

IEEE P802.18
Radio Regulatory Technical Advisory Group (RR-TAG)

Proposed Response to Japan Ministry of Internal Affairs and
Communications (MIC) consultation on WRC-23

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This contribution proposed a response to:

Japan Ministry of Internal Affairs and Communications (MIC) consultation “Request for comments on Japan’s positions on the 2023 World Radiocommunication Conference (WRC-23)”

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December 13, 2022

Re: Consultation “Request for comments on Japan’s positions on the 2023 World Radiocommunication Conference (WRC-23)”

Dear Japan MIC,

IEEE 802 LAN/MAN Standards Committee (LMSC) thanks Japan Ministry of Internal Affairs and Communications (MIC) for issuing the consultation “Request for comments on Japan’s positions on the 2023 World Radiocommunication Conference (WRC-23)” and for the opportunity to provide feedback on this topic. The Consultation is an important mechanism for soliciting feedback for MIC consideration.

IEEE 802 LMSC is a leading consensus-based industry standards body, producing standards for wireless networking devices, including wireless local area networks (“WLANs”), wireless specialty networks (“WSNs”), wireless metropolitan area networks (“Wireless MANs”), and wireless regional area networks (“WRANs”). We also produce standards for wired ethernet networks, and technologies produced by implementers of our standards are critical for all networked applications today.

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Please find below the responses of IEEE 802 LMSC to WRC-23 agenda items 1.2 and 10.

WRC-23 agenda item 1.2 on 6425-7025 MHz and 7025-7125 MHz:

While it is acknowledged that the 6425-7025 MHz and 7025-7125 MHz bands are not currently allowed for use by IEEE 802 LMSC technologies within Japan, it is identified for use in many other regions of the world including the US and Europe. The IEEE 802 LMSC believes that the world’s nations should retain the current status (“No Change”) of the 6425-7025 MHz and 7025-7125 MHz bands, and not adopt an IMT identification in these bands. A premature identification of IMT will lock this spectrum from unlicensed users, and block the operation of technologies in these bands that already exist and are capable of co-existing with primary users in the bands without causing harmful interference. The “No Change” position does not prevent participating decision makers from making an identification at a later time, should it prove necessary. However, identifying the bands with IMT too early limits both the options for and the number of technology innovators that can remain active in these bands.

¹ This document solely represents the views of IEEE 802 LMSC and does not necessarily represent a position of either the IEEE or the IEEE Standards Association.

IEEE 802.11-based devices operating in the 6 GHz band

The IEEE Std 802.11ax-2021 [1] standard supports operation in the 6425-7025 MHz and 7025-7125 MHz bands, and products based on this standard are seeing significant adoption, where regulatory rules permit deployment [2]. IEEE 802 technologies are designed not to cause interference with other users in these bands. The Wi-Fi industry, even beyond IEEE 802 technical designs, is taking the lead in specifying a number of co-existence strategies for bands with incumbent users, such as automated frequency coordination [3]. A new generation of IEEE 802.11 technologies currently under development in the IEEE P802.11be amendment will continue to enhance and improve spectrum co-existence capacities, with prior research from for instance the ECC [4] indicating that access to larger, contiguous bandwidths in the 6 GHz band reduces the potential for harmful interference more than alternative solutions.

Significant economic value is provided by IEEE 802.11 based systems today [5]. Availability of the full 6 GHz band (i.e., 5925-7125 MHz) for unlicensed use enables deployment of new applications and services in the coming years, further increasing the societal benefits. The very recent analysis from the UK OfCom highlights such benefits with a “No Change” position [6].

IEEE 802.15-based devices operating in the 6 GHz band

IEEE 802.15 standards define Ultra-Wideband technology operation, which is finding adoption for numerous short-range sensing and ranging applications. IEEE Std 802.15.4-2020 [7] and IEEE Std 802.15.4z-2020 [8] are standards for precision ranging that are already capable of using both the 6425-7025 MHz and 7025-7125 MHz bands and are increasingly used in many high value applications. IEEE Std 802.15.6-2012 [9], a standard for short range, wireless communication in the vicinity of, or inside, a human body (but not limited to humans) uses the same bands and channels and is approved by national medical and/or regulatory authorities for applications including medical wireless body area network (BAN).

It is expected that an increasing number of IEEE 802.15.4-2020, IEEE 802.15.4z-2020, and IEEE 802.15.6 devices will continue to be added and operated in these bands. Notably, with the increasing use of IEEE 802.15 devices in the smartphone and consumer automotive spaces, it is forecasted that more than 1 billion UWB-enabled devices will be shipped annually worldwide by 2025 [10].

WRC-23 agenda item 10 on the provisional agenda item 2.1 of WRC-27:

IEEE Std 802.15.3d-2017 [11] defines operation in the 252-321 GHz frequency band for wireless communication. Currently, IEEE 802 LMSC is working on the revision of IEEE Std 802.15.3-2016 to define 275-450 GHz as identified for use by fixed and mobile service. Radiolocation service in the 275-450 GHz frequency bands may complement communications applications, especially in the context of joint communication and sensing. IEEE 802 LMSC does not support the identification of these frequency bands for radiolocation service for primary use and instead suggests to work towards an identification for secondary use or, at most, co-primary use.

Conclusion

IEEE 802 LMSC thanks the Japan MIC for the opportunity to provide this submission and kindly requests Japan MIC to take into account our responses in its decision towards WRC-23.

Respectfully submitted

By: /ss/.

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