



**The submissions of Hong Kong CSL Limited
and New World PCS Limited in response to
'Second Consultation on Development of
Mobile Television Services' issued by
the Commerce and Economic Development
Bureau and the Office of the
Telecommunications Authority
in January 2008**

28 April 2008

1 Executive Summary

- 1.1 The CSLNWM Group is concerned about the proposed allocation of S band for mobile TV services. Given that the spectrum of 2500 – 2690MHz in the S band has been reserved for expansion of 3G mobile services and the China Mobile Multimedia Broadcasting (**CMMB**) standard for mobile TV services has not yet ratified, the CSLNWM Group considers it inappropriate and premature to allocate the S band for CMMB purposes since there is potential for interference problems due to the proximity of the frequency bands being used for 3G services.
- 1.2 The CSLNWM Group considers that the Government should uphold the long-established technology neutrality approach by allowing the market to determine which technology is to be used for mobile TV services rather than giving an undue preference to a particular technology or standard which has not yet been settled or finalised.
- 1.3 As regards spectrum assignment, the CSLNWM Group agrees to the Government's proposed adoption of market-driven approach in assigning spectrum and determining the spectrum utilisation fee for mobile TV services via auction.
- 1.4 As regards spectrum allocation, the CSLNWM Group considers that the relevant spectrum must be used for the provision of broadcast services only and should not be used for bi-lateral or multi-lateral voice communications or video-telephony services.

- 1.5 Content services in the form of video-on-demand or video streaming delivered over 2.5G or 3G networks have been provided by mobile operators for many years. The CSLNWM Group does not agree to the Government's proposal to apply the regulatory framework under the Broadcasting Ordinance to content services provided by mobile operators and urges the Government to uphold its light-handed regulatory approach under the existing regulatory framework.
- 1.6 The Government made it clear at the time when 3G licence was auctioned that content provided by mobile operator will not be regarded as a television programme service and the provider does not therefore need a licence under the Broadcasting Ordinance. In addition, content services are already subject to the regulation by general laws. Sufficient regulations have already been put in place to safeguard public interests. There is no justifiable evidence to prove that the existing regulations are deficient (such as a substantial increase in numbers of complaints against content services offered by mobile operators). From CSLNWM Group's perspective, unless a compelling reason exists, there is no reason to expand the ambit of the Broadcasting Ordinance to content services provided by mobile operators. In any event, the Government's decision to make available spectrum for broadcast type mobile TV services and to license the use of spectrum must not in any way affect, restrict or otherwise inhibit the ability of existing mobile operators to provide 2.5G and/or 3G services under the existing regulatory framework.

2 Introduction

2.1 Hong Kong CSL Limited and New World PCS Limited (the “**CSLNWM Group**”), are pleased to provide submissions in response to proposals of the Secretary for Commerce and Economic Development and the Telecommunications Authority contained in the ‘Second Consultation on Development of Mobile Television Services’ (**Second Consultation Paper**).

3 Spectrum Availability

Question: We welcome your views on the allocation of one multiplex in UHF Band and two multiplexes in Band III for the development of mobile TV services. We also welcome your views on the release of frequency spectrum in L Band and S Band for the purpose.

3.1 The CSLNWM Group agrees that there is competing use of the available spectrum by different broadcasting or telecommunications services employing different technologies. The Government has identified in the Second Consultation Paper four bands (including UHF Band, Band III, L Band and S Band) which it believes may be suitable for the development of mobile TV services.

3.2 Numerous standards for mobile TV services already exist (see Table 1) and certain technologies can only be used in particular spectrum bands. The spectrum made available should be in concert with the allocations made in other leading telecommunications markets. The risk associated with failure to follow this recommendation is that it will be difficult to source either network or handset vendors capable of assisting with the provision of services within each standard domain.

Table 1

Standard	Details
▪ S-DMB	(Satellite Digital Multimedia Broadcast) - South Korea, Japan
▪ CMMB	(China Mobile Multimedia Broadcasting) - China
▪ MediaFLO	Launched in US, trialled in UK and Germany
▪ ISDB-T	(Integrated Service Digital Broadcasting) - Japan and Brazil
▪ 1seg	(One Segment) – Mobile TV system on ISDB-T
▪ T-DMB	(Terrestrial Digital Multimedia Broadcast) - South Korea, Germany

