

INTERNATIONAL STANDARD

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



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COAXIAL COMMUNICATION CABLES –

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

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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, R.F. connectors, R.F. and microwave passive components and accessories.

The text of this standard is based on the following documents:

FDIS	Report on voting
46A/1094/FDIS	46A/1116/RVD

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

This publication 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 publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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COAXIAL COMMUNICATION CABLES –

Part 1-119: Electrical test methods – RF 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, 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 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, as well as the following apply.

3.1

RF power rating

maximum average input power that a cable can continuously handle when terminated in its characteristic impedance at a reference ambient temperature and RF frequency

Note 1 to entry: RF 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))

A attenuation constant associated with the conductors $\left(\frac{\text{dB}}{\text{m} \cdot \sqrt{\text{MHz}}} \right)$

A_i attenuation constant of inner conductor $\left(\frac{\text{dB}}{\text{m} \cdot \sqrt{\text{MHz}}} \right)$