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

Proposed response to France ARCEP’s consultation on UWB

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This document contains a proposed response to France’s Electronic Communications, Postal and Print media distribution Regulatory Authority (ARCEP) consultation “On a draft decision repealing Decision No. 2007-0683 of July 24, 2007, as amended, and setting the conditions for using radio frequencies for equipment operating using ultra-wideband technology (UWB)”.

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7 Re: Public consultation on a draft decision repealing Decision No. 2007-0683 of July 24, 2007,
8 as amended, and setting the conditions for using radio frequencies for equipment operating using
9 ultra-wideband technology.

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11 Dear Direction Mobile et Innovation,

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13 IEEE 802 LAN/MAN Standards Committee (LMSC) thanks the Autorité de Régulation des
14 Communications Électroniques, des Postes et de la Distribution de la Presse (ARCEP) for
15 providing an opportunity to comment on the public consultation “on a draft decision repealing
16 Decision No. 2007-0683 of July 24, 2007, as amended, and setting the conditions for using radio
17 frequencies for equipment operating using ultra-wideband technology (UWB)”.

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

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26 IEEE 802 LMSC is a committee of the IEEE Standards Association and of Technical Activities,
27 two of the Major Organizational Units of the IEEE. IEEE has over 460,000 members in more than
28 190 countries and its core purpose is to foster technological innovation and excellence for the
29 benefit of humanity. IEEE is also a major accredited standards development organization whose
30 standards are recognized worldwide. In submitting this document, IEEE 802 LMSC acknowledges
31 and respects that other components of IEEE Organizational Units may have perspectives that differ
32 from, or compete with, those of IEEE 802 LMSC. Therefore, this submission should not be
33 construed as representing the views of IEEE as a whole¹.

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35 Please find below the responses of IEEE 802 LMSC to this consultation.

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37 Ultra-Wide Band (UWB) devices, as specified in IEEE 802.15 standards, are being used
38 worldwide for a wide range of applications in communication, measurement, location, imaging,
39 surveillance, and medical systems², often in conjunction with other short range device
40 technologies. UWB enhances the operation of such technologies and is an efficient means to share
41 spectrum.

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43 The next generation of UWB technology, being developed under IEEE P802.15.4ab³, builds on
44 IEEE Std 802.15.4z-2020⁴. Future developments supported by this project include:

- 45 • Improved link budget and reduced air-time

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 or the IEEE Technical Activities.

² See FiRa Consortium: Unleashing the Potential of UWB: Regulatory considerations, August 2022, <https://www.firaconsortium.org/sites/default/files/2022-08/Unleashing-the-Potential-of-UWB-Regulatory-Considerations.pdf> [accessed: 15 January 2025]. The introduction of IEEE 802.15 UWB-enabled devices in smartphones and laptops puts forecasts at more than 1 billion devices shipped annually worldwide by 2025.

³ See IEEE P802.15.4ab, <https://www.ieee802.org/15/pub/TG4ab.html> [accessed: 15 January 2025].

⁴ “IEEE Standard for Low-Rate Wireless Networks--Amendment 1: Enhanced Ultra Wideband (UWB) Physical Layers (PHYs) and Associated Ranging Techniques,” in IEEE Std 802.15.4z-2020 (Amendment to IEEE Std 802.15.4-2020), vol., no., pp.1-174, 25 Aug. 2020, doi: 10.1109/IEEESTD.2020.9179124.

- 46 • Enhanced sensing capabilities for presence detection and environment mapping
- 47 • Improved accuracy, precision, and reliability for high-integrity ranging
- 48 • The use of interference mitigation techniques to support greater device density and higher
- 49 traffic use cases
- 50 • Improved coexistence with other services
- 51 • Reduced complexity and power consumption
- 52 • Enhanced support for ultra-low power, low latency streaming
- 53 • Support for emerging applications such as high-definition audio

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55 IEEE 802 LMSC commends ARCEP for recognizing the rapidly growing value of UWB. Use of
56 extremely low power UWB devices in accordance with ECC Decision (06)04 and the ETSI EN
57 302 065 series of standards harmonizes with worldwide regions, creates further economies of
58 scale, and supports a robust equipment market, benefitting French businesses, consumers, as well
59 as providing significant societal benefits from the effective use of the radio spectrum.

60

61 **Conclusion**

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63 IEEE 802 LMSC thanks ARCEP for the opportunity to provide this submission and supports
64 ARCEP's proposal on the updated technical conditions on UWB.

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66 Respectfully submitted,

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68 By: /ss/.

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