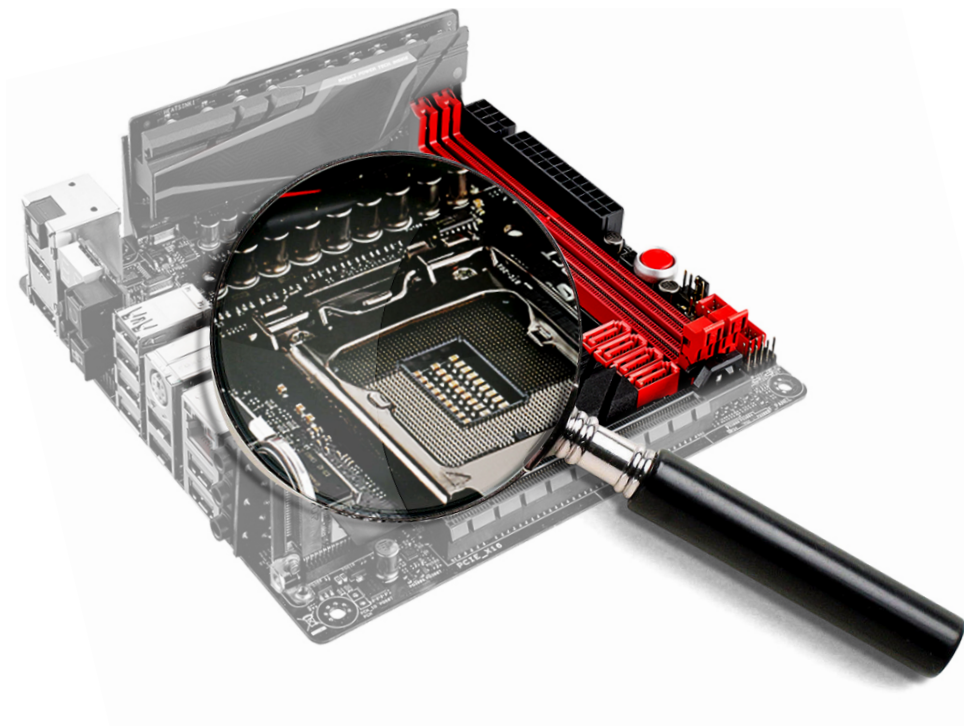


SABS

ELECTROMAGNETIC INTERFERENCE & COMPLIANCE

CERTIFICATE OF COMPLIANCE

CONFORMITY ASSESSMENT TO SAFEGUARD THE SOUTH AFRICAN CONSUMERS



SAFEGUARDING THE SOUTH AFRICAN CONSUMERS

South Africa is a net importer of electrical and electronic equipment with most of the products coming in from Asia. Imports are a crucial part of the economy, as they help to address market demand and introduce product variety in the market thereby increasing consumer choice. Today consumers are faced with various problems on account of competition in the market, misleading advertisements, availability of inferior quality products and services. Hence protection of consumers' interest is of paramount importance to the government and conformity assessment is made obligatory to safeguard consumers.

Any electrical or electronic device creates what is called an electromagnetic (EM) environment as electrons are moved around to make the device work. In addition, there may be natural phenomena such as lightning occurring in the same location. Or for one of a variety of reasons, an electrostatic spark may take place even when a device or system is not in its normal functioning mode. When engineers first became aware of the effects of such phenomena, in the earliest days of radio, they usually referred to radio frequency interference (RFI). Today, the term electromagnetic interference (EMI) better reflects the fact that electrical and electronic systems may cause disturbances at any frequency between 3 KHz and the 300GHz (microwave) range¹ of usable radio spectrum.

Electromagnetic interference (EMI) is a common occurrence in our everyday life that most of people have unknowingly experienced this phenomena. Disturbances in the audio signals on radio/ TV due to an aircraft flying at a low altitude or interferences while trying to listen to the radio or watching TV while someone else is using the vacuum cleaner in the next room, and restrictions on the use of portable electronic equipment aboard an aircraft are but some of many actual events caused by significant interference with the radio signal and electromagnetic compatibility (EMC) problem. Since the earliest days of radio communications, the negative effects of interference

¹ <http://www.iec.ch/emc/explained/environment.html>

from both intentional and unintentional transmissions have been felt and the need to manage the radio frequency spectrum became apparent.

Since the energy radiated by electronic communication devices is absorbed one way or the other by any physical matter surrounding the affected area with the electromagnetic field strength, EMC requirements are not only limited to protection of radio services. They also refer to the protection of humans in relation to Specific Absorption Rate (SAR) as set out by International Commission on Non-Ionizing Radiation Protection (ICNIRP) for measurement

SABS' ROLE

For more than 15 years the South African Bureau of Standards (SABS) has collaborated with regulators to ensure South Africa stays abreast of international EMC protocols and by ensuring that stringent measures are in place to prevent dumping of inferior goods in the country and undermining local industry's ability to compete. As the national standardisation body and provider of conformity assessment services, the SABS has facilitated the development of national, regional and international EMC standards through the work of its technical committees at International Electrotechnical Commission (IEC). In addition, the SABS has been issuing certificate of compliance (COCs) in respect of electrical and electronic equipment, electronic communications equipment facilities as well as radio equipment.

