

TECHNICAL REPORT

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

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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CONTENTS

FOREWORD.....	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Test methods.....	10
4.1 General.....	10
4.2 Planar imaging.....	10
4.2.1 ENERGY WINDOW setting	10
4.2.2 Background	10
4.2.3 Constancy of sensitivity	10
4.2.4 Non-uniformity	10
4.2.5 PIXEL size	11
4.2.6 Resolution/linearity	11
4.3 SINGLE PHOTON EMISSION COMPUTED TOMOGRAPHY (SPECT).....	11
4.3.1 CENTRE OF ROTATION (COR)	11
4.3.2 Tomographic non-uniformity	13
4.3.3 SPECT/CT co-registration	13
4.4 Wholebody imaging.....	13
4.5 Frequency of ROUTINE TESTS	14
Bibliography.....	15
Index of defined terms	16
Figure 1 – Cylindrical phantom.....	7
Figure 2 – Geometry of PROJECTIONS	12
Table 1 – Frequency of ROUTINE TESTS	14

INTERNATIONAL ELECTROTECHNICAL COMMISSION

NUCLEAR MEDICINE INSTRUMENTATION – ROUTINE TESTS –**Part 2: Scintillation cameras and single photon
emission computed tomography imaging**

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IEC TR 61948-2, which is a Technical Report, has been prepared by subcommittee 62C: Equipment for radiotherapy, nuclear medicine and radiation dosimetry, of IEC technical committee 62: Electrical equipment in medical practice.

This second edition cancels and replaces the first edition published in 2001. It constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) adaptation to apply to the present technology;
- b) updating of the test methods to comply with the recent state of the art.

The text of this document is based on the following documents:

Draft TR	Report on voting
62C/714/DTR	62C/733/RVDTR

Full information on the voting for the approval of this document can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

In this document, the following print types are used:

- requirements, compliance with which can be tested, and definitions: roman type;
- notes, explanations, advice, introductions, general statements, exceptions and references: smaller roman type;
- *test specifications: italic type*;
- TERMS DEFINED IN CLAUSE 3 OF THIS DOCUMENT: SMALL CAPITALS.

The requirements are followed by specifications for the relevant tests.

A list of all parts in the IEC 61948 series, published under the general title *Nuclear medicine instrumentation – Routine tests*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

NUCLEAR MEDICINE INSTRUMENTATION – ROUTINE TESTS –

Part 2: Scintillation cameras and single photon emission computed tomography imaging

1 Scope

This part of IEC 61948, which is a Technical Report, is valid for single photon scintillation cameras with parallel hole collimators used in planar scintigraphy and tomography. It is also valid for the SPECT portion of SPECT/CT systems with parallel hole collimators, including the co-registration between the SPECT and CT subsystems. The objective is to specify ROUTINE TESTS for QUALITY CONTROL. Methods for the ACCEPTANCE TEST are described in IEC 61675-2.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC TR 60788:2004, *Medical electrical equipment – Glossary of defined terms*

IEC 61675-2:2015, *Radionuclide imaging devices – Characteristics and test conditions – Part 2: Gamma cameras for planar, wholebody, and SPECT imaging*

IEC TR 61948-1:2016, *Nuclear medicine instrumentation – Routine tests – Part 1: Gamma radiation counting systems*