

INTERNATIONAL STANDARD

Measurement of the complex permittivity for low-loss dielectric substrates
balanced-type circular disk resonator method

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MEASUREMENT OF THE COMPLEX PERMITTIVITY
FOR LOW-LOSS DIELECTRIC SUBSTRATES
BALANCED-TYPE CIRCULAR DISK RESONATOR METHOD****FOREWORD**

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IEC 63185 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. It is an International Standard.

This second edition cancels and replaces the first edition published in 2020. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) the upper limit of the applicable frequency range has been extended from 110 GHz to 170 GHz;
- b) circular disk resonators used for the measurements now include one with waveguide interfaces;
- c) in calculating the complex permittivity from the measured resonant properties, the fringing fields are now accurately taken into account based on the mode-matching analysis.

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

Draft	Report on voting
46F/699/FDIS	46F/702/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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