

**Legislative Council
Panel on Information Technology and Broadcasting**

**Unequal Sharing of the Multiple Frequency Network for
Digital Terrestrial Television Services by
Asia Television Limited and Television Broadcasts Limited**

Purpose

This paper briefs Members on the decision of the Communications Authority (“CA”) regarding the joint application of Asia Television Limited (“ATV”) and Television Broadcasts Limited (“TVB”) for an unequal sharing of the transmission capacity in the Multiple Frequency Network (“MFN”) for Digital Terrestrial Television (“DTT”) services.

Background

Sharing the MFN by ATV and TVB

2. Following the Government’s policy on the provision of DTT services, the former Telecommunications Authority assigned in 2007 (a) one single frequency network (“SFN”) multiplex each to ATV and TVB for the provision of their own DTT services and (b) one MFN multiplex to be shared equally between ATV and TVB for the digital simulcast of their four analogue free-to-air television programme channels, namely Home and World channels by ATV and Jade and Pearl channels by TVB (collectively referred to as “Simulcast Channels”). Among other requirements, Special Condition (“SC”) 3.2 and Schedule 2(A)(ii) of the Fixed Carrier Licences (“FCLs”) issued to ATV and TVB respectively under the Telecommunications Ordinance (Cap. 106) (the “Ordinance”) together specified such requirement for equally sharing the MFN multiplex by ATV and TVB for their DTT services –

SC 3.2 The licensee shall maintain and operate the network for provision of the service in accordance with Schedules 2 and 3 of this licence and any amendments to them as approved by the Authority.

Schedule 2(A)(ii) For Digital Terrestrial Television Transmission – Multiple Frequency Network (shared equally with [Asia Television Limited / Television Broadcasts Limited])

Change of Video Coding in MFN

3. When the Simulcast Channels were initially launched in 2007, television signals of ATV and TVB were transmitted in standard-definition (“SD”) format¹ using the coding scheme of MPEG-2² and the two broadcasters each shared half of the multiplex capacity according to the licence requirements. In October 2012, with the CA’s approval, ATV and TVB changed the coding standard of the Simulcast Channels in the MFN from MPEG-2 to H.264³. As compared to MPEG-2, H.264 is a more efficient coding scheme which (a) allows a programme service to maintain the same picture quality as MPEG-2 but at a lower bit rate; or (b) provides a better picture quality using the same bit rate of MPEG-2. In this connection, TVB upgraded its Pearl channel from SD to high-definition (“HD”) format⁴ right after the change of the coding to H.264 in October 2012.

Contravention of the Licence Requirement on Equal Sharing of MFN Transmission Capacity by ATV and TVB

4. The Office of the Communications Authority (“OFCA”) conducts regular monitoring of the DTT broadcast network, including the MFN. According to OFCA’s measurement records, ATV and TVB each utilised roughly the same bit rate (i.e. at around 9.6 - 9.9 Mbps) in the MFN up to early February 2013. On 8 March 2013, OFCA observed that the bit rate utilised by TVB was increased to 11.3 Mbps (i.e. more than half of the MFN transmission capacity⁵) whereas the bit rate utilised by ATV was decreased to 8.3 Mbps. OFCA also observed that the Jade channel has been upgraded to HD format since 18 March 2013 and the bit

¹ The SD format of DTT services has 720 pixels of horizontal resolution and 576 pixels of vertical resolution in interlaced mode.

² MPEG-2, the second set of standards for video compression and coding developed by an industry body Motion Pictures Expert Group, is an international standard for the generic coding of moving pictures and associated audio information.

³ H.264, also known as MPEG-4 Part 10, is the newer generation video compression and coding technology written by MPEG together with the International Telecommunication Union Telecommunication Standardisation Sector (“ITU-T”) Video Coding Experts Group.

⁴ The HD format of DTT services has 1920 pixels of horizontal resolution and 1080 pixels of vertical resolution in interlaced mode.

