



For more information, contact:
Chair, Regulatory Working Group
rwg-chair@wimaxforum.org

Office of the Telecommunications Authority
29/F, Wu Chung House
213 Queen's Road East
Wan Chai
Hong Kong

Attention: Telecommunications Engineer (R21)3
Email: bwa@ofta.gov.hk

Response from the WiMAX Forum™ to the OFTA Consultation entitled:

“LICENSING FRAMEWORK FOR DEPLOYMENT OF BROADBAND WIRELESS ACCESS ANALYSIS OF COMMENTS RECEIVED, PRELIMINARY CONCLUSIONS AND FURTHER CONSULTATION”

1. INTRODUCTION

The WiMAX Forum membership of over 300 broadband wireless equipment manufacturers, service providers, and companies, is pleased to respond to OFTA's further consultation on Licensing Framework for Deployment of Broadband Wireless Access. We continue to be encouraged to see that OFTA is addressing both TDD as well as FDD deployments in this band, as well as addressing/allowing “limited mobility” or nomadic use as a first step in the band which will enable the full benefits of WiMAX technology to be realised .

We have formatted the responses to address the specific issues highlighted in the consultation document text; quoting the specific text from the sections identified.

Section 7: “...the TA is of the view that the offer of BWA spectrum for deployment by the industry should be facilitated as soon as possible, with a view to assignment of the relevant spectrum to successful bidders in 2006.”

WiMAX Forum view: The WiMAX Forum supports the proposals for earlier licensing. The certification programme will result in the first WiMAX compliant equipment becoming available in early 2006 and potential investors can already obtain a good picture of the availability of interoperable equipment and standardised BWA systems.

Early licensing will enable opportunists to adopt this technology and be part of the evolution process towards converged Fixed and Mobile technology. The WiMAX

Forum is already developing mobile system profiles for subsequent certification phases which will have interoperable features stemming from the early WiMAX systems and hence will be part of the convergence story.

Section 10: “...*the TA is prepared to allow the deployment of any technology which conforms to recognised open standards, for the delivery of BWA services.*”

WiMAX Forum view: The WiMAX Forum supports technological neutrality in regulation and licensing. In our view this provides the best opportunity for long term development and growth in application and technology directions not yet anticipated.

Section 13: “...*Nevertheless the TA is of view that if the market considers using licence-exempt bands is a viable alternative for BWA, consideration will be given to permitting such development under a class/individual licence.*”

WiMAX Forum view: The WiMAX Forum supports the opportunity and catalyst that licence-exempt operation can provide for broadband wireless access. As well as systems in the 3.5GHz band, the WiMAX forum is certifying systems operating in the 5.8GHz band which is seen as the major licence exempt opportunity for wider area wireless access. The WiMAX Forum recognises the challenges associated with licence exempt band operation, however for some services where service quality or throughput variability are not specific concerns they can provide a valuable breeding ground for new ideas. This encourages entrepreneurs who may be unwilling to enter into a long term licensing arrangement. License-exempt operation may also be attractive in more rural areas where the number of competing operators may be low. Also voluntary coordination between operators is always possible to avoid interference problems in license-exempt bands.

Section 22: “...*the TA considers it reasonable and proportionate to allocate 3.4 – 3.6 GHz band to be used for BWA services on a primary basis while allowing the frequencies to be used for FSS on a secondary basis.*”

WiMAX Forum view: The WiMAX Forum supports the strongest regulatory framework possible as a foundation for confidence in the broadband wireless market.

Section 26: “*The TA is of the view that a band plan without specification of FDD or TDD mode will best meet market needs. Frequency blocks may be used for either TDD or FDD operation, subject to the operator’s own commercial and technical considerations.*”

WiMAX Forum view: The WiMAX Forum supports equally both TDD and FDD operation and agrees with the OFTA viewpoint concerning market driven choice for either technique. Locking a licence to one technique or the other can be damaging to development of the business and restrictive for consumers due to inflexibility.

Section 27: “...*The TA will therefore not fix any guard band but will instead mandate the use of a block edge emission mask in the future licence for BWA operators.*”

WiMAX Forum view: The WiMAX Forum supports not mandating TDD or FDD operation specifically in certain frequency blocks. Therefore the WiMAX Forum recommends:

- a) In the first instance operators in adjacent blocks should be encouraged to coordinate. This leads to the most efficient solutions.
- b) The block edge mask should be applied as a last resort in the case that operators refuse to coordinate.
- c) That the licence block size is considered carefully in the light of the block edge mask impact since it's application imposes constraints on the outermost channels within a block. These constraints can reduce the effectiveness of these channels and degrade the capacity of the block.

Annex 1: “Block Edge Mask in the 3.5 GHz Band”

WiMAX Forum view: The WiMAX Forum has examined the block edge mask proposal and has some serious concerns. The mask proposed by OFTA in Annex 1 of the consultation document will impose severe filtering requirements on both Central and Terminal Stations. These would unacceptably increase the cost of equipment especially Terminal Stations.

A block edge mask for the 3.5GHz bands has been under development for some time within Europe in the CEPT ECC¹. This work has attempted to forge a more balanced compromise between the need to control out of block interference, the requirements on equipment performance and efficient spectrum assignment. The block edge masks (there are separate masks for Central Stations and Terminal Stations) are based on conducted power rather than EIRP and have been developed following extensive coexistence studies that have included the potential for nomadic terminals reported in ECC Report 33.

