National Scientific Center
"Institute of Metrology"

UA.TR.113-0679-21

Ministry of Economy of Ukraine
Certification and Conformity Assessment Body "Metrology"
NNC "INSTITUTE OF METROLOGY"
Accredited by the National Accreditation Agency of Ukraine,
Accreditation certificate dated 15 June 2021 No. 1O251

TYPE EXAMINATION CERTIFICATE

Issued to: Private Enterprise "SPPE "Sparing-Vist Center",
33 Volodymyra Velykoho Str., Lviv, 79026, Ukraine;
USREOU code 22362867

In accordance with: Annex 3, section "Conformity assessment procedures". Module B (type examination) of Technical regulation of legally regulated measuring instruments approved by the CMU Resolution No. 94 of 13 January 2016

Type of measuring instruments: Electronic personal dosimeters

Type designation: EPD-27, modifications of EPD-27 "DoseG" and EPD-27 "DoseGX"

Date issued: 31.12.2021

Valid until: 30.12.2031

Number of pages: 11

Reference Number: 113-0679-201

Number of Designated body: UA.TR.113

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This certificate was issued based on the research results of a technical design of a measuring instrument. This certificate confirms that the type of measuring instrument complies with the applicable requirements of the Technical Regulation. The conformity of measuring instruments, which are made available on the market of Ukraine and/or put into service, with the type described in this certificate and the applicable requirements of the Technical Regulation must be confirmed through one of the conformity assessment procedures under the module, following module B, in accordance with the requirements of the Technical Regulation.

Director of the conformity assessment body */Signature/* (signature) **Pavlo NEIEZHMAKOV** (initials, family name)

*Stamp: Ministry for Development of Economy, Trade and Agriculture of Ukraine * National Scientific Center "Institute of Metrology" * Kharkiv * Conformity assessment body No.02568325*

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Certificate history

Certificate version number	Date	Substantial changes
1	31.12.2021	Primary certificate

Requirements

The approved type of the measuring instrument meets the requirements of the following documents:
Essential requirements of the Technical regulation of legally regulated measuring instruments, approved by the CMU Resolution No. 94 of 13 January 2016.

Applicable standards:

DSTU 7215:2011 "Individual electronic X-ray and gamma radiation dosimeters. Classification and general specifications";
GOST 27451-87 "Ionizing radiation measuring instruments. General specifications";
DSTU OIML D 11:2018 (OIML D 11:2013, IDT) "General requirements for measuring instruments. Environmental conditions";
DSTU 7363:2013 "Metrology. Measuring equipment software. General specifications";
DSTU EN 60529:2018 (EN 60529:1991; Al:2000; A2:2013; AC:1993; AC:2016, IDT; IEC 60529:1989; A1:1999; A2:2013; Cor 2:2015, IDT) "Degrees of protection provided by enclosures (IP Code)";
DSTU EN 61326-1:2016 (EN 61326-1:2013, IDT) "Electrical equipment for measurement, control and laboratory use. Requirements for electromagnetic compatibility. Part 1. General requirements;
DSTU EN 61010-1:2014 (EN 61010-1:2014, IDT) "Safety Requirements for Control-And-Measuring and Laboratory Electrical Equipment. Part 1. General requirements".

1 Description of the Measuring Instrument Type

EPD-27 electronic personal dosimeters are made in two versions, namely EPD-27 "DoseG" and EPD-27 "DoseGX" (hereinafter – dosimeters) and are designed for use as part of an automated system of individual dosimetry control and autonomous use in order to:
– measure the individual dose equivalent $H_p(10)$ of gamma and X-ray radiation;
– measure the individual dose equivalent rate $\dot{H}_p(10)$ of gamma and X-ray radiation (hereinafter – photon-ionizing radiation);
– control time of stay of personnel in a zone under control;
– maintaining an automated database of radiation burden on personnel in the software and hardware suite (unified) of the automated system of individual dosimetry control of personnel.
EPD-27 electronic personal dosimeters can be used at nuclear power plants, in medicine, in industry, in radiological laboratories and institutions that deal with sources of photon-ionizing radiation.

