Product Compliance Specialists Ltd
The Malthouse, Malthouse Square,
Princes Risborough
Bucks, HP27 9AZ
United Kingdom

Tel: +44 1844 273 277
Fax: +44 1844 273 278
www.productcompliancespecialists.com
info@productcompliancespecialists.com

Regulatory Alert - Zambia

Public consultation regarding technical standards and requirements for IMT Mobile terminals designed or intended for use in connection with an IMT Public Mobile Telecommunications Service (PMTS)

The Zambian Regulator, *Zambia Information & Communications Technology Authority* (ZICTA), have advised that a public consultation is underway concerning a draft standard with the aim to create the technical specifications of IMT Mobile Terminal Equipment designed to or that can be connected to a Mobile Telecommunications Service.

Some of the relevant items proposed in this draft are:

1) The standard considers technical requirements such as Electromagnetic Compatibility (EMC) Requirements, RF Radiation Safety Standards, Electrical Safety, Power supply, IMEI Security and GSM Capability.
2) The mobile terminals must operate with the IMT frequency bands as specified in the current National Frequency Band Plan.
3) The standard proposes that all mobile terminals should give access to dial from a locked phone or dial pad available emergency numbers such 112 and 911.

The public consultation opened on 23rd October and will close on 12th November 2017.

The draft standard is included as an appendix to this Alert.

Any interested parties can submit their comments, opinions or suggestions up until this date to pmaluti@zicta.zm and jmasiye@zicta.zm, using the template attached to this Regulatory Update (page 17 and 18).

For additional information on the above article please contact:

Samanta Alvarez
Product Compliance Specialists
Email: samanta@productcompliancespecialists.com

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DZS 1102:2017
ICS 33.160.25
First Edition

Draft for Public Comments

Draft Zambian Standard

REQUIREMENTS FOR IMT MOBILE TERMINALS

This draft standard is for Public Comments only. It must not be used or referred to as a Zambian Standard.

ZAMBIA BUREAU OF STANDARDS

Amendments issued since publications

Amdt No.	Date	Text affected

DATE OF PUBLICATION

This Draft Zambian Standard has been published under the authority of the Standards Council of the Zambia Bureau of Standards on …….

ZAMBIA BUREAU OF STANDARDS

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CONTRACT REQUIREMENTS

A Zambian standard does not purport to include all the necessary provisions of a contract. Users of Zambian standards are responsible for their correct application.

TECHNICAL COMMITTEE RESPONSIBLE

This Draft Zambian Standard was prepared by the Technical Committee on Terminals and Human factors TC 3/16/6 upon which the following organizations were represented:

Airtel
Multichoice- Zambia
University of Zambia
Zambia Bureau of Standards
Zambia Information and Communication Technology Authority
Zambia National Broadcasting Corporation
Zamtel
Zambia Environmental Management Agency
ZESCO

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FOREWORD

The Zambia Bureau of Standards (ZABS) is the Statutory Organization established by an Act of Parliament. ZABS is responsible for the preparation of national standards through its various Technical committees composed of representation from government departments, the industry, academia, regulators, consumer associations and non-governmental organizations.

This Draft National standard has been prepared in accordance with the procedures of the ZABS. All users should ensure that they have the latest edition of this publication as standards are revised from time to time.

No liability shall attach to ZABS or its Director, employees, servants or agents including individual experts and members of its Technical Committees for any personal injury, property damage or other damages of any nature whatsoever, whether direct or indirect, or for costs (Including legal fees) and expenses arising out of the publication, use of, or reliance upon this ZABS publication or any other ZABS publication.

Compliance with a Zambian standard does not of itself confer immunity from legal obligations.

DZS 1102: 2017 was prepared by the Technical Committee TC 3/16/6 on Terminals and Human Factors

The following document was used in the development of this Draft Zambian Standard:

REQUIREMENTS FOR GSM MOBILE TERMINALS

ZAMBIA BUREAU OF STANDARDS
Draft Zambian Standard

REQUIREMENTS FOR IMT MOBILE TERMINALS

1 SCOPE

This technical document specifies the technical standards and requirements for IMT Mobile terminals designed or intended for use in connection with an IMT Public Mobile Telecommunications Service (PMTS). The document is intended for IMT operators, Mobile phone users, Mobile phone suppliers or dealers, general telecommunication carriers, and the general public.

