Abstracts

Metallization Effects on GaAs Microstrip Line Attenuation (Short Papers)

J. Carroll and K. Chang. "Metallization Effects on GaAs Microstrip Line Attenuation (Short Papers)." 1993 Transactions on Microwave Theory and Techniques 41.6 (Jun./Jul. 1993 [T-MTT]): 1227-1229.

