



ACCREDITATION SCHEME FOR LABORATORIES

Technical Notes EL 002
Specific Policy for Uncertainty
Measurement for Electrical Testing
Laboratories

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1. Introduction

- 1.1 This document, EL-002, should be read in conjunction with ISO/IEC 17025 “General Requirements for the Competence of Testing and Calibration Laboratories” and SAC-SINGLAS 002 “Requirements for the Application of ISO/IEC 17025”.
- 1.2 It is the policy of SAC-SINGLAS that testing laboratories fulfill the requirements in ISO/IEC 17025 and SAC-SINGLAS 002 in relation to the estimation of uncertainty of measurement. The requirements are documented mainly in clause 5.4.6 of ISO/IEC 17025 and clauses 3.5 and 3.7 of SAC-SINGLAS 002. However, for the accreditation of electrical testing laboratories, specific policies have been provided in this document to further expand on clause 3.7 of SAC-SINGLAS 002.
- 1.3 In addition to the specific policies as prescribed in this document, a guidance document on “Guidelines on the Evaluation and Expression of Measurement Uncertainty for Electrical Testing Field” (Guidance Notes EL 001) has been developed to provide guidelines and approaches for the computation of measurement uncertainty for electrical testing.

2. Definition of Terms

- 2.1 The definitions given below are extracted from the International Vocabulary of Basic and General Terms in Metrology.
- 2.2 True Value (of a quantity)
The value consistent with the definition of a given particular quantity.
- 2.3 Conventional True Value (of a quantity)
The value attributed to a particular quantity and accepted, sometimes by convention, as having an uncertainty appropriate for a given purpose.
- 2.4 Measurement
A set of operations having the object of determining a value of a quantity.
- 2.5 Accuracy of measurement
The closeness of the agreement between the result of a measurement and the true value of the measurand.
- 2.6 Resolution (of a displaying device)
The smallest difference between indications of a displaying device that can be meaningfully distinguished.
- 2.7 Uncertainty of Measurement
A parameter, associated with the result of a measurement, that characterizes the dispersion of the values that could reasonably be attributed to the measurand.

3. Policy Statement

3.1 The laboratory shall comply with clause 3.7 of the SAC-SINGLAS 002 for the application of uncertainty of measurement. The following are the scenarios which determine if measurement uncertainty needs to be applied.

(a) If test parameters have specified tolerance such as Rating test, then the uncertainty of measurement is required

(b) Performance test for product compliance:

- Case 1: If readings are obtainable from test or measuring equipment, then uncertainty of measurement is required
- Case 2: For compliance by visual inspection, then uncertainty of measurement is **NOT** required

(c) If test parameters do not have quantitative value such as glow wire test, then uncertainty of measurement is **NOT** required at the moment.

4. Recording Procedure

4.1 The estimation for the uncertainty of measurement should follow the guidelines as laid down in the "Guidelines on the Evaluation and Expression of Measurement Uncertainty for Electrical Testing Field" (Guidance Notes EL 001).

4.2 The derivation of estimated measurement uncertainties should be documented.