

Guidelines for Submission of Applications for Unified Carrier Licence

31 December 2020 (Issue 15)

Section I – Introduction

- 1.1 These Guidelines are issued under section 6D(2)(a) of the Telecommunications Ordinance (Cap. 106) (“TO”). They indicate the manner in which the Communications Authority (“CA”) proposes to perform its function of determining applications for the unified carrier licence (“UCL”) for the operation of all types of fixed, mobile and/or converged telecommunications services. These Guidelines should be read in conjunction with the relevant CA Statements, and other policies and regulatory documents hereafter referred to.
- 1.2 All applications received will be evaluated on their merits having regard to the information provided as required in Section VIII and to the broad licensing criteria outlined in Section IX of these Guidelines.
- 1.3 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 UCL granted if any information submitted by the applicant is false or misleading.
- 1.4 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
29/F, Wu Chung House
213 Queen's Road East
Wan Chai
Hong Kong
(Attention: Head, Regulatory 2)
Email: ucl@ofca.gov.hk

Alternatively, applications can be made by using the online application platform. The web-based application form can be found at https://www.ofca.gov.hk/en/electronic_services/licence/index.html. For online applications, applicants should submit, in addition to the supporting documents, a letter signed by a director, a company secretary or an authorised person of the applicant and bearing the company chop to confirm that the application and the submission of the application form (including the declaration of applicant therein) and provision of the required information and supporting documents are approved by the applicant.

- 1.5 Applicants will receive acknowledgement of receipt of applications within 5 working days. The CA may request the applicants to provide additional information to clarify or supplement their applications submitted.
- 1.6 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 the applications 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.
- 1.7 These Guidelines do not apply to the granting of UCL by the CA for provision of services using radio spectrum acquired through auction, tender or a combination of auction and tender as conducted by the CA. For such cases, the information required to be submitted, the licensing criteria and other relevant matters that the CA will consider for the granting of UCL will be specified in the documents that the CA will publish in association with the auction, tender or a combination of auction and tender (as the case may be) for the relevant radio spectrum.

- 1.8 Nothing in these Guidelines should be taken to bind the CA on the granting of any 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 – Regulatory Framework under the Unified Carrier Licensing Regime

Unified Carrier Licensing Regime

- 2.1 The unified carrier licensing regime has been implemented since 1 August 2008 for regulating the establishment and maintenance of telecommunications networks and facilities in Hong Kong for the provision of public telecommunications services. The statement entitled “*Licensing Framework for Unified Carrier Licence*” (“UCL Statement”) issued in May 2008 sets out the detailed UCL licensing framework¹. At present, the UCL is the only type of carrier licence to be issued for the provision of fixed, mobile and/or converged services.
- 2.2 Unified carrier licensees (“Licensees”) are authorised to establish and maintain telecommunications networks and facilities which may cross unleased Government land and/or public streets for the provision of public telecommunications services. If the provision of public telecommunications services does not involve the establishment or maintenance of any telecommunications means which cross unleased Government land or public streets, no UCL is required. Applicants may consider whether services-based operator licence (“SBO Licence”) is applicable to their proposed services. For details about SBO Licence, please refer to the “*Guidelines for Submission of Applications for Services-Based Operator Licence*” on the CA website².
- 2.3 For the avoidance of doubt, UCLs will only be granted to parties for the provision of public telecommunications services, i.e. to make the services provided under the UCL available to the public at the wholesale and/or retail level. UCLs will not be granted for offering services only to the licensee itself or to its affiliated companies or entities, which are not qualified as offering services to the public.
- 2.4 Applicants may also apply to the CA to include the provision of mobile

¹ The UCL Statement is available at:
http://tel_archives.ofca.gov.hk/en/tas/others/ta20080509.pdf.

² The Guidelines are available at:
<https://www.coms-auth.hk/en/licensing/telecommunications/carrier/index.html>.

virtual network operator (“MVNO”) service under its UCL³. MVNO service refers to telecommunications services utilising the radio stations operated by another licensee providing mobile services at frequencies specified in the latter’s licence, to enable two-way communications between moving locations or between a moving location and a fixed point.

Interconnection Regime

- 2.5 Interconnections between telecommunications networks and services are governed by sections 36A and 36B of the TO and the licence conditions of the carrier licences. The former Telecommunications Authority (“TA”) issued a series of statements (No. 1 to No. 10) during the period from March 1995 to June 1995 on “*Interconnection and Related Competition Issues*”, setting out the principles for seeking and effecting interconnection⁴.
- 2.6 A carrier licensee is required under its licence condition to ensure “any-to-any connectivity” by interconnecting its network and service with networks and services of other carriers, subject to the requirements of the TO and the relevant licence conditions. Irrespective of the types of networks and services which they provide and operate and irrespective of the underlying technologies used, carriers are obliged to interconnect with one another so that any customer in any one network can enjoy seamless and transparent access to any other customer in any interconnecting network and, where directed by the CA, to any telecommunications service offered in any interconnecting network.
- 2.7 Regarding carrier-to-carrier interconnection, the CA has not intervened to regulate the mobile-mobile interconnection charge (“MMIC”)⁵ and broadband interconnection charge between fixed carriers. While in the past the former TA had given regulatory guidance to the industry on the

³ MVNO service, on a standalone basis, is subject to licensing under SBO Licence of Class 3 Service for MVNO Services. However, where an applicant applies for or already holds a UCL for the provision of public mobile telecommunications services and it intends to also provide MVNO service, it may request the CA to include MVNO service in the scope of the service under its UCL.

⁴ The Statements No. 1 to 10 are available at:
http://tel_archives.ofca.gov.hk/en/tas/tas-bs-interconnection.html.

⁵ MMIC refers to the interconnection charge for telephony traffic exchanged between two mobile carriers.

payment of fixed-mobile interconnection charge (“FMIC”)⁶ based on the Mobile Party’s Network Pays arrangement, that regulatory guidance was withdrawn on 27 April 2009 in accordance with the former TA’s decision in its statement entitled “*Deregulation for Fixed-Mobile Convergence*” published in April 2007⁷.

2.8 Whilst the narrowband interconnection charge between fixed carriers was previously subject to regulatory guidance⁸, as stated in its statement “*Review of Regulatory Guidance on the Charging Principles of Interconnection between Fixed Carriers*” issued on 16 April 2013, the CA decided to withdraw the regulatory guidance on the charging principles of narrowband interconnection between fixed carriers and Statement No. 7 on “*Interconnection and Related Competition Issues*” after a transitional period which ended on 16 October 2014⁹. In other words, there is at present no regulatory guidance in force concerning either the charging principles of MMIC, FMIC, or narrowband and broadband interconnection charges between fixed carriers. All such charges are solely determined through commercial negotiations among the carriers.

2.9 Regarding carrier to service provider interconnection, the former TA has reviewed and updated the regulatory arrangements for international call forwarding service (“ICFS”) charge¹⁰ and local access charges (“LAC”)¹¹. For the ICFS charge, the former TA updated the terms and conditions of interconnection in its “*Determination under Section 36A of the Telecommunications Ordinance in respect of a Variation of the Terms and Conditions of Interconnection for International Call*

⁶ FMIC is an interconnection charge for telephony traffic exchanged between fixed carrier and mobile carrier.

⁷ The Statement is available at:
http://tel_archives.ofca.gov.hk/en/tas/others/ta20070427.pdf.

⁸ The updated Statement No. 7 is available at:
http://tel_archives.ofca.gov.hk/en/tas/interconnect/ta20090403stat.pdf.

⁹ The CA’s Statement is available at:
http://www.coms-auth.hk/filemanager/statement/en/upload/170/ca_statements20130416.pdf.

¹⁰ ICFS charge refers to the access charge or originating charge for interconnection necessary for the provision of international call forwarding service.

¹¹ LAC refers to an interconnection charge payable by external telecommunications service (“ETS”) operators to the local network operators, including local fixed and mobile carriers, for the conveyance of ETS traffic to and from end users of the local network operators.

Forwarding Services” issued in May 2009¹². For the LAC, the former TA decided to adopt an updated LAC regime as stated in its statement “*New Regulatory Regime for Local Access Charge*” in December 2011¹³ which came into effect from 1 July 2013.

- 2.10 Carrier licensees are obliged to ensure that, subject to the Waiver under Section 36A(5B) of the TO (“Waiver”)¹⁴, a copy of their interconnection agreements is filed with the CA within 14 days after the agreements have been made. Interconnection agreements filed thereto will be published on OFCA’s website (with commercially sensitive information redacted) for public information¹⁵. Applicants may refer to the Statement entitled “*Streamlined Arrangements for the Filing and Publication of Interconnection Agreements*” issued in December 2020 for details¹⁶.

