May 30, 2025

Independent Communications Authority of South Africa
Attention: Ms Pumla Ntshalintshali
350 Witch-Hazel Road, Eco-Park; Centurion
South Africa

DSA2023@icasa.org.za
CC: PNtshalintshali@icasa.org.za
CC: rmakgotlho@icasa.org.za

Re: DRAFT REGULATIONS ON DYNAMIC SPECTRUM ACCESS AND OPPORTUNISTIC SPECTRUM MANAGEMENT IN THE INNOVATION SPECTRUM 3800 - 4200 MHz AND 5925 – 6425 MHz

Dear Ms Ntshalintshali,

The Dynamic Spectrum Alliance[1] (DSA) appreciates the opportunity to submit these comments in response to ICASA's draft regulations on dynamic spectrum access and opportunistic spectrum management in the 3800–4200 MHz and 5925-6425 MHz frequency bands.

The DSA commends ICASA's forward-looking approach to bridging the digital divide by enabling new opportunities for shared spectrum access in South Africa. We support the timely adoption of the proposed regulations, which represent a significant step toward more efficient, inclusive and innovative spectrum use.

Our comments are intended to offer constructive recommendations to help ensure the framework is practical, investment-friendly, and aligned with international best practices.

Drawing on our global experience with dynamic spectrum access frameworks, the DSA remains committed to collaborating with ICASA and stands ready to provide any additional information or support that might be required.

Sincerely,

Dr Martha SUAREZ
President
Dynamic Spectrum Alliance

[1] The DSA is a global, cross-industry, not for profit organization advocating for laws, regulations, and economic best practices that will lead to more efficient utilization of spectrum, fostering innovation and affordable connectivity for all. Our membership spans multinationals, small-and medium-sized enterprises, as well as academic, research and other organizations from around the world all working to create innovative solutions that will benefit consumers and businesses alike by making spectrum abundant through dynamic spectrum sharing. A full list of DSA members is available on the DSA's website at https://www.dynamicspectrumalliance.org/members.

DSA COMMENTS TO THE DRAFT REGULATIONS ON DYNAMIC SPECTRUM ACCESS AND OPPORTUNISTIC SPECTRUM MANAGEMENT IN THE INNOVATION SPECTRUM 3800 - 4200 MHz AND 5925 – 6425 MHz

A. Innovation Spectrum Devices (Sections 4 and 5)

The DSA understands that ISDs type approval by The Authority is required only for devices transmitting or receiving in the ISFR-1. However, we recommend revising the text to explicitly state that devices operating in ISFR-2 are exempt from both registration and type approval requirements. This clarification would align the regulation with established international frameworks and reduce potential ambiguity.

B. Channel Assignment per License Area (Section 9)

The proposed channel bandwidth limitations for ISDs operating in ISFR-1, specifically, 2×10 MHz in urban areas and 4×10 MHz in rural areas, are overly restrictive and may undermine the usability of the spectrum for high-throughput broadband services. Modern radio equipment designed for ISFR-1 typically supports channel bandwidths of 100 MHz or more and is capable of carrier aggregation. Many such devices also support frequency reuse of 1, enabling multiple sectors on the same tower to operate on the same channel. These capabilities allow for significantly higher throughput per link, greater aggregate capacity and a larger number of users. We encourage ICASA to consider international precedents, such as the CBRS framework in the United States and ISFR-1 frameworks in Europe and the UK, where dynamic access rules often permit up to 100 MHz or more of contiguous bandwidth, depending on availability and interference constraints.

C. Maximum Permitted Transmit Power Levels of ISDs (Section 10)

The DSA acknowledges ICASA's effort to define maximum transmit power levels by deployment environment in ISFR-1 (3800–4200 MHz) and ISFR-2 (5925-6425 MHz). However, the fixed limits proposed under section 10 may be too restrictive and hinder the full potential of dynamic spectrum access, particularly for higher-capacity, outdoor broadband deployments. While these limits provide a basic framework, the DSA recommends transitioning from static power limits to a dynamic, location-based power control model, managed by the Unified Spectrum Switch (USS). As noted in section 10 (4), ICASA already anticipates that power levels may need to be reduced below these thresholds where necessary to avoid interference. A fully dynamic approach, where the USS calculates permissible EIRP for Master ISDs in real-time based on the device's geo-location capability, incumbent proximity, terrain, etc., would bring this policy objective to life and ensure optimal spectrum reuse while protecting incumbents.

D. Maximum Permitted Antenna Height AGL (Section 10)

A fully dynamic approach obviates the need for ICASA to limit the maximum permitted antenna height in both ISFR1 and ISFR2. The USS will use the antenna height as an input parameter to determine the available channels and the maximum power on each available channel for that location.