<ul style="list-style-type: none"> ▪ DAB-IP 	(Digital Audio Broadcast) - UK
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3.3 Irrespective of what spectrum is made available for mobile TV services, the CSLNWM Group considers that the decision to be made with respect to mobile TV services must follow and be consistent with the policy framework for management of radio spectrum set out in the Government's Spectrum Policy Framework issued in April 2007. Specifically:

2. Spectrum Policy Objectives

(a) facilitate the most economically and socially efficient use of spectrum with a view to attaining maximum benefit for the community;

(b) achieve technically efficient use of spectrum to facilitate the introduction of advanced and innovative communications services and strengthen Hong Kong's position as a telecommunications and broadcasting hub;

(c) fulfil Hong Kong's regional and international obligations relating to the use of spectrum;

(d) strengthen Hong Kong's strategic position as a world city and the gateway between the Mainland of China and the world by facilitating the provision of key services in Hong Kong which are deployed, or will be deployed, globally or in the Mainland of China; and

(e) ensure that necessary spectrum is reserved for services to be provided by or on behalf of the Government ("Government services").

3. Guiding Principle in Spectrum Management

3.1 The policy inclination is that a market-based approach in spectrum management will be used for spectrum wherever TA considers that there are likely to be competing demands from providers of non-Government services, unless there are overriding public policy reasons to do otherwise.

3.2 If the market-based approach for managing spectrum with competing demands from providers of non-Government services will not be used, the relevant public policy reasons will be published.¹

UHF Band, Band III and L Band

3.4 Mobile TV is still in the early stage of development worldwide and as demonstrated by Table 1 above there are many standards available. In view of the latest overseas development, the CSLNWM Group at this stage has the following comments on the proposed allocation in UHF Band, Band III and L Band for mobile TV services:

3.5 UHF band is shaping up globally to be used for future 'super-broadband' services (>100 Mbps, such as LTE) requiring wide channel bandwidths (10-20MHz) – especially for regional areas, or where base station siting options are limited. So, further fragmenting the band before digital TV conversion is completed, by launching mobile TV will potentially damage the utility of this important spectrum resource for future wireless IP

¹ CEDB, Radio Spectrum Policy Framework, (April 2007), pp. 1-2.

services (that will no doubt carry mobile TV as one of the in-band packet streams, anyway).

- 3.6 Band III would seem like not a good choice for mobile TV in HK, because (to our knowledge) only one other developed country and China are considering this band so handsets available will be limited to HK – and neither out-bound nor in-bound roaming will be available.
- 3.7 In contrast, L-band (1452-1492 MHz) is a potential candidate for mobile TV – since it aligns with discussions in UK and a number of other countries. The CSLNWM Group would cautiously suggest “do not oppose” mobile-TV aimed this band.

S Band

- 3.8 However, the CSLNWM Group is concerned about the Government’s proposal to allocate the S band for mobile TV services. In the Second Consultation Paper, the Telecommunications Authority (TA) seeks comment on whether the spectrum should be allocated for CMMB, or for other purposes provided that there should not be any electromagnetic compatibility or interference issues after considering the fact that the Mainland China has set aside 2635 MHz – 2660MHz for satellite mobile TV services based on CMMB technology.
- 3.9 As the Government points out in the Second Consultation Paper, the spectrum of 2500MHz – 2690MHz in the S Band has already been allocated for expansion of 3G mobile services in Hong Kong.

3.10 The CSLNWM Group considers the use of the S Band for CMMB purposes as an inappropriate allocation since there is potential interference issue due to the proximity of the frequency bands being used for 3G services if in future this frequency band is also used for CMMB or for other purposes. As a result, service quality might be greatly disrupted which is detrimental to consumers as a whole.

3.11 The CSLNWM Group notes that debates as to which mobile TV standard should be adopted in the Mainland China are still ongoing:

There has been no statement from the government that CMMB will be the only mobile TV standard in China... To date, there are at least three T-DMB trials and one DVB-H trial taking place in China.²

3.12 Additionally, there is no definite timeframe when a decision will be made.

As there are many different technology standards currently under testing for mobile TV services in the Mainland China and whether the CMMB standard will be ratified remains to be seen, the CSLNWM Group urges that care be taken in “locking” in spectrum to a particular usage when uncertainty exists.

3.13 Furthermore in the event that the CMMB standard is selected, it will take time for equipment vendors to produce devices that support this standard and for the use of those devices to be approved by the relevant authorities. On this basis, there is no compelling reason to change the intended usage of the spectrum 2635MHz – 2660MHz for 3G mobile

² *South China Morning Post*, [Firms plan to launch mobile TV platform in time for Beijing Olympics](#), 10 December 2007

services and it is premature to reserve the spectrum for CMMB standard at this stage.

