

**Guidelines to Operate**  
**Public Wireless Local Area Network Services Under Class Licence**  
(Issued on 21 February 2003 and last revised on 12 October 2011)

**General**

In February 2003, the Telecommunications Authority (“TA”) created the Class Licence for the Provision of Public Wireless Local Area Network (LAN) Services (the “Class Licence”). The Class Licence allows the provision of public wireless LAN service, using wireless technologies such as WiFi, on private premises. Any person who operates public wireless LAN services under the Class Licence must operate within the terms and conditions of the Class Licence. This document provides guidelines on the operation of public wireless LAN services under the Class Licence.

**Nature of Class Licence**

2. In general, a class licence gives a person the right to operate a telecommunications system or service without applying for an individual licence, subject to compliance with the terms and conditions of the class licence which may include requirement to register relevant information with the TA. A person licensed under the class licence in respect of the telecommunications systems or services concerned acquires the status as a licensee under the Telecommunications Ordinance.

**Who are Licensed?**

3. Subject to the terms and conditions of the Class Licence, a person who uses radiocommunications apparatus that falls within the technical criteria set out in the Class Licence to provide public wireless LAN services is licensed under the Class Licence, and is required to register with the TA in accordance with the Class Licence (see paragraphs 11 -20 below for more details about registration). The “person” can be a natural person or any body of person(s), corporate or unincorporate.

4. A person may provide public wireless LAN service under the Class Licence in premises and locations which are not unleased Government lands or public streets. For provision of public wireless LAN on unleased Government lands or public streets, a carrier licence authorizing the provision of internal fixed services shall be obtained from the TA<sup>1</sup>.

5. The radiocommunications apparatus that can be used under the Class Licence to provide services are those operating in compliance with the following technical criteria:

<b>Frequency Band</b>	<b>Output Level</b>	<b>Spurious Emission Level</b>
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 µW outside the frequency band in which the fundamental frequencies are located
5150 – 5350 MHz <sup>2</sup>	e.i.r.p. not to exceed 200 mW using only digital modulation	e.r.p. not to exceed 10 µW
5470 – 5725 MHz <sup>3</sup>	e.i.r.p. not to exceed 1 W	e.r.p. not to exceed 10 µW
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 µW outside the frequency band in which the fundamental frequencies are located

1 At present, the provision of internal fixed services on unleased Government lands or public streets may be licensed under the Fixed Telecommunications Network Services (“FTNS”) Licence, Fixed Carrier Licence (“FCL”) or Unified Carrier Licence (“UCL”). FTNS Licence and FCL are no longer issued since August 2008. For UCL application, the application guidelines may be found on the website of the Office of the Telecommunications Authority ([http://www.ofa.gov.hk/en/report-paper-guide/guidance-notes/gn\\_201022.pdf](http://www.ofa.gov.hk/en/report-paper-guide/guidance-notes/gn_201022.pdf)).

2 Use of the band 5150 – 5350 MHz is restricted to indoor operations.

3 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 International Telecommunication Union as revised from time to time.

6. The Class Licence does not impose restrictions on the type or technical standard of the radiocommunications apparatus used as long as the concerned technical criteria are complied with. One popular type of apparatus operating in these frequency bands is wireless LAN equipment. Indeed, the Class Licence is created with the intention of providing a business-friendly environment to enable operators to offer public wireless LAN services. The Class licensees are free to use any technical standards (e.g. IEEE 802.11a/b/g/n or HiperLAN) to operate wireless LAN equipment to provide services so long as the technical criteria set out in the table above are complied with.

### **What Services are Licensed?**

7. A class licensee may provide the following public wireless LAN services under the Class Licence:

- (a) communications among persons within the radio coverage area of the same wireless LAN

The communications services authorized under the Class Licence do not include handover between access points. “Handover” means the process of transferring the control or connection of customer equipment from one access point to another without loss or interruption of service. Moreover, it should be noted that the connection or linkage of two or more wireless LANs, whether separated by unleased Government land / public street, or just next to each other (even though they may not be separated by unleased Government land / public street), is not authorised under the Class Licence. For connection or linkage of two or more wireless LANs separated by unleased Government land / public street, a carrier licence authorizing the provision of internal fixed services is required (see paragraph 4 and footnote 1 for more details). For connection or linkage of two or more wireless LANs which are not separated by unleased Government land / public street, a Services-Based Operator Licence for Class 3 Services of International Value-Added Network Services is required.

