Abstracts

W-band micromachined circuit combining networks

K.J. Herrick and L.P.B. Katehi. "W-band micromachined circuit combining networks." 2002 Transactions on Microwave Theory and Techniques 50.6 (Jun. 2002 [T-MTT]): 1647-1651.

In circuit-combining networks, low-loss interconnecting transmission lines are pivotal in reducing excess loss. Micromachined finite ground coplanar waveguides are used in this study as low-loss interconnects showing significant improvements in line loss while maintaining 50-/spl Omega/ characteristic impedance. Wilkinson power dividers, reactive tee junctions, and right-angle bends are combined with micromachined interconnects in 1:2, 1:4, and 1:8 power-dividing networks and show measured loss reduction of 0.3-1.0 dB depending on circuit type and size from 85 to 95 GHz.

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