

Specific requirements for EMC testing activities conducted outside of permanent testing facilities (In-Situ EMC testing)

VLAC-VR102-5:2026

[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 particular requirements applicable to testing laboratories conducting EMC tests outside of permanent test facilities (hereinafter referred to as "In-Situ EMC testing" Note: In-Situ=On-site). These particular requirements include items not required by ISO/IEC 17025 and items that exceed the requirements of ISO/IEC 17025. For matters not specified in this document, ISO/IEC 17025 applies.

2. Definition of In-Situ EMC testing

"In-Situ EMC testing" refers to testing conducted outside the permanent facilities of a testing laboratory (or test site).

Note 1: "Permanent facilities" refers to testing facilities—such as anechoic chambers, outdoor test sites, or shielded rooms located at the laboratory's premises—where characteristics such as NSA, S-VSWR, ambient electromagnetic environment, and shielding effectiveness meet the requirements for EMC test sites.

Note 2: Tests conducted at a customer's facility or at the permanent facilities of another testing laboratory—provided those facilities meet the EMC test site requirements specified in Note 1—are outside the scope of these regulations.

3. Requirements for laboratories conducting In-Situ EMC testing

A testing laboratory seeking accreditation for In-Situ EMC testing must meet the following requirements:

- 3.1 It must hold VLAC accreditation as an EMC testing laboratory. Laboratories applying for VLAC accreditation for the first time must include testing at a permanent facility within their scope of accreditation; in other words, laboratories that conduct only In-Situ EMC testing are not eligible for accreditation.
- 3.2 In-Situ EMC testing must be performed by personnel from the accredited laboratory.
- 3.3 No part or all the In-Situ EMC testing may be subcontracted to an external party.

4. Conducting Field Tests

4.1 Selection of Field Tests

In-Situ EMC testing is conducted in the following cases:

- (1) When published and agreed-upon standards—such as international, national, regional, or industry association standards—specify In-Situ EMC testing.
- (2) When there are valid practical or technical reasons preventing testing at a permanent facility.

Note 1: Examples of standards specifying In-Situ EMC testing include CISPR 11 and ANSI C63.4.

Note 2: Examples of situations requiring In-Situ EMC testing include the testing of large equipment that cannot be transported to a permanent test facility, and cases where regulatory authorities require testing at the final installation In-Situ EMC testing.

Note 3: Testing at a permanent facility takes precedence whenever possible.

4.2 Test Plan

The test plan for field tests shall include the following items:

4.2.1 Test Methods

If the standards listed in 4.1(1) contain provisions for field tests, those methods shall be used in preference to others. If these standards are not applicable, methods developed by the testing laboratory shall be used.

4.2.2 Limit values and acceptance criteria

If the standards cited in 4.1(1) include In-Situ EMC testing and specify limit values and acceptance criteria, those shall be followed. If the customer has provided limit values and acceptance criteria, those shall be followed.

4.2.3 Rules for statements of conformity

When including a statement of conformity in a report, care must be taken not to confuse the following two matters, unless the standard itself specifies rules for such statements:

- Meeting the requirements of the standard (where there are no deviations from the standard)
- Meeting the limit values of the standard (where there is a deviation from the standard, but the limit values or tolerance values are met under the conditions of that deviation)

4.2.4 Contracts with Customers

In addition to the requirements of Clause 7.1 of ISO/IEC 17025:2017, an agreement clearly stating the following items shall be concluded with the customer:

- 1) Precautions or prohibitions regarding safety, security, and confidentiality at the testing site.
- 2) Liability in cases where the testing affects surrounding equipment.
- 3) Liability regarding damage to or impairment of the test item and peripheral equipment caused by the testing.
- 4) Arrangements to ensure that assessors are granted access for In-Situ EMC testing at the customer's facility, the manufacturer's factory, etc., if requested by VLAC.

4.2.5 Risk Management

The laboratory shall identify risks associated with In-Situ EMC testing activities and implement measures to reduce them to an acceptable level.

Note: Examples of risks include, but are not limited to, the following:

- Risks arising from natural environmental conditions, such as weather
- Risks of accidents or injuries occurring at the test site Although relevant laws and regulations are not explicitly cited in this document, compliance with laws and regulations takes precedence over the provisions herein.

4.3 Test Environment

Prior to the start of testing, the laboratory shall monitor and record environmental

conditions that may affect the test—such as temperature, humidity, atmospheric pressure, vibration, power supply quality, the influence of surrounding reflective objects, wireless communications, and broadcast waves. Monitoring shall continue during testing if necessary.

4.4 Validity of Results

Monitoring of validity through proficiency testing or inter-laboratory comparisons is not required for on-site testing. (Refer to VR106A, "Policy on Proficiency Testing and Inter-laboratory Comparisons.")

4.5 Measurement uncertainty

Identify the sources of measurement uncertainty that affect the test results. Perform a quantitative evaluation where possible.

5. Report

In addition to the requirements of ISO/IEC 17025 Clause 7.8, the report shall include the following information:

- 5.1 A statement indicating that the test is a field test
- 5.2 Description of the equipment under test
- 5.3 Description of the test location
- 5.4 Environmental data affecting the results, such as temperature,
humidity, weather, atmospheric pressure, power supply quality, and external electromagnetic waves
A sketch or photograph of the test location and test setup

6. Internal audit

Internal audits of laboratories conducting In-Situ EMC testing shall also cover In-Situ EMC testing activities.

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Revision history

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All reconfigured

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