- (b) access to or resale of a public telecommunication service via the wireless LAN

Access service means that the wireless LANs are used as the channel to access public telecommunications services operated by the other licensed public telecommunications services operators, such as Internet services providers (ISPs) or external telecommunications services (ETS) operators. Such access by end users via a public wireless LAN may be through the establishment and maintenance of telecommunications means which are authorized under the Class Licence. For example, an ISP may provide Internet access services directly to its customers via the wireless LAN operated by a class licensee. In this scenario, the customers using Internet access services are expected to be charged directly by the ISP. The charges imposed by the class licensee, if any, may simply be for the service of providing the wireless LAN access.

Resale service means that public telecommunications services such as Internet access services and ETS services operated under other licences (e.g. Unified Carrier Licences or Services-Based Operator Licences) are *offered* directly by the class licensees to end users on a resale basis. That is to say, the Internet access or ETS services are *not operated* by the class licensees under the Class Licence, but the class licensees may agree a commercial arrangement with another licensed operator to “purchase” the Internet access or ETS services and “resell” them to the wireless LAN end users as part of their services. The end users will be directly charged by the class licensees for the Internet access or ETS services, and if applicable, the cost of wireless LAN access. For the avoidance of doubt, the class licensees are not permitted to “operate” these services under the Class Licence other than by “resale” of services. The resale of telecommunications services that do not involve the establishment or maintenance of any telecommunications means is in general regulated under the “Class Licence for Offer of Telecommunications Services under Section 8(1)(aa) of the Telecommunications Ordinance”.<sup>4</sup>

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<sup>4</sup> In February 2007, the TA created a Class Licence for offer of telecommunications services under section 8(1)(aa) of the Telecommunications

8. The scope of wireless LAN services is subject to the condition that the services must not be provided across unleased Government land or public streets. For example, a class licensee offering public wireless LAN services inside a café fronting a public street is not allowed to provide the services to persons located on or across the public street. However, the TA does not consider an unavoidable spillover of radio signals across the public street as a breach of this condition provided that the installation conforms fully to the emission characteristics specified in the Class Licence and class licensee does not offer to provide the services to persons located on or across the public street.

9. Where the café owners or property owners/tenants of the shopping malls are providing wireless LAN services themselves, they are required to be registered as class licensees under the Class Licence. However, there may be cases where they simply have rental agreements with wireless LAN operators to allow the operators to establish and offer wireless LAN services in their premises. If the café owners or property owners/tenants are simply making their premises available for wireless LAN operators to provide services, they will not be regarded as providing public wireless LAN services and are not required to register with the TA under the Class Licence.

10. It should be noted that the Class Licence only regulates the provision of “public” wireless LAN services. No telecommunications licence is required if a person establishes a wireless LAN for private use at home, in the office or in a school campus.

## **Registration**

11. Any person who intends to provide public wireless LAN services under the Class Licence is required to register with the TA before commencing his business<sup>5</sup>.

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Ordinance. Under this class licence, a person is licensed to offer in the course of business a telecommunications service, but is not allowed to establish or maintain any means of telecommunications for the purpose of offering telecommunications services.

<sup>5</sup> Prior to 21 February 2003, a person was able to provide wireless LAN services using radiocommunications apparatus operating within 2.400 – 2.4835 GHz or 5.725 – 5.850 GHz under the Telecommunications (Low Power Devices) (Exemption from Licensing) Order. This order was repealed when the Telecommunications (Telecommunications Apparatus) (Exemption from Licensing) Order came into effect. Those who were providing public wireless LAN services prior to 21 February 2003 under the repealed exemption arrangement were allowed to make their

12. Any person who intends to register with the TA is only required to register the minimal information sufficient for the TA to identify the class licensee and where the public wireless LAN business is operated. The information includes:

- name and contact details of the class licensee
- location of the public wireless LAN
- frequency band(s) used for providing the service

If there are any changes to the registered details, the class licensees are required to update the registered records before the changes take effect. The class licensees are also required to notify the TA within one month of his ceasing to provide the public wireless LAN service under the Class Licence. For the time being, the TA does not propose to levy any registration or licence fee but will review the situation from time to time.