This document is intended to ensure compliance of radio equipment which effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources and conforms to DZS ETSI EN 301 908-1 V5.2.1

2 NORMATIVE REFERENCES

The following draft standard contains provisions which, through reference in this text, constitute provisions of this draft standard. All standards are subject to revision and, since any reference to a standard is deemed to be the latest reference to the latest edition of that standard, parties to agreements based on this standard are encouraged to take steps to ensure the use of the most recent edition of the standard indicated below. Information on currently valid national and international standards may be obtained from the Zambia Bureau of Standards:

DZS EN 300 607-1: "Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification (GSM 11.10-1 version 8.1.1 Release 1999)".

DZS EN 300 910 V8.5.1 (2000-11) Digital cellular telecommunications system (Phase 2+); Radio transmission and reception (GSM 05.05 version 8.5.1 Release 1999)

DZS EN 300 910 V6.7.1 (2000-09) Digital cellular telecommunications system (Phase 2+); Radio transmission and reception (GSM 05.05 version 6.7.1 Release 1997)

DZS CISPR22: Information Technology Equipment.

DZS IEC 60950: 2001 Information technology equipment –Safety –Part 21: Remote power feeding

DZS IEC 60529-2004 Degrees of Protection Provided by Enclosures (IP Code)

DZS IEC 62262-2002 Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)

DZS EN55022: Information Technology Equipment – Radio disturbance Characteristic

DZS EN50082-1: Electromagnetic Compatibility – Generic immunity Standards

DZS EN50081-1: Electromagnetic Compatibility – General Emission Standards and;

DZS EN6100-3-2/3: Electromagnetic Compatibility – Limits of harmonics.

DZS ICNIRP: International Commission on Non-Ionizing Radiation Protection Guidelines for limiting exposure to time varying electric, magnetic and electromagnetic fields (up to 300 GHz)

ZS EN 50360:2014 Product standard to demonstrate the compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields (300 MHz – 3 GHz)

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

DZS 1999/519/EC: Council recommendation on the limitation of exposure of the general public to electromagnetic fields (0 to 300 GHz).

DZS ITU-T L.1000 standard on Mobile Phone Universal Chargers and Test suites for assessment of the universal charger solution.

ZS ITU-T L.1010 on Green Batteries Solution for Mobile Phones and other ICT devices

DZS EN 301 549 V1.1.1 (2014-02): Accessibility requirements suitable for public procurement of ICT products and services in Europe

DZS ETSI 151 010-1 Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification (3GPP TS 51.010-1 version 10.3.0 Release 10)

DZS ETSI EN 301 908-1 V5.2.1 (2011-05): IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 1: Introduction and common requirements.

DZS ETSI EN 301 908-02 Electromagnetic compatibility and Radio spectrum Matter (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

DZS ETSI EN 301 908-4 V4.2.1 (2010-03) Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 4: Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) and Evolved CDMA Multi-Carrier Ultra Mobile Broadband (UMB) (UE) covering the essential requirements of article 3.2 of the R&TTE Directive

DZS ETSI EN 301 908-13 V6.1.1 (2013-02) 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) ES 59005: Evaluation of Human Exposure, Specific Absorption Rate.

DZS ETSI TS 134 121 Universal Mobile Telecommunications System (UMTS); User Equipment (UE) conformance specification; Radio transmission and reception (FDD)

DZS ETSI TS 134 122 Universal Mobile Telecommunications System (UMTS); Terminal conformance specification, Radio transmission and reception (TDD)

DZS EN 62209-1:2006 Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures – Part 1: Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)

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

Environmental Management Act Number 12 of 2011

Statutory Instrument Number 112 of 2013

3 DEFINITIONS AND ABBREVIATIONS

For the purpose of this document, the following definitions apply:

3.1 **Carrier -** the holder of a valid carrier license.

3.2 **Customer -** any person or company that agrees to purchase telecommunication services.

