IEC 61196-1-128

Edition 1.0 2025-08

INTERNATIONAL STANDARD

Coaxial communication cables -
Part 1-128: Electrical test methods - Polarization directivity of radiating cable

ICS 33.120.10

ISBN 978-2-8327-0654-1

IEC 61196-1-128:2025-08(en)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC 61196-1-128 has been prepared by subcommittee 46A: Coaxial cables, 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
46A/1729/FDIS	46A/1734/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/publications.

A list of all parts in the IEC 61196 series, published under the general title *Coaxial communication cables*, 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– withdrawn, or
– revised.

1 Scope

This part of IEC 61196 applies to radiating cables. It specifies a test method for determining the polarization directivity of radiating cables for use in MIMO communication systems.

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 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 61196-1, *Coaxial communication cables – Part 1: Generic specification – General, definitions and requirements*

IEC 61196-1-127, *Coaxial communication cables – Part 1-127: Electrical test methods – Link loss of radiating cable*

IEC 61196-4, *Coaxial communication cables – Part 4: Sectional specification for radiating cables*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61196-1, IEC 61196-4, IEC 61196-1-127 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

– IEC Electropedia: available at https://www.electropedia.org/
– ISO Online browsing platform: available at https://www.iso.org/obp

3.1
polarization directivity
P_D
difference in link losses measured in the vertical and horizontal radiation directions of the same radiating cable at the same position, expressed by Formula (1):

$$P_D(x) = L_{LV}(x) - L_{LH}(x) \quad (1)$$

where

$P_D(x)$ is the polarization directivity at the axial antenna position x, in dB;

$L_{LV}(x)$ is the link loss measured in the vertical radiation directions of the radiating cable at axial antenna position x, in dB;

$L_{LH}(x)$ is the link loss measured in horizontal radiation directions of the same radiating cable at the axial antenna position x, in dB;

x is the axial distance of the antenna from the transceiver end of the cable.