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IEEE Standard for Rectangular Metallic Waveguides and Their Interfaces for Frequencies of 110 GHz and Above—

Part 2: Waveguide Interfaces

IEEE Microwave Theory and Techniques Society

Sponsored by the
Standards Coordinating Committee

IEEE
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USA

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IEEE Standard for Rectangular Metallic Waveguides and Their Interfaces for Frequencies of 110 GHz and Above—

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Abstract: Specifications for rectangular waveguide interfaces are given in this standard. It considers the tolerances of the waveguide interface dimensions and the effect these have on the electrical properties (in terms of reflection coefficient) of the waveguide.

Keywords: IEEE 1785.2™, millimeter-wave, rectangular waveguides, submillimeter-wave, terahertz, waveguide flanges, waveguide interfaces, waveguide tolerances

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Introduction

This introduction is not part of IEEE Std 1785.2–2016, IEEE Standard for Rectangular Metallic Waveguides and Their Interfaces for Frequencies of 110 GHz and Above—Part 2: Waveguide Interfaces.

IEEE Std 1785.2 is the second standard in a series of three IEEE standards that provide the agreed reference for all organizations using rectangular metallic waveguides at frequencies of 110 GHz and above. This series of standards will enable efficient trade between customers and suppliers, and common design criteria and practices for component, systems and design engineers. The three IEEE 1785 standards (Parts 1, 2, and 3) are described briefly as follows:

— IEEE Std 1785.1™-2012 describes the frequency bands and aperture dimensions of the waveguides.

— IEEE Std 1785.2™ describes the waveguide interfaces.

— IEEE Std 1785.3™ gives recommendations for performance and uncertainty specifications for the combined waveguide apertures and interfaces.

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