable to a band, should be listed. In addition, Telkom also recommends that the Third Generation Partnership Project ("**3GPP**") Frequency Plan number, which is widely use in the mobile industry, and even included by the Authority in some RFSAPs (e.g. 450 MHz), be added to this column.

e. With regards to the bands 1900-1920 MHz (TDD) and 2010-2025 MHz (TDD), Telkom wishes to provide the following comments:

   i. The band 1900-1920 MHz appears twice in the table. Telkom recommends that the "1900 MHz" entry be deleted while the entry under 2100 MHz (TDD) be kept. This is because of the harmonisation of these two TDD bands with B1 (2100 MHz) and B2 (1800 MHz) as per M.1036.

   ii. Channelling plan B1 includes three bands namely both TDD bands (1900-1920 MHz and 2010-2025 MHz) and the 2100 MHz (FDD). All four bands (1800 MHz, 2100 MHz and the two TDD bands) are however included in B4. Therefore, B4 is recommended for the TDD bands. We could however retain reference to B1 and B2 for the FDD bands as this is well established and used throughout the industry.

f. The Authority proposes to merge the bands 3300-3400 MHz, 3400-3600 MHz, and 3600-3800 MHz into one band, namely 3300-3800 MHz.

   i. Telkom could support the proposed merger of the three IMT bands noting that the band 3600-3800 MHz was identified for IMT by WRC-23.

   ii. Telkom's specific comments above pertaining to the implementation of IMT in the band 3600-3800 MHz must however be enforced.

   iii. Telkom proposes a footnote to NF9 to provide more detail pertaining to the three bands. See Annexure A for the proposed footnote.

   iv. Considering the above, Telkom could also accept reference to F3 as this channelling plan covers all three sub-bands. However, it must be noted that, while F3 (for the band 3300-3800 MHz) was approved by ITU-R WP5D, the final approval by SG5 remains pending and will only be considered by SG5 at its next meeting in December 2025.

g. Telkom recommends that the 6 GHz band be added to NF9:

   i. The band 6425-7125 MHz was supported for IMT by WRC-23 by South Africa, SADC and ATU. WRC-23 approved the use of this band for IMT.

   ii. The Authority included the IMT identification in the draft Frequency Plan; the 6 GHz should therefore also be listed in NF9 to ensure regulatory certainty on the use of this band by IMT in South Africa.

iii. The channelling plan for 6 GHz was approved as TDD for the entire range 6425-7125 MHz in the draft amendment to ITU-R Rec M.1036-7 by WP5D. The update to M.1036 will be considered by SG5 at its next meeting to be held in December 2025.