Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

0558

Accredited to ISO/IEC 17025:2017

United Kingdom Health Security Agency (UKHSA), an Executive Agency of the Department of Health and Social Care

Issue No: 021 **Issue date:** 17 November 2022

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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, K_a AND AIR KERMA RATE $\dot{K}_a$	^{137}Cs: 46 nGy to 8.4 Gy and 0.83 µGy h^{-1} to 35 mGy h^{-1} ^{241}Am: 78 nGy to 18 mGy and 1.4 µGy h^{-1} to 75 µGy h^{-1}	3.0 %	Radiation fields generated in accordance with ISO 4037-1 (2019) using secondary standard ionisation chamber and electrometer.
AMBIENT DOSE EQUIVALENT H*(10) AND AMBIENT DOSE EQUIVALENT RATE H*(10)	^{137}Cs: 56 nSv to 10 Sv and 1.0 µSv h^{-1} to 42 mSv h^{-1} ^{241}Am: 135 nSv to 30 mSv 2.4 µSv h^{-1} to 130 µSv h^{-1}	5.0 %	Dosimetry and conversion coefficients conform to ISO 4037-2 (2019) and ISO 4037-3 (2019) The stated ranges will vary due to radionuclide decay, ISO conversion coefficient and angle of incidence.
DIRECTIONAL DOSE EQUIVALENT $H'(0.07)$, $H'(3)$ AND DIRECTIONAL DOSE EQUIVALENT RATE $\dot{H}'(0.07)$, $\dot{H}'(3)$	Similar to ambient, dependant on ISO conversion coefficient	5.0%	Maximum stated dose equivalents are indicative only and higher values are available with longer irradiation periods, subject to sufficient advance notice.
PERSONAL DOSE EQUIVALENT $H_p(0.07)$, $H_p(3)$, $H_p(10)$ AND PERSONAL DOSE EQUVALENT RATE $\dot{H}_p(0.07)$, $\dot{H}_p(3)$, $\dot{H}_p(10)$	^{137}Cs: $H_p(10)$ 56 nSv to 0.48 Sv ^{241}Am: $H_p(10)$ 147 nSv to 1.6 mSv Similar to ambient, dependant on ISO conversion coefficient	5.0%	

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	United Kingdom Health Security Agency (UKHSA), an Executive Agency of the Department of Health and Social Care **Issue No:** 21 **Issue date:** 17 November 2022
Calibration performed at main address only	

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks
Calibration process is completed as per the guidance of GPG 14 or GPG 113			A satisfactory result decision stated on the calibration certificate shall be determined by the analysis of calibration results as detailed in the relevant National Physical Laboratory Good Practice Guide.
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: $Q[a, b] = [a^2 + b^2]^{1/2}$