

**Guidelines for Submission of Applications
for Assignment of Shared Spectrum
in the 26 GHz and 28 GHz Bands
under the Localised Wireless Broadband System (Private) Licence**

10 December 2021 (Issue 1)

Section I – Introduction

- 1.1 In accordance with the Statement of the Communications Authority (“CA”) and the Secretary for Commerce and Economic Development (“SCED”) published on 13 December 2018 (“Statement”)¹, of the 4 100 MHz of spectrum in the 26 GHz band (24.25 – 27.5 GHz) and the 28 GHz band (27.5 – 28.35 GHz) (collectively referred to as the “26/28 GHz bands”) allocated to mobile service, 400 MHz may be assigned on a non-exclusive and geographically sharing basis (“Shared Spectrum”) for the provision of innovative wireless broadband services in specified locations of the territory. The CA further announced on 10 December 2021 that the Shared Spectrum may also be assigned for the establishment and maintenance of wireless broadband systems solely for private use in specified locations of the territory (“Private System”). These Guidelines provide guidance for submitting applications by interested parties for assignment of the Shared Spectrum under the Localised Wireless Broadband System (Private) (“LWBS (Private)”) Licence for the establishment and maintenance of a Private System and the relevant licensing arrangements.
- 1.2 These Guidelines are issued under section 6D(2)(a) of the Telecommunications Ordinance (Cap. 106) (“TO”). They indicate the manner in which the CA will perform its function of determining applications for assignment of the Shared Spectrum in the 26/28 GHz bands for the establishment and maintenance of a Private System under the LWBS (Private) Licence. Parties interested in the assignment of

¹ The Statement is available at:
https://www.coms-auth.hk/filemanager/statement/en/upload/480/joint_statement_st_052018.pdf.

the Shared Spectrum under the LWBS (Private) Licence are invited to submit applications to the CA in accordance with these Guidelines, which should be read in conjunction with the relevant policy and regulatory documents hereafter referred to. For the avoidance of doubt, parties interested in applying for assignment of the Shared Spectrum for provision of innovative **public** wireless broadband services to third party (i.e. other than the applicant itself) in specified locations of the territory should refer to the “*Guidelines for Submission of Applications for Assignment of Shared Spectrum in the 26 GHz and 28 GHz Bands under the Localised Wireless Broadband Service Licence*”² for details.

- 1.3 All applications received will be evaluated on their merits having regard to the information provided as required in Section IV and to the broad licensing criteria outlined in Section V of these Guidelines.
- 1.4 Applicants should ensure that all information contained in their applications and any other subsequent submissions and representations are correct and accurate in all respects, in reliance upon which the CA will consider the applications. The CA may cancel, withdraw or suspend the LWBS (Private) Licence granted and/or the frequency assignment if any information submitted by the applicant is false or misleading.
- 1.5 Applications should be **submitted in English in triplicate** under confidential cover and reach the Office of the Communications Authority (“OFCA”) at the following address. An electronic copy of the application form and the supporting documents should also be provided and sent to the following email address –

Office of the Communications Authority
29th Floor, Wu Chung House
213 Queen’s Road East
Wanchai
Hong Kong
(Attn.: Head, Regulatory 2)
Email: apply-26-28GHz-shared-PrivateLWBS@ofca.gov.hk

² The Guidelines are available at:
<https://www.coms-auth.hk/filemanager/statement/en/upload/575/gn172021.pdf>.

- 1.6 Applicants will receive the acknowledgement of receipt of applications. The CA may request the applicants to provide additional information to clarify or supplement their applications submitted.
- 1.7 The CA reserves the right to disclose the names of the parties who have submitted applications. All other information received will be treated in confidence. Where the CA proposes to disclose any information in an application which may be considered as commercially sensitive information, the CA will give the applicant an opportunity to make representations on the proposed disclosure before the CA makes a final decision on whether or not to disclose the information.
- 1.8 Nothing in these Guidelines should be taken to bind the CA on the granting of any spectrum assignment and licence, the terms of any licence to be granted, or any particular course of action in relation to the handling of applications received. The CA reserves the right not to accept any application submitted.

Section II – The Regulatory Framework under the LWBS (Private) Licence

Introduction

- 2.1 The LWBS (Private) Licence is created for the establishment and maintenance of a Private System for wireless data-centric communications in specified locations of the territory using the Shared Spectrum based on fifth generation (“5G”) or other advanced mobile technologies. A licensee under the LWBS (Private) Licence is not allowed to deploy the spectrum assigned to provide any public telecommunications services.

