Abstracts

A Broad-Band Dual-Mode Circular Waveguide Transducer

R.D. Tompkins. "A Broad-Band Dual-Mode Circular Waveguide Transducer." 1956 Transactions on Microwave Theory and Techniques 4.3 (Jul. 1956 [T-MTT]): 181-183.

This paper describes a broad-band dual-mode waveguide transducer designed to couple two orthogonal TE/sub 11/ circular waveguide modes in separate rectangular waveguide ports. A compact, rugged, and economical junction has been developed to operate from 8600 mc to 9600 mc with a vswr of less than 1.15 at the rectangular port and a mode isolation of 50 db or greater. Developmental models are described to indicate the evolution from theory to the final model. Some problems encountered in attaining a small physical size are discussed in detail. The new junction has application to mode multiflexing, circular waveguide ferrite devices, circular polarization, and as a circular wave guide magic-T.

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