

August 22, 2018

Office of the Communications Authority

29/F., Wu Chung House

213 Queen's Road East

Wan Chai Hong Kong

(Attention: Head, Regulatory 3)

Fax: 2803 5112

E-mail: consult-26-28GHz@ofca.gov.hk

Dear Sir/Madam,

Subject: Responses to OFCA questions on Proposed Allocation of the 26 GHz and 28 GHz Bands to Mobile Service and the Associated Arrangements for Spectrum Assignment and Spectrum Utilization Fee Consultation Paper dated 26 July 2018

Please find below responses for your consideration.

Question 1: What are your views on the proposed allocation of the 26/28 GHz bands to mobile service and of the sub-band of 24.25 – 24.45 GHz to fixed service, both on a primary basis? What are your views on the protection of radio stations of co-primary users on a first-come-first-served basis?

I agree and support OFCA proposed 26/28 GHz spectrum allocation which are based on rules of ITU. It is obvious the growth of mobile services has put heavy pressure on additional spectrum demand for mobile services especially the upcoming rollout of 5G mobile services.

I understand the rationales behind the re-allocation of 24.25-24.45 GHz and think it makes sense. However, I reckon the recent growth of mobile services are due to heavy data usages & adoption of smartphones by mass consumer populations. Mobile data demand can be alleviated or addressed by other wireless technologies as well. I recommend OFCA to be open on other wireless technologies beside current mobile & fixed services. As such, we advocate OFCA to reserve spectrum for other wireless technologies & services.

I am supportive of the principle of protection of radio stations of co-primary users on a first-come-first served basis. However, there is contradiction in your statement" A new base station of a co-primary

service must refrain from causing harmful interference to and will not be entitled to protection from harmful interference caused by, stations of other co-primary users already in existence. “.

I ask OFCA to clarify the meaning of first-come-first served – whether it refers to first allocation of the frequencies or first base station put into operations in specified areas. Will OFCA arbitrate or determine in case of disputes between services providers.

Also, would OFCA clarify its position on existing fixed services in 29.1-29.25 GHz.

Question 2: Do you have any views on adopting an administrative assignment approach for the release of spectrum in the 26/28 GHz bands?

While I am not against the proposed administrative assignment approach for the release of spectrum in 26/28 GHz bands, I ask OFCA to be transparent in its criteria or framework to be used for the release. I recommend OFCA to consider asymmetric assignment approach by allocating some spectrum to new players or small local players who are interested in providing 5G or 5G based new services in Hong Kong. They need help from OFCA to compete against the incumbent giant MNOs.

Question 3: Do you have any views on the proposed band plan with frequency slots of 100 MHz each?

I support the adoption of frequency slots of 100 MHz each.

Question 4: Do you have any views on the proposal of assigning (a) 300 MHz to 700 MHz of spectrum in the 26/28 GHz bands for the provision of large scale public 5G services; and (b) the remaining 400 MHz to 800 MHz of spectrum in the two frequency bands to other entities for the provision of 5G services in specified locations on a shared basis?

Since all spectrum are precious resource, I don't think there is a need to carve out certain parts of the 26/28 GHz bands for large scale of public 5G services or other entities for offering 5G services on so called shared basis which are difficult to explain & understand. Instead, OFCA may consider two categories of spectrum in 26/28 GHz, one for incumbent licensed mobile operators and the other for non-mobile service providers which can offer locations specific or smaller coverage areas services. It is equivalent or analogous to MVNO in nature.

Question 5: Do you have any views on the proposed caps of (a) 800 MHz of spectrum in the 26/28 GHz bands for spectrum designated for the provision of large scale public 5G services; and (b) 400 MHz of the Shared Spectrum designated for the provision of specified location services?

Given the licensed mobile operators have all necessary resources, expertise & support of vendors in deploying their 5G services, they should be encouraged or driven to innovate more with the spectrums they have on hand. Also, it is very likely that carrier aggregation or similar technologies will be available to mobile operators to enable them to concatenate all frequencies they have to maximize throughput or download speeds they can offer.

Whereas, other entities would not have the luxury and resources as mobile operators, they should be encouraged or assisted with more frequencies allocations. As such, we think OFCA should consider reverse principle in spectrum cap in which mobile operators should get 50% less than non-mobile operators, i.e., 400MHz for mobile operator and 800 MHz for non-mobile operators.

Question 6: What are your views on the proposed method of assigning spectrum in the 26/28 GHz band to qualified applicants for the provision of large scale public 5G services?

Question 7: Do you have any preference on the assignment of spectrum in either the 26 GHz or 28 GHz band?

OFCA should consider reserving small amount of spectrum for small local new entrants who do not have the financial resources like incumbent MNOs.

OFCA should encourage and support local non-MNOs players to participate in the coming 5G services development. Very often innovative services & creative ideas do come from small players who are outside of existing mobile industry.

The criteria of evaluating the 5G services spectrum requirements should be open, transparent & carried out by 3rd party experts who are qualified & credible.

OFCA should consider a limit of spectrum assigned or spectrum service applications by each MNO to prevent stocking of spectrum. The proposed MNO services should be offered on territory base and a clear set of service KPIs and implementation date.

OFCA may consider allocation of the 26GHz or 28GHz band for indoor services only and no more than 50% of the spectrum are assigned to MNOs to entice & encourage participation from non-MNO players.

Question 8: What are your views on the proposed assignment method for the Shared Spectrum?

Ditto

Question 9: What are your views on the network and service rollout obligations proposed to be imposed on the use of spectrum assigned for the provision of large scale public 5G services?

OFCA should mandate a set of KPIs for all large scale public 5G services. The rollout timeline, scale, business models, charges, investment, Grade of service, support etc. should be made available to public for information & monitoring.

Question 10: What are your views on the proposed performance bond for guaranteeing compliance with the proposed network and service rollout obligations for using spectrum assigned for the provision of large scale public 5G services?

The proposed performance bond will be a hurdle or hindrance to small or new players as it is not a deterrent or hurdle for incumbent MNOs. The performance bond is not a real cash deposit and it doesn't affect the financial cashflow of existing MNOs. Instead OFCA should have clear KPIs check points with penalties such as delay penalty dollar \$X per day and return of spectrum after failing to rectify situation or persistent failure to meet KPIs.

Question 11: Do you have any views on the proposal for SUF as set out in paragraphs 45 to 50 above?

To help & encourage small & new local players to participate in the upcoming 5G services, OFCA should consider lowering the upfront entrant barriers which including SUF. However, spectrum is a rare and public resource, it should be a free or give away to any business proposition or venture. Therefore, I suggest a revenue share with a min amount per month or year (in case service is given away free or use it as acquisition or retention) for each customer. It is suggested that the revenue shares can be set at 2-10% depending on popularity, penetration & service tenure.

OFCA can be flexible on commence date of the revenue share - at launch or up to 1 year after launch.

Sincerely,



Chris Lau

Email: [REDACTED]