

TVB's Response to CITB's

Consultation on Digital Broadcasting:
Mobile Television and Related Issues

by

Television Broadcasts Limited

25 April 2007

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1 Policy Objective and Guiding Principles

- 1.1 Television Broadcasts Limited (TVB) supports the Government's policy objective to enhance Hong Kong's position as a regional communications hub. While we also agree with the "market-led" and "technology-neutral" principles in "harnessing the opportunities afforded by technology and creating an enabling environment that promotes innovation, investment and competition for the benefit of the consumer," **we would like to opine that the over-riding principle should be that since spectrum is a public resource, the formulation of the policy framework for utilising such a resource should always be guided by assessing the impact on and in the interest of the general public.** That is the basis on which TVB responds to questions and issues raised in the "Consultation on Digital Broadcasting: Mobile Television and Related Issues" (Mobile TV Consultation) issued by the Communications and Technology Branch (CTB), Commerce, Industry and Technology Bureau (CITB), 26 January 2007.
- 1.2 TVB believes that the four main regulatory aspects of the consultation are inter-related, with (d) Licensing Arrangements being the first and foremost matter under consideration. Once the matter has been considered and decision has been made, there would be implications to the rest of the matters for consultation – (c) Spectrum Assignment and (a) Spectrum Availability and (b) Spectrum Allocation. Henceforth, we would respond to the Mobile TV Consultation in this sequence.

2 Licensing Arrangement

CITB: "We invite comments on whether mobile TV programme services should be licensed under the Broadcasting Ordinance and regulated accordingly through appropriate licensing conditions and codes of practice by the relevant authorities, and if so, how this should be achieved vis-à-vis the current licensing framework."

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2.1 We believe that Mobile TV should not be regulated under the current Broadcasting Ordinance (BO).

2.2 Outside the Jurisdiction of Current BO

We agree with the Government's interpretation of the current BO that Mobile TV would not fall under the current licensing regime and support the arguments for not licensing mobile TV under the BO.

2.3 Current BO Too Restrictive for Growth of Mobile TV

2.3.1 Regulatory and licensing regime under the current BO is too restrictive for a converging media landscape in Hong Kong. With restrictions on cross-category and cross-media ownership and other content restrictions, putting an emerging converging business such as Mobile TV under the current BO would deter the healthy growth and development of the fledgling industry.

2.3.2 A convergence of the telecommunications and television industries would take place in the introduction of Mobile TV in Hong Kong. The scenario for the mobile phone to double up as Mobile TV reception device would be most probable given the 130% mobile phone penetration (9 million subscribers, end of 2006) in Hong Kong and examples of the commercial deployment of Mobile TV in other parts of the world such as Japan and South Korea.

2.3.3 No doubt, to existing operators of TV services, Mobile TV would be a natural extension of their services, enabling the viewers to watch TV anytime anywhere. Mobile TV would be an additional delivery method to deliver their services. It would be more appropriate to follow the current practice of the licensing of 2G and 3G and regulate Mobile TV under the Telecommunications Ordinance (TO) and unified carrier licence (UCL) regime being finalised by Telecommunications Authority (TA).

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2.3.4 Whether the consumers would use a mobile phone or dedicated devices in receiving Mobile TV, it would involve carrier as well as content services yet they are part and parcel of each other. Thus, to facilitate a true convergence, the less regulated and less restricted the better for the industry' s development.

2.3.5 Currently mobile phone companies are offering TV-like audio-visual services via 2G (2.5/2.745G) and 3G. These services are not regulated nor licensed under the BO.

2.3.6 It is envisaged that the future Mobile TV services would be simulcast TV channels of other platforms. These channels would already be governed by regulations under the BO or other regulatory bodies of their country/place of origin. For content specially produced for Mobile TV platforms, they would be governed by general law.

2.4 BO Reviewed to Facilitate Convergence

Furthermore, Mobile TV should not be put under the regulation of the BO since the BO itself would be subject to review to facilitate the converging media landscape as well as its possible inclusion into a new Communications Ordinance under the auspices of the proposed Communications Authority.

3 Spectrum Assignment

CITB: "We invite comments on whether, in pursuance of a market-led approach, we should assign the spectrum available in Band III and L Band and the two SFN multiplexes in the UHF Band for relevant digital broadcasting services by auction with appropriate rollout obligations, and whether a SUF should be charged for such uses."

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3.1 Nature of the Mobile TV Service

Before we consider methods of spectrum assignment, let us understand the nature of Mobile TV as a service from the view of the consumers, the general public.

Experience in all other countries, whether actual commercial launch, such as in South Korea, Japan and the U.K., and extensive commercial trials, e.g., in Australia and Europe, shows that consumers view Mobile TV as:

- ◆ A portable TV that they can enjoy their familiar and favourite TV channels away from their home;
- ◆ A supplier of some new content; and
- ◆ A receiver for radio and data and other services.

Therefore, there would be public expectation associated with Mobile TV services right from the start.

