

**Reflectivity of electromagnetic wave absorbers in
millimetre wave frequency - Measurement methods**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 62431:2009 sisaldab Euroopa standardi EN 62431:2008 ingliskeelset teksti.

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Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

**Reflectivity of electromagnetic wave absorbers
in millimetre wave frequency -
Measurement methods
(IEC 62431:2008)**

Réfectivité des absorbeurs d'ondes
électromagnétiques dans la plage
des fréquences millimétriques -
Méthodes de mesure
(CEI 62431:2008)

Verfahren zur Messung
des Reflexionsvermögens von Absorbern
für elektromagnetische Wellen
im Millimeterwellen-Frequenzbereich
(IEC 62431:2008)

This European Standard was approved by CENELEC on 2008-11-01. 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 Central Secretariat or to any CENELEC member.

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 46F/65/CDV, future edition 1 of IEC 62431, prepared by SC 46F, R.F. and microwave passive components, of IEC TC 46, Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories, was submitted to the IEC-CENELEC Parallel Unique Acceptance Procedure and was approved by CENELEC as EN 62431 on 2008-11-01.

The following dates were fixed:

- | | | |
|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2009-08-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2011-11-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62431:2008 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 referenced documents are indispensable for the application 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.

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO/IEC 17025	- ¹⁾	General requirements for the competence of testing and calibration laboratories	EN ISO/IEC 17025	2005 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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REFLECTIVITY OF ELECTROMAGNETIC WAVE ABSORBERS IN MILLIMETRE WAVE FREQUENCY – MEASUREMENT METHODS

1 Scope

This International Standard specifies the measurement methods for the reflectivity of electromagnetic wave absorbers (EMA) for the normal incident, oblique incident and each polarized wave in the millimetre-wave range. In addition, these methods are also equally effective for the reflectivity measurement of other materials:

- measurement frequency range: 30 GHz to 300 GHz;
- reflectivity: 0 dB to –50 dB;
- incident angle: 0° to 80°.

NOTE This standard is applicable not only to those EMA which are widely used as counter-measures against communication faults, radio interference etc. , but also to those used in an anechoic chamber in some cases. EMAs may be any kind of material, and may have any arbitrary shape, configuration, or layered structure as pointed out below.

Material: Conductive material, dielectric material, magnetic material.

Shape: planar-, pyramidal-, wedge-type, or other specific shapes.

Layer structure: single layer, multi layers, or graded-index material.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

3 Terms, definitions and acronyms

For the purposes of this document, the following terms and definitions apply.

3.1 Terms and definitions

3.1.1

ambient level

the value of radiation power or noise which exists when no measurement is being carried out at the experiment site

3.1.2

associated equipment

an apparatus or product connected for convenience or operation of the equipment

3.1.3

beam diameter

the diameter where the electric field strength decreases by 3 dB from the centre of the focused beam