

Public Wireless LAN Services in Hong Kong - Regulator's Perspectives

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Public Wireless LAN Services

- No regulatory barriers to market entry
- Wireless LAN for private use exempted from licensing
- Class licence issued on 21 February 2003 for public wireless LAN services (published on OFTA website)
- Complementary to 2.5G/3G services - market to decide demand
- Technology-neutral approach adopted

Regulatory Principles

- Extension to a fixed service
- Shared spectrum (operators or premises managers to sort out interference problems)
- No restriction on the provision of voice services (therefore potential to provide VoIP services)
- Class licensees to provide access services only. Provision of Internet services or international telephone services subject to separate individual licensing
- Backhaul - leased from fixed network operators

Regulatory Principles (2)

- No price regulation - prices to be published for consumer protection
- Regulated as a public service to safeguard fair competition and consumer interests
- Rental for space - subject to commercial agreements between service providers and premises owners

Class Licence

- Authorizes access to and resale of a public telecommunications service separately licensed (i.e. the Internet access service individually licensed)
- Registration with the Telecommunications Authority (TA) required
 - > name and contact details of Licensee
 - > locations and frequency bands of apparatus
- Provision of information (e.g. statistics) if requested by TA
- Other provisions - metering accuracy, publication of tariffs, safeguards against interference, etc.

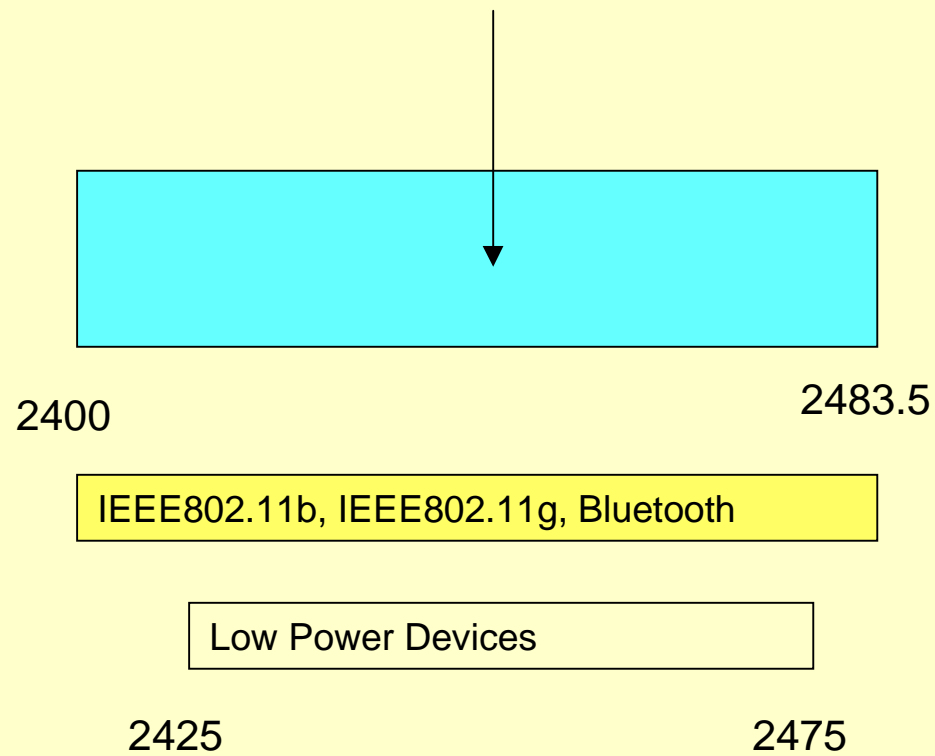
Frequency Bands Available

- 2400 - 2483.5 MHz
 - > Shared with Industrial, Scientific and Medical (ISM) equipment
 - > Suitable for IEEE 802.11b and 802.11g
- 5150 - 5350 MHz
 - > Suitable for IEEE 802.11a and HiperLAN I and II
- 5725 - 5850 MHz
 - > Shared with ISM equipment
 - > Suitable for IEEE 802.11a