3.3 **Customer Equipment-** equipment that is or is intended to be connected to a telecommunications PSTN operated by a carrier other than equipment that is used or intended for use within the boundaries of such a PSTN.

3.4 **Dealer -** a person who manufacture, imports for sale, let hire, sells, or offers or possesses for sale any equipment which is capable of being used for the purpose of communication.

3.5 **End User**- the most general class of individual users of telecommunication services.

3.6 **Equipment** - any apparatus or equipment used or intended for use in or in connection with a telecommunications network but does not include a line.

3.7 **Interoperability**- the ability of two or more mobile terminals to exchange information and to use the information that has been exchanged.

3.8 **Greener battery**- a battery which has an improved environmental performance over the previous generation of batteries

3.9 **IMEI-** International Mobile Equipment Identity number (IMEI) uniquely identifies an individual mobile station and thereby provides a means for controlling access to IMT networks based on ME Types or individual units. The "IMEI" consists of a number of fields totaling 15 digits. All digits have the range of 0 to 9 coded as binary coded decimal.

3.10 **Mobile Terminal-** a radio equipment type for operation within the Digital cellular telecommunications system in the IMT frequency bands as provided in the National Frequency Band Plan.

4 ABBREVIATIONS

For the purpose of the present document, the following symbols and acronyms apply:

EMC Electromagnetic compatibility

ETSI European Telecommunications Standards Institute

GSM Global System for Mobile Communications

IEC International Electrotechnical Commission

IMEI International Mobile Equipment Identity

IMT International Mobile Telecommunications Advanced

ITU International Telecommunications Union

ME Mobile Equipment

MS Mobile Station

R&TTE Radio and Telecommunication Terminal Equipment

RF Radio Frequency

ZS Zambian Standard

5 TECHNICAL REQUIREMENTS

5.1 Electromagnetic Compatibility (EMC) Requirements

The equipment shall be constructed in such a way that:

i. The electromagnetic disturbance it generates does not exceed a level allowing the mobile equipment to operate as intended and;
ii. The equipment has an adequate level of intrinsic immunity of electromagnetic disturbance to enable it to operate as intended.

Note: "To operate as intended means using the equipment in accordance with the manufacturer's instruction and using it in the electromagnetic environment determined by standards chosen by the manufacturer".

Mobile Terminal Equipment must show compliance with internationally accepted standards for EMC including but not limited to the following and other EMC standards applicable to such equipment that may be adopted:

1. DZS CISPR22: Information Technology Equipment.
2. DZS EN55022: Information Technology Equipment – Radio disturbance Characteristic
3. DZS EN50082-1: Electromagnetic Compatibility – Generic immunity Standards
4. DZS EN50081-1: Electromagnetic Compatibility – General Emission Standards and;
5. DZS EN6100-3-2/3: Electromagnetic Compatibility – Limits of harmonics.

5.2 RF Radiation Safety Standards Requirements.

All mobile terminals shall comply with the following Radiation Safety Standards and any other adopted international standard,

1. Mobile Terminals to be used in Public Digital Cellular Networks shall be successfully tested and complied with the general public exposure SAR limit of 2 Watts per kilogram (W/kg) averaged over ten grams of tissue as specified in the ICNIRP (International Commission on Non-Ionizing Radiation Protection) Guidelines.
2. ICNIRP: International Commission on Non-Ionizing Radiation Protection Guidelines for limiting exposure to time varying electric, magnetic and electromagnetic fields (up to 300 GHz)
3. ZS EN 50360: Product standard to demonstrate the compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields (300 MHz – 3 GHz)
4. DZS EN 50361: Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz– 3 GHz).
5. DZS 1999/519/EC: Council recommendation on the limitation of exposure of the general public to electromagnetic fields (0 to 300 GHz).
6. ES 59005: Evaluation of Human Exposure, Specific Absorption Rate.
7. DZS ETSI TR 134 925 V3.0.0 (2000-01) Universal Mobile Telecommunications System (UMTS);Specific Absorption Rate (SAR) requirements and regulations in different regions

5.3 Electrical Safety Requirements

IMT Mobile terminals operating with mains power supply shall comply with DZS IEC 60950 and other internationally accepted electrical safety standards that may be adopted in the country from time to time;

Where provision is made for the connection of any class of mobile station (mobile handset) to supply units or battery chargers using voltages in excess of 50V rms ac or 75 dc, user handbooks shall specify the power unit(s) or battery charger(s) approved for use with the mobile station/mobile handset and shall include the following statement: "*The Mobile equipment is intended for use when supplied with power from identification of battery charger(s) and/or power supply units(s). Other usage will invalidate any approval given to the apparatus and may be dangerous*."

