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28 May 2007

Ms. Annette LAM
LEGISLATIVE COUNCIL
Legislative Council Building,
8 Jackson Road
Central
HONG KONG

(By Post and By Fax : 2869 6794)

Dear Ms. LAM

AsiaSat is pleased to have the opportunity to submit to the Panel on Information Technology and Broadcasting on the subject of provision of radio spectrum for Broadband Wireless Access. Our views are summarized in the attached document.

Yours sincerely,
Asia Satellite Telecommunications Co. Ltd.

S. Barry Turner
General Manager, Engineering

SBT/jl
Encls.

cc: CEO, DCEO, William Leung, Catherine Chang

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BWA and IMT Advanced in Hong Kong

Many countries have, or are, considering introduction of Broadband Wireless Access (BWA) networks in portions of the 3.4-4.2 GHz band ("C-band downlink, space to earth). In addition this band is being considered by the International Mobile Telephony study group for services referred to as "IMT 2000 or IMT Advanced". The International Telecommunications Union (ITU) is considering how to allocate spectrum for "future development of IMT 2000" and "systems beyond IMT 2000" (this latter category is now normally called "IMT Advanced"), with the aim of having global identified bands that ease international roaming and use of the same handsets worldwide. One of the bands considered for IMT Advanced is the 3.4-4.2 GHz band.

From the perspective of a FSS (Fixed Satellite Services) operator there is little difference between the two systems in terms of interference effects. IMT Advanced is similar to BWA, but will create more interference because of higher density of stations and higher power levels on some of the base stations. Also, like for BWA, there is no technical disagreement among the proponents of there systems that the two services are incompatible and that the choice is either BWA/IMT or satellite services but not, not both. For example, the ITU Conference Preparatory Meeting (CPM) in its report to WRC-07 (World Radio Conference-07) concluded that for BWA and IMT:

"If FSS is deployed in a ubiquitous manner and/or with no individual licensing of earth stations, sharing is not feasible in the same geographical area since no minimum separation can be guaranteed."

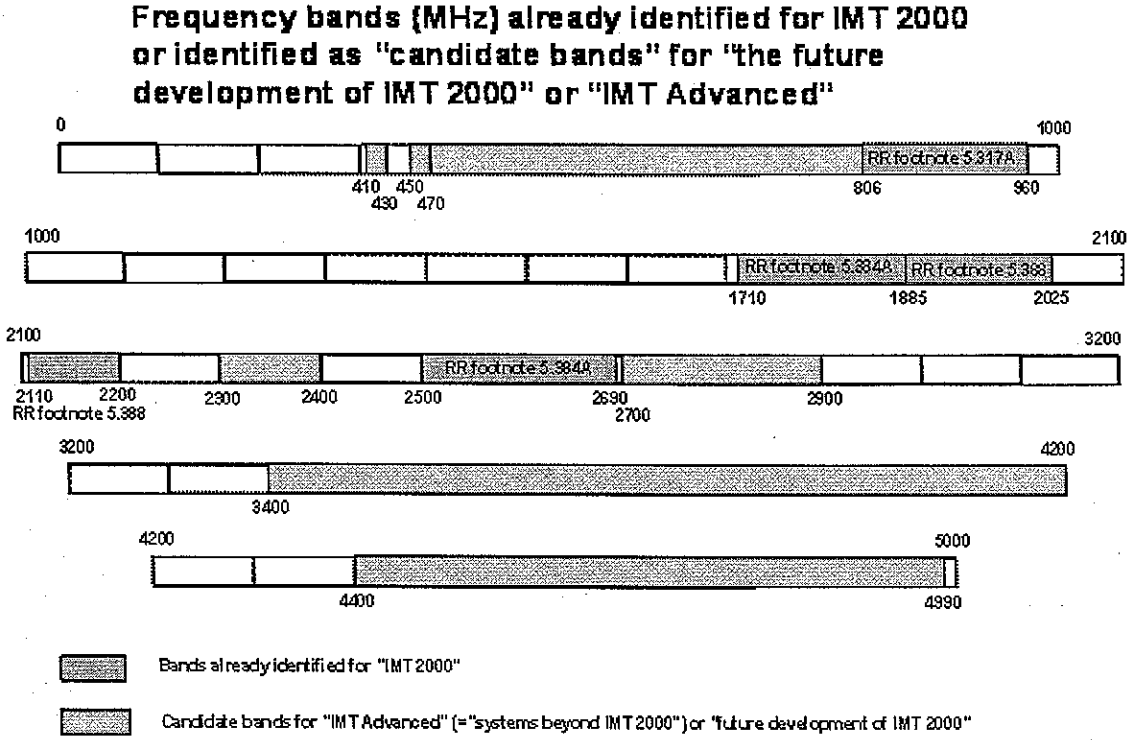
Separation distances are seen to range from some few kilometres for adjacent band interference to beyond 100 km for in-band interference. In areas where such networks have been introduced, massive interruptions and loss of service for FSS networks have been reported. Analyses and field trials conducted by OFTA showed that introduction of such networks in any portion of the C-band downlink would have a detrimental impact on FSS reception in the entire C-band. These conclusions have later been confirmed by studies and field trials by several administrations and organizations, including proponents of BWA networks (e.g. the WiMax Forum).

C-band for satellite communications is in common use in Hong Kong and China and is widespread throughout the world. It is vital for many countries in South and Central America, southern Asia, and equatorial Africa because of its resilience in the presence of heavy rain and is the only frequency band where FSS services for commercial satellites realistically can be provided with high availability.

Satellites in this band are offering a multitude of services, including VSAT networks, internet services, point-to-multipoint links, satellite news gathering, TV and data broadcasting to SMATV and DTH receivers. Services in this band now provide critical applications such as distance learning and tele-medicine. The wide coverage enables services to be provided to developing countries, to sparsely populated areas and over large distances. Satellites operating in this band, also because of their wide coverage,

have been used extensively for disaster relief operations. Since this band has been used by the FSS for over 40 years, the technology is mature and can offer equipment at low cost. This, together with the wide coverage, has lead to satellites in this band being an important part of the telecommunications infrastructure in many developing countries.

There are already today a number of frequency bands identified for future mobile systems in the "IMT 2000" bands. Moreover, a large number of bands other than the 3.4-4.2 GHz band has been identified as "candidate bands" to be considered by WRC-07. The figure below shows the frequency bands already identified by previous WRCs and the "candidate bands" for this conference decision are shown below.



It can be seen that the total spectrum already identified or identified as candidate bands for BWA/IMT is about 56% of the total spectrum below 5 GHz. It is unclear that even the most optimistic market projections could justify such wholesale reassignment of frequency spectrum to new and unproven services.

AsiaSat's views:

AsiaSat strongly supports OFTA's decision not to deploy BWA in the 3.5 GHz band and to consider initial deployment in the 2.3 or 2.5 GHz band. AsiaSat believes these bands offer technically better performance for BWA and this performance will assist these services in achieving their market potential.

AsiaSat is not opposed to BWA or IMT. AsiaSat believes that if BWA or IMT is a market success then interconnecting BWA or IMT cells could potentially generate satellite traffic and revenue for satellite operators. AsiaSat's concern is only with respect to interference into the satellite receive earth stations in C-band.