⁵ The transmission capacity in the MFN for DTT programme services is about 20 Mbps.

rate utilised by TVB in the MFN multiplex has since been further increased to 11.6 Mbps. As evidenced by OFCA's monitoring records, there has been an unequal use of the MFN transmission capacity between ATV and TVB, which violates the "shared equally" requirement as stipulated under Schedule 2(A)(ii) of the FCLs.

5. In response to OFCA's enquiry, ATV and TVB admitted to their unequal sharing of MFN capacity as revealed by OFCA's monitoring, but denied any breach of SC 3.2 and Schedule 2(A)(ii) in this regard.

6. In the course of the investigation, ATV and TVB informed OFCA that they had entered into a Memorandum of Understanding ("MoU") in January 2013 on their sharing of the MFN capacity. According to the MoU, TVB would lease 1.5 Mbps transmission capacity of the MFN from ATV until the expiry date of their domestic free television programme service licences under the Broadcasting Ordinance (Cap. 562) ("FTV Licences") on 30 November 2015. Nevertheless, there is a clause in the MoU specifying that the MoU will automatically and immediately become null and void if an objection is raised by OFCA or other regulatory bodies. Since ATV and TVB are not permitted to trade the transmission capacity of the MFN which is a scarce public resource under section 32G of the Ordinance, upon learning of the existence of the MoU, OFCA brought the case to the attention of the CA which raised with the two broadcasters in July 2013 its objection to the MoU.

The CA's Decision and Sanction on the Breach of Licence Requirements

7. The CA took a serious view on the unequal sharing of the transmission capacity in the MFN by ATV and TVB without the CA's prior approval. The FCLs provide a mechanism whereby the licensees may seek prior approval from the CA for any changes in their MFN assignment⁶, but ATV and TVB had not done so before effecting the changes between the stations. Having considered the representations submitted by ATV and TVB, the findings of the investigation, and all relevant facts of the case, the CA reached a final decision that ATV's and TVB's failure to equally share the MFN transmission capacity was a breach of the licence conditions under SC 3.2 and Schedule 2(A)(ii) of the FCLs. The CA considered the breach a serious one and decided to

⁶ According to SC 3.3 of the FCLs, the CA may amend Schedules 2 and 3 of the FCL when necessary. Schedule 2 provides the details of the TV transmission network, including the assignment in the MFN.

impose a financial penalty of HK\$200,000 each on both ATV and TVB for the contravention. This is the maximum level of penalty which can be imposed for the first occasion of breach under section 36C of the Ordinance. The CA announced its decision in a press release issued on 12 November 2013. A copy of the CA's final decision is at **Annex**.

Application of ATV and TVB for Licence Amendments

8. In the course of the investigation, ATV and TVB also jointly applied to the CA for amending the relevant licence condition of their FCLs so as to formalise the existing sharing arrangement on the MFN (the "Application").

9. In the Application, ATV confirmed that it would continue to broadcast its Home and World channels in SD format up to November 2015 despite the change of source coding from MPEG-2 to the more efficient H.264 since October 2012 and that it would not require some 1.5 Mbps capacity in the MFN in the meantime. On the other hand, TVB committed in the Application, as a condition for obtaining the CA's re-assignment of 1.5 Mbps transmission capacity, to investing some \$300 million on HD programming for 2013 to 2015, which is in addition to its six-year Investment Plan for 2010 to 2015 as approved by the CA and incorporated in its existing FTV Licence. Specifically, TVB has committed to upgrading its studios and ancillary facilities with the additional investment to cater for HD production, producing in-house HD programmes for both the Jade and Pearl channels, and acquiring HD programmes of various genres for broadcasting on both the Jade and Pearl channels.

The CA's Consideration of the Licence Contravention and the Application

10. It is the CA's view that ATV's and TVB's breach of the relevant licence conditions and their subsequent Application for licence amendments are two separate issues and should be handled under two different processes.

