

April 16, 2020

The Director General
Communications Authority of Kenya
CA Centre, Waiyaki Way, Westlands
P.O. Box 14448
Nairobi 00800
frequencyreturns@ca.go.ke

Re: DSA Comments on the Public Consultation on the Draft Dynamic Spectrum Access Framework for Authorisation of the Use of TV White Spaces in Kenya

Dear Mrs. Mercy Wanjau:

The Dynamic Spectrum Alliance (DSA) respectfully submits the following comments in response to the Communications Authority of Kenya (CA) consultation on “Draft Dynamic Spectrum Access Framework for Authorisation of the Use of Television White Spaces (TVWS) in Kenya.”

The Dynamic Spectrum Alliance (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 sharing¹.

The “Draft Dynamic Spectrum Access Framework for Authorisation of the use of Television White Spaces (TVWS) in Kenya”² published on 3rd March 2020 recognizes that a new spectrum management paradigm is required for some services to balance spectrum utilisation by incumbents and the growing demand from the new services and that dynamic spectrum access may alleviate spectrum scarcity and increase spectrum utilisation especially in rural underserved areas. In this proposal the authority allows lightly licensed white spaces devices to

¹ A full list of DSA members is available on the DSA’s website at www.dynamicspectrumalliance.org/members

² Public Consultation on the Draft Dynamic Spectrum Access Framework for Authorisation of the Use of Tv White Spaces. <https://ca.go.ke/public-consultation-on-the-draft-dynamic-spectrum-access-framework-for-authorisation-of-the-use-of-tv-white-spaces/>

operate at locations where UHF band TV frequencies are not in use by licensed services, while protecting primary users from receiving harmful interference. Lightly licensed white space devices will allow for the provision of affordable broadband and Internet access in unserved and underserved areas within Kenya, and support various use cases, including broadband data, Internet of Things (IoT), Super Wi-Fi, Emergency communications and community networks.

The DSA congratulates the Authority for taking an important step forward on embracing dynamic spectrum sharing in the UHF TV band and indicating that the technical research and consultations will continue to expand the scope of dynamic spectrum access to other bands and radiocommunication services by 2023. The DSA welcomes these efforts, which will significantly contribute to broadband development in rural Kenya and help Kenya to attain broadband penetration goals set forth in the Authority's Strategic Plan (2018-2023) in line with the Kenya National Broadband Strategy (2018-2023) and Kenya Vision 2030.

The UHF band has excellent propagation characteristics that make it particularly attractive for delivering communications services over long distances, coping with variations in terrain, as well as providing coverage into and within buildings. Type approved and authorized white space devices could be deployed by Wireless Internet Service Providers (WISPs) to provide Internet connectivity in rural and underserved areas, including for schools and libraries. The DSA supports increasing shared spectrum use in TV white spaces for cost-effective broadband deployment and is convinced that Internet access will increase digital inclusion.

Moreover, we believe that spectrum sharing is fundamental to a modern spectrum policy framework and applaud CA for its recognition of the importance of spectrum sharing as a key strategy of spectrum management. Indeed, one of the objectives of the Authority's Strategic Plan (2018-2023) is to develop a framework for Dynamic Spectrum Access. We encourage the Authority to move as expeditiously as possible to publish and enact the final Guidelines on the use of Television White Spaces in Kenya. This will deliver more broadband connectivity in rural and underserved areas, as well as a wider range of investment, and new opportunities for innovation.

The DSA has no major reservations on the Draft Dynamic Spectrum Access Framework for Authorisation of the Use of TV White Spaces in Kenya published on March 03, 2020. We believe that it is consistent with the global spectrum management trend in increased spectrum sharing, and comparable with the majority of the TVWS regulatory frameworks that have been adopted in other Sub-Saharan African countries such as South Africa, Ghana, Mozambique, and Uganda, as well as other parts of the world, such as the US, UK, and Canada. In the sections below, we offer some comments and further recommendations for consideration.

SECTION 1. OVERVIEW/ BACKGROUND

The DSA agrees with the Authority's objectives stated in the guidelines and commends the collaborative efforts between CA and the Strathmore University College Kenya in jointly establishing this regulatory framework. The

DSA welcomes the Authority’s plans to authorize the commercial deployments for TV white spaces (TVWS), mainly for fixed broadband services, in the 470 to 694 MHz UHF Spectrum band, currently allocated to the broadcasting service on a primary basis as provided in the National Table of Frequency Allocations. TV White Space Devices (WSDs) shall be authorised to operate in areas where specific channels are unused for Digital Terrestrial Television (DTT) broadcasting. There shall be no changes to the DTT operation, since as a primary service, DTT reception shall be protected from any harmful interference from TVWS emissions.

