

**For information  
on 10 December 2007**

**Legislative Council Panel  
on Information Technology and Broadcasting**

**The TA Statement on  
Providing Radio Spectrum for Broadband Wireless Access Services**

**Introduction**

At the Panel meeting held on 18 July 2007, Members were briefed on the content of a public consultation paper entitled “Providing Radio Spectrum for Broadband Wireless Access Services” issued by the Office of the Telecommunications Authority (“OFTA”) on 11 May 2007 (Consultation Paper). The purpose of this paper is to inform Members of the outcome of the consultation and the decision of the Telecommunications Authority (“TA”) on the matter.

**Background**

2. OFTA conducted three rounds of public consultation on the provision of Broadband Wireless Access (“BWA”) services in Hong Kong, in December 2004, August 2005 and May 2007 respectively.

3. In the third round of consultation, comments from industry stakeholders and interested parties were specifically sought on the use of the 2.3 – 2.4 GHz band (the “2.3 GHz band”) and the 2.50 – 2.69 GHz band (the “2.5 GHz band”) for the provision of BWA services in Hong Kong. OFTA also invited expression of interests from parties who may wish to provide BWA services in Hong Kong.

4. We briefed Members at the Panel Meeting held on 18 July 2007 (LC Paper No. CB(1)2098/06-07(01)) on the salient points of the proposals put forward in the Consultation Paper and the comments received. After considering the submissions and taking account of the latest development and decision taken by the International Telecommunication Union (“ITU”), the TA

issued a Statement on 3 December 2007 promulgating the TA's decision on the allocation of frequency spectrum for the provision of BWA services in Hong Kong. An executive summary highlighting the decision taken by the TA is at the **Annex**.

### **Latest International Developments**

5. At the recent World Radiocommunication Conference ("WRC-07") held by the ITU the 2.3 GHz band was identified as suitable for the provision of International Mobile Telecommunications ("IMT") including services adopting the IMT-2000 and IMT-Advanced standards currently in use. However, use of this band for other services is not precluded. Also, allocation will not be accorded priority under the ITU Radio Regulations.

6. The ITU Radiocommunication Assembly ("RA-07") had earlier approved the inclusion of WiMAX<sup>1</sup> as one of the radio interface standards for IMT-2000 family. Accordingly, WiMAX for BWA can coexist with other IMT-2000 standards in the frequency spectrum of 2.3 GHz and 2.5 GHz that have been identified by ITU for IMT. The TA's proposal of allocating both the 2.3 GHz and 2.5 GHz bands for BWA services is therefore in line with the decisions of the WRC-07 and the RA-07. In the rest of this paper, the term "BWA" will cover both BWA and IMT services.

### **Spectrum Supply and Availability**

7. In view of the strong demand for the use of frequency spectrum for various services, the TA has decided that with the exception of the sub-band 2.635 – 2.660 GHz, the whole of the 2.3 GHz band and the rest of the 2.5 GHz band should be allocated for the provision of BWA services. Subject to the frequency coordination with the Guangdong authorities, the 2.5 GHz band can provide about 100 – 150 MHz for the BWA services. Together with the 90 MHz available on the 2.3 GHz band, the total amount of frequency spectrum that can be used for provision of BWA will be between 190 and 240 MHz.

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<sup>1</sup> 'WiMAX' denotes 'Worldwide Interoperability for Microwave Access', one of the emerging radiocommunication technologies which supports fixed and mobile BWA services based on the IEEE 802.16 standard.

### Maximum Spectrum for an Operator and Number of BWA Licences

8. In accordance with the well-established rule for spectrum utilization, the TA has decided that the available frequencies should be offered for bidding. And in the interest of promoting competition, while bidders will be permitted to bid for any frequency blocks in the 2.3 GHz and 2.5 GHz bands, a maximum amount of spectrum of 30MHz should be imposed for each bidder. With 30MHz frequency spectrum, a service with territory-wide coverage could be offered.

9. Subject to frequency coordination with the Guangdong authorities, the total amount of frequency spectrum that may be auctioned will be between 190 and 240 MHz. This implies that at least six BWA licences each with a maximum of 30 MHz of spectrum can be issued.

