

**RADIO SPECTRUM AND TECHNICAL STANDARDS
ADVISORY COMMITTEE**

**Proposed Revisions to HKCA Specifications related to
Broadcasting Services**

Introduction

This paper proposes the adoption of the following revised HKCA specifications:

HKCA 1102 Issue 4	Radiation limits and measurement methods for in-building coaxial cable distribution system (IBCCDS)
HKCA 1104 Issue 7	Performance requirements for in-building coaxial cable distribution system (IBCCDS)
HKCA 1105 Issue 6	Technical information for frequency planning of in-building coaxial cable distribution system (IBCCDS)
HKCA 1108 Issue 3	Technical specification for digital terrestrial television baseline receiver requirements

Background

2. The former Telecommunications Authority (“TA”) and the Communications Authority (“CA”) issued specifications related to broadcasting services covering the technical information and requirements for in-building coaxial cable distribution system (“IBCCDS”) and digital television (“TV”) baseline receiver. These specifications include-

- (a) HKCA 1102 which stipulates the measurement methods and radiation limits for IBCCDS;
- (b) HKCA 1104 which sets out the technical requirements for distributing telecommunications, broadcasting and security signals in IBCCDS;

- (c) HKCA 1105 which provides the frequency allocation plan of IBCCDS for various broadcasting and telecommunications services; and
- (d) HKCA 1108 which sets out the baseline requirements for digital terrestrial television (“DTT”) receivers for use in Hong Kong to facilitate the supply of relevant products in the local market.

Major Developments in the Broadcasting Sector

3. Over the past two decades, the broadcasting sector in Hong Kong has undergone significant developments, in particular on TV broadcasting. Following the implementation framework for DTT broadcasting promulgated by the Government in 2004, the two domestic free TV programme service (“Free TV”) licensees launched their DTT services on 31 December 2007. The DTT transmission networks, including the transmitting stations, were rolled out in phases till early 2010s to provide a network coverage on par with that of analogue TV. Subsequently, the analogue TV services were switched off (“ASO”) on 30 November 2020 and Hong Kong has entered an era of full digital television broadcasting since 1 December 2020. In order to realise the digital dividend arising from ASO, all DTT frequency channels operating in the 600/700 MHz bands were migrated to the 500 MHz band on 1 December 2021, thereby freeing up relevant spectrum for provision of high value-added mobile telecommunications services, including 5G. The spectrum in the 700 MHz band has been assigned to mobile network operators in June 2022 for provision of public mobile services. Currently, three Free TV licensees and Radio Television of Hong Kong provide a total of 14 high-definition DTT programme channels and the DTT coverage reaches at least 99% of Hong Kong population.

Harmonised Standard for Cable Networks

4. Since 2002, the European Committee for Electrotechnical Standardization has issued several versions of a harmonised standard covering the equipment, measurement methods and limits of radiation for cable networks, namely –

EN 50083-8

Cable networks for television signals, sound signals and interactive services – Part 8: Electromagnetic compatibility for networks

A number of European countries, including France, Germany, Switzerland and the United Kingdom etc., recognise EN 50083-8 as a national standard.

Removal of Electrical Safety Requirements in Standards and Specifications Prescribed by the CA

5. In June 2022, the Government announced that the Telecommunications (Amendment) Ordinance 2021 (“the Amendment Ordinance”) came into operation to enhance the telecommunications regulatory framework under the Telecommunications Ordinance (Cap. 106) (“TO”) so as to keep it updated and to facilitate the sustainable development of the telecommunications industry. Among others, the Amendment Ordinance amended section 32D of the TO¹, in which the objective of ensuring electrical safety of telecommunications apparatus was removed. In this regard, the electrical safety requirements in HKCA specifications, including HKCA 2001², were removed after the Amendment Ordinance came into force in June 2022. Thereafter, the electrical safety of telecommunications apparatus has been regulated by the Electrical and Mechanical Services Department and the Customs and Excise Department³.