1.1 Design

The dosimeter (according to Figures 1 and 2, depending on the modification) is designed as a rectangular parallelepiped-like shape whose planes are replaced with the surfaces of large radii of curvature and rounded edges.
The appearance of the dosimeters is shown in Figures 1, 2.

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The dosimeter housing is made of impact-resistant glass-filled plastic. It consists of two covers – the upper (1) and lower (2) covers connected by screws (3). The upper cover (1) of the modification of EPD-27 "DoseGX" dosimeter contains an insert (17), which is transparent for low-energy X-rays. A raised elastic sealing frame-gasket (4) is located between the said covers around the perimeter of their joint. On the face beveled end of the dosimeter, there is a a screen with illumination of the liquid crystal display (LCD) that is divided into two parts (5) and (6) as well as two light-emitting diode (LED) indicators – (7) "ALARM" and (8) "CHARGE". The clamp (9) is secured to the top cover to hold the dosimeter in the breast pocket. Next to the clamp, there are two buttons – (10) MODE and (11) THRESHOLD, as well as the (12) "ALARM" LED (duplicates the indicator (7)). On the back of the upper cover, there is a sign (13) "+", showing a mechanical center projection of the detector that is located under the cover at the depth of 7.2 mm. Two circular contact pads (14) are located on the bottom cover for connecting the charger, a window (15) for data communication with external devices via an infrared port, and a hook (16) for attaching a neck strap cord when there is no clothes with a breast pocket.

Figure 1 – Appearance of EPD-27 "DoseG" dosimeter

Figure 1 – Appearance of EPD-27 "DoseGX" dosimeter

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Dimensions, weight and ingress protection rating of EPD-27 "DoseG" and EPD-27 "DoseGX" electronic personal dosimeters are shown in Table 1.

Table 1 – Dimensions, weight and ingress protection rating of EPD-27 "DoseG" and EPD-27 "DoseGX" electronic personal dosimeters

Name	Unit of measurement	Value
Dimensions with a clip, not more than	mm	84.5x55.0x24.5
Weight without packaging, not more than	kg	0.11
Ingress protection rating	---	IP 67

The dosimeter's block diagram is shown in Figure 3.
The dosimeter is presented as a monoblock unit, comprising:
- X-ray and gamma radiation (hereinafter – photon-ionizing radiation) detector (D);
- processing unit (PU);
- LCD;
- indicating unit (IU);
- alarm buzzer (AB);
- Li-polymer (LiPo) battery (B).

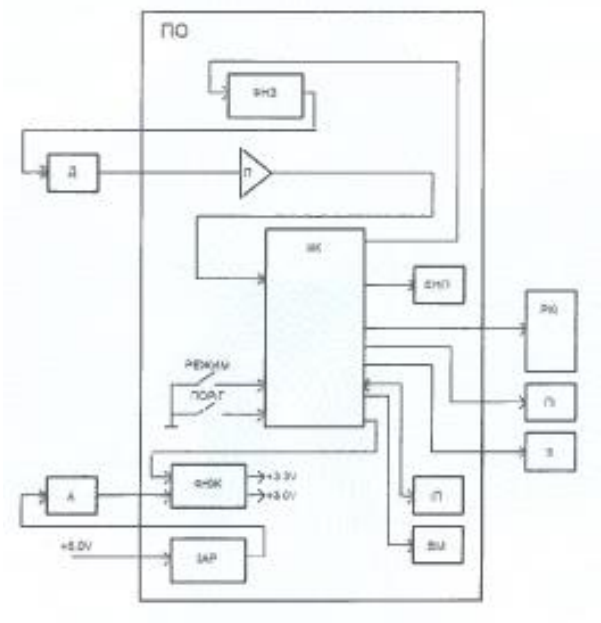

Figure 3 – Dosimeter's block diagram

The photon-ionizing radiation detector (D) consists of a silicon photomultiplier and a scintillator, which are connected between each other. It also includes a thermal detector for thermocompensation of the detector's characteristics. The primary compensation of the detector energy dependence is performed using a physical filter that is part of the detector. Modifications of EPD-27 "DoseGX" and EPD-27 "DoseG" dosimeters differ in the physical filters used in the detectors.
The processing unit (PU) is a microcontroller (MC)-based unit.

