

## CST Technical Specification

# Specification for Data Communication Equipment operating in License-Exempt Frequency Bands

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This technical specification is issued by The Communications, Space and Technology Commission in the Kingdom of Saudi Arabia in accordance with the provisions of the Communications and Information Technology Act issued by Royal Decree No. (M/106) dated 02/11/1443 AH and its bylaw, and the Commission's regulation.

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### Document History Table

Version	Issue Date	Description
Issue 1	July 2021	Replacement for RI045, RI103, RI104 and RI115 with updated limits.
Issue 2	January 2022	Addition of 5925 – 7125 MHz and 57 – 71 GHz frequency bands
Issue 3	October 2023	

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## 1- Scope

- 1-1 This specification applies to data communication systems operating in license-exempt frequency bands.
- 1-2 Data communication devices utilizing license-exempt frequency bands in this technical specification include, but are not limited to, technologies such as Wireless local area networks (WLAN/Wi-Fi), Drones, ZigBee and Bluetooth.

## 2- Enforcement

- 2-1 This specification shall enter into force from issue date.
- 2-2 Any previous version of this technical specification is withdrawn.

### 3- General Requirements

- 3-1 All equipment must comply with the requirement of CST specification GEN001, be safe and must not adversely affect other electrical equipment.
- 3-2 This technical specification is compatible with the Wireless Local Area Networks (WLAN) Regulations that regulates the spectrum use of WLAN applications such as frequency bands identified for WLAN, eligible users use environment, enforcement, and other related regulations. All WLAN equipment must comply with the requirements specified in this technical specifications and the regulations specified in the WLAN Regulations.
- 3-3 All telecommunications and radio terminal equipment must comply with the relevant technical specifications established by CST. In addition, such equipment may be subject to regulations for Declaration of Conformity or registration. See CST website for details.
- 3-4 If more than one interface type is offered by a piece of equipment, each interface must meet the applicable technical specifications.
- 3-5 Further information on the characteristics and presentation of network interfaces can be obtained by coordinating with the network operators.
- 3-6 It is mandatory that test reports are obtained from a laboratory that has been accredited by a body that is a member of the ILAC Mutual Recognition Arrangement.

## 4- Limits and conditions

Testing should be carried out to ensure compliance with the listed specifications.

Frequency band	Max Output Power	Usage	Standard	Comments
863 - 868 MHz	25mW ERP	Wideband data transmission	EN 300 220 EN 301 489-17	≤ 10% duty cycle for network access points and polite spectrum access. ≤ 2.8% duty cycle otherwise and polite spectrum access
915.8 - 919.4 MHz	25mW ERP	Wideband data transmission	EN 300 220 EN 301 489-17	≤ 10% duty cycle for network access points and polite spectrum access. ≤ 2.8% duty cycle otherwise and polite spectrum access
2400 - 2483.5 MHz	100mW EIRP, 10mW/MHz PSD	Wideband data transmission / Drones	EN 300 328 EN 300 440 EN 301 489-17	At least one of the following (LBT and/or DAA) shall be implemented
5150 - 5250 MHz	200 mW EIRP, 10mW/MHz PSD	Indoor Wideband data transmission	EN 301 893 EN 301 489-17	At least one of the following (LBT and/or DAA) shall be implemented
5250 - 5350 MHz	200 mW EIRP, 10mW/MHz PSD	Indoor Wideband data transmission	EN 301 893 EN 301 489-17	TPC and DFS shall be implemented
5470 - 5725 MHz	1000 mW EIRP, 50mW/MHz PSD	Wideband data transmission	EN 301 893 EN 301 489-17	TPC and DFS shall be implemented

5725 – 5825 MHz	1000 mW EIRP, 50mW/MHz PSD	Wideband data transmission	EN 302 502 EN 301 489-17	TPC and DFS shall be implemented
5725 – 5875 MHz	25 mW EIRP, 1.25mW/MHz PSD	Wideband data transmission	EN 300 440 EN 301 489-17	At least one of the following (LBT and/or DAA) shall be implemented
5925 – 7125 MHz	1000 mW EIRP, 10mW/MHz	Indoor Access Point Wideband data transmission	EN 301 489-17 See notes below	LBT and TPC shall be implemented
5925 – 7125 MHz	250 mW EIRP, 10mW/MHz PSD	Indoor Client Device Wideband data transmission	EN 301 489-17 See notes below	LBT and TPC shall be implemented
57 – 71 GHz	10000 mW EIRP, 200 mW/MHz PSD	Indoor wideband data transmission	EN 302 567 EN 301 489-17 See notes below	At least one of the following (LBT and/or DAA) shall be implemented

Notes:

- The operational conditions of the WLAN/Wi-Fi equipment such as the environment conditions and other conditions in the bands 2.4 GHz, 5 GHz, 6 GHz, and 60 GHz must be in compliance with the Wireless Local Area Networks Regulation.
- CST will adopt the appropriate standards for the 5925 – 7125 MHz and 57 – 71 GHz bands once they are published and meet CST's objectives.
- The use of the 5925 – 7125 MHz and the 57 – 71 GHz bands is regulated by the power restrictions applied in these bands as well as the other regulations set out in the Radio Spectrum Allocation and Use Regulation for WLAN applications.

- Requirements for approval of devices supporting the 5925 – 7125 MHz and 57 – 71 GHz bands will be communicated during the application process.

## 5- Licensing Requirements

No licensing requirements apply.

## 6- Additional Requirements

- 6-1 All equipment must comply with the Radio Spectrum Allocation and Use Regulation for WLAN applications. See CST website for details.
- 6-2 All drones utilizing license-exempt bands must comply with this technical specification with regard to the radio interface, other requirements related to drones registration and customs clearance must be coordinate with GACA.



## 7- References

The following referenced documents are indispensable for the application of this document. If no issue or revision number is quoted along with the title of a technical specification or standard, the latest published version should be used.

### **EN 300 220-1**

Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 1: Technical characteristics and methods of measurement

### **EN 300 328**

Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum

### **EN 300 440**

Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Harmonised Standard for access to radio spectrum

### **EN 301 893**

5 GHz RLAN; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

### **EN 302 567**

Broadband Radio Access Networks (BRAN); 60 GHz Multiple-Gigabit WAS/RLAN Systems; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE directive.

**EN 302 502**

Wireless Access Systems (WAS); 5,8 GHz fixed broadband data transmitting systems; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

**EN 303 722**

Wideband Data Transmission Systems (WDTS) for Fixed Network Radio Equipment operating in the 57 GHz to 71 GHz band; Harmonised Standard for access to radio spectrum

**EN 303 687**

6 GHz RLAN Harmonised Standard for access to radio spectrum

**EN 300 440**

Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Harmonised Standard for access to radio spectrum

**EN 301 489-1**

Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements.

**EN 301 489-17**

ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband Data Transmission Systems; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU