

21st March, 2013

Legislative Council Panel on
Information Technology and Broadcasting



Dear Sir/Madam,

**Submission for the Panel on Information Technology and Broadcasting
meeting on 27 March 2013.**

Nokia Siemens
Networks HK Limited
Hong Kong

Telephone +852-2967-3388
Fax +852-2967-3251

In response to the invitation of the meeting, Nokia Siemens Networks submits
this document in English for the discussion.

16/F., Cityplaza 4,
12 Taikoo Wan Road,
Taikoo Shing,
Hong Kong

Thank you for your attention.

Nokia Siemens Networks H.K. Ltd.



NSN background

1. Nokia Siemens Networks is a network infrastructure supplier of Mobile Broadband network business. We are top 3 suppliers in mobile infrastructure industry with business in +150 countries and cities. Since 90's, we are the major supplier of mobile network equipment to Hong Kong and Macau operators. We are glad to witness Hong Kong's success as a MBB leading market in the region.

Network growth and capacity demand

2. Nokia Siemens Networks believes that the industry needs to prepare for a dramatic mobile broadband traffic growth by 2020. This also calls governments and organizations to allocate spectrum to prepare for this growth. The recent allocation of 850MHz, 900MHz, 2.6GHz and 2.3GHz is a good example. NSN sees this traffic growth demand is a key driver to utilize their spectrum use existing 2x15MHz 2.1G spectrum. The hybrid approach of license renewal results to the loss of at least 30% of the network capacity in 2.1GHz. Hong Kong is well-known for being challenging in terms of radio conditions and congestion, frequency spectrum resource is then the key to guarantee user experiences and cope with the massive traffic demand in the long run. If the network capacity is reduced by >30% while the technology evolution is seriously obstructed due to the missing spectrum in 2.1GHz, apparently, it is a technology obstacle to retain the user experience and achieve service continuity. Before finalizing the option for spectrum re-allocation, this has to be taken into consideration and thoroughly resolved.

Technology evolution

3. Mobile network technology is evolving. This evolution is driven by a global standardization body (3GPP) responsible to define the technology standard for the industry. Operators need continuous upgrade on infrastructure to improve "the utilization of spectrum" and maintain good user experience. For example, since the launch of 3G network, data download speed has been improved by x50* times by means of deploying all the frequency resources available as well as introducing new radio technologies. Although the advancement of radio technologies would improve the spectral efficiency in a fixed amount of frequency spectrum resources in principle, those techniques would demand terminal support and the associated benefits are typically radio condition and network loading dependent.
4. Based on today's technology, it is possible to achieve 42Mbps download speed by using 2x10MHz of existing adjacent carrier. The evolution in 3GPP has already defined the technology to achieve higher download speed, e.g. download speed of 128Mbps with contiguous frequency band at 2.1GHz.
5. Referring to the proposed spectrum allocation in clause 27 in doc (LC Paper No. CB(4)364/12-13(04)), this may lead to a situation that all license owners will own 2x10MHz spectrum. This will be a stopper of technology evolution as mentioned above.