3.14 The CSLNWM Group considers that the Government should allow market to determine which technology should be used for mobile TV services rather than giving an undue preference to a particular technology or standard which has not yet finalised. The adoption of technology neutral approach in the current licence exercise is clearly indicated in the Second Consultation Paper that “unless under exceptional circumstances with overriding policy reasons, [the Government] generally adopt a technology-neutral approach in the allocation of spectrum to let the market determine the best technology to be adopted for meeting the needs of the public. The respondents overwhelmingly support allocating spectrum in a technology-neutral manner.” The CSLNWM Group cannot find compelling justification for any deviation of this long-established Government’s policy on upholding technology neutrality and nor has the Government produced evidence that would compel us to believe otherwise.

4 Spectrum Allocation

Question: We welcome your views on whether the pro-mobile TV approach should be adopted, whereby at least 50% of the transmission capacity should be used to carry mobile TV content.

- 4.1 In the Second Consultation Paper, the Government considers that the proposed allocation of the multiplexes in Band III and UHF Band should follow the pro-mobile TV approach whereby at least 50% of the transmission capacity should be used to carry mobile TV content whilst the remaining capacity should be used to provide other ancillary services. Furthermore, the TA proposes that the percentage of spectrum capacity dedicated for mobile TV may be mandated for five years from service launch and would be subject to review of OFTA.
- 4.2 The CSLNWM Group envisages a potential difficulty with the proposed pro-mobile TV approach. That difficulty is that if the would-be mobile TV licensee is at its liberty to utilise its transmission capacity upon fulfilment of the 50% threshold requirement, the Government should take into account whether there is any potential interference problem arising from such un-specified use of frequencies with spectrum users in adjacent frequency bands. If so, the Government needs to consider how to resolve the potential interference problems. Otherwise, both the existing and mobile TV users will be greatly affected due to interference.
- 4.3 The CSLNWM Group submits that the relevant spectrum must be used for the provision of broadcast services only and should not be used for bi-lateral or multi-lateral voice communications or video-telephony services. This is consistent with the existing spectrum management approach where spectrum ranges are specified for particular types of services. It is also important to ensure that licensees offering the same

type of services are subject to the same licensing rights and obligations so that they can compete on a level playing field.

5 Spectrum Assignment

Question: We welcome your views on the adoption of market-based approach for the development of mobile TV services and the assignment of spectrum and the levy of Spectrum Utilisation Fee through auction.

5.1 The CSLNWM Group supports the market-led approach of assigning this spectrum by auction. Since this spectrum is a valuable public resource, auction ensures that this spectrum can be assigned in the most efficient and fair manner. The CSLNWM Group agrees that the Government should auction the relevant spectrum for mobile TV services and the auction should be conducted in the same manner as the 3G auction in 2001. The CSLNWM Group also supports the pre-qualification process to ensure the financial viability of prospective bidders.

5.2 Furthermore, the CSLNWM Group agrees that the level of spectrum utilisation fee should be determined by auction. The Government should set the reserve price of spectrum at rates which are at least the same as the 3G auction in order to create a level playing field between two types of licensees and require the payment of spectrum utilisation fee throughout the validity period of the licence. This will ensure fair competition in the market by providing for similarly structured licence cost basis.

5.3 As mobile TV licensees will be required to go through auction process to obtain spectrum for provision of mobile TV services, the CSLNWM Group does not understand the reason why the Government assigned spectrum to digital terrestrial TV licensees offering similar content services without going through the auctioning process or being required to pay a spectrum utilisation fee. The Government needs to re-consider the inequality of spectrum assignment whereby some licensees are required to pay enormous sums whilst others have not. This regulatory asymmetry is unfair and is not conducive to competition.

6 Licensing Arrangement

Question: We welcome your views on the above two light-handed regulatory approaches, and your suggestions on which approach should be adopted for the development of mobile TV.

6.1 In the Second Consultation Paper, the Government considers that contents in the form of video-on-demand or video streaming delivered over 2.5G or 3G networks are a type of mobile TV services and should be regulated in the same manner as broadcast type mobile TV services. One of the two regulatory approaches proposed by the Government is to amend the Broadcasting Ordinance in order to create a new category of television programme services for reception on the move and license mobile TV services under the Broadcasting Ordinance.

