

**Creation of a Class Licence for
Regulating the Use of and Trade in 60 GHz Devices under
Section 7B(2) of the Telecommunications Ordinance (Chapter 106)**

Consultation Paper

5 August 2016

INTRODUCTION

The 57 – 66 GHz band (“the 60 GHz band”) has been deployed in overseas jurisdictions for some time for short-range applications covering remote control, alarms, low power and short duration data transmissions, etc., which typically require a low data throughput. Radiocommunications technologies and equipment have emerged lately which allow ultra fast data transfer at a rate of multiple gigabits per second over short distance using radio frequencies in the 60 GHz band. Typical applications are wireless connection for audio-video equipment and wireless broadband Internet access similar to the existing Wi-Fi access.

2. With a view to regulating the use/possession of and trade in radiocommunications equipment operating in the 60 GHz band (“60 GHz Devices”) in Hong Kong, the Communications Authority (“CA”) proposes to create a class licence pursuant to section 7B(2) of the Telecommunications Ordinance (Cap 106) (“TO”). This paper seeks to consult the public and the industry on the CA’s proposal.

3. For the avoidance of doubt, views expressed on matters covered in this paper are for the purpose of discussion and consultation only. Nothing in this paper represents or constitutes a decision made by the CA. The consultation contemplated by this paper is without prejudice to the exercise of powers by the CA under the TO.

BACKGROUND

Relevant Statutory Provisions on the Creation of Class Licence

4. Under section 8(1) of the TO, save under and in accordance with a licence granted by the Chief Executive in Council or with the appropriate licence granted or created by the CA, no person shall in Hong Kong or on board any ship, aircraft or space object that is registered or licensed in Hong Kong –

- (a) establish or maintain any means of telecommunications; or
- (aa) offer in the course of business a telecommunications service; or
- (b) possess or use any apparatus for radiocommunications or any apparatus of any kind that generates and emits radio waves notwithstanding that the apparatus is not intended for radiocommunications; or
- (c) deal in the course of trade or business in apparatus or material for radiocommunications or in any component part of any such apparatus or in apparatus of any kind that generates and emits radio waves whether or not the apparatus is intended, or capable of being used, for radiocommunications; or
- (d) demonstrate, with a view to sale in the course of trade or business, any apparatus or material for radiocommunications.

5. Under sections 7B(1) and 7B(2) of the TO, the CA may create a class licence for telecommunications networks, systems, installations or services, with the class licence giving a person the right to carry on the activities specified therein that are prohibited under section 8(1) of the TO except under a licence, subject to the conditions of the class licence. Before creating a class licence, pursuant to section 7B(3) of the TO, the CA shall (a) by notice in the Gazette invite members of the public who are interested to make representations by a date not less than 21 days after the notice is published and as specified in the notice; and (b) consider the representations received by the date.

Class Licensing

6. Class licensing is commonly used by telecommunications regulators to license telecommunications networks, systems, installations or services which share the use of a limited set of common frequencies under a common set of conditions. A class licence sets out the conditions under which any person is permitted to operate the telecommunications networks, systems, installations or services. It is not issued to an individual user and does not involve licence fees, and there is minimal licence administration by the regulators. The former Telecommunications Authority has adopted the class licensing approach since 2002 to regulate the use of telecommunications networks, systems, installations or services by the general public, such as public wireless local area networking services, in-building

telecommunications systems, 27 MHz citizens band radio stations, and 433 MHz short-range devices, etc.

7. In addition to creating class licences for the establishment, maintenance, possession and use of any means of telecommunications, section 7B(1) of the TO also empowers the CA to create class licences for regulating dealings in the course of trade or business in and demonstration, with a view to sale in the course of trade or business, of radiocommunications equipment.

Industry and Market Development on 60 GHz Devices

8. In 2015, the International Telecommunication Union (“ITU”) published Recommendation ITU-R M.2003-1 entitled “Multiple Gigabit Wireless Systems in Frequencies around 60 GHz”. This ITU recommendation sets out three standards to facilitate the development of 60 GHz Devices, namely IEEE 802.11ad, IEEE 802.15.3c and ISO/IEC 13156. The corresponding commercial implementations of these three standards are WiGig, WirelessHD and ECMA-387 respectively.

9. WiGig is a standard developed by the former Wireless Gigabit Alliance¹, serving to extend Wi-Fi capability to support multiple gigabit data rate applications². Notebook computers, computer peripherals and wireless routers featuring WiGig are now available in overseas markets. WirelessHD is a standard developed by the WirelessHD Consortium³ to cover the application requirements of transmitting high-definition multimedia signal between consumer electronics such as television sets, video players, etc., using wireless means instead of the existing wired connection. Video projectors and audio-video transceivers featuring WirelessHD are now available in overseas markets. As for ECMA-387, there is little presence of its commercial products on market as of today.

