

June 1, 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 Licensing and Shared Spectrum Framework for Community Networks 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 the “Licensing and Shared Spectrum Framework for Community Networks 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 “Licensing and Shared Spectrum Framework for Community Networks in Kenya”² draft published on the 17th of May 2021 was developed in partnership with the Kenya ICT Action Network (KICTANet), the Association for Progressive Communications (APC), the University of Strathclyde, Glasgow, Scotland and supported by the United Kingdom’s Digital Access Programme.

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

² Public Consultation on the licensing and shared spectrum framework for community networks in Kenya.
<https://ca.go.ke/public-consultation-on-draft-licensing-and-shared-spectrum-framework-for-community-networks-in-kenya/>

We fully support the objectives of this proposed regulation and congratulate the CA for such a progressive approach to connecting the unconnected especially in light of COVID-19. We welcome this opportunity to contribute to the work of the CA in such an important process.

The DSA congratulates the Authority for taking an important step forward on embracing dynamic spectrum sharing for connecting the unconnected especially in light of COVID-19, addressing now community networks. 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.

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, after the approval of the TV White Spaces framework in Kenya in April 2021, this licensing and shared spectrum framework for community networks is consistent with the global spectrum management trends: it supports the development of community-powered networks based on innovative and sustainable resource models, as one of the solutions to close the digital divide. These networks, often known as Community Networks, provide Internet access in unserved and underserved communities, and are in alignment with the goal of the SDGs to connect the hardest-to-reach areas of the world.

With regards to radio spectrum allocation proposal, the DSA supports creating an enabling spectrum regulation for Community Networks, allowing them to access as many frequencies and technologies as possible, including TV White Space (TVWS), International Mobile Telecommunications (IMT) under spectrum sharing frameworks and Wi-Fi in license-exempt frequency bands (2.4GHz, 5GHz, and the entire 6GHz band from 5925-7125 MHz).

The reference document refers to the success of Wi-Fi that coupled with the demand for devices that support faster download speeds and more users has led regulators in some countries to consider the extension of Wi-Fi into in the 5.9 GHz band and more significantly, unlocking 1200 MHz of spectrum in the 6 GHz range for license-exempt use. Indeed, there is considerable global momentum to make the entire 6 GHz band available for licensed-exempt use. In the Americas, the United States, Brazil, Chile, Canada, Peru, Costa Rica, Honduras, and Guatemala have already permitted licensed-exempt use across the entire 6 GHz band. Mexico, and Colombia had consultations that proposed to make the entire 1200 MHz available for licensed-exempt use and last week Mexico published the technical proposal with the operating conditions for devices in the entire band. Other Administrations that have permitted licensed-exempt use across the entire 6 GHz band include South Korea and Saudi Arabia.

The CA indicates that in many countries, the success of Wi-Fi as an enabler of small to medium scale Internet Service Providers has catalysed the formation of industry associations to represent the interests of smaller operators with the regulator but also to share knowledge and resolve issues among operators.

The DSA fully agrees with the proposed plan of action described in section 6.1.2. The Communications Authority should consider expanding the range of frequencies available for license-exempt use in the 5925-7125 MHz band. There are several reasons for why CA should pursue this approach:

- (1) Allowing Wireless Internet Service Providers (WISPs) to deploy gigabit class networks. If all 1200 MHz in the 6 GHz band is made available under a license-exempt framework, Wireless Internet Service Providers in Kenya can either provide additional bandwidth to each of its customers served by a single base station or cover more residential customers with each base station.
- (2) Meeting the increased demand for Internet access in light of the COVID-19 situation. The importance of WAS/RLAN use and substantial amount of Wi-Fi carried traffic has been exemplified during the COVID-19 lockdowns worldwide. The flexibility of Wi-Fi and the benefits it brings to digital economies have proven to be essential during the COVID-19 pandemic.³
- (3) More efficient use of the spectrum. WAS/RLAN can operate in the band while ensuring that existing incumbent services can continue to thrive in the band. Globally, the 6 GHz band is allocated to a range of services, including fixed satellite services, fixed services and mobile service with some applications, such as electronic news gathering. Permitting license-exempt access for Wi-Fi and other technologies in the entire 6 GHz band will not only open the door to innovation by offering extra capacity but can be introduced while protecting and still allowing the incumbent services to grow. Introduction of unlicensed services will not necessitate a spectrum clearance process which would likely be complex and expensive. The license-exempt devices will be able to share the band with the incumbents and this will significantly increase spectrum efficiency.
- (4) As RLANs can work with any backhaul – mobile network, cable, fibre, fixed wireless access, satellite, having all 1200 MHz available will support competition across platforms and providers. There have been important public programs and initiatives to increase Wi-Fi hotspots like it is the case of the WiFi4EU⁴ in Europe, the WiFi4EU initiative aims to provide high-quality Internet access to citizens and visitors across the EU via free of charge Wi-Fi hotspots in public spaces such as parks, squares, administrations, libraries, and health centres. It has revealed a strong and local demand for the expansion of Wi-Fi services in order to foster the local e-commerce economy, support tourism, and increase the availability of local public services to citizens. This type of initiatives occurs not only in Europe or in urban areas. If we refer to remote areas, connectivity and cost-efficiency is best achieved by benefiting from scale inherent in globally adopted Wi-Fi standards, which mean lower cost of coverage for low-population density areas and lower cost of terminals.
The ITU-D Study Group on Broadband development and connectivity solutions for rural and remote areas, in its annual deliverable 2019-2020 has recognized that “Wi-Fi hot spots and local area networks, which can be installed at rural points of community activities, including shopping centers and university campuses, can

³ See “Covid-19 and the economic value of Wi-Fi. Katz”, Jung and Callorda, December 2020.

