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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 31835-2015

**Pocket-type personal radiation devices (PRD) for detection and
alarming of radioactive material**

用于探测与报警放射性材料的袖珍式个人辐射仪

(English Translation)

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Table of Contents

Preface	
1 Scope	
2 Normative references	
3 Terms and definitions, quantities and units	
3.1 Terms and definitions	
3.2 Quantities and Units	
4 4 design requirements	
4.1 General requirements	
4.2 Mechanical Requirements	
4.3 Electromagnetic claim	
5 5 Performance Test	
5.1 General test conditions	
5.2 Radiation Test	
8 5.3 Environmental Testing	
5.4 Mechanical tests	
5.5 Electrical Test	
6 File	
12 6.1 Type test report	
6.2 Certificate	
6.3 Operation and Maintenance Manual	

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard uses redrafted law revision adopted IEC 62401:2007 "Radiation protection instrumentation used to detect the illegal transport of radioactive material Personal radiation alarm device. " for ease of use, the standard of IEC 62401:2007 made the following technical and editorial changes.

--- Standard name changed to "for the detection and alarm of radioactive material personal pocket radiometer";

--- Deleting Introduction;

--- Increase in "2 Normative references" in GB/T 4835.1-2012 and IEC 61526:2010, with

GB/T 4960.6-2008 instead of IEC 60050-393:2003 and IEC 60050-394:2007;

--- Increasing the term "pocket-sized personal radiation meter" "nuclear material" "radioactive material" "radioactive materials" in "3 Terms and definitions" and "Reference conditions" and its definition; the standard term in a logical order and re-order categories, the "reference device" to "Radiometer reference point", "false positives" in the "false positive rate" for the notes, delete the unused standard terminology, such as "amount the conventional true value "" means "" effective range "" read "" standard deviation, "" routine testing "" acceptance test "" variance "and so on;

--- 4.2.1 "radiometer overall size (not including clips, clamping device or external alarm) should not exceed the length of 200mm, width 100mm and a thickness of 50mm "words" radiometer overall size (not including clips, clamping device or external alarm) should not exceed Long 150mm, width 80mm and thickness of 30mm ";

--- Description column item 4.2.3 a) and b) to 4.2.3.1 and 4.2.3.2;

--- 5.2.3.1 and 5.2.3.2 column item description a) and b) to read 5.2.3.1.1,5.2.3.1.2 and 5.2.3.2.1,5.2.3.2.2;

--- 5.3.1.2 suspended following paragraph to 5.3.1.2.1 "Overview" column Item Description a) and b) to 5.3.1.2.2 and 5.3.1.2.3;

--- Delete the contents of 6.1;

--- Because references GB/T 4835.1-2012 and IEC 61526:2010 "1" and the reference to the two criteria Included in the "2 Normative references", so delete reference.

This standard by the National Nuclear Instrument Standardization Technical Committee (SAC/TC30) centralized.

This standard was drafted. Institute of Chemical Defense Institute of the PLA Second.

1 Scope

This standard specifies the alarm designed to detect radioactive materials and personal pocket radiometer (PRD), functional standards, to performance Sum test methods.

This standard applies to the body worn pocket-sized personal radiation meter. PRD for detecting and indicating through ionizing radiation (including photons and /or neutron) the presence and approximate magnitude, alert the user of the presence of radioactive sources was significantly higher than the local average background level, but not for providing agent Measurement equivalent rate.

This standard does not apply to GB/T 4835.1-2012, IEC 61526. performance relates to radiation protection instrumentation 2010.

When the PRD for other conditions not worn on the human body, its relevant neutron

performance may be degraded.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB 4208-2008 housing protection (IP Code) (IEC 60529:2001, IDT) GB/T 4835.1-2012 radiation protection instrumentation beta, X and gamma radiation surrounding and/or directional dose equivalent (rate) meters and/or monitors Part 1. Portable workplace and environmental meters and monitors (IEC 60846-1:2009, IDT) GB/T 4960.6-2008 nuclear science and technology terminology Part 6. Nuclear instrumentation (IEC 60050-393:2003, IEC 60050-394:2007, NEQ) X and gamma GB/T 12162.1-2000 for calibrating dosimeters and dose rate meters and for determining their response reference radiation first Part I. Radiation characteristics and production method (ISO 4037-1:1996, IDT) X and gamma GB/T 12162.2-2004 for calibrating dosimeters and dose rate meters and for determining their response reference radiation 2 Parts. the energy range of radiation protection is 80keV ~ 1.3MeV and 4MeV ~ 9MeV reference radiation dosimetry (ISO 4037-2:1997, IDT) GB/T 12162.3-2004 for calibrating dosimeters and dose rate meters and for determining their response of X and gamma reference radiations 3 Part I. Effect of calibration and measurement of energy and angular response of dosimeters and workplace personal dosimeter (ISO 4037-3:1999, IDT) GB/T 14055.1-2008 neutron reference radiation - Part 1. Radiation characteristics and production method (ISO 8529-1:2001, IDT) GB/T 14055.2-2012 neutron reference radiation - Part 2. Characterization of the radiation field associated with a substantial amount of radiation protection instrumentation calibration Basis (ISO 8529-2:2000, IDT) GB/T 17626.2-2006 Electromagnetic compatibility - Testing and measurement techniques - Electrostatic discharge immunity test (IEC 61000-4-2:2001, IDT) GB/T 17626.3-2006 Electromagnetic compatibility - Testing and measurement techniques RFEMS test (IEC 61000-4-3:2002, IDT) IEC 61526:2010 Radiation protection instruments to measure X, gamma, and beta neutron radiation personal dose equivalent Hp (10) and Hp (0.07) Direct reading personal dose equivalent meter (Radiation protection instrumentation-Measurement of personal dose equivalent Hp (10) and Hp (0.07) for X, gamma, neutron and beta radiations-Direct reading personal dose equivalent meters)