



**ANNEX D-SAFETY AND EMC TECHNICAL  
SPECIFICATIONS**

**REVIEW OF TYPE APPROVAL TECHNICAL STANDARDS AND  
PROCEDURES**

**ISSUED BY**

**BOTSWANA COMMUNICATIONS REGULATORY AUTHORITY**

**Date: 14 March 2016**





## **TECHNICAL SPECIFICATION**

**FOR**

**SAFETY AND EMC REQUIREMENTS OF RADIO AND  
TELECOMMUNICATIONS TERMINAL EQUIPMENT**

**ISSUED BY**

**BOTSWANA COMMUNICATIONS REGULATORY  
AUTHORITY**

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# Technical Specification for Safety and EMC Requirements of Radio and Telecommunications Terminal Equipment

## Contents

Scope .....	3
Entry into Force .....	3
Document History .....	3
Technical Requirements .....	4
Obtaining Technical Standards.....	6

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## Scope

This specification applies to any radio and telecommunications terminal equipment, which is offered for sale in Botswana.

Where terminal equipment supports more than one interface type, each interface must meet the requirements applicable to it. It may therefore be necessary to make reference to additional specifications.

Where compliance with a European Norm(s) is required, the issue or version used should be the latest to have been published in the Official Journal of the European Community (OJEC) and be recognised as providing "presumption of conformity" under the European R&TTE Directive. Where internationally recognised equivalent standards are applied, the latest published version of the standard should be used.

## Entry into Force

This specification shall enter into force on 15/01/2016.

## Document History

Description	Status	Date
Safety and EMC Requirements of Radio and Telecommunications Terminal Equipment	Original V1.1	11/12/2015

## Technical Requirements

Radio and telecommunications terminal equipment shall comply with the(those) standard(s) from the list below which are applicable to the product in question. Please refer to BOCRA in the event that no applicable standard is listed.

### Safety

#### *Electrical:*

##### **EN 60065 or IEC 60065**

Audio, video and similar electronic apparatus - Safety requirements

##### **EN 60950 or IEC 60950**

Information technology equipment – Safety

#### *Radio and SAR:*

##### **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)

##### **EN 50364**

Limitation of human exposure to electromagnetic fields from devices operating in the frequency range 0 Hz to 10 GHz, used in Electronic Article Surveillance (EAS), Radio Frequency Identification (RFID) and similar applications

##### **EN 50385**

Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110 MHz - 40 GHz)

##### **EN 60215 or IEC 50215**

Safety requirements for radio transmitting equipment

##### **EN 62311 or IEC 62311**

Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz - 300 GHz)

**EN 62479 or IEC 62479**

Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)

***Optical and Laser:*****EN 60825-1 or IEC 60825-1**

Safety of laser products

Part 1: Equipment classification, requirements and user's guide

**EN 60825-2 or IEC 60825-2**

Safety of laser products --

Part 2: Safety of optical fibre communication systems

**EMC****ETSI EN300 386 V1.6.1**

Electromagnetic compatibility and Radio spectrum Matters (ERM); Telecommunication network equipment; Electro Magnetic Compatibility (EMC) requirements

**ETSI EN 301 489-1 V1.9.2**

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

**EN 55013 or CISPR 13 (until 5.03.2017)**

Sound and television broadcast receivers and associated equipment - Radio disturbance characteristics - Limits and methods of measurement

**EN 55022 or CISPR 22 (until 5.03.2017)**

Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement

**EN 55032 or CISPR 32 (after 5.03.2017)**

EMC of multimedia equipment- emission requirements

**EN 55020 or CISPR 20**

Sound and television broadcast receivers and associated equipment - Immunity characteristics - Limits and methods of measurement

**EN 55024 or CISPR 24**

Information technology equipment - Immunity characteristics - Limits and methods of measurement

**EN 61000-3-2 IEC 61000-3-2**

Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase)

**EN 61000-3-3 IEC 61000-3-3**

Part 3-3: Limits — Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current 16A per phase and not subject to conditional connection

**EN 61000-3-11 or IEC 61000-3-11**

Part 3-11: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems - Equipment with rated current  $\leq 75$  A and subject to conditional connection

**EN 61000-6-1 or IEC 61000-6-1**

Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

**EN 61000-6-2 or IEC 61000-6-2**

Part 6-2: Generic standards - Immunity for industrial environments

**EN 61000-6-3 or IEC 61000-6-3**

Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

**EN 61000-6-4 or IEC 61000-6-4**

Part 6-4: Generic standards - Emission standard for industrial environments

**Important Note:** The revision numbers of the documents given in the approval standard are the minimum standards that apply. Should updated versions of these documents be published, the latest version will always apply. This also applies to documents where no revision number is currently quoted.

## Obtaining Technical Standards

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

CENELEC, IEC and CISPR standards may be obtained at cost from, or through [www.cenelec.org](http://www.cenelec.org) and from [www.iec.ch](http://www.iec.ch) respectively.