Shared Use of Radio Spectrum

- 2.2 According to section 32H of the TO, the CA is empowered to allocate and manage frequencies and bands of frequencies in all parts of the radio spectrum used in Hong Kong. In April 2007, the Government promulgated the Radio Spectrum Policy Framework³ for the management of radio spectrum in Hong Kong. As set out in the Radio Spectrum Policy Framework, there is no legitimate expectation that there will be any right of renewal or right of first refusal of any licence or spectrum assignment upon the expiry of a licence or spectrum assignment.
- 2.3 As the Shared Spectrum will be assigned on a non-exclusive and geographically sharing basis, spectrum in the same frequency range may be assigned for use by the other assignees at different locations.
- 2.4 The use of the Shared Spectrum assigned under the LWBS (Private) Licence may be subject to the payment of spectrum utilisation fee (“SUF”) (see Section III for details).

³ The Radio Spectrum Policy Framework is available at:
<https://www.cedb.gov.hk/assets/resources/ccib/policies/spectrum.pdf>.

Use of Numbers

- 2.5 Pursuant to section 32F of the TO, the CA has issued the “*Numbering Plan for Telecommunications Services in Hong Kong*” (“Hong Kong Numbering Plan”)⁴.
- 2.6 As the Private System established and maintained under the LWBS (Private) Licence is for the licensee’s own wireless data centric communications, and provision of public telecommunications services is not allowed, a licensee of the LWBS (Private) Licence will not be allocated mobile subscriber numbers from the numbering plan of Hong Kong. Allocation of the other numbers and codes will be considered on a case-by-case basis in accordance with the relevant guidelines and codes of practices issued by the CA⁵.

Technical Standards

- 2.7 Pursuant to section 32D of the TO, the CA may from time to time prescribe standards and specifications of telecommunications networks, systems, installations, customer equipment and services, etc.⁶. Licensees are obliged to observe these specifications, where applicable, for the establishment and maintenance of their Private Systems. Applicants should refer to these specifications⁷ before submitting their applications.

⁴ The Hong Kong Numbering Plan is available at:
https://www.ofca.gov.hk/filemanager/ofca/en/content_311/no_plan.pdf.

⁵ The code of practice relating to the use of numbers and codes in the Hong Kong Numbering Plan is available at: https://www.coms-auth.hk/filemanager/statement/en/upload/385/cop-numbering_e.pdf.

⁶ A full list of HKCA Specifications is available at:
https://www.ofca.gov.hk/en/industry_focus/standards/tel_standards/hkca/index.html.

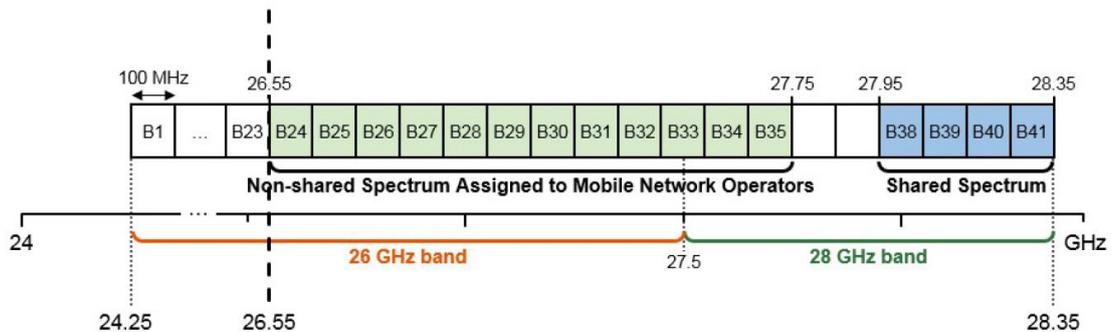
⁷ A list of radio equipment specifications is available at:
https://www.ofca.gov.hk/en/industry_focus/standards/tel_standards/hkca/radio_equipment_specifications/index.html.

Section III – Assignment of Shared Spectrum and Licensing Arrangements

Spectrum Available for Application and Spectrum Cap

- 3.1 The CA has made available 400 MHz of spectrum in the frequency range of 27.95 – 28.35 GHz (i.e. slots B38 – B41 with channel bandwidth of 100 MHz each in the band plan for the 26/28 GHz bands depicted in Figure 1 below) for assignment as Shared Spectrum to successful applicants to, inter alia, establish and maintain Private Systems.

