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**Subcommittee on Subsidiary Legislation to Enable the Release of Spectrum
for Expansion of the Second Generation Mobile Service and Mobile TV Services**

Meeting on 27 February 2009

Background brief

Purpose

This paper provides background information on the subsidiary legislation to enable the release of spectrum for expansion of the second generation mobile service and mobile TV services. A summary is also provided on the views and concerns expressed by the Panel on Information Technology and Broadcasting (the Panel) on related issues.

Background

Second generation mobile service

2. Mobile telephony services in Hong Kong have demonstrated significant growth in recent years. As of August 2008, the market penetration of mobile services surpassed 160%. To cope with the increasing traffic from mobile telephone users, Mobile Network Operators (MNOs) have requested for the release of additional radio spectrum to allow for expansion of the second generation mobile service.

3. The Office of the Telecommunications Authority (OFTA) subsequently issued a public consultation paper in January 2008 to seek comments from the industry and interested parties on the assignment of the available radio spectrum for public mobile telephone services. A total of six submissions were received. The respondents in general support the proposal of releasing additional radio spectrum for such services. On 4 July 2008, the Telecommunications Authority (TA) issued a statement promulgating that the TA had decided, amongst other things, to make available the radio spectrum in the 1800 MHz band for public mobile service.

4. According to the TA, there is only 4.8 MHz x 2 of radio spectrum available for assignment in the 1800 MHz Band and part of the radio spectrum has already been

assigned and is used to provide coverage in the country parks and remote areas. The available radio spectrum is not sufficient for a new entrant to build a new network that can compete with the incumbent MNOs in terms of system capacity or coverage and quality of service. The TA will therefore assign the radio spectrum in the 1800 MHz Band to the incumbent MNOs.

Mobile TV services

5. The development of mobile TV services, which exemplifies multimedia convergence and opens up opportunities for more content and programming choices for the viewing public, is gaining momentum in the broadcasting and telecommunication sectors of Hong Kong. At present, Hong Kong is taking the lead in the adoption of Internet Protocol Television technology with over one million subscribers. In addition to the digitization of the cable and satellite TV services, digital terrestrial television service has also been launched in December 2007. While third generation mobile telephony technology and mobile phones are already capable of receiving multimedia contents streamed to them (known as "streaming-type mobile TV"), point-to-multipoint broadcasting technologies for mobile reception (known as "broadcast-type mobile TV") are developing rapidly in overseas market. Technical trials on such technologies have also been conducted by some local operators. The broadcast-type mobile TV is more spectrum efficient when broadcasting audio-visual content to mobile devices, but involves allocation of additional frequency spectrum.

6. To facilitate the launch of mobile TV services in Hong Kong, the Administration conducted the first round of consultation on this subject in early 2007. The consultation aimed to seek views from the public and the industry on the introduction and regulation of commercial mobile TV services in Hong Kong with focus on four major regulatory aspects, namely, spectrum availability, spectrum allocation, spectrum assignment, and licensing arrangements. As the majority of the respondents in the first consultation exercise supported an early introduction of mobile TV services in Hong Kong and a number of broadcasting and telecommunications operators had expressed interest in rolling out mobile TV services, the Administration prepared a draft implementation framework for broadcast-type mobile TV services for a second consultation in early 2008. The majority of the respondents to the second consultation accepted the proposed implementation framework. Broadcasting and telecommunications operators also indicated interest in introducing local broadcast-type mobile TV services and some of them had already tested a number of mobile TV technologies with the assistance of the OFTA. The Administration subsequently announced the implementation framework.

The subsidiary legislation

7. In line with Government's market driven policy and the guiding principles under the Radio Spectrum Policy Framework, the use of the relevant spectrum will be subject to the payment of spectrum utilization fee (SUF), the level of which is to be determined by auction, adopting the Simultaneous Multi-round Ascending method. To enable the release of relevant spectrum by auction, three pieces of subsidiary

legislation under the Telecommunications Ordinance (Cap. 106) were gazetted on 6 February 2009 and tabled at the Council meeting on 11 February 2009. Subject to the completion of the negative vetting process, the subsidiary legislation shall come into operation on 3 April 2009. The TA will conduct the auction within the first half of 2009.

Telecommunications (Designation of Frequency Bands Subject to Payment of Spectrum Utilization Fee) Order (Cap. 106Y)

8. The Order sets out the following amendments to designate:-

- (a) the frequency bands of 1780.1 – 1784.9 MHz paired with 1875.1 – 1879.9 MHz (Designated Frequency Bands (DFBs)) for provision of public mobile telephone service; and
- (b) the frequency multiplexes of 216.160 – 217.696 MHz, 217.872 – 219.408 MHz, and 678 – 686 MHz (Designated Frequency Multiplexes (DFMs)) for introduction of broadcast-type mobile TV services.

