



**Hutchison Telecom**  
**Hong Kong**

**HUTCHISON TELECOMMUNICATIONS (HONG KONG) LIMITED**

**SUBMISSION**

**ON**

**THIRD CONSULTATION PAPER**

**ON**

**“PROVIDING RADIO SPECTRUM FOR BROADBAND WIRELESS  
ACCESS SERVICES”**

11 July 2007

**Submission of Hutchison Telecommunications (Hong Kong) Limited in response to  
OFTA's Third Consultation Paper dated 11 May 2007 on  
"Providing Radio Spectrum for Broadband Wireless Access Services"**

We welcome OFTA carrying out the third consultation over the proposal to provide radio spectrum for Broadband Wireless Access ("BWA") services. We are pleased to provide below our response, followed by our specific comments regarding the respective questions set out in the consultation paper.

**(A) Efficient Use of Spectrum Resources**

**1. Overview**

**1.1 Hong Kong is now enjoying a robust growth of mobile and wireless data services.**

For mobile data services, consumer usage is now under rapid growth with the territory-wide 3G/3.5G coverage deployed by the existing 3G operators using *WCDMA/HSDPA technology*. According to the roadmap, HSUPA technology for further enhancement of the uplink speed would be ready for deployment in near future. Other evolutionary standards are also on the roadmap.

OFTA has also decided to auction a block of 7.5MHz in the 800MHz band for another 3G technology, namely, *CDMA-2000 technology* by this year end. After the successful auction of the CDMA 2000 spectrum, Hong Kong would have *five 3G licences*, in addition to the existing *six 2G licences*, which are also providing mobile data services by way of *GPRS or EDGE technology* in conjunction with their voice services.

For outdoor fixed wireless data services, they are now being provided via *Wi-Fi hotspots* deployed by various operators, some of which are now expanding the number of such hotspot locations.

Amongst the technologies that provide wireless coverage for Internet access outdoors, *BWA technology*, particularly the mobile version, is still in the development stage.

**1.2 In terms of the network quality and coverage, device penetration and service packaging for consumers (such as data, voice and roaming), the existing 3G networks with HSDPA deployment are able to deliver reliable, ubiquitous and high-speed broadband mobile Internet access at competitive pricing. A good range of service packages are available and are well received by the market. This is evidenced by the rapid growth of 3G users over the last 12 months.**

Wi-Fi service is on its own a fixed wireless service with no mobility provided for the time being.

BWA as a mobile data service is still uncertain and questionable. Questions such as, to name a few, how reliable its mobility and network quality and speed, particularly in difficult topography such as in a densely constructed city like Hong Kong, or how roaming is to be universally achieved, are still without any clear and proven answers for assessment by the market.

- 1.3 In this regard, it is important to note that, in both global and local scenes, BWA is not the mainstream driver behind the current mobile data growth. It is only one of the many new technologies that have been surfacing. *In light of the uncertainties with respect to the development of BWA services, the TA must approach the licensing for BWA technology with caution to avoid over-supporting BWA as a new technology and neglecting to maintain the current momentum of mobile data growth brought by the existing 3G Services .*

## **2. Spectrum Band for Licensing BWA services**

- 2.1 We appreciate the Government's vision to make broadband Internet access available to all citizens in Hong Kong, regardless of whether they are at home or on the move. However, under the overriding principle of efficient use of resources, it is risky and therefore inappropriate to earmark too much spectrum for a technology, which is still under development without the support of a migration from an existing platform nor has yet yielded any track record on its own. For the time being, we consider that it is more than sufficient to allocate the 2.3 GHz band for the purpose of licensing BWA services in Hong Kong.

- 2.2 The TA must be balanced in planning and allocating spectrum resources. As of to-date, the number of users of 3G services in Hong Kong has already exceeded 1.5 million and is on a robust rising trend, represented by a 65% increase in the number of 3G customers in the past 12 months. The demand for 3G spectrum resources for the expansion of the existing 3G services as an important driver of mobile data service is imminent. It is soon necessary for some existing 3G licencees to deploy the last remaining FDD carrier (i.e. 3<sup>rd</sup> carrier) in the existing 3G licensed band to support the continuous growth in capacity demand and the development of new services. All 3 FDD carriers in the existing 3G licensed band will likely be fully utilized in the near future. There is an imminent planning need for the TA to allocate new 3G spectrum band to support the traffic growth and other innovative services to meet the users' demand.

