

National unitary Institution
«BELARUSSIAN STATE INSTITUTE OF METROLOGY»

Certificate of authorization to carry out state verification of measuring instruments
No. 1 dated November 27, 2020



CERTIFICATE OF STATE VERIFICATION
№ 1-MH0149034-4821

Date of state verification: October 08, 2021

Valid until: October 07, 2023

Measuring instruments: Automatic irradiation calibration system, type SIGMA

Identification number: 1

Mandatory metrological requirements:

The system operating distances range is from 0.5 m to 6.0 m;

Air kerma rate measurement range is from $2.381 \cdot 10^{-11}$ Gy/s to $1.950 \cdot 10^{-3}$ Gy/s;

Accuracy class (error): ± 3.6 %.

Applicant: Polimaster Ltd.

State verification was carried out in accordance with the verification metrology:

GOST 8.087-2000

using unit standards:

National standard for air kerma and air kerma rate unit ИЭ РБ 7-01.

State verification results (if necessary):

The values of metrological characteristics in accordance with GOST 8.087-2000 are presented in table 1 and dated October 01, 2021

Table 1

Source No.	Source type	Isotope	Air kerma rate in operating point \dot{K}_{air} , Gy/s	Distance from source center to operating point R, m	Diameter \varnothing of beam at distance 1.0 m from source center D, m
242/89/ИТ	ГCs7.029.1	^{137}Cs	4,852E-04	1,0	0,22
136/88/ИТ	ГCs7.028.1	^{137}Cs	3,953E-05	1,0	0,30
9ПУ	ГCs7.021.6	^{137}Cs	1,697E-06	1,0	0,34
54Н	ГCs7.021.2	^{137}Cs	8,059E-08	1,0	0,26
НКО	ГCs7.012.10	^{137}Cs	2,405E-08	1,0	0,26
ХТ8	ГCs7.012.6	^{137}Cs	2,367E-09	1,0	0,26
511	ИГИА-3М	^{241}Am	3,758E-09	1,0	0,26
511+φ	ИГИА-3М	^{241}Am	1,006E-09	1,0	0,26
С93	ГИК-2-9	^{60}Co	1,004E-08	1,0	0,26
679	ГИК-1-5	^{60}Co	8,881E-10	1,0	0,34

The automatic irradiation calibration system can be used as operating standard of the 2-nd category according to STB 8083-2020.

Based on the results of the state verification, the measuring instrument complies with the mandatory metrological requirements and is recognized as suitable for use.

State verification mark impression:

State verification officer

signature

Aliaksandr Parkhimchyk

signature decryption

This certificate confirms the traceability of measurements made using this measuring instrument to the International system of units (SI), which are reproduced through the National standard of air kerma and air kerma rate units HЭ РБ 7-01.

Address of the legal entity authorized to conduct state verification:

93, Starovilensky trakt, Minsk, 220053, Belarus, tel.: 8-017-3546504; fax: 244-99-38