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Proposed Allocation of the 26 GHz and 28 GHz Bands to Mobile Service and the Associated Arrangements for Spectrum Assignment and Spectrum Utilisation Fee

Dear Sir / Madame,

As a leading global satellite operator with an established presence in Asia-Pacific, SES World Skies Singapore Pte Ltd (together with its affiliates, "SES") is interested in the public Consultation Paper, jointly issued by the Secretary for Commerce and Economic Development (SCED) and Communications Authority (CA) of Hong Kong.

The Consultation Paper considers the "26 GHz band" (24.25 - 27.50 GHz) and "28 GHz band" (27.50 - 28.35 GHz) respectively, used on current and future SES satellites, both geostationary and non-geostationary, for future fifth generation (5G) mobile services. SES supports the comments submitted to Hong Kong authorities by other satellite industry groups and trade associations, including AVIA, APSCC, ESOA and GVF. In addition to which, SES wishes to add a few points of emphasis.

SES operates two (2) geostationary satellites in portions of the 26 GHz band, nine (9) geostationary satellites in portions of the 28 GHz band, and a constellation of sixteen (16) O3b satellites in medium earth orbit. In addition, SES has a number of geostationary High Throughput Satellites (HTS) systems under construction that will use the 28 GHz band. One of which, SES-12, was launched in 2018 to serve the Asia-Pacific region. SES's wholly owned subsidiary, O3b, will also launch 4 (four) more in 2019 and 7 (seven) from 2021, that will use the 28 GHz band.

The proposed allocation of the 28 GHz band to 5G mobile services is of particular concern to SES, given existing and rapidly growing use for fixed satellite service (FSS) applications, albeit in the absence of any potential for its global harmonization, not being on the ITU World Radiocommunication Conference 2019 (WRC-19) agenda for discussion. There is plenty of other spectrum for consideration under WRC-19 agenda item 1.13 that is not already in use by satellites, some of which is also much better suited to 5G high bitrate requirements. Consequently, we would encourage SCED / CA in undertaking spectrum planning for 5G, to

consider not just the terrestrial mobile component of the 5G ecosystem, but also the satellite component. For which, the Ka-band, especially the 28 GHz band, is already being deployed for HTS systems.

While the use of satellite to complement 5G systems is not expected to be extensive within the territory of Hong Kong itself, the SCED / CA should bear in mind statutory responsibilities to foster an environment that "enhance[s] Hong Kong's position as a communications hub in the region." SES is aware that, in the case of the 28 GHz, several satellite operators have launched or have very advanced plans for latest-generation HTS systems proposing or having the capability of locating their earth stations in Hong Kong itself. Especially, systems of the Hong Kong satellite operators, for which Hong Kong is the natural locale for such hubs.

In this regard, SES wishes to highlight that, the design of the SES-12 HTS system has been built with the capability of operating a Ka-band gateway in Hong Kong that would connect with multiple spot beams over the entire Northeast Asia region. This design choice was made five years ago because SES viewed Hong Kong as a "communications hub in the region". It would be unfortunate and disappointing if the SCED / CA decisions on 5G spectrum were to preclude SES from deploying a gateway in Hong Kong.

Should the SCED / CA nevertheless consider this band for 5G, we believe it would need to be in a manner that would protect FSS space station receivers and not limit the ability to develop and deploy future transmitting earth stations in the band. Ubiquitous deployment of 5G mobile devices and base stations in the 28 GHz could inhibit the deployment of an earth station in Hong Kong for the regional SES-12 HTS system. Unless due consideration is given to safeguard current and future deployment of FSS earth stations within Hong Kong, the deployment of 5G in 28 GHz would be at the expense of very advanced plans to use the same band for HTS systems such as SES-12 hubbed in Hong Kong and serving the broader region.

Regarding the application of a Spectrum Utilisation Fee (SUF), SES is of the view that if this is to be applied to administratively assigned spectrum in any frequency band, it should be applied to all users or assignees of the band and according to their specific characteristics and spectrum usage in a fair and reasonable manner. We would thus recommend a further round of consultation, addressing in detail how the SUF will operate, before such spectrum is allocated or assigned.

For these reasons, and those stated in aforementioned submissions of other satellite organizations industry groups and trade associations, SES urges the Communications Authority to act consistently with the approach in other parts of the world. SCED / CA should solely consider the 24.25-27.50 GHz band for terrestrial 5G mobile services, whilst establishing appropriate conditions for protection of space station receivers and for continuing deployment of FSS earth stations in the 24.65-25.25 GHz and 27.00-27.50 GHz sub-bands allocated to the FSS.

Yours Sincerely,



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