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The processing unit comprises:
- supply voltage former (SVF);
- bias voltage former (BVF) of the photomultiplier;
- Li-polymer battery charging unit (BCU);
- non-volatile memory (NVM);
- infrared port (IP);
- vibrating motor (VM);
- MODE and THRESHOLD buttons;
- amplifier (A).

All elements of the processing unit are assembled on a single board. A photon-ionizing radiation detector is also installed on the same board.
The LCD is a symbolic liquid crystal display with a LED backlight. The LCD is connected to the processing unit using a connector.
The indicating device is designed as a flexible board with the LEDs "ALARM" and "CHARGE" located on it. The indicating device and the battery are connected to the processing unit through spring contacts.
The operating principle of the detector is based on transformation of scintillations, caused by photon-ionizing radiation in a scintillator, by the silicon photomultiplier into positive polarity pulses. The number of these pulses is proportional to individual dose rate equivalent (DER) of photon-ionizing radiation, whereas the amplitude – to energy. These pulses are intensified by the amplifier in the processing unit.
The microcontroller measures pulse frequency and conducts their amplitude analysis. Based on this information and scaling coefficients that are stored in its non-volatile memory, it produces measurement results of photon-ionizing radiation DER and individual dose equivalent (DE) of photon-ionizing radiation.
The history of DE accumulation and events is stored in the non-volatile memory.
The infrared port is intended for data exchange between the dosimeter and the unified access station (hereinafter – UAS).
The supply voltage former converts LiPo battery voltage into stabilized voltages to power the dosimeter's blocks.
The bias voltage former of the photomultiplier generates voltage to power the photomultiplier.
The charging unit of the LiPo battery charges the dosimeter's battery at 5 V voltage, which is applied to the terminals of the dosimeter from an external power supply.

1.2 Primary transducer

The principle of operation of the primary transducer is based on the interaction of photons of X-rays or gamma radiation with a scintillator, at the output of which light pulses appear. These pulses in a silicon photomultiplier are converted into electric pulses of positive polarity, the number of which is proportional to the X-ray or gamma radiation DER, and the amplitude – to energy.

1.3 Processing of measurement results

1.3.1 Technical means

The processing unit (PU), which is built on the basis of a microcontroller (MC), is used for digital processing of pulse sequences from the detector (D) of photon-ionizing radiation.

1.3.2 Software

The embedded software (SW) is programmed into the dosimeter once, at the stage of production. Upon completion of programming, access to the embedded SW is blocked irreversibly by destroying the security bits of the microcontroller. This ensures that the embedded SW is protected from unauthorized interference.

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SW versions are displayed on the LCD of the dosimeter for a few seconds when the dosimeter is turned on. The checksum of the embedded SW is not displayed on the LCD of the dosimeter, but is calculated and checked each time the dosimeter is turned on during its self-testing. In case of discrepancy – the operation of the dosimeter is blocked. This makes it impossible for the dosimeter to function with damaged SW.
Software identification data are shown in Table 2.

Table 2 - Software identification data

Measuring equipment software (name)	Software version number	Functional checksum (for software identification)
Embedded SW of EPD-27 "DoseG" dosimeter	P.2.0.1	-
Embedded SW of EPD-27 "DoseGX" dosimeter	P.2.1.0	-

1.4 Display of measurement results
The measurement result is displayed with the help of the liquid crystal display (Figures 1 and 2).

1.5 Optional equipment and functions not covered by the requirements of the Technical Regulation
None.

1.6 Technical documentation
BICT.412118.046 OM "EPD-27 "DoseG" and EPD-27 "DoseGX" Electronic Personal Dosimeters. Operating Manual";
The technical documentation is stored in hard copy in the file No.113-0679-21.

2 Technical data
2.1 Technical parameters
The main metrological and technical characteristics of the EPD-27 "DoseG" and EPD-27 "DoseGX" dosimeters are presented in Table 3 and Table 4.

