

Policy on Proficiency Testing

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Voluntary EMC Laboratory Accreditation Center, Inc.
(VLAC)

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Introduction

This document is for the Voluntary EMC Laboratory Accreditation Center, Inc. (hereinafter referred to as VLAC) to use as part of evaluation criteria for accreditation of laboratories engaged in the field of electromagnetic compatibility tests.

The purpose of this document is to concretize the requirements of Item 7.15 (Proficiency testing and other comparisons for laboratories) of ISO/IEC 17011 “Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies” and Items 4.4, 4.15.1, and 5.9.1 of VR101 “General requirements for the competence of testing laboratories (ISO/IEC 17025)” from a standpoint of equipping EMC laboratories for participation in proficiency testing. As such this document contains no requirements that exceed the general requirements.

1. Scope

This document lays down, based on ISO/IEC Guide 43-1, 43-2 and ISO/IEC17043, provisions for testing laboratories to participate in proficiency testing operated by VLAC for the purpose of evaluating technical capabilities of accredited laboratories as well as applicant laboratories that seek accreditation for competence in performing electromagnetic compatibility tests (electromagnetic disturbance test and immunity test).

This document also applies to laboratories already accredited by VLAC at the effective date.

2. Normative references

The following standards are referenced in addition to quoted standards in VR101 “General requirements for the competence of testing laboratories” and VR102 “Specific requirements for the competence of EMC testing laboratories (ISO/IEC 17025 version)”

2.1 Referenced Standards

ISO/IEC GUIDE 43-1:1997:Proficiency testing by interlaboratory comparisons - Part 1 Development and operation of proficiency testing schemes

ISO/IEC GUIDE 43-2:1997:Proficiency testing by interlaboratory comparisons - Part 1 Selection and use of proficiency testing schemes by laboratory Accreditation bodies

ISO/IEC 17043:2010:Conformity assessment – General requirements for Proficiency testing

Guide to the expression of uncertainty in measurement 1995

3 Definitions

In addition to the definitions employed in ISO/IEC 17011, VR101(ISO/IEC 17025 version) and ISO/IEC GUIDE 43-1, 43-2, ISO/IEC17043 the following terms used herein are defined as follows:

- 3.1 Applicant laboratory:**
Laboratory applying for laboratory accreditation.
- 3.2 Accredited laboratory:**
Laboratory whose accreditation was granted and registered.
- 3.3 Measurement:**
Set of operations having the object of determining the value of a quantity (reference: VIM:1993)

4. Purpose

The results of tests carried out by one laboratory on Equipment under Test (EUT) should be consistent with those carried out by any other laboratories on the same EUT. In order to secure the consistency it is necessary to preserve characteristics of measuring facilities and instruments and improve and maintain the level of technical skills and competence of employees engaged in measurement.

Proficiency testing is designed to verify whether or not competence of laboratories is maintained. The following international standards deal with proficiency testing.

4.1 ISO/IEC 17011 Conformity assessment -- General requirements for accreditation bodies accrediting conformity assessment bodies

Clause 7.15 of the standard sets forth the following requirements for accreditation bodies:

- (1) .The accreditation body shall establish procedures to take into account, during the assessment and the decision-making process, the laboratory's participation and performance in proficiency testing.
- (2) The accreditation body may organize proficiency testing or other comparisons itself, or may involve another body judged to be competent. The accreditation body shall maintain a list of appropriate proficiency testing and other comparison programs.

NOTE: Guidelines on operation and selection of proficiency testing and related definitions exist in ISO/IEC Guide 43-1 and ISO/IEC Guide 43-2 and ISO/IEC17043.

- (3) The accreditation body shall ensure that its accredited laboratories participate in proficiency testing or other comparison programs, where available and appropriate, and that corrective actions are carried out when necessary. The minimum amount of proficiency testing and the frequency of participation shall be specified in cooperation with interested parties and shall be appropriate in relation to other surveillance activities.

4.2 VR101(ISO/IEC 17025) General requirements for the competence of testing and calibration laboratories

This standard sets forth the following requirements for laboratories:

- (1) "The review may also encompass results of earlier participation in interlaboratory comparisons or proficiency testing." (NOTE 2 of 4.4.1, 4.4 "Review of requests, tenders and contracts states")
- (2) "The (management) review shall take account of the results of interlaboratory comparisons or proficiency tests." (4.15 Management review)
- (3) "This monitoring shall be planned and reviewed and may include, but not be limited to, the following - Participation in interlaboratory comparison or proficiency-testing programmes (1 of 4 items listed

under 5.9 Assuring the quality of test results)

5. Basic Policies

The basic policies of VLAC on proficiency testing (interlaboratory comparison) are laid out below:

- (1) Proficiency testing programs for applicant laboratories and accredited laboratories to participate in shall be those operated by VLAC in principle.
- (2) It is a mandatory requirement for maintaining accreditation for VLAC accredited laboratories to participate in the relevant proficiency testing described in item a) above at least once during the term of accreditation.
- (3) It is a mandatory requirement for accreditation by VLAC for applicant laboratories to participate in the relevant proficiency testing described in item a) above before obtaining accreditation, or promptly after obtaining accreditation if advanced participation is not possible.
- (4) If a laboratory is notified that proficiency testing it participated in resulted in exceptional values by VLAC or organization that ran its own proficiency testing (described in "g" below), then the laboratory shall determine the problem, take corrective measures and submit a record of actions to the Accreditation operations department within 30days of the reception of the notice.
If the Accreditation operations department considered that it should verify effectiveness of the corrective measures taken by the laboratory, the department instructs the laboratory to participate in additional proficiency testing. Further more if necessary, the department may determine that on-site audits be conducted by assessor(s) or expert(s) of VLAC.
- (5) Accredited laboratories shall retain records on their performance in proficiency testing
- (6) VLAC recommends that laboratories should draw their own conclusion about their proficiency based on 7.2 of ISO/IEC Guide 43-2 and ISO/IEC17043 Annex C4.1.
- (7) VLAC encourages laboratories to participate, in order to ascertain their proof of competence, in proficiency testing programs operated in accordance with ISO/IEC Guide 43-2:7.2 or ISO/IEC17043 by other organizations qualified to be an operator of such programs in addition to programs operated by VLAC. In such a case, the laboratory shall submit a copy of test reports to the Accreditation Operation department of VLAC as soon as received from the program operator.

6. Statistical processing in proficiency testing programs

We adopt a statistics processing procedure by the Robust-Z score statistical method in the APLAC Proficiency Testing Training Course carried out in February, 2004 about data provided by a testing.

7. List of proficiency testing programs

Proficiency testing programs provided by VLAC are as follows (provisional):.

- Radiated disturbance test program
- Main-ports conducted disturbance test program

Note: EUT to be provided for the testing will be a typical one chosen with particular emphasis on high stability (reproducibility).

The following programs are not implemented yet.

- Immunity testing program
- Antenna calibration program (in-house calibration)
- Measuring engineers' competence examination program