Use of Numbers

- 2.11 Pursuant to section 32F of the TO, the CA has issued a “*Numbering Plan for Telecommunications Services in Hong Kong*” (“Hong Kong Numbering Plan”)¹⁷. A Licensee is entitled to apply for allocation of telecommunications numbers and codes in the Hong Kong Numbering Plan for provision of telecommunications service in accordance with the relevant guidelines and codes of practices issued by the CA¹⁸.

¹² The Determination is available at:

http://tel_archives.ofca.gov.hk/en/ta-determine/de20090519.pdf.

¹³ The Statement is available at:

http://tel_archives.ofca.gov.hk/en/tas/interconnect/ta20111223.pdf.

¹⁴ The Waiver is available at:

https://www.coms-auth.hk/filemanager/statement/en/upload/557/ca_waiver_20201215.pdf.

¹⁵ The interconnection agreements are published at:

http://www.ofca.gov.hk/en/industry_focus/telecommunications/interconnection_agreement/index.html.

¹⁶ The Statement is available at:

https://www.coms-auth.hk/filemanager/statement/en/upload/556/ca_statement_20201215.pdf.

¹⁷ The Hong Kong Numbering Plan is available at:

http://www.ofca.gov.hk/filemanager/ofca/tc/content_311/no_plan.pdf.

¹⁸ 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.

Number Portability

- 2.12 Number portability for fixed and mobile telecommunications services (i.e. operator number portability (“ONP”) and mobile number portability (“MNP”)) has been implemented in Hong Kong since 1995 and 1999 respectively. Fixed numbers are portable among all carrier licensees and SBO licensees providing fixed voice telephony services¹⁹, and mobile numbers are portable among all carrier licensees and SBO licensees providing mobile voice telephony services and MVNO services²⁰.
- 2.13 ONP and MNP are implemented in Hong Kong using the distributed database approach, which requires the originating network to perform number translation. Each originating network has the responsibility of routing the calls correctly to the final recipient’s network. With the implementation of the unified carrier licensing regime in August 2008, all Licensees (providing fixed and/or mobile services), MVNOs and SBOs providing class 1 services should facilitate ONP and MNP at their own expense, as stated in the former TA’s statement on “*Facilitating Number Portability under the Unified Carrier Licensing Regime*”²¹. In line with that requirement, the former TA issued the “*Determination under Section 36A of the Telecommunications Ordinance in respect of a Variation of the Terms and Conditions concerning Interconnection relating to Operator Number Portability and Mobile Number Portability*” in October 2010 to sunset all previous determinations relating to ONP and MNP²². The obligation on number portability will be accompanied by the right to have access to the number portability databases. To fulfil the licence obligations concerning the provision of ONP and MNP, Licensees may choose to set up their own systems or negotiate with other licensees to make arrangements at commercially agreed terms. If Licensees opt to set up their own number portability databases, they

¹⁹ SBO licensees are required to support number portability for fixed numbers if they provide “Class 1” type fixed services (i.e. fixed services that have all the attributes of the conventional fixed telephone services) under their licences.

²⁰ SBO licensees are required to support number portability for mobile numbers if they provide “Class 1” type mobile services (i.e. mobile services that have all the attributes of the conventional mobile telephone services) and MVNO services under their licences.

²¹ The Statement is available at:
http://tel_archives.ofca.gov.hk/en/tas/others/tas20101022.pdf.

²² The Determination is available at:
http://tel_archives.ofca.gov.hk/en/ta-determine/de20101022.pdf.

shall, where and as directed by the CA, provide administration database hosting service²³ to other licensees at commercially agreed terms to facilitate the portability of numbers as required under their licences.

- 2.14 The former TA issued a statement “*Fixed Mobile Number Portability*” in July 2009²⁴ announcing that operators may implement fixed-mobile number portability (“FMNP”) on a voluntary basis at their own cost. Interested applicants should observe the relevant guiding principles governing the provision of FMNP and submit proposals to the CA for its prior approval before implementing FMNP.

Use of Radio Spectrum

- 2.15 Pursuant to section 32G of the TO, the CA has the statutory duty to promote the efficient allocation and use of radio spectrum as a public resource of Hong Kong. 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 Framework (“Spectrum Policy Framework”)²⁵ for the management of radio spectrum in Hong Kong. As set out in the 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. The minimum notice periods for variation or withdrawal of spectrum assignments are set out in the statement of the former TA issued in January 2008²⁶.

- 2.16 The rights of Licensees in relation to the use of radio spectrum for provision of public telecommunications service are set out in the UCL

²³ Administration database hosting service means a service offered by the Licensee which makes available its administration database for access by another licensee, so that the latter will be able to fulfil the licence obligation under its own licence to facilitate the portability of numbers without the need of setting up its own administration database.

²⁴ The Statement is available at:
http://tel_archives.ofca.gov.hk/en/tas/numbering/tas20090710.pdf.

²⁵ The Spectrum Policy Framework is available at:
<http://www.cedb.gov.hk/ccib/eng/legco/pdf/spectrum.pdf>.

²⁶ The Statement is available at:
http://tel_archives.ofca.gov.hk/en/tas/spectrum/ta20080131.pdf.

Statement²⁷. The use of radio spectrum may be subject to the payment of spectrum utilisation fee (“SUF”), in addition to spectrum management fee, which is one of the components of the annual licence fee (see Section 7.7 and **Annex A** for details).

Future Spectrum Supply

2.17 In accordance with the Spectrum Policy Framework, the CA publishes the “Spectrum Release Plan” (“SRP”)²⁸ to inform the industry and interested parties of the potential supply of radio spectrum which may be made available through open bidding, tendering process or other appropriate means in the following three years. The SRP is updated every year on a rolling basis or as required taking into account the latest developments. Parties who are interested in providing mobile service should make reference to the SRP from time to time and the announcements made by the CA to invite applications to bid or apply for the radio spectrum.

Trading of Spectrum

2.18 Trading of spectrum is a mechanism whereby a spectrum assignee may, through bilateral negotiations, transfer all or part of the spectrum it holds to another party for the remaining duration of spectrum assignment. A consultancy study on the matter was commissioned by the Government in 2017 and was completed in 2018. Taking into account the findings of the consultancy study, the Government advised the Legislative Council Panel on Information Technology and Broadcasting in June 2018 that it did not see a justifiable case for introducing spectrum trading in Hong Kong both in the short term (i.e. within the next five years) and in the medium term (i.e. the next six to ten years)²⁹.

²⁷ See sub-paragraph 7(a) of the UCL Statement at Footnote 1.

²⁸ The latest version of the SRP is available at:
https://www.ofca.gov.hk/filemanager/ofca/common/Industry/broadcasting/spectrum_plan2020_en.pdf.

²⁹ The paper to the Legislative Council Panel on Information Technology and Broadcasting is available at:
<http://www.legco.gov.hk/yr17-18/english/panels/itb/papers/itb20180611cb4-1200-5-e.pdf>.

Spectrum Utilisation Fees for Spectrum Assigned Administratively (for Fixed and Other Links)

- 2.19 To encourage more efficient use of the scarce radio spectrum resources, SCED and the former TA jointly issued a statement “*Spectrum Utilization Fee for Spectrum Assigned Administratively*” in September 2011 setting out their decisions to impose SUF³⁰ on spectrum that is assigned to non-Government users administratively, the spectrum and the services that will attract SUF, the levels of SUF payable, and the implementation details³¹.
- 2.20 The following legislation effecting the SUF charging scheme came into operation on 1 January 2018 –
- (a) Telecommunications (Designation of Frequency Bands subject to Payment of Spectrum Utilization Fee) (Amendment) Order 2017; and
 - (b) Telecommunications (Level of Spectrum Utilization Fee) (Fixed and Other Links) Regulation.
- 2.21 Under the SUF charging scheme, the full fee payable is set out in Table 1 below, subject to a transitional period of five years before the charging scheme is fully in force. The SUF would be levied two years after the implementation of the SUF charging scheme using a three-year phase-in approach: with 30% of the SUF payable for the 12 months beginning on 1 January 2020; 70% payable for the 12 months beginning on 1 January 2021; and the full amount payable for the subsequent (fifth) year and beyond.

³⁰ SUF for spectrum assigned administratively is the price set by the regulator, charged to spectrum licensees and is intended to reflect the opportunity cost of spectrum use (and thereby provide effective incentives for efficient use of spectrum).

³¹ The Statement is available at:
http://tel_archives.ofca.gov.hk/en/tas/spectrum/ta20110923.pdf.

Table 1: List of frequency bands subject to payment of SUF and the levels of SUF for spectrum assigned administratively

Designated frequency bands (MHz)	Use	SUF payable (per link, in HK\$/MHz/annum)	
		Exclusive use	Non-exclusive use
2055 – 2095	ENG/ OB links	21,600	10,800
5875 – 6425	Fixed links/ Satellite uplink	No exclusive use	432
6425 – 7100	Fixed links/ Satellite uplink	21,600 (for frequencies assigned under carrier and Self-Provided External Telecommunications System licences)	3,600 (for frequencies assigned under carrier and Self-Provided External Telecommunications System licences)
7421 – 7900	Fixed links		
8275 – 8500	Fixed links		
10700 – 11700	Fixed links		
		or	or
		36,000 (for frequencies assigned under Wide Band Link and Relay Station licences)	6,000 (for frequencies assigned under Wide Band Link and Relay Station licences)

ENG/OB stands for Electronic News Gathering/Outside Broadcast.

