Submission of

SmarTone Mobile Communications Limited,

SmarTone 3G Limited

and SmarTone Services Limited

Licensing Framework

For Deployment of Broadband Wireless Access

Consultation Paper

14 March 2005

1. Introduction

1.1 SmarTone Mobile Communications Limited, SmarTone 3G Limited and SmarTone Services Limited ("**SmarTone**") are pleased to jointly provide this submission in response to the Consultation Paper on the Licensing Framework for Deployment of Broadband Wireless Access ("**BWA**") issued by OFTA on 20 December 2004 (the "**BWA Paper**").

2. BWA services should not be introduced until major policy initiatives including the Spectrum Policy Review and the Fixed Mobile Convergence Review are finalized.

2.1 Spectrum Policy Review ("the Review")

2.1.1 The CITB has announced on 29 November 2004 that the Government will launch a fundamental review of the policy for allocation and assignment of radio spectrum in 2005 in light of the rapid pace of advancement in technology development and deployment. The objective of the Review is "*to formulate a responsive, transparent and market-led spectrum policy to enable the community to reap the maximum benefit from the deployment of this scarce public resource as technology advances*". A coherent long-term spectrum policy for the industry will only enable the Government to formulate effective short or medium term decisions on spectrum allocation and assignment that meets the overall objective of CITB. However, the current piece-meal approach to deal with the BWA spectrum separately from the Review and before the Review is finalised, is inconsistent with the CITB's policy objective

to derive the maximum benefit from the scarce radio spectrum resource. Given that the use of BWA is still in the early stages and there are uncertainties with regard to the development of the BWA market such as technology, application and spectrum requirements, an early release of BWA spectrum as proposed in the BWA Paper would inevitably diminish the value of the spectrum and therefore not in the interest of the public or the industry as a whole.

2.1.2 SmarTone does not agree with the TA's views of the need to release spectrum for fixed service before the conclusion of the Review. The reason for introducing BWA so as to support the gradual withdrawal of mandatory Type II interconnection is misconceived. SmarTone will discuss this in more detail in section 3 below. Further, any early determination of the BWA spectrum before the conclusion of the Review would pre-empt any true and independent review of the spectrum policy and could force any proposals in the Review to adopt the BWA spectrum arrangement currently outlined in the BWA Paper. Once the BWA spectrum is assigned to operators and deployed for commercial use, it would be very difficult to withdraw or reallocate the spectrum and this will certainly limit the capability of reassigning the BWA

spectrum in the future should the Review conclude that the spectrum should be reallocated for other use. This will contravene the policy of efficient use of spectrum and public interest.

2.2 Fixed Mobile Convergence Review ('FMC')

2.2.1 On 25 January 2005, the TA announced its plan to conduct a critical review of the fixed and mobile convergence and its impact on the existing regulatory framework in 2005 in light of the fact that fixed and mobile technologies and services are converging. The TA has stated that it will examine the existing one-way fixed/mobile interconnection charge, the implementation of fixed/mobile number portability and also the need of a new carrier licence which will allow a licensee to offer flexibly various mobile, fixed or nomadic network services.

2.2.2 It is generally recognised that BWA technology is one of the key drivers in the convergence of fixed and mobile services. In fact, the TA has stated in the Telecom Perspectives entitled "Blurring Boundary between Fixed and Mobile Services" dated 23 January 2005 that the BWA technology would be usable

for both fixed and mobile services. There can be no doubt that the proposal in the BWA Paper falls within the area of FMC and will definitely affect the development of FMC. For example, given that the boundary between mobile, fixed or "nomadic" services has become somewhat difficult to define in view of the technological advancement, there is a need to discuss in the FMC review whether the BWA technology is to be regarded as mobile, fixed or nomadic services and whether separate or unified licence should be issued. The proposal of the BWA Paper however predetermines that the BWA technology is a kind of fixed services and restrict the allocation of the BWA spectrum to fixed operators only. It is premature to arrive at such a conclusion before the findings of the FMC review and the various issues related to FMC, such as the inter-operator arrangements and the building access right of operators under the new licensing regime should be carefully considered by the TA.

2.2.3 According to Schedule 1 of the FTNS licence, a fixed point is *" a network termination point and shall include such area within the immediate vicinity of such a point as the Authority may direct in writing, either generally or*

specifically, to allow limited mobility for access to that point in such manner as the Authority may approve in writing not inconsistent with Clause 1 of this Schedule 1". It is not clear whether a BWA technology that has a radio coverage of up to 4 km (or even more in the future) would be regarded as "the immediate vicinity" of a fixed point under the FTNS or fixed carrier licence. Given the wide coverage of the BWA technology and the small geographic area of Hong Kong, the BWA technology, even without cell handover capability, could still be regarded as a close substitute to the mobile services in particular for mobile data services. SmarTone therefore has concern about any relaxed or loose interpretation of the scope of the FTNS or Fixed Carrier Licence for the provision of "nomadic" services. The issue should be subject to a thorough industry review and discussion in the consultation of FMC.