Proposed Revision to HKCA 1102, HKCA 1104, HKCA 1105 and HKCA 1108

6. The CA and the Office of the Communications Authority (“OFCA”) have been working with the relevant broadcasters and industry stakeholders to prepare and coordinate the implementation of technical arrangements for the aforementioned broadcasting developments, in particular, the variation of the spectrum assignments and the reconfiguration of the IBCCDS. In this connection, it is opportune to update the relevant broadcasting specifications in order to cope with the recent changes as mentioned in paragraphs 3 to 5 above. The major revisions to the HKCA specifications are summarised in the ensuing paragraphs.

¹ The original provision of section 32D(1) paragraph (iii) of the TO –
“to ensure safety and health of users and personnel affected by electrical voltages or non-ionising electromagnetic radiation from telecommunications apparatus”
is repealed and substituted by –
“to control the level of non-ionizing electromagnetic radiation that is allowed to be emitted by telecommunications apparatus”.

² The amendment of HKCA 2001 entitled “Compliance Test Specification for Safety and Electrical Protection Requirements for Subscriber Telecommunications Equipment” was discussed in the SSAC meeting in December 2021. For further information of the Amendment Ordinance, please refer to SSAC Paper 5/2021 at https://www.ofca.gov.hk/filemanager/ofca/en/content_751/SSAC_Paper_5_2021.pdf

³ The Electrical and Mechanical Services Department regulates the safety of electrical products which are designed for household use, operating at voltage more than 50 Volts alternating current or 120 Volts direct current, and are supplied in Hong Kong under the Electrical Products (Safety) Regulation (Cap. 406G). The Customs and Excise Department ensures that consumer goods which are ordinarily supplied for private use or consumption in Hong Kong meet the general safety requirement in accordance with the Consumer Goods Safety Ordinance (Cap. 456).

HKCA 1102

7. The radiation limits, including the associated measurement methods, generated by IBCCDS in the frequency ranges 300 kHz – 30 MHz and 30 MHz – 3000 MHz are specified in the prevalent version of HKCA 1102. According to the latest version of EN 50083-8, measurements below 30 MHz are generally not considered useful in the context of cable networks and are difficult to perform in practice. The electromagnetic compatibility measurements below 30 MHz has been removed in EN 50083-8. To align with the harmonised standard, it is proposed to revise HKCA 1102 by removing the relevant radiation requirements for the 300 kHz – 30 MHz band. Having considered the existing radiation limits in HKCA 1102, it is proposed to generalise the requirement by drawing reference to EN 50083-8. The proposed revised HKCA 1102 is given in **Annex A**.

HKCA 1104

8. To align with the amendment of section 32D of the TO, it is proposed to revise HKCA 1104 by removing the electrical safety requirements. The proposed revised HKCA 1104 is given in **Annex B**.

HKCA 1105

9. The frequency allocation plan of the IBCCDS in Annex 1 to HKCA 1105 and the typical values of the effective radiated power of transmitters operating outside the broadcasting bands are updated according to the latest implementation situation. The proposed revised HKCA 1105 is given in **Annex C**.

HKCA 1108

10. Having regard to the development of DTT receivers in recent years, apart from removing the electrical safety requirements to align with the amendment of section 32D of the TO, it is also proposed to remove the 16:9 signal handling requirements for the integrated TV receiver with 4:3 display as few receivers of such type exist in the market. Furthermore, considering TV sets largely have their radio frequency and audio-visual interfaces common to each other and ever-evolving, it is proposed to set out only the minimum signal output functions for DTT set-top boxes, leaving manufacturers to decide on the types of the interfaces to be compatible with those commonly used on TV sets. The proposed revised HKCA 1108 is given in **Annex D**.

WTO Notification

11. As the revisions to HKCA 1102, HKCA 1104 and HKCA 1108 mainly draw reference to open standards and remove the existing requirement on electrical safety, whereas the revision to HKCA 1105 reflects the factual information, notification to the World Trade Organization (“WTO”) is not necessary.

Recommendation

12. It is recommended to adopt HKCA 1102 Issue 4, HKCA 1104 Issue 7, HKCA 1105 Issue 6 and HKCA 1108 Issue 3 with effect from 1 February 2023.

Advice Sought

13. Members are invited to offer comments on the recommendation above.

Office of the Communications Authority
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