Arrangements for Assignment of the Spectrum

in the 3.3 GHz and 4.9 GHz Bands for the

Provision of Public Mobile Services and the related Spectrum Utilisation Fee

Submission by

SmarTone Mobile Communications Limited

Introduction

1. SmarTone Mobile Communications Limited ("SmarTone") is pleased to provide its comments on the above consultation paper jointly issued by the Communications Authority ("CA") and the Secretary for Commerce and Economic Development ("SCED") on 28 August 2018 ("Consultation Paper").

Comments on the Consultation Paper

2. The following sections set out SmarTone's views with respect to the questions raised in the Consultation Paper.

> *Question 1 – Do you have any views on the proposed amendment to the Hong Kong Table of Frequency Allocations as regards the allocation of the 3.3 – 3.4 GHz band and the 4.83 – 4.94 GHz band for mobile service on a co-primary basis in addition to the respective existing uses?*

3. The 3.3 GHz and 4.9 GHz bands are both candidate frequency bands for 5G services and hence we have no objection for both bands being allocated for mobile service on a co-primary basis. However, we submit that more spectrum in the 4.9 GHz band should be made available for mobile service for the following reasons:

   a. As mentioned in paragraph 4 of the Consultation Paper, the Ministry of Industry and Information technology ("MIIT") of the Mainland promulgated its decision in November 2017 to allocation spectrum in the range of 4.8 – 5.0 GHz for the provision of 5G services. Given the geographical proximity of

the Mainland and Hong Kong, it is logical to align the frequency allocation as much as possible.

b. In view of the above, we wish to understand more about the respective reasons of not allocating the spectrum in 4.80 – 4.83 GHz and 4.94 – 4.99 GHz for mobile use.

<u>4.80 – 4.83 GHz</u>

i. The concerned spectrum is at present allocated to fixed service and the Consultation Paper does not mention whether it is currently in use. Our view is that, even if the concerned spectrum is currently used for fixed service, the CA has the power of vacating the spectrum for allocation to mobile service by serving notice of withdrawal to the existing user. The CA has exercised such power in the assignment of 26 GHz band for mobile services by serving notices of withdrawal to two network operators in 2017.

ii. Furthermore, it is noted that the adjacent band from 4.4 to 4.8 GHz (400MHz in total) are currently also allocated to fixed services and 50% of the frequency channels in the band 4400 -4940 MHz are vacant. Therefore, there should not be any difficulty in vacating the 4.8-4.83 GHz band (30MHz only) for mobile services.

iii. If the spectrum in 4.80 – 4.83 GHz for mobile service is not allocated for mobile service, it would create an obsolete block of 30 MHz spectrum in the band as on its own it cannot be used for mobile services, given that the minimum bandwidth in this band is 40 MHz according to the technical specification adopted by the 3GPP.

iv. If the CA plans to make available the 30 MHz in the future, it would give an unfair advantage to the spectrum holder of the adjacent block (i.e., starting from 4.84 GHz). The operator holding the adjacent block would be able to form a contiguous block of a bigger size (e.g., 80 MHz), while other operators would have no incentive to acquire the 30 MHz spectrum given that the minimum bandwidth in this band is 40 MHz.

4.94 – 4.99 GHz

i. The Consultation Paper suggests that this spectrum is currently used by government services, but does not specify what kind of government services are operating in this spectrum. We believe that the availability of such information would facilitate a more detailed discussion on whether the spectrum can be vacated and reallocated for mobile use. Given that spectrum is a scarce resource and the public demand for advanced mobile services is ever-growing, more information about the current use and a feasibility study of whether the concerned spectrum could be reallocated for mobile use are warranted.

Question 2 – Do you have any views on assigning the spectrum in the 3.3 GHz and 4.9 GHz bands by way of auction?

4. We note the CA's analysis of the demand for the radio spectrum in the 3.3 GHz and 4.9 GHz bands. However, as explained above, we consider that more spectrum could be made available in the 4.9 GHz band for mobile use. As such, we consider that it is premature to form a definitive view on matters related to the 4.9 GHz band before a thorough discussion and review of the issues related to the supply of spectrum in the 4.9 GHz band.

Question 3 – Do you have any views on the proposal that the bandwidth of each frequency block in the 4.9 GHz band spectrum should be up to 50 MHz?

5. As explained above, we consider that more spectrum could be made available in the 4.9 GHz band for mobile use. As such, we consider that it is premature to form a definitive view on matters related to the 4.9 GHz band before a thorough discussion and review of the issues related to the supply of spectrum in the 4.9 GHz band.

Question 4 – Do you have any views on the proposal to divide the spectrum in the 3.3 GHz band into 10 frequency block, each with a bandwidth of 10 MHz?

