

**Technical Standard for  
Digital Terrestrial Television Broadcasting Service**

**Statement of the Telecommunications Authority**

**4 June 2007**

**EXECUTIVE SUMMARY**

**Introduction**

According to the implementation framework as promulgated by the Secretary for Commerce, Industry and Technology (SCIT) in July 2004, the two incumbent terrestrial television broadcasters, Asia Television Limited (ATV) and Television Broadcasts Limited (TVB), are required to commence their digital terrestrial television (DTT) services in 2007. In selecting the DTT technical standard for Hong Kong, the SCIT has made it clear that the Government would adopt a market-led approach under which the two broadcasters would propose the preferred standard for assessment by the Telecommunications Authority (TA) in the light of the criteria laid down in the relevant consultation papers issued by the Commerce, Industry and Technology Bureau (CITB).

2. The TA, taking into account of the technical proposals of ATV and TVB, issues this Statement setting out his views and decisions on the transmission standard and receiver specification for DTT service.

**DTT Transmission Standard**

3. The National Standard on DTT, entitled “GB20600-2006: framing structure, channel coding and modulation for digital television terrestrial broadcasting system”, was promulgated in August 2006. ATV and TVB were interested in the standard and conducted a series of technical tests to examine its technical performance. The results of the

technical tests indicated that the DTT broadcasting service based on the National Standard would attain satisfactory results in the specific environment of Hong Kong. In their proposals submitted to the Office of the Telecommunications Authority (OFTA), they suggested unanimously the deployment of DTT broadcasting service based on the National Standard.

4. As to the availability of consumer products, OFTA has conducted a survey with the relevant manufacturers. From the survey result, OFTA is confident that set-top boxes and integrated television sets based on the National Standard and MPEG-2 coding can be made available in bulk quantity within three to six months after the release of the receiver specification. Given the TA is satisfied that the National Standard fulfills all the assessment criteria laid down issued by the CITB, he decides to adopt the National Standard for the transmission of DTT broadcasting service in Hong Kong.

### **DTT Receiver Specification**

5. Hitherto, the National Standard only covers the transmission aspect. The reception standard, which is necessary for the manufacture of DTT receivers, has yet to be issued. To meet the Government's DTT implementation schedule, there is an imminent need to set out a specification of DTT receivers for the local market.

6. In relation to the receiver specification, ATV and TVB have different proposals for source coding. While ATV will code all of its television programmes in MPEG-2, TVB suggests using MPEG-2 as the source coding for the simulcast services on the multi-frequency network (MFN) but using H.264 for new digital services, including HDTV programmes, on its single frequency network (SFN) multiplex. To facilitate the supply of DTT receivers meeting different deployment plans of the two broadcasters and versatile needs of consumers, the TA decides to set out a two-tier specification (i.e., basic-tier and higher-tier) for DTT

receivers. The basic-tier specification will enable the reception of SDTV programmes coded in MPEG-2, including the four existing television programme channels transmitted in digital format. For reception of all SDTV and HDTV programmes on the MFN and SFN multiplexes of ATV and TVB coded in either MPEG-2 or H.264, a higher-tier receiver is needed. Consumers equipped with higher-tier receivers will be able to benefit from more programming choices and higher audio-visual quality.

7. The broadcasters may usher in new applications, such as datacasting and interactive services, with the use of a middleware and a return path. As indicated in their proposals, ATV and TVB do not have a unified view as to whether the middleware as well as the type of telecommunication means should be specified in the receiver specification. Overseas experience shows that datacasting and interactive services are being developed and only a few countries have mandated the middleware and return path in their receiver specifications. The TA is inclined to let the market decide and will not stipulate the relevant requirements in the receiver specification for the time being.

8. OFTA has drafted the two-tier specification for DTT receivers and is finalizing it with the comments received from consumer electronics manufacturers and members of the DTT Reception and Equipment Working Group. The TA is minded to issue such a specification before end June 2007 for the relevant manufacturers to produce compatible consumer products in time for the launch of DTT service within 2007.

**Office of the Telecommunications Authority**

4 June 2007