# Schedule of Accreditation

**issued by**

# United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**9882**

**Accredited to ISO/IEC 17025:2017**

## RSL NDT Ltd

**Issue No:** 008 **Issue date:** 04 July 2024


**Unit 9**
**Murcar Commercial Park**
**Denmore Road**
**Bridge of Don**
**Aberdeen**
**AB23 8JW**

**Contact: Elsa Walker**
**Tel: +44 (0)1224 822600**
**E-Mail: elsa.walker@rslndt.com**
**Website: www.rslndt.com**


**Calibration performed at the above address only**

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)

| Measured Quantity Instrument or Gauge | Range | Expanded Measurement Uncertainty ($k$ = 2) | Remarks |
|---|---|---|---|
| ELECTRICAL VERIFICATION of ULTRASONIC FLAW DETECTION EQUIPMENT<br><br>As BS EN ISO 22232-1:2020 Group 2 tests and including the following calibrations and quantities: | | | |
| | Pulser Voltage | 5.0 % | |
| | Pulser Risetime | 3.8 ns | |
| | Pulse duration | 1.5 ns | For instruments designed to comply with BS EN 12668-1:2010, the pulse width is determined at 10 % of the pulse height, otherwise the 50 % points are used. |
| | Frequency response<br>*0.01 MHz to 50 MHz* | 5.9 % at -3 dB point | For instruments designed to comply with BS EN 12668-1:2010, the centre frequency $f_0$ is calculated using $f_0 = \sqrt{(f_u \times f_l)}$, otherwise the expression $f_0 = (f_u + f_l)/2$ is used. |
| | Equivalent input noise | $1.1 \times 10^{-9}$ V/√Hz | Using Method B as described in Section 9.4.3.3 of BS EN ISO 22232-1:2020. |
| | Calibrated attenuator | 0.70 dB | |
| | Gain linearity | 0.70 dB | |
| | Vertical Linearity | 1.8 % of screen height | |

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| Measured Quantity Instrument or Gauge | Range | Expanded Measurement Uncertainty ($k$ = 2) | Remarks |
|---|---|---|---|
| CALIBRATION OF EDDY CURRENT TEST SETS | | | |
| Frequency Generator | 100 Hz to 10 MHz | 20 µHz/Hz | In accordance with BS EN ISO 15548-1:2013, 6.2.1 |
| Oscillator Drive | 1 V to 14 V<br>*100 Hz to 2 MHz* | 1.9 % to 2.9 % | In accordance with BS EN ISO 15548-1:2013, 6.2.4 |
| Harmonic Distortion | 0 % to 1000 % | 5.4 % of value or 5.0 % distortion, whichever is greater. | In accordance with BS EN ISO 15548-1:2013, 6.2.2 |
| System Gain | 10 dB to 50 dB<br>*10 kHz* | 0.29 dB | Using step attenuator. |
| Horizontal and Vertical Linearity | 15 % to 80 % of FSH<br>*10 kHz* | 2.0 % of FSH | Using step attenuator and oscilloscope. |

END

## Appendix - Calibration and Measurement Capabilities

**Introduction**

The definitive statement of the accreditation status of a calibration laboratory is the Accreditation Certificate and the associated Schedule of Accreditation. This Schedule of Accreditation is a critical document, as it defines the measurement capabilities, ranges and boundaries of the calibration activities for which the organisation holds accreditation.

**Calibration and Measurement Capabilities (CMCs)**

The capabilities provided by accredited calibration laboratories are described by the Calibration and Measurement Capability (CMC), which expresses the lowest measurement uncertainty that can be achieved during a calibration. If a particular device under calibration itself contributes significantly to the uncertainty (for example, if it has limited resolution or exhibits significant non-repeatability) then the uncertainty quoted on a calibration certificate will be increased to account for such factors.

The CMC is normally used to describe the uncertainty that appears in an accredited calibration laboratory's schedule of accreditation and is the uncertainty for which the laboratory has been accredited using the procedure that was the subject of assessment. The measurement uncertainty is calculated according to the procedures given in the GUM and is normally stated as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of $k = 2$. An accredited laboratory is not permitted to quote an uncertainty that is smaller than the published measurement uncertainty in certificates issued under its accreditation.

**Expression of CMCs - symbols and units**

It should be noted that the percentage symbol (%) represents the number 0.01. In cases where the measurement uncertainty is stated as a percentage, this is to be interpreted as meaning percentage of the measurand.
Thus, for example, a measurement uncertainty of 1.5 % means $1.5 \times 0.01 \times q$, where $q$ is the quantity value.

The notation Q[a, b] stands for the root-sum-square of the terms between brackets: $Q[a, b] = [a^2 + b^2]^{1/2}$