Arete M Private Limited
Blk 26, Sin Ming Lane, #05-114, Midview City, Singapore 573971
Singapore company registration # 201413730E

21 August 2021

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

Dear Ms Chia,

Re: NEXT WAVE OF 5G GROWTH & DEPLOYMENT IN SINGAPORE: POLICY ISSUES & PROPOSED REGULATORY DESIGN FOR 2.1 GHZ BAND

I refer to the Public Consultation issued by the Info-Communications Media Development Authority (IMDA) on "Next Wave Of 5G Growth & Deployment in Singapore: Policy Issues & Proposed Regulatory Design For 2.1 GHz Band" on 26 July 2021.

We would like to provide our views and suggestions as follows:

1. As radio spectrum is a valuable national resource, we should maximise the usage of the spectrum. For the 2.1 GHz band, usage of the guard band of 1980-2110 MHz should be maximised and not solely serving as the guard-band for the FDD uplink and downlink.

2. With a regulatory requirement of needing to use proper Band-Pass Filters in the band adjacent to the 1980MHz-2110MHz Guard Band, there is potential to use middle of the Guard Band, 1985MHz-2105MHz (20MHz bandwidth) for Private TDD Network deployment. This 20MHz TDD Band though not defined in 3GPP, can be used for industry usage where localised terminal equipment and infra-structure can be customised from industry standard equipment. Such examples of using the Guard-Bands are in the proven usage of 1790 – 1800 MHz spectrum in China in the Metro, Sea-Ports and Airports.

   With the Band-Pass Filter as a regulatory requirement for the adjacent bands, Singapore will have the unique opportunity to re-allocate 1985 -2105MHz TDD Band for Private TDD Network to enable more innovations for Industry 4.0 Transformation.

   Reducing or avoiding radio interference can be achieved by requiring the adjacent uplink Lot 12 (1975-1980 MHz) and downlink Lot 1 (2110-2115 MHz) to use appropriate Band-Pass Filters. Similar Band-Pass Filter requirements should also be imposed to radio equipment using the middle of the guard band, 1985 – 2105 MHz.

3. Similar reasoning of imposing the usage of a Band-Pass Filter can be applied to uplink lot 1 (1920 – 1925 MHz) to allow the 1895 – 1915 MHz (20MHz bandwidth) to be allocated for Private TDD Network.

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4. Lot 1 and 12 should not be used to continue the 3G services to reduce potential radio interference to other adjacent Spectrum Bands and the Guard Band. It is possible to retain the 3G services in any other Lots from Lot 2 to Lot 11.

5. Instead of using 5MHz Band-Pass Filters in lots 1 and 12, other appropriate Band-Pass Filters for example 10MHz, 15MHz or 20MHz might be used instead, depending on the actual deployment of the new FDD Network by the new spectrum licensee.

6. By imposing on the usage of a Band-Pass Filter on lot 1 and 12, there could provide an opportunity for IMDA to allocate 20 - 30MHz additional TDD spectrum for Private TDD Network deployment. We sincerely hope IMDA will consider our suggestion and to have the opportunity to allocate more TDD spectrum for Private TDD Network for industry usages which are the emerging trends in China, USA, Germany and Japan.

Please do not hesitate to contact us for clarifications.

Yours Sincerely,
Dr Tang Pen San, Managing Director
Mr Yip Yew Seng, General Manager. ysyip@aretem.sg