Abstracts

W-Band Finite Ground Coplanar (FGC) Line Circuit Elements

F. Brauchler, S. Robertson, J. East and L.P.B. Katehi. "W-Band Finite Ground Coplanar (FGC) Line Circuit Elements." 1996 MTT-S International Microwave Symposium Digest 96.3 (1996 Vol. III [MWSYM]): 1845-1848.

This paper describes the modeling and experimental evaluation of Finite Ground Coplanar (FGC) lines, stubs, and filters between 2 and 110 GHz. These lines provide a very low loss alternative to microstrip or coplanar waveguide for millimeter- and submillimeter-wave applications without the use of vias. Their mode free operation allows excellent agreement between measured data and LIBRA modeling to 110 GHz. The lines have very low loss at W-band and filters have a loss comparable with the best mem-brane filters reported recently. The paper includes details of analytic and FDTD investigations of the lines, a description of the fabrication and measurement calibration and measured data on lines, tuning stubs, and a variety of low-pass filters.

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