Abstracts

Integrated transition of coplanar to rectangular waveguides

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Usual transitions between planar circuit and rectangular waveguide make use of 3-D complex mounting structures. Such an integration requires costly high precision mechanical alignment, In this paper, a new planar platform is developed in which a coplanar waveguide (CPW) and a rectangular waveguide are fully integrated on the same substrate, and they are interconnected via a simple transition. They can be built with a standard PCB process. Our experiments at 28 GHz show that an effective bandwidth of 7% at 15 dB return loss can easily be achieved. The CPW-to-waveguide transition allows for a complete integration of waveguide components on substrate with active components such as MMIC.

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