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

Proposed Response to Japan’s Ministry of Internal Affairs and
Communications for Frequency Realignment Action Plan (2023
Edition)

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This document drafts a proposed response to the Japan MIC’s consultation “Frequency Realignment Action Plan (2023 Edition)”.

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5 Electronic filing

November 2, 2023

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7 Re: Consultation “Frequency Realignment Action Plan (2023 Edition)”

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9 Dear Telecommunications Bureau,

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11 IEEE 802 LAN/MAN Standards Committee (LMSC) thanks Japan’s Ministry of Internal Affairs
12 and Communications (MIC) for issuing the consultation that call for comments on “Frequency
13 Realignment Action Plan (2023 Edition)” and for the opportunity to provide feedback.

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

21
22 IEEE 802 LMSC is a committee of the IEEE Standards Association and Technical Activities, two
23 of the Major Organizational Units of the Institute of Electrical and Electronics Engineers (IEEE).
24 IEEE has about 400,000 members in over 160 countries. IEEE’s core purpose is to foster
25 technological innovation and excellence for the benefit of humanity. In submitting this document,
26 IEEE 802 LMSC acknowledges and respects that other components of IEEE Organizational Units
27 may have perspectives that differ from, or compete with, those of IEEE 802 LMSC. Therefore,
28 this submission should not be construed as representing the views of IEEE as a whole¹.

29
30 IEEE 802 LMSC follows Japan’s regulatory activities regarding radio local area network (RLAN)
31 and supports MIC proceedings on enabling Standard Power (SP) using automatic frequency
32 control (AFC) for spectrum sharing with fixed communication systems operated in 5925 MHz to
33 7125 MHz and authorizing 6425 MHz to 7125 MHz for very low power (VLP) and low power
34 indoor (LPI) modes of operation.

35
36 IEEE 802 LMSC applauds and appreciate MIC’s progress in finalizing technical conditions on
37 Client-to-Client (C2C) communications as well as the coverage for 320 MHz channel bandwidth
38 in the 6 GHz band published in September 2023. In particular, IEEE 802 LMSC recognizes MIC
39 taking the global leadership in finalizing detailed technical specifications for C2C. As we stated in
40 our filing in August 2023, C2C is critical to efficiency of spectrum utilization and enabling a
41 diverse set of different Wi-Fi applications, use cases, and industry segments and business models
42 in the 6 GHz band (i.e., 5925 MHz to 7125 MHz) across the globe.

43
44 Please find below the IEEE 802 LMSC’s specific comments on this consultation focusing on the
45 aspect of the consultation related to the 6 GHz band.

46
47 **Target for Securing over 1 GHz of License Exempt Spectrum for Wi-Fi by the End of 2025**

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49 IEEE 802 LMSC applauds MIC’s progressive approach in committing to allocation of over 1 GHz
50 of license exempt spectrum for Wi-Fi to enable 10 Gbps services by utilizing Wi-Fi 6 and Wi-Fi

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.

51 7 technologies, which are developed by IEEE 802 standards, in the 6 GHz band. MIC's
52 commitment makes Japan along with the United States of America the global champions for low
53 cost wireless connectivity.

54

55 **6 GHz as a Priority Initiative**

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57 IEEE 802 LMSC appreciates MIC in listing of the 6 GHz regulatory expansion as a priority
58 initiative for the action plan and recognizes MIC's determination in introduction and enablement
59 of Wi-Fi 7 technology based on IEEE P802.11be [1] and spectrum sharing for SP operation using
60 sharing mechanism such as AFC to improve system coverage and system throughput performance.

61 Both the Wi-Fi 7 technology and the SP operation using AFC heavily rely on the availability of
62 sufficient spectrum (e.g., of over 1 GHz) to accommodate multiple 160 MHz and 320 MHz
63 channels. In the case of Wi-Fi 7, enterprise deployments and scaled deployment of advanced
64 applications such as AR/VR for example in education and health industries require multiple 320
65 MHz channels to fully utilize the advantages of the technology. In the case of SP operation with
66 an AFC system, without extending the band to upper 6 GHz band (i.e., 6425 MHz to 7125 MHz)
67 and considering limited spectrum availability from an AFC system, the channel bandwidth may
68 be limited to 20 MHz for enterprise indoor and outdoor deployments. Please note that even with
69 additional shared spectrum in the upper 6 GHz authorized for license exempt operation, only a part
70 of the license exempt spectrum will be accessible at each location because of the AFC system
71 frequency availability calculation.

72 Today, AFC technology is mature. AFC systems are going through detailed certification processes
73 in the United States of America and Canada and SP deployments are imminent. Various chipset
74 vendors and original equipment manufacturers (OEMs) have been demonstrating and promoting
75 their Wi-Fi 7 products, some of which have already emerged in the market. IEEE 802 LMSC
76 respectfully encourages MIC to finalize expansion of the 6 GHz band to the upper 6 GHz band,
77 including the authorization of the outdoor use of Wi-Fi operation.

78

79 **7025 MHz to 7125 MHz Band**

80 With regards to MIC's consideration of 7025 MHz to 7125 MHz band as related to the World
81 Radiocommunications Conference 2023 (WRC 2023), IEEE 802 LMSC recommends allocation
82 of the band to license exempt operation.

83

84 Full allocation of the 6 GHz band will enable Wi-Fi utilization of 7 x 160 MHz channels for indoor
85 enterprise deployment with reuse pattern 7. In the case that the last 100 MHz is not available to
86 Wi-Fi, such reuse pattern is not feasible in deployments.

87

88 With MIC's continued sharing studies for outdoor operation at 6425 MHz to 6570 MHz and 6870
89 MHz to 7125 MHz (to accommodate presence of field pick-up unit (FPU) and broadcast mobile
90 services incumbent operation in the band), we understand that outdoor IMT operation will be even
91 more challenging than that of Wi-Fi due to higher power transmission.

92

93 **Conclusion**

94

95 IEEE 802 LMSC supports MIC's renewed commitment to allocation of over 1 GHz of license
96 exempt spectrum and prioritization of expansion of 6 GHz regulations enabling SP using AFC for

97 spectrum sharing with fixed communication systems operated in 5925 MHz to 7125 MHz and
98 authorizing 6425 MHz to 7125 MHz for VLP and LPI modes of operation. We respectfully request
99 MIC to consider our comments listed in this response and hope that the new regulation will be
100 enacted in a timely manner.

101
102 Respectfully submitted

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104 By: /s/.
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110 References:

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112 [1] “IEEE Draft Standard for Information technology--Telecommunications and information
113 exchange between systems Local and metropolitan area networks--Specific requirements -
114 Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY)
115 Specifications Amendment: Enhancements for Extremely High Throughput (EHT),” IEEE
116 P802.11be/D4.1, September 2023.