3.2 Beauty Contest More Appropriate Than Auction

While it is more appropriate to put Mobile TV under the regulation of TO and TA and spectrum for telecommunication services were mostly assigned by auction, the method of ***spectrum assignment by auction would not be appropriate for Mobile TV:***

3.2.1 Beauty Contest More Appropriate for Content-Based Services

Unlike unicast 2G and 3G which are deemed as ancillary services for the mobile telephone, **the nature and its associated public expectation renders broadcast Mobile TV a content-based service which warrants a beauty contest method of spectrum assignment –**

- ◆ Auction is purely assignment by financial strength and may not be in the best interest of the public.
- ◆ In the process of the beauty contest, public participation

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through the Government is exercised, in which the Government would act as an arbiter of public interest.

- 3.2.2 As frequency spectrum is a finite public resource, in deciding whether to use public auction or beauty contest for the assignment of spectrum for Mobile TV, the Government must consider: ***Does the community want us to maximise our public revenue from Mobile TV or does the community want us to ensure the most suitable service could be deployed?***

As it is highly unlikely that the spectrum under consideration in this consultation is in demand for cellular or other telephony services, the competing services for the available spectrum would either be Mobile TV, Digital Terrestrial Television (DTT) and/or Digital Radio/Audio Broadcasting (DAB). Of the three, television (DTT) and radio broadcasting have always been assigned through beauty contest. Mobile TV which would encompass public expectation associated with TV and radio broadcasting plus possible data services would similarly warrant spectrum assignment by beauty contest with Government as arbiter in the public interest.

3.3 SUF

As we are of the view that spectrum assignment for Mobile TV should be based on a beauty contest rather than an auction process in order to ensure that the selected operators are the ones who are best able to meet the public interest and the public's expectations, we would propose that the fee charged for the use of the assigned spectrum could be based on either a fixed fee structure analogous to that used for DTT or a share of receipt.

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4 Spectrum Availability and Spectrum Allocation

CITB: “We welcome comment on the above analysis of spectrum availability for digital broadcasting. In particular, we invite comments on whether the spectrum in Band III and L Band and the two SFN multiplexes in the UHF Band should also be made available for mobile TV services, subject to review of the spectrum allocation and assignment arrangement.”

CITB: “We invite comments on the approach [(a) A service neutral approach, (b) A conventional approach and (c) A pro-mobile TV approach] to allocate spectrum resources for the three digital broadcasting services in question. We also welcome any suggestions other than the above three proposed options.”

- 4.1 **TVB is of the view that technical trials and tests should be conducted before the Government finalises what bands should be made available and what approach to use for spectrum allocation for the introduction of Mobile TV in Hong Kong besides factoring in market and international convention considerations.**
- 4.2 **From examples of deployment and commercial trials in other parts of the world, TVB considers as compared with available Band III and L Band, UHF frequencies would be more suitable for the deployment of Mobile TV in Hong Kong. And, a conventional approach should be adopted for spectrum allocation in which the Government would decide on which bands should be made available for Mobile TV and whether spectrum be allocated to DAB, data and other services or ancillary services to Mobile TV.**
- 4.3 **We would like to remind the Government that spectrum reserved for the remaining two SFNs during the simulcast period should not be made available until TVB and ATV have successfully implemented their SFN network. The reserved frequencies may be required to be assigned for use by TVB and ATV to develop**

dual-frequency networks if SFN technology proved not feasible in Hong Kong.

4.4 Technology and Spectrum

Though there are examples around the world of trials and deployment of different Mobile TV technology in the different bands proposed for Hong Kong, tests and trials should be carried out by interested parties together with the involvement of OFTA before spectrum can be made available and allocation plan and policy can be finalised for the deployment of Mobile TV in Hong Kong. Such field trials are necessary because Hong Kong has a unique environment with complex reception challenges caused by dense high-rise building, hilly terrain as well as tidal effects. Another concern would be whether there would be in-band and cross-band interference with existing and proposed services in neighbouring frequencies; and what technology is best suitable for the deployment of what kind of services in which frequency band would need to be trialled and tested.

4.5 Suitability of Band

4.5.1 Subject to the results of field trials, we are of the opinion that the UHF frequencies, especially those below 600 MHz, might be more suitable for the deployment of Mobile TV for Hong Kong than Band III, L Band and S Band for the following reasons:

4.5.1.1 According to the Government's estimates, the available spectrum on UHF could accommodate two multiplexes offering a total of 50 Mobile TV channels as compared with L Band (24 channels) and Band III (12 channels). Also, there would be more frequencies available after analogue switch-off, thus, there would be more bandwidth for development of Mobile TV if it were to be located in the UHF band.

