



Annex (1)

Updated on: 21/02/2023

To the Accreditation Certificate No. **JAS Cal. - 008** Dated **18-02-2020**

For Secondary Standards Dosimetry Laboratory at Jordan Atomic Energy

Commission (JAEC) / Amman

Scope of Accreditation

Calibration of Secondary Standard Dosimetry Systems (SSDs)

<i>Measured</i>	<i>Measuring Range</i>	<i>Calibration and measurement Capability (CMC) ^a</i>	<i>Calibration Methods/ Standards/ Remarks</i>
Air Kerma free in air (Nk) rate ($\mu\text{Gy}/\text{minute}$)	Air Kerma : (Mini. : $12 \cdot 10^{-2} \text{ mGy}/\text{h}$, Max.: $3 \text{ mGy}/\text{h}$)	1.99%	▪ For gamma Radiation Cs-137 : RID-SOP-016 based on ISO 4037 ▪ For narrow spectrum series X-Ray beam: RID-SOP-020 based on ISO 4037
		2.31%	
Ambient dose equivalent rate ($\text{H}^*(10)$)	Ambient dose rate : (Mini. : $15 \cdot 10^{-2} \text{ mSv}/\text{h}$, Max.: $4 \text{ mSv}/\text{h}$)	1.99%	▪ For gamma Radiation Cs-137 : RID-SOP-016 based on ISO 4037 ▪ For narrow spectrum series X-Ray beam: RID-SOP-020 based on ISO 4037
		2.31%	
Personal Dose equivalent rate (Penetrating in 10 mm depth).	Personal Dose rate : (Mini. : $15 \cdot 10^{-2} \text{ mSv}/\text{h}$, Max.: $4 \text{ mSv}/\text{h}$)	1.99%	▪ For gamma Radiation Cs-137 : RID-SOP-016 based on ISO 4037 ▪ For narrow spectrum series X-Ray beam: RID-SOP-020 based on ISO 4037
		2.31%	

a) The reported CMCs are expressed at approximately the 95 % level of confidence, using a coverage factor of $k = 2$.

The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

List of employees in the laboratory who are technically responsible for issuing the calibration certificates in the scope of accreditation:

- Mamoun Alzubi: Director of Research Laboratories and Information
- Alaa Aladwan: Head of SSD lab.



Annex (2)

Updated: 21/02/2023

Issued on: 18-01-2023

To the Accreditation Certificate No. **JAS Cal. - 008** Dated **18-02-2020**

For Secondary Standards Dosimetry Laboratory at Jordan Atomic Energy

Commission (JAEC) / Amman

Scope of Accreditation

Calibration of Neutron Portable Devices

<i>Measured</i>	<i>Measuring Range</i>	<i>Calibration and measurement Capability (CMC)^a</i>	<i>Calibration Methods/ Standards/ Remarks</i>
Calibration factor for neutron portable device	Neutron Rate : 6-150 [n/s]	15 %	▪ RID-SOP-028 based on ISO8529/1,2&3 (2021)(2000)(1998)
	Ambient Dose Equivalent : 9-200 [μSv/h]		

a) The reported CMCs are expressed at approximately the 95 % level of confidence, using a coverage factor of $k = 2$.

The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

List of employees in the laboratory who are technically responsible for issuing the calibration certificates in the scope of accreditation:

- Mamoun Alzubi: Director of Research Laboratories and Information
- Belal Amro: Head of Neutron lab.