11. On the contravention, the FCLs do provide a mechanism for the two licensees to seek approval from the CA for any changes in their MFN assignment through amendments to their FCLs. Their failure to do so before effecting the changes in the MFN sharing arrangements between themselves constituted a breach of the licence conditions and for

this, they should both be sanctioned. Hence the CA's decision to impose the financial penalty on ATV and TVB.

12. As to the Application, there is no justification for the CA to reject it simply on the basis that ATV and TVB have been sanctioned for their breach of the relevant licence conditions or their failure to seek the necessary prior approvals from the CA. The Application should be considered independently and separately, and on its own merits.

13. In considering the Application, the CA is guided principally by its statutory duty to promote the efficient allocation and use of radio spectrum and the need to protect the interest of the viewing public. It is the CA's views that –

- (a) with ATV's confirmation that it would continue to broadcast its channels in SD format up to November 2015, the 1.5 Mbps transmission capacity in the MFN would continue to be left idle. This would run counter to the CA's statutory duty under section 32G(1) of the Ordinance to promote the efficient allocation and use of the radio spectrum as a public resource of Hong Kong;
- (b) were TVB required to return to the original equal sharing arrangement as specified in its FCL, broadcasting of the Jade or Pearl channel would need to revert back to SD format in place of HD format. This reinstatement would be against the interest of the viewing public who would no longer be able to continue to enjoy the enhanced picture quality of the Jade or Pearl channel; and
- (c) the additional programming investment of some HK\$300 million committed by TVB in support of the Application would provide an increased variety of HD programmes for the benefit of the viewing public for the coming few years.

The CA's Decision on the Application

14. Having carefully considered the above factors, the CA decided, as a temporary measure up to the expiry of the existing FTV Licences of ATV and TVB, to vary the capacity sharing arrangement of the MFN multiplex by withdrawing 1.5 Mbps transmission capacity in the MFN from ATV during the period from 26 November 2013 to 30 November 2015, and re-assigning such capacity to TVB for its continued

broadcast of the Jade and Pearl channels in HD format during the same period. The approval is subject to the condition that TVB shall honour its commitment to the CA in respect of some \$300 million of additional programming investment according to the agreed timeline.

15. The CA issued a press release on 30 November 2013, announcing the approval of the Application and its underlying considerations.

**Office of the Communications Authority
January 2014**

**FINAL DECISION
OF THE COMMUNICATIONS AUTHORITY**

**BREACH BY
ASIA TELEVISION LIMITED AND
TELEVISION BROADCASTS LIMITED
OF SPECIAL CONDITION 3.2 AND SCHEDULE 2(A)(ii) OF
THEIR FIXED CARRIER LICENCE**

Licensees Concerned:	Asia Television Limited (“ATV”) and Television Broadcasts Limited (“TVB”)
Issue:	ATV and TVB shared the transmission capacity of the Multiple Frequency Network (“MFN”) in a way which deviated from the licence requirement of their respective Fixed Carrier Licences (“FCLs”)
Relevant Instruments:	Special Condition (“SC”) 3.2 and Schedule 2(A)(ii) of ATV’s and TVB’s FCLs (No. 045 and No. 044 respectively)
Decision:	Breach of SC 3.2 and Schedule 2(A)(ii) of ATV’s and TVB’s FCLs (No. 045 and No. 044 respectively)
Sanction	Financial penalty imposed
Case Reference:	L/M T 8/13 in OFCA/S/BC/17 C

BACKGROUND

Pursuant to the Implementation Framework for Digital Terrestrial Television Broadcasting announced by the former Commerce, Industry and Technology Bureau (“CITB”) in 2004, ATV and TVB were assigned a total of three digital multiplexes to provide digital terrestrial television (“DTT”) services to the viewing public. They are required to share one MFN multiplex for the digital simulcast of their four analogue free-to-air television programmes. The former Telecommunications Authority, following the policy decision, assigned the MFN multiplex to ATV and TVB on an equal sharing basis for digital simulcast of the four analogue free-to-air television programmes in 2007.

