# IEC 62037-1

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# INTERNATIONAL STANDARD

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## Passive RF and microwave devices, intermodulation level measurement – Part 1: General requirements and measuring methods

INTERNATIONAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# PASSIVE RF AND MICROWAVE DEVICES, INTERMODULATION LEVEL MEASUREMENT –

## Part 1: General requirements and measuring methods

## FOREWORD

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IEC 62037-1 has been prepared by IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories. It is an International Standard.

This second edition cancels and replaces the first edition published in 2012. This edition constitutes a technical revision.

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

a) clarification added that test equipment may utilize pulsed generators to reduce power consumption;
b) heating effect differences in the device under test noted in Annex B for tests conducted using pulsed generators;
c) guidance added in Annex B to improve probability of detection of short duration PIM events while dynamic testing.

The text of this International Standard is based on the following documents:

| Draft | Report on voting |
|---|---|
| 46/834/FDIS | 46/855/RVD |

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

This International Standard is to be used in conjunction with IEC 62037 (all parts).

A list of all the parts in the IEC 62037 series, published under the general title *Passive RF and microwave devices, intermodulation level measurement*, can be found on the IEC website.

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# PASSIVE RF AND MICROWAVE DEVICES, INTERMODULATION LEVEL MEASUREMENT –

## Part 1: General requirements and measuring methods

## 1 Scope

This part of IEC 62037 deals with the general requirements and measuring methods for intermodulation (IM) level measurement of passive RF and microwave components, which can be caused by the presence of two or more transmitting signals.

The test procedures given in this document give the general requirements and measurement methods required to characterize the level of unwanted IM signals using two transmitting signals.

The IEC 62037 series addresses the measurement of PIM, but does not cover the long-term reliability of a product with reference to its performance.

~~This standard is to be used in conjunction with other appropriate part(s) of IEC 62037.~~

## 2 Normative references

~~None.~~

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 62037 (all parts), *Passive RF and microwave devices, intermodulation level measurement*

# IEC 62037-1

Edition 2.0 2021-11

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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## Passive RF and microwave devices, intermodulation level measurement – Part 1: General requirements and measuring methods

## Dispositifs RF et à micro-ondes passifs, mesure du niveau d'intermodulation – Partie 1: Exigences générales et méthodes de mesure

IEC 62037-1:2021-11(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# DISPOSITIFS RF ET À MICRO-ONDES PASSIFS, MESURE DU NIVEAU D'INTERMODULATION –

## Partie 1: Exigences générales et méthodes de mesure

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Cette seconde édition annule et remplace la première édition parue en 2012. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) ajout d'une clarification au fait que le matériel d'essai peut utiliser des générateurs à impulsions pour réduire la consommation de puissance;
b) description des différences d'effet de chauffage sur le dispositif en essai à l'Annexe B dans les essais réalisés avec des générateurs à impulsions;
c) ajout de recommandations à l'Annexe B pour améliorer la probabilité de détection d'événements d'intermodulation passive de courte durée lors des essais dynamiques.

Le texte de cette Norme internationale est issu des documents suivants:

| Projet | Rapport de vote |
|---|---|
| 46/834/FDIS | 46/855/RVD |

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue utilisée pour l'élaboration de la présente Norme internationale est l'anglais.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/standardsdev/publications.

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# DISPOSITIFS RF ET À MICRO-ONDES PASSIFS, MESURE DU NIVEAU D'INTERMODULATION –

## Partie 1: Exigences générales et méthodes de mesure

## 1 Domaine d'application

La présente partie de l'IEC 62037 est applicable aux exigences générales et aux méthodes de mesure du niveau d'intermodulation (IM) des composants RF et à micro-ondes passifs, qui peut être provoquée par la présence de deux ou plusieurs signaux d'émission.

Les procédures d'essai présentées dans le présent document donnent les exigences générales et les méthodes de mesure exigées pour caractériser le niveau des signaux d'intermodulation indésirables à l'aide de deux signaux d'émission.

La série IEC 62037 porte sur la mesure de l'intermodulation passive (PIM), mais ne couvre pas la fiabilité à long terme des produits par rapport à ses performances.

## 2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 62037 (toutes les parties), *Dispositifs RF et à micro-ondes passifs, mesure du niveau d'intermodulation*