Abstracts

NRD guide couplers combined with microwave integrated circuits in side-by-side alignment

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This paper describes a hybrid integration technologies with an NRD guide and planar circuits. The proposed circuit is a coupler which consists of two NRD guide dielectric rods attached to a microstrip line planar circuit in the rod side wall. A leakage signal from one NRD guide can travel to the other NRD guide through a surface wave propagating in the coupler planar circuit. The coupling at 9.86 GHz was improved by 20.1 dB using a tapered microstrip line and amplified to 27.2 dB by the FET planar circuit, compared with the NRD coupler with a simple planar dielectric slab.

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