2. SC 3.2 of ATV’s and TVB’s FCLs requires that –

“3.2 The licensee shall maintain and operate the network for provision of the service in accordance with Schedules 2 and 3 of this licence and any amendments to them as approved by the Authority.”

Schedule 2(A)(ii) of ATV’s and TVB’s FCLs further requires that the MFN for DTT transmission shall be shared equally between ATV and TVB.

3 The Office of the Communications Authority (“OFCA”) conducts regular monitoring of the DTT broadcast network, including the MFN. According to the measurement records, ATV and TVB each utilised roughly the same bit rate (i.e. at around 9.6 - 9.9 Mbps) in the MFN from year 2010 to early February 2013.

UNEQUAL SHARING OF TRANSMISSION CAPACITY BY ATV AND TVB AND THEIR REPRESENTATIONS

4. On 8 March 2013, OFCA observed that the bit rate utilised by TVB had increased to 11.3 Mbps (i.e. more than half of the transmission capacity in the MFN multiplex) whereas the bit rate utilised by ATV had decreased to 8.3 Mbps accordingly. OFCA also observed that the Jade channel has been upgraded to HDTV format since 18 March 2013 and the bit

rate utilised by TVB in the MFN multiplex had been further increased to 11.6 Mbps. The transmission capacity in the MFN was therefore found to have been unequally shared between ATV and TVB.

5. While ATV and TVB admitted to the unequal sharing of MFN capacity as revealed by OFCA's monitoring, they denied any breach of SC 3.2 and Schedule 2(A)(ii). They considered that the unequal sharing was permissible under SC 11 of the FCLs, (which obliges sharing of the combined transmitting systems) through commercial negotiation between the parties concerned. They also submitted that the words "shared equally" in Schedule 2(A)(ii) did not refer to MFN capacity and, even if the words had such meaning, it merely reflected the factual status as at the date of amendment of the FCLs. In this connection, following specific enquiries from OFCA, ATV and TVB admitted that they had entered into a commercial arrangement for the unequal sharing of the MFN capacity in early 2013.

6. OFCA completed its investigation and submitted its findings to the Communications Authority ("CA") on 6 July 2013. Having considered the findings of OFCA, the CA issued its Provisional Decision to ATV and TVB on 9 July 2013 and invited ATV and TVB to make representations. ATV and TVB submitted their responses to the CA on 19 August 2013. In view of the fact that the submissions were quoted as "preliminary responses", the CA further requested ATV and TVB to confirm their responses as final or otherwise submit their final representations to the CA. At the request of the CA, ATV and TVB submitted their further representations to the CA on 3 October 2013 followed by clarifications on 9 October 2013.

THE CA'S CONSIDERATION AND DECISION

7. The licence requirements which have been contravened by ATV and TVB are SC 3.2 and Schedule 2(A)(ii) of ATV's and TVB's FCLs.

8. In the Second Consultation Paper on Digital Terrestrial Television Broadcasting in Hong Kong issued by the former CITB ("Second Consultation Paper"), it was specifically mentioned that "*ATV and TVB will share the capacity of this [MFN] multiplex equally*". Both ATV and TVB

were involved in that consultation and, in their joint submission in response to the Second Consultation Paper, they requested the Government to pre-assign a single frequency network each to ATV and TVB in addition to the proposed 50% of the MFN for digital simulcast. In other words, they were fully aware of the requirement for sharing the MFN so that each holds 50% and the meaning of “shared equally” in the amended licence issued in 2007.

