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Shure's comments to IMDA's consultation on "Proposed Allocation of 6 GHz Band in Singapore"

Ms Aileen Chia
Director-General (Telecoms and Post)
Deputy CE (Connectivity Development & Regulation)
Infocomm Media Development Authority
10 Pasir Panjang Road
#03-01 Mapletree Business City
Singapore 117438

Dear Ms. Aileen Chia,

Shure Incorporated applauds the work of the IMDA and welcomes the opportunity to provide its response to the above-mentioned IMDA's public consultation.

For more than 97 years, Shure (www.shure.com) has been a leading manufacturer of high-quality, innovative audio products. Our products are used for conferencing and Programme Making and Special Events (PMSE)¹ applications, which include deployments in industries such as broadcast and film production and other professional indoor and outdoor media content creation, in addition to a variety of other civic, business, and special event contexts. Shure is a leading advocate for the audio industry in the spectrum arena, actively participating in spectrum consultations and engaged with various regulatory bodies at the national, regional and international (ITU) levels.

Given that the extensive growth of Wi-Fi needs more spectrum, we support IMDA's proposed initial allocation of the lower 500 MHz of the 6 GHz band (i.e., 5,925 MHz – 6,425 MHz) for RLAN / Wi-Fi use. We also agree with the technical considerations and proposed technical requirements for allowing RLAN / Wi-Fi use in the lower 500 MHz as described in Annex A of the consultation as they will allow Singapore to benefit from a wider 6GHz RLAN ecosystem, especially from Europe.

Shure would go one step further and encourage IMDA to open the whole frequency range from 5,925 MHz to 7,125 MHz for RLAN use. While the use of the upper 6 GHz (6,425 MHz – 7,125 MHz) for IMT is under study for WRC-23, we note that no regulator has issued rules for IMT use of that band. While certain entities are asking to wait for WRC-23 decision before deciding on the use of the upper 6 GHz band, we are of the view that IMDA should open that band as soon as possible on an unlicensed basis so that its citizens can benefit from the full 6 GHz band Wi-Fi

¹ ITU's inclusive term consisting of radio microphones, in-ear monitors, wireless cameras, talkback systems, etc

ecosystem enjoyed by more and more countries, including USA, Canada, Brazil, and South Korea.²

Furthermore, to make more efficient use of the spectrum, enable new use cases and benefit from the unlicensed ecosystem emerging from the USA, IMDA could consider the USA's regulations for High/Standard power devices as follows in addition to Low Power devices:³

- higher power indoor and outdoor operations controlled by an Automated Frequency Coordination (AFC)⁴ system that would prevent interference to any incumbent fixed systems with:
 - Access Points Power up to 36 dBm EIRP (EIRP PSD of 23 dBm/MHz).
 - Client Devices power up to 30 dBm EIRP (EIRP PSD of 17 dBm/MHz).

The USA's regulations could also be considered to protect any incumbent Fixed Satellite Service uplink operation:

- Higher power access points and fixed client devices located outdoors must limit their maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon to 21 dBm (125 mW) to protect fixed satellite services.

In addition, technology neutral rules would also allow development of ecosystems in 6 GHz which are not based on Wi-Fi, like 3GPP NR-U or ETSI PMSE Wireless Multi-Channel Audio System (WMAS)⁵.

Please contact the undersigned if you have any questions.

Respectfully submitted,
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² <https://www.wi-fi.org/countries-enabling-wi-fi-in-6-ghz-wi-fi-6e>

³ <https://docs.fcc.gov/public/attachments/FCC-20-51A1.pdf>

⁴ See <https://docs.fcc.gov/public/attachments/FCC-21-100A1.pdf>

⁵ See https://www.etsi.org/deliver/etsi_en/300400_300499/30042201/02.01.02_60/en_30042201v020102p.pdf