Section 1.4. Telecommunications Equipment Type Approval

The DSA recommends that the CA should consider accepting 3rd party certifications as part of its type approval process. This will enable quicker deployment of equipment that has been approved in other jurisdictions.

SECTION 2. SPECTRUM SHARING OPPORTUNITY FOR TVWS APPLICATIONS

Section 2.1. Definition of TV White Spaces

The DSA supports the Authority’s initial focus on the 470 to 694 MHz portion of the UHF band for lightly-licensed TVWS operations. Radio frequency spectrum in the UHF band has highly desirable propagation characteristics and TV white spaces are particularly suitable for delivering Internet access in rural and underserved semi-urban areas. Possible applications include the provision of fixed wireless broadband connectivity to homes, businesses, public services like education and health facilities as well as Internet of Things (IoT) applications.

The DSA recommends that the Authority further considers the VHF band in future iterations of the guideline, in order to take advantage of the available white space frequencies in the VHF band which could be suitable for long-range, non-line-of-sight connectivity for narrowband IoT applications, such as those for Agriculture IoT usage.

SECTION 3. FRAMEWORK FOR THE USE OF TV WHITE SPACES

Section 3.1. Introduction and Overview

The DSA supports the aim of the framework, that is to allow WSDs to use spectrum in the UHF band at particular locations and times on a shared basis subject to there being no harmful interference to other spectrum users in the band or adjacent to the band; and the Authority’s intention to make sharing as simple as possible.

We are however concerned at the provision that WSDs are not to use TVWS channels for communication with a geolocation database. We recommend that this provision should be removed since the TVWS channels are likely to be the only medium available to WSDs in rural areas for communication with the geolocation database.

Section 3.2. Key Provisions of the TVWS Framework

3.2 (a) Eligible Operators – *The Authority shall permit interested service providers who hold either a Network Facilities Provider License (Tiers 1, 2 & 3), a Broadcasting Signal Distributor License or a Self-Provisioning Broadcasting License to use TVWS spectrum.* This covers infrastructure/network providers/operators.

The DSA understands that this includes ISPs and new entrants. We therefore recommend that the framework should be amended to make it clear that ISPs are included in those categories that are permitted to use TVWS spectrum.

Section 3.3. Primary Reference Standards

The DSA recommends that Internet Engineering Task Force Protocol to Access White-Space (PAWS) Databases (IETF PAWS RFC7545) and ETSI 301 598 v2.1.1 should be added to the list of primary reference standards. We further recommend that CA incorporates by reference the latest versions of the DSA Model Rules, and highlight the delta, without copying the content. This will result in the CA Framework for TVWS always being in line with the latest version of the DSA Model Rules. This also avoids specifying certain implementation details in the regulation.

SECTION 4. TV WHITE SPACES TRIALS

The DSA supports the temporary procedures to authorize TVWS operations prior to the certification of the TVWS database, as described in this section. We believe that this will accelerate commercial deployments, increase rural broadband penetration, and help to accumulate operating experiences and provide valuable field data as feedback to CA for further improvement of the framework.

Section 4.10. Geolocation of Devices

The DSA supports the CA proposal that “White Space devices (both master and client) shall be required to have geolocation functionality”. However, the DSA has reservation on the CA proposal that “Manually configurable devices shall not be granted Type Approval, in order to limit the risk of harmful interference by transmissions from unauthorised devices”.

The DSA recommends that due to the high incremental cost of the GPS upgrade, only the base station should have automatic geolocation functionality. If the current provision that prevents manual configuration is retained for client devices, then their price could be doubled.

SECTION 6. TV WHITE SPACES SPECTRUM FEES

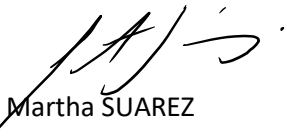
6.1. Approach to Charging and Cost Recovery

The DSA recommends not levying a spectrum fee on any TVWS device – in the spirit of keeping the TVWS connectivity affordable, as any spectrum fee will be eventually passed on to the end-users through the operators.

CONCLUSION

In conclusion, the DSA would like to express our strong support for the Authority’s initiative in publishing the draft Dynamic Spectrum Access Framework for Authorisation of the Use of TV White Spaces in Kenya and would like to offer our continued support to the Authority in developing and implementing dynamic spectrum sharing policies and technologies. We believe this is an important step towards enabling affordable Internet access in rural Kenya and has great potential in expanding connectivity for IoT applications such as that in Agriculture. We are available to discuss these comments and any additional requirement the Authority might have.

Respectfully submitted,



Martha SUAREZ
President
Dynamic Spectrum Alliance