Figure 1: Band Plan for the 26/28 GHz Bands



- 3.2 Assignment of the Shared Spectrum under the LWBS (Private) Licence to a successful applicant will be subject to a spectrum cap of 400 MHz. The actual amount of spectrum to be assigned by the CA to an applicant will depend on the merits of its application and the availability of the Shared Spectrum in its intended system operation areas.

Localised System Coverage

- 3.3 A licensee under the LWBS (Private) Licence shall deploy the spectrum assigned to it for the establishment and maintenance of a Private System in specified locations in accordance with the intended system operation areas of its application and subject to a limit on total system coverage of no greater than one square kilometre under each LWBS (Private) Licence. An applicant is required to provide information about its proposed system coverage in its application.

- 3.4 The locations of system coverage, after approval by the CA, will be specified in the relevant schedule(s) of the LWBS (Private) Licence to be granted. The restriction on system coverage shall be observed at all times during the validity of the LWBS (Private) Licence.

Eligible Applicants

- 3.5 Assignees of the spectrum in the 26/28 GHz bands set aside for the provision of large scale public mobile services in any location of the territory (“Non-shared Spectrum”) will not be eligible to apply also for assignment of the Shared Spectrum under the LWBS (Private) Licence. An applicant must declare in the application form whether it is an assignee of the Non-shared Spectrum.

Priority of Assignment

- 3.6 Assignment of the Shared Spectrum will be made on a first-come-first-served basis across all applications for the LWBS (Private) Licence and the Localised Wireless Broadband Service Licence. The CA will review the amount of the Shared Spectrum applied for by an applicant, taking into account the proposed scope and coverage of the Private System, the number of LWBS devices to be connected to the Private System, and other relevant information to determine the amount and frequency ranges to be assigned to it.

Granting of Licence

- 3.7 Each successful applicant of the Shared Spectrum will be granted with an LWBS (Private) Licence to effect the spectrum assignment. An applicant of the LWBS (Private) Licence shall be an entity registered in Hong Kong under the Companies Ordinance (Cap. 622) or the Business Registration Ordinance (Cap.310); or an organisation registered in Hong Kong under any other ordinances. There is no foreign ownership restriction. There is no pre-set limit on the number of LWBS (Private) Licences to be issued.

Period of Spectrum Assignment and Validity of Licence

- 3.8 Assignment of the Shared Spectrum, as well as the associated LWBS (Private) Licence, will be valid for a period of five years from its effective date, and may be extended at the discretion of the CA for a further period of up to five years. The assignment of frequency spectrum shall not prejudice the generality of the power exercisable by the CA under the TO including section 32H. For the avoidance of doubt, there is no legitimate expectation of any right of renewal or right of first refusal upon expiry of the spectrum assignments.

Licence Conditions

- 3.9 Licence conditions of the LWBS (Private) Licence, as given in the sample LWBS (Private) Licence published on the CA's website⁸, include the General Conditions and Special Conditions ("SCs"). The CA may also impose additional SCs specific to each LWBS (Private) licensee as may be appropriate.

Scope of the Private System

- 3.10 The scope of the Private System licensed under the LWBS (Private) Licence refers to a private wireless communications system established and maintained through radiocommunications installations, apparatus, equipment and device operating at the frequencies and using technical parameters specified in Schedule 2 to enable communications to and/or from such installations, apparatus, equipment and device for self-use by the licensee only, and at locations specified in Schedule 3 of the LWBS (Private) Licence. Nothing in the LWBS (Private) Licence authorises the licensee to operate the Private System with coverage outside the specified locations, or to provide any public telecommunications service and other service subject to licensing under the TO or any other ordinance.

⁸ The sample LWBS (Private) Licence is available at:
https://www.coms-auth.hk/filemanager/common/licensing/sample_lwbs_private_licence.pdf.

- 3.11 An LWBS (Private) Licence contains a number of schedules providing the scope and description of the licensed system, the technical particulars of radio stations and the frequency spectrum used for the operation of the licensed system, and the operation areas of the licensed system, where applicable.