9. In addition, the CA has taken into account the following considerations:

- (a) neither ATV nor TVB, both of which are aware of the Second Consultation Paper, have challenged the statement in it as to equal sharing of the MFN capacity;
- (b) it is implicit in the statutory framework contained within the Telecommunications Ordinance (“Ordinance”) that private arrangements in relation to the allocation and use of spectrum are not permitted; it is only the CA which has been conferred with the power to allocate and assign spectrum as well as specify conditions for the use of the assigned spectrum and this is specifically given to it by the Ordinance; and
- (c) spectrum is a scarce and valuable resource and that is why the CA is declared to be the spectrum manager under section 32G of the Ordinance and is vested with the powers to allocate spectrum frequencies under section 32H. The CA has assigned the spectrum for use by ATV and TVB free of charge, for the provision of their respective broadcasting services. The licensees are not permitted to enter into private arrangements regarding the spectrum use especially if it involves commercial benefits.

10. The CA does not accept ATV and TVB’s interpretation of SC 11 of the FCLs. Under SC 11.1, the licensee shall enter into agreements with other licensees to share use of the combined transmitting systems. The “combined transmitting systems” listed in SC 11.5 are only examples of active and passive hardware facilities. The assigned spectrum, which is not the private property of the licensees, is omitted from the facilities listed under SC

11.5 and it is of a very different nature to the hardware listed there which is the private property of the licensees.

11. The CA considers that SC 11 imposes an obligation on ATV and TVB to negotiate and use their reasonable endeavours to enter into agreements to share the use of the combined transmitting systems. There is no restriction on what they may agree nor is there any requirement to obtain the CA's approval for what is agreed. If TVB and ATV's interpretation of SC 11 were correct, it would give them total freedom to enter into commercial arrangements for the allocation of spectrum without the need for obtaining the CA's approval. This would be completely contrary to the statutory framework of the Ordinance. The CA is required under section 32G of the Ordinance to promote the efficient allocation and use of radio spectrum which is a public resource. It is empowered by section 32H to assign frequencies or bands of frequencies and to vary or withdraw them. The Radio Spectrum Policy Framework ("SPF") promulgated by the Government in April 2007 identifies the policy considerations to which the CA should have regard in discharging its spectrum management functions under the Ordinance. There is no suggestion in the Ordinance or the SPF that licensees are permitted by the terms of their licences to deal with spectrum as they wish, and it would subvert the regime for management of this public resource if it was the case.

12. Having considered the findings of OFCA's investigation, and having been satisfied that ATV and TVB have been afforded a reasonable opportunity to make representations, the CA is of the view that ATV and TVB have failed to comply with SC 3.2 and Schedule 2(A)(ii) of their FCLs, by unequally sharing the capacity in the MFN without obtaining the prior approval of the CA.

13. In considering the sanction that it should impose, the CA notes that –

- (a) spectrum is a scarce public resource. The CA has assigned to ATV and TVB the MFN with no spectrum utilisation fee payable, for the development of their respective DTT services;
- (b) the FCLs specifically provide for a mechanism whereby the

licensees may seek approval from the CA for any changes in their MFN assignment;

- (c) there is as yet no Government policy on allowing spectrum trading in Hong Kong. The authority to allocate, assign and withdraw radio spectrum rests with the CA under the Ordinance. Neither the Ordinance nor any conditions of the FCLs permit ATV and TVB to trade the transmission capacity of the MFN between themselves for commercial benefit;
- (d) ATV and TVB have implemented the agreement and, despite the advice of OFCA, put into effect the adjustments to their respective transmission capacity without the authorisation of the CA; and
- (e) the unequal sharing of the transmission capacity between ATV and TVB not only constitutes a breach of the relevant licensing requirements by ATV and TVB, it disregards the CA's statutory role as the manager of spectrum with the power to allocate and assign frequency. It also ignores the fact that the Government has not expressly authorised spectrum trading and indeed has made clear that this is a proposal which needs further consultation and analysis.

14. Having considered the above and all circumstances of this case, the CA considers the breach a serious one and decides to impose a financial penalty of HK\$200,000 each on both ATV and TVB for the contravention.

Communications Authority
November 2013