



Specific requirements for EMC sector VR102 :2011

Issued: 1 April 2011

Voluntary Laboratory Accreditation Center Inc.
7F NOA Bldg. 2-3-5 Azabudai, Minato-ku, Tokyo 106-0041

Preface

This document is used for a part of the evaluation standard of VLAC for the electromagnetic testing laboratories. This document provides practical interpretation for specific requirements which are described in VLAC-VR101.

Note: The same clause numbers as SO/IEC 17025:2005 and JIS Q 17025:2005 were assigned to after clause 4 in this document.

1. Scope

This document shall be applied to the electromagnetic testing laboratories who are accredited or who like to receive accreditation.

2. Referenced and related documents

- (1) ISO/IEC 17025 :2005 General requirements for the competence of testing and calibration laboratories
- (2) JIS Q 17025 :2005 General requirements for the competence of testing and calibration laboratories
- (3) VLAC-VR101 General requirements for the competence of testing and calibration laboratories
- (4) VLAC-VR103 VLAC policy for measurement traceability
- (5) VLAC-VR105 VLAC policy for uncertainty in measurement
- (6) VLAC-VR106 VLAC policy for proficiency test

3. Definition

3.1 Electromagnetic compatibility (EMC)

The ability of systems, equipment, and devices that utilize the electromagnetic spectrum to operate in their intended operational environments without suffering unacceptable degradation or causing unintentional degradation because of electromagnetic radiation or response.

3.2 Electromagnetic obstacle

The performance decline that is caused by electromagnetic interference.

3.3 Immunity

A physical property of an electrical circuit or component indicating the level of resistance to interference from electromagnetic energy.

3.4 Electromagnetic interference

Any electromagnetic disturbance that interrupts, obstructs, or otherwise degrades or limits the effective performance of electronics/electrical equipment.

4 . Managements Requirements

4.1 to 4.13

None.

4.14 Internal audit

The laboratory who will apply the initial assessment, at least one internal audit shall be carried out before the application. If the laboratory could not carry out the internal audit, the laboratory shall carry out the internal audit before the on-site assessment.

4.15 Management review

The laboratory who will apply the initial assessment, at least one management review shall be carried out before the application. If the laboratory could not carry out the review, the laboratory shall carry out the internal audit before the review.

4.15.1

The laboratory should refer to VLAC VR-106 for the handling for the inter-laboratory comparison or proficiency test results.

5 . Technical requirements

5.1 General

None.

5.2 Personnel

- (1) Electromagnetic testing shall be carried out by the personnel or under supervision by the personnel who have knowledge and experience of particular EMC area.
- (2) If the training and education is required by law or regulation, laboratory personnel shall follow the such requirements.

5.3 Accommodation and environmental conditions

- (1) Open area test site and/or alternative test site (weather protected open test site and anechoic room) shall meet to following requirement and shall keep the environmental conformity.
 - a) Reflecting object around the site
Equipment placed on the ground plane, structures and trees around the ground plane, reflection by the mobile object or reflection caused by imperfection of the anechoic material.
(refer to clause 5.3.3 in VCCI V-3)
 - b) Electromagnetic spectrum environment
Spectrum density, strength and appearance probability of external radio waves such as broadcasting, telecommunication.

c) Reflection characteristic of the ground plane

Shall meet to the site attenuation requirements.

d) Noise floor of the measuring instruments

Investigate the measuring instruments specification and cable loss to keep the margins between the noise floor and the limits.

(2) Humidity control for the electrostatic discharge testing facility

(3) Electromagnetic field uniformity of radiated immunity test facility.

(4) Voltage and frequency stability, rush current capacity and harmonics of the laboratory power supply.

5.4 Test and calibration methods and method validation

(1) VLAC does not apply the laboratory-developed method or non-standard method in the scope of accreditation.

(2) Refer to VLAC-VR105 for the estimation of uncertainty in measurement.

5.5 Equipment

(1) The open field test site and the anechoic room shall meet to the specification of the applicable standards.

(2) The procedures for validation confirmation for the test equipment that includes daily check and check before use shall be documented.

(3) Laboratory shall have documented procedures which are applied to handling for the equipment performance decline was found.

5.6 Measurement traceability

Refer to VLAC-VR103 and 5.6.2.1 shall be applied to the calibration carried out by the laboratory.

5.6.2.2.1

Measurement uncertainty for radiated emission shall be budgeted according to CISPR16-4-1 as a reference. VLAC does not require the uncertainty budget for immunity tests.

5.7 Sampling

Not applicable.

5.8 Handling of test and calibration items

This clause shall be applied to the calibration carried out by the laboratory.

5.9 Assuring the quality of test and calibration results

5.9.1 b) VLAC accredited laboratory shall participate the inter-laboratory comparison or proficiency test within 2 years.

5.10 Reporting the results

Clause 5.10.4 shall be applied to the calibration carried out by the laboratory.