Comments of the

Ultra Wide Band (UWB) Alliance

to the

Communications Regulatory Authority, State of Qatar

Public Consultation on the Updated Version of the Class License for Short Range Devices

About the UWB Alliance

The Ultra Wide Band (UWB) Alliance is a global not-for-profit organization that works to collectively establish ultra-wideband (UWB) technology as an open-standards industry. A coalition made up of vendors that either design, manufacture, or sell products that use ultra-wideband technology, the UWB Alliance aims to promote and protect the current allocation of bandwidth as well as promote the continuing globalization of the technology. As part of our mission, we advocate UWB technology and use cases to promote verticals showing the value of UWB for IoT and Industry 4.0 and to build a global ecosystem across the complete UWB value chain, from the silicon to the service. In addition, the Alliance is promoting and assuring interoperability through its work with Standards Development Organizations such as the IEEE and ETSI and then working with members to define upper layers and testing to assure compliance. For more information, please visit us at www.UWBAlliance.org.

Introduction

The Ultra Wide Band (UWB) Alliance thanks the Communications Regulatory Authority (CRA) for the opportunity to provide comments on this consultation[1].

We endorse the efforts of the CRA in updating rules for operation of UWB and adopting the vehicular parts of ECC Decision (06)04[2]. We advocate for adoption of additional changes that will bring further value from UWB to Qatar, keeping Qatar at the forefront of technology innovation by including the most up-to-date standards and best practices of Europe and the US.

Adoption of ETSI EN 302 065 series of standards

The UWB Alliance commends the CRA for recognizing the rapidly growing value of extremely low power UWB devices. Adoption of the ETSI EN 302 065 series of standards in accordance with ECC Decision (06)04[3] harmonizes with many regions worldwide. This harmonization creates economic and social benefits by leveraging economies of scale, which supports a robust equipment market. This benefits both Qatar's business and consumer sectors, bringing many benefits to society through the unique capabilities of innovative UWB technology.

UWB devices are being used worldwide for many applications for short range communication, measurement, location, imaging, surveillance, and medical systems. UWB is presently available in many consumer devices such as smartphones, complimenting and enhancing the operation of other more recognized technologies such as Bluetooth[4] and Wi-Fi[5].

UWB is an efficient means to share spectrum. Due to extremely low transmit power and thus RF footprint, UWB creates no interference risk for other services, while providing greater diversity of use.

Adopting 2022 updates to ECC Decision (06)04

The UWB Alliance encourages the CRA to consider adopting additional updates reflected in the 2022 update of ECC Decision (06)04, including the fixed outdoor and enhanced indoor scenarios as detailed

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[1] Public Consultation on the updated Version of the Class License for Short Range Devices, https://www.cra.gov.qa/en/document/public-consultation-on-the-updated-version-of-the-class-license-for-short-range-devices.

[2] ECC Decision (06)04, The harmonised use, exemption from individual licensing and free circulation of devices using Ultra-Wideband (UWB) technology in bands below 10.6 GHz, approved 24 March 2006, as amended 18 November 2022, https://docdb.cept.org/download/4215.

[3] ECC Decision (06)04, The harmonised use, exemption from individual licensing and free circulation of devices using Ultra-Wideband (UWB) technology in bands below 10.6 GHz, approved 24 March 2006, as amended 18 November 2022, https://docdb.cept.org/download/4215.

[4] Bluetooth is a registered trademark of Bluetooth SIG, Inc.

[5] Wi-Fi is a registered trademark of the Wi-Fi Alliance.

in Annex 1.3.1 and 1.3.2. These scenarios have been studied and analyzed[6,7] in preparation of the updated regulations and adoption by both the ECC and the European Commission[8] based on updated assumptions consistent with real world experience.

The enhanced indoor operation will extend exiting consumer and industrial applications and create new opportunities for both precision ranging based uses and moderate rate data communications such as low latency human interface devices and high definition audio.

Allowing fixed outdoor infrastructure enables extending indoor localization systems to cover transition and outdoor areas. It enables new applications such as smart traffic and smart parking. UWB as a localization technology compliments and enhances other technologies such as GNSS: UWB provides increased precision by several orders of magnitude and with outdoor infrastructure points can provide coverage in settings where satellites are not in the field of view (e.g. urban canyons). It also provides for seamless transition for users from indoor to outdoor environments.

Further consideration of updated UWB usage

UWB Alliance asks the CRA to consider further increasing the value and opportunity enabled by UWB technology. Adopting the best features of regulations in North America and Europe positions Qatar at the forefront of the explosive growth in the UWB industry.

We ask the CRA to consider investigations currently underway in CEPT as follows:

SE24_79: Investigations on UWB band extension from 8.5 GHz to 10.6 GHz[9]. This CEPT WG-SE 24 Work item includes sharing and compatibility studies required for the potential update of the regulatory framework for the UWB extension 8.5 GHz to 10.6 GHz. This would provide greater harmonization with North America (United States, Canada and Mexico), where the UWB band of operation extends to 10.6 GHz. This would further bring economies of scale to Qatar.

SE24_81: UWB operation of fixed infrastructure based indoor localization systems in the frequency band between 4,2 GHz to 4,8 GHz[10]. The proposed changes will enable extending the value currently available in indoor industrial localization systems to a broader number of users. Additionally, we ask

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[6] ECC Report 327, Technical studies for the update of the Ultra Wide Band (UWB) regulatory framework in the band 6.0 GHz to 8.5 GHz, approved 1 October 2021, https://docdb.cept.org/download/3511.

[7] 2 CEPT Report 84, Report from CEPT to the European Commission in response to the Permanent Mandate on UWB "Ultra-Wideband technology review in view of a potential update of Commission Implementing Decision (EU) 2019/785,", approved 7 July 2023, https://docdb.cept.org/download/4378.

[8] Commission Implementing Decision (EU) 2024/1467 of 27 May 2024 amending Implementing Decision (EU) 2019/785 on the harmonization of radio spectrum for equipment using ultra-wideband technology in the Union, https://eur-lex.europa.eu/eli/dec_impl/2024/1467/oj.

[9] Workitem SE24_79, https://eccwp.cept.org/WI_Detail.aspx?wiid=844.

[10] Workitem SE24-81, https://eccwp.cept.org/WI_Detail.aspx?wiid=856.

the CRA to go beyond Europe by using 5% as the definition of low duty cycle in the 4.2 GHz to 4.8 GHz band.

Conclusion

The UWB Alliance thanks the CRA for the opportunity to submit comments and respectfully requests that the CRA consider adopting additional use of UWB applications as reflected in the 2022 update of ECC Decision (06)04 and additional changes to fully realize the diversity of uses that UWB enables.

We believe these changes will keep Qatar at the forefront of technology innovation, and bring enhanced value from the scarce midband spectrum, bringing economic and social benefits.