3. BWA is NOT a Must before Mandatory Type II Interconnection is withdrawn as envisaged by the TA

3.1 The reason for the deployment of BWA for fixed service, which is intended to replace the "last mile" following the Government's decision to withdraw mandatory Type II interconnection is misconceived. As stated in the TA's Statement entitled "Review of Type II Interconnection Policy" dated 6 July 2004, the mandatory Type II Interconnection will only be gradually withdrawn until June 2008. It is also noted that for those buildings meeting the "essential facilities" criterion that justifies mandatory interconnection in the consumer interest will be exempted from the withdrawal arrangement even after June 2008.

3.2 From a technical point of view, the BWA technology cannot totally eliminate the need for installation of telecommunications equipment inside buildings in certain situations. For instance, there may be cases that due to the limitation of radio coverage of BWA, radiocommunications equipment may still be required to be installed inside a building in order to provide local access to that building. The deployment of BWA technology will therefore not be able to resolve the problems of Type II Interconnection as a whole. Furthermore, SmarTone understands that there is also existing wireless LAN technology

using 2.4 GHz under the class licence regime which can be used to overcome the block-wiring bottleneck problem[1]. As such, SmarTone is of the view that there is no justification or evidence of a proven need to unnecessarily introduce BWA at this stage when the deployment of BWA worldwide is still at the early stage with a lot of uncertainties.

4. **However, if the TA is still minded to allocate spectrum to fixed operators for replacing Type II interconnection or the "last mile", the BWA arrangement should be in line with such goal and avoid disruption to the long term spectrum policy and the development of the telecommunications market as a whole.**

4.1 Notwithstanding our positions stated above, if in the event that spectrum should be released for fixed network operators to deploy BWA for the "last mile" for whatever reasons, SmarTone submits that the proposals in the BWA Paper have not clearly specify the licensing conditions for BWA and inevitably give undue advantage to the fixed network operators. The issues set

[1] Report of Wireless LAN Technology Trial, By Wharf T&T, 26 January 2004

out in the following paragraphs must be satisfactorily addressed before introducing BWA.

5. The spectrum allocation is overly excessive and undervalues a scarce public resource

5.1 The BWA Paper proposes that in total 164 MHz frequency in the 3.5 GHz band will be allocated for BWA in the initial phase. SmarTone submits that the proposed amount of bandwidth allocated for BWA is excessive given that the use of such bandwidth is for the "last mile" purpose only. The allocation of such a large amount of bandwidth will definitely increase the supply of BWA spectrum and therefore push down the actual value of the BWA spectrum. In support of the policy of efficient use of spectrum and to reap the maximum benefit for public from scarce spectrum resource, SmarTone submits that the amount of bandwidth allocated for BWA should be substantially reduced. OFTA should conduct a thorough study on the minimum spectrum requirement for the proposed "last mile" purpose and provide a detailed analysis to the RSAC committee for consideration. The final proposal should

be subject to further public consultation to ensure that public benefit is maximized.

5.2 The BWA Paper is not clear on whether BWA systems could be used in the unlicensed band in the 5 GHz Band. SmarTone opines that the already congested unlicensed band in the 5 GHz band should not be opened for BWA technology. If the frequency band of 3.5 GHz is to be assigned for BWA (which is subject to payment of spectrum utilization fee ("SUF")), it is not advisable to simultaneously allow BWA in the 5 GHz unlicensed band (i.e., which is not subject to SUF) because this will inevitably affect the value of the BWA licence in the licensed band. Furthermore, this will create serious interferences to the existing services deployed in the unlicensed 5 GHz band (e.g., WiFi) which will ultimately affect the service quality of both types of service. It would also be difficult for the TA to maintain control and monitor usage of BWA services since users of the unlicensed band do not need to register with OFTA.

6. The BWA Paper creates an unequal level of playing field as BWA is to be offered as a wireless extension of the conventional wireline based fixed network service and only to be reserved for fixed network operators.

