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

Proposed response to Saudi Arabia CST's consultation re 6 GHz AFC

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This document contains a proposed response to Saudi Arabia Communications, Space and Technology Commission (CST)'s consultation "Light Licensing Regulations Annex for the 6 GHz Frequency Band".

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5 Electronic filing

November 20, 2024

6  
7 Re: Consultation “Light Licensing Regulations Annex for the 6 GHz Frequency Band”

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9 Dear Respected Officer,

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11 IEEE 802 LAN/MAN Standards Committee (LMSC) thanks Communications, Space and  
12 Technology Commission (CST) for providing an opportunity to comment on the consultation  
13 “Light Licensing Regulations Annex for the 6 GHz Frequency Band”.

14  
15 IEEE 802 LMSC is a leading consensus-based open standards development committee for  
16 networking standards that are used by industry globally. It produces standards for networking  
17 devices, including wired and wireless local area networks (“LANs” and “WLANs”), wireless  
18 specialty networks (“WSNs”), wireless metropolitan area networks (“Wireless MANs”), and  
19 wireless regional area networks (“WRANs”). Technologies produced by implementers of our  
20 standards are a critical element for all networked applications today.

21  
22 IEEE 802 LMSC is a committee of the IEEE Standards Association and of Technical Activities,  
23 two of the Major Organizational Units of the IEEE. IEEE has about 400,000 members in over 160  
24 countries and its core purpose is to foster technological innovation and excellence for the benefit  
25 of humanity. IEEE is also a major accredited standards development organization whose standards  
26 are recognized worldwide. In submitting this document, IEEE 802 LMSC acknowledges that other  
27 components of IEEE Organizational Units may have perspectives that differ from, or compete  
28 with, those of IEEE 802 LMSC<sup>1</sup>.

29  
30 IEEE 802 LMSC follows the Saudi Arabia’s regulatory activities regarding license-exempt short-  
31 range devices closely and applauds CST for developing a detailed light licensing regulation for the  
32 6 GHz band using Automatic Frequency Control (AFC) technology. Please find below the  
33 responses of IEEE 802 LMSC to selected questions of this consultation.

34  
35 **Question 2: Are there any other matters related to the Eligibility section that CST should**  
36 **consider?**

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38 IEEE 802 LMSC commends CST’s continuous leadership in empowering the latest Wi-Fi  
39 technology by allocating the 6 GHz band (i.e., 5925 MHz to 7125 MHz) for lightly licensed  
40 operation.

41  
42 IEEE 802 LMSC supports CST’s proposal in requiring any light license user in the 6 GHz band to  
43 deploy the 6 GHz WLAN Standard Power (SP) Access Points and Fixed Client devices under the  
44 control of an Automated Frequency Control (AFC) system.

45  
46 **Question 9: Are there any other matters related to the Technical Requirements for Standard**  
47 **Power Access Points and Client Devices section that CST should consider?**

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<sup>1</sup> This document solely represents the views of IEEE 802 LMSC and does not necessarily represent a position of either IEEE or the IEEE Standards Association or IEEE Technical Activities.

49 As we believe the indoor SP mode could be important in Saudi Arabia because of extensive indoor  
50 WLAN facilities<sup>2</sup>, IEEE 802 LMSC recommends that CST include the indoor SP mode in its  
51 proceedings related to AFC systems and SP regulation. AFC systems are designed not only to  
52 enable SP mode for outdoor operation but also to improve the performance of indoor WLAN  
53 systems. Considering this, IEEE 802 LMSC recommends CST to consider authorizing indoor SP  
54 mode and relaxing the requirement in (2.1.6) of Appendix A to allow AFC systems to incorporate  
55 associated Building Entry Loss (BEL) in AFC system calculations. As an example, FCC already  
56 accepts requests for the inclusion of BEL through various waiver requests<sup>3</sup>.

57

58 **Question 10: Does the AFC have the necessary capabilities to collect the required data**  
59 **mentioned in section (8.1)?**

60

61 IEEE 802 LMSC suggests replacing “Location confidence level (percentage)” in (8.1.3.2) with  
62 “Location uncertainty (in meters), with a confidence level of 95%”, which aligns with the  
63 requirement in (7.5.1), as well as the regulations of the Federal Communications Commission<sup>4</sup> and  
64 Innovation, Science and Economic Development Canada<sup>5</sup>.

65

66 In addition, SP devices typically do not have information listed in (8.1.3.6). However, it would be  
67 very difficult to require this information from the end users or the device manufacturers. AFC  
68 systems can be required to collect this information from the party responsible for operating the  
69 AFC system.

70

71 **Question 11: Are there any other matters related to the communication between an AFC**  
72 **and Standard Power Access Points and Fixed Client Devices section that CST should**  
73 **consider?**

74

75 The requirement in (8.3.2) states that if a SP device fails to reach an AFC system, it can operate  
76 under 11:59 PM KSA time of that day. IEEE 802 LMSC would like to note that this is a stricter  
77 requirement than the FCC<sup>6</sup> where devices are allowed to operate until the midnight of the following  
78 day. We would suggest to align the timing requirement with the regulations of the FCC.

79

80 **Question 17: Are there any other matters related to AFC System Data Retention and**  
81 **Sharing section that CST should consider?**

82

83 While the IEEE 802 LMSC agrees with CST’s non-burdensome security obligations on AFC  
84 system and standard power devices, we would like to respectfully ask CST to clarify how long  
85 collected data should be retained. In other geographies, data needs to be stored at least 90 days<sup>7</sup>  
86 after the last inquiry from a SP device. Clarification of the retention duration would be useful as a  
87 lack of this duration may imply retention indefinitely.

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<sup>2</sup> Some examples of deployment where indoor SP is beneficial are where propagation environment requires additional link budget, such as airports, sport venues, concert halls, and warehouses.

<sup>3</sup> See Federal Communications Commission: OET Announces Conditional Approval for 6 GHz Band AFC Systems, <https://www.fcc.gov/document/oet-announces-conditional-approval-6-ghz-band-afc-systems> [accessed: 12 November 2024]

<sup>4</sup> See 47 CFR §§ 15.407 (k)(9)(i), the Code of Federal Regulations, Office of the Federal Register, United States of America, <https://www.ecfr.gov/current/title-47/chapter-I/subchapter-A/part-15/subpart-E/section-15.407> [accessed: 12 November 2024].

<sup>5</sup> See 9.1.1, DBS-06 — Automated Frequency Coordination (AFC) System Specifications for the 6 GHz (5925-6875 MHz) Frequency Band, Innovation, Science and Economic Development Canada, <https://ISED-Isde.canada.ca/site/spectrum-management-telecommunications/en/devices-and-equipment/radio-equipment-standards/database-specifications-dbs/dbs-06-automated-frequency-coordination-afc-system-specifications-6-ghz-5925-6875-mhz-frequency-band> [accessed: 12 November 2024].

<sup>6</sup> See 47 CFR §§ 15.407 (k)(8)(iv), the Code of Federal Regulations, Office of the Federal Register, United States of America.

<sup>7</sup> See 9.3, DBS-06 — Automated Frequency Coordination (AFC) System Specifications for the 6 GHz (5925-6875 MHz) Frequency Band, Innovation, Science and Economic Development Canada.

88

89 **Conclusion**

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91 IEEE 802 LMSC thanks CST for the opportunity to provide this submission and respectfully  
92 requests that CST investigate the possibility of authorizing indoor SP mode, consider updating the  
93 requirements in (8.1.3.2), (8.1.3.6), and (8.3.2), and provide a clarification on the duration of data  
94 retention.

95

96 Respectfully submitted,

97

98 By: /s/.

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