6.2 The CSLNWM Group does not agree to this proposal. With respect to the regulatory regime for content services provided by mobile operators, the Government made it adamantly clear in the Information Memorandum for 3G Mobile Services Licensing³ that *if an audio and video service transmitted over a network is provided over an internet platform, such content will not be regarded as a television programme service and the provider does not therefore need a licence under the Broadcasting Ordinance (Cap. 562) of the laws of Hong Kong*.

6.3 Mobile operators have long been making significant annual payments of spectrum utilisation fee to the Government for the use of 3G spectrum. This payment provides operators with a licence to provide high speed data and multimedia services (such as video streaming, video on demand and contents services, etc.) and also includes the market and statutory obligations that each mobile network operator should reasonably be expected to provide a full array of 3G services in accordance with the existing regulatory regime publicly announced by the Government at the time when the 3G spectrum was auctioned in 2001. Any deviation from this position without compelling reasons would create unnecessary regulatory uncertainty for the mobile industry not to mention the fact that it is effectively distorting the value of what mobile network operators paid large sums of money for when initially purchasing their licences.

6.4 Content services provided by mobile operators are already subject to the regulation by general laws, including the Control of Obscene and

³ Paragraph 2.2.8.2 of the Information Memorandum for 3G Mobile Services Licensing

Indecent Articles Pornography Ordinance (Cap. 390) and the Prevention of Child Pornography Ordinance (Cap. 579). The existing regulations are already in place to safeguard public interests.

6.5 As far as the CSLNWM Group is concerned, in the absence of compelling evidence to justify that the existing regulatory framework is unsatisfactory such as a substantial increase in the proliferation of inappropriate material numbers of complaints against content services provided by mobile operators which demonstrates that the existing regulations have not lived up with the expectation of the public. In fact, they are effective and adequate in regulating content services. From CSLNWM Group's perspective, unless a market failure arises, there is no compelling reason which justifies any additional regulations under the Broadcasting Ordinance for content services provided by mobile operators.

6.6 It should be highlighted that 2.5G or 3G networks of mobile operators are mainly designed for point-to-point transmission but not for the purpose of delivering service in broadcasting mode. Furthermore, content services offered by mobile operators are delivered upon request or demand from customers via a two-way cellular network. In other words, customers have the right to decide what kinds of contents to be viewed on their handsets before receiving them. This mode of transmission is in stark contrast with broadcast type mobile TV and conventional terrestrial TV transmission where television service programmes are pre-programmed and delivered via a one-way

broadcast network from service providers to customers. The means by which content can be viewed is different between video streaming services and broadcasting television services. From this perspective, the CSLNWM Group does not consider it appropriate to apply a regulatory framework under the Broadcasting Ordinance to content services delivered over 2.5G or 3G mobile networks.

6.7 The CSLNWM Group is opposed to the Government's proposal to apply the regulatory framework under the Broadcasting Ordinance to content services offered by mobile operators as this would amount to unnecessary cost of business in terms of compliance and licence fee in an already difficult business environment for 3G services. According to the statistics published on OFTA's website⁴, 3G customers only constituted 19% of the total mobile customers as of January 2008. Obviously, there is room for further development in terms of number of 3G customers. The CSLNWM Group considers that the Government should provide an environment which is conducive to encouraging 3G investments rather than the imposition of unnecessary regulatory regime which is against the Government's long-established light-handed regulatory stance.

6.8 For the reasons given above, the CSLNWM Group strongly objects to the proposal of regulating content services which have been provided by mobile operators for many years as a new category of television programme service under the Broadcasting Ordinance. It is totally inappropriate and unjustifiable to apply a regulatory framework which is

⁴ http://www.ofta.gov.hk/en/datastat/eng_wireless.pdf

designed for broadcasting television services to content services provided by mobile operators. In any event, the Government's decision to make available spectrum for broadcast type mobile TV services and to license the use of spectrum must not in any way affect, restrict or otherwise inhibit the ability of existing mobile operators to provide 2.5G and/or 3G services under the existing regulatory framework.

7 Access to Hilltop Transmission Sites and Geographical Coverage for Broadcast-type Mobile Television

Question: We welcome your views on the requirement that mobile TV services should provide the same geographical coverage as free-to-air broadcasters.

7.1 In the Second Consultation Paper, the Government proposes that the future users of the two currently reserved UHF multiplexes may seek to accommodate their network elements in the hilltop transmission sites of ATV and TVB constructed for the provision for DTT services. As mobile carriers currently offer content services via their 2.5G/3G networks to customers and compete with domestic free-to-air television operators and future broadcast-type mobile TV operators, the CSLNWM opines that the same access rights should also be extended to mobile carrier licensees to establish, maintain, possess, build and operate infrastructure on hilltop sites of Hong Kong in order to provide the

services. This will create a level playing for all operators to compete on equal grounds.

