

**Arrangements for Assignment of the Spectrum in
the 600 MHz and 700 MHz Bands
for the Provision of Public Mobile Services and the
Related Spectrum Utilisation Fee**

Introduction

1 SmarTone Mobile Communications Limited (“SmarTone”) is pleased to provide its comment to the captioned Consultation Paper jointly issued by the Communications Authority (“CA”) and the Secretary for Commerce and Economic Development (“SCED”) on 19 August 2020.

2 SmarTone welcomes the CA and the Office of the Communications Authority (OFCA)’s efforts in vacating the spectrum in the 600 MHz and 700 MHz bands after the analogue switch off and coordinating with the relevant Mainland authority for the use of the spectrum for mobile services in Hong Kong.

3. Besides releasing more spectrum to the market, the success of 5G in Hong Kong also depends on the Government’s policies in encouraging investment in 5G infrastructure and facilitating the rollout of 5G network. Furthermore, the long-term interests of Hong Kong community are best served by a regulatory and competition environment that foster fair competition in the market. In this respect, the government plays a key role in setting the right conditions to facilitate the development of 5G, which is a core element in the evolution of smart city in Hong Kong.

4. With the above in mind, SmarTone would like to provide its views with regard to the questions contained in the Consultation Papers.

Proposed Amendment to the Hong Kong Table of Frequency Allocations for the 614 – 806 MHz Band

Question 1: Do you have any views on the proposed changes of frequency allocation to mobile service for the entire 614 – 806 MHz band?

5. While we agree with the proposal that the entire 614 – 806 MHz band will be allocated to mobile service on a primary basis, we would like to provide comments on the proposed allocation of spectrum in the 600 MHz and 700 MHz bands respectively.

6. The CA has proposed that the spectrum in the 600 MHz band will be made available for indoor deployment in Hong Kong only, because the Mainland will continue to use the 600 MHz band for broadcasting purpose. However, this would substantially limit the use of 600 MHz band, which has long range radio propagation characteristics that are particularly well suited for providing wide area mobile coverage. While OFCA has been carrying out frequency coordination work with the relevant Mainland authority for the use of the spectrum, we wish more works could be carried out to further explore the feasibility of using the 600 MHz band for outdoor deployment in Hong Kong.

7. For the 700 MHz band, it is noted that 2 x 10 MHz of spectrum in the 738 – 748 MHz band paired with 793 – 803 MHz band will be reserved for Government applications. Without further details on the Government use of spectrum, we have difficulty to comment on the justification for such reservation of spectrum. However, we would urge the CA to consider making available more spectrum in the 700 MHz band for mobile use by reducing the amount of spectrum reserved for government use in the band. As compared to 600 MHz band, the 700 MHz band has a more mature ecosystem. The availability of more spectrum in the 700 MHz band would be particularly useful for better deployment of mobile network and hence benefit more consumers in Hong Kong.

Assignment Approach

Question 2: Do you have any views on assigning the spectrum in the 600/700 MHz bands by way of auction and allowing all interested parties to apply for participation in the auction?

8. Due to the interference issue as mentioned in the Consultation Paper, the 600 MHz band will only be used for indoor deployment only. The 600 MHz band is currently only deployed for mobile use in the United States, so the device eco-system of the band is rather limited at the moment. The use of 600 MHz band for indoor deployment is also subject to compatibility issue with existing indoor antenna systems. Subject to further study, our current understanding is that many leaky cables and passive components in some of the MTR lines and Common Antenna Systems (CAS) cannot support frequency down to 600 MHz. It is therefore questionable whether there would be high demand for the spectrum in the 600 MHz band.

9. On this basis, we propose that the spectrum in the 600 MHz band should be assigned administratively to the existing mobile operators. This will allow operators to focus their resources on network deployment and provision of 5G services.

Band Plan

Question 3: Do you have any views on the proposal that the spectrum in each of the 600 MHz and 700 MHz bands be divided into seven frequency blocks each with a bandwidth of 2 x 5 MHz?

