



Huawei Technologies South Africa (Pty) Ltd

Huawei Office Park, Building 17, 124 Western Services Road,
Woodmead EXT.20, Johannesburg, 2191
South Africa

Private Bag 89
Benmore 2010
Johannesburg
Tel: +27 (0) 11 -517 9800
Fax: +27 (0) 11 -517 9801

www.huawei.com/za

The Independent Communications Authority of South Africa (ICASA)
350 Witch-Hazel Avenue, Eco Point Office Park
Eco Park, Centurion
South Africa

Attention:

Mr Manyapelo Richard Makgotlho
Email: rmakgotlho@icasa.org.za

27 August 2021

Re: Response to ICASA's Draft National Radio Frequency Plan 2021

Dear Mr Makgotlho,

Huawei would like to thank ICASA for the opportunity provided to the company to comment on the **Draft National Radio Frequency Plan 2021**, published in the Government Gazette No. 44803 dated 09/07/2021.

Huawei is the leading supplier of infrastructure equipment for the telecommunications industry globally and in South Africa, as well as being a major manufacturer of mobile handsets and other electronic consumer goods.

Huawei welcomes the opportunity to submit the following comments for your consideration and requests the opportunity to make an oral presentation. Please feel free to contact us if you have any question or require any further clarification.

Yours sincerely,

Leslie Chen

Date

Senior Marketing Manager
Mobile: +27716179222
Email: leslie.chenfazhi@huawei.com

Registration No. 1999/010578/07
Directors: Chen Lei (Chinese), Du Yanxin (Chinese), Yi Xiang (Chinese)

Comments from Huawei on ICASA's Draft National Radio Frequency Plan 2021

Huawei fully supports ICASA efforts in the regulatory process of developing an update of the National Radio Frequency Plan. We provide comments on selected spectrum topics herewith.

694-790MHz (IMT700) & 790-862MHz (IMT800)

Huawei fully supports ICASA's intention to remove the broadcasting service as the primary service from these bands in order to avail them for IMT only. We have noticed that the deadline for the digital broadcasting migration has been set for Mar 2022. We welcome this deadline and further request that ICASA considers publishing regular reports on the progress of this migration process.

1427-1518MHz (L-band)

Huawei fully supports the addition of IMT as a typical application in this band. CEPT has adopted the supplemental downlink (SDL) scheme for this band. We would like ICASA to consider that this band has NOT yet been widely released or put into use in CEPT countries. The requirement for standalone operation in the band (both UL and DL transmissions) has emerged in some other regions. In the case of standalone 5G systems, a TDD access scheme is a potentially appropriate option, which can accommodate traffic asymmetry in the UL/DL directions with good potential for economies of scale. The same 5G-NR equipment can serve both the TDD and SDL markets. We advise ICASA not to rush the release of this band, and to wait until there is more clarity on which band plan gains more traction globally.



2300-2400MHz (IMT2300)

Huawei notes that the Radio Frequency Spectrum Assignment Plan 2015 requires a feasibility study to be conducted in order to establish the destination band for the fixed services in the band. We recommend that the feasibility study be given priority.

2500-2690MHz (IMT2600)

Huawei welcomes ICASA's decision to amend the band plan for this band from a TDD+FDD band plan to a TDD only band in order to improve the spectrum efficiency. We suggest that the National Radio Frequency Plan 2021 should clearly reflect this in the "Typical Applications" column in Section 4, i.e. the 3 lines on IMT2600 BTX, IMT2600 MTX and IMT2600 TDD should be removed and only "IMT TDD (2500-2690 MHz)" should remain.

3300-3400MHz

The network ecosystem for this band is still small but growing, supported by recent allocations in South America and South Asia. Huawei notes that this band has been identified as IMT in South Africa following WRC-15. We recommend that ICASA considers drafting a Radio Frequency Spectrum Assignment Plan (RFSAP) in order to provide its latest position on this band where potential migration of radars and detailed action plans are concerned.



3600-3800MHz

This band will be considered at WRC-23 for upgrade of the mobile service to primary. Furthermore, the band has been licensed for 5G deployment in many countries in Europe and Middle East. We strongly recommend ICASA to consider possible IMT introduction in this band. On this basis, we suggest ICASA may change the South African Allocation to upgrade the mobile service to primary. If this is not possible, we suggest adding a note to indicate that WRC-23 may upgrade the mobile service allocation to primary and that the band is under consideration for IMT.

