



Comments of

The Ultra Wide Band (UWB) Alliance

Before

Malaysian Communications and Multimedia Commission

***PUBLIC CONSULTATION ON PROPOSED MALAYSIA'S POSITIONS FOR WORLD
RADIOCOMMUNICATION CONFERENCE 2023 (WRC-23) AGENDA ITEMS¹***

Aug 15, 2023

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.

All trademarks, logos and brand names are the property of their respective owners.

¹ Reference: <https://www.mcmc.gov.my/en/media/announcements/public-consultation-on-proposed-malaysia%E2%80%99s-pos-1>

Introduction

The Ultra Wide Band Alliance thanks the Malaysian Communications and Multimedia Commission (MCMC) for issuing the consultation and providing the opportunity to provide feedback.

Comments on Agenda Item 1.2

“To consider identification of the frequency bands 3300-3400 MHz, 3600-3800 MHz, 6425-7025 MHz, 7025-7125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution 245 (WRC-19)”.

The UWB Alliance supports maintaining the current regulatory status (no change) with respect to the 6425-7025 MHz, 7025-7125 MHz, and 10.0-10.5 GHz bands. The UWB Alliance would like to highlight that also FiRa Consortium² and Car Connectivity Consortium³ have issued spectrum position papers supporting the ‘no change’ position. The FiRa Consortium paper also contains an investigation of the interference that an IMT allocation would cause to UWB operations.

The UWB Alliance notes that Malaysia currently authorizes operation of UWB communication device within the frequency bands from 3.1 GHz to 10.6 GHz. UWB is widely used for numerous short-range communication applications as well as precise ranging and sensing applications. Adoption of UWB technology is growing rapidly and creating a robust ecosystem of unique products that provide significant value to users of smartphones, vehicles, as well as evolving safety and health applications. Thus, it is providing both economic growth and valuable new applications. We support consideration of both the social and economic value provided by current uses when considering new uses of the spectrum.

Ultra Wideband (UWB) is an ultra-low power technology that optimizes spectrum sharing and enables other technologies to be used more efficiently. Airdrop is an example of how UWB enhances other technologies: UWB is used to locate, identify, and authenticate the desired peer to enable Wi-Fi® communications with a minimum amount of overhead. This in turn reduces the overhead needed in the Wi-Fi® channel providing an efficient and satisfying user experience.

UWB is being used to enhance other technologies as well. Currently there is growing use of UWB for low latency high definition audio, as well as high resolution low latency human-computer interface devices. It can achieve superior performance compared with conventional technologies at much lower transmit power and energy consumption. Combining UWB capabilities with conventional wireless such as Bluetooth® and Wi-Fi® in applications such as AR/VR can reduce channel load and improve overall spectrum efficiency.

UWB presents a minimal interference footprint due to its extremely low power transmissions. This transmission power level may be up to several million times less than other technologies such as IMT, Wi-Fi® and Bluetooth®. This allows significantly superior spectral reuse, an important metric for spectrum efficiency. Spectrum sharing is of ever-increasing importance to maximize airwaves capacity and requires that systems must reuse the available spectrum as efficiently as possible.

² <https://www.firaconsortium.org/sites/default/files/2023-07/spectrum-position-statement-july-2023.pdf>

³ https://carconnectivity.org/wp-content/uploads/2022/12/UWB-Spectrum-Regulatory-Position_v2-1.pdf

It should be noted that operation of UWB as currently permitted in Malaysia and many other countries has proven to be fully compatible with incumbent licensed operations. UWB does not cause interference to other users. However, the introduction of new high-power services such as IMT poses a significant risk of disrupting existing spectrum environments. Currently, there are numerous technical forums studying the compatibility and coexistence between IMT and other services, both licensed and licensed exempt.

Another important characteristic of UWB is that it can be implemented with extremely low energy consumption. As an example, some products currently on the market can stream audio at higher resolution with lower latency while using one tenth of the energy of conventional RF solutions. Saving energy on already low energy devices may seem like a small thing, but multiplied by many millions of devices, the savings are significant. A lot of a little adds up to a lot! In addition, coupling UWB with conventional consumer technologies as described previously can increase the efficiency of those technologies. UWB is a technology that is very favorable for meeting environmental goals.

The “No Change” position, leaving these bands available as they are now, provides MCMC flexibility to consider the bands for future use which may include licensed IMT or other high value uses. Identifying the bands for IMT pre-maturely limits the options for these bands.

By considering policy that maintains open access to this spectrum, MCMC can continue to support the industry in finding new innovative ways to better use spectrum. An example of ongoing industry efforts includes new standards efforts such as IEEE 802.15.4ab, which includes features to further improve coexistence, sharing, device density, and ultra-low energy usage. This will expand the diversity of use that UWB is providing, such as precise (centimeter accurate) location services, secure entry, in-vehicle use for presence detection, and multi-media communications, among others. We anticipate continued expansion in the diversity of use cases supported so long as the currently available spectrum remains usable.

There is more value to be provided by wireless spectrum than just broadband services. Traditional mobile broadband services that depend on exclusive high-power use of spectrum is not necessarily most effective use this valuable resource. In considering policy, ‘more bits per second’ is not the only measure of value. Diversity of spectrum use provides higher value than models that require exclusive access. Mid-band spectrum is scarce and in high demand. The UWB Alliance appreciates the desire for mobile carriers to gain access to ever more exclusive spectrum, but sharing is a superior model for maximizing capacity. The finite supply of mid-band spectrum requires effective sharing that provides a high diversity of use. Diversity of uses can bring far greater value than exclusive mobile services can provide. While mobile carriers presume that exclusive access to spectrum is essential, experience shows that licensed exempt services such as UWB and Wi-Fi® demonstrate that equal or greater value can be obtained without exclusive allocations. Conversely, overlaying new, much higher-powered mobile services over existing uses without a positive incentive to share is potentially disruptive to both current licensed and licensed exempt uses and will not provide the greatest value form the spectrum in the long term.

Submission Information

Submissions are due by 12:00 noon, 16 August 2023 (Wednesday) and should be sent to:

The Chairman

Malaysian Communications and Multimedia Commission

MCMC Tower 1, Jalan Impact, Cyber 6, 63000 Cyberjaya

Selangor Darul Ehsan, Malaysia

(Attention to: Spectrum Planning and Assignment Division)

Tel: +603 8688 8000 Fax: +603 8318 8181

Email: npwg.sec@mcmc.gov.my