

Specific requirements for EMC testing activities conducted outside of permanent testing facilities

VLAC-VR102-5:2024

[Note] The title of this document has been prepared for accuracy, commonly referred to as specific requirements for EMC in-situ testing.

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1. Scope

this document specifies specific requirements, in addition to the requirements of clauses 5.4 and 6.3.5 of ISO/IEC 17025:2017 (JIS Q 17025:2018, omitted below), when EMC measurements and tests performed by a testing laboratory at customer installation sites and/or manufacturer's plants other than permanent testing facilities (hereinafter referred to as "In-Situ Tests") are included in the scope of accreditation ^[Note 1]. The purpose of these specific requirements is to ensure that when conducting conformity assessments for each individual test standard for emission measurement and immunity testing, testing laboratories conclude contracts with clients, reach agreement on assessment procedures and implementation methods, and properly conduct measurements and tests within the scope of accreditation.

この文書は現場試験(In-Situ)を含む試験規格(注2)を認定範囲に含め、さらにそれらの実施をも認定範囲に含めている試験所に適用する。

This document applies to laboratories whose scope of accreditation includes test standards ^[Note 2] including in-situ testing, and further includes their implementation in the scope of accreditation.

[Note 1] The requirements of ISO/IEC 17025:2017 are assumed to apply and are not covered in this document.

[Note 2] Examples of standards including in-situ testing.

- CISPR 11, CISPR TR 16-2-5, ANSI C63.4, IEEE 139-1988
- IEC 61000-4 series, EN 61000-4series, JIS C 61000-4series
- IEC 61000-6-2, EN 61000-6-2, JIS C 61000-6-2, IEC 62236-2, EN 50121-2, ISO 11452-4

2. Contracts with customers

In addition to the requirements of clause 7.1 of ISO/IEC 17025:2017, this contract shall include an agreement with the customer that clearly states the following:

- 1) Cautions or prohibitions regarding safety, security, and confidentiality at the test site.
- 2) Responsibility for any effects that may be caused by the test on peripherals equipment.
- 3) Liability for any damage or injury to the test items or peripheral equipment caused by the test.
- 4) When conducting a VLAC assessment at a customer site and/or manufacturer's factory, etc., permission for assessors to enter must be allowed.

3. Test plan

試験計画書は一般的試験手順のみならず、試験現場の状況により、試験品や試験器の配置や設置場所を明確にし、試験規格からの逸脱や制限事項についても書面で顧客との合意を取ること。

試験計画書には次の事項を含めなければならないがこれらに限定されない。

The test plan should not only include general test procedures, but also clarify the placement and location of test items and test equipment depending on the conditions of the test site, and any deviations or restrictions from the test standards should be agreed upon in writing with the customer.

The test plan should include, but is not limited to, the following items:

- 1) Drawings or layout diagrams that allow easy understanding of the test location during testing
- 2) Operating conditions and setting conditions of the test item
- 3) Environmental conditions of the test location
- 4) Outline of the test procedure
- 5) Items and contents to be reported
- 6) Deviations from the test standards and disclaimers
- 7) Grounds and reasons for accepting deviations from the test standards
- 8) Criteria for determining conformity with the test standards and interpretation of opinions
- 9) Person responsible for preparing the plan
- 10) Notification to the customer if an external or subcontracted testing organization, temporary staff, etc. are used.

4. Test procedure

In addition to the requirements of each test standard, the following procedures should be established to verify the validity of the measurements and tests to be carried out.

1) Emission measurement

For emission measurements, clarify the method for distinguishing from ambient noise (distinguish between ambient noise within the measurement frequency band and noise from the test product) and the method for confirming compliance, and separate the noise generated from the test product from the ambient noise. , or establish a reduction method as a procedure.

2) Immunity test

During the immunity test, in addition to the normal test, be sure to carry out the following points.

- Measures to reduce the impact of high voltage and pulse voltage on surrounding areas. (For example, provide an isolation transformer or cutoff circuit)
- Compliance with laws and regulations (e.g. domestic radio law, industrial safety and health law, etc.)
- Alternative measures to be adopted in transient voltage tests when the application method cannot be implemented using normal test methods, and confirmation of their validity.

3) Pre-check

During pre-check of equipment and equipment used for each measurement and test, normal laboratory inspection methods may not be possible during in-situ testing. In this case, determine how to ensure the integrity of the equipment.

5. Reports

In addition to the requirements of Clause 7.8 of ISO/IEC 17025:2017, the following items should also be clearly stated.

- 1) Time and environment information if it affects test results.
- 2) Drawings or photographs including test layout, measurement equipment placement, and surrounding conditions.
- 3) Identification of materials submitted by Customer.
- 4) Procedures performed in addition to specified test standards.
- 5) Test methods or disclaimers that deviate from test standards.
- 6) Reasons for accepting deviation from test standards.

6. Internal audit

Laboratories that conduct on-site testing (In-Situ) regularly audit contracts, plans, implementation, and report contents, including on-site testing (In-Situ) in internal audits, and record these implementation reports as quality records. to remain as. If necessary, personnel's competency should also be confirmed at the actual testing location.

7. Risk management

The testing laboratory should analyze the risks of on-site testing (in-situ) and consider risk reduction measures.

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