

Certificate of Calibration

Calibration of:	HANDHELD ACCELEROMETER CALIBRATOR
Manufacturer:	PCB
Model number:	394B06
Serial number:	556
Calibrated for:	BUSINESS ENTERPRISES AT UNIVERSITY OF PRETORIA Pretoria
Calibration procedure:	AVVS-0006
Period of calibration:	30 March 2015

1 PROCEDURE

The instrument was calibrated according to the manufacturer's specification using reference accelerometer. The results of the calibration are traceable to the relevant national measurement standards. The following equipment was used:

1.1 Laboratory Standard:

PCB 301M15 Accelerometer

(VS-WSTD-03)

1.2 Other Equipment:

Brüel Kjær 2693 Nexus Condition Amplifier

(VS-75)

HP 34401A Digital multimeter

(VS-36)

1.3 Mounting Conditions and Considerations

Mounting Method : 2 Nm \pm 10%
 Lubrication used : Silicone compound Type Z5
 Mounting Orientation : Vertical
 Reference Level : At the bottom of the accelerometer
 g : 9,807 m/s²

Calibrated by M L Temba <i>M. Temba</i> Metrologist (Technical Signatory)	Checked by R Nel <i>R. Nel</i> Metrologist	For Chief Executive Officer <i>[Signature]</i>
Date of Issue 31 March 2015	Page 1 of 2	Certificate number AVVS-3219

2 RESULTS

The following parameters of the exciter were calibrated:

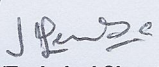
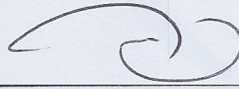
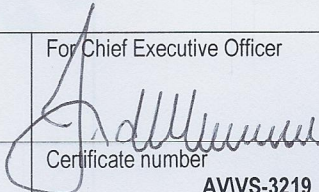
Frequency Accuracy
Acceleration Level

Parameter	Req UUT output	Measured value	Uncertainty (%)
Frequency	80,0 Hz	79,61 Hz	1,2
Acceleration	10,0 m/s ²	10,06 m/s ²	1,2

3 REMARKS

- 3.1** The reported uncertainties of measurement were calculated and expressed in accordance with the BIPM, IEC, ISO, IUPAP, OIML document entitled "A Guide to the Expression of Uncertainty in Measurement" (International Organisation for Standardisation, Geneva, Switzerland, 1993).
- 3.2** The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by a coverage factor of $k=2$, which for a normal distribution approximates a level of confidence of 95,45%.
- 3.3** Certain of the NMISA certificates are consistent with the capabilities that are included in appendix C of the MRA (Mutual Recognition Arrangement) drawn up by the CIPM. Under the MRA, all participating institutes recognise the validity of each other's calibration and measurement certificates for the quantities and ranges and measurement uncertainties specified in Appendix C. For details see <http://www.bipm.org>.
- 3.4** The calibrations were carried out at an ambient temperature of $23\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ and a relative humidity of $50\text{ \%RH} \pm 15\text{ \%RH}$.

----- *end of certificate* -----

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Date of Issue 31 March 2015	Page 2 of 2	Certificate number AVVS-3219