



**NSAI**  
Standards

Irish Standard  
I.S. EN IEC 61169-1-2:2019

# Radio-frequency connectors - Part 1-2: Electrical test methods - Insertion loss

**I.S. EN IEC 61169-1-2:2019**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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*This document is based on:*

EN IEC 61169-1-2:2019

*Published:*

2019-11-01

*This document was published  
under the authority of the NSAI  
and comes into effect on:*

2019-11-26

ICS number:

NOTE: If blank see CEN/CENELEC cover page

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## National Foreword

I.S. EN IEC 61169-1-2:2019 is the adopted Irish version of the European Document EN IEC 61169-1-2:2019, Radio-frequency connectors - Part 1-2: Electrical test methods - Insertion loss

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EUROPEAN STANDARD

**EN IEC 61169-1-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2019

ICS 33.120.30

English Version

**Radio-frequency connectors - Part 1-2: Electrical test methods -  
Insertion loss  
(IEC 61169-1-2:2019)**

Connecteurs pour fréquences radioélectriques - Partie 1-2:  
Méthodes d'essai électrique - Perte d'insertion  
(IEC 61169-1-2:2019)

Hochfrequenz-Steckverbinder - Teil 1-2: Elektrische  
Prüfverfahren - Einfügungsdämpfung  
(IEC 61169-1-2:2019)

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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

**EN IEC 61169-1-2:2019 (E)**

**European foreword**

The text of document 46F/466/FDIS, future edition 1 of IEC 61169-1-2, 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 61169-1-2:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-07-17
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## Annex ZA

(normative)

### Normative references to international publications with their corresponding European publications

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61169-1	-	Radio frequency connectors - Part 1: Generic specification - General requirements and measuring methods	EN 61169-1	-

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**IEC 61169-1-2**

Edition 1.0 2019-09

# **INTERNATIONAL STANDARD**

## **NORME INTERNATIONALE**

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**Radio-frequency connectors –  
Part 1-2: Electrical test methods – Insertion loss**

**Connecteurs pour fréquences radioélectriques –  
Partie 1-2: Méthodes d'essai électrique – Perte d'insertion**



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**IEC 61169-1-2**

Edition 1.0 2019-09

# **INTERNATIONAL STANDARD**

## **NORME INTERNATIONALE**

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**Radio-frequency connectors –  
Part 1-2: Electrical test methods – Insertion loss**

**Connecteurs pour fréquences radioélectriques –  
Partie 1-2: Méthodes d'essai électrique – Perte d'insertion**

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ICS 33.120.30

ISBN 978-2-8322-7261-9

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RADIO-FREQUENCY CONNECTORS –****Part 1-2: Electrical test methods – Insertion loss****FOREWORD**

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International Standard IEC 61169-1-2 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.

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

FDIS	Report on voting
46F/466/FDIS	46F/480/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 parts of the IEC 61169 series, under the general title *Radio-frequency connectors*, 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.

## RADIO-FREQUENCY CONNECTORS –

### Part 1-2: Electrical test methods – Insertion loss

#### 1 Scope

This part of IEC 61169 provides test methods for the insertion loss of radio-frequency (RF) connectors.

This document is applicable to cable RF connectors, microstrip RF connectors and RF connector adapters. It is also applicable to RF channels in multi-RF channel connectors and hybrid connectors which contain any combination of coaxial contact, optical fibres contact, and current-carrying electrical contact element.

#### 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 61169-1, *Radio frequency connectors – Part 1: Generic specification – General requirements and measuring methods*

#### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61169-1 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

##### **insertion loss**

loss of power resulting from the insertion of a connector or similar device into a transmission line, expressed by formula (1), in decibels:

$$IL = -10 \lg \left( \frac{P_2}{P_1} \right) \quad (1)$$

where

$IL$  is the insertion loss, in dB;

$P_1$  is the input power into the RF connector, transmitted by the signal source;

$P_2$  is the output power from the RF connector to the load, transmitted by the signal source.

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