Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

0210

Accredited to ISO/IEC 17025:2017

Nuvia Limited

Issue No: 036 **Issue date:** 04 April 2024

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Calibration performed at the above address only

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks
AIR KERMA RATE	Cobalt-60 11 μGy/h to 730 μGy/h	3.1 %	Statutory calibrations To GPG 14, GPG 29 & GPG113 Calibration of air kerma/air kerma rate monitors using air kerma rates to national standards through a secondary standard dosemeter
	Caesium-137 1.0 μGy/h to 1.5 Gy/h	3.1 %	
	Americium -241 17 μGy/h to 9.8 mGy/h	5.3 %	
AMBIENT DOSE EQUIVALENT RATE	Cobalt-60 12 μSv/h to 800 μSv/h	3.1 %	Calibration of ambient dose equivalent/dose rate monitors using air kerma rates to national standards through a secondary standard dosemeter and using appropriate coefficients given in ISO Standards for H*(10).
	Caesium-137 1.0 μSv/h to 1.8 Sv/h	3.1%	
	Americium -241 30 μSv/h to 18 mSv/h	5.3%	
PERSONAL DOSE EQUIVALENT RATE	Cobalt-60 12 μSv/h to 800 μSv/h	3.1 %	Calibration of electronic personal dosemeters using air kerma rates to national standards through a secondary standard dosemeter, and using appropriate coefficients given in ISO Standards for Hp(10)
	Caesium-137 1.0 μSv/h to 1.8 Sv/h	3.1%	
	Americium -241 30 μSv/h to 18 mSv/h	5.3%	
ABSORBED DOSE	Caesium-137 0.26 Gy to 6.0 Gy	3.1 %	Measurement of absorbed dose using air kerma rates to national standards through a secondary standard dosemeter and using appropriate coefficients given in the HSE Protocol

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks
PERFORMANCE OF PERSONAL DOSIMETRY SERVICES FOR EXTERNAL RADIATIONS	To HP(10): HSE Protocols Whole Body Extremity To Absorbed Dose: Accident	3.1 %	
SURFACE CONTAMINATION RESPONSE	Alpha emitting nuclides: Americium 241 up to 9800 α/s Uranium 234 up to 1800 α/s	4 to 15%	Calibration against large area radioactive sources in accordance with GPG 14 The uncertainty of measurements for each test performed is dependent on the method of measurement, radionuclide, source emission and distance, detector response and ratemeter resolution
	Beta emitting nuclides: Chlorine 36 up to 9000 β/s Carbon 14 up to 18000 β/s Strontium 90/Yttrium 90 up to 6900 β/s Cobalt 60 up to 1500 β/s Caesium 137 up to 8000 β/s	9 to 16%	Calibration against large area radioactive sources in accordance with GPG 14 The uncertainty of measurements for each test performed is dependent on the method of measurement, radionuclide, source emission and distance, detector response and ratemeter resolution
END			

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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: $Q[a, b] = [a^2 + b^2]^{1/2}$