



National Information & Communications Technology Authority

**TECHNICAL STANDARD FOR EMC AND SAFETY  
FOR INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT)  
EQUIPMENT**

## Table of Contents

<b>PART 1: INTRODUCTION</b> .....	<b>3</b>
<b>PART 2: SCOPE &amp; PURPOSE</b> .....	<b>3</b>
<b>PART 3: OBJECTIVE</b> .....	<b>3</b>
<b>PART 4: SAFETY REQUIREMENTS</b> .....	<b>4</b>
4.1: ELECTRICAL PROTECTION .....	4
4.2: RADIATION PROTECTION.....	4
4.3: OPTICAL AND LASER .....	4
<b>PART 5: ELECTROMAGNETIC COMPATIBILITY (EMC) REQUIREMENTS</b> .....	<b>5</b>
<b>PART 6: TESTING REQUIREMENTS</b> .....	<b>5</b>
<b>PART 7: DOCUMENT ADMINISTRATION</b> .....	<b>5</b>
7.1: CONSISTENCY .....	5
7.2: AMENDMENT .....	5
7.3: ENFORCEMENT .....	5
7.4: PUBLICATION/DISTRIBUTION .....	5

## **Part 1. Introduction**

- 1.1 National Information and Communications Technology Authority (NICTA) manages the use of the radio frequency spectrum. In part, this includes the determination of standards relating to unintended radio emissions from electrical and electronic equipment with the intention to minimise interference with the radiocommunication devices.
- 1.2 NICTA, empowered under the NICT Act 2009, PART XI, has developed this technical standard in order to promote compliance and safety in communications equipment to be operated in the country. This standard shall be cited as the *Technical Standard for EMC and Safety for Information and Communication Technology (ICT) Equipment*.
- 1.3 NICTA advises that strict compliance with this technical standard and all the clauses outlined in this standard are mandatory.
- 1.4 This technical standard incorporates relevant provisions from applicable international standards worldwide. It shall be read in conjunction with the NICTA's EMC and Safety Standards List.

## **Part 2. Scope and Purpose**

- 2.1 This standard lists the Electromagnetic Compatibility and Safety requirements which cover all the ICT equipment intended to be used or sold in the country. The ICT equipment referenced in this technical standard includes all telecommunications terminal equipment, radio equipment and network equipment.
- 2.2 The purpose of this technical standard is to ensure that only compliant ICT equipment that meets the minimum mandated standards on EMC and Safety and is appropriately labelled can be supplied to the market and connected to an ICT network.
- 2.3 Where terminal equipment supports more than one interface type, each interface shall meet necessary requirements applicable to it. It may therefore be necessary to make reference(s) to additional technical standards.
- 2.4 The operators and/or users of the ICT equipment shall comply with the acceptable Radio Frequency Interference (RFI) in order to maintain a healthy and non-conflicting industry environment.

## **Part 3. Objective**

- 3.1 Main objective of this technical standard is;
  - To ensure that the electromagnetic emissions of the ICT equipment does not disrupt or affect the operation of other equipment working nearby. Such equipment must have an acceptable level of immunity to disturbances which may occur as a result of the operation of other equipment found close to it.
  - To protect the health and safety of the user by ensuring that the operation of particular ICT equipment in no way causes any harm to the users or to any other individual working with ICT networks.
  - To ensure effective use of the radio spectrum resource so as to avoid harmful radio interferences.
  - To promote compliance and safety of ICT equipment to be used in any ICT network.

- To safeguard and protect the integrity of the ICT network.

## **Part 4. Safety Requirements**

### **4.1 Electrical Protection**

- 4.1.1 The service provider shall prove that all ICT equipment has been tested and certified for conformity with the applicable technical requirements for electrical safety with the relevant international standard.
- 4.1.2 The equipment shall show compliance with the applicable technical standards as specified in the NICTA's EMC and Safety Standard List.

