Passive RF and microwave devices, intermodulation level measurement - Part 5: Measurement of passive intermodulation in filters (IEC 62037-5:2013)

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NATIONAL FOREWORD

See Eesti standard EVS-EN 62037-5:2013 sisaldab Euroopa standardi EN 62037-5:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 62037-5:2013 consists of the English text of the European standard EN 62037-5:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 05.04.2013.	Date of Availability of the European standard is 05.04.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English version

Passive RF and microwave devices, intermodulation level measurement - Part 5: Measurement of passive intermodulation in filters

(IEC 62037-5:2013)

Dispositifs RF et à micro-ondes passifs, mesure du niveau d'intermodulation - Partie 5: Mesure de l'intermodulation passive dans les filtres
(CEI 62037-5:2013)

Passive HF- und Mikrowellenbauteile, Messung des Intermodulationspegels - Teil 5: Messung der passiven Intermodulation in Filtern
(IEC 62037-5:2013)

This European Standard was approved by CENELEC on 2013-02-20. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 46/409/FDIS, future edition 1 of IEC 62037-5, prepared by IEC TC 46 "Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62037-5:2013.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2013-11-20
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-02-20

This document partially supersedes EN 62037:1999.

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Endorsement notice

The text of the International Standard IEC 62037-5:2013 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 62037-1	2012	Passive RF and microwave devices, intermodulation level measurement - Part 1: General requirements and measuring methods	EN 62037-1	2012

CONTENTS

PASSIVE RF AND MICROWAVE DEVICES, INTERMODULATION LEVEL MEASUREMENT –

Part 5: Measurement of passive intermodulation in filters

1 Scope

This part of IEC 62037 defines test fixtures and procedures recommended for measuring levels of passive intermodulation generated by filters, typically used in wireless communication systems. The purpose is to define qualification and acceptance test methods for filters for use in low intermodulation (low IM) applications.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62037-1:2012, *Passive r.f. and microwave devices, intermodulation level measurement – Part 1: General requirements and measuring methods*

3 Abbreviations

DUT Device under test

IM Intermodulation

PIM Passive intermodulation

4 General comments on PIM testing of filter assemblies

4.1 Sources of error: back-to-back filters

Testing filter assemblies for PIM may be error prone if certain precautionary guidelines are not followed. Since PIM can be a frequency-dependent phenomena, mathematically related to the harmonics of the input signals and combinations thereof, consideration should be given not only to the behaviour of the test set-up under fundamental stimulation, but also its harmonic performance. In particular, consider a receive-band PIM test set-up as shown in Figure 1. As shown, this set-up could be used to measure the PIM in a two-port device under test (DUT); however, the accuracy of the measurement could be in question due to the back-to-back filters (diplexers) used.