Table 3 – Key metrological and technical data and specifications of EPD-27 "DoseG" dosimeter

Name	Unit of measurement	Value
1	2	3
Measurement and indication range of gamma radiation DER	Sv/h	from $1 \cdot 10^{-6}$ to 10
Main relative permissible error limit when measuring gamma radiation DER at ^{137}Cs calibration with a confidence probability of 0.95: – in the range from $1 \cdot 10^{-5}$ Sv/h to $1 \cdot 10^{-3}$ Sv/h (inclusive) – in the range from $1 \cdot 10^{-3}$ Sv/h to 10 Sv/h	%	 20 15
Measurement and indication range of gamma radiation DE	Sv	from $1 \cdot 10^{-7}$ to 10
Main relative permissible error limit when measuring gamma radiation DE at ^{137}Cs calibration with a confidence probability of 0.95 within the range of $1 \cdot 10^{-6}$ Sv to 10 Sv	%	15
Energy range of detected gamma radiation	MeV	from 0.05 to 10
Energy dependence when measuring gamma radiation DER and DE relative to 0.662 MeV (^{137}Cs) energy, not more than: – in the energy range from 0.05 MeV to 1.25 MeV (inclusive) – in the energy range from 1.25 MeV to 10 MeV	%	 ±20 ±40

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Table 3 (continued)

1	2	3
Anisotropy when gamma radiation falls in directions at angles from minus 60° to 60° in the horizontal and vertical planes relative to the main (perpendicular to the front panel of the dosimeter) measurement direction, not more than: - for ^{137}Cs and ^{60}Co radionuclides; - for ^{241}Am radionuclide	%	 25 60
Complementary relative permissible error limit of photon-ionizing radiation DER and DE measurement result caused by ambient temperature deviation from 20°C, in the temperature range from minus 20 to + 50°C	% per each 10 °C of deviation from 20 °C	5
Time of continuous operation under normal climatic conditions when powered from a fully charged battery, not less than: – under the conditions of measurement of gamma radiation DER not more than 0.5 μSv/h and with switched off LCD backlight, switched off sound and vibration alarm – under the conditions of measurement of gamma radiation DER equal to 1 Sv/h and with switched on LCD backlight, switched on sound and vibration alarm	hrs	 170 4
Unstable readings of the dosimeter during 8 hours of continuous operation, not more than	%	5
Operating supply voltage of the dosimeter from Li-Po battery with a capacity of at least 400 mAh	V	3.7
Mean time to failure, not less than	hrs	6000
Average life of the dosimeter till the first major repair, not less than	hrs	10000
Mean life of the dosimeter (including repairs), not less than	year	10
Climatic conditions of the environment: – temperature; – relative humidity at a temperature of 35 °C – atmospheric pressure	 °C % kPa	 from minus 20 to 50 95 ± 3 from 84 to 106.7
Class of external electromagnetic conditions according to DSTU OIML D 11:2018	--	E2
Class of external mechanical conditions according to DSTU OIML D 11: 2018	--	M1

Table 4 – Key metrological and technical data and specifications of EPD-27 "DoseGX" dosimeter

Name	Unit of measurement	Value
1	2	3
Measurement and indication range of gamma radiation DER	Sv/h	from $1\cdot10^{-6}$ to 10
Measurement and indication range of X-ray DER	Sv/h	from $1\cdot10^{-6}$ to $1\cdot10^{-1}$
Main relative permissible error limit when measuring photon-ionizing radiation DER at ^{137}Cs calibration with a confidence probability of 0.95: – in the range from $1\cdot10^{-5}$ Sv/h to $1\cdot10^{-3}$ Sv/h (inclusive) – in the range from $1\cdot10^{-3}$ Sv/h to 10^{-1} Sv/h – in the range from $1\cdot10^{-1}$ Sv/h to 10 Sv/h	 % 	 20 15 15
Measurement and indication range of gamma and X-ray radiation DE	Sv	from $1\cdot10^{-7}$ to 10
Main relative permissible error limit when measuring gamma and X-ray radiation DE at ^{137}Cs calibration with a confidence probability of 0.95 within the range of $1\cdot10^{-6}$ Sv to 10 Sv	%	15
Energy range of detected gamma radiation	MeV	from 0.05 to 10

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Table 4 (continued)

