



هيئة الاتصالات والفضاء والتقنية
Communications, Space &
Technology Commission

WLAN Regulations

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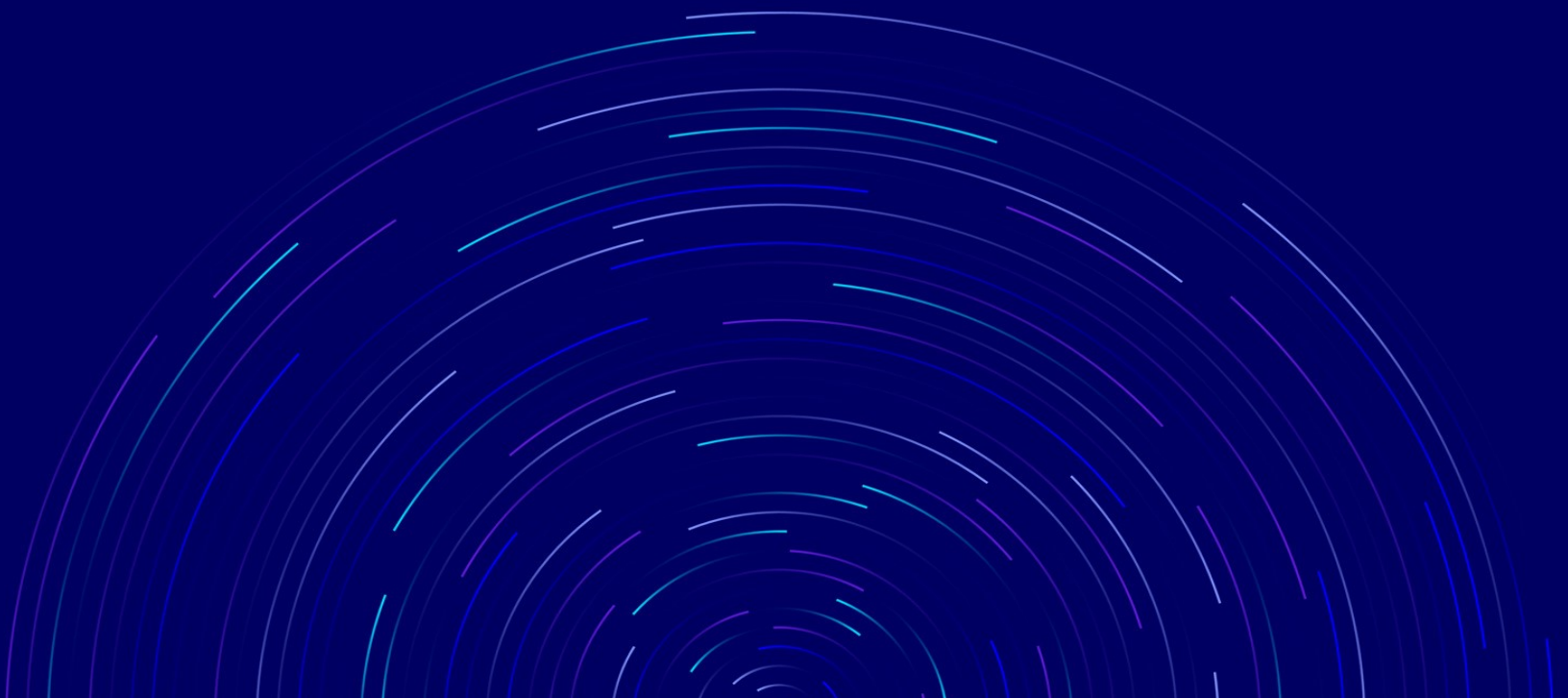


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Table of Contents

<u>1.</u>	INTRODUCTION	4
<u>2.</u>	DEFINITIONS	5
<u>3.</u>	SPECTRUM ACCESS MECHANISMS	7
<u>4.</u>	LIGHTLY LICENSED ACCESS FOR WLAN BANDS	7
<u>5.</u>	FIXED LINKS	8
<u>6.</u>	ELIGIBILITY	8
<u>7.</u>	WLAN FREQUENCY BANDS AND APPLIED TECHNICAL CONDITIONS	9
<u>8.</u>	TYPE APPROVAL	10
<u>9.</u>	ENFORCEMENT	10
<u>10.</u>	SPECTRUM FEES	11
<u>11.</u>	MAINTAINING THIS DOCUMENT	11