10. We agree that the available spectrum in the 600 MHz and 700 MHz bands could be divided into frequency blocks each with a bandwidth of 2 x 5 MHz, which is the minimum allowable channel bandwidths for the bands according to the 3GPP standard.

Spectrum Cap

Question 4: Do you have any views on the proposed spectrum cap of 30 MHz in each of the 600 MHz and 700 MHz bands to be imposed on each bidder?

11. Given the good radio propagation characteristics and the limited supply of the sub-1 GHz band, OFCA should prevent over-concentration of spectrum in the bands, in particularly for the 700 MHz band. The proposed spectrum cap (30 MHz out of 70 MHz) represents 43% of the total available spectrum in each band, which is higher than the previously set spectrum cap in 4G and 5G spectrum auctions generally.

12. A summary of spectrum caps previously set is provided in Annex 1. The range of spectrum caps previously set is from 33% to 40%, with two exceptions as in the auctions of 900/1800 MHz in 2018 and 4.9 GHz in 2019. It should be noted that the deviations of spectrum caps set in the two exceptions are with specific reasons. The former one (900/1800 MHz in 2018) was a re-assignment exercise of existing spectrum, and the latter one (4.9 GHz in 2019) was set according to the minimum spectrum bandwidth as defined in the 3GPP standard.

13. Our view is that the spectrum cap should be set at maximum 35% as in auction of 3.5 GHz band, so that the maximum amount of spectrum to be acquired by any individual bidder is 10 MHz x 2 in each of the 600/700 MHz bands.

Auction Format

Question 5: Do you have any views on the adoption of the SMRA auction format for the assignment of the spectrum in the 600/700 MHz bands?

14. As mentioned in paragraphs 7 and 8 above, we propose that the spectrum in the 600 MHz band should be assigned administratively to operators as it is envisaged that there will not be strong demand for the spectrum.

15. For 700 MHz, it is our view that should the CA maintain its view that the spectrum should be assigned by means of auction, we would propose that the auction format should base on the clock auction format, similar to the one used in the auctions of 3.3 GHz and 3.5 GHz bands. This is to ensure that spectrum assigned to individual operator is on a contiguous basis.

Network and Service Rollout Obligations

Question 6: Do you have any views on the network and service rollout obligations proposed to be imposed on the successful bidders of the spectrum in the 600/700 MHz bands and the associated performance bond proposed for guaranteeing compliance?

16. Since the spectrum in the 600 MHz band is for indoor use only and the ecosystem is not mature, the milestone of establishing 400 indoor base stations is not commercially justifiable and would put substantial burden on operator. Given that the major use case for the spectrum would be for indoor deployment in MTR stations, we propose that the number of indoor base stations to be established within the first five years from the date of spectrum assignment should be reduced to 100.

Spectrum Utilization Fee

Question 7: Do you have any views on the proposal in relation to the setting and collection of SUF as specified in paragraphs 32 and 33 above?

17. We agree with the proposal that spectrum assignees will be given a choice to pay the SUF either by one-off or annual payments.

18. In the event that the CA is minded to conduct auction to allocate the spectrum, SmarTone submits that the reserve price should be set as low as possible to avoid unnecessary intervention of the setting of spectrum price.

SmarTone Mobile Communications Limited

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Annex 1

Band	Total bandwidth	Date of auction	Spectrum cap
2600 MHz	90 MHz (45 MHz x2)	Jan 2009	30 MHz (33% of 2600MHz)
2300 MHz	90 MHz	Feb 2012	30 MHz (33%)
2100 MHz	118.4 MHz	Dec 2014	40 MHz (33%)
900/1800 MHz	200 MHz	Dec 2018	90 MHz (45%) overall, and sub-cap of 20 MHz (45%) on 900MHz
3.5 GHz	200 MHz	Oct 2019	70 MHz (35%)
4.9 GHz	80 MHz	Oct 2019	40 MHz (50%)
3.3 GHz	100 MHz	Nov 2019	40 MHz (40%)