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Response to Hong Kong TA consultation on Broadband Wireless Access services from Nokia¹ and Nokia Siemens Networks²

With reference to the Hong Kong Telecommunications Authority (TA) third consultation paper on Providing Radio Spectrum for Broadband Wireless Access (BWA) services Nokia and Nokia Siemens Networks (NSN) have the following comments and views:

Question (1): Do you agree that the 2.3 GHz band be allocated for BWA services? If agreed, when the spectrum should be made available?

Question (2): Do you agree that the opening up of the 2.5 GHz band for BWA should be considered at a later stage? If agreed, when and how much of the bandwidth should be made available to the market?

Question (3): Do you have any preferred frequency bands for BWA services? How much spectrum do you need initially and for future expansion (number of blocks, spectrum width of each block, in which bands) and when the spectrum should be made available to the market?

Question (4): Do you agree with the proposed frequency allocation plan given in Annex 1? If not, what is your proposal?

Nokia & NSN views for questions 1 to 4:

Nokia & NSN support the band plan for the 2500-2690 MHz band, which reserves 2X70 MHz for FDD and 50 MHz in the centre gap (2570-2620 MHz) for TDD. The TDD part can be used for BWA/WiMAX but the FDD part should be reserved for IMT-2000 FDD technologies. Taking

¹ About Nokia

Nokia is a world leader in mobile communications, driving the growth and sustainability of the broader mobility industry. Nokia connects people to each other and the information that matters to them with easy-to-use and innovative products like mobile phones, devices and solutions for imaging, games, media and businesses. Nokia provides equipment, solutions and services for network operators and corporations. www.nokia.com

About Nokia Siemens Networks

Nokia Siemens Networks is a leading global enabler of communications services. The company provides a complete, well-balanced product portfolio of mobile and fixed network infrastructure solutions and addresses the growing demand for services with 20,000 service professionals worldwide. The combined pro-forma revenues of €17.1 billion Euro in fiscal year 2006 make Nokia Siemens Networks one of the largest telecommunications infrastructure companies. Nokia Siemens Networks has operations in some 150 countries and is headquartered in Espoo, Finland. It combines Nokia's Networks Business Group and the carrier related businesses of Siemens Communications. www.nokiasiemensnetworks.com

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into account the possible guard bands, the available TDD spectrum will be less than 50 MHz. Based on the availability of 2.6 GHz band for BWA in other countries, there are already equipment for this band. In the future, the 2.3 GHz band could be a suitable frequency band for BWA due to the wider band (100 MHz) and lower frequency range. In the near future, however, there is less mobile WiMAX equipment available in the market for the 2.3 GHz band than for 2500-2690 MHz.

NSN supports TA to have coordination for coexistence issues on both 2.3GHz and 2.5GHz and avoid interference between the services of Hong Kong and Mainland territories.

And in CCSA (China Communication Standard Association), the coexistence studies between WiMAX TDD system and IMT-2000 or BSS system on 2.5GHz is ongoing, while there are no related studies on 2.3GHz yet.

NSN basically agrees with the 2.3GHz band proposed frequency allocation plan. As for 2.5GHz, NSN suggest at least a 30MHz bandwidth in the centre gap (2570-2620 MHz) for TDD can be provided for one mobile BWA operator, and the allocation will be subject to the available spectrum.

Question (5): Do you agree that a BWA licensee should be assigned no more than six 5 MHz blocks of the BWA spectrum?

30 MHz would allow one BWA operator with real broadband services. Although the standards have also narrower band options, they may not enable to offer all broadband services. Therefore, we consider 30 MHz to be the minimum viable allocation.

Question (6): If the result of the coordination with the Mainland authorities confirms that 85 MHz bandwidth in the 2.3 GHz band can be made available, do you agree that the TA should make available all the 85 MHz bandwidth for BWA service? If not, what is your proposal with reasons?

Agree.

Question (7): Do you have any views on the frequency allocation plan for the 2.5 GHz band?

Nokia & NSN support the frequency plan a in Recommendation ITU-R Rec M. 1036 scenarios C1 and C2 that provide 2x70 MHz for FDD operations and 50 MHz in the centre gap for either TDD or FDD external DL. Taking into the account the outcome of WRC-07 (agenda item 1.9) this band plan should be respected as much as possible.

Question (8): Do you have any comment on the TA's preliminary view that no restrictions should be imposed on the types of applications and services that may be provided using the BWA spectrum?

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Nokia & NSN support TA's preliminary view to allow usage of the BWA spectrum to provide fixed services, mobile services or fixed-mobile convergence services.

Question (9): Do you have any further comments on the preliminary view of the TA that he should not prescribe any particular standard or technology for the BWA deployment?

Nokia & NSN are in favour of technology neutrality and a certain level of flexibility in spectrum allocation policies. The standards based and market driven technologies deployment principle is essential to create the appropriate environment for access to spectrum for new technologies and for applications which may evolve further in the future. Practical implementation and cost of networks will be positively affected if the frequency lots are defined as multiples of 5 MHz, which will be the globally most widely deployed band class in mobile WiMAX.

Question (10): Do you have any further comments on the TA's preliminary view that assignment of the frequency blocks for BWA services should be made on a territory-wide basis?

Agree with the view.

Question (11): Do you have any further comments on the TA's preliminary view that BWA licensees will be required, under the licence, to roll out the services within 24 months from the date when the licence is issued and that performance bond will also be required?

No Comment.

Question (12): Do you agree with the proposed frequency assignment method as stated above? (Section 40: The TA maintains his preliminary view... that the BWA spectrum should be assigned by a hybrid selection method including a simple prequalification and an auction.)

No comment.

Question (13): Do you have any further comments on the TA's preliminary view that an up-front lump sum payment basis should be adopted for SUF, the amount of which will be determined through an open auction?

No comment.

Question (14): Do you agree that BWA licensees should not be subject to an ex-ante ONA requirement?

No comment.

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Question (15): Do you consider that FMC services should be allocated with new number ranges?

No Comments

Question (16): Do you agree that numbers with prefixes “2” and “3” should be allocated to fixed/“limited mobility” BWA services while numbers with prefixes “6” and “9” should be allocated to “full mobility” BWA services?

No Comments

Question (17): Do you agree that BWA licensees should be subject to the requirement of facilitating both ONP and MNP, including the FMNP to be introduced in the future?

No Comments

Question (18): Do you agree that BWA licensees should be subject to the requirement of denial of service to suspected stolen apparatus?

No Comments

Question (19): Do you agree with the proposed approach as stated in paragraph 58 to resolve adjacent channel interference issues?

Agree with the approach which WiMAX Forum suggested. However, the Emission Masks should be developed in cooperation with standardization bodies and international organizations in order to avoid national emission mask requirements (which would then impact to the availability of equipment).

Question (20): Do you agree with the proposed guard bands for the 2.3 GHz band? Do you agree with the arrangement for the spectrum holder at the lower edge of 2.3 GHz band to use the spectrum 2.300 – 2.305 GHz as stated in paragraph 60?

No Comments.