1. Introduction

- 1.1. This document is issued by the Communications and information Technology Commission (CITC) in accordance with its responsibility established under chapter 3 of the Telecommunications Act and chapter 10 of the Bylaw to the Telecommunications Act to ensure the efficient management of the radio spectrum in the Kingdom of Saudi Arabia.
- 1.2. It establishes the regulations that apply to the use of the WLAN Frequency Bands in the Kingdom to enable sharing with other non-WLAN services and applications. The regulations set out in this document are made to ensure that WLAN equipment, operated in accordance with these regulations, will not cause harmful interference to these other services and applications. The objectives of this document are to:
- Enhance the quality of wireless services provided in the Kingdom
 - Enable broadband connectivity services
 - Ensure equitable access to spectrum by seeking a balance between complementary technologies and radio services
 - Enable more efficient use of spectrum through better approaches to sharing and more flexible access
 - Support the introduction of new services and spectrum uses for the benefit of the Kingdom, including promotion of emerging radio technologies
 - Ensure effective usage of frequencies without causing harmful interference
 - Ensure clarity and transparency of procedures in managing the radio spectrum

1.3. In order to meet these objectives, CITC is guided by the following principles in accordance with article 3 of the Telecommunications Act and article 78 of Bylaw to the Telecommunications Act:

- Promoting the release and efficient utilization of spectrum for the wider benefit of the Kingdom.
- Permitting the technology neutral use of spectrum where this is technically feasible.
- Promoting the improvement of spectrum utilization, including the support of shared spectrum bands under appropriate technical conditions of use to ensure coexistence of services.

2. Definitions

2.1. The words and expressions defined in the Telecommunications Act and the bylaw to the Telecommunications Act shall have the same meaning when used in this regulatory document. The following words and expressions shall have the meaning assigned to them below:

2.2. WLAN: Communication networks that are used to provide wireless communications in a limited area, denoted Wireless Local Area Networks. Such networks are built based on international standards, such as IEEE 802.11/HIPERLAN, and provide users the ability to remain connected whilst moving within a limited area. WLAN networks include those based on technologies such as Wi-Fi 4, Wi-Fi 5, Wi-Fi 6/6e, NR-U and WiGig technologies capable of operating in WLAN bands on a license-exempt basis and are also designed to enable sharing and coexistence with other services. WLAN technologies can also be used to establish communications between fixed locations (i.e. fixed links), or to control or monitor devices remotely.

2.3. Person: A public or private natural or legal person.

- 2.4. WLAN Frequency Bands: The 2.4 GHz, 5 GHz, 6 GHz and 57-71 GHz frequency bands as specified in this document.
- 2.5. Indoor: locations within premises, where the radio waves of wireless networks have targeted coverage areas constrained by the walls of a structure (such as houses, offices, hotels, airports, etc) or a fence and within vehicles, ships/boats, trains, and aircrafts.
- 2.6. Outdoor: locations outside of premises, where radio waves of wireless networks are able to propagate more widely subject to power limits (such as streets, seashores, parks, etc).
- 2.7. Access Point: Communications equipment that can be deployed indoors or outdoors to provide WLAN connectivity to client device(s).
- 2.8. Indoor Access Point: An access point that operates in the (5925 – 7125) MHz band that can only be deployed indoors, is supplied power from a wired connection, has an integrated antenna, is not battery powered, and does not have a weatherized enclosure.
- 2.9. Client device: Communications equipment whose transmissions are generally under the control of an access point and is not capable of initiating a network.
- 2.10. Harmful Interference: Interference that seriously degrades, obstructs or repeatedly interrupts a radio communication service operating in accordance with international radio regulations issued by International Telecommunication Union (ITU).
- 2.11. EIRP: The Effective Isotropic Radiated Power is the actual power emitted by the antenna.

- 2.17. License-Exempt: Use of radio spectrum without the user being required to possess a frequency license issued by CITC, but the user is required to operate under CITC's terms and conditions. Equipment operating on a license-exempt basis shall operate on a non-exclusive, non-interference and non-protection basis.
- 2.18. Light licensing: An approach where spectrum is not exclusively assigned, but users need to register with CITC in order to have shared access to specified radio spectrum. Such approach includes, but not limited to the following:
- Registration of location of usage
 - Use of systems to reduce interference between registered users, for example, by preventing new registrations that might interfere with existing registrations
 - Use of systems that dynamically allow use, including on a time-sharing basis, to enable band sharing between users in a band

3. Spectrum Access Mechanisms

- 3.1. Users shall be permitted to operate WLAN equipment in WLAN Frequency Bands on a license-exempt basis.
- 3.2. In addition, users shall be permitted to operate WLAN equipment in some WLAN Frequency Bands under a Light Licensing regime as specified in section (4).