1	2	3
Energy dependence when measuring gamma radiation DER and DE relative to 0.662 MeV (^{137}Cs) energy, not more than: – in the energy range from 0.05 to 1.25 MeV (inclusive) – in the energy range from 1.25 MeV to 10 MeV	%	 ±20 ±40
Energy range of detected X-ray	keV	from 12 to 200
Energy dependence when measuring X-ray DER and DE relative to 0.662 MeV (^{137}Cs) energy, not more than	%	from minus 30 to 35
Anisotropy when gamma radiation falls in directions at angles from minus 60° to 60° in the horizontal and vertical planes relative to the main (perpendicular to the front panel of the dosimeter) measurement direction, not more than: - for ^{137}Cs and ^{60}Co radionuclides; - for ^{241}Am radionuclide	%	 25 60
Complementary relative permissible error limit of photon-ionizing radiation DER and DE measurement result caused by ambient temperature deviation from 20°C, in the temperature range from minus 20 to + 50°C	% per each 10 °C of deviation from 20 °C	5
Time of continuous operation under normal climatic conditions when powered from a fully charged battery, not less than: – under the conditions of measurement of gamma radiation DER not more than 0.5 μSv/h and with switched off LCD backlight, switched off sound and vibration alarm – under the conditions of measurement of gamma radiation DER equal to 1 Sv/h and with switched on LCD backlight, switched on sound and vibration alarm	hrs	 170 4
Unstable readings during 8 hours of continuous operation, not more than	%	5
Operating supply voltage of the dosimeter from Li-Po battery with a capacity of at least 400 mAh	V	3.7
Mean time to failure, not less than	hrs	6000
Average life of the dosimeter till the first major repair, not less than	hrs	10000
Mean life of the dosimeter (including repairs), not less than	years	10
Climatic conditions of the environment: – temperature; – relative humidity at a temperature of 35 °C – atmospheric pressure	 °C % kPa	 from minus 20 to 50 95 ± 3 from 84 to 106.7
Class of external electromagnetic conditions according to DSTU OIML D 11:2018	--	E2
Class of external mechanical conditions according to DSTU OIML D 11: 2018	--	M1

The delivery kit of the dosimeters is shown in Table 5 and Table 6.

Table 5 - Delivery kit of EPD-27 "DoseG" dosimeter

Type	Item	Q-ty, pcs
BICT.412118.043	EPD-27 "DoseG" Electronic Personal Dosimeter	1
BICT.412118.046 HE	Operating manual	1
BICT.412915.051	Packaging	1

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Table 6 - Delivery kit of EPD-27 "DoseGX" dosimeter

Type	Item	Q-ty, pcs
BICT.412118.043-02	EPD-27 "DoseGX" Electronic Personal Dosimeter	1
BICT.412118.046 HE	Operating manual	1
BICT.412915.051-02	Packaging	1

3 Interfaces and compatible external devices
3.1 Interfaces
The Optical Wireless Infrared Interface (IrDA) can be used to communicate the dose accumulation history and event history from the dosimeter to the personal computer, as well as to set the dosimeter.

3.2 Compatible external devices
USB/IrDA infrared reading port adapter with software on CD, available by a separate order.

4 Requirements for production, commissioning and use
4.1 Production requirements
There are no additional production requirements.

4.2 Commissioning requirements
Requirements for proper commissioning of dosimeters are given in the Operating Manual BICT.412118.046 HE (File No.113-0679-21).

4.3 Operating requirements
The radiometers must be operated with the account of local climatic conditions in accordance with clause 2.1 of this certificate, the requirements given in BICT.412118.046 HE, as well as the whether the intended place of use is open or closed (File No.113-0679-21).

5 Supervision over of the devices in operation
5.1 Supervision documentation
Metrological supervision of the legislatively regulated measuring equipment in use is carried out by inspections in accordance with the Law of Ukraine "On the basic principles of state supervision (control) in the field of economic activity".
State market supervision for compliance of legislatively regulated measuring instruments with the requirements of technical regulations is carried out in accordance with the Law of Ukraine "On State Market Supervision and Control of Non-Food Products".
The verification of legislatively regulated measuring instruments in use is performed according to verification methods, which are determined by regulatory acts of the central executive body, which ensures the formation of state policy in the field of metrology and metrological activity, or national standards.
The procedure for supervision during use in accordance with the "Procedure for verification of legislatively regulated measuring instruments in use and registration of its results", approved by the Order of the Ministry of Economic Development and Trade of Ukraine No.193 dated 08.02.2016.

