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Ethiopian Telecommunication Agency

Technical Specifications and Standards for Third-Generation (3G) Cellular Mobile Terminals

ETA-SS-3GMT
Issue 1, August 2007

Ethiopian Telecommunication Agency
Standards and Type Approval Directorate

FOREWORD

1. This Specification is prescribed in accordance with Telecommunications Proclamation No 49/1996 (as amended), articles 6(2) and 13(1) to set out the technical and evaluation requirements for 3G WCDMA Mobile Terminals.

2. The use of any Telecommunication and Radiocommunications equipment or any equipment emitting radio frequency energy must be covered by an appropriate type approval issued by the Ethiopian Telecommunication Agency (ETA).

3. At present, the Ethiopian Telecommunication Agency conducts type approval of Telecommunications Equipment. Under the Type Approval Scheme, suppliers or manufacturers of telecommunications and radiocommunications equipment shall apply to ETA for Type Approval of their equipment against this specification.

4. ETA reserves the right to give separate Type Approval to models it considers to be technical variants and the performance of which may differ between models.

5. ETA may amend any part of this specification as and when it deems necessary.

6. In case of doubt about the interpretation of this specification, the methods of carrying out the test and the validity of statements made by the equipment manufacturers or suppliers about the equipment, the decision of ETA shall be final.

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Section Page

1. General Requirements

1.1. Scope of Specification

This specification defines the minimum technical requirements for Mobile Terminals to be used in the Third Generation (3G) Mobile Communication Systems and services, which employ WCDMA FDD Cellular Technology. 3G Cellular Mobile Terminals may include handheld, portable and vehicle-mounted equipment, and RF interface cards and modems.

1.2. Identification of Equipment

The WCDMA FDD 3G Cellular Mobile Terminal shall be marked with the manufacturer's brand or identification mark, and the manufacturer's model or type reference. The markings required shall be legible, indelible and readily visible.

1.2. 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

1.4.1. Compliance with the radiation safety standards specified in clause 2.4.1 does not by itself confer immunity from legal obligations and requirements imposed by national health or safety authorities. ETA 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.

1.4.2 The equipment supplier shall provide the 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. Furthermore, the supplier shall provide each unit of approved Mobile Terminal with advisory information pertaining to electrical safety and non-ionizing radiation hazards and on the safe operation of the Mobile Phone at potentially hazardous areas such as in moving vehicles, in aircrafts and at fuel depots, chemical plants and blasting sites.

2. Technical Requirements

2.1. Operating Frequencies

2.1.1 W-CDMA FDD 3G Cellular Mobile Terminals shall operate within the following frequency bands and channel spacing:

WCDMA FDD	Mobile Transmit:	1920 – 1980 MHz
	Mobile Receive:	2110 – 2170 MHz
	Channel Spacing:	5 MHz

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

2.2. Radio Frequency (RF) Requirements

2.2.1 Suppliers shall demonstrate that the WCDMA FDD 3G Cellular Mobile Terminals have been tested and certified for operating in the frequency bands stated in clause 2.1.1 and conformity to the following standards:

ETSI EN 301 908-01: 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

ETSI EN 301 908-02: Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS) and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 2: Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (UE) covering essential requirements of article 3.2 of the R&TTE Directive

2.2.2 If the WCDMA FDD 3G Cellular Mobile Terminal also supports the GSM and WLAN modes of operation, suppliers shall demonstrate that the Mobile terminal has been tested and certified for conformity to the following standards:

ETSI EN 301 511: Global System for Mobile communications (GSM); Harmonized standard for mobile stations in the GSM 900 and DCS 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC) (GSM 13.11 version 7.0.1 Release 1998)

ETSI EN 301 419-2: Digital cellular telecommunications system (Phase 2+); Attachment requirements for Global System for Mobile communications (GSM); High Speed Circuit Switched Data (HSCSD) Multislot Mobile Stations; Access (GSM 13.34 version 5.1.1 Release 1996)

ETSI EN 300 328-02: Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

2.3. Electrical Safety Requirements

In order to safeguard operating personnel, users, and plant, it is essential to prevent the transmission of excessive voltages from subscriber equipment into the public telecommunication networks in Ethiopia, the subscriber equipment shall comply with the following specification and regulation:

IEC 60950: "Safety of Information Technology Equipment, Including Electrical Business Equipment" issued by International Electrotechnical Commission or

EN 60950: "Safety of Information Technology Equipment, Including Electrical Business Equipment" issued by European Committee for Electrotechnical Standardization (CENELEC) or

UL 1950: "Safety of Information Technology Equipment, Including Electrical Business Equipment" issued by Underwriters' Laboratories, Inc.

2.4. Radiation Safety (SAR) Requirements

2.4.1. Suppliers shall demonstrate that the WCDMA FDD 3G 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)

2.5. Electromagnetic Compatibility Requirements (EMC)

The CDMA Fixed Wireless Phones and Mobile Terminals must show compliance with internationally accepted standards for EMC such as but not limited to the following and other EMC standards applicable to this equipment that may be adopted internationally in the future:

CISPR22: Emission Standard for Information Technology Equipment

EN55022: Emission Standard for Information Technology Equipment

EN55024: Immunity Standard for Information Technology Equipment