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- 4.5.1.2 The principal hill-top digital terrestrial television (DTT) transmission infrastructure for UHF spectrum currently being developed by TVB and ATV can accommodate part of the Mobile TV transmission network, subject to commercial agreements with operators. This would minimise capital investment for operators and provide efficient utilisation of resources.
- 4.5.1.3 TVB, and, to our knowledge, another operator had conducted small-scale field trials (using DVB-H) for Mobile TV in the UHF band. We have some knowledge, though limited, on the performance of Mobile TV in UHF.
- 4.5.2 Of the two UHF frequencies available, Ch 47 would be more suitable for Mobile TV broadcasting as Ch 62 requires higher infrastructure costs to achieve same coverage and its proximity to the existing GSM 900 band will result in interference to the received signal. Ch 62 could still be reserved for DTT and perhaps for public service broadcasting. RTHK and/or the future public service broadcasting institution(s) could deploy their TV as well as radio channels utilising Ch 62 if the Government has decided that Hong Kong should launch its DTT public service broadcasting network(s) within the simulcast period.
- 4.5.3 Regarding the suitability of Band III, L Band and S Band, we believe that the following considerations would apply to assessing their suitability for Hong Kong's Mobile TV development:

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4.5.3.1 Band III

This band has proven good performance in South Korea and some knowledge on its suitability for Hong Kong can be gleaned from the DAB field trials. Handset choice and availability could benefit from its wide deployment in South Korea (assuming T-DMB is used). However, the antennae for gap fillers would be bigger and heavier than UHF and it would be considerably more difficult to find suitable and available sites as building owners would be more reluctant to allow such structures to be located on their buildings. There would also be aesthetic concerns on the effect of such antennae on Hong Kong's buildingscape.

4.5.3.2 L Band

There is very limited deployment of L Band compared to UHF and Band III worldwide, and this affects handset choice and availability. Also, this band is untested in Hong Kong.

4.5.3.3 S Band

The main advantage of considering S Band for satellite Mobile TV is potential compatibility with the mainland as the State Administration for Film Radio and Television has proposed the use of a China National Standard on S- Band. There is also considerable experience in deployment of S-Band gap fillers in South Korea. However, as with L Band, no testing has been conducted in Hong Kong.

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4.6 Market and Economic Considerations

While the different frequency bands available can be opened for the deployment of Mobile TV and there are different applicable technologies for Mobile TV, radio broadcasting, datacasting and other services, the question is: can the small market in Hong Kong support a Mobile TV industry with different operators operating in the different bands using different networks and applying different technologies?

Market and economic considerations would therefore appear to support a conventional spectrum allocation approach, in which the Government would identify a specific band for the deployment of Mobile TV and possibly standardise the technology to be used.

4.7 International Convention

The Government must study international conventions in the allocation of spectrum and band utilisation before considering whether spectrum available would be suitable for Mobile TV.

4.8 Cross Border Considerations

Besides spectrum co-ordination and planning with Mainland Authorities, the Government must find out which frequency band and what technology would be used for Mobile TV by the Mainland in the Pearl River Delta areas. Cross border convenience is a factor that must also be considered for the successful deployment of Mobile TV in Hong Kong.

4.9 Availability of Choice in Consumer Products

Understanding the above mentioned factors and the Mobile TV deployment plans in other parts of the world would provide a better indication of what consumer products are and would be available in the market in terms of mobile phones and dedicated hand-held reception devices. That would also help in deciding what band would be suitable for mobile TV deployment in Hong Kong.

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- 4.10 We recommend that OFTA and CTB should research and study the above mentioned issues to form the basis for the proposed Mobile TV policy framework in the forthcoming Second Consultation. A technical trial on the different frequency bands with the different feasible technologies would be a priority before finalising the draft Mobile TV policy framework for the Second Consultation.

5 Conclusion and Summary

TVB supports the Government in its endeavours to facilitate the launch of Mobile TV in Hong Kong. We are of the view that:

- 5.1 The general public's benefits should be the over-riding principal consideration besides the "market-led" and "technology-neutral" principle of any policy framework that involve the deployment of content-based services utilising public resources, such as spectrum.
- 5.2 Mobile TV should not be regulated under the current BO. It could be put under the TA's regulation via carrier licences, similar to that of current 2G and 3G services, to facilitate convergence and the development of the new Mobile TV industry.
- 5.3 There are public expectations associated with broadcast Mobile TV service and it is more of a content-based service unlike unicast 2G and 3G which are deemed as ancillary services of basic mobile voice telephony. Spectrum Assignment should not be by auction as in this method, the public's voice would not be adequately heard. Instead, a "beauty contest" type of assignment would be a more suitable method which would involve public participation with Government acting as the arbiter of public interest.
- 5.4 Technical trials of different Mobile TV technologies on the different available bands must be carried out before deciding on the spectrum

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allocation and assignment approach.

- 5.5 All frequencies and bands mentioned could be made available for Mobile TV, contingent upon technical trials; however, the Government must study whether opening all these bands for Mobile TV using different technologies would be beneficial for Hong Kong.
- 5.6 From the physical property of the bands, UHF would be more suitable for the deployment of Mobile TV. It could accommodate more Mobile TV channels, especially after analogue switch-off. There would be more room for expansion for the Mobile TV industry.
- 5.7 Of the UHF frequencies, Ch 47 would be better suited for Mobile TV. The remaining Ch 62 could be reserved for DTT services, such as public service broadcasting, etc.
- 5.8 There are also considerations such as international convention on use of frequencies, cross border considerations and availability of consumer products to be addressed before drafting a policy framework for the Second Consultation.