

INTERNATIONAL STANDARD

**Coaxial communication cables –
Part 1-119: Electrical test methods – RF average power rating**





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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COAXIAL COMMUNICATION CABLES –

Part 1-119: Electrical test methods – RF average power rating

FOREWORD

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International Standard IEC 61196-1-119 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.

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) title was changed from: RF power rating to: RF average power rating;
- b) a test method to determine sufficient duration is included as Annex A;
- c) the equations used for calculating cable coefficients and RF average power rating are corrected;
- d) the clauses and subclauses are rearranged.

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

FDIS	Report on voting
46A/1401/FDIS	46A/1408/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the 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 "<http://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- withdrawn,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.

COAXIAL COMMUNICATION CABLES –

Part 1-119: Electrical test methods – RF average power rating

1 Scope

This part of IEC 61196 defines the requirements to determine the average power handling capability of a coaxial cable at specified frequencies at ambient temperatures.

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

IEC 61196-1-113, *Coaxial communication cables – Part 1-113: Electrical test methods – Test for attenuation constant*

3 Terms and definitions

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

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

RF average power rating

maximum average input power that a cable can continuously handle when terminated in its characteristic impedance at a reference ambient temperature (usually 40 °C) and RF frequency

Note 1 to entry: RF average power rating is determined by the power level at which the temperature at any location in the cable does not exceed the allowable maximum temperature rating of the materials used in the cable's construction.

Note 2 to entry: Typically, the inner conductor temperature determines the maximum operating temperature.

Note 3 to entry: The test RF signal is a pure sinusoidal, without any modulation.

4 Symbols

For the purposes of this document, the following symbols apply.

K_i thermal constant of the insulation (W/(°C·m))

K_o thermal constant of outer sheath (W/(°C·m))