### **Regulatory Framework and Licensing**

#### Spectrum Utilization Fee (SUF) and Payment method

10. In accordance with the Spectrum Policy Framework promulgated by the Government in April 2007, our policy is to adopt a market-driven approach in spectrum management for non-Government services which are in competing demand. The majority of the respondents supported our proposal to assign the BWA spectrum by auction. We will accordingly assign the BWA spectrum by auction.

11. The TA has proposed that a lump sum payment method for the SUF should be employed, because it is simple and will incur less administrative costs when compared with the royalty payment scheme. The same approach has been adopted in the recent spectrum auction for CDMA2000 services.

#### Rollout Requirements

12. BWA licensee will be required, under the licence and guaranteed with a performance bond, to roll out the services within a specified period from the issuance date of the licence. The exact details of the roll-out requirement will be specified in the Information Memorandum for the auction of the BWA

spectrum, having regard to the technological development and availability of equipment nearer the time.

### Number Portability

13. BWA licensees will be required to support both mobile number portability and fixed number portability upon the grant of the licence. In future, if it is decided to implement fixed-mobile numbering portability, the TA will have the necessary power under the licence to direct the BWA licensees to implement such a requirement.

### Open Network Access (ONA)

14. In granting the CDMA2000 licence, the TA has decided not to impose ONA requirement because with a large number of wireless platforms and a high degree of competition already in the market, the operation of market force and economic principles would serve to regulate the market efficiently. The TA considers that the same policy considerations are relevant for BWA services. Should there be signs of market failure because of the absence of ONA obligation in the BWA licences, the TA can invoke powers under section 36A of the Telecommunications Ordinance ("TO") to direct interconnections. ONA requirement will not therefore be imposed on the BWA licensees.

### **Pre-qualification**

15. At the Panel meeting held on 18 July 2007, some Members expressed concern about unscrupulous and deceptive business practices in pay television, telecommunications and Internet services. It was suggested that service quality and past performance record of the existing licensees should be included as pre-qualification criteria in the auction for the BWA spectrum.

16. While records substantiating serious breaches of conditions of licence and/or the TO are relevant factors in considering whether an operator is fit and proper to hold a licence issued under the TO, it may not be reasonable and proportionate to disqualify an operator based on statistics of consumer complaints. While the TA is empowered to deal with misleading or deceptive conduct of licensees in providing or acquiring telecom networks, customer

equipment or services under section 7M of the TO, service quality as perceived by consumers is outside the scope of TA's investigative powers. Reliance on the number of consumer complaints as a measure to debar participation in the bidding exercise will be unfair and may give rise to distorted result. Furthermore, such a course of action might be subject to legal challenge. This is particularly pertinent in the highly competitive telecommunications market that we have in Hong Kong.

17. Additionally, we have to be mindful of possible circumvention through the establishment of a benign legal entity to take part in the auction. Disqualification based on track record would not be effective given the often complex corporate structure of the licensees. We do not therefore propose to introduce new pre-qualification measures for the auction of BWA licences as set out in paragraph 15 above.

18. To address Member's concerns about licensee's service quality in a forward-looking manner, the TA will impose a special condition in the BWA licences requiring the licensees to comply with any code of practice or guideline which the TA may issue for the purpose of providing practical guidance in respect of the protection and promotion of the interests of consumers of telecommunications goods and services.

## **Way Forward**

19. To enable the release of the BWA frequency spectrum by auction, two pieces of subsidiary legislation under the TO have to be made. First, a regulation will be made by the Secretary for Commerce and Economic Development (SCED) to prescribe the method for determining the SUF by auction. The regulation will empower the SCED to specify the reserve auction price and the TA to specify the auction rules. Secondly, an order will be made by the TA to designate the frequency spectrum in the relevant frequency bands to be subject to payment of SUF. Subject to negative vetting by the Legislative Council, our plan is to have these two pieces of subsidiary legislation made within this legislative session.

20. Upon completion of the relevant legislative process, the TA will publish an Information Memorandum giving details of the auction rules and the

licence conditions to be imposed in the new BWA licence. Our plan is to conduct the auction in the fourth quarter of 2008.