The WiMAX Forum requests that (in conjunction with point c) above) OFTA tracks the final approval and considers similar block edge proposals to the ECC which will help to drive a common approach to this aspect of deployment. The draft proposals are undergoing public consultation until early January 2006 and are obtainable from the ERO web site consultation page at www.ero.dk.

Section 31: “...the TA is prepared to allocate 180 MHz spectrum in the 3.5 GHz band for BWA on a primary basis in the forthcoming spectrum allocation exercise. In case the market does not take up all of the spectrum, the frequency blocks which have not been assigned will be put into reserve, and will not be offered again within a certain time frame, say before end 2008. The arrangement for the reserved frequency blocks, if any, would be reviewed in due course.”

WiMAX Forum view: The WiMAX Forum supports allocation of the largest amount of spectrum available. The WiMAX Forum promotes the need for licensing schemes to support the potential for truly broadband services that offer competition and differentiation from services offered by other means.

¹ Draft ECC Recommendation (04)05: Recommended Guidelines for Accommodation and Assignment of Multipoint Fixed Wireless Access Systems in Frequency Bands 3.4-3.6GHz and 3.6-3.8GHz.

Section 34: “...*the TA considers that assignment of spectrum in the form of a paired band would be appropriate.*”

WiMAX Forum view: The WiMAX Forum agrees that this is a suitably technology neutral band arrangement.

Section 36: “...*The TA is of the view that a territory-wide frequency assignment is more appropriate in the context of Hong Kong.*”

WiMAX Forum view: The WiMAX Forum agrees considering the scale of the Hong Kong territory.

Section 37: “*the TA proposes that the band plan for the 3.4 – 3.6 GHz band for public telecommunications services in Hong Kong should be made up of six frequency blocks, each consisting of a 15 MHz x 2 paired band, spanning from 3410 MHz to 3500 MHz and from 3510 MHz to 3600 MHz.*”

WiMAX Forum view: The WiMAX Forum is concerned whether six operators will be able to successfully offer competitive services within the Hong Kong region with sufficient spectrum to encourage broadband service development identified above. Considering the potential impact of the block edge mask and the close proximity of potential operators there is concern that 15MHz blocks will not provide sufficient useable spectrum for the growth of broadband systems. The WiMAX Forum considers that 3 operators each with 2 x 30MHz of spectrum would provide a considerably more interesting opportunity and a tremendous catalyst for development of truly broadband provision by wireless.

Section 42: “...*the TA proposes that the scope of permitted services of the future BWA licences should be restricted to fixed telecommunications services initially and be expanded to include full mobility services after 1 January 2008. Fixed telecommunications service will include the conventional fixed services and telecommunications service of “limited mobility” nature. “Limited mobility” means no cell handoff capability will be permitted before 1 January 2008.*”

WiMAX Forum view: The WiMAX Forum is already developing certification profiles for mobile systems for the next round of certification including both the 2500 – 2690 MHz and 3.4 – 3.8 GHz bands. These may result in interoperable mobile equipment during early 2007 so earlier mobility would be preferred.

Section 43: “...*It is therefore proposed that a new Unified Carrier Licence will be introduced. The validity period of this new licence will be fifteen (15) years, which is the same as that for the existing fixed/mobile carrier licences. Any interested party, including existing fixed/mobile carriers and new entrants, may bid for the BWA spectrum and, if successful, will be licensed under the Unified Carrier Licence which will permit the licensee to provide fixed telecommunications service using the BWA spectrum from the start of the licence and to provide both fixed and mobile telecommunications service starting from 1 January 2008.*”

WiMAX Forum view: The WiMAX Forum is content with the 15year licence term.

The WiMAX Forum has no specific view concerning the Assignment of Telecommunications Numbers and Interconnect Regime.

Section 62: “...*Bidders may wish to bid for a specific frequency block so to make adjustments for the technology used and other considerations they may have.*”

WiMAX Forum view: The WiMAX Forum supports technology agnostic assignment processes.

Section 66: “...*it is proposed that a bidder will only be allowed to bid for one frequency block (15 MHz x 2) in any round of the auction and if successful, that bidder will be assigned only one frequency block at the end of the auction.*”

WiMAX Forum view: The WiMAX Forum is concerned that this block size is insufficient for truly broadband, differentiated service provision, considering the impact of adjacent users on the amount of operational spectrum possible. (See the response to Section 37 above).

Section 73: “...*the TA proposes that the successful bidders will be required, under one of the licence conditions, to start offering public services within 24 months after being awarded the BWA spectrum.*”

WiMAX Forum view: The WiMAX Forum is also keen that WiMAX based services should be deployed as soon as possible after the award. Considering the WiMAX concerns over block size, non-deploying operators should be obliged to offer their spectrum to other operators already operational in even less than 24months. The WiMAX forum suggests 12months.

About WiMAX Forum™

The WiMAX Forum is an industry-led, non-profit corporation formed to promote and certify the compatibility and interoperability of broadband wireless products using the IEEE 802.16 and ETSI HiperMAN wireless MAN specifications. The forum’s goal is to accelerate the introduction of these devices into the marketplace. WiMAX Forum Certified™ products will be fully interoperable and support Metropolitan Broadband Fixed and Portable Applications. For more information about the WiMAX Forum and its activities, please visit www.WiMAXForum.org.