6. In our submission to the consultation paper entitled "Arrangements for Assignment of the Spectrum in the 3.4 – 3.6 GHz Band for the Provision of Public Mobile Services and the Related Spectrum Utilisation Fee" jointly issued by the CA and SCED on 2 May 2018 (the "3.4 – 3.6 GHz Consultation Paper"), SmarTone has proposed that the 200 MHz spectrum in the 3.4 – 3.6 GHz band should be divided into 20 blocks, each with 10 MHz. We therefore have no objection to the current proposal of dividing the 100 MHz in the 3.3 GHz band into 10 blocks as the 3.3 GHz and 3.4 – 3.6 GHz band are within the same band plan and therefore the arrangement should be the same.

Question 5 – Do you have any views on the proposed spectrum cap of 40 MHz to be imposed on any bidder in the auction for the 3.3 GHz band?

7. In our submission to 3.4 – 3.6 GHz Consultation Paper, SmarTone has proposed that the spectrum cap should be reduced from 100 MHz to 80 MHz, which is 40% of the total available spectrum in the 3.4 – 3.6 GHz band. We therefore have no objection to the current proposal of setting the spectrum cap at 40 MHz which is 40% of the total available spectrum in the 3.3 GHz band.

Question 6 – Do you have any views on limiting any bidder to acquire only one frequency block with a bandwidth of up to 50 MHz of spectrum in the auction for the 4.9 GHz band?

8. As explained above, we consider that more spectrum could be made available in the 4.9 GHz band for mobile use. As such, we consider that it is premature to form a definitive view on matters related to the 4.9 GHz band before a thorough discussion and review of the issues related to the supply of spectrum in the 4.9 GHz band.

Question 7 – Do you have any views on the proposed format of and timing for the auctions of the 3.3 GHz band and the 4.9 GHz band?

9. We in principle consider that the assignment of all 5G spectrum would be ideally coincided so that operators can make an informed decision in relation to 5G spectrum and network planning. Below are our views on the timing for the auctions of the 3.3 GHz and 4.9 GHz bands respectively:

<u>3.3 GHz band</u>

a. It is our view that the 3.3 GHz band should be assigned in the same exercise as other 5G band as the 3.3 GHz and 3.4 – 3.6 GHz bands are within the same band plan and hence decision on these bands should be made at the same time.

b. While the 3.3 GHz and 3.4 – 3.6 GHz bands should be auctioned in the same exercise, there should be separate spectrum cap applicable to each band to prevent over-concentration of spectrum in these bands respectively.

<u>4.9 GHz band</u>

a. For the 4.9 GHz band, as explained above, we consider that a more thorough discussion regarding the potential supply of spectrum in the band should be conducted first and hence it is premature to form a definitive view on matters related to the 4.9 GHz band.

b. To conduct the assignment of the 4.9 GHz band without first assessing the possibility of vacating the remaining 100 MHz of spectrum in the band would give rise to issues as mentioned in paragraph 3 above.

Question 8 – Do you have any views on the proposed network and service rollout obligations, as well as the imposition of the associated performance bond on successful bidders for the 3.3 GHz and the 4.9 GHz bands?

10. Our view on the proposal with regard to the two frequency bands are as follows:

<u>3.3 GHz band</u>

a. It is proposed in the Consultation Paper that spectrum assignees of the 3.3 GHz band are required to establish at least 500 indoor base stations within the first 5 years.

b. As the 3.3 GHz is for indoor uses only and the spectrum assignees have to configure their base stations so that they will not cause any harmful interference to other telecommunications services nor providing services to mobile terminals situated in outdoor environment, the spectrum is already subject to very restrictive use. The spectrum assignees would be further hit by the network and services rollout requirements as proposed, as the rollout of indoor base stations is subject to various factors, such as the coordination of CAS (common antenna systems) among operators, obtaining approval from site owners, site installation works subject to site owners' schedule, etc, which are out of the operators' total control. As such, we propose that there should be no network and service rollout obligations for the spectrum assignees of the 3.3 GHz band.

<u>4.9 GHz band</u>

a. As explained above, we consider that more spectrum could be made available in the 4.9 GHz band for mobile use. As such, we consider that it is premature to form a definitive view on matters related to the 4.9 GHz band before a thorough discussion and review of the issues related to the supply of spectrum in the 4.9 GHz band.

Question 9 – Do you have any views on the proposal in relation to SUF?

11. SmarTone supports the proposal that the spectrum assignees will be given a choice to pay the SUF either by lump sum payment upfront or annual instalments.

SmarTone Mobile Communications Limited

26 September 2018