Road Opening

2.22 A Licensee may be granted with right of road opening³² under section 14(1) of the TO if it is authorised to provide fixed services under its licence and if it demonstrates that it is rolling out a wireline-based infrastructure. For more details on the application for road opening

³² In the case of road opening works on unleased Government land, prior approval of the Director of Lands is required.

authorisation and the necessary procedures for road opening works, please refer to the *“Guidelines for Application of Road Opening Authorisation and Procedure for Road Opening Works”* issued by the CA in November 2012³³.

- 2.23 A Licensee authorised to provide mobile services only does not have the right to lay cables along or across public streets or on unleased Government land. The Licensee will be required to lease circuits from licensed local fixed network operators (“FNOs”) for the connections between radio base stations and mobile switching equipment. Applications for the operation of radio links in place of circuits leased from FNOs will be considered by the CA on a case-by-case basis due to limited availability of suitable radio spectrum for such links.

Building Access

- 2.24 A Licensee authorised to provide fixed services may be granted with rights of building access under section 14(1) of the TO if it demonstrates a plan to roll out self-built customer access network to buildings based on deployment of technology which requires the laying of facilities in common parts of a building for serving only the residents and occupants of that building. For more details on the application of building access authorisation for provision of fixed telecommunications services, please refer to the *“Guidelines for Application of Building Access Authorisation for Provision of Fixed Telecommunications Service”*³⁴.

Sharing of Use of Facilities

- 2.25 The sharing of “bottleneck” facilities is governed by section 36AA of the TO. The CA encourages commercial agreements for the sharing of “bottleneck” facilities. If commercial agreements could not be reached within a reasonable period and subject to passing the “public interest” test specified in the section, the CA may direct sharing of the “bottleneck” facilities concerned and determine the terms and conditions for such sharing.

³³ The guidelines about road opening are available at:
<http://www.coms-auth.hk/filemanager/statement/en/upload/151/gn442012e.pdf>.

³⁴ The guidelines about building access are available at:
http://tel_archives.ofca.gov.hk/en/report-paper-guide/guidance-notes/gn_200820.pdf.

Access to Hilltop Radio Sites

2.26 Some remote areas are under-served by fixed broadband services as the provision of wireline solution thereto is either uneconomical or technically infeasible at this juncture. Public telecommunications services based on wireless broadband solutions would be able to provide a viable and cost-effective alternative for broadband access to these areas. To facilitate the deployment of wireless broadband services to remote areas, sharing of existing hilltop radio sites for such purpose may be allowed, subject to the availability of facilities at the sites. OFCA has issued the “*Guidelines for Use of Hilltop Radio Site Resources*”³⁵ in July 2018 to ensure that such sites and facilities thereon are used efficiently and effectively to meet the needs for telecommunications, utilities and other public services. Application for shared use of hilltop radio sites by a Licensee providing public telecommunications services will be considered on a case-by-case basis.

Construction of Radio Base Stations

2.27 Sites for the installation of radio base stations are usually acquired by Licensees on a commercial basis through negotiations with landowners. The CA will not intervene in this process except in circumstances set out in sections 14(1B) and 36AA of the TO. It should be noted that section 14(1B) is seldom applicable to sites on roof-tops because alternative sites to serve a particular area using radio transmission are usually available.

2.28 In addition to compliance with the requirements of the CA in respect of frequency emission and non-ionizing radiation safety, Licensees must ensure that their installations of radio base stations comply with the requirements of the relevant Government departments including Buildings Department, Lands Department and the relevant statutory town plans of Planning Department / Town Planning Board. The CA has adopted a one-stop application procedure under which Licensees are required to declare the compliance status of their proposed radio base stations with the requirements of the Government departments / authorities concerned.

³⁵ The guidelines about hilltop radio sites are available at:
<http://www.coms-auth.hk/filemanager/statement/en/upload/457/gn082018e.pdf>.

- 2.29 To shorten the overall processing time of base station applications, the CA and Lands Department have adopted parallel processing of applications in cases where a temporary waiver is required. Licensees must submit applications to the CA and Lands Department (if a temporary waiver is required) in parallel. The CA will start processing the application upon receiving the Licensee's declaration that the related waiver application has been submitted to Lands Department. The CA may, after having been satisfied that all requirements concerning electromagnetic compatibility and radiation safety are met, grant an approval for the installation and operation of the radio base station prior to Lands Department's decision on the related waiver application. In order to ensure the radiation safety requirements are met, OFCA will conduct random checking of radiation level of radio base stations which have been put into operation following the prior approval of the CA.
- 2.30 Licensees should refer to the "*Guidance Note for Submission of Applications by Public Telecommunications Operators for the Installation of Radio Base Stations for Public Telecommunications Services in Buildings and on Rooftops*" published on the CA's website in December 2010³⁶ for details of the requirements and procedures for obtaining approval from the departments / authorities concerned. The decision as to whether or not to grant such approval and the actual time taken to grant such approval remains at the discretion of the individual departments / authorities concerned.
- 2.31 To facilitate the rollout of 5G networks by mobile network operators ("MNOs"), the Chief Executive announced in the 2018 Policy Address³⁷ that the Government would proactively open up suitable Government premises and roof-tops for the installation of radio base stations. MNOs may apply to use such Government sites for installation of their radio base stations. As announced in the 2019 Policy Address, suitable sheltered bus stops and public payphone kiosks would be opened up³⁸, and a "demand-led" model would be adopted to further assist operators

³⁶ The Guidance Note is available at:
http://www.coms-auth.hk/filemanager/statement/en/upload/138/gn_201024.pdf.

³⁷ Please see paragraph 137 of the 2018 Policy Address, which is available at:
<http://www.policyaddress.gov.hk/2018/eng/pdf/PA2018.pdf>.

³⁸ The guidelines about use of public payphone kiosks for the installation of radio base stations for provision of public mobile services are available at:
<https://www.coms-auth.hk/filemanager/statement/en/upload/532/gn032020.pdf>.

in setting up 5G radio base stations at other suitable government venues to extend 5G network coverage³⁹.

Deployment of Femtocell

2.32 The CA adopts a light-handed regulatory framework in respect of the installation of relevant femtocell equipment. Licensees are allowed to deploy femtocell for the provision of mobile services under their UCLs without having to seek prior approval of the CA for the installation of femtocells or to provide detailed information about the femtocells. Holders of existing mobile carrier licence or UCL for provision of mobile services who would like to deploy femtocells may apply to the CA for the necessary amendments to their licences. A femtocell is not considered as a base station for the purpose of licence fee calculation⁴⁰.

Phasing out of a Generation of Public Mobile Telecommunications Services

2.33 Pursuant to the relevant licence condition, Licensees are required to seek prior consent of the CA and to make satisfactory arrangements for the affected customers before phasing out a generation of mobile services.

Standards and Type Approval of Radiocommunications Apparatus

2.34 All radiocommunications apparatus, including both infrastructure equipment and customer equipment used in Hong Kong, must comply with the relevant standards and specifications as may be prescribed by the CA and meet the necessary type approval requirements under the Hong Kong Telecommunications Equipment Evaluation and Certification (“HKTEC”) Scheme⁴¹.

2.35 Licensees must provide services to customers, who use equipment meeting the relevant technical specifications as prescribed by the CA, on

³⁹ Please refer to page 51 of Chapter 4 of the Supplement of the 2019 Policy Address, which is available at:
https://www.policyaddress.gov.hk/2019/eng/pdf/supplement_4.pdf.

⁴⁰ Details of the regulatory framework of femtocell deployment are available at:
http://tel_archives.ofca.gov.hk/en/consultations/circulardoc/femtocell_deployment.html.

⁴¹ Information about HKTEC Scheme is available at:
<http://www.ofca.gov.hk/filemanager/ofca/common/Industry/telecom/standard/i421e.pdf>.

a non-discriminatory basis irrespective of whether the equipment is acquired from the Licensees.

Universal Service Arrangement

2.36 Under section 35B of the TO, the CA may require one or more fixed carrier licensees⁴² to have a universal service obligation (“USO”) for provision of basic telephone services, including mainly fixed telephone lines and public payphones. At present, PCCW-HKT Telephone Limited and Hong Kong Telecommunications (HKT) Limited (as joint holders of UCL No. 025) are designated as the universal service provider. A system of universal service contribution (“USC”) is implemented which requires USC contributing parties to share the costs of meeting the USO.

