Český metrologický institut

Type Approval Certificate

No. 0111-CS-A018-14

Czech Metrology in accordance with the Law of metrology No. 505/1990 Coll. as amended

approved

personal dosimeter
type DKG-21

under observation of technical data referred to in Annex of this Certificate.

Type approval mark: **TCM 221/14 - 5219**

Applicant: **PE "SPPE "Sparing-Vist Center"**
33 Volodymyr Velyky Str.
Lviv, 79026
Ukraine

Manufacturer: **PE "SPPE "Sparing-Vist Center"**
Ukraine

Valid until: **27 August 2024**

Information on judicial remedies:
The judicial remedies against this decision are available to the applicant through Czech Metrology Institute to Czech Office for Standardization, Metrology and Testing within 15 days since the receipt of this Certificate.

Description:
Essential characteristic, approved conditions special conditions, examination results including technical drawings and schemas are set out in the technical test report appertaining to this certificate. The certificate comprises the front page and the technical test report totally having 3 pages.

Český metrologický institut

Brno, 28 August 2014

RNDr. Pavel Klenovský
Director General

Technical test report

1. Description

DKG-21 is a personal dosimeter intended for measurement of personal dose equivalent $H_p(10)$ and personal dose equivalent rate. The dosimeter may be used as an electronic dosimeter for automated systems of personal dosimetry control and/or as an independent device.

It has an internal energy compensated GM detector, measured value is displayed on a LC display on the front panel. Instrument is controlled by two buttons.

DKG-21 can store dose accumulation history in the non-volatile memory with real time reference and it has light and audio alarm of exceeded programmed threshold level of gamma radiation dose and dose rate.

Dosimeter DKG-21

2. Basic metrology characteristic

Measured quantity	- personal dose equivalent $H_p(10)$ - personal dose equivalent rate
Measurement range	- 1 µSv up to 1 Sv - background up to 1 Sv/h
Effective measurement range	- 1 µSv up to 1 Sv - 1 µSv/h up to 1 Sv/h
Energy range	- 64 keV up to 1.25 MeV
Operating temperature range	- -10°C up to +50°C
Dimensions	- 90 x 55 x 10 mm
Weight	- 80 g

3. Data on device

The device must be identified by the manufacturer identification, type, serial number and type approval mark.

4. Test

The manufacturer submitted four samples of the dosimeter DKG-21, S/N 1204132, 1204142, 1204145 and 1304360.

Applicant also submitted:

- electromagnetic compatibility test report no. SPA-20070504-R1 issued by a testing laboratory BICON-EMC laboratories (The Netherlands) on 31th August 2007. The results of this report were fully accepted and one test acc. to IEC 61526:2005, par. 11.4 "Radiated electromagnetic fields of mobile phones or wireless LAN" was amended (report of CMI TESTCOM No. 8551-PT-E0066-14 issued on 24.3.2014).

- technical report no. 33.2-22362867010:2007 issued by the manufacturer on 23th May 2007. Based on the results of this report the results of vibration test were accepted.

Tests of linearity and statistical fluctuations, variation of the response due to dose rate dependence of dose measurements, variation of the response due to photon radiation energy and angle of incidence, variation of the response due to beta radiation, overload characteristics, accuracy of alarm, environmental characteristics (influence of ambient temperature, relative humidity and atmospheric pressure), battery test and mechanical tests (drop test, microphonics test) acc. to the standard ČSN EN 61526 were amended to the submitted documentation.

Based on the test results it was found that the measuring instrument can be used for the intended purpose stated in the paragraph 1 of this document and can be used as a legal measuring instrument in the scope of this protocol.

5. Verification

Within the verification, the test of the intrinsic error should be carried out according to the ČSN EN 61526 standard. After verification, the verification mark identifying the year of the verification should be placed on the front panel so as not to block any data on the dosimeter.

6. Validity of verification period

Validity of verification period is stated by Decree of Ministry of Industry and Trade.