Abstracts

A transition from microstrip to dielectric-filled rectangular waveguide in surface mounting

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This paper presents a design method for the transition from microstrip to dielectric-filled rectangular waveguide. It is based on the theory of the coupled transmission line, and is verified by a fabrication. The dielectric-filled rectangular waveguide is made of synthetic quartz and is mounted on a substrate. Experimental results in a back-to-back construction show good performances. The insertion loss becomes 0.3 dB at the design frequency of 26 GHz and the return loss becomes better than 15 dB from 23 GHz to 30 GHz.

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