2.37 The providers of local fixed and mobile telecommunications services including both facilities-based and services-based operators using local telephone numbers⁴³ are required to share the USC on the basis of the quantity of telephone numbers held by them for the provision of fixed and mobile telephone services.

Publication of Tariff

2.38 Pursuant to section 7F of the TO and the respective licence condition of the UCL, Licensees are obliged to publish tariffs and charge no more than the published tariffs for the services operated under their licences. The tariff of a service shall include not only all relevant service charges but also the terms and conditions on which the service is provided. To provide guidance to Licensees on publication of tariffs, OFCA has issued the “*Guidelines on Publication of Tariff*”⁴⁴.

Prohibition of Anti-Competitive Practices

2.39 The Competition Ordinance (Cap. 619) (“CO”) provides for general

⁴² Including unified carrier licensees authorised to provide fixed telecommunications services.

⁴³ Specifically, the USC contributing parties include mobile carrier licensees and unified carrier licensees authorised to provide local fixed or mobile telephone services, and SBO licensees authorised to provide class 1 service, class 2 service or class 3 service (MVNO services) only.

⁴⁴ The guidelines about publication of tariff are available at:
<https://www.coms-auth.hk/filemanager/statement/en/upload/539/gn202008.pdf>.

prohibitions of three types of anti-competitive conduct (described as the first conduct rule, the second conduct rule and the merger rule, collectively referred to as the ‘competition rules’ in the CO). The first conduct rule prohibits anti-competitive agreements, decisions and concerted practices. The second conduct rule prohibits an undertaking that has a substantial degree of market power from abusing that power. The merger rule prohibits anti-competitive mergers. The first and second conduct rules apply to all sectors, including the telecommunications sector, in Hong Kong. At present, the merger rule applies only to a merger involving one or more undertakings that hold a carrier licence under the TO or, directly or indirectly, control an undertaking that holds such a licence.

- 2.40 Under the CO, the CA is conferred concurrent jurisdiction with the Competition Commission to investigate and bring enforcement proceedings to the Commission Tribunal in relation to the conduct of telecommunications and broadcasting operators. The CA and the Competition Commission have signed a Memorandum of Understanding (“MoU”) to coordinate the performance of their functions over which they have concurrent jurisdiction. According to the MoU, the CA will ordinarily take the role of lead authority on matters which fall within the concurrent jurisdiction. Where a matter involves issues that are partly within the concurrent jurisdiction and issues that are partly outside the concurrent jurisdiction, the CA and the Competition Commission will discuss and agree how best to progress the matter case by case.
- 2.41 The CA and the Competition Commission have jointly issued under the CO six sets of guidelines describing how they expect to interpret and give effect to the three competition rules, and explaining the procedures for handling complaints, conducting investigations and considering applications for exclusions and exemptions⁴⁵.
- 2.42 Apart from the CO, section 7Q of the TO prohibits exploitative conduct of a dominant licensee. The CA has investigative as well as adjudicative power in enforcing section 7Q. Decisions made by the CA under section 7Q will be subject to appeal to the Telecommunications (Competition Provisions) Appeal Board.

⁴⁵ The full sets of Competition Guidelines are available at: http://www.coms-auth.hk/en/policies_regulations/competition/co/legislation_and_guidelines_issued_under_the_co/index.html.

Prohibition of Unfair Trade Practices

- 2.43 The Trade Descriptions Ordinance (Cap. 362) (“TDO”) prohibits traders of all sectors, including the telecommunications sector, from engaging in false trade descriptions of goods or services and in specified unfair trade practices, namely misleading omissions, aggressive commercial practices, bait advertising, bait and switch, and wrongly accepting payment.
- 2.44 In addition to criminal prosecutions, a civil compliance-based mechanism has been introduced. The enforcement agency may, as an alternative to criminal prosecution, accept an undertaking from a trader, whom the enforcement agency believes has engaged in a prohibited unfair trade practice, to stop that practice, or where necessary, seek an injunction from the court for the purpose.
- 2.45 The Customs and Excise Department (“C&ED”) is the principal agency for enforcing the TDO, with concurrent jurisdiction conferred on the CA to enforce the relevant provisions of the TDO in relation to the commercial practices of licensees under the TO and the Broadcasting Ordinance (Cap. 562) (“BO”) that are directly connected with the provision of a telecommunications or broadcasting service under the respective ordinances. Applicants should refer to the relevant enforcement guidelines which state the manner in which the C&ED and the CA would exercise their enforcement powers and provide guidance on the operation of the relevant provisions in the TDO⁴⁶.

Consumer Protection

Fair Usage Policy (“FUP”)

- 2.46 To provide guidance to broadband service providers on how they may implement FUP and to enhance the transparency of service information to facilitate better informed consumer choices, the former TA promulgated the “*Guidelines for the Implementation of Fair Usage Policy for the Provision of Mobile and Fixed Broadband Services*” in November 2011⁴⁷ setting out the relevant guiding principles for

⁴⁶ Available at: https://www.coms-auth.hk/en/policies_regulations/unfair_trade_practices/index.html.

⁴⁷ The guidelines about FUP are available at: http://coms-auth.hk/filemanager/statement/en/upload/38/gn_201124e.pdf.

compliance by service providers. Licensees are required to comply with the guidelines on a mandatory basis for all new or renewed service contracts signed on or after 13 February 2012.

Measures to Prevent Mobile Bill Shock

2.47 The CA has urged all MNOs to adopt various measures to address the problem of mobile bill shock⁴⁸. To increase the transparency of the relevant service information, OFCA publishes the measures implemented by individual MNOs on its website⁴⁹ and provides regular updates. Licensees are expected to implement relevant measures to prevent mobile bill shock.

Code of Practice in Relation to Billing Information and Payment Collection for Telecommunications Services

2.48 With a view to enhancing the transparency of pricing of chargeable items in the provision of telecommunications services by local fixed and mobile operators, the former TA issued a “*Code of Practice in Relation to Billing Information and Payment Collection for Telecommunications Services*” in October 2011⁵⁰. Telecommunications service providers are expected to provide customers with itemised billing information for verification of charges, take reasonable steps to ensure accuracy of billing and collection of payment, and report to OFCA in a timely manner in the event of any incident involving systematic errors in these aspects. Licensees are expected to comply with this code and follow the practices prescribed therein.

Customer Complaint Settlement Scheme (“CCSS”)

2.49 The CCSS is a mediation scheme set up by the telecommunications industry to help resolve billing disputes in deadlock between telecommunications service providers and their customers. The

⁴⁸ Mobile bill shock refers to the shock consumers experience upon receiving unexpectedly high mobile bill charges.

⁴⁹ Measures in preventing mobile bill shock are available at: https://www.ofca.gov.hk/en/consumer_focus/education_corner/guide/advice_mps/billshock/webform/index.html.

⁵⁰ The Code is available at: <http://www.coms-auth.hk/filemanager/statement/en/upload/33/cop20111011e.pdf>.

mediation service is managed and operated by an independent CCSS service centre set up under the Communications Associations of Hong Kong (“CAHK”)⁵¹. OFCA supports the CCSS by contributing the necessary funding, screening the CCSS applications against the acceptance criteria, and monitoring the performance and governance of the scheme. Licensees are expected to join the CCSS.

Industry Code of Practice for Telecommunications Service Contracts

2.50 In order to protect consumer interests and enhance transparency in the process of contract conclusion for telecommunications services, CAHK promulgated a self-regulatory “*Industry Code of Practice for Telecommunications Service Contracts*” in December 2010 and updated it in October 2014⁵². All major FNOs and MNOs have implemented the industry code from July 2011. Licensees are expected to comply with this code and follow the practices prescribed therein.

Code of Practice on the Provision of Telecommunications Services for the Elderly and People with a Disability

2.51 To facilitate convenient use of telecommunications services by the elderly and people with a disability, the former TA issued a “*Code of Practice on the Provision of Telecommunications Services for the Elderly and People with a Disability*” in October 2010 and the CA updated it in June 2013⁵³. Licensees are expected to comply with this code and follow the practices prescribed therein.

Code of Practice on Protection of Customer Information for Fixed and Mobile Service Operators

2.52 A “*Code of Practice on Protection of Customer Information for Fixed and Mobile Service Operators*” was jointly issued by the Consumer Council, Independent Commission Against Corruption, Office of the

⁵¹ CAHK is the association for Hong Kong’s communications industries with responsibilities across broadcasting, wireline and wireless communications, and other relevant business sectors in the domain of information communications technology.

⁵² The latest version of the Industry Code is available at:
http://www.cahk.hk/cop/en_contracts.

⁵³ The latest version of the Code is available at:
<https://www.coms-auth.hk/filemanager/statement/en/upload/186/cop201302e.pdf>.

