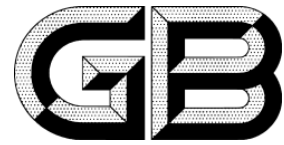


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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 20013.2-2025

Replacing GB/T 20013.2-2005

**Nuclear medicine instrumentation - Routine tests - Part 2:
Scintillation cameras and single photon emission computed
tomography imaging**

核医学仪器 例行试验 第2部分：闪烁照相机和单光子发射计算机断层成像装置
(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 2 of GB/T 20013 "Routine Testing of Nuclear Medicine Instruments". GB/T 20013 has already published the following parts.

---Part 1: Gamma Radiation Counting System;

---Part 2: Scintillation Cameras and Single-Photon Emission Computed Tomography Apparatus;

---Part 3: Positron Emission Tomography Apparatus;

---Part 4: Radionuclide Calibrator this document replaces GB/T 20013.2-2005 "Routine testing of nuclear medicine instruments - Part 2: Scintillation cameras and single-photon emission".

The main technical changes in "Computed Tomography Imaging Devices" compared to GB/T 20013.2-2005, aside from structural adjustments and editorial modifications, are as follows.

as follows.

---The SPECT uniformity section in the planar imaging test has been removed (see 4.1.4.2 in the 2005 version);

---Added content requiring reporting (see 4.2, 4.3.1);

---The item regarding probe tilt has been removed (see 4.2.1 in the 2005 version);

---Added applicability instructions for SPECT with CT or X-ray equipment, and requirements for SPECT-CT registration testing (see 4.3.3);

---The testing frequency has been changed (see 4.5, 4.4 in the 2005 edition).

This document is equivalent to IEC TR61948-2:2019 "Routine testing of nuclear medicine instruments - Part 2: Scintillation cameras and single-photon detectors".

The document type of "Launch of Computed Tomography Imaging Device" has been changed from an IEC technical report to a Chinese national standard.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the National Medical Products Administration.

This document is under the jurisdiction of the National Technical Committee on Standardization of Medical Electrical Appliances (SAT/TC10).

Introduction

GB/T 20013 "Routine Tests for Nuclear Medicine Instruments" aims to describe the procedures that users of nuclear medicine instruments must perform to maintain appropriate operating conditions.

The routine test is planned to consist of four parts.

---Part 1: Gamma Radiation Counting System. The purpose is to describe routine tests of a gamma radiation counting system.

---Part 2: Scintillation Cameras and Single-Photon Emission Computed Tomography Apparatus. The purpose is to describe scintillation cameras and single-photon emission computed tomography apparatuses.

Routine testing of the sub-emission computed tomography imaging device.

---Part 3: Positron Emission Tomography Apparatus. The purpose is to describe routine testing of a positron emission tomography apparatus.

---Part 4: Radionuclide Calibrator. The purpose is to describe routine tests of a radionuclide calibrator.

Routine testing of nuclear medicine instruments Part 2: Flash Camera and Single-photon emission computed tomography (SPECT)

1 Scope

This document specifies routine tests for quality control of scintillation cameras and single-photon emission computed tomography (SPECT) devices.

This document applies to single-photon scintillation cameras with parallel-aperture collimators used in planar scintillation and tomography.

Parallel aperture collimator single-photon emission computed tomography (SPECT) system and SPECT unit in SPECT-CT system the acceptance test methods described in this document are in IEC 61675-2.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

terms)

Note: GB/T 17857-1999 Medical Radiology Terminology (Radiotherapy, Nuclear Medicine and Radiation Dosimetry Equipment) (eqvIEC 60788.1984) IEC 61675-2 Performance and test rules for radionuclide imaging equipment - Part 2: Planar, whole-body, and tomographic gamma radiography planar,wholebody,SPECTimaging) Note. GB/T 18988.2-2013 Performance and test rules for radionuclide imaging equipment - Part 2: Single-photon emission computed tomography (IEC) devices 61675-2.1998, MOD) Note. GB/T 20013.1-2025 Routine testing of nuclear medicine instruments - Part 1: Gamma radiation counting systems (IEC TR61948-1:2016, IDT)

3 Terms and Definitions

The terms and definitions defined in IEC TR60788, IEC 61675-2 and IEC TR61948-1, as well as the following terms and definitions, apply to this document.

Acceptance test

Tests conducted after the installation of new equipment or after significant modifications to existing equipment are used to verify that the equipment meets the requirements of the contract.

Note: Reference data should be collected during or immediately after the acceptance test as a

standard for comparison with future routine tests.

[Source. IEC TR60788:2004, rm-70-01, modified] 3.2 quality control Part of the quality assurance in nuclear medicine includes testing instruments using appropriate methods.

Note: The tests include acceptance tests and routine tests.