

17 August 2021

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

Dear Ms Chia,

Public Consultation on 2.1 GHz Policy and Regulatory Design

1. Enclosed is PSA's response to the public consultation.
2. Thank you.

Yours faithfully,



Mr Lawrence Ng
Regional Head of IT (South-East Asia)
PSA CORPORATION LIMITED

1. 2.1 GHz for 5G Services

1.1. PSA supports the proposed use of 2.1GHz band for 5G SA to augment the existing 3.5GHz and mmWave bands for coverage and capacity enhancements for the following reasons:

- a) 2.1GHz band will provide better signal propagation and performance characteristics within the challenging port environment¹;
- b) 2.1GHz will enable intra and inter band Carrier Aggregation (“CA”) to enhance overall coverage and capacity, both of which are crucial to materialising several performance demanding teleoperations 5G use cases.

2. Continued Provision of 3G Services

2.1. While PSA has taken considerable steps to refresh and modernise its Container Handling Equipment (“CHE”) post cessation of 2G services in 2017, a sizeable fleet of CHEs and IoT devices remain dependent on existing 3G services. Hence, PSA welcomes IMDA’s proposal to leave a small amount of the 2.1GHz band to support the continued provision of 3G services. This will ensure minimal disruptions to PSA operations as PSA continues with our ongoing effort to migrate out of 3G services.

2.2. However, PSA wishes to highlight that our pace of migration had been affected and will likely be dependent on the following factors:

- a) Global chip shortage exacerbated by the COVID-19 pandemic which is expected to last until at least 2022.
- b) Alignment of equipment refresh plan against the maturity and readiness of 5G device ecosystem suitable for industrial and enterprise applications;

2.3. In view of points highlighted in para 2.2, PSA appeals to IMDA and the grantees of FROR spectrum lots to provide flexibility and to cater adequate lead time for enterprises to complete their migration prior to cessation of 3G services.

3. Licensed Spectrum Allocation for Enterprise Use

3.1. As per PSA’s response² to IMDA’s *Public Consultation on Allocation of Spectrum for Enterprise and Public Mobile use* in August 2019, PSA would like to reiterate its position that an exclusive spectrum allocation to PSA³ would greatly boost PSA’s communications network in support of our real-time business critical operations,

^{1,2} <https://www.imda.gov.sg/-/media/Imda/Files/Regulations-and-Licensing/Regulations/Consultations/Allocation-of-Spectrum-for-Enterprise-and-Public-Mobile-Use/PSA-Response-to-the-Spectrum-Consultation-Paper.pdf>

³ An alternative is exclusive leasing from MNOs

especially in view of PSA's unique and challenging operating requirements and physical environment.

- 3.2. We hope that IMDA will consider this request favourably as part of IMDA's overall plan moving forward.

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