Privacy Commissioner for Personal Data and former Office of the Telecommunications Authority in June 2002⁵⁴ which sets out the good practices that should be adopted by FNOs and MNOs to prevent unauthorised disclosure of customer information. Licensees are expected to comply with this code and follow the practices prescribed therein as well as to adopt other relevant measures which can provide reasonably sufficient protection of customer information. Licensees must observe the requirements of the relevant legislation relating to protection of personal data and prevention of bribery.

Code of Practice on the Handling of Customers' Deposits and Prepayments of Charges

2.53 In order to protect consumer interest and to enhance consumer confidence in deposit and prepayment schemes offered by telecommunications operators, the former TA issued a “*Code of Practice on the Handling of Customers' Deposits and Prepayments of Charges*” in April 2001⁵⁵. Licensees are expected to adopt this code and observe the guiding principles governing the handling of deposits and prepayments of charges for telecommunications services.

Code of Practice on Verification of the Addresses of Potential Customers for Mobile Telecommunications Services

2.54 A “*Code of Practice on Verification of the Addresses of Potential Customers for Mobile Telecommunications Services*” was issued by the former TA in January 2000 and revised by the CA in November 2018⁵⁶. This code provides practical guidance to mobile service providers in respect of the verification of the addresses of potential customers when they subscribe to mobile services. Licensees are required to comply with the latest version of this code and follow the practices prescribed therein.

⁵⁴ The Code is available at:
http://tel_archives.ofca.gov.hk/en/code/practice/cap14062002.pdf.

⁵⁵ The Code is available at:
http://tel_archives.ofca.gov.hk/en/code/cop20010426.pdf.

⁵⁶ The latest version of the Code is available at:
<http://www.coms-auth.hk/filemanager/statement/en/upload/479/cop201805e.pdf>.

Industry Code of Practice for Chargeable Mobile Content Services

2.55 To safeguard consumer interests and increase the transparency of pricing information related to chargeable mobile content services (“MCS”) provided by third-party content service providers (“CSPs”), CAHK issued a “*Code for the Provision of Chargeable Mobile Content Services*” in January 2010 and updated it in March 2017⁵⁷. This code requires all third-party CSPs, before initiating delivery of MCS to customers, to provide them with clear information on all charges, obtain clear consent from them for the provision of MCS, and set out clearly the unsubscribing mechanisms. MNOs have undertaken to comply with this code and will enter into contracts to provide delivery and billing services only for those CSPs which comply with this code. Licensees are expected to comply with this code and follow the practices prescribed therein.

Benchmark Code of Practice on Person-to-Person (“P2P”) Marketing Calls

2.56 To tackle the inconvenience caused by P2P marketing calls to the public, the Government has worked with specific sectors to establish sector-specific regulatory regimes for P2P marketing calls. In relation to the telecommunications industry, CAHK issued a “*Benchmark Code of Practice on Person-to-Person Marketing Calls*” in March 2011⁵⁸. All major FNOs and MNOs have adopted the benchmark code and published their codes of practices on P2P marketing calls for self-regulation. Licensees are expected to adopt the benchmark code and follow the practices prescribed therein.

Code of Practice on the Cessation Arrangements for MVNO Services

2.57 A “*Code of Practice on the Cessation Arrangements for Mobile Virtual Network Operator Services*” was issued by the CA in September 2017⁵⁹. This code provides practical guidance to relevant licensees in the event of cessation of MVNO services in order to better protect and promote

⁵⁷ The latest version of the Code is available at: http://www.cahk.hk/cop/content_service.

⁵⁸ The Benchmark Code is available at: http://www.cahk.hk/cop/p2p_calls.

⁵⁹ The Code is available at: http://www.coms-auth.hk/filemanager/statement/en/upload/421/cop-mvno_e.pdf.

the interests of consumers of telecommunications goods and services. Licensees providing wholesale network capacity to MVNOs are required to observe and comply with this code as part of their licence obligations.

Performance Pledges of Fixed and Mobile Broadband Services

2.58 To help consumers make informed choices for fixed and mobile broadband services, major FNOs and MNOs have published on a quarterly basis the performance pledges for their fixed and mobile broadband services, covering aspects related to network reliability, service restoration time, customer hotline performance, customer complaint handling and technical performance since January 2008 and July 2010 respectively. The performance pledges and performance statistics of individual major FNOs and MNOs are available on their respective websites and via hyperlinks at OFCA's website⁶⁰. Licensees are expected to follow similar practices, where applicable.

⁶⁰ The performance pledges are available at:
https://www.ofca.gov.hk/en/consumer_focus/fixed_telecom/performance_pledges/index.html &
http://www.ofca.gov.hk/en/consumer_focus/mobile_telecom/performance_pledges/index.html.

Section III – General Information Relating to Local Fixed Service

- 3.1 The local fixed service market in Hong Kong has been fully liberalised and there is no pre-set limit on the number of licences to be issued for the provision of local fixed services.
- 3.2 Fixed service refers to the establishment and maintenance of telecommunications facilities for communications between fixed points. A fixed point means a fixed network termination point and shall include such area within the immediate vicinity of such a point as the CA may direct in writing, either generally or specifically, to allow limited mobility for access to that point in a certain manner. Local fixed service is for communications between fixed points within Hong Kong.
- 3.3 A Licensee may be authorised to provide local fixed service which may cover all local telecommunications services between fixed points within Hong Kong capable of being provided utilising the fixed network, wireline-based or wireless-based or a combination of both where applicable, established and maintained by the licensee.
- 3.4 There may be physical constraints in certain areas within the territory, such as business and densely populated districts, for network rollout using the prevailing technical methods such as laying underground ducts and gaining access to limited space within buildings. However, the CA is mindful that there are technical alternatives, available now or upcoming, or administrative arrangements to overcome the constraints. Market players should identify and deploy their own business solutions to overcome the constraints. The licensing of local fixed service is technology-neutral, subject to the requirement for authorisation by the CA for use of radio spectrum, road opening and building access (see paragraphs 2.14, 2.15, 2.21 - 2.23).
- 3.5 The transmission and provision of television programme services are separately licensed and regulated respectively under the TO and the BO. An applicant who would like to establish and operate telecommunications transmission systems and ancillary facilities to transmit the television programme channels licensed under the BO may apply to the CA for a UCL authorised for local fixed service for carriage of television programme services.

Section IV – General Information Relating to External Fixed Service

- 4.1 The external fixed service market in Hong Kong has been fully liberalised and there is no pre-set limit on the number of licences to be issued for the provision of external fixed services.
- 4.2 External fixed service covers all external telecommunications services -
- (a) between one or more points in Hong Kong and one or more points outside Hong Kong; and
 - (b) between two or more points outside Hong Kong but routed in transit via Hong Kong; and
- capable of being provided utilising the external network established and maintained by the Licensee.
- 4.3 Under a UCL for external fixed service, the Licensee may be authorised to provide external facilities as well as external services operated over external facilities. Access to the external facilities or external services provided under a UCL for external fixed service will be through the public switched networks of local fixed/mobile carriers, or through local leased circuits provided by local fixed carriers. Generally, the point of interface between the external facilities under a UCL for external fixed service and local fixed/mobile networks is the external gateway or Point of Presence (“POP”) established under the UCL for external fixed service.
- 4.4 A Licensee authorised to provide external fixed service may apply for road opening as mentioned in paragraph 2.22 for their backhaul circuits for the purpose of connecting the landing points of external facilities (either cable landing stations or satellite earth stations) with their external gateways or the POP. Such applications will be considered on their individual merits.
- 4.5 For the avoidance of doubt, the operation of any fixed telecommunications facilities or services connecting the customers in Hong Kong to the POP as well as the supply of backhauled to other licensees require a UCL for local fixed service.

4.6 For clarification purpose, a UCL for external fixed service does not authorise its holder to operate -

(a) coast stations and coast earth stations within Hong Kong for maritime mobile services and maritime mobile satellite services; and

(b) aeronautical stations and aeronautical earth stations within Hong Kong for aeronautical mobile services and aeronautical mobile satellite services.

4.7 An applicant may in the same application propose to operate any form of external fixed services based on cable and/or non-cable facilities.

Cable-based External Fixed Service

4.8 Applicants may make use of the capacity of overland or submarine cable systems established by other external fixed carriers, or land their own cable systems in Hong Kong for the provision of external fixed services. They may also land their cables by using existing cable landing stations or building a new cable landing station.

4.9 At present, there are a number of submarine cable landing stations⁶¹ operated by external fixed carriers. The CA may consider applications for sharing the use of these cable landing stations provided that the applicants are able to demonstrate to the CA that the facility on those sites would constitute a bottleneck facility and that it is technically feasible to share the facility. Full details for the sharing of the bottleneck facility should be given in the application. Interested parties are invited to refer to the Statement issued on 19 September 2000 entitled “*Access to and Co-location at Cable Landing Stations*”⁶².

