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06 March 2023

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Independent Communication Authority of South Africa  
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Dear Mr Makgotlho

**RE: TELKOM'S SUBMISSION PERTAINING TO THE AUTHORITY'S NOTICES REGARDING THE SECOND DRAFT RADIO FREQUENCY ASSIGNMENT PLANS**

Telkom SA SOC LTD ("**Telkom**") welcomes the opportunity to provide written comments to the Independent Communication Authority of South Africa ("**ICASA**" or "**the Authority**") in respect of the second draft Radio Frequency Spectrum Assignment Plans ("**RFSAPs**") for the radio frequency bands IMT450, IMT850, and IMT1500 ("**draft RFSAPs**"), as published in Government Gazette 46160 (Notices 3064, 3065, and 3066 of 2023), dated 20 February 2023.

Written submissions are due no later than 16h00 on Monday, 6 March 2023.

Telkom requests an opportunity to make oral representation, if the Authority decides to hold public hearings pertaining to the draft RFSAPs.

Please find herewith Telkom's written comments on the draft RFSAPs.

Yours Sincerely



**Mr Johan Smit**

**Acting Group Executive: Regulatory Affairs and Government Relations**

Telkom's submission to the Independent Communications Authority of South Africa

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Second draft Radio Frequency Spectrum Assignment Plans for the radio frequency bands IMT450, IMT850, and IMT1500

Government Gazette No. 48078 (Notices 3064, 3065, and 3066 of 2023), dated 20 February 2023

## 1. Introduction

The Authority published ten (10) draft RFSAPs for the radio frequency bands IMT450, IMT700, IMT750, IMT800, IMT850, IMT900, IMT1500, IMT2300, IMT3300, and IMT3500 in Government Gazette 46160 (Notices 1961 to 1970 of 2022) on 31 March 2022 and invited written representations from interested persons. Telkom made submissions on these draft RFSAP on 20 May 2022.

The Authority prescribed seven (7) final RFSAPs on 20 December 2022 namely for IMT700, IMT750, IMT800, IMT900, IMT2300, IMT3300, and IMT3500. The finalisation of the RFSAPs for the IMT450, IMT850, and IMT1500 bands were postponed and is the subject of the current consultation. Telkom's further comments pertaining to these RFSAPs are contained in section 2 below.

## 2. Band specific comments

### 2.1 IMT450 (GG48078, Notice 3064)

#### 2.1.1 Channelling plan

Telkom supports the adoption of ITU channelling plan D14 as also recommended in its submission to the Authority dated 20 May 2022.

As highlighted in Telkom's submission dated 20 May 2022, Swiftnet Pty Ltd, a subsidiary of Telkom, has been issued with a spectrum licence for using frequencies within the 450 MHz band (licence No. 00-276-609-0). The Swiftnet assignment falls outside the band D14 and could therefore be shared with the IMT allocations. According to sub-regulation 5.2 of the draft RFSAP, "*The use of the band is limited to IMT services; narrowband services capable of coexistence with IMT may also be permitted. PPDR-supporting or M2M services might be implemented via IMT.*" (own emphasis).

Telkom is of the view that the Swiftnet assignment could be retained as its assignments will not interfere with the D14 IMT deployments and could potentially be used for narrowband service. This will also lead to improved spectrum efficiency as it will increase the use of the band 450-470 MHz and allows for the deployment of narrowband IoT, once band D14 has been implemented. Telkom therefore requests the Authority to retain the Swiftnet assignment on a shared basis with channelling plan D14.

If the Authority decides that Swiftnet must migrate from the 450 MHz band, and in accordance with the Radio Frequency Spectrum Migration Regulations, 2019, the Authority must, upon completion of the RFSAP, issue a notice to Swiftnet in terms of its migration from the 450 MHz band. The notice may include, amongst others, the designation band for the migration.

### 2.2 IMT850 (GG48078, Notice 3065)

Telkom supports repealing the IMT850 RFSAP as proposed by the Authority. Telkom's reasons for this are contained in its submission to the Authority dated 20 May 2022.

Whereas the general content of the draft RFSAP (published in GG48078, GN 3065, 20 Feb 2023) is similar to the draft RFSAP published 31 March 2022 (GG46160, GN1965 of 2022), it is assumed that these are not relevant as the ultimate proposal is to repeal the IMT850. Telkom's comments pertaining to the content of the draft IMT850 channelling plan

published in GG 447788, GN2888 of 2022 remains valid until the IMT850 RFSAP is revoked.

### 2.2.1 Proposed designation band

Telkom considered the Authority's assessment of the various potential designation bands, as captured in Table 3 of the draft RFSAP. Overall, Telkom agrees with the Authority's guidance by the principles of fairness, reasonableness, non-discrimination, and transparency. In addition, Telkom also agrees with the Authority in terms of its consideration of other bands for the following reasons:

- Telkom agrees that the bands IMT700, IMT800, and IMT2600 cannot be considered due to the recently concluded auction and the lack of availability of spectrum in these bands. The only spectrum "available" in these bands are the spectrum set-aside for the WOAN (which cannot be considered at this stage) and the unsold Lot9, which the Authority committed to license through a competitive process in the second licencing process.
- Telkom agrees with the Authority that spectrum in the bands IMT1500, IMT2300, and IMT3300 must consider the need for 80-100 MHz contiguous spectrum assignments for IMT2020 and that these bands should therefore not be fragmented. Also, these bands are not equivalent to the sub-1 GHz being discussed, i.e. IMT850, from a propagation perspective and are therefore technically not equivalent to the 850 MHz band.
- With regards to the 26 GHz band, this band is not yet available for licensing and several regulatory processes must be completed to make this band available for IMT deployment. This band is also not technically equivalent to the 850 MHz from both a propagation perspective and since assignments in the 26 GHz band will be in TDD blocks of at least 200 MHz.
- The IMT750 band is an SDL (supplementary downlink) band and as such, it complements another IMT band used for uplink. As such, this band, which is a TDD band, is not an equivalent band for the IMT850 band.