5.2 Identification (of hardware and software)
Identification of hardware – in accordance with clause 1.1 and Figures 1-4 hereof. Identification of software – in accordance with clause 1.3.2 hereof when the dosimeter is switched on.

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6 Protection facilities (hardware and software)

Protection against physical interference is done by sealing.

EPD-27 "DoseG" and EPD-27 "DoseGX" dosimeters are sealed with a paste, which closes the head of one of the screws that fasten the housing covers together (Figure 4). Removal of seals and repeated sealing is performed by the organization in charge of repairs and calibration of the dosimeter.

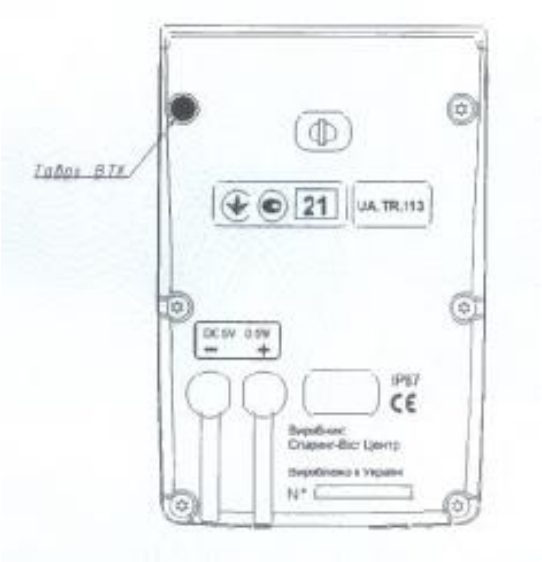

Figure 4 - Place of sealing of the dosimeter and application of the conformity mark and additional metrological labeling.

7 Labeling and inscriptions

The labeling of the dosimeter housing is shown in Figures 1, 2, 4.

Labeling of the front panel of the dosimeter (Figures 1, 2) contains:

– full name of the dosimeter;

– the ingress protection rating – IP 67 in accordance with DSTU EN 60529:2018.

The top panel of the dosimeter (Figures 1 and 2) contains the inscriptions:

– mechanical center of the detector;

– names of buttons "THRESHOLD", "MODE".

The rear panel of the dosimeter (Figure 4) contains the inscriptions:

– "Made in Ukraine";

– name of the manufacturer;

– serial number of the dosimeter according to the numbering system of the manufacturer;

– the ingress protection rating – IP 67 in accordance with DSTU EN 60529:2018;

– connection point for recharging the dosimeter;

– month and year of manufacture according to manufacturer system.

– mark of conformity and additional metrological labeling.

The mark for goods and services of the manufacturer is printed on the clip.

Characteristics of accuracy of the dosimeters are given in BICT.412118.046 (File No.113-0679-21).

8 Drawings

Sets of design documentation BICT.412118.046 are stored in hard copy in the case No. 113-0679-21.

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Additional Information:

Test reports:

1 Test report on conformity assessment of the technical regulation of the legislatively regulated measuring equipment of the CAB "Metrology" NNC "INSTITUTE OF METROLOGY" No. 6/0679.П.525.B/11-21 dated 22 November 2021, accreditation certificate registered in the Register on 16 November 2020 under No. 20524, valid until 15 November 2025;

2 Report No. 21-01/08 dated 14.09.2021 on conformity verification of EDP-27 "DoseG" and EDP-27 "DoseGX" electronic personal dosimeters for resistance to the influence of maximum operating temperatures in accordance with the requirements of para 5.2.1.13 and 5.2.4.1 of DSTU 7215:2011 at Separated Subdivision "Testing Center LORTA" (SS "TS LORTA"), certificate of accreditation, registered in the Register on 14 July 2019 under No.20042, valid until 13 July 2024.

3 Report No. 21-02/08 dated 17.09.2021 on conformity verification of EDP-27 "DoseG" and EDP-27 "DoseGX" electronic personal dosimeters for resistance to relative humidity in accordance with the requirements of p. 5.2.4.1 of DSTU 7215:2011 at SS "TS LORTA", certificate of accreditation, registered in the Register on 14 July 2019 under No.20042, valid until 13 July 2024.

