New Generation of Wi-Fi

Telecommunications Users and Consumers Advisory Committee

28 December 2021

Use of Wi-Fi

Client Devices

Wi-Fi Access Points

Internet

What are the Wi-Fi Client Devices?

Client Devices	Examples
Smartphones	
Tablets / Laptops	
Wearable devices	
Smart Home Appliances with Wi-Fi function	

通訊事務管理局辦公室
OFFICE OF THE
COMMUNICATIONS AUTHORITY

What are the Wi-Fi Access Points?

Access Points	Typical Examples
Wi-Fi Routers	
Pocket Wi-Fi / Wi-Fi Eggs	
Bridges / Repeaters / Extenders	

Development of Wi-Fi technology

Wi-Fi technology has been widely used for over 20 years and has evolved for several generations ...

11b	>	11a	>	11g	>	11n	>	11ac	>	11ax
1999		1999		2003		2009 (Wi-Fi 4)		2014 (Wi-Fi 5)		2019 (Wi-Fi 6)

> **What is the Next Generation of Wi-Fi?**   WiFi

OFCA 通訊事務管理局辦公室 OFFICE OF THE COMMUNICATIONS AUTHORITY

Existing Regulations on Wi-Fi

- According to the Telecommunications (Telecommunications Apparatus) (Exemption from Licensing) Order, use of Wi-Fi devices operating in 2.4 GHz and 5 GHz bands are exempted from licensing subject to :
  - ➢ Compliance with the prescribed criteria/conditions (including power limits and technical specifications)
  - ➢ Cannot be used for public Wi-Fi services

- Provision of public Wi-Fi services operating in the 2.4 GHz and 5 GHz bands is authorised by the Class Licence for Provision of Public Wireless Local Area Service (PWLAN Service Class licence)

Latest Wi-Fi Technology

Wi-Fi 6E

Support of the 6 GHz band*
in the latest Wi-Fi 6 standard

Wider Channel Bandwidth

Higher Data Rate

Enhanced Latency

Support More Devices

*: 6 GHz band refers to the 5.925 – 7.125 GHz band

OFCA 通訊事務管理局辦公室 OFFICE OF THE COMMUNICATIONS AUTHORITY

Operating Bands of Wi-Fi 6E

	Wi-Fi Operating Frequency Bands		
	2.4 GHz	5 GHz	6 GHz
Wi-Fi 6E	✓	✓	✓
Existing Wi-Fi *	✓	✓	

* : Including Wi-Fi 4, Wi-Fi 5, Wi-Fi 6

OFCA 通訊事務管理局辦公室 OFFICE OF THE COMMUNICATIONS AUTHORITY

Wi-Fi 6E Operating in 6 GHz Band

- Operating frequency bands of Wi-Fi 6E devices are decided by the **concerned governments/authorities**

- Two camps in the world :