6.1 The proposal in the BWA Paper allows fixed network operators to deploy BWA technology which effectively is a limited mobile technology and can develop into full mobile services. This fact is clearly reflected in:

- Paragraph 4 of the BWA Paper "*While BWA at this stage may not be mature for mobile services, the TA recognises that such technologies have the potential to support fully fledged mobile services*".
- The TA's Telecom Perspectives dated 23 January 2005, "*In a few years'*

  time, BWA technology will be capable of providing full mobility services like the existing 3G services".
- Paragraphs 26 to 32 of the BWA Paper sets out the various

  technologies that could be used to deliver BWA :

a) 3GPP standard (paragraph 31 of the BWA Paper) is a well-known standard for the third generation ("**3G**") mobile services which has already existed in the market for a period of time; and

b) WiMAX, ETSI and IEEE standards for BWA (paragraphs 27 to 30 of the BWA Paper) are now all under the IEEE 802.16 standard. This standard currently supports an average cell radius of up to 4 km with non-line of sight capability. The WiMAX Forum is also actively promoting the 802.16d standard which supports interoperability among WiMAX certified equipment and in parallel developing the 802.16e standard which will have the cell handoff capability. It should be noted that WiMAX and WiMAX-like products are already in the market and it is expected that more and more equipment supporting 802.16d and 802.16e standards will be available sooner or later.

6.2 SmarTone's concern is further aggravated by the fact that the initial holder of the BWA spectrum could later on change the spectrum usage to mobile. Paragraph 36 of the BWA Paper states that "*The TA considers that the*

licensing framework for BWA as a fixed service initially may serve as a transitional arrangement in such a context, with possibility of future migration to mobile service, subject to the subsequent development of the technology, the market, and the regulatory framework." Paragraph 55 further states "*any plan to support full mobile applications will require the prior approval of the TA, the subsequent successful application for a mobile carrier licence and payment of the adjusted SUF commensurate with the mobile usage*".

6.3 This "two-steps" approach which allows change of spectrum usage from the original purpose as stated in the bidding not only pre-empt the mobile network operators to bid for the BWA spectrum but in fact substantially favour the fixed network operators in obtaining the BWA spectrum as they can subsequently convert the spectrum for mobile usage. Furthermore, the value of the spectrum will definitely be undervalued in the first round of the open bidding as the service scope and bidders are limited to fixed services and fixed network operators only. For the second stage concerning the change of spectrum usage from fixed to mobile, it is highly uncertain what will be the process and whether it will be subject to open bidding. Also, the spectrum

holder in the first round bidding will have advantage over the other interested parties in retaining the use of the assigned spectrum during the second round bidding as it has already occupied and used the spectrum.

6.4 The proposal also gives unfair advantages to the fixed network operators to establish a "mobile capable" network infrastructure at minimal barriers, such as minimal time and effort in negotiating with building owners for installation of telecommunications equipment in buildings and free access right to buildings. Under section 14(1) of the Telecommunications Ordinance, the fixed network operators are entitled to gain free access to the common parts of a building to install telecommunications equipment. The fixed network operators therefore can establish their wireless network infrastructure at minimal barrier as abovementioned. These advantages will facilitate the fixed network operators to establish a wireless network infrastructure, that could subsequently be converted to a fully-fledged mobile network, at a much favourable position than the mobile network operators. Should business opportunities for using the spectrum for mobile services arise, the fixed networks operators can quickly and easily convert the use of their wireless

infrastructure from fixed to mobile with minimum barrier. The ability of the building owners to renegotiate the terms for the installation of radiocommunications equipment with the fixed network operators is limited given that the equipment is already installed at the building and the building owners may not even know that the use of such equipment has been changed from providing fixed to mobile services. On the other hand, when there is no business opportunity, the fixed network operators can still occupy the spectrum at very low cost given that they are not subject to any access fee payment nor any investment commitment.

6.5 All in all, the proposal of the BWA Paper has created an unequal level of playing field by giving the fixed network operators a right to provide 'limited' mobility services at much favourable terms and conditions than the frequency granted to mobile network operators.

7. The BWA Paper fails to provide details of the licence conditions applicable to BWA. A transparent licensing regime is necessary for BWA.

7.1 SmarTone notes with concern that the BWA paper does not provide any details of the proposed licence conditions applicable to BWA. These are important information not only for the potential bidder of the BWA spectrum but also to the other affected parties to understand the new licensing regime and to assess its implication. The TA should increase its transparency by releasing detailed information in relation to the BWA arrangement, such as the bidding arrangement, the licence conditions applicable and the procedure and criterion for converting the use of the BWA spectrum from fixed to mobile, for thorough public consultation. It would be unacceptable if the TA proceeds to release the BWA spectrum when these important issues are not clearly addressed.

7.2 Since the BWA Paper proposes BWA shall be reserved for fixed line operation only, it is important that the BWA spectrum should be restricted to the provision of fixed service only and must not be used for any form of mobile services. The TA should clearly restrict the usage of BWA spectrum by specifying the exact usage of the spectrum in the relevant licence. The TA

should provide the exact proposed wordings in the licence condition for industry consultation.