5.4 Power supply

5.4.1 Power Supply Requirements

AC adaptor for IMT Mobile Terminal shall not affect the capability of the equipment to meet this specification. The operating voltage shall be 220V ±15% and frequency 50Hz ± 1%.

5.4.2 Power Supply cord and mains plug requirements

The equipment shall be fitted with a suitable and appropriate approved power supply cord and mains plug. This shall comply with ZS ITU-T L.1000 standard on : Universal power adaptor and charger solution for Mobile Terminals and other hand-held ICT devices and shall be tested for conformance to this standard in accordance with the ZS ITU-T L.1005 recommendation on: and Test suites for assessment of the universal charger solution.

5.4.3 Battery

Shall comply with ZS ITU-T L.1010 on Green Batteries Solution for Mobile Phones and other ICT devices

5.5 IMEI Security

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, unauthorized removal or change.

IMT Mobile equipment shall comply with IMEI security requirements of DZS ETSI 151 010-1.

5.6 GSM Capability

The IMT Mobile Terminal that also supports the GSM modes of operation shall demonstrate conformance to the ZS 909 Standard on requirements for GSM mobile Terminals.

6 ENVIRONMENTAL (Green aspects)

Shall comply with the Environmental Management Act No. 12 of 2011 of the laws of Zambia and the Basel Convention-Mobile Phone Partnership Initiative

7 IDENTIFICATION OF THE EQUIPMENT

The Mobile Terminal shall be marked with the manufacturer's brand or identification mark, and the manufacturer's model or type reference, IMEI and the ICT regulator's Certification Mark. The markings required shall be legible, indelible and readily visible.

8 LIFE SPAN

The minimum average lifespan of a mobile phone shall be 3 years.

Disposal of end of life phones should be done in accordance with the requirements of the Basel Convention on the Control of Trans-boundary movements of Hazardous Wastes and their Disposal as well as the National Laws such as the Environmental Management Act Number 12 of 2011 and Statutory Instruments Number 112 of 2013.

9 FREQUENCY BAND REQUIREMENTS

9.1 Radio Frequencies and Bandwidths

The mobile terminal shall be able to operate with the IMT frequency bands as specified in the current National Frequency Band Plan.

Table 1: IMT Frequencies

Frequency Bands	Frequency (in MHz)	Main Utilization
	From-To	
	450.0000-460.0000	National Cellular Mobile/data systems Mobile (IMT)
	460.0000-470.0000	National cellular mobile and fixed wireless access services. Mobile (IMT)
	862.0000-876.0000	Mobile (IMT)
	876.0000-880.0000	Mobile (IMT)
	921.0000-925.0000	Trunked Mobile 1 BTx Mobile (IMT)
	1670.000-1675.000	Terrestrial Flight Telephone System Mobile Satellite (IMT)
	1885.000-1900.000	Cordless Telephony / Fixed Wireless Access / Mobile (IMT) (terrestrial component)
2100MHz Band Plan	1900.000-1920.000	Fixed Wireless Access / Mobile (IMT) (terrestrial component)
2100MHz Band Plan	1920.000-1980.000	Mobile (IMT) (terrestrial component)
2100MHz Band Plan	1980.000-2010.000	Mobile (IMT) (terrestrial component)

