

Kutleng response to : The Draft Regulations On Dynamic Spectrum Access And Opportunistic Spectrum Management In The Innovation Spectrum 3800-4200 MHz And 5925-6425 MHz.

1. Introduction

Kutleng Dynamic Electronic Systems (Pty) Ltd (“Kutleng”) appreciates the opportunity to provide comments on ICASA’s Government Gazette No. 52415, dated 28 March 2025, titled “Notice on the Draft Regulations on Dynamic Spectrum Access and Opportunistic Spectrum Management in the Innovation Spectrum (3800–4200 MHz and 5925–6425 MHz)”.

This submission highlights key aspects of the draft regulations and does not attempt to address every provision contained in the Gazette. Kutleng supports ICASA’s designation of the ISFR1 band and its frequency boundaries, recognizing that this band aligns with the N77 band, which is widely adopted for IMT (International Mobile Telecommunications) devices

2. Request for gazette amendments

Kutleng acknowledges the global intent behind Dynamic Spectrum Access (DSA), as demonstrated in models such as the CBRS framework in the United States and MSIT CMS in South Korea, which aim to promote equitable spectrum access for emerging users while supporting the development of successful enterprises. However, we find that the current DSA proposal from ICASA, in its present form, may fall short of this mandate. Rather than enabling emerging spectrum users, it risks becoming a mechanism that imposes restrictive limitations, potentially hindering innovation and enterprise development.

Kutleng therefore expresses partial disagreement with the current proposal and respectfully submits the following recommended amendments. These changes are intended to ensure that the legislative framework truly fulfills its purpose: empowering emerging spectrum users and fostering an environment conducive to inclusive economic participation and innovation:

2.1. Channel assignment per license area restrictions

Kutleng is concerned that the current channel assignment restrictions per license area are overly narrow and incompatible with standard IMT (International Mobile Telecommunications) channel configurations. In practice, IMT channel widths are typically allocated in increments of 5 MHz up to 100 MHz, which supports a wide range of high-capacity applications.

The proposed constraints—particularly in urban areas—are too limiting, and the maximum contiguous bandwidth per license area is insufficient to support high-bandwidth applications, which are increasingly essential in both rural and urban environments. These limitations could significantly hinder the performance and scalability of services intended to operate within the DSA framework.

2.2. Unfavourable TRP and EIRP for Master Devices and ISD

It does not make sense to impose limits on the entire country because of a few FSS areas like Randburg (Multichoice), Midrand (Multichoice), Radiokop (Sentech), Haartebeeshoek (SARAO, SANSA). The current DSA transmit power limits should be applied only to the FSS zones to ensure co-existence as per the cited studies in Pretoria and Randburg.

2.3. Unfavourable limit of transmit power especially on urban areas

Studies have shown that the entire African continent is experiencing rural to urban migration. These socioeconomic forces are unassailable, as such it is important that this legislation be aligned with the migration phenomena. The current transmit power limits are not practical for deployment of networks that could be successfully enterprised. To have successful enterprise on the spectrum sufficient transmit power is necessary for better SNR on the link budget. The end goal is to have good and practical quality of service, not just spectrum access.

2.4. Open ended fees for the USSPs

ICASA should regulate the pricing of spectrum access for USSPs. Strict oversight is essential to prevent USSPs from undermining the principles of the DSA through pricing practices that are unaffordable or unfair—particularly those influenced by powerful corporations that may not support the DSA’s objectives. It may also be prudent to implement differentiated spectrum access fees for rural and urban areas, based on population segments defined by Living Standards Measure (LSM) classifications. We recommend that ICASA limit the number of USSP licenses issued to prevent unsustainable market saturation, and that the licensing process be opened at fixed intervals—such as every five or ten years—to ensure stability, sustainability and strategic planning.

2.5. Lack of spectrum assignment for mmWave frequencies

Kutleng recommends that ICASA publish regulated maximum access fees for the ISFR1 band to prevent USSPs from undermining the integrity of the shared infrastructure. Additionally, ICASA should accredit independent laboratories to certify Innovation Spectrum Devices (ISDs), ensuring accurate and efficient device registration. Sections 3 and 4 of this document detail Kutleng’s recommendations on channel widths and power classes, respectively. Furthermore, criteria such as population density and Living Standards Measure (LSM) classifications could be used to determine the optimal number of USSPs per region.

3. Proposed Channel Widths

For the ISFR bands, specifically ISFR 1, we suggest the addition of wider carrier bandwidths. The following carrier bandwidths are suggested for addition and are in line with IMT channel bandwidth:

- 60 MHz
- 80 MHz
- 100 MHz

Kutleng recommends that the maximum bandwidth allocated to a single master operator within the ISFR1 band be capped at 100 MHz, assigned across contiguous channels in both rural and urban areas. To prevent regional monopolization, this 100 MHz allocation should be granted only in regions where there is limited competition for spectrum access or where the spectrum coverage area is not highly contested. The responsibility for overseeing and enforcing these allocation limits should lie with the Unified Spectrum Switch Provider (USSP), ensuring fair and balanced spectrum distribution

	Urban Area	Rural Area
Maximum 10 MHz Contiguous Channels	10	10
Maximum Bandwidth	100 MHz	100 MHz

Table 1: Proposed Maximum Bandwidths

4. Proposed Power Classes

The power classes shown in Table 2 are proposed for areas where there are no Fixed Satellite Services (FSS). For the areas where FSS is present, Kutleng proposes that the standard power classes be implemented, as observed in section 5 of the draft regulation.

Rural Coverage (Outdoor)	
EIRP (Master Devices)	61dBm/5MHz
CPE/User-Equipment(UE/ ISD)	26dBm TRP
Urban Coverage (Outdoor)	
EIRP (Master Devices)	55dBm/5MHz
CPE/User-Equipment(UE/ ISD)	26dBm TRP
Industrial/Private Corporate Networks/ Indoor user	
EIRP (Master Devices)	30dBm/5MHz
CPE/User-Equipment(UE/ ISD)	26dBm

Table 2: Kutleng's suggested power classes for non FSS areas

Kutleng recommends the establishment of distinct power classes for Innovation Spectrum Devices (ISDs), tailored to their device types, use cases, and deployment scenarios. This approach will enable more effective utilization and regulation of the innovation spectrum, ensuring it aligns with its intended equity and accessibility mandate. Imposing overly restrictive power limits on Dynamic Spectrum Access (DSA) could risk rendering DSA-based services inferior to those operating under traditional spectrum allocations, as has been observed in other regulatory categories like CBRS.

5. Conclusion

Kutleng commends ICASA for its visionary and groundbreaking proposal on Dynamic Spectrum Access (DSA). If implemented effectively—with a focus on empowering equitable spectrum access and fostering sustainable enterprise—this initiative has the potential to become a powerful catalyst for economic growth and value creation in South Africa.



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