As 2.5GHz is already a candidate spectrum band for 3G expansion, we strongly object to changing such allocation.

It is not only premature to now consider the allocation of the 2.5GHz band for BWA services. We do not consider that the outcome of the WRC-07 should on its own dictate the allocation and assignment plan for Hong Kong. Instead, the TA should rather first deal with the 3G expansion plan to cater for the existing 3G operators' imminent demand for the purpose of its service and capacity expansion, as that has immediate impact on the existing 3G users.

### **3 Timing for Assignment of Spectrum for BWA Services**

We note that the Government's tentative timetable is to conduct the auction and assignment exercise during 2008. However, in view of the uncertain development of BWA as a mobile service, the TA should allow the market more time to assess the development and business prospect of the technology. In addition, the TA should also first resolve the spectrum allocation issues discussed herein before implementing such exercise.

#### **(B) Licensing for Fixed Wireless Data Services or for Fixed Backhaul Deployment**

##### **1. Separate licencing for fixed wireless/backhaul services**

Insofar as BWA technology is to be deployed for fixed wireless/backhaul service, the technology has been relatively more mature when compared to its mobile version. In order that the frequency band can be timely deployed for such services, we support first designating part of the 2.3GHz band specifically for fixed wireless/backhaul deployment.

##### **2. Frequency block for fixed wireless/backhaul service**

We believe that a size of 10MHz in the 2.3GHz band per licensee would be sufficient for the provision of fixed wireless/backhaul service.

## Specific Response to the Questions raised in the Consultation Paper

**Question 1:** *Do you agree that the 2.3 GHz band be allocated for BWA services? If agreed, when the spectrum should be made available?*

We do not in principle object to allocating 2.3GHz for BWA services. As to the timing, please refer to the above paragraph (A) 3.

**Question 2:** *Do you agree that the opening up of the 2.5 GHz band for BWA should be considered at a later stage? If agreed, when and how much of the bandwidth should be made available to the market?*

OFTA should continue to earmark and reserve 2.5GHz band for 3G expansion purpose. The opening up of this band for BWA should not be considered at this stage.

Please see our comments in the above paragraphs (A) 1 and 2.

**Question 3:** *Do you have any preferred frequency bands for BWA services? How much spectrum do you need initially and for future expansion (number of blocks, spectrum width of each block, in which bands) and when the spectrum should be made available to the market?*

For allocating frequency band for BWA as fixed wireless/backhaul service, please refer to our comments in the above paragraph (B) 1 and 2.

**Question 4:** *Do you agree with the proposed frequency allocation plan given in Annex 1? If not, what is your proposal?*

**Question 5:** *Do you agree that a BWA licensee should be assigned no more than six 5 MHz blocks of the BWA spectrum?*

**Question 6:** *If the result of the co-ordination with the Mainland authorities confirms that 85 MHz bandwidth in the 2.3 GHz band can be made available, do you agree that the TA should make available all the 85MHz bandwidth for BWA service? If not, what is your proposal with reasons?*

Subject to our overall comments set out in Sections A and B above, we are of the opinion that it is not necessary in any event for the TA to assign the entire 85MHz bandwidth in the 2.3GHz frequency band in one single auctioning exercise. Moreover, for BWA as a mobile service, the TA should set the spectrum cap for auctioning at the size of a total of three 5MHz blocks (i.e. 15MHz) in the 2.3GHz band per licensee. This is comparable to the existing 3G operators, which were

each assigned in 2001 three blocks of spectrum, namely, two blocks of 14.8 MHz for deployment of 3 FDD carriers plus one block of 5MHz for a single TDD carrier deployment. Over-assignment may expose the limited spectrum resources to risk of inefficient use, particularly in view of the uncertain development of BWA as a mobile service. It would bring about negative impact on overall consumer interest, both short-term and long-term.

**Question 7:** *Do you have any views on the frequency allocation plan for the 2.5 GHz band?*

Please refer to our comments in paragraphs (A) 1 and 2.

