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Waveguide to coaxial adapters - Part 1: Generic specification - General requirements and test methods (IEC 63249-1:2021)

Hohlleiter - Koax-Übergänge. Teil 1: Grundspezifikation - Allgemeine Anforderungen und Prüfverfahren (IEC 63249-1:2021)

Adaptateurs coaxiaux pour guide d'ondes - Partie 1: Spécification générique - Exigences générales et méthodes d'essai (IEC 63249-1:2021)

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 63249-1

August 2021

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English Version

**Waveguide to coaxial adapters - Part 1: Generic specification -
General requirements and test methods
(IEC 63249-1:2021)**

Adaptateurs coaxiaux pour guide d'ondes - Partie 1:
Spécification générique - Exigences générales et méthodes
d'essai
(IEC 63249-1:2021)

Hohlleiter - Koax-Übergänge. Teil 1: Grundspezifikation -
Allgemeine Anforderungen und Prüfverfahren
(IEC 63249-1:2021)

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Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 63249-1:2021 (E)**European foreword**

The text of document 46F/511/CDV, future edition 1 of IEC 63249-1, prepared by SC 46F “RF and microwave passive components” of IEC/TC 46 “Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63249-1:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2022-04-27 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-07-27 document have to be withdrawn

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-726	-	International Electrotechnical Vocabulary- (IEV) – Part 726: Transmission lines and waveguides		-
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-11	-	Environmental testing - Part 2-11: Tests - Test Ka: Salt mist	EN IEC 60068-2-11	-
IEC 60068-2-14	-	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	-
IEC 60068-2-27	-	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	-
IEC 60068-2-78	-	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady-state	EN 60068-2-78	-
IEC 60153	series	Hollow metallic waveguides	EN 60153	series
IEC 60154	series	Flanges for waveguides	EN 60154	series
IEC 60529	-	Degrees of protection provided by-enclosures (IP Code)		-
IEC 60617	-	Graphical symbols for diagrams	-	-
IEC 61169	series	Radio frequency connectors	EN 61169	series
IEC 61169-1	-	Radio frequency connectors - Part 1: Generic specification - General requirements and measuring methods	EN 61169-1	-
IEC 61196	series	Coaxial communication cables	EN 61196	series
IEC 61726	-	Cable assemblies, cables, connectors and passive microwave components - Screening attenuation measurement by the reverberation chamber method	EN 61726	-

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Waveguide to coaxial adapters –
Part 1: Generic specification – General requirements and test methods

Adaptateurs coaxiaux pour guide d'ondes –
Partie 1: Spécification générique – Exigences générales et méthodes d'essai

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

WAVEGUIDE TO COAXIAL ADAPTERS –**Part 1: Generic specification –
General requirements and test methods**

FOREWORD

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IEC 63249-1 has been prepared by subcommittee 46F: RF and microwave passive components, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories. It is an International Standard.

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

Draft	Report on voting
46F/511/CDV	46F/549/RVC

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.

A list of all parts of the IEC 63249 series, under the general title *Waveguide to coaxial adapters* 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 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.

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WAVEGUIDE TO COAXIAL ADAPTERS –

Part 1: Generic specification – General requirements and test methods

1 Scope

This part of IEC 63249 defines general requirements and test methods for waveguide to coaxial adapters. It includes terms and definitions, design and construction, ratings and characteristics, climatic categories, IEC type designation, requirements and test methods, quality assessment, marking, etc.

It provides the basis for establishing the sectional specifications for various waveguide to coaxial adapters.

This specification applies to waveguide to coaxial adapters (short name adapter).

For the purpose of this specification, according to ends, adapters are classified as the following:

- Class I: Waveguide to coaxial connector adapter, waveguide at one end and coaxial connector at the other end;
- Class II: Waveguide to coaxial cable adapter, waveguide at one end, and coaxial cable at the other end;
- Class III: Waveguide to coaxial cabled connector adapter, waveguide at one end, and coaxial cabled connector at the other end.

According to whether the inner conductor probe of coaxial end is connected with the inner wall of waveguide cavity or not, adapters are classified as the following :

- Connected adapter: Inner conductor probe of coaxial end is connected with inner wall of waveguide cavity;
- Disconnected adapter: Inner conductor probe of coaxial end is disconnected with inner wall of waveguide cavity.

2 Normative references

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IEC 60068-2-11, *Environmental testing – Part 2-11: Tests – Test Ka: Salt mist*

IEC 60068-2-14, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*