Abstracts

Characterization and Measurements of Laterally Shielded Coplanar Waveguide at Millimeter Wavelengths

W.A. Artuzi, Jr. and T. Yoneyama. "Characterization and Measurements of Laterally Shielded Coplanar Waveguide at Millimeter Wavelengths." 1994 Transactions on Microwave Theory and Techniques 42.1 (Jan. 1994 [T-MTT]): 150-153.

A laterally shielded coplanar waveguide consisting of a coplanar waveguide of finite width placed vertically in a cutoff parallel-plate waveguide is proposed for millimeter-wave applications. Advantages of the waveguide over the conventional coplanar waveguide are weak dispersion and low loss characteristics due to elimination of undesired surface waves and radiation. Simple but accurate analytical formulas for circuit design are derived and semi-empirical formulas for the weakly dispersive characteristics are also examined. Transitions to coaxial line are devised and the propagation constant is measured at millimeter wavelengths.

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