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INTERNATIONAL STANDARD

Cable assemblies, cables, connectors and passive microwave components – Screening attenuation measurement by the reverberation chamber method

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CABLE ASSEMBLIES, CABLES, CONNECTORS AND PASSIVE MICROWAVE COMPONENTS – SCREENING ATTENUATION MEASUREMENT BY THE REVERBERATION CHAMBER METHOD

FOREWORD

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International Standard IEC 61726 has been prepared by IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories.

This third edition cancels and replaces the second edition, published in 1999. This edition constitutes a technical revision.

It takes into account the latest developments in the design of reverberation chambers as described in IEC 61000-4-21, which is also referencing this standard as a possible test method. Furthermore, an alternative measurement procedure is added which is able to reduce the measurement time needed.

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

FDIS	Report on voting
46/551/FDIS	46/569/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.

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- withdrawn,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.

CABLE ASSEMBLIES, CABLES, CONNECTORS AND PASSIVE MICROWAVE COMPONENTS – SCREENING ATTENUATION MEASUREMENT BY THE REVERBERATION CHAMBER METHOD

1 Scope

The requirements of modern electronic equipment have indicated a demand for a method for testing screening attenuation of microwave components over their whole frequency range. Convenient test methods exist for low frequencies and components of regular shape. These test methods are described in the relevant IEC product specifications (e.g. IEC 62153-4-3). For higher frequencies and for components of irregular shape, a new test method has become necessary and such a test method is described in this International Standard.

This International Standard describes the measurement of screening attenuation by the reverberation chamber test method, sometimes named mode stirred chamber, suitable for virtually any type of microwave component and having no theoretical upper frequency limit. It is only limited toward low frequencies due to the size of the test equipment, which is frequency-dependent and is only one of several methods of measuring screening attenuation.

For the purpose of this standard, examples of microwave components are waveguides, phase shifters, diplexers/multiplexers, power dividers/combiners etc.

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 TS 62153-4-1, *Metallic communication cable test methods – Part 4-1: Electromagnetic compatibility (EMC) – Introduction to electromagnetic screening measurements*

IEC 61000-4-21, *Electromagnetic compatibility (EMC) – Part 4-21: Testing and measurement techniques – Reverberation chamber test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61196-1 and IEC 61000-4-21 apply.

4 Basic description of the reverberation chamber method

The reverberation chamber method for measurement of the screening attenuation of microwave components consists of exposing the device under test (DUT) to an almost homogeneous and isotropic electromagnetic field and then measuring the signal level induced into the device.