⁴ See <https://ec.europa.eu/digital-single-market/en/wifi4eu-free-wi-fi-europeans>

serve a variety of users. These are also suitable for homes, where all family members can access Wi-Fi connectivity. Wi-Fi technologies are very effective if the backbone landing is not far from the locality and can be used to create a mesh network.”⁵ According to the report, in India,⁶ several rural areas have been connected using Wi-Fi, as a last-mile connectivity solution. In Zimbabwe,⁷ the community information centers constructed by the universal services fund of the country use Wi-Fi technology.

- (5) Immediately realizable benefits. Making the entire 5925-7125 MHz band license-exempt will provide benefits for end users in Kenya immediately. Wi-Fi 6E deployments could start as soon as the regulations are approved. That is because Wi-Fi 6E chipsets and products are already available with 28 certified devices operating in the 1200 MHz of the 6 GHz band. Last December, the U.S. Federal Communications Commission (FCC) certified the first Wi-Fi 6E chipset⁸ and its first 6 GHz Wi-Fi device.⁹ In early January of 2021, the Wi-Fi Alliance began certifying Wi-Fi 6E devices, paving the way for new gadgets that can transmit across the entire 6 GHz band.¹⁰ Wi-Fi 6E products have been announced at this year’s (virtual) Consumer Electronics Show.¹¹ On January 14th, Samsung announced a new mobile phone that incorporated a Wi-Fi 6E client.¹² In light of this momentum, the research firm IDC has forecast that more than 316 million Wi-Fi 6E devices will enter the market in 2021 and shipments will rise rapidly over the next three years.¹³ So clearly the Wi-Fi 6E ecosystem is ready and will continue to grow at an accelerated pace in the coming months, providing benefits to Wi-Fi users because of the economies of scale.

Regarding TVWS, the DSA agrees with the plan of action indicated in section 6.2.2, with the following identified actions: to expedite the commercial availability of geolocation database service and implement required

⁵ Annual deliverable: "Broadband development and connectivity solutions for rural and remote areas". Question 5/1 Telecommunications/ICTs for rural and remote areas. ITU-D ([link](#)).

⁶ Presentation by Mohit Bansal at the workshop on broadband development in rural areas hosted by the Question 5/1 Rapporteur Group, 25 September 2019 ([link](#)).

⁷ Presentation by Batsirayi Mukumba at the workshop on broadband development in rural areas hosted by the Question 5/1 Rapporteur Group, 25 September 2019 ([link](#)).

⁸ See FCC, "Grant of equipment authorization QDS-BRCM1095 ([link](#))".

⁹ See "Chairman Pai Statement on FCC Authorization of First 6 GHz Wi-Fi Device" (December 7, 2020). [DOC-368593A1.pdf \(fcc.gov\)](#)

¹⁰ See "Wi-Fi Alliance® delivers Wi-Fi 6E certification program" (January 7, 2021). [Wi-Fi Alliance® delivers Wi-Fi 6E certification program | Wi-Fi Alliance \(wi-fi.org\)](#)

¹¹ See "Linksys Introduces Fastest and Most Powerful Wi-Fi 6E Mesh System and Enhanced Motion Detection" (January 11, 2021). <https://www.prnewswire.com/news-releases/linksys-introduces-fastest-and-most-powerful-wi-fi-6e-mesh-system-and-enhanced-motion-detection-301205475.html>; See "Nighthawk® Tri-Band WiFi 6E Router (up to 10.8Gbps) with new 6GHz band, NETGEAR Armor™" (January 11, 2021). [AXE11000 WiFi Router \(netgear.com\)](#); See "TP-Link Unveils New Networking Offerings, Bringing a Blazing-Fast, Ultra-Secure Broadband Experience to Consumers and Businesses" (January 11, 2021). <https://www.tp-link.com/us/press/news/19331/> ;

¹² Samsung Press Release, "Samsung Galaxy S21 Ultra: The Ultimate Smartphone Experience, Designed To Be Epic In Every Way". <https://news.samsung.com/global/samsung-galaxy-s21-ultra-the-ultimate-smartphone-experience-designed-to-be-epic-in-every-way>

¹³ See <https://www.wi-fi.org/news-events/newsroom/wi-fi-alliance-delivers-more-value-from-wi-fi-in-6-ghz>

mechanisms to make the TVWS spectrum available immediately to operators; to establish an incubatory period for TVWS technologies and to evaluate whether a regional approach to the implementation of geolocation databases is feasible and practical.

Finally, regarding the Plan of Action about International Mobile Telephony (IMT) Spectrum, the DSA supports Use-it or share-it spectrum mechanisms, localised spectrum licenses and dynamic assignment of IMT spectrum. For that reason, we find that the proposed plan of action in section 6.3.2, is correctly framed and would be glad to support further actions in Kenya.

CONCLUSION

In conclusion, the DSA would like to express our strong support for the Authority’s initiative in publishing the draft “Licensing and Shared Spectrum Framework for Community Networks in Kenya” and would like to offer our continued support to the Authority in developing and implementing dynamic spectrum sharing policies and technologies. We are available to discuss these comments and any additional requirement the Authority might have.

Respectfully submitted,



Martha SUAREZ
President
Dynamic Spectrum Alliance