

# Abstracts

## A Very Small, Low-Loss MMIC Rat-Race Hybrid Using Elevated Coplanar Waveguides

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*H. Kamitsuna. "A Very Small, Low-Loss MMIC Rat-Race Hybrid Using Elevated Coplanar Waveguides." 1992 Microwave and Guided Wave Letters 2.8 (Aug. 1992 [MGWL]): 337-339.*

A very small, low-loss MMIC rat-race hybrid using elevated coplanar waveguides is proposed. A 15-GHz-band rat-race hybrid is designed and fabricated in a 0.50 mm x 0.55 mm chip area. The proposed hybrid requires less than half the area used when constructing miniaturized MMIC hybrids from TFMS lines. Furthermore, coupling loss of the proposed hybrid is reduced by approximately 2 dB in comparison to that of previously reported ones.

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