
Preskusne metode za električne materiale, tiskane plošče ter druge povezovalne strukture in sestave - 2-721. del: Preskusne metode za materiale, namenjene uporabi v povezovalnih strukturah - Merjenje relativne permitivnosti in izgubnega tangensa pobakrenega laminata pri mikrovalovni frekvenci z uporabo resonatorja z ločenima dielektrikoma

Test methods for electrical materials, printed boards and other interconnection structures and assemblies - Part 2-721: Test methods for materials for interconnection structures - Measurement of Relative Permittivity and Loss Tangent for Copper Clad Laminate at Microwave Frequency Using Split Post Dielectric Resonator

Prüfverfahren für Elektromaterialien, Leiterplatten und andere Verbindungsstrukturen und Baugruppen - Teil 2-721: Prüfverfahren für Materialien für Verbindungsstrukturen - Messung der relativen Permittivität und des Verlustfaktors von kupferkaschiertem Laminat im Mikrowellen-Frequenzbereich unter Verwendung eines Split Post dielektrischen Resonators

Méthodes d'essai pour les matériaux électriques, les cartes imprimées et autres structures d'interconnexion et ensembles - Partie 2-721: Méthodes d'essai des matériaux pour structures d'interconnexion - Mesure de la permittivité relative et de la tangente de perte pour les stratifiés recouverts de cuivre en hyperfréquences à l'aide d'un résonateur diélectrique en anneaux fendus

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(IEC 61189-2-721:2015)

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Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 61189-2-721:2015**European foreword**

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INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Test methods for electrical materials, printed boards and other interconnection structures and assemblies –
Part 2-721: Test methods for materials for interconnection structures –
Measurement of relative permittivity and loss tangent for copper clad laminate at microwave frequency using split post dielectric resonator**

**Méthodes d'essai pour les matériaux électriques, les cartes imprimées et autres structures d'interconnexion et ensembles –
Partie 2-721: Méthodes d'essai des matériaux pour structures d'interconnexion –
Mesure de la permittivité relative et de la tangente de perte pour les stratifiés recouverts de cuivre en hyperfréquences à l'aide d'un résonateur diélectrique en anneaux fendus**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

TEST METHODS FOR ELECTRICAL MATERIALS, PRINTED BOARDS AND OTHER INTERCONNECTION STRUCTURES AND ASSEMBLIES –**Part 2-721: Test methods for materials for interconnection structures – Measurement of relative permittivity and loss tangent for copper clad laminate at microwave frequency using split post dielectric resonator**

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International Standard IEC 61189-2-721 has been prepared by IEC technical committee 91: Electronics assembly technology.

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

FDIS	Report on voting
91/1246/FDIS	91/1258/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.

A list of all parts in the IEC 61189 series, published under the general title *Test methods for electrical materials, printed boards and other interconnection structures and assemblies*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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 website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
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Part 2-721: Test methods for materials for interconnection structures – Measurement of relative permittivity and loss tangent for copper clad laminate at microwave frequency using split post dielectric resonator

1 Scope

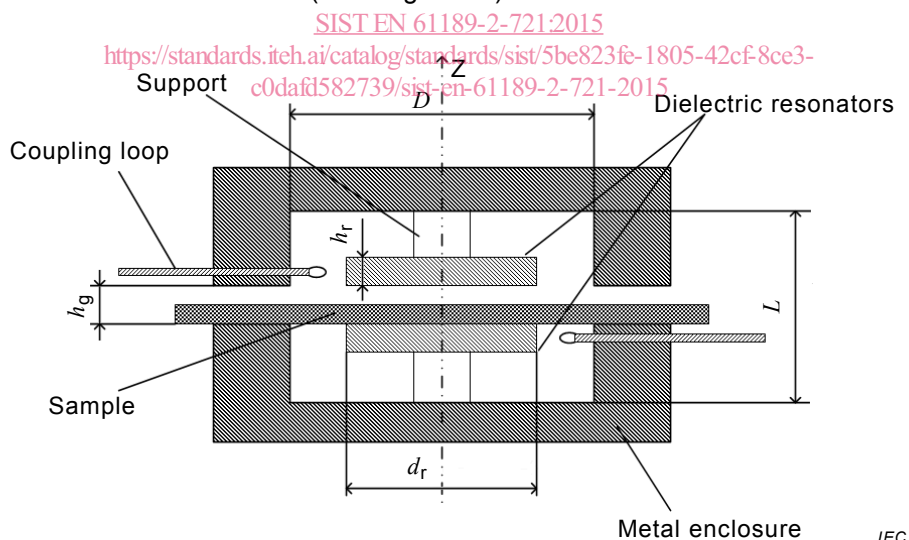
This part of IEC 61189 outlines a way to determine the relative permittivity (ϵ_r) and loss tangent ($\tan\delta$) (also called dielectric constant (Dk) and dissipation factor (Df)) of copper clad laminates at microwave frequencies (from 1,1 GHz to 20 GHz) using a split post dielectric resonator (SPDR).

This part of IEC 61189 is applicable to copper clad laminates and dielectric base materials.

2 Test specimens

2.1 Specimen size

The size of the specimen shall be larger than the internal diameter D of the metal enclosures, and the maximum thickness of the specimen shall be smaller than the distance h_g between the metal enclosures of the fixture. (See Figure 1.)



Key

- h_g distance between the metal enclosures of the fixture;
- D internal diameter of the metal enclosures;
- L internal height of the metal enclosures;
- d_r diameter of the dielectric resonator;
- h_r thickness of the dielectric resonator.

Figure 1 – Scheme of SPDR test fixture