¹ The Wireless Gigabit Alliance was a US trade association that developed and promoted the adoption of multi-gigabit per second speed wireless communications technology operating over the unlicensed 60 GHz band. The alliance was subsumed by the Wi-Fi Alliance of the US in March 2013.

² Wi-Fi equipment operating in the 2.4 GHz and the 5 GHz bands commonly used today supports a data rate up to about 1 Gbit/s whereas similar equipment operating in the 60 GHz band supports a data rate up to 7 Gbit/s.

³ WirelessHD is a proprietary standard owned by Silicon Image for wireless transmission of high definition video content for consumer products. The WirelessHD Consortium currently has over 40 adopters. Key members behind the specification include Broadcom, Intel, LG, Panasonic, NEC, Samsung, SiBEAM, Sony, Philips and Toshiba. The founders intend the technology to be used for consumer electronic devices, personal computers and portable devices.

PROPOSAL

The Proposed Licensing Regime

10. The Office of the Communications Authority (“OFCA”) has received request from the industry to consider using the 60 GHz band for the deployment of WiGig devices. In anticipation that 60 GHz Devices as well as consumer products with embedded 60 GHz Devices will be available in Hong Kong in the very near future, the CA considers it timely to put in place a licensing regime for the use of and trade in 60 GHz Devices with a view to enabling the public to use, and the industry to trade, 60 GHz Devices in Hong Kong.

11. A requirement to license individually the sheer number of 60 GHz Devices for use in Hong Kong will take time and create administrative burden on both the applicants and the CA as the licensing authority. The class licence is considered an appropriate vehicle to regulate the use of 60 GHz Devices in view of the low chance of interference with other radiocommunications apparatus. The creation and maintenance of the class licence will only require limited administrative efforts. **The CA therefore proposes to create a class licence under section 7B(2) of the TO to regulate the use of 60 GHz Devices.** According to OFCA’s research, many European countries, the United States, Mainland China, Australia, Japan, South Korea and Singapore allow the use of the 60 GHz band for short-range applications based on a light-handed licensing regime such as licence exemption or class licensing. Regulating the use of 60 GHz Devices using class licence is therefore in line with the international regulatory practice.

12. As regards regulation of the related trading activities, in view of the fact that 60 GHz Devices are mainly Wi-Fi routers featuring WiGig and audio-video equipment embedded with WirelessHD module for home use, such consumer products will be widely available for sale in the local market. Under the current legislation, a person who deals in the course of trade or business in or demonstrate, with a view to sale in the course of trade or business, 60 GHz Devices will require a Radio Dealers Licence (Unrestricted)⁴. To facilitate the trading of 60 GHz Devices in the local market, **the CA proposes that the class licence to be created should also cover various trading activities**, including the related sale and demonstration activities,

⁴ A Radio Dealers Licence (Unrestricted) authorises the licensee to possess and deal in the course of trade or business in apparatus or material for radiocommunications or in any component parts thereof, subject to the conditions set out in the licence.

which would otherwise be subject to individual licensing requirements under the radio dealers licensing regime⁵.

The Class Licence

13. The proposed class licence is at **Appendix 1**. It authorises a person to establish, maintain, possess, use, deal in the course of trade or business in or demonstrate, with a view to sale in the course of trade or business, 60 GHz Devices, without the need to take out an individual licence. The major conditions and technical requirements of the proposed class licence are given below –

- (a) the proposed class licence does not authorise provision of any public telecommunications service with the use of 60 GHz Devices (which will be subject to separate consideration by the CA);
- (b) 60 GHz Devices shall share use the same frequency band with other legitimate devices and applications in an uncoordinated and unprotected manner. That is to say, users shall not be protected from harmful interference and shall use the frequency band in such a way as to cause no harmful interference with other lawful telecommunications service or apparatus; and
- (c) 60 GHz Devices must comply with a new specification HKCA 1074 entitled “Performance Specification for Radiocommunications Apparatus Operating in the 60 GHz Band”⁶ devised by OFCA. The proposed specification HKCA 1074 is given in **Appendix 2**.

⁵ Sales outlets of mobile phone and Wi-Fi devices are not required to hold a Radio Dealers Licence (Unrestricted) as the trading of these radiocommunications apparatus are exempted from the licensing obligations under the Telecommunications ((Telecommunications Apparatus) (Exemption from Licensing) Order (Cap 106Z).

⁶ In preparation of the specification HKCA 1074, OFCA has consulted the Radio Spectrum and Technical Standards Advisory Committee at its meeting held on 2 June 2016.

