



**CALIBRATION CERTIFICATE**

**Type:** X-ray and gamma radiation dosimeter AT1121

Date of calibration: 15.06.2022.

**S/N:** 44556

Measurement limits:

**AT1121:  $\gamma$  50 nSv/h – 10 Sv/h;**

Measurement error:

**AT1121:  $\pm 15\%$**

Operating conditions:

- Air temperature +19,8 °C
- Atmospheric pressure 98,5 kPa
- Relative humidity 72,2 %
- Gamma radiation background 94,2 nSv/h

The instrument is calibrated on; standard dosimetry facility AT-110, N 013 reg. N 40425-09, the Certificate of Compliance N C-B/15-11-2021/112536221 on 15.11.2021 issued by FGUP «D.I.Mendeleyev VNIIM», St. Petersburg, Russia); standard dosimetry facility AT-130, N 015, reg. N 44761-10, the Certificate of Compliance C-B/15-11-2021/112536213 on 15.11.2021 issued by FGUP «D.I.Mendeleyev VNIIM», St. Petersburg, Russia);

**Calibration data**

**AT1121 ( $\gamma$ ) s/n: 44556**

| Dose rate at check point $\dot{H}_{oi}(10)$ | Radiation source number | Distance to source, $R, cm$ | Dose rate measurement at check point, |                                  |       |       |                          | Relative gamma radiation dose rate measurement error $\theta_{\text{ipi}}, \%$ | Confidence limit of the intrinsic relative error $\Delta_i, \%$ during calibration | Limits of intrinsic relative error, % not above |
|---|-------------------------|-----------------------------|---------------------------------------|----------------------------------|-------|-------|--------------------------|--|--|---|
|   |                         |                             | Back-ground, $nSv/h$                  | Measured value $\dot{H}_i^*(10)$ |       |       | Average value, $H_i(10)$ |  |  |   |
|   |                         |                             |                                       | $H_1$                            | $H_2$ | $H_3$ |                          |  |  |   |
| 0,07 $\mu\text{Sv/h}$                       | 263                     | 194.5                       | 94,2                                  | 0,070                            | 0,070 | 0,067 | 0,069                    | -1,43  | 5,61   | ±15   |
| 0,7 $\mu\text{Sv/h}$                        | 0HA                     | 228.6                       | 94,2                                  | 0,70                             | 0,71  | 0,70  | 0,70                     | 0,00   | 5,50   |   |
| 7 $\mu\text{Sv/h}$                          | 0HA                     | 73.4                        | —                                     | 6,98                             | 7,05  | 6,97  | 7,00                     | 0,00   | 5,50   |   |
| 70 $\mu\text{Sv/h}$                         | 9XK                     | 158.8                       | —                                     | 71,9                             | 72,0  | 66,1  | 70,0                     | 0,00   | 5,50   |   |
| 0,7 mSv/h                                   | 9XK                     | 51,0                        | —                                     | 0,72                             | 0,72  | 0,70  | 0,71                     | 1,43   | 5,61   |   |
| 7,0 mSv/h                                   | 043                     | 343.4                       | —                                     | 7,20                             | 7,17  | 6,63  | 7,00                     | 0,00   | 4,40   |   |
| 70 mSv/h                                    | 043                     | 110.3                       | —                                     | 72,0                             | 70,3  | 67,6  | 70,0                     | 0,00   | 4,40   |   |
| 0,7 Sv/h                                    | 163                     | 227.6                       | —                                     | 0,69                             | 0,69  | 0,69  | 0,69                     | -1,43  | 4,54   |   |
| 7 Sv/h                                      | 163                     | 73.3                        | —                                     | 6,96                             | 6,92  | 7,12  | 7,00                     | 0,00   | 4,40   |   |

Calibrated by:

V. Pisarenko

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(signature)

Technical control:

N. Kurbatova

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(signature)