

International Mobile Telecommunications (IMT) Services
- Prospect and Challenges

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During the two prominent international conferences held in Geneva, Switzerland in October and November this year, the International Telecommunication Union (ITU) made decisions of profound significance on the technical standards and use of radio frequency band of the International Mobile Telecommunications (IMT) services.

The decision of the ITU Radiocommunication Assembly to include WiMAX standard into the IMT-2000 family, which is the global standard of 3G mobile services, means that WiMAX standard may be a match against other popular standards such as W-CDMA, CDMA2000 and TD-SCDMA, a standard advocated in the Mainland. We will adhere to the well established technology-neutral policy and allow operators to choose any technical standards approved by ITU based on their commercial decisions.

On the other hand, in the ITU World Radiocommunication Conference 2007 (WRC-07) in November, IMT-Advanced was identified as the succeeding standard of IMT-2000 (i.e. “post-3G” mobile services). Under such arrangements, post-3G high-speed mobile and low-speed mobile services will be able to realise data rates of 1Gbps and 100Mbps respectively, comparable to the speeds of wireline broadband services.

Moreover, WRC-07 has confirmed the frequency bands for 3G and post-3G mobile services, including 450-470 MHz, 698-806 MHz, 2300-2400 MHz, 2500-2690 MHz and 3400-3600 MHz. Among them, the 450-570 MHz frequency band is primarily used for 3G services in vast but sparsely populated countries and is of little relevance to Hong Kong. The 698-806 MHz frequency band is currently allocated for analogue television broadcasting in Hong Kong. Whether it will be re-farmed for 3G/post-3G mobile services or retained for broadcasting services could be decided only upon the switch-off of analogue broadcasting. Also, in consultation with the industry, we have decided that the 3400-3600 MHz frequency band will not be allocated to IMT services for the time being, taking into account the interference to satellite services operating in the adjacent band.

As such, 2300-2400 MHz and 2500-2690 MHz are the only two frequency bands available now for IMT services. In the Statement of the Telecommunications Authority issued by OFTA on 3 December, the Authority decided to offer these two frequency bands for Broadband Wireless Access (BWA) services by auction in the fourth quarter of 2008, which would be the most prominent spectrum auction after the 3G spectrum auction in 2001. As analysed above, even if the 696-806 MHz frequency band is to be allocated for IMT services (which is still uncertain), such an auction would take years to materialise. Therefore, the spectrum auction to be held in the fourth quarter of 2008 will be critical to both incumbent operators in need of additional spectrum for expansion and prospective new entrants to the market.

Subject to the results of frequency coordination with the relevant authorities in Guangdong, the frequency spectrum to be offered in the fourth quarter of 2008 should be sufficient to accommodate at least six operators, i.e. at least six BWA licences can be issued by the Government. We will not prescribe the scope of services provided by BWA licensees. Fixed operators may bid for BWA frequency blocks for wireless access of the “last mile” of fixed networks. 3G operators may expand their existing services. New entrants may offer new multimedia or high-speed mobile broadband services with BWA spectrum. We anticipate that BWA will further boost wireless telecommunications services in Hong Kong and enhance her status as a world-class wireless city.