4.10 Applicants should note that the Government has no obligation to grant a site for the establishment of a new submarine cable landing station. Application for a site to establish a cable landing station will be subject

⁶¹ Two of which are located at Tong Fuk, three at Tseung Kwan O, and the other three at Deep Water Bay, Chung Hom Kok and Cape D'Aguilar respectively.

⁶² The Statement is available at:
http://tel_archives.ofca.gov.hk/en/tas/interconnect/ta20000919.pdf.

to a separate exercise and the applicant will need to apply to the Hong Kong Science and Technology Parks Corporation for land inside Tseung Kwan O Industrial Estate, the Director of Lands for other government land, or other relevant authorities as appropriate in accordance with the usual land planning and disposal application procedures.

- 4.11 For the landing of submarine cables in Hong Kong, OFCA has established an information webpage and provides a single-point-of-contact service assisting interested parties in obtaining statutory approval from relevant government departments. Interested parties may refer to the respective webpages for further details⁶³.

Non-cable Based External Fixed Service

- 4.12 Applicants may choose to establish their satellite earth stations or use existing satellite earth stations established by other external fixed carriers for the purpose of providing non-cable based external fixed service.

⁶³ For details, please refer to:
http://www.ofca.gov.hk/en/industry_focus/telecommunications/facility_based/infrastructures/submarine_cables/index.html.

Section V – General Information Relating to Mobile Service

- 5.1 Mobile service refers to the establishment and maintenance of telecommunications facilities which enable two-way communications between moving locations or between a moving location and a fixed point in Hong Kong, operating at the frequencies assigned to the Licensee.
- 5.2 The issue of UCL for the provision of mobile services will be subject to the availability of radio spectrum. As part of the implementation of the Radio Spectrum Policy Framework, the CA publishes the SRP⁶⁴ to inform the industry and interested parties of the potential supply of radio spectrum for the following three years. The SRP is updated every year on a rolling basis or as required taking into account the latest developments. Parties who are interested in providing mobile services should make reference to the SRP from time to time and the announcements made by the CA to invite applications to bid or apply for the radio spectrum.
- 5.3 Applicants who would like to deploy femtocells to facilitate the provision of mobile services should indicate this in their application. For details, please refer to the “*Regulatory Framework of Femtocell Deployment*”⁶⁵.
- 5.4 Applicants, as well as existing licensees authorised to provide mobile services, may also apply to the CA to include the provision of MVNO service under its UCL⁶⁶. MVNO service refers to telecommunications service utilising the radio stations operated by another UCL holder providing mobile services at frequencies specified in that UCL holder’s licence, to enable two-way communications between moving locations or between a moving location and a fixed point.
- 5.5 Applicants for the provision of mobile services, as well as existing licensees authorised to provide mobile services, may apply to the CA to

⁶⁴ The latest version of the SRP is available at:
http://ofca.gov.hk/en/industry_focus/radio_spectrum/management/index.html.

⁶⁵ Regulatory Framework of Femtocell Deployment is available at:
http://tel_archives.ofca.gov.hk/en/consultations/circulardoc/circular_20111202_annex.pdf.

⁶⁶ See footnote 3.

make use of the frequency spectrum in the 5 GHz band (i.e. 5150 – 5350 MHz, 5470 – 5725 MHz and 5725 – 5850 MHz) for the provision of mobile services on a shared basis. For details, please refer to the CA Statement on the “*Use of the 5 GHz Shared Band for the Provision of Public Mobile Services*”⁶⁷.

Mobile Services Other than Land Mobile Service

- 5.6 Licensees may be authorised to provide radiocommunications services where moving stations are primarily for use in locations other than on land. Such services may include maritime mobile service, maritime mobile satellite service, aeronautical mobile service, aeronautical mobile satellite service and land mobile satellite service.

⁶⁷ The CA Statement is available at:
https://www.coms-auth.hk/filemanager/statement/en/upload/451/ca_statements20180604_en.pdf.

Section VI – General Information Relating to Public Wireless Local Area Network Service

- 6.1 Public wireless local area network (“LAN”) service refers to telecommunications services operating at specified frequencies by using wireless technologies (such as Wi-Fi) to provide –
- (a) communications between two or more points within the radio coverage of the radiocommunications installations established, maintained, used or possessed by a Licensee for the purpose of providing public wireless LAN services; or
 - (b) access to or resale of a public telecommunications service provided by a Licensee or other person licensed under a public telecommunications network or services licence.
- 6.2 Licensees are authorised to provide public wireless LAN service (e.g. public Wi-Fi service) on or across unleased Government lands or public streets and within private premises. If the provision of public wireless LAN service is intended to serve area within private premises only, such as shopping malls, coffee shops, university campus, etc. and does not cross unleased Government lands or public streets, a UCL is not required. Applicants may consider whether the Class Licence for the Provision of Public Wireless Local Area Network Services (“Class Licence”) is more appropriate for their proposed services. For details about the Class Licence, please refer to the *“Guidelines to Operate Public Wireless Local Area Network Services under Class Licence”*⁶⁸.

Assignment of Frequency Spectrum

- 6.3 Licensees authorised to provide public wireless LAN service will be assigned subject to the CA’s discretion frequency spectrum in the 2.4 GHz and 5 GHz bands (i.e. 2400 – 2483.5 MHz, 5150 – 5350 MHz, 5470 – 5725 MHz and 5725 – 5850 MHz). The assignment will be made subject to the condition that the assigned frequencies shall be used for the provision of public wireless LAN services only. Unless otherwise specified in the UCL, the assigned frequencies shall not be used for the provision of public mobile services.

⁶⁸ The guidelines about public wireless LAN services under Class Licence are available at: <https://www.coms-auth.hk/filemanager/statement/en/upload/465/gn92018e.pdf>.

- 6.4 The radiocommunications apparatus used for the provision of the public wireless LAN service shall operate within the assigned frequency bands and shall generate the output and spurious emissions with the specified levels as set out in **Annex B**.

Registration

- 6.5 Licensees authorised for the provision of public wireless LAN service are required to register with OFCA information about the location in which the radiocommunications apparatus is established and maintained and the frequency band employed before commencement of the provision of such service, and they shall notify the CA within one month after ceasing to provide such service. Information required for registration of the public wireless LAN service is detailed in the registration form⁶⁹. Any change to the registered information shall be updated before it is put into effect.
- 6.6 Submission of completed registration form, update of information and notification of cessation of service can be made by email to register-wlan@ofca.gov.hk or in person at the Office of the Communications Authority (Address: 29/F, Wu Chung House, 213 Queen's Road East, Wan Chai, Hong Kong). A register of the operators providing the public wireless LAN service is published on OFCA's website. The register includes the name of the service provider, the location(s) of the radiocommunications apparatus and all frequency band(s) within which the radiocommunications apparatus is operated for providing the service.

⁶⁹ The registration form is available at:
http://www.coms-auth.hk/filemanager/common/licensing/reg_form_e.xls (in English) or
http://www.coms-auth.hk/filemanager/common/licensing/reg_form_c.xls (in Chinese).

Section VII – Licensing Arrangement

General

- 7.1 A holder of UCL shall be a company registered under the Companies Ordinance (Cap. 622) in Hong Kong. There is no foreign ownership restriction. In line with the full liberalisation policy in telecommunications services, the CA has not pre-set a limit on the number of UCL to be issued, or any restriction on the types of services which may be authorised under the UCL, subject to physical or other constraints on the provision of the proposed services.

Period of Validity of the UCL

- 7.2 A new UCL issued to a new applicant will be valid for 15 years from the day on which it is issued.
- 7.3 There is no automatic renewal upon expiry of a UCL. A Licensee is required to apply for a new licence before expiry of the existing one.

Licence Conditions

- 7.4 Licence conditions of UCL, as given in the sample UCL published on the CA's website⁷⁰, include the General Conditions ("GCs") as prescribed under the Telecommunications (Carrier Licences) Regulation (Cap. 106V) and a common set of Special Conditions ("SCs"). The CA may also impose additional SCs for different types of services authorised under a UCL or specific to each Licensee as may be appropriate⁷¹.

Scope of Service

- 7.5 Services authorised under a UCL may be local fixed service, external fixed service, mobile service, mobile service other than land mobile service, public wireless LAN service, or a combination of them. A Licensee may subsequently apply to the CA if it would like to expand or

⁷⁰ The sample UCL is available at:
http://www.coms-auth.hk/filemanager/common/licensing/sample_ucl_licence.pdf.

⁷¹ See paragraph 83 of the UCL Statement at Footnote 1.

change the scope of service.

- 7.6 A UCL contains a number of schedules dealing with the description of the licensed service, the licensed network, the technical particulars of satellite earth stations and terrestrial radio stations and the frequency spectrum used for the provision of the licensed service, where applicable.

Licence Fee

- 7.7 The licence fee for UCL is prescribed in the Telecommunications (Carrier Licences) Regulation, which is reproduced in **Annex A**. The annual licence fee includes the following components -

7.7.1 A fee of \$1 million for provision of local fixed services and/or mobile services; or a fee of \$100,000 for provision of external fixed services only and/or mobile services other than land mobile services only.