Payment of Spectrum Utilisation Fee

- 3.12 SCED has decided to adopt the SUF charging scheme for spectrum assigned administratively (“SUF Charging Scheme”) for charging SUF in the 26/28 GHz bands. SUF will be charged on the use of the spectrum in these two frequency bands if they become congested (i.e. 75% or more occupied) and are anticipated to become more congested in future (“Congestion Threshold”). The level of congestion will be assessed taking into account the assignments of both the Shared Spectrum and Non-shared Spectrum. At present, with 1 200 MHz of Non-shared Spectrum assigned in April 2019 and 400 MHz of Shared Spectrum assigned from October 2019, less than 75% of the available spectrum in the 26/28 GHz bands is occupied. Accordingly, payment of SUF is not required until further notice.
- 3.13 To prepare for the levy of SUF when the Congestion Threshold is reached, the CA has made an order under section 32I(1) of the TO to designate the use of the 26/28 GHz bands under the Telecommunications (Designation of Frequency Bands subject to Payment of Spectrum Utilization Fee) Order (Cap. 106Y) as frequency bands in which the use of spectrum is subject to the payment of SUF⁹. In addition, pursuant to section 32I(2) of the TO, SCED has enacted the Telecommunications (Level of Spectrum Utilization Fee) (Administratively Assigned Spectrum) Regulation (Cap. 106AH)¹⁰ to prescribe the level of SUF of the Shared Spectrum for private use at HK\$21.6 per MHz of spectrum assigned per annum. Cap. 106AH will come into operation on a day to be appointed by SCED by notice published in the Gazette when the Congestion Threshold is reached and payment of SUF is required.

⁹ See Part 10 of Cap. 106Y which is available at: <https://www.elegislation.gov.hk/hk/cap106y>.

¹⁰ The Telecommunications (Level of Spectrum Utilization Fee) (Administratively Assigned Spectrum) Regulation (Cap. 106AH) is available at: <https://www.elegislation.gov.hk/hk/cap106AH>, which has not yet come into operation.

Payment of Licence Fee

3.14 The current annual licence fee payable on the issue and on each anniversary of the issue of an LWBS (Private) Licence in each year while the licence remains in force shall be the sum of the items given in Table 1 below –

Table 1: Annual Licence Fee Schedule

	Particulars	Annual licence fee
1.	Fixed fee	HK\$10,000
2.	For the 1st to the 50th base station* installed for the service	HK\$1,000 per base station
	For the 51st to the 100th base station* installed for the service	HK\$500 per base station
	For the 101st base station* installed for the service and any additional base stations	HK\$100 per base station

Notes: (*) For details about the counting of the number of base stations, please refer to the circular letter regarding “Reporting of the Number of Customer Connections, Mobile Stations and Base Stations” issued on 28 April 2020¹¹, which is also applicable to the LWBS (Private) Licence.

Control of Interference

3.15 The licensee is required to take all reasonable measures at its own cost to install, maintain and operate the system in such a manner as not to cause any harmful interference to any lawful telecommunications services, systems or networks within or outside Hong Kong. If necessary, the CA may issue relevant directions requiring the licensee to take such measures as may be necessary to prevent interference. The licensee shall also coordinate and agree with other licensees on the technical measures to be taken to minimise any mutual interference between them.

¹¹ A copy of the circular letter is available at:
https://www.coms-auth.hk/filemanager/common/licensing/circular_20200428_2.pdf.

Section IV – Information to be Provided in Submitting the Application

Application Procedures

- 4.1 For an application for assignment of the Shared Spectrum for the establishment and maintenance of a Private System and accordingly the grant of a new LWBS (Private) Licence, the applicant should submit the full information specified in these Guidelines, in particular in paragraphs 4.3 to 4.10. Subject to the applicant satisfying the relevant licensing criteria set out in Section V, the CA will consider granting an LWBS (Private) Licence with the Shared Spectrum assigned to the applicant.

- 4.2 For an application for extension of LWBS (Private) Licence in view of the expiry of the existing one, the licensee should submit an application at least one year prior to the expiry of the LWBS (Private) Licence, to the CA for continuing to operate the Private System specified under the scope of the existing licence. The application for licence extension should include full details as required for an application for a new LWBS (Private) Licence. It should be noted that subject to the discretion of the CA, the LWBS (Private) Licence may be extended for a further period of up to five years. In general, the CA will examine the application according to the similar criteria as for granting an LWBS (Private) Licence to a new applicant.

Application Proposal

Scope of Proposed Private System

- 4.3 Proposals should contain an Executive Summary summarising in a concise manner the salient points of the Private System proposed to be operated under the LWBS (Private) Licence.

- 4.4 The applicant should specify the scope and application of the Private System proposed to be operated using the Shared Spectrum under the LWBS (Private) Licence.

- 4.5 Proposals should include a detailed description of the Private System to be operated, the identity and number of target users of the system, intended system operation areas (subject to an aggregate system coverage of not exceeding one square kilometre), expected system launch date, implementation schedule if the proposed system is to be established in phases and plans for the establishment of the new system.
- 4.6 The successful applicant should be committed to the operation of the proposed Private System in Hong Kong as detailed in its application, submissions and representations.