The current proposal limits tower height to 30 meters, a constraint that may be unnecessarily limiting, especially in rural and underserved areas where taller infrastructure is often needed to provide

broader coverage. The DSA suggests that ICASA consider geographic flexibility in tower height regulation, allowing installations with greater antenna heights in areas with minimal harmful interference risk as determined by the USS. This would enable more effective deployments for community networks, backhaul, and rural broadband, aligning with South Africa's broader universal service objectives described in Section 2.

E. Measures to Prevent Harmful Interference (Section 11)

To improve readability, the DSA suggests that ICASA redrafts the section to make clear to the reader which requirements apply to ISFR1, which requirements apply to ISFR-2, and which requirements apply to both bands. This includes registration information to be provided by the incumbent seeking protection. Administrations that have authorized outdoor license-exempt operations at up to 36 dBm in the 5925-6425 MHz band have determined that the only additional mitigation necessary to protect the FSS uplink is an emissions mask for the master device that limits the power transmitted above a certain angle to the horizon. One reading of paragraph (2) is that an FSS operator could register an uplink operating in ISFR-2 to seek additional protections, which has been determined through technical studies submitted in the proceedings of other Administrations as not being necessary at the proposed authorized EIRP limits.

ICASA should also clarify that out-of-block emission limits apply only to ISFR-1. In general, some of the current technical parameters proposed by ICASA, including emission masks requirements, bandwidth limits, antenna heights, EIRP limits and certification criteria, may deviate from globally recognized standards. This situation risks fragmenting South Africa's device ecosystem, increasing hardware costs, and delaying deployment. To encourage participation from global vendors and reduce market barriers, the DSA recommends that ICASA aligns its technical framework with well-established models or standards. Such alignment would ensure economies of scale and facilitate affordability and rapid introduction of new technologies.

F. Interference Mitigation Protocol (Section 12)

The success of any automated spectrum sharing framework relies heavily on the availability of accurate, up-to-date incumbent data. The DSA supports ICASA's initiative to require incumbent registration (Section 11(a) and 11(b)) but emphasizes that data submission should be mandatory and enforceable, with deadlines and consequences for non-compliance. The DSA recommends that the USS include auditing features to verify incumbent data accuracy and promote transparency in spectrum coordination decisions.

The draft framework mandates immediate shutdown of devices if interference to incumbents is reported, regardless of whether the interference claim is substantiated. This places undue operational risk on spectrum users, especially if the incumbent data within the USS is inaccurate or outdated. The DSA urges ICASA to clarify in section 12(2) that identification of harmful interference requires interference claims to be substantiated and can be determined after an investigation, followed by appropriate mitigation or enforcement action if necessary. Additionally, mechanisms should be established to penalize false or incomplete incumbent data submissions, as errors in the database may unjustly harm compliant operators.

G. Responsibilities of the Designated Unified Spectrum Switch Provider (Section 13)

Section 13 lists the responsibilities of the USS Provider (USSP). In (1) it is stated that The Authority shall designate **a** USSP to provide USS services, suggesting that it is The Authority intention to appoint a single USSP. DSA urges ICASA to adopt a multi-provider model that allows the appointment of multiple qualified Universal Spectrum Service Providers. This approach, successfully applied in the U.S. (CBRS SAS and 6 GHz AFC frameworks), promotes competition, improves reliability, and avoids a single point of failure. A resilient infrastructure is essential to maintain continuity and trust in the system.

The DSA notes that ICASA developed a comparable framework for the operation of secondary geolocation databases for TV White Spaces (TVWS) and could adapt that model for the appointment of multiple USSPs.

Furthermore, the DSA recommends the USS to be designed as a cloud-based platform with high availability, redundancy, and failover capabilities.

H. Innovation Spectrum License Validity and Renewal and Commence of operations (Section 18 and Section 19)

The DSA recommends extending IS spectrum license validity to at least five years, with flexibility for renewal and verification of use. This would facilitate investment. Activation deadlines should be extended from 30 to 90 days from the date of issue of the license to accommodate real-world deployment timelines and avoid penalizing operators who require time to secure financing, equipment, or community access agreements.

Conclusion

The DSA supports ICASA's initiative to enable dynamic spectrum access and broaden spectrum availability for the benefit of South Africa's digital transformation and support its national broadband goals. With the recommended refinement, this framework can serve as a model for smart, inclusive, and efficient spectrum use in the region and globally. The DSA remains available to provide technical assistance, case studies, and international benchmarks as ICASA prepares the final version of this regulatory framework after this consultation period.