7.7.2 A fee of \$500 for each 100 customer connections⁷² established. If the licensee provides external services or mobile services other than land mobile services only, no such fee is payable.

7.7.3 A fee of \$200 for each 100 Wireless Internet of Things (“WIoT”) devices connected by radiocommunications means to the network established and maintained under the licence. If the Licensee provides external services or mobile services other than land mobile services only, no such fee is payable.

7.7.4 A fee of \$3 for each subscriber number allocated to it (whether upon or after the issue of UCL), regardless of whether the number has been assigned to end customer or not.

7.7.5 A fee for base stations installed for mobile services, or for land stations/land earth stations installed for radiocommunications services.

⁷² A customer connection is a network termination point provided by the licensee for connection of customer equipment to the network. A network termination point shall include any subscriber identification module used by a customer, and any other device or interface, used for connection to the network.

7.7.6 A spectrum management fee calculated based on the amount of frequency spectrum used for the provision of licensed services.

Section VIII – Information to be Provided in Submitting an Application

Application Procedures under Different Scenarios

- 8.1 The application and information required to be provided by an applicant for UCL in the following cases are set out in paragraphs 8.2 to 8.3 respectively:
- (a) Application for a new UCL; and
 - (b) Replacing an existing UCL upon its expiry.
- 8.2 For an application for a new UCL, the applicant should submit the full information specified in paragraphs 8.4 to 8.12 of this Section. Subject to the applicant satisfying the relevant licensing criteria set by the CA (see Section IX) and, where applicable, the availability and assignment of scarce resource such as radio spectrum for the provision of service, the CA will consider granting a UCL to the applicant.
- 8.3 For an application for a replacement UCL in view of the expiry of the existing one, the Licensee should submit an application to the CA for continuing to operate the services specified under the scope of the existing licence, in association with any new services which the licensee would like to operate under the replacement UCL. The application should include full details as required for an application for a new UCL. In general, the CA will examine the application according to the similar criteria as for granting a UCL to a new applicant.

Application Proposal

- 8.4 Scope of Proposed Services
- 8.4.1 Proposals should contain an Executive Summary summarising in a concise manner the salient points of the services proposed to be provided under the UCL.
 - 8.4.2 The applicant should specify the scope of services proposed to be provided under the UCL.
 - 8.4.3 Proposals should include a detailed description of all services to

be provided, target customers, intended coverage areas upon the commissioning of the facilities, expected service launch date, implementation schedule if the proposed services are to be introduced in phases and plans for the introduction of new services. Proposals should also include detailed description of the arrangements for offering wholesale and/or retail services to the public, and an explanation on how the applicant is not primarily relying on the interconnection and wholesale services of other operators' infrastructure to roll out its network or to provide its services.

8.4.4 Successful applicants should be committed to the provision of the proposed services in Hong Kong as detailed in their proposals, submissions and representations.

8.5 Company Structure

8.5.1 Licensees must be registered in Hong Kong under the Companies Ordinance (Cap. 622). The application proposal should contain details of the company intended to be the Licensee under application, including -

- (a) photocopies of the Certificate of Incorporation and the Business Registration Certificate of the company;
- (b) detailed information on corporate and shareholding structure including relationships with holding or related companies;
- (c) documents that it filed to the Companies Registry showing the authorised, issued and paid-up share capital, such as a certified copy of Articles of Association of the company or equivalent documents(s); and
- (d) details on the composition of the company's Board of Directors and key officers.

8.6 Financial Capability

8.6.1 If the applicant is an established company, the proposal should

include copies of audited annual financial statements, including the auditor reports for the last three full financial years, together with the most recent interim results (if applicable).

8.6.2 If the applicant is a newly-formed company, the proposal should include -

- (a) the directors' certificate of the amount of issued and paid-up share capital;
- (b) bankers' confirmation of the amount of its deposits and/or available credit facilities; and
- (c) copies of audited annual financial statements, including the auditor reports for the last three full financial years, together with the most recent interim results, of each of the company's shareholders that is an established company (if applicable).

8.6.3 Proposals should include a detailed financial plan (with inflation assumptions) for the proposed services and network for the first ten years of operation including -

- (a) a breakdown of the planned capital expenditure ("CAPEX") and of working capital requirements for the first ten years of operation;
- (b) projected profit and loss account including details of revenue, fixed and variable costs, balance sheet and budgeted cash flow statements, showing the amount of capital to be invested on an annual basis for the first ten years;
- (c) method of depreciation of assets;
- (d) projected volume of business and market share for the first ten years of operation;
- (e) the forecast internal rate of return and payback period of the project;

- (f) details of proposed financing structure, debt equity ratio of the project, credit facilities, repayment terms and schedule for loans and bonds, timing or injection of funding, and the level of shareholders' support to satisfy the CA that the applicant has sound financial backing to carry out the project; and
- (g) sensitivity tests on the business plan showing the worst case scenario (the worst case being one beyond which the company would not wish to invest) and a scenario in which the projected revenue level falls to 80% of the basic assumptions, details of contingency financial arrangements, balance sheet, profit and loss account, cash flow statements, capital investment plan, internal rate of return and payback period of the project.

8.7 Technical Details of the Facilities

8.7.1 Proposals should give a detailed description of the proposed facilities. This description should cover -

- (a) technical configuration including network infrastructure and components with the aid of diagram, the technology to be employed, the likely choice of equipment, system design, capacity, how the network and its ancillary equipment and facilities are planned to meet the proposed capacity, connectivity to destinations outside Hong Kong, if applicable, and other technological characteristics;
- (b) the facilities upon launch of service and the facilities expansion plan for the first ten years of operation;
- (c) the planned location of equipment to be installed;
- (d) the planned facilities and traffic management, signalling, metering and billing arrangements, and number porting arrangements (where applicable) to be adopted;
- (e) specification(s) to which the equipment would comply

with. The specification(s) should be widely recognised standard(s) covering functional specification(s), modulation, transmitting power, out-of-band and spurious emissions, antenna characteristics, etc., where applicable; and

- (f) proposed interface for interconnection with other networks.

Proposals should illustrate how the proposed facilities are designed and implemented to ensure provision of good, efficient and continuous services.

8.7.2 Proposals should give an indication of the preferred frequency bands and the associated radiation and immunity characteristics of the frequency spectrum, if any, that will be used for the provision of the proposed service. The amount of spectrum that will be made available and the exact limits of the frequency bands will be decided by the CA after review of the proposals received and taking into account the demand for frequency spectrum for other services in Hong Kong and other factors as it considers relevant in the circumstances.

8.7.3 Applicants should provide technical proposals for interconnection with other telecommunications networks in Hong Kong.

8.8 Technical Support

8.8.1 Proposals should include details of technical support facilities and maintenance centres which the applicants have or intend to set up in Hong Kong, including a description of the technical personnel including key management/engineering personnel, staffing levels and any principal contractors responsible for the design, construction, day-to-day operation, maintenance of the facilities and the routine maintenance schedule/procedure.

8.9 Contingency Plan

8.9.1 To ensure sustainability of service delivery, the applicant should

provide the contingency plan for its proposed services in response to major breakdown or network/service outage. It should include -

- (a) a brief description of the contingency plan and arrangement;
- (b) the designed level of resilience in terms of percentage of affected services recovered and the time within which the recovery will be completed;
- (c) the amount of backup capacity (relative to the capacity level required for normal operation) and the spare resources such as backhaul equipment for contingency connection;
- (d) prior and post arrangements for re-allocating resources, re-routing the affected traffic and acquisition of additional bandwidth to recover the affected services;
- (e) internal procedures for monitoring and reporting critical network outage, composition of the team responsible for handling the major incidents and the responsibility of the respective major team members; and
- (f) brief description of the action and procedures to (i) assess the impact of major incident; and (ii) disseminate the information to the management, OFCA and the customers.

8.10 Previous Relevant Experience

8.10.1 Details on the technical knowhow and any previous experience of the applicant, its shareholders and key personnel in establishing and running the proposed telecommunications networks and services, as well as information on the current status of these networks and services, should be given.

8.10.2 Information should also be provided on the applicant and its shareholders' experience in running other relevant businesses in Hong Kong or overseas.

8.11 Implementation Plan

8.11.1 Proposals should include an implementation plan, giving the key milestones of implementation for the first three years starting from the date of grant of the licence including where applicable (a) the network planning; (b) placing of order for equipment; (c) delivery of equipment; (d) acquisition of sites; (e) securing access to buildings; (f) construction of equipment buildings/rooms; earth stations or cable landing stations; (g) conclusion of cable construction and maintenance of agreements; (h) laying of cables; (i) negotiations on interconnection arrangements; (j) installation of equipment and (k) testing. The applicant will be required to adhere to this plan if a licence is subsequently granted.