7.3 The TA should set out in the second round consultation on the licence conditions applicable to the BWA spectrum holder, including but not limited to the following:

- Network rollout commitment;
- Access right to building for installation of telecommunications equipment;
- Open network access requirement;
- Procedure for changing the use of spectrum from fixed to mobile (if such is permitted after consultation)
- Interconnection arrangement with other operators;
- Right of TA to withdraw spectrum for reason of inefficient use of spectrum or for reallocation of spectrum for better use.

7.4 Last but not the least, SmarTone submits that the spectrum usage period of 10 years as proposed in the BWA Paper is too long, especially if the BWA

spectrum is to be used as a transitional arrangement. It is worth noting that in South Korea, which is a pioneer of the BWA technology, the BWA licence only has a term of seven years.

8. Spectrum Utilization Fee ("SUF") and Bidding Arrangement should be at par to 3G mobile services

8.1 The BWA Paper only states that the BWA spectrum may be assigned by auction without providing much detail about the SUF and bidding arrangement.

8.2 SmarTone opines that in principle the SUF applicable to any spectrum should be determined by open bidding. Given that the BWA spectrum could be converted from fixed to mobile use, the SUF structure for the usage of the BWA spectrum should follow the current structure for 3G mobile services and there should be only one round of bidding instead of the proposed two-steps approach. Since it is generally recognised that the BWA spectrum is capable of providing fully-fledged mobile services similar to 3G mobile services, it follows that the same minimum SUF structure should be adopted for the open

bidding process for BWA to ensure there is fair competition between the two types of licensees. SmarTone is of the view that any assignment of the BWA spectrum should be based on an open bidding process in which the minimum SUF should be in line with the 3G bidding exercise (i.e., start from HK$50,000,000 per annum). It will be untenable if the assignment of the spectrum for BWA, which could be used to provide fully-fledged mobile services, is based on a minimum SUF lower than that for 3G. Such discrimination on 3G operators vis-à-vis the BWA operators would discourage investment in 3G services and rollout, and affect fair competition in the wireless telecommunications market.

8.3 Frequency spectrum is a scarce and limited public resource for which it is the responsibility of the Government to ensure that it is efficiently used and will bring about the maximum benefit to the society. There are recent suggestions in the market advocating a lower SUF for BWA to ensure a fast and successful rollout of BWA technology in Hong Kong. Some argue that the 3G bidding price was overvalued at that time, which have adversely affected the 3G rollout in Hong Kong, and therefore should not be followed in the bidding of

BWA spectrum. However, SmarTone submits that spectrum is spectrum and its value should not be different regardless of whether it is used for 3G or BWA technology. It is the Government's responsibility to ensure a level of playing field for fair and open competition. The TA should not give any preference to the BWA technology by setting a level of SUF lower than that of 3G given that both technologies are capable of providing fully fledged mobile services. To act otherwise would defeat the TA's policy of technology neutral. In any circumstance, the TA should adhere strictly to its objective of reaping the maximum benefit for the public from this scarce public resource.

9. Conclusion

9.1 The proposals in the BWA Paper are premature given that there still a number of uncertainties with regard to the development of broadband wireless market.

9.2 As spectrum is a scarce and valuable public resource, the TA should give due consideration in the allocation of the BWA and should only deal with the introduction of BWA after the outcome of the Spectrum Policy Review and the Fixed and Mobile Convergence Review. The issue of whether the

"nomadic" services fall within the scope of FTNS or Fixed Carrier Licence is highly questionable and there should not be any presumption or pre-determination before the issue has been fully discussed in the above Reviews.

9.3 There is no immediate need to introduce BWA technology to replace Type II Interconnection given that Type II Interconnection will only be gradually withdrawn until 2008 and building satisfying the "essential facilities" criterion will be exempted from the withdrawal arrangement. Technically BWA is not the best and the only answer for replacing the "last mile".

9.4 The proposals in the BWA Paper would devalue the value of the BWA spectrum and seek to give an unfair advantage to the fixed network operators in the allocation and assignment of BWA spectrum which is not in the interest of the Hong Kong telecommunications industry in particular the mobile operators and the society as a whole.

9.5 The BWA Paper lacks clarity in that there is no detail about the proposed arrangement applicable to BWA. Should the TA insist on issuing licences for BWA at this early stage, the TA should impose restrictions on spectrum usage

and prohibit the change of spectrum usage from fixed to mobile. The TA should set out the proposed licence conditions applicable to the BWA spectrum holder so that both the potential bidder and the affected parties could fully assess the new licensing regime and its implication. The amount of frequency allocated for BWA should be reduced and the unlicensed band of 5GHz should not be used for BWA. If BWA spectrum is allowed to be converted from fixed to mobile use, the BWA spectrum should be allocated based on auction with a minimum fee which is at the same level as the 3G bidding exercise in 2000. This would ensure fair competition in the wireless market and maximum benefit to be derived from the spectrum which is a scarce public resource.

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