4 Report No. 21-03/08 dated 20.09.2021 on conformity verification of EDP-27 "DoseG" and EDP-27 "DoseGX" electronic personal dosimeters for resistance to sinusoidal vibrations in accordance with the requirements of p. 5.2.4.2 of DSTU 7215:2011 at SS "TS LORTA", certificate of accreditation, registered in the Register on 14 July 2019 under No.20042, valid until 13 July 2024.

5 Report No. 21-04/08 dated 20.09.2021 on conformity verification of EDP-27 "DoseG" and EDP-27 "DoseGX" electronic personal dosimeters for resistance to mechanical shocks in accordance with the requirements of p. 5.2.4.2 of DSTU 7215:2011 at SS "TS LORTA", certificate of accreditation, registered in the Register on 14 July 2019 under No.20042, valid until 13 July 2024.

6 Report No. 21-05/08 dated 21.09.2021 on conformity verification of EDP-27 "DoseG" and EDP-27 "DoseGX" electronic personal dosimeters for resistance to free falls in accordance with the requirements of p. 5.2.4.4 of DSTU 7215:2011 at SS "TS LORTA", certificate of accreditation, registered in the Register on 14 July 2019 under No.20042, valid until 13 July 2024.

7 Report No. 21-06/08 dated 21.09.2021 on conformity verification of EDP-27 "DoseG" and EDP-27 "DoseGX" electronic personal dosimeters for resistance to mechanical factors during transportation in accordance with the requirements of p. 5.2.4.6 of DSTU 7215:2011 at SS "TS LORTA", certificate of accreditation, registered in the Register on 14 July 2019 under No.20042, valid until 13 July 2024.

8 Report No. 21-07/08 dated 22.09.2021 on conformity verification of EDP-27 "DoseG" and EDP-27 "DoseGX" electronic personal dosimeters for resistance to constant and alternating with a frequency of (50 ± 1) Hz magnetic field with a voltage of 400 A/m according to the requirements of p. 5.2.4.3 of DSTU 7215:2011 at SS "TS LORTA", certificate of accreditation, registered in the Register on 14 July 2019 under No.20042, valid until 13 July 2024.

9 Report No. 21-08/08 dated 23.09.2021 on verification of the conformity of the ingress protection rating of EDP-27 "DoseG" and EDP-27 "DoseGX" electronic personal dosimeters to the requirements of p. 6.4 of DSTU 7215:2011 at SS "TS LORTA", certificate of accreditation, registered in the Register on 14 July 2019 under No.20042, valid until 13 July 2024.

10 Test report No. 0510-1-2021 dated 07.05.2021 of EDP-27 "DoseG" and EDP-27 "DoseGX" electronic personal dosimeters for compliance with safety requirements in accordance with DSTU EN 61010-1:2014 at UkrTEST Scientific & Production Testing Center (UkrTEST SPTC), NAAU accreditation certificate No. 20635 dated 17 February 2020 valid until 31 May 2022.

11 Test report No. 0508-5-2021 dated 04.06.2021 of EDP-27 "DoseG" and EDP-27 "DoseGX" electronic personal dosimeters for compliance with the requirements of electromagnetic compatibility in accordance with DSTU EN 61326-1:2016 and DSTU EN 61000-4-2:2018 at UkrTEST SPTC, NAAU accreditation certificate No. 20635 dated 17 February 2020 valid until 31 May 2022.

12 Test report No. 0507-5-2021 dated 11.06.2021 of EDP-27 "DoseG" and EDP-27 "DoseGX" electronic personal dosimeters for compliance with the requirements of electromagnetic compatibility in accordance with DSTU EN 61326-1:2012 and DSTU EN 61326-1:2013 at UkrTEST SPTC, NAAU accreditation certificate No. 20635 dated 17 February 2020 valid until 31 May 2022.

Customer – PRIVATE ENTERPRISE "SPPE "SPARING-VIST CENTER"; 33 Volodymyra Velykoho Str., Lviv, Ukraine 79026; EDRPOU code 22362867.

State Classifier of Goods and Services code of the product – 26.51.41.