2100MHz Band Plan	2010.000-2025.000	Mobile (IMT) (terrestrial component)
2100MHz Band Plan	2110.000-2120.000	Mobile (IMT) (terrestrial component)
2100MHz Band Plan	2120.000-2170.000	Mobile (IMT) (terrestrial component)
2100MHz Band Plan	2170.000-2200.000	Mobile (IMT) (satellite component)
	2300.000-2400.000	Fixed Wireless Access Mobile (IMT)
2.5GHz Band Plan	2500.000-2520.000	Fixed Wireless Access Mobile (IMT)
2.5GHz Band Plan	2520.000-2655.000	Fixed Wireless Access Mobile (IMT)
2.5GHz Band Plan	2655.000-2670.000	Fixed Wireless Access Mobile (IMT)
2.5GHz Band Plan	2670.000-2690.000	Fixed Wireless Access Mobile (IMT)

The mobile terminals shall support multi bands to allow for easy accessibility of services across all networks. The precise operating frequency range of a mobile terminal shall follow that of the Network Operator from whom the service is obtained.

9.1 Maximum Frequency offset

The maximum allowable frequency offset shall be 5% of the centre frequency.

9.2 Conformance and testing

This shall be performed according to procedures as outlined in the following standards;

i. DZS ETSI EN 301 908-1 V5.2.1: IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 1: Introduction and common requirements.

ii. DZS ETSI EN 301 908-2 V5.2.1 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)

iii. DZS ETSI EN 301 908-6 V5.2.1: IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 6: CDMA TDD (UTRA TDD) User Equipment (UE)

iv. DZS ETSI EN 301 908-13 V6.1.1: 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)

10 SERVICES

The mobile terminal shall support third party and open standards in order to enable installation and utilization of applications and value added services.

10.1 Support for Physically Challenged

The design of the mobile terminal intended for use by the physically challenged shall be according to the specification as indicated in DZS EN 301 549 V1.1.1: Accessibility requirements suitable for public procurement of ICT products and services in Europe.

10.2 Languages

The mobile terminals shall have English language as the minimum.

10.3 Emergency Access

All mobile terminals should give access to dial from a locked phone or dial pad available emergency numbers. Emergency numbers such 112 and 911.

11 ROBUSTNESS

The mobile terminal shall conform to the following;

i. IP 50 classification as defined in the ZS IEC 60529 standard.
ii. IK classification for shock as specified in DZS IEC 62262 standard.

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

12 IP ADDRESSING

The mobile terminal shall conform to and support IPV4 and IPV6 standards. All IPV4 and IPV6 configurations shall be according to Internet Assigned Numbers Authority (IANA) numbering.

13 INTEROPERABILITY AND CONNECTIVITY REQUIREMENTS

13.1 Interoperability

The IMT Mobile terminals shall have the ability to exchange information and use the information that has been exchanged between two or more systems or components on the IMT network.

13.2 Connectivity

The IMT Mobile terminals shall have the ability to link with other programs and devices to allow interoperability.

14 INTERFACES AND CONNECTORS

13.1 USB Micro-B plug

The USB Micro-B plug type shall be provided as a common port for charging, data transfer and TV cable.

13.2 Ear plug

The phone shall have a round audio interface.

14.3 Antenna Output Power

14.3.1 Maximum power

The maximum output power of the mobile terminal shall comply with DZS ETSI EN 301 908-2 V5.2.1 (2011-07) 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)

14.3.2 Minimum power

The minimum output power of the mobile terminal shall comply with DZS ETSI EN 301 908-2 V5.2.1 (2011-07) 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)

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ZAMBIA BUREAU OF STANDARDS
STANDARDS DEVELOPMENT DEPARTMENT

PUBLIC REVIEW COMMENTS FORM

Date: 12th September, 2017

Document No./Title:
DZS 1102: 2017

Name of Organization:

Clause No. Sub clause No, Annex e.g. 4.1	**Paragraph/Figure/ Table/Note e.g. Table 2**	**Type of comment: e.g. te, ge, or ed**	**Comment (justification for Change)**	**Proposed Change**

Note: In case more space is required, comment on extra sheets of paper following the same format.

Key: te – technical; ge –general; ed – editorial

Clause No. Sub clause No, Annex e.g. 4.1	**Paragraph/Figure/ Table/Note e.g. Table 2**	**Type of comment: e.g. te, ge, or ed**	**Comment (justification for Change)**	**Proposed Change**

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