

UNITED REPUBLIC OF TANZANIA  
TANZANIA COMMUNICATIONS REGULATORY AUTHORITY

**ISO 9001:2008 CERTIFIED**



**MINIMUM TECHNICAL SPECIFICATIONS**

**FOR**

**CELLULAR MOBILE TERMINAL**

**AUGUST 2016**

## **1.0 General Requirements**

### **1.1 Scope of Specification**

This specification defines the minimum technical requirements for Mobile Terminals to be used in the Public Mobile Radio Communication System and services which employ:

- a) The Global System for Mobile Communications (GSM) technology; and
- b) The ITU IMT-2000 (UTRA FDD and E-UTRA FDD) technologies.

Cellular Mobile Terminals may include handheld, portable and vehicle-mounted equipment, and RF interface cards and modems.

### **1.2 Identification of Equipment**

While preparing this specification it has been found that there is no single comprehensive specification available at the international level. However various requirements of the product have been specified separately.

- a. The Cellular Mobile Terminal shall be marked with the manufacturer's brand or identification mark, and the manufacturer's model or type reference. The marking required shall be legible, indelible and readily visible.
- b. Each individual Mobile Terminal shall be allocated a unique 'International Mobile Station Equipment Identity (IMEI)'. Manufacturer shall ensure that adequate security measures have been taken to protect the IMEI against duplication, unauthorised removal or change. The IMEI number of the device shall be available in the latest up dated IMEI database of the GSMA. The Handset IMEI shall not be with all zeroes.
- c. In case of mobile handset having more than one SIM, if each SIM is associated with its own transceiver, then each transceiver/SIM slot shall have its own associated IMEI number. Therefore, a dual SIM phone should have 2 IMEI numbers; a three SIM phone should have 3 IMEI numbers etc.
- d. Each Mobile phone handset shall be packed with an instruction manual to furnish the following information:
  - i. Name or trade-mark of the manufacturer.
  - ii. Any other useful information the manufacturer would like to furnish.

### **1.3 Keypad**

Any keypad used in the Mobile Terminal shall be alphanumeric and the relationships between the letters and digits shall comply with the ITU-T Recommendation E.161 (02/2001), sections 2.2, 3.1.1 and 3.6.

### **1.4 Safety and Health**

Compliance with the radiation safety standards specified in clause 2.3 does not by itself confer immunity from legal obligations and requirements imposed by national health or safety authorities. TCRA may invalidate the equipment registration if so requested by the relevant authority for reasons of safety or hazards that would likely be caused to users.

Where applicable, the equipment supplier shall provide the Specific Absorption Rate (SAR) information in printed form or in other appropriate form such as in the user guide or as a leaflet or brochure in the equipment package.

## 2.0 Technical Requirements

### 2.1 Operating Frequencies

The Cellular Mobile Terminals shall operate within the following frequency bands:

Transmit Frequency	Receive Frequency
832 MHz – 862 MHz	791 MHz – 821 MHz
880 MHz – 915 MHz	925 MHz – 960 MHz
1710 MHz – 1785 MHz	1805 MHz – 1880 MHz
1920 MHz – 1980 MHz	2110 MHz – 2170 MHz
2500 MHz – 2570 MHz	2620 MHz – 2690 MHz
2570 MHz – 2620 MHz	2570 MHz – 2620 MHz

The precise operating frequency range of a Mobile Terminal shall follow that of the Network Operator from whom the service is obtained.

**Note:** Frequency allocations can change and this information should be checked with TCRA.

### 2.2 Radio Interfaces Requirements

Suppliers shall demonstrate that the Cellular Mobile Terminals have been tested and certified for operating in any of the frequency bands stated in clause 2.1 and conformity to any or a combination of the following standards and all applicable standards referenced herein:

**ETSI EN 301 511** - Global System for Mobile Communications (GSM); Harmonised EN for mobile stations in the GSM900 and GSM1800 bands covering essential requirements under article 3.2 of the R&TTE Directive (1999/5/EC).

**ETSI EN 301 908-01** - IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 1: Introduction and common requirements.

**ETSI EN 301 908-02** - IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 2: CDMA Direct Spread (UTRA FDD) User Equipment (UE).

**ETSI EN 301 908-13** - IMT cellular networks; Harmonized 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).

**ITU-R M.1457-9** - Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications-2000 (IMT-2000).

If the Cellular Mobile Terminal also supports other wireless modes of operation such as Wireless LAN (WLAN), Bluetooth, suppliers shall demonstrate that the Mobile terminal has been tested and certified for conformity to the relevant requirements as given in TCRA Technical Specification for Short Range Devices (SRD).

### **2.3 Radiation Safety (SAR) Requirements**

In addition to the requirements as stated in clauses 2.1 and 2.2, suppliers shall demonstrate that the Cellular Mobile Terminal has been tested and certified for conformity with the following International Commission on Non-Ionizing Radiation Protection (ICNIRP) recommendations:

**EN 50360:2001** - Product standard to demonstrate the compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields (300 MHz – 3 GHz)

**EN 50361:2001** - Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz – 3 GHz)