Due to the demand for resolute implementation of the law governing EMI/EMC, the applicable conformity assessment procedure has been amended. The procedure now includes a technical evaluation that entails the verification of:

1. The product
2. Manufacturing process at the manufacturer and
3. Witness testing where original tests were conducted

THE NATIONAL STANDARDS UTILISED BY SABS INCLUDE:

- **SANS 211/CISPR 11**
(industrial, scientific and medical equipment)
- **SANS 212/CISPR 12**
(vehicles, boats and internal combustion engines)
- **SANS 213/CISPR 13**
(entertainment equipment)
- **SANS 214/CISPR 14**
(household and similar appliances)
- **SANS 222/CISPR 22**
(information technology equipment)
- **SANS/IEC 61000-3-2**
(harmonics current emissions)
- **SANS/IEC 61000-3-3**
(voltage fluctuations and flicker)
- **SANS/IEC 61000-4-4**
(electric fast transient)
- **SANS/IEC 61000-4-5**
(surge immunity)
- **SANS 215/CISPR 15**
(lighting-related equipments)
- **SANS/IEC 61000-4-2**
(electrostatic discharge)
- **SANS/IEC 61000-4-3**
(radiated immunity)
- **SANS/IEC 61000-4-6**
(conducted immunity)
- **SANS/IEC 61000-4-8**
(power frequency magnetic field)
- **SANS/IEC 61000-4-11**
(voltage dips, short interruptions and voltage variations)

BENEFITS TO THE SOUTH AFRICAN CONSUMERS

assessment has been a part of the fabric of most societies since ancient times as a tool to provide reassurance to users of products, services, and commodities that some action has been taken to affirm their quantities, qualities, characteristics, performance or other expectations. Conformity assessment, therefore, needs to be viewed in a much wider perspective than as a facilitator of trade. It is a critical tool to protect our local market from inferior products and exposing consumers to health and safety risks. It is for this reason that the SABS has enhanced the technical evaluations of EMC/EMI test reports from accredited test facilities by introducing rigorous compliance testing of all electronic devices to protect the integrity of the market, reassuring consumers that products are efficient and increase competitiveness of our industries. Section 36 of the Electronic Communications Act (ECA) No.36 of 2005, as amended, provides that The Authority i.e. ICASA may, subject to the provisions of the Standards Act (Act No.8 of 2008), prescribe standards for the performance and operation of any equipment or electronic communications facility, including radio apparatus. The EMC/EMI has been prescribed as one of the regulated standards by ICASA and the compliance thereof is mandatory for all electronic/ electrical equipment. Government through the SABS implements its policy of "locking out" inferior quality goods through conformity assessment. South Africans (consumers) are the main beneficiaries because the new process will significantly deter the influx of low quality products and reduce exposure to risks associated with them. Importers can be consoled by the fact that the process to acquire COCs is now improved and is transparent, accessible and predictable.

LIST OF PRODUCTS

The list of equipment that fall under the scope of the proposed CoC Scheme (it should be noted that this list is merely to provide guidance and not exhaustive):

- **Wireless devices**
e.g. tablets; GPS; SMART television sets, wireless mouse
- **Electrical appliances for household and similar purposes.**
- **Electrical lighting and similar types of equipment**
- **Linear and switch mode power supplies**
- **Uninterruptable power supply (UPS)**
- **Banking equipment** i.e. monetary processing machines including cash dispensing automated tellers machines (ATM)
- **Data and text processing machines and associated equipment:**
data preparation equipment; data processing equipment;
data storing equipment; personal computers; plotters; printers; scanners;
text processing equipment; visual display units
- **Electrical and electronic retail equipment:** cash registers; point of sale terminals including associated scales
- **Electrical and electronic office machines:** calculators; copying machines; dictation equipment; document shredding machines; duplicators; erasers; micrographic office equipment; motor-operated files; paper trimmers (punchers, cutting machines, separators); paper jogging machines; pencil sharpeners; staplers; typewriters
- **Other information technology equipment:** photo printing equipment; public information terminals; multimedia equipment
- **Postage equipment:** mail processing machines; postage machines

ACCREDITATION

SABS laboratories are accredited by South African National Accreditation System (SANAS) according to the requirements of ISO/IEC 17025 standard (general requirements for the competence of testing and calibration laboratories).

GET IN TOUCH WITH US



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