- 7.2 As regards the geographical coverage requirements for broadcast-type mobile TV services, the mobile TV service is in its infancy stage, the demand of which is uncertain. The CSLNWM Group considers that the mobile TV opportunities should be realised through market forces and coverage should be best determined by market demand rather than mandated by regulation.

8 Conclusion

General Observation

- 8.1 As a general rule, the CSLNWM Group recommends a “technology neutral” approach in regard to every spectrum re-allocation and auction – to the extent possible within the overarching ITU-R Table of Allocations and respective national spectrum plan. The exception, in this case, may be the option for deployment of mobile-TV in the L-band – since this is at least consistent with current OfCom planning in UK and also planning in a number of other countries.
- 8.2 In offering to make explicit spectrum bands available for mobile-TV, it is unclear if OFTA will then actively discourage or prohibit the delivery of mobile-TV by other means (e.g. uni-casting or multi-casting using MBMS or in-band IPTV via 3G/4G systems). Instead, we think OFTA should

allow the market to decide how mobile-TV might best be delivered to consumers, instead of tying it to explicit frequency bands.

8.3 In focusing so strongly on broadcast-type services, OFTA appears to be implying an expectation that either DVB-H and MediaFLO will be the leading technology candidates – which itself implies that operators will need to deploy completely new network infrastructure, independent of any existing cellular mobile networks. This represents significant additional capital investment by the industry. Instead, the CSLNWM Group thinks that OFTA should allow the market to decide how best to deliver mobile-TV – including potentially by in-band IP multi-cast technology via current or future 3G/4G services.

8.4 Harmonisation of band usage with other countries is also a very important factor, to facilitate more convenient in-bound and out-bound customer roaming opportunities. So, all candidate bands should be considered in the context of what other countries are planning for these particular bands.

Spectrum Availability

8.5 In mentioning the S-band, we assume that OFTA is referring to the 2.5 GHz band: if so, then it must be emphasised that this band has been identified for more than 5 years for expansion of 3G services – specifically, for the launch of the first ‘super broadband’ (>100 Mbps) systems for metro regions. If Hong Kong were to allow mobile-TV (in

addition to CMMB), it would severely fragment this band that is intended globally to support the 20 MHz channels needed to underpin future very-high-speed wireless IP services expected by business and consumers.

- 8.6 In regard to reserving the segment 2635-2660 MHz for CMMB in Hong Kong, the serious conflict with the most commonly supported band structure⁵ to support future 3G/4G services (eg. LTE), suggests that to further avoid isolating Hong Kong from global technology standards, the unique CMMB assignment should only be implemented within the mainland China regions. So, the CMMB reservation is not supported.

Spectrum Allocation

- 8.7 OFTA proposes that 50% of capacity of each “multiplex” be used to carry mobile-TV (with the remainder for ancillary or other services).. From CSLNWM Group’s perspective, irrespective of the allocation method, the relevant spectrum must be used for provision of broadcasting services and should not be used for bi-lateral or multi-lateral voice communications or video-telephony services.

Spectrum Assignment

- 8.8 We would continue to support the auction method of assignment.

⁵ CEPT proposed band structure, intended to support emerging ‘super-broadband’ (LTE) services: FDD Uplink - 2500~2570 MHz plus FDD Downlink - 2620~2690 MHz, with TDD services in the mid-band gap – 2570~2620 MHz.

8.9 However, we would also support inclusion of a “use-it-or-lose” principle, with target milestones, based on mandating some form of economic exploitation to the benefit of the community.

Licensing Arrangements

8.10 While broadcast mobile-TV is essentially similar to conventional free-to-air television, and should therefore be subject to similar regulations, the multi-cast and unicast method of delivering mobile-TV is still an embryonic service genre and should therefore be afforded a period of minimal regulation in order to evolve unhindered to the point of commercial viability. Otherwise, there is a risk that regulation may inadvertently stifle the full development of the mobile-TV sector before it has found its natural economic and commercial niche.

9 Confidentiality

9.1 The CSLNWM Group does not regard any part of this submission as confidential and has no objection to it being published or disclosed to third parties, however, this submission in its entirety is made on the basis that it is **without prejudice** to the rights of the CSLNWM Group and its associated corporate entities.

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