Application for Spectrum Assignment

- 4.7 The applicant should specify the amount of Shared Spectrum applied for, with justifications provided. Within the spectrum cap of 400 MHz for assignment of the Shared Spectrum to the applicant, the CA will determine the amount of spectrum to be assigned to an applicant taking into account, amongst the others, the justifications provided.

Company / Organisation Structure

- 4.8 LWBS (Private) licensees shall be an entity registered in Hong Kong under the Companies Ordinance (Cap. 622) or the Business Registration Ordinance (Cap. 310) in Hong Kong; or an organisation registered in Hong Kong under any other ordinances. The application proposal should contain details of the company/organisation intended to be the assignee of the Shared Spectrum, including –
- (a) copies of the Certificate of Incorporation and the Business Registration Certificate of the applicant (if the applicant is a company incorporated under the Companies Ordinance (Cap. 622) in Hong Kong);
 - (b) copies of the Business Registration Certificate and current Certified Extracts of Information on the Business Register issued by the Business Registration Office, Hong Kong of the applicant (if the applicant operates in the form of sole proprietorship or partnership);

- (c) copies of the documentary proof that the organisation is registered in Hong Kong and proof of the applicant's address, if the applicant's status does not fall within those set out in sub-paragraphs (a) and (b) above; and
- (d) details on the composition of the company's Board of Directors or the organisation's governing board, management and key officers where applicable.

Technical Details of the Facilities

4.9 Proposals should give a detailed description of the proposed facilities. This description should cover –

- (a) technical configuration including system layout and components with use of relevant diagram(s) for illustration, the technology to be employed, the likely choice of equipment, system design, capacity, and other technological characteristics;
- (b) the facilities upon launch of system and the facilities expansion plan (if any) for the first five years of operation;
- (c) the planned location(s) of equipment to be installed;
- (d) the planned system management facilities; and
- (e) specifications with which the equipment would comply. The specification(s) should be widely recognised standard(s) covering functional specifications(s), modulation, transmitter power, out-of-band and spurious emissions, antenna characteristics, etc., where applicable.

Implementation Plan

4.10 Proposals should include an implementation plan for deployment of the Shared Spectrum assigned, giving the key milestones of implementation for the first three years starting from the issue date of the LWBS (Private) Licence including where applicable (a) the system planning and the plan

for installation of radio units; (b) placing of order for equipment; (c) delivery of equipment; (d) construction of equipment buildings/rooms; (e) installation of equipment; and (f) testing. The applicant will be required to adhere to this plan if the Shared Spectrum is subsequently assigned. The CA wishes to see early launch of the proposed system.

Other Information

4.11 Applicants may submit any other information not specified above but is considered helpful to the applications.

Section V - Broad Licensing Criteria

5.1 The basis for assessment of applications will be the information supplied by the applicants in accordance with the requirements set out in Section IV of these Guidelines. The CA reserves all rights not to accept applications which are substantially incomplete in this respect.

5.2 In considering the grant of an LWBS (Private) Licence to an applicant for assignment of the Shared Spectrum, the CA will consider the technical soundness of the proposed system and the benefit that the proposed system will bring to the applicant's operations. Detailed licensing criteria include –

(a) Technical Soundness

The proposed system must be technically sound, compatible with the local environment and be capable of serving the intended purposes. The proposed system must use spectrum efficiently and avoid any interference to existing users using the same frequency band.

(b) Proven Managerial and Technical Expertise

The applicant must possess proven managerial and technical expertise to operate the proposed system in Hong Kong and/or other places.

(c) Implementation Schedule

The applicant should provide the CA with its rollout plan for deployment of the Shared Spectrum, including the target commencement date of system provisioning with the use of the assigned spectrum. The applicant should demonstrate its ability to manage such plan and the necessary facilities.

(d) Quality of Application Proposal

The CA will consider more favourably application proposals that are concise and clearly presented with each aspect well substantiated.

The CA will take into account all relevant factors in its assessment of the application.

- 5.3 The licensing criteria set out in these Guidelines are not intended to be a definitive list of criteria. While evaluating whether the criteria have been satisfied, the CA is entitled to determine the weight it will give to each individual matter as it considers appropriate in the circumstances, after taking into account relevant factors, and will decide each case based on its own merits.

Office of the Communications Authority
10 December 2021