8.12 Other Information

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

Section IX - Broad Licensing Criteria

- 9.1 The basis for assessment of applications will be the information supplied by applicants according to the requirements set out in Section VIII of these Guidelines. The CA reserves all rights not to accept applications which are substantially incomplete in this respect.
- 9.2 In considering the grant of a UCL, the CA will consider the benefit of the proposed network to the community. Specifically, the type of services to be offered and the intended coverage areas, the reasonableness of the business plan and the applicant's financial capability to fulfil the CAPEX requirement. Detailed licensing criteria include -

9.2.1 Business Plan

The CA will examine the reasonableness of the business plan including in particular whether estimates of the market and market shares are reasonable and whether the proposed CAPEX would be sufficient to support the networks and services proposed.

9.2.2 Financial Capability

The applicant must possess sufficient financial capability to invest to the level proposed and demonstrate that each consortium partner, as appropriate, is financially sound. The applicant must satisfy the CA that it has sufficient financial backing, either by its own capital, the capital of its shareholders or loan capital to carry out the project. The applicant must have sound and detailed business plans with contingency measures to face unexpected down-turn in the business and the worst case scenario.

9.2.3 Technical Soundness and a Satisfactory Quality of Service

The proposed network must be technically sound, compatible with the local environment and be capable of delivering the services proposed to give a satisfactory quality of service. In particular, the quality of service should be satisfactory in the

expected climatic conditions in Hong Kong. Any radio frequency spectrum requirements must be compatible with spectrum allocation plans in Hong Kong and the proposed system must use spectrum efficiently.

9.2.4 Proven Managerial and Technical Expertise

The applicant must possess proven managerial and technical expertise to operate a satisfactory service, market the service in Hong Kong and provide satisfactory customer support. The CA will consider the knowledge of the applicant or the consortium partners, as appropriate, about the local environment and/or their experience in the operation of external telecommunications facilities.

9.2.5 Service Quality and Charges

The CA will consider more favourably applications which offer a wider range of services and more innovative services at competitive prices and with a good quality of service.

9.2.6 Implementation Schedule

The CA expects the applicant to determine its rollout plan. However the applicant should demonstrate its ability to manage such plan and the necessary facilities - telecommunications sites (e.g. exchanges, satellite earth stations, cable landing stations depending on the type of external facilities they plan to operate). The applicant should also demonstrate capability in negotiating and managing interconnection issues.

9.2.7 Quality of Application Proposal

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

- 9.3 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 the relevant factors, and will decide each case based on its own merits.

Office of the Communications Authority
31 December 2020

Fee Schedule of UCL

1. A fee of \$1,000,000 shall be payable on the issue of a UCL and, in each subsequent year while the licence remains in force, on the anniversary of the issue of the licence. If the licence permits the provision of external services only, or of radiocommunications services (where moving stations are primarily for use in locations other than on land) only, or of these two types of services only, the fee is \$100,000.

2. A fee of \$500 shall be payable on the issue of a UCL and on each anniversary of the issue of the licence while the licence remains in force, for each 100 customer connections, made by telecommunications line or radiocommunications means, to the network established and maintained under the licence. For the purposes of this section, a customer connection shall be any network termination point provided by the licensee and as identified by the Authority for connection of customer equipment to the network, and a network termination point shall include any subscriber identification module used by a customer, and any other device or interface, used for connection to the network, but does not include a WIoT device within the meaning of paragraph 3. If the licence permits the provision of external services only, or of radiocommunications services (where moving stations are primarily for use in locations other than on land) only, or of these two types of services only, no such fee is payable.

3. A fee of \$200 shall be payable on the issue of a UCL and on each anniversary of the issue of the licence while the licence remains in force, for each 100 WIoT devices connected by radiocommunications means to the network established and maintained under the licence. For the purposes of this section, a WIoT device means a device, interface, subscriber identification module or any other thing, that -
 - (a) is provided by the licensee;
 - (b) is identified by the Authority for connection to the network established and maintained under the licence;
 - (c) enables automated data-only machine-to-machine type communications;
 - (d) operates by radiocommunications means;
 - (e) does not carry real-time voice communications; and

- (f) does not use any subscriber number within the meaning of paragraph 4.

However, the fee specified above is not payable if the licence only permits the provision of either or both of the following –

- (a) external services;
 - (b) radiocommunications services (where moving stations are primarily for use in locations other than on land).
4. A fee of \$3 shall be payable on the issue of a UCL and on each anniversary of the issue of the licence while the licence remains in force, for each subscriber number allocated to the licensee that is not ported out from the licensee’s network or assigned, as authorised by the Authority, to another licensee (who has made payment of the licence fee for such number under its licence) and for each subscriber number allocated to another licensee that is ported in to the licensee’s network. For the purposes of this section, a subscriber number is a number in the numbering plan within numbering blocks allocated by the Authority to a licensee, which number may be assigned by the licensee to its customer for use of a telecommunications service.
5. A fee for base stations, being -
- (a) base stations installed for mobile services; or
 - (b) land stations or land earth stations installed for radiocommunications services (where moving stations are primarily for use in locations other than on land), shall be payable on the issue of a UCL and on each anniversary of the issue of the licence while the licence remains in force, calculated as follows -
- | | | |
|-----|---|--------------------------|
| (c) | for the 1st to the 50th base station installed for the service | \$1,000 per base station |
| (d) | for the 51st to the 100th base station installed for the service | \$500 per base station |
| (e) | for the 101st base station installed for the service and any additional base stations | \$100 per base station |

For the purpose of determining the fees payable under this section, the number of stations shall be those authorised or in service at the time when the UCL concerned is issued or on the anniversary of the issue.

6. Subject to paragraph 7, a fee for the management of radio frequency assigned shall be payable on the issue of a UCL and on each anniversary of the issue of the licence while the licence remains in force, calculated as follows -

(a) subject to paragraph (b), where the radio frequency is assigned to the licensee -

- (i) \$50 for every 1 kHz or part thereof of frequency then assigned below 1 GHz;
- (ii) $\$(50-4F)$ for every 1 kHz or part thereof of frequency then assigned within 1 GHz to 10.999 GHz, where F is the frequency rounded down to the nearest GHz in the band then assigned;
- (iii) $\$(20-F)$ for every 1 kHz or part thereof of frequency then assigned within 11 GHz to 18.999 GHz, where F is the frequency rounded down to the nearest GHz in the band then assigned;
- (iv) \$1 for every 1 kHz or part thereof of frequency then assigned at or above 19 GHz;

(b) where any part of the radio frequency is assigned to the licensee on a shared basis, the fee calculated in accordance with the formula set out in paragraph (a) shall be proportionally reduced by a reduction factor -

- (i) equal to the number of users authorised or reserved by the Authority to use that particular part of the radio frequency;
- (ii) determined on the date on which the fee is payable.

7. No fee is payable under paragraph 6 for the management of radio frequency within any of the following frequency bands -

6.765 -- 6.795 MHz

13.553 -- 13.567 MHz

26.957 -- 27.283 MHz

40.66 -- 40.7 MHz

2400 -- 2500 MHz

5.725 -- 5.875 GHz

24.0 -- 24.25 GHz

61 -- 61.5 GHz

122 -- 123 GHz

244 -- 246 GHz

Technical Criteria for Radiocommunications Apparatus Used for the Provision of Public Wireless LAN Services

Frequency Band	Output Level	Spurious Emission Level
2400 – 2483.5 MHz	(a) peak e.i.r.p. not to exceed 4 W for frequency hopping spread spectrum modulation or digital modulation systems; or (b) aggregate e.r.p. not to exceed 100 mW for any modulation	e.r.p. not to exceed 10 μ W outside the frequency band in which the fundamental frequencies are located
5150 – 5350 MHz ⁷³	e.i.r.p. not to exceed 200 mW using only digital modulation	e.r.p. not to exceed 10 μ W
5470 – 5725 MHz ⁷⁴	e.i.r.p. not to exceed 1 W	e.r.p. not to exceed 10 μ W
5725 – 5850 MHz	(a) peak e.i.r.p. not to exceed 4 W for frequency hopping spread spectrum modulation or digital modulation systems; or (b) aggregate e.r.p. not to exceed 100 mW for any modulation	e.r.p. not to exceed 10 μ W outside the frequency band in which the fundamental frequencies are located

⁷³ Use of the band 5150 – 5350 MHz is restricted to indoor operations until the requirements of the International Telecommunication Union (“ITU”) as applicable to the band are available, by which time the use of the band shall be in compliance with the requirements as laid down by the ITU.

⁷⁴ Use of the band 5470 – 5725 MHz shall comply with the technical requirements in Recommendation ITU-R M.1652 “Dynamic frequency selection (DFS) in wireless access systems including radio local area networks for the purpose of protecting the radiodetermination service in the 5 GHz band” approved by the ITU as revised from time to time.