**Question 8:** *Do you have any comment on the TA's preliminary view that no restrictions should be imposed on the types of applications and services that may be provided using the BWA spectrum?*

**Question 9:** *Do you have any further comments on the preliminary view of the TA that he should not prescribe any particular standard or technology for the BWA deployment?*

For our response to Questions 8 and 9, please refer to our comments in paragraphs (A) 2 and (B).

**Question 10:** *Do you have any further comments on the TA's preliminary view that assignment of the frequency blocks for BWA services should be made on a territory-wide basis?*

Due to service nature, licensees for fixed wireless or backhaul service need not be subject to the "territory-wide" requirement.

**Question 11:** *Do you have any further comments on the TA's preliminary view that BWA licensees will be required, under the licence, to roll out the services within 24 months from the date when the licence is issued and that performance bond will also be required?*

We accept such roll-out obligations for BWA fixed wireless/backhaul service.

**Question 12:** *Do you agree with the proposed frequency assignment method as stated in the Consultation Paper, namely, a hybrid selection method including a simple pre-qualification and an auction?*

We do not in principle object to the approach. However, the pre-qualification and auction procedure should follow that for 2001 3G auction.

An auction would allocate spectrum to those who value them most so that economic efficiency can be achieved. Furthermore, bidders' identities and bids should not be disclosed during the auction so that bidders cannot exchange views

or observe the others' bids until after the auction is over. This feature of the sealed-bid design would make it harder for the bidders to use bids to signal others, thereby discouraging collusion amongst bidders.

In addition, the pre-qualification process should ensure that "connected bidders" whose ownership or control is shared are not allowed to win licences together. All these help to deal with connection and alliances so as to maintain the competitiveness of the telecommunications market.

***Question 13: Do you have any further comments on the TA's preliminary view that an upfront lump sum payment basis should be adopted for SUF, the amount of which will be determined through an open auction?***

We accept that this approach is in line with the current spectrum assignment policy.

***Question 14: Do you agree that BWA licensees should not be subject to an ex ante ONA requirement?***

In alignment with the approach to de-regulate, we agree that ex ante regulatory requirement that is prescriptive should be removed to facilitate optimal use of spectrum and network resources.

***Question 15: Do you consider that FMC services should be allocated with new number ranges?***

We do not agree. Please see our comments in our below response to Question 16.

***Question 16: Do you agree that numbers with prefixes "2" and "3" should be allocated to fixed/"limited mobility" BWA services while numbers with prefixes "6" and "9" should be allocated to "full mobility" BWA services?***

We support this proposal. For the time being until the resolution of the relevant FMC issues, BWA licensees for fixed wireless/backhaul services are to be treated as the existing fixed operators for the purpose of mobile interconnection charge ("MIC"), number assignment and Operator Number Portability ("ONP").

Such separation would ensure a level playing field for a smooth transition to FMC and provide all the affected licensees providing similar services fair competition for the time being, pending the eventual resolution of the relevant FMC issues (such as MIC) and fixed and mobile number portability ("FMNP").

***Question 17: Do you agree that BWA licensees should be subject to the requirement of facilitating both ONP and MNP, including the FMNP to be introduced in the future?***

Based on our response to Question 16, we agree that BWA licensees for fixed wireless/backhaul service should comply with ONP requirements. FMNP should be an issue to be discussed and resolved after the pertinent market study and public consultation have been carried out.

***Question 18: Do you agree that BWA licensees should be subject to the requirement of denial of service to suspected stolen apparatus?***

We have no objection to this requirement.

***Question 19: Do you agree with the proposed approach as stated in paragraph 58 to resolve adjacent channel interference issues?***

We share the view that BWA operators should coordinate among themselves to resolve any adjacent channel interference issue, same as the situation adopted in GSM, PCN and WCDMA. The emission masks can be enforced only if the interference issue cannot be resolved through the coordination among the operators concerned.

***Question 20: Do you agree with the proposed guard bands for the 2.3GHz band? Do you agree with the arrangement for the spectrum holder at the lower edge of 2.3 GHz band to use the spectrum 2.300 – 2.305 GHz as stated in paragraph 60?***

We agree to setting up 15 MHz and 10MHz guard bands to avoid potential adjacent channel interferences at the frequency range (1) between ENG/OB link at 2.29GHz and BWA at 2.3GHz and (2) between BWA at 2.3GHz and unlicensed band at 2.4GHz where a lot of wireless LAN systems are widely installed in the territory.