**Office of the Telecommunications Authority**  
**3 December 2007**

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

**Statement of the Telecommunications Authority**

**3 December 2007**

**EXECUTIVE SUMMARY**

The Telecommunications Authority (“TA”) concluded views and decisions about the use of 2.3 – 2.4 GHz band (the “2.3 GHz band”) and 2.5 – 2.69 GHz band (the “2.5 GHz band”) for the provision of Broadband Wireless Access (“BWA”) services are summarized below:

**Spectrum for BWA Services**

The 2.3 GHz band

2. The TA decides to make available 90 MHz spectrum in the 2.3 GHz band for provision of BWA services.

The 2.5 GHz band

3. The TA decides to make available the 2.5 GHz band for BWA services, except the sub-band 2.635 – 2.660 GHz which will be further consulted by the Government for mobile TV services. Subject to the result of the frequency coordination with the Guangdong authorities, there will be between 100 and 150 MHz of frequency spectrum in the 2.5 GHz band available for the BWA services.

4. Depending on the result of frequency coordination, an amount of 190 to 240 MHz of frequency spectrum can be made available for BWA services. Consistent with the Spectrum Policy Framework, the TA will rely on market power to ensure the efficient use of frequency spectrum as a public resource. The TA will therefore offer all the available frequency spectrum for BWA services in the forthcoming auction.

**Maximum Spectrum for an Operator and Number of BWA Licences**

5. The 2.3 GHz and 2.5 GHz bands will be divided into blocks of 5 MHz width. Each BWA licensee will be assigned with no more than six 5 MHz blocks (i.e. 30 MHz) of the spectrum. The frequency spectrum made available should be

sufficient to accommodate at least six (6) licences. The actual number of licences that will be issued will be determined by the outcome of the auction and the commercial decisions of interested parties.

### **Spectrum Utilization Fee (SUF) and Payment Method**

6. The TA will adhere to the market-driven approach as given in the Spectrum Policy Framework, i.e. the assignment of frequency spectrum will be determined by way of an auction whenever there are competing demands.

7. The SUF will be paid using an up-front lump sum payment method.

### **Regulatory Framework and Licensing**

#### Standards and Permitted Services

8. In order to allow versatile and sustainable developments by the BWA licensee over the term of the licence, the TA decides that there will be no restriction on the applications and services for the BWA licences. Also, no particular standards or technologies will be prescribed for BWA deployment as far as it conforms to the widely recognized international standards. The frequency blocks for BWA will be assigned on a territory-wide basis.

#### Numbering and Number Portability

9. No special prefix will be allocated for fixed-mobile convergence services in short term. The TA will continue to allocate the existing number prefixes for fixed services to fixed BWA services and the existing number prefixes for mobile services to mobile BWA services.

10. BWA licensees will be required to support both mobile number portability and fixed number portability upon the grant of the licence.

11. The TA will have the power to direct the BWA licensee to facilitate FMNP during the term of the BWA licence. Whether fixed mobile number portability (FMNP) will become a mandatory licence obligation upon the issue and grant of the licence will depend on the outcome of the market survey that OFTA will commission.



### Roll-out Obligation

12. BWA licensee will be required, under the licence and guaranteed with a performance bond, to roll out the services within a specified period from the issuance date of the licence. The exact details of the roll-out requirement will be reviewed with regard to the technological development and availability of equipment nearer the time and specified in the Information Memorandum for the auction of the BWA spectrum.

### Others Requirements

13. There will not be Open Network Access requirement in the BWA licence and that BWA licensees will be subject to the requirement of denial of service to suspected stolen apparatus.

### **Way Forward**

14. The TA will make an order under section 32I(2) of the Telecommunications Ordinance designating the 2.3 GHz and 2.5 GHz bands to be subject to SUF and will recommend to the Secretary for Commerce, Economic Development the enactment of the necessary regulation under section 32I(2) to determine the SUF by auction. Upon completion of the relevant subsidiary legislations under the Telecommunications Ordinance by the Legislative Council, the TA will publish an Information Memorandum giving details of terms and conditions of auction and the licence conditions for the new BWA licence. The plan is to conduct the spectrum auction in the fourth quarter of 2008.