Camp 1

Including **Hong Kong**, Europe, Australia, etc

Camp 2

Including United States, Canada, South Korea, etc

To be considered for 5G service

5.925 GHz   6.425 GHz   7.125 GHz

Radio Spectrum

OFCA 通訊事務管理局辦公室
OFFICE OF THE COMMUNICATIONS AUTHORITY
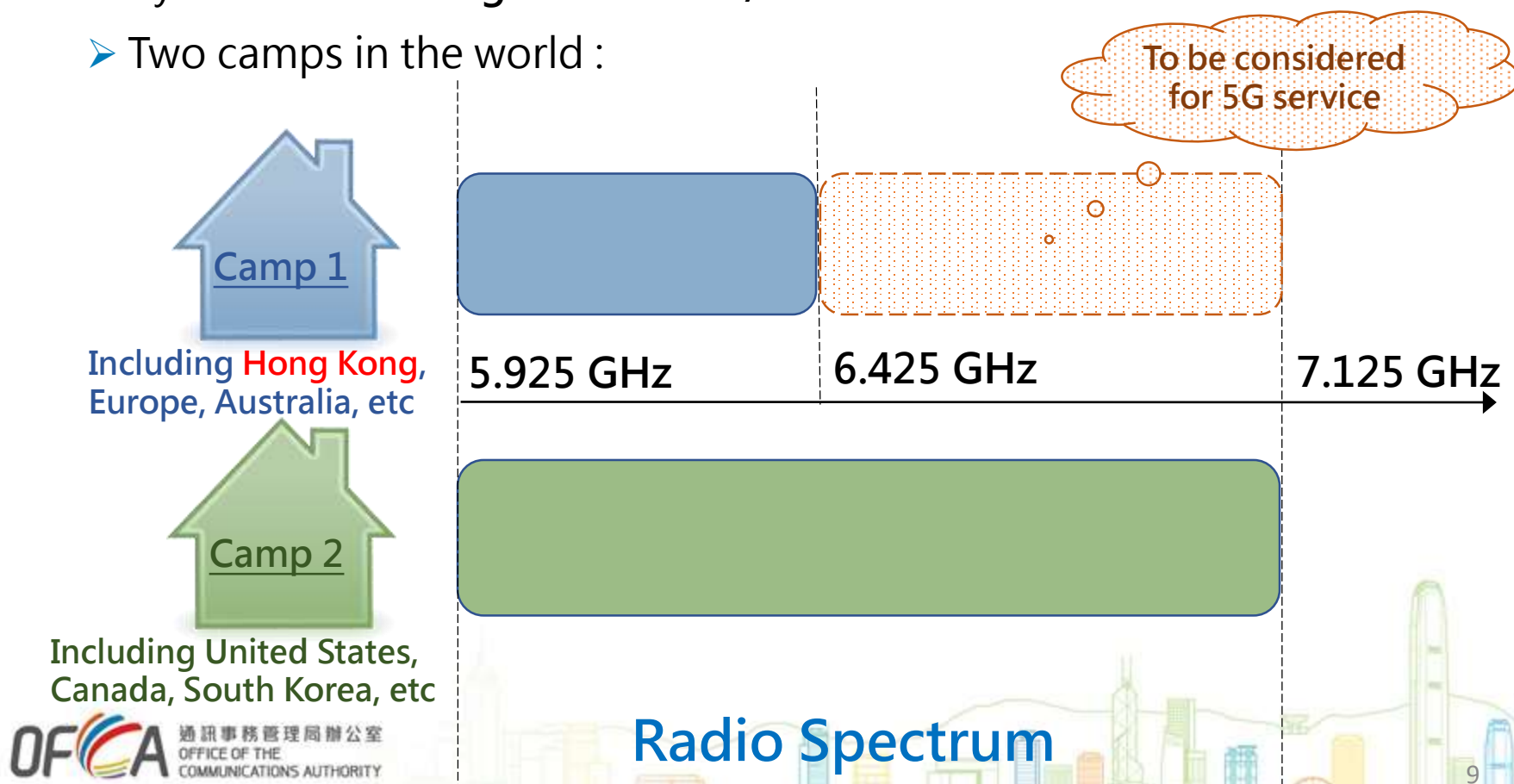
Consideration in Using Wi-Fi 6E

- ITU will deliberate on the identification of part of the 6425 – 7125 MHz band for development of mobile services in 2023. Hong Kong will make reference to the ITU's decision and decide whether this band would be assigned to 5G services

- As different places use different part of the 6 GHz band for Wi-Fi 6E, regulatory control on Wi-Fi 6E devices (Access Points, APs) is necessary to ensure that they would not cause interference to the future 5G services in Hong Kong

- It is proposed to impose compulsory certification and labelling requirements on Wi-Fi 6E APs

Regulate Wi-Fi 6E Access Points – Certification Requirement

- Wi-Fi 6E APs shall comply with the proposed HKCA 1081 specifications
  - ➢ make reference to the Harmonised European Standard EN 303 687
- It is the responsibility of manufacturers, suppliers or dealers to seek for certification of their Wi-Fi 6E APs before launching for sale in Hong Kong market
- Certification of Wi-Fi 6E Client Devices will continue to adopt the prevailing Voluntary Certification Scheme*

*: same as the current practice for 2.4 / 5 GHz Devices

Regulate Wi-Fi 6E Access Points – Labelling Requirement

- Wi-Fi 6E APs on sale must be affixed with the CA Label,
  - ➢ including demonstration in the course of sale
- Facilitate consumers to identify compliant Wi-Fi 6E APs

Certified for use in Hong Kong
經驗證可在香港使用

Certificate No. 證書號碼
ZZZZZYYXXXXX(*)

通訊事務管理局
COMMUNICATIONS
AUTHORITY

CA Label - Sample

Wi-Fi 6E Equipment	Certification and Labelling
APs	Compulsory
Client Devices	Voluntary

OF CA 通訊事務管理局辦公室
OFFICE OF THE
COMMUNICATIONS AUTHORITY

Public Consultation (1) – Regulating 6 GHz Devices

- Use of Wi-Fi devices operating in the 5.925 – 6.425 GHz band (referred to as 6 GHz Devices) in Hong Kong is currently not allowed
- Pursuant to section 7B(2) of the Telecommunications Ordinance (Cap. 106), the CA proposes to create a class licence for regulating the use, possession and trading of 6 GHz Devices
  - ➢ Consumers do not need to individually apply for licence and pay any licence fee
  - ➢ Must comply with prescribed licence conditions, including:
    - o compulsory certification and labelling of Wi-Fi 6E APs for sale
    - o prohibit for use on board Unmanned Aircraft Systems (commonly known as "drone") to avoid accidents due to interference by the existing primary use (i.e. satellite service) operating in the same band

OF CA 通訊事務管理局辦公室
OFFICE OF THE
COMMUNICATIONS AUTHORITY

Public Consultation (2) – Regulating 6 GHz Devices

- Vary the existing PWLAN Service Class Licence to authorise the provision of public Wi-Fi services using the 6 GHz Devices
- The CA just completed a 4 week public consultation, and would made decisions on the matters in 2022

Thank you