### **4.2 Radiation Protection**

- 4.2.1 The service provider shall demonstrate that the ICT equipment is in compliance with the relevant technical requirements for radiation and radio frequency interference (RFI) as specified in the NICTA's EMC and Safety Standards List.
- 4.2.2 The telecommunications subscriber equipment which is a hand-held mobile station for connection to public mobile radiocommunication networks shall meet the radiation protection requirements stipulated in the sub-clauses 4.2.3 and 4.2.4.
- 4.2.3 The subscriber equipment shall comply with the Specific Absorption Rate (SAR) limits for general public exposure as specified in:
  - i. Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz) issued by International Commission on Non-Ionizing Radiation Protection (ICNIRP); or
  - ii. IEEE Std C95.1 "IEEE Standard for Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300GHz" issued by the Institute of Electrical and Electronic Engineers.
- 4.2.4 The subscriber equipment shall show compliance with the assessment methods on SAR limits and performed with reference to the international standards stipulated in the NICTA's EMC and Safety Standard List on radiation protection.
- 4.2.5 Compliance with any radiation standard prescribed herein shall be applied and exhibited in line with legal obligations and requirements imposed by the national health or safety authorities.

### **4.3 Optical and Laser**

- 4.3.1 The safety of optical and laser products shall validate compliance with the following international standards on safety for laser products;
  - i. EN 60825-1 or IEC 60825-1 - Safety of laser products - Part 1: Equipment classification, requirements and user's guide
  - ii. EN 60825-2 or IEC 60825-2 - Safety of laser products - Part 2: Safety of optical fibre communication systems (OFCS).
  - iii. IEC/TR 60825-14 - 'Safety of laser products - Part 14: A user's guide.
- 4.3.2 The laser products shall also demonstrate compliance with other applicable standards as listed in the NICTA's EMC and Safety Standard List.

## **Part 5. ELECTROMAGNETIC COMPATIBILITY (EMC) REQUIREMENTS**

- 5.1 The service provider shall demonstrate that the ICT equipment has been tested and certified for conformity with the applicable technical requirements for EMC and Safety as outlined in the NICTA's Standard List for EMC and Safety.

- 5.2 The measurement methods and limits shall be with reference to one of the relevant international standards as listed in NICTA's EMC and Safety Standard List, whichever is applicable to the equipment under test (refer to NICTA's EMC & Safety Standard List Table for guidance).
- 5.3 The service provider of any ICT equipment shall undertake relevant measures to reduce to a minimum the risk of harmful electromagnetic fields and emissions for the general public by deploying or installing the devices at locations where the general public will be exposed to the least extent to these harmful emissions.
- 5.4 The service providers must make sure that unwanted emissions as well as other emitted Radio Frequency Interference should not exceed the maximum admissible values specified in the relevant standards. They shall be obligated to either bring them to be in compliance with the relevant standard as soon as possible or stop using the respective device if it does not comply.

## **Part 6. Testing & Certification Requirements**

- 6.1 NICTA ensures that all ICT equipment that are to be sold and/or used in the country and also are capable of producing Radio Frequency Interference or any other harmful emissions must be tested and certified according to the requirements specified in this standard.
- 6.2 For the purpose of certification, subscriber equipment shall comply with the safety requirements set out in this technical standard (Refer to Part 4).
- 6.3 Information regarding testing and certification can be obtained from NICTA Type Approval section on this email address: [typeapproval@nicta.gov.pg](mailto:typeapproval@nicta.gov.pg).

## **Part 7. Document Administration**

### **7.1 Consistency**

All operators, suppliers or users of any ICT equipment shall abide by and comply with all the provisions detailed in this technical standard.

### **7.2 Amendments**

NICTA, in response to the industry may from time-to-time, review, and update or modify this technical standard to ensure its continued service and to meet the international and/or national performance requirements as necessary.

### **7.3 Enforcement**

This document is in force and effective from the date the NICTA Board approves it and is subject to the appropriate provisions of the NICT Act, 2009.

### **7.4 Publication and/or Distribution**

This document once approved by the NICTA Board shall be published on the NICTA website <http://www.nicta.gov.pg> for public information. The document shall also be made available to relevant authorities, Government departments, stakeholders, and or private institutions dealing with ICT equipment for compliance and reference purposes.