

CST Technical Specification

Specification for IMT User Equipment

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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.

Communications, Space and Technology Commission (CST)
P.O Box 75606 – Riyadh 11588 – Kingdom of Saudi Arabia

Telephone: + 966 1 14618000
Fax: + 966 1 14618120
E-mail: info@cst.gov.sa
Website: www.cst.gov.sa

Document History Table

Version	Issue Date	Description
Issue 1	July 2021	
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1- Scope

- 1-1 This specification applies to IMT user equipment, handsets and related equipment utilizing GSM, UMTS, LTE, LTE-M NB-IoT, and 5G NR Technologies.

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- 2-2 Any previous version of this technical specification is withdrawn.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 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. Additional details are available at CST website.
- 3-3 If more than one interface type is offered by a piece of equipment, each interface must meet the applicable technical specifications.
- 3-4 Further information on the characteristics and presentation of network interfaces can be obtained by coordinating with the mobile network operators.
- 3-5 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 or Magnetic Field	Usage	Standard	Comments
TX: 617 – 652 MHz RX: 663 – 698 MHz	24 dBm EIRP	LTE, NB-IoT, 5G NR	TS 36.101 TS 38.101-1 EN 301 489-52	B71/n71 (FDD)
TX: 703 – 733 MHz RX: 758 – 788 MHz	24 dBm EIRP	LTE, NB-IoT, LTE-M, 5G NR	EN 301 908-13 EN 301 489-52	B28/n28 (FDD)
RX: 738 – 758 MHz	Receiving only	LTE, 5G NR	TS 36.101 TS 38.101-1 EN 301 489-52	B67/n67 (SDL)
TX: 832 – 862 MHz RX: 791 – 821 MHz	24 dBm EIRP	UMTS, LTE, NB-IoT, LTE-M, 5G NR	EN 301 908-13 EN 301 489-52	B20/n20 (FDD)
TX: 880 – 915 MHz RX: 925 – 960 MHz	8 W ERP	GSM	EN 301 511 TR 101 375 EN 301 489-52	B8/n8 (FDD)
	24 dBm EIRP	UMTS, LTE, NB-IoT, LTE-M, 5G NR	EN 301 908-13 EN 301 489-52	
TX: 1710 – 1785 MHz RX: 1805 – 1880 MHz	8 W ERP	GSM	EN 301 511 TR 101 375 EN 301 489-52	B3/n3 (FDD)

	24 dBm EIRP	UMTS, LTE, NB-IoT, LTE-M, 5G NR	EN 301 908-13 EN 301 489-52	
TX: 1920 – 2010 MHz RX: 2110 – 2200 MHz	24 dBm EIRP	UMTS, LTE, NB-IoT, LTE-M, 5G NR	EN 301 908-13 EN 301 489-52	B1/n1 (FDD) B65/n65 (FDD)
TX: 2300 – 2400 MHz RX: 2300 – 2400 MHz	26 dBm EIRP	LTE, LTE-M, 5G NR	EN 301 908-13 EN 301 489-52	B40/n40 (TDD)
TX: 2500 – 2690 MHz RX: 2500 – 2690 MHz	26 dBm EIRP	LTE, LTE-M, 5G NR	RSS-199 EN 301 489-52	B41/n41 (TDD)
TX: 3.4 – 3.6 GHz RX: 3.4 – 3.6 GHz	26 dBm EIRP	LTE	EN 301 908-13 EN 301 489-52	B42 (TDD)
TX: 3.6 – 3.8 GHz RX: 3.6 – 3.8 GHz	26 dBm EIRP	LTE	EN 301 908-13 EN 301 489-52	B43 (TDD)
TX: 3.3 – 3.8 GHz RX: 3.3 – 3.8 GHz	26 dBm EIRP	5G NR	EN 301 908-13 EN 301 489-52	n78 (TDD)
TX: 3.3 – 4.2 GHz RX: 3.3 – 4.2 GHz	26 dBm EIRP	5G NR	EN 301 908-13 EN 301 489-52	n77 (TDD)

5- Licensing Requirements

No licensing requirements apply.

6- Additional Requirements

There is no additional requirements for this technical specification.

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 301 511

Global system for mobile communications (GSM); Harmonised standard for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under Article 3(2) of the R&TTE directive.

TR 101 375

Security Algorithms Group of Experts (SAGE); Reports on the specification, evaluation and usage of the GSM GPRS Encryption Algorithm (GEA).

EN 301 908-1

Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS) and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 1: Harmonized EN for IMT-2000, introduction and common requirements, covering essential requirements of article 3.2 of the R&TTE directive.

EN 301 908-13

IMT cellular networks; Harmonised EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 13: Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE).

EN 301 908-25

IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 25: New Radio (NR) User Equipment (UE)

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 301 489-52

Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 52: Specific conditions for Cellular Communication User Equipment (UE) radio and ancillary equipment; Harmonised Standard for Electromagnetic Compatibility

RSS-199

Broadband Radio Service (BRS) Equipment Operating in the Band 2500–2690 MHz

RSS-130

Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz 777-787 MHz