INVITATION OF VIEWS AND COMMENTS

14. The CA invites views and comments on the creation of the class licence, and the terms and conditions therein, as proposed in this consultation paper. After considering the views and comments received, the CA will finalise the regulatory framework for 60 GHz Devices and the class licence.

15. Any person wishing to respond to the public consultation should do so on or before 2 September 2016. The CA may publish all or part of the views and comments received, and disclose the identity of the source in such manner as the CA sees fit. Any part of the submissions considered commercially confidential should be clearly marked. The CA would take such markings into account in making the decision as to whether or not to disclose such information. Submissions should be sent to –

Office of the Communications Authority
29/F Wu Chung House
213 Queen's Road East
Wanchai, Hong Kong

Attention: Senior Telecommunications Engineer
(Spectrum Planning) 1

Fax: 2803 5112

Email: spenq@ofca.gov.hk

An electronic copy of the submission should be provided by email to the address indicated above.

Office of the Communications Authority
5 August 2016

[DRAFT]

**TELECOMMUNICATIONS ORDINANCE
(Chapter 106)**

CLASS LICENCE

60 GHz DEVICE

The Communications Authority, in exercise of the powers conferred on it by sections 7(5) and 7B(2) of the Telecommunications Ordinance (Chapter 106), issues this Licence on this [] day of [, 2016].

1. Interpretation

1.1 In this Licence –

“60 GHz Device” means a radio station as described in the Schedule to this Licence;

“Authority” means the Communications Authority established by section 3 of the Communications Authority Ordinance (Chapter 616);

“Licensee” means a person licensed under Condition 2 of this Licence;

“Ordinance” means Telecommunications Ordinance (Chapter 106); and

“Telecommunication Convention” means any Constitution and Convention of the International Telecommunication Union and the Radio Regulations annexed thereto, which have from time to time or at any time been acceded to by or applied to Hong Kong.

1.2 Any word or expression used in this Licence shall, unless otherwise provided, have the same meaning as it has in the Ordinance or regulations made under the Ordinance.

1.3 For the purposes of interpreting this Licence, headings and titles shall be disregarded.

2. Grant of Licence

- 2.1 Subject to the terms and conditions of this Licence, a person is licensed to establish, maintain, possess, use, deal in the course of trade or business in and demonstrate, with a view to sale in the course of trade or business, the 60 GHz Devices.

3. General

- 3.1 This Licence shall not be construed as granting an exclusive right to the Licensee.
- 3.2 This Licence replaces any licence or any exemption from licensing for the establishment, maintenance, possession and use of, dealing in the course of trade or business in and demonstration, with a view to sale in the course of trade or business, of the 60 GHz Device, however described, which the Authority may have granted to the Licensee.
- 3.3 This Licence shall remain in full force unless expressly revoked by the Authority.

4. Compliance Generally

- 4.1 The Licensee shall comply with the Ordinance, regulations made under the Ordinance, licence conditions or any other instruments which may be issued by the Authority under the Ordinance and such guidelines or codes of practices which may be issued by the Authority as in its opinion are suitable for the purpose of providing practical guidance on any particular aspect of any conditions of this Licence.
- 4.2 The Licensee shall observe and comply with all provisions of the Telecommunication Convention relevant to the 60 GHz Device.
- 4.3 The Licensee shall not use the 60 GHz Device to provide a public telecommunications service, except under and in accordance with a licence granted by the Authority.

5. Interference

- 5.1 Where the Licensee establishes, operates, maintains or uses the 60 GHz Device, the Licensee shall take reasonable measures to do so in such a way as to cause no direct or indirect harmful interference with any lawful telecommunications service or any telecommunications apparatus licensed or authorised under the Ordinance. Where the Licensee deals in or possesses any 60 GHz Device, the Licensee shall ensure compliance with Condition 6.
- 5.2 The Authority may give such reasonable directions as it thinks fit to prevent any direct or indirect harmful interference referred to in Condition 5.1. The Licensee shall comply with the directions.
- 5.3 The Licensee shall make the 60 GHz Device available for inspection and testing, if so required, by any person authorised for the purpose by the Authority.
- 5.4 The Licensee should be aware that the frequencies allocated to the 60 GHz Device are shared with other applications in an uncoordinated manner and not protected from harmful interference caused by other telecommunications installations or radio equipment operating in accordance with the provisions of the Ordinance, or regulations or orders made under the Ordinance.

6. Technical Criteria

- 6.1 The Licensee shall ensure that at all times they establish, maintain, operate, use, deal in the course of trade or business in, and demonstrate, with a view to sale in the course of trade or business, the 60 GHz Device which fully complies with the technical criteria specified in the Schedule.