4. Lightly Licensed Access for WLAN bands

- 4.1. Aside from the license-exempt use, CITC is permitting the use of WLAN Frequency Bands under the light licensing regime in accordance with section (7) with more flexible technical conditions (such as relaxed power restrictions). The lightly licensed use will still be compatible with the coexistence requirements with other spectrum users.

- 4.2. The regulations and conditions associated with the light licensing regime will be imposed as specified in the light licensing regulation document issued by CITC.

5. Fixed Links

- 5.1. CITC permits the use of WLAN fixed wireless links in the WLAN Frequency Bands in a license-exempt manner in accordance with section (6) below and by following the technical conditions specified in section (7) and the regulations set out in this document.
- 5.2. Aside from the license-exempt use for the WLAN fixed wireless links, some of the WLAN Frequency Bands can be used under the light licensing regime with more flexible use conditions (such as relaxed power restrictions) as specified in the light licensing regulation document issued by CITC.

6. Eligibility

- 6.1. CITC permits the use of the WLAN applications in the WLAN Frequency Bands by any Person as long as they are used in accordance with the relevant regulations, including the regulations set out in this document.
- 6.2. CITC doesn't permit the use of WLAN applications in the WLAN Frequency Bands to provide any commercial services (e.g. paid for) unless operated by telecommunications service providers who hold an appropriate service providing license from CITC as per article 19 of the Telecommunications Act.
- 6.3. The eligibility of use for WLAN fixed wireless links will be subjected to the regulations specified in the fixed service regulation that will be issued by CITC.

7. WLAN Frequency Bands and Applied Technical Conditions

- 7.1. Equipment used for WLAN applications needs to conform with the technical conditions specified in table 1 below; in addition, all equipment must adhere to CITC's published technical specifications such as RI117¹.
- 7.2. Table 1 specifies the frequency bands that can be used for WLAN applications and the technical conditions for each band, which include the environment conditions and the power restrictions.

Table 1: Applied Technical Conditions for WLAN Frequency Bands

Frequency Band (MHz)	Environment	Maximum Radiated PSD (mW / MHz)	Maximum EIRP (mW)
2400 - 2483.5	Indoor and outdoor	10	100
5150 - 5250 (Note 1)	Indoor	10	200
5250 - 5350 (Note 2)	Indoor	10	200
5470 - 5725 (Note 3)	Indoor and outdoor	50	1000
5725 - 5875	Indoor and outdoor	-	25
5925 - 7125 (Note 4)	Indoor (Indoor Access point)	10	1000
	Indoor (Client device)	10	250
	The band can be used for WLAN applications with more relaxed power restrictions under a lightly licensed regime subject to the light licensing regulation that will be issued by CITC.		

¹ RI 117 Specification for Data Communication Equipment operating in License-Exempt Frequency Bands

57000 - 71000	Indoor	200	10000
	The band can be used for WLAN applications with more relaxed power restrictions under a lightly licensed regime subject to the light licensing regulation that will be issued by CITC.		
Notes			
Note 1	The use of WLAN applications in vehicles is restricted to 40 mW maximum EIRP.		
Note 2	The use of WLAN applications is prohibited in vehicles, trains, and aircrafts.		
Note 3	The use of WLAN applications is prohibited in vehicles, trains, aircrafts, and unmanned aircraft systems.		
Note 4	The use of WLAN applications is prohibited in oil platforms, vehicles, trains, boats, unmanned aircraft systems and aircrafts, except that indoor access points are permitted to operate in the 5.925-6.425 GHz bands in large aircraft while flying above 10,000 feet.		

8. Type Approval

- 8.1. WLAN equipment shall be type approved by CITC prior to importation to the Kingdom.
- 8.2. The radio interface performance shall comply and meet these requirements:
 - the related technical specifications published on CITC's website
 - the regulations and requirements specified in this document
 - the acquisition of conformity certificate and type approval before the request of an equipment custom clearance

9. Enforcement

- 9.1. If CITC detects that a frequency use falls outside the terms of any authorized use, CITC will serve an enforcement notice requiring either immediate cessation of transmissions in the case of a serious deviation that could lead to harmful interference, or a correction within a given timescale for less serious deviations.
- 9.2. CITC will impose a penalty in accordance with chapter 10 of the Telecommunications Act for any violations of these regulations that could lead to harmful interference.

10. Spectrum Fees

- 10.1. The spectrum users of WLAN applications, operating on a license exempt basis in the WLAN Frequency Bands, will not pay any fee for using the spectrum in accordance with the regulations set out in this document as well as the regulations set out in the relevant technical specifications.

11. Maintaining this document

- 11.1. CITC will review and update this document as appropriate to respond to emerging uses and demands for spectrum access as an important part of meeting the current data demand and proactively anticipating future needs.



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