



## CITC Technical Specification

Document Number: RI050  
Revision: Issue 3  
Date: 15/12/2018 G

## Specification for Inductive Applications

Issued by The Communications and Information Technology Commission of Saudi Arabia in accordance with article 89 of the Telecommunications Bylaw.

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## Scope

This document applies to Inductive Applications and Wireless Power Transmission Equipment.

All telecommunications and radio terminal equipment must comply with the relevant technical specifications established by CITC. In addition, such equipment may be subject to regulations for Declaration of Conformity or registration. See <http://www.citc.gov.sa/> for details.

If more than one interface type is offered by a piece of equipment, each interface must meet the applicable technical specifications.

## Entry into force

This specification shall enter into force on 15/12/2018 G

## Frequency of operation

The following table is showing information on frequency bands, maximum output power and applicable specifications:

Frequency band	Maximum Output Power or Magnetic Field	ETSI Standard
9 -59.750 kHz	72 dB $\mu$ A/m at 10m (Note 5)	EN 300 330-2
59.750-60.250 kHz	42 dB $\mu$ A/m at 10m (Note 5)	EN 300 330-2
60.250-70.000 kHz	69 dB $\mu$ A/m at 10m (Note 5)	EN 300 330-2
70-119 kHz	42 dB $\mu$ A/m at 10m (Note 5)	EN 300 330-2
119-135 kHz	66 dB $\mu$ A/m at 10m (Note 5)	EN 300 330-2
135-140 kHz	42 dB $\mu$ A/m at 10m (Note 5)	EN 300 330-2
140-148.5 kHz	37.7 dB $\mu$ A/m at 10m (Note 5)	EN 300 330-2
148.5- 5000 kHz (Note 1)	-15 dB $\mu$ A/m at 10 m (Note 5)	EN 302 536-2
400-600 kHz (Note 2)	-8 dB $\mu$ A/m at 10 m (Note 5)	EN 300 330-2
6765-6795 kHz	42 dB $\mu$ A/m at 10m	EN 300 330-2
7400-8800 kHz	9 dB $\mu$ A/m at 10m	EN 300 330-2
10200-11000 kHz	9 dB $\mu$ A/m at 10m	EN 300 330-2
13.553-13.567 MHz	42 dB $\mu$ A/m at 10m	EN 302 291-2 EN 300 330-2
13.553-13.567 MHz (Note 3)	60 dB $\mu$ A/m at 10m	EN 302 291-2 EN 300 330-2
5000 kHz-30 MHz (Note 4)	-20 dB $\mu$ A/m at 10 m (Note 5)	EN 300 330-2
3155-3400 kHz	13.5 dB $\mu$ A/m at 10m (Note 5)	EN 300 330-2

Note 1: The maximum magnetic field strength is specified in a bandwidth of 10 kHz. The maximum allowed total magnetic field strength is -5 dB $\mu$ A/m at 10 m for systems operating at bandwidths larger than 10 kHz whilst keeping the density limit (-15 dB $\mu$ A/m in a bandwidth of 10 kHz).

Note 2: For RFID only. The maximum field strength is specified in a bandwidth of 10 kHz. The maximum allowed total magnetic field strength is -5dB $\mu$ A/m at 10 m for systems operating at bandwidths larger than 10 kHz measured at the centre frequency whilst keeping the density limit (-8dB $\mu$ A/m in a bandwidth of 10 kHz.) These systems should operate with a minimum operating bandwidth of 30 kHz.

Note 3: For RFID only.

Note 4: The maximum magnetic field strength is specified in a bandwidth of 10 kHz. The maximum allowed total magnetic field strength is -5 dB $\mu$ A/m at 10 m for systems operating at bandwidths larger than 10 kHz whilst keeping the density limit (-20 dB $\mu$ A/m in a bandwidth of 10 kHz).

Note 5: In case of external antennas only loop coil antennas may be employed.

## Proof of compliance

It is recommended 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.

## Technical requirements

Testing should be carried out to ensure compliance with the following specifications as appropriate:

### **EN 302 291-2**

Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Close Range Inductive Data Communication equipment operating at 13.56 MHz; Part 2: Harmonised EN under article 3.2 of the R&TTE directive.

### **EN 300 330-2**

Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Part 2: Harmonized EN under article 3.2 of the R&TTE directive.

### **EN 302 536-2**

Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 315 kHz to 600 kHz; Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive

### **EN 303 417**

Wireless power transmission systems, using technologies other than radio frequency beam in the 19 - 21 kHz, 59 - 61 kHz, 79 - 90 kHz, 100 - 300 kHz, 6 765 - 6 795 kHz ranges; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

### **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 301 489-3**

Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz.

If no issue or revision number is quoted along with the title of a technical specification, the latest published version should be used.

### **General**

In addition to meeting the above requirements, all equipment must comply with the requirements of CITC specifications GEN001, be safe and must not adversely affect other electrical equipment.

## Additional requirements

There are no additional requirements existing for the use of inductive applications and ancillary equipment.

## Obtaining technical standards

ETSI technical standards may be obtained free of charge for individual use from the ETSI website [www.etsi.org](http://www.etsi.org).

## Network information (only for network interfaces)

Further information on the characteristics and presentation of network interfaces can be found by visiting operator's website.

## Document history

Description	Status	Date
	Issue 1	11/03/2006 G
	Issue 2	29/09/2008 G
	Issue 3	01/11/2018 G