SCHEDULE

60 GHz Device

A 60 GHz Device under this Licence refers to a radio station for short range radiocommunications. The 60 GHz Device shall comply with the technical criteria below and the technical specification HKCA 1074 issued by the Authority pursuant to section 32D of the Ordinance.

Technical Criteria

Frequency band: 57 – 66 GHz

Maximum power: 40 dBm Equivalent Isotropically Radiated Power

[DRAFT]

**PERFORMANCE SPECIFICATION FOR
RADIOCOMMUNICATIONS APPARATUS
OPERATING IN THE 60 GHz BAND**

FOREWORD

1. This specification is prescribed under section 32D of the Telecommunications Ordinance (Cap 106) (“the Ordinance”) to set out the technical and evaluation requirements for radiocommunications apparatus operating in the frequency range 57 – 66 GHz (the “60 GHz band”). Radiocommunications apparatus falling into the scope of this specification shall meet the stipulated requirements.
2. Under the Ordinance, the possession or use of any radiocommunications apparatus or any apparatus emitting radio frequency energy must be covered by an appropriate licence issued by the Communications Authority (CA) with the exception of those specifically exempted from licensing under the Ordinance, such as those covered by the Telecommunications (Telecommunications Apparatus)(Exemption from Licensing) Order.
3. At present, the Office of the Communications Authority (OFCA) operates a Hong Kong Telecommunications Equipment Evaluation and Certification (HKTEC) Scheme. Details of the HKTEC Scheme can be found in the information note OFCA I 421. Under the Scheme, suppliers or manufacturers of the radiocommunications apparatus may apply for certification of their apparatus against this specification. The application procedures for certification of radiocommunications apparatus can be found in the information note OFCA I 401. A prescribed label may be affixed to the certified equipment. Details of the labelling arrangement can be found in the Standardisation Guide HKCA 3211.
4. The CA may amend any part of this specification as and when it deems necessary.
5. In case of doubt about the interpretation of this specification, the methods of carrying out the test and the validity of statements made by the equipment manufacturers or suppliers about the equipment, the decision of the CA shall be final.
6. The HKCA specifications and information notes issued by the CA can be downloaded from OFCA’s website at <http://www.ofca.gov.hk>. Enquiries about this specification may be directed to:

Senior Telecommunications Engineer
Standards Section
Office of the Communications Authority
29/F Wu Chung House
213 Queen’s Road East
Wanchai
Hong Kong

Fax : +852 2838 5004
Email : standards@ofca.gov.hk

AMENDMENT HISTORY

Item	Issue No.	Paragraph	Descriptions
1.	Issue 1 [Date]	All	First release

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- 2. ELECTRICAL SAFETY REQUIREMENTS**
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1. SCOPE OF SPECIFICATION

This specification sets out the minimum performance requirements for radiocommunications apparatus operating in the 57 – 66 band (the “60 GHz band”) (hereafter referred to as “the equipment”).

2. ELECTRICAL SAFETY REQUIREMENTS

If the equipment is for connection to the public telecommunications networks, it shall comply with the electrical safety requirements set out in HKCA 2001 “Compliance Test Specification - Safety and Electrical Protection Requirements for Subscriber Telecommunications Equipment” issued by the Communications Authority (CA).

3. TECHNICAL REQUIREMENTS

3.1 The equipment shall operate in the 57 – 66 GHz frequency range.

3.2 The equipment shall meet the technical requirements and power levels in accordance with one of the following standards:

- (i) ETSI EN 302 567 “Broadband Radio Access Networks (BRAN); 60 GHz Multiple-Gigabit WAS/RLAN Systems; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive” and the maximum e.i.r.p. is 40 dBm;
- (ii) ETSI EN 305 550-2 “Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 40 GHz to 246 GHz frequency range; Part 2: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive” and the maximum e.i.r.p. is 20 dBm; and
- (iii) Code of Federal Regulations (USA); Title 47 Telecommunication; Chapter 1 Federal Communications Commission, Part 15 Radio Frequency Devices; Section 15.255 and the maximum e.i.r.p. is 40 dBm.

4. EVALUATION REQUIREMENTS

Compliance of the equipment with the technical requirements shall be evaluated in accordance with the procedures specified in the standard given in clause 3.2 (i) or (ii) or (iii) above.

5. REFERENCE

- (i) ETSI EN 302 567 “Broadband Radio Access Networks (BRAN); 60 GHz Multiple-Gigabit WAS/RLAN Systems; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive”

- (ii) ETSI EN 305 550-2 “Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 40 GHz to 246 GHz frequency range; Part 2: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive”
- (iii) Code of Federal Regulations (USA); Title 47 Telecommunication; Chapter I Federal Communications Commission, Part 15 Radio Frequency Devices; Section 15.255

- END -