The only two frequency bands which could be considered as "equivalent" to the IMT850 band is therefore the IMT450 and IMT900 MHz frequency bands. Both these frequency bands are so called sub-1 GHz bands and are therefore equivalent (or better) from a propagation point of view. Also, both bands have an equal amount of spectrum available, i.e. 2x5 MHz compared to the 850 MHz band. However, the economic value of these bands

is vastly different, when considering an international benchmarking of spectrum auctions within these bands as well as the available ecosystems in terms of network and handset availability. In this regard, the IMT900 band is substantially more “valuable” compared to the IMT450 band as well as the IMT850 band. The timing and complexity of making the spectrum in IMT450 and IMT900 bands available also seems not that different and shouldn’t be a major considering factor.

The use of the IMT450 band as alternative to the IMT850 band is furthermore also motivated by the fact that, if the IMT900 band is chosen for replacement of the IMT850 incumbent licensee, it creates the likely option for the incumbent IMT850 licensee to engage in spectrum trading/sharing with either Vodacom or MTN, which are operating nationally in the 900 MHz frequency band. As highlighted in several other submissions, the current secondary market for spectrum provide access to additional spectrum resources for the market dominant players without regulatory scrutiny by the Authority, as mandated by the Radio Frequency Spectrum Regulations (Regulation 15: “*Permission to Assign, Cede or Transfer of Control of a Radio Frequency Spectrum Licence*”). If the IMT900 band is considered by the Authority as the best replacement for IMT850, Telkom requests the Authority to critically consider the use of the 2x5 MHz assignment in the IMT900 by the IMT850 incumbent licensee when approval is granted for the use of the IMT900 band to ensure that there is no negative impact on competition.

Based on the above, Telkom is of the view that the IMT450 band is a more appropriate alternative to the IMT850 band, rather than the IMT900 band.

## **2.3 IMT1500 (GG48078, Notice 3066)**

### **2.3.1 Frequency range for IMT1500**

In the draft IMT1500 RFSAP published 31 March 2022, the Authority proposed that the band 1452-1492 MHz be implemented as IMT1500. In the draft RFSAP published 20 February 2023, the Authority seemingly also adds the sub-band 1492-1518 MHz (see para 2.2 of the draft RFSAP), although the Authority then concludes that it will adopt the entire band 1427-1518 MHz. This must be clarified, and the necessary changes be made. Telkom supports the adoption of the full band for IMT, which is in line with the ITU identification of this band for IMT for South Africa.

The use of the band 1427-1517 MHz allows for 18 blocks of 5 MHz for IMT (i.e. 90 MHz) with a guard band of 1 MHz at the upper end of the band for protection of Mobile Satellite Services (MSS) earth stations operating above 1518 MHz. It is important to note that the

channelling plans for both SDL and TDD in ITU-R Recommendation M.1036 (i.e. G1 and G3 respectively), have an upper limit set at 1517 MHz. In several places in the draft RFSAP, the Authority refers to the upper band limit of 1518 MHz (when referring to either TDD or SDL). Only G2 (i.e. FDD) uses the band up to 1518 MHz, which is not applicable to the proposed use of this band in South Africa. These inconsistencies with the ITU-R M.1036 must be corrected.

### **2.3.2 Ad Section 4 (“Channelling Plan”)**

As indicated in Telkom’s submission on the draft RFSAP published 31 March 2022, the channelling arrangements in the entire band should follow the same configuration (either SDL or TDD but not both). Telkom recommends that the entire band be made available for SDL, in line with the deployment in Europe. Harmonisation of this band in line with Europe (i.e. for SDL) is important for several reasons:

Sharing with MSS operating above 1518 MHz was concluded in Europe (ECC Report 263) and allows for a 1 MHz guardband (i.e. 1517-1518 MHz). Although Working Party 5D (WP5D) continues with the compatibility studies including studies pertaining to the use of the band for TDD, such use may lead to additional protection criteria. To maximise on the economy of scale of technology in this band, Telkom recommends alignment with Europe on SDL. To proceed with the use of this band for IMT, it is important to use the SDL option which was already adopted by Europe and not dependent on the outcome of the WP5D ongoing studies.

This band, when used for SDL, is favoured for carrier aggregating with the 800 MHz and 900 MHz bands (see NR band n91/n92/n93/n94) as per other Region 1 countries. Since South Africa is using both IMT800 and IMT900, there will be a guaranteed ecosystem for devices supporting these band combinations. It is therefore recommended that the SDL configuration will be the best solution for IMT deployments in South Africa in the IMT1500 band.

Based on the above, the proposed use of the band for TDD is not supported. Telkom recommends the adoption of SDL for the entire band 1427-1517 MHz (i.e. 90 MHz of spectrum) for IMT.