4800-4990MHz

Huawei notes that this band has been identified as IMT in South Africa since WRC-15. We recommend that ICASA considers drafting a Radio Frequency Spectrum Assignment Plan (RFSAP) to provide its latest position on this band where potential migration of national security fixed services and detailed action plans are concerned.

5925-7125MHz (6GHz)

With the rapid popularity of UHD video and XR services, the data traffic consumption of 5G users will continue to grow. According to the ITU report, the average monthly DOU of mobile users worldwide will reach 250 GB by 2030. In addition, 5G will be widely used in various vertical industry applications.

Given the above business requirements, GSMA has stated that each country will still need additional 1-2GHz mid-band spectrum by 2030, even when taking into

account the refarming of the existing spectrum. Compared with other mid-band frequencies, the 6GHz band has fewer incumbents and better coexistence conditions. Thus, a new Agenda Item for the 6GHz band has been set up at WRC-19.

In order to ensure the sustainable development of mobile communications in the coming decades, Huawei strongly recommends that ICASA supports the study of the 6GHz band in ITU scope and that ICASA collaborates with industry partners to cultivate the E2E IMT ecosystem of 6GHz band.

We further recommend that ICASA adds a note to all sub-bands between 5925 MHz and 7125 MHz to indicate that this band is under consideration for future IMT use in the block 5925-7125 MHz.

24250-27500MHz (26GHz) & 37000-43500MHz (38GHz)

Huawei supports the mobile allocation, the inclusion of IMT as a typical application in these bands, and the reference to Resolution 242 and 243. We observe, however, that these bands have an abundance of legacy fixed links (PtP and PtMP). It is suggested that the coordination with legacy services be carefully planned for the re-allocation of these bands.

Due to the limitation of its propagation characteristics, the cost to build networks with continuous coverage in these bands will be much higher than that of the mid bands. It may make sense to build networks on these bands only in highly specific scenarios e.g. densely populated areas. It is, therefore, suggested that these bands take lower priority in the 5G licensing process than the mid bands.

45500-47000MHz, 47200-48200MHz & 66000-71000MHz

Huawei supports the mobile allocation, the inclusion of IMT as a typical application in these bands, and the reference to Resolution 243 and 244. We observe however that there is little information on current usage of these bands in South Africa. It is recommended that ICASA begins a study on the usage of these bands as a first step. It is also suggested that the 66-71 GHz band is NOT allocated to unlicensed use.

Suggestion to amend the maximum radiated power limit to adopt the usage of Active Antenna Systems

Active Antenna Systems (AAS) use new technologies e.g. Beamforming. Therefore, 3GPP Technical Specifications 38.104 proposes that the transmission counters of the new AAS base station are represented by OTA. The measurement conditions are defined as TRPs, not EIRPs. TRP is more accurate in assessing interference between 5G and other mobile systems.

Where the maximum radiated power of Base Station transmissions is concerned, Huawei recommends that ICASA changes the current 61dBm/5MHz EIRP limit to the related TRP limit for the adoption of AAS. This applies to the TDD bands 2300-2400MHz, 2500-2690MHz, and 3300-3800MHz.

Huawei proposes that ICASA updates the definitions of “maximum radiated power limits” in the related Radio Frequency Spectrum Assignment Plans (RFSAPs) following the updating of the National Radio Frequency Plan.

Considerations regarding allocation of additional spectrum for the mission critical operational requirements of the vertical industry, specifically public safety and the rail

1. PPDR Assessment of the bands

The need for spectrum suitable to support the emerging broadband applications for Public Protection and Disaster Relief (PPDR) has been recognized for many years. Notably there would be coexistence of the existing PPDR narrow band communications technologies with technologies that require broadband for new services such as broadband data which includes but is not limited to mobile video reporting from field locations, body worn cameras and drone cameras as well as geographic location maps etc. Hence a new band would be required.

2. Railway Radiocommunications systems between train and trackside (RSTT)

Railways deploy railway train and trackside systems to address the ever-evolving challenges and requirements for train operations. These include train positioning information, surveillance and trackside applications to improve railway traffic control, as well as safety and security operations. The recommendation is for the consideration of new spectrum within the existing IMT bands to ensure rail operators leverage the economies of scale for the RSTT equipment.