Telecommunications (Level of Spectrum Utilization Fees) (Second Generation Mobile Services) Regulation (Cap. 106AA)

9. The Regulation aims at the following:-

- (a) to apply the same formula prescribed in Cap. 106AA to determine the amount of the annual SUF payable by the users of the spectrum which falls within the DFBs and the DFMs:
 - (i) for the period up to 30 September 2011, \$145 per kHz or part thereof of the spectrum assigned for use by the licensee; and
 - (ii) from each of the remaining years of the period of validity of the assignment, \$1,450 per kHz of radio spectrum assigned, or 5% of the Network Turnover, whichever is higher.
- (b) for the avoidance of doubt, the SUF under Cap. 106AA shall be payable in addition to the SUF prescribed under Cap. 106AC; and
- (c) to provide for that no annual SUF shall be applied to the use of the DFBs and the DFMs solely in the designated areas¹, which are to be prescribed by the TA.

¹ It is the Government's policy intention that the designated areas includes those areas defined in the Country Parks Ordinance (Cap. 208) and the three special locations in Sai Kung, Robin's Nest and the Lai Chi Wo Village in Sha Tau Kok respectively which do not fall within the country park areas.

Telecommunications (Determining Spectrum Utilization Fee by Auction) Regulation (Cap. 106AC)

10. The Regulation aims at the following:-
- (a) to apply the method prescribed in Cap. 106AC (i.e. SMRA) to determine the amount of the upfront SUF payable by the users of the spectrum which falls within the DFBs and the DFMs;
 - (b) for the avoidance of doubt, the SUF under Cap. 106AC shall be payable in addition to the SUF prescribed under Cap. 106AA; and
 - (c) to provide for that no upfront SUF shall be applied to the use of the DFBs and the DFMs solely in the designated areas.

Discussions at the Panel on Information Technology and Broadcasting

11. On 8 December 2008, the Administration briefed the Panel on the decision in respect of the assignment of the available radio spectrum in the 1800 MHz Band for public mobile service to the incumbent MNOs to allow for service expansion. The Administration also briefed the Panel on the proposed auction arrangements as well as the related legislative amendments for the auction of the relevant radio spectrum. The Panel supported in principle the Administration's proposal.

12. Members supported the Government's decision to waive MNOs' SUF payment for the use of radio spectrum in serving country parks and prescribed remote areas as an incentive to encourage MNOs to improve their mobile phone coverage in the countryside. Nevertheless, they were concerned about the current mobile phone coverage in country parks. The Administration advised that according to a recent Mobile Network Coverage Survey conducted along popular hiking trails, about 96% of popular walks and hiking/country trails were covered. While it was not practicable to provide 100% coverage to the country parks due to the hilly terrain of Hong Kong, OFTA would continue to encourage and facilitate MNOs in setting up additional base stations to improve the situation.

13. Members were concerned whether OFTA had liaised closely with the Agricultural, Fisheries & Conservation Department (AFCD) and other relevant departments and organizations to publicize details of the country park mobile phone coverage for public information. According to the Administration, information on mobile phone coverage in country parks together with some 80 digital maps were uploaded onto OFTA's website for public reference. Public education programmes in the form of TV/radio announcements, posters and video clips were launched to enhance public knowledge about mobile phone communications in country park areas and encourage them to plan well for hiking and outing. OFTA had close cooperation and liaison with the AFCD. Leaflets of mobile phone coverage in country parks were available to visitors and hiking groups at various country park management centres of the AFCD.

14. The Administration subsequently briefed members on the implementation framework for development of mobile TV services on 12 January 2009. Members generally supported the implementation framework. On the Government's proposal to assign the multiplexes in Band III (174 – 230 MHz) and the UHF Band (470 – 806 MHz) and levy the SUF through auction, some members were concerned that small organizations and new entrants would not have the financial means to meet the high licence fee. They opined that the assignment of frequency spectrum through auction would be advantageous to large financial conglomerates and create barrier for financially less viable groups to enter the market. The Panel noted that the Administration would gazette and table the amendments to the subsidiary legislation at the Legislative Council shortly so to enable the release of spectrum for introduction of broadcast-type mobile TV services.

Relevant papers

Information paper provided by the Administration for the Information Technology and Broadcasting Panel meeting on 8 December 2008

<http://www.legco.gov.hk/yr08-09/english/panels/itb/papers/itb1208cb1-326-3-e.pdf>

Information papers provided by the Administration for the Information Technology and Broadcasting Panel meeting on 12 January 2009

<http://www.legco.gov.hk/yr08-09/english/panels/itb/papers/itb0112-ctbcr9191408pt4-e.pdf>

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