

7 September 2017

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Office of the Communications Authority  
29/F, Wu Chung House  
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Dear



**Proposed Change in the Allocation of the 3.4 – 3.7 GHz Band from  
Fixed Satellite Service to Mobile Service**

1. The Hong Kong General Chamber of Commerce (“The Chamber”) welcomes the opportunity to provide comments on the captioned consultation. We support the Government’s proposal to reallocate frequency spectrum from *fixed satellite service* (“FSS”) to *mobile service* (“MS”) because of the many benefits associated with such an arrangement to better cater to market demands for faster and more reliable mobile services. These include enabling the adoption of 5G services in Hong Kong, facilitating our development as a smart city, fostering Internet of Things (“IoT”) initiatives, and achieving parity in mobile service standards with other jurisdictions.

*(a) Proposed reallocation of the 3.4 – 3.6 GHz band*

2. We understand that Mainland China is preparing to deploy the 3.4 - 3.6 GHz band for 5G services by 2020. In order to minimize the possibility of cross-border interference, Hong Kong should follow suit in reallocating the same frequency band in the interest of harmonizing the provision of mobile

service with that of the Mainland.

3. On the global front, it is noted that the 3.4 - 3.6 GHz band was identified at the World Radiocommunication Conference in 2007<sup>1</sup> as being suitable in the provision of mobile services and that subsequently several countries have actively considered repurposing the 3.4 – 3.6 GHz band for mobile services.

*(b) 3.6-3.7 GHz as a guard band*

4. We note that the Government has proposed the use of the 3.6 – 3.7 GHz band as a guard band for partitioning the provision of FSS from MS within the 3.4 - 4.2 GHz band (referred to as the C-Band). This setup is intended to minimize possible cross interference across adjacent bands. However, we question the excessiveness of apportioned 100 MHz in bandwidth (i.e. 3.6 - 3.7 GHz) for such a buffer given that only 200 MHz (3.4 - 3.6 GHz) will be left for MS use. We would therefore suggest the Government to provide further evidence to justify the proposed amount of bandwidth for the guard band. The Government could also consider the viability of a narrower bandwidth that would be adequate in addressing the risk of cross interference.

*(c) Mitigation and protection measures for the existing systems and services*

5. We agree with the principle of protecting the existing Satellite Master Antenna Television (“SMATV”) systems, non cable-based external fixed telecommunications network services (“EFTNS”) and self-provided external telecommunications systems (“SPETS”) operating in the adjacent band of 3.7 - 4.2 GHz.
6. After the re-allocation, mobile services should be treated as the primary user of the 3.4 – 3.6 GHz band given the importance and value of mobile services to Hong Kong businesses and consumers, an arrangement that is supported and endorsed by the 2007 World Radiocommunication Conference as mentioned earlier in this paper.
7. As such mitigation measures rest primarily with SMATV, EFTNS and SPETS licensees, we suggest that the Communications Authority (“CA”) proactively engage these licensees at an early stage before conducting relevant measures. In

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<sup>1</sup> See Paragraph 15 of the Consultation Paper.

order to ensure a seamless transition in the broadcast of SMATV programmes during and after the proposed change, SMATV licensees should be responsible for providing technical support, such as installing additional signal filters to SMATV systems for subscribers. Also, other services operating in the adjacent bands to mobile services should, as far as possible, accommodate the operation of mobile services.

8. Given the dispersed nature of SMATV/EFTNS/SPETS systems located in Hong Kong, it may not be possible for mobile services operating in the 3.4 – 3.6 GHz band to completely avoid interfering with services that have moved to the upper part of the band despite best efforts in doing so. However, Chamber members, especially mobile service operators, would be happy to provide further views to the consultancy study commissioned by the Office of the Communications Authority to develop technical mitigation measures and operational precautions that would enable the co-existence of the SMATV systems operating in 3.7 – 4.2 GHz band with the public mobile service in the 3.4 – 3.6 GHz band.