The 2.4 GHz Band

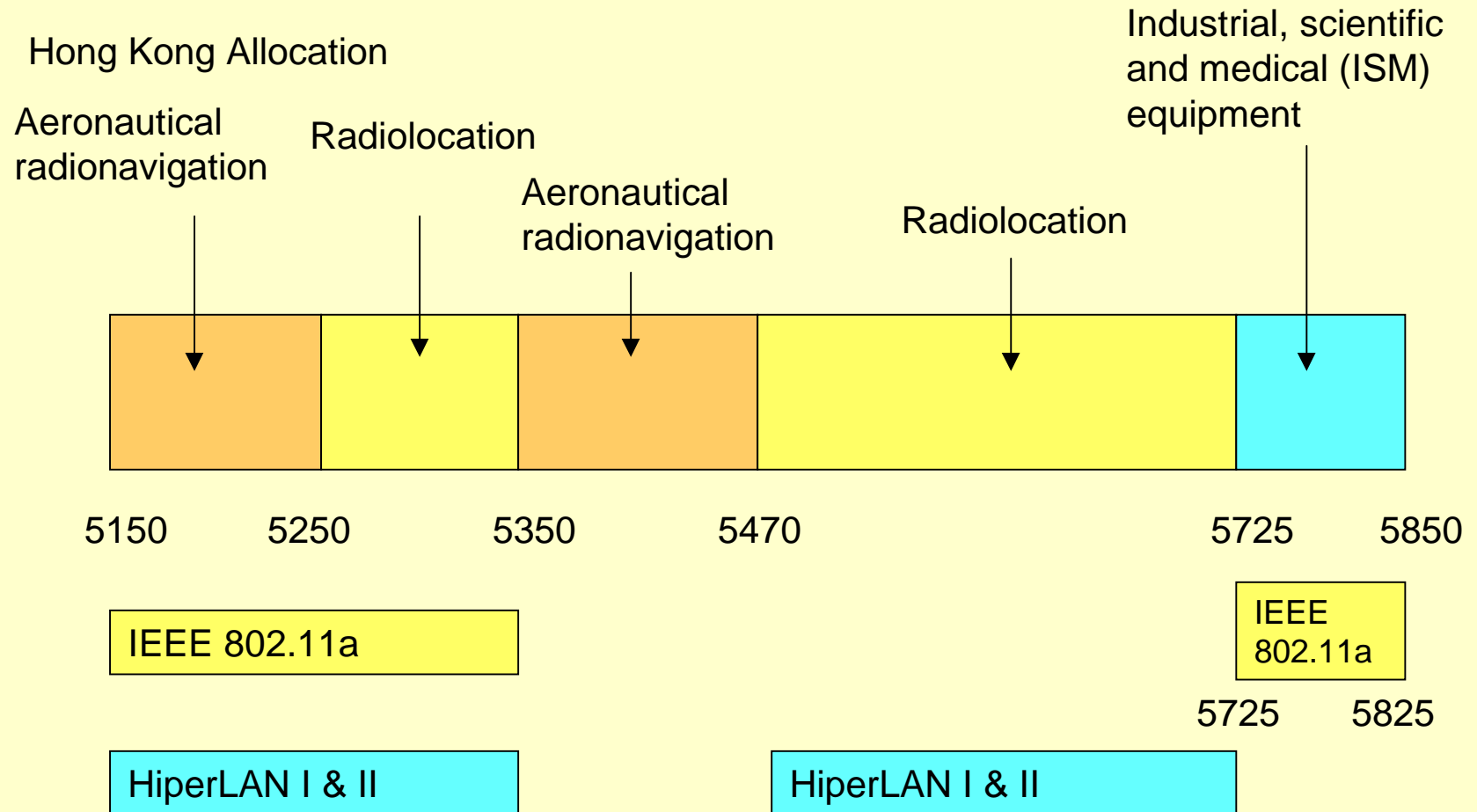
Hong Kong Allocation

Industrial, scientific
and medical (ISM)
equipment



Note: All frequencies in MHz, not to scale

The 5 GHz Band



Note: All frequencies in MHz, not to scale

Registered Services (Aug 03)

	Number of Locations	Number of Operators
2400 - 2483.5 MHz	264	17
5150 - 5350 MHz	1	
5725 - 5850 MHz	1	
Total	266	17

Status of Information Infrastructure in Hong Kong

- Mobile penetration 97%
 - > Registered customers 63%
 - > Pre-paid customers 34%
 - > 2.5 G customers - 6.4% of all mobile customers
- Four 3G licences issued in October 2001
 - > First network expected to be operational - late 2003 or early 2004
- Household broadband penetration 50%
- External connectivity 637 Gbps (equipped capacity)

Role of Wireless Means in Information Infrastructure

- Wireless LAN as an extension of the fixed networks for limited user mobility
- Wireless fixed access as a means
 - > to bypass bottlenecks in customer access networks
 - > to provide broadband access to customers not reached by DSL or cable modem services
- Five Local Multipoint Distribution Service (LMDS) in 29 GHz bands licensed in 2000
 - > Only one in operation, but system being converted to fibres

Role of Wireless Means in Information Infrastructure (2)

- > Restricted range per hub due to rain attenuation
- > Line-of-sight operation
- > Requirement for in-building wiring systems
- Non line-of-sight systems for Metropolitan Area Network (MAN) (e.g. IEEE 802.16 or WiMAX) might provide backhaul for wireless LAN services
 - > Spectrum requirements (possibly within range of 2 - 11 GHz) to be discussed with industry through Radio Spectrum Advisory Committee

Conclusions

- No regulatory barrier to the introduction of public wireless LAN services
- Spectrum available for higher speed services like those based on IEEE 802.11a or 802.11g
- Technology neutrality
- Minimal regulation
- Market to decide acceptance
- Wireless means to play a more significant role in information infrastructure when non line-of-sight Metropolitan Area Network technologies are available



Office of the Telecommunications Authority

<http://www.ofta.gov.hk>

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