Abstracts

Ground Plane Effects in Monolithic Millimeter-Wave Integrated Circuits

A. Vilcot and S. Tedjini. "Ground Plane Effects in Monolithic Millimeter-Wave Integrated Circuits." 1993 Microwave and Guided Wave Letters 3.2 (Feb. 1993 [MGWL]): 32-34.

The effect of a lossy ground plane on the propagation parameters of a monolithic millimeter-wave microstrip on semiconductor substrate is studied. The full-wave Spectral-Domain Technique, which can take into account the thickness and conductivity of the ground plane, is used. When considering an ideal ground plane, the losses are very low and quasi-independant on the thickness of the semiconductor. Taking into account the losses of the ground plane, it is shown that the propagation losses are not only dependant on the thickness of the ground plane but also on the thickness of the semiconductor. These losses increase significantly as this thickness is reduced.

❑ Return to main document.