*(d) Telemetry, tracking and control earth stations*

9. There are currently two telemetry, tracking and control earth stations (“TT&C earth stations”) located respectively in the *Tai Po Industrial Estate* and *Stanley* for manoeuvring and monitoring the operational status of satellites. As relocation of these stations is not considered to be feasible because of either the prohibitive costs involved or the lack of suitable sites, it has been proposed that restriction zones be imposed to protect the reception of C-Band signals by the two TT&C earth stations from interference caused by the deployment of public mobile service in the 3.4 - 3.6 GHz band. It would be useful if the CA could provide more information on the scale of such restriction zones so that mobile service operators can better assess the impacts of such a setup to their mobile networks.
10. We would also urge the CA to ensure that any such restriction zones should be limited to the two existing locations, namely, *Tai Po Industrial Estate* and *Stanley*, and no new installations should enjoy similar protection.
11. Furthermore, we would suggest that the CA provides information on the distribution of and usage by TT&C channels in the 3.4 - 3.7 GHz band. This would allow mobile service operators to conduct a comprehensive assessment

before the proposed change takes place.

*(e) Additional frequency spectrum for 5G*

12. We support the Government's plan to make available further frequency spectrums in the 700MHz (previously allocated to analogue television service<sup>2</sup>), 26 GHz and 28 GHz bands for MS use so as to align with developments in other developed economies and Mainland China, as well as in fulfilling IMT-2020<sup>3</sup> aspirations.
13. To maintain Hong Kong's mobile service quality, the Government should formulate a long-term plan with the objective of releasing more frequency spectrum. We therefore suggest that in addition to the proposed 3.4 – 3.6 GHz, 26 GHz, 28 GHz and 700 MHz bands, the Government could also consider releasing the 3.3 - 3.4 GHz, 3.7 - 3.8 GHz and 4.8 - 5.0 GHz bands for MS use. It should be noted that Mainland China intends to allocate the 3.3 – 3.6 GHz band (which includes the 3.3 - 3.4 GHz band) and is testing the 4.8 - 5.0 GHz band for the deployment of 5G services. Meanwhile, the EU considers the 3.4 - 3.8 GHz band (which includes the 3.7 - 3.8 GHz band) to be suitable for the introduction of 5G services.
14. While additional spectrum for mobile use is welcomed, we consider a spectrum with a wider bandwidth to be more useful. For instance, we note that there is 35MHz of spectrum in the 1.9 – 2.2 GHz band available for mobile use, but so far no mobile network operators have expressed any interest in acquiring it<sup>4</sup>. This is mainly due to the splitting of the spectrum into two small blocks, which is not cost-effective from the perspective of long-term infrastructure development and has therefore failed to attract any interested bidders.

*(f) Two-year notice period*

15. Frequency spectrum is a precious resource and, where possible, should not be left idle for extended periods. In this connection, we wonder if the proposed two-year notice period could be shortened. Instead, a one-year notice period

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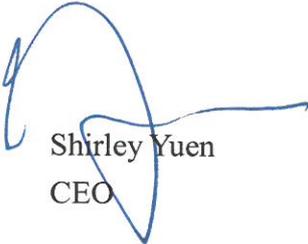
<sup>2</sup> As the current coverage of digital terrestrial TV (DTT) has reached 99% of Hong Kong's population across 18 districts and more than 80% of households receive the DTT service, the Government plans to switch off analogue television service by 2020.

<sup>3</sup> IMT-2020 is a term defined by the International Telecommunication Union to cover the international mobile telecommunication (IMT) services for 2020 and beyond, which is commonly known as 5G.

<sup>4</sup> See Paragraph 3 of the Consultation Paper.

would be enough for SPETS/EFTNS licensees to find other service alternatives either through leasing arrangement or other satellite services operating outside of the 3.4 – 3.7 GHz band. In the case of SMATV licensees, they could assist their customers in modifying the converter of SMATV systems and installing signal filters to mitigate possible interference. There are about 70 SMATV licensees and 1,600 SMATV systems in Hong Kong as of June 2017. If on average each SMATV licensee was to carry out modification work for 23 SMATV systems and if two cases were handled in a month, the entire modification process could be completed within a year. The CA could therefore play a role in coordinating SPETS/EFTNS/SMATV licensees to take necessary and appropriate actions to expedite the transition process.

Yours sincerely,



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CEO

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