13. To promote business efficacy and cost efficiency, the Office of the Telecommunications Authority (OFTA) provides a system that enables interested parties to make their registration by electronic submission. The registration form for electronic submission can be found under the section “Industry Focus > Licensing > Telecom Licences > Class Licence” of OFTA’s website at [www.ofta.gov.hk](http://www.ofta.gov.hk). Interested parties may also directly click to [http://www.ofta.gov.hk/en/legislation/class-licence/reg\\_form.zip](http://www.ofta.gov.hk/en/legislation/class-licence/reg_form.zip) (in English) or [http://www.ofta.gov.hk/zh/legislation/class-licence/reg\\_form.zip](http://www.ofta.gov.hk/zh/legislation/class-licence/reg_form.zip) (in Chinese) to download the registration form. However, if any person has any real difficulty in making registration electronically, he or she may make registration in person.

14. The following information is required to be filled out in the registration form:

- Details of the person to be registered as the class licensee
  - Name (should be the same as appearing in the Business Registration Certificate (BRC))
  - Business address (the same as appearing in BRC)
  - BRC number

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registration with the TA within one month from 21 February 2003 as a transitional arrangement.

- Telephone number
  - Fax number
  - Email address
- Details of the contact person (if different from the class licensee)
- Name
  - Telephone number
  - Email address
- Location(s) of radiocommunications apparatus
- Frequency band(s) used by the radiocommunications apparatus used for providing public wireless LAN services

The person making registration may be required to provide further information to complete the registration as necessary.

15. Failure to provide true, accurate and complete information listed in the previous paragraph may lead to a rejection of the registration.

16. For registration made through electronic means, both the email message and the registration form attached to the email must be digitally signed. Only a digital signature supported by a recognized certificate issued by a certification authority recognised by the Government Chief Information Officer under the Electronic Transaction Ordinance to the person to be registered as the class licensee will be accepted. For detailed information relating to the certification authority and digital certificates, please refer to the website of the Office of the Government Chief Information Officer at [www.ogcio.gov.hk](http://www.ogcio.gov.hk).

17. Electronic submission can be sent to [register-wlan@ofta.gov.hk](mailto:register-wlan@ofta.gov.hk). Registration in person can be made at

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

18. The update of information and notification of cessation of services

can similarly be made by electronic submission, or in person.

19. The TA will publish a register of the class licensees on OFTA's website. The register will include the name of the class licensee, the location(s) of the radiocommunications apparatus, and the frequency band(s) used by the radiocommunications apparatus. All other information provided to the TA is to be kept for regulatory purposes.

20. Enquiries concerning the registration may be sent to the following email address: [register-wlan@ofta.gov.hk](mailto:register-wlan@ofta.gov.hk).

### **Licence Conditions to Note**

21. It should be noted that the frequency bands allowed for setting up wireless LAN under the Class Licence are used on a shared basis in an uncoordinated manner. As the bands are opened for use by the public, no person should have a priority right of use over another. Whilst the wireless LAN equipment should not cause any harmful interference to any lawful telecommunications apparatus or systems, it is also not protected from harmful interference caused by other authorized telecommunications apparatus or system.

22. Where more than one wireless LAN is set up in one area (eg in a shopping arcade), the management of the channels and measures to avoid mutual interference generated by wireless LAN equipment are more efficiently and effectively performed on-site by the persons who intend to provide public wireless LAN services.

23. The market of public wireless LAN services is fully open. The TA considers that the service level should best be determined by the market and does not plan to impose any minimum requirement on service level at this stage. However, class licensees are required to publish their tariffs, either by electronic means or by providing a copy to any person who may request it, and charge no more than the published tariffs.

## **Further Information**

24. For further information of the Class Licence, interested parties may download the Class Licence revised on 9 February 2007 and the TA Statement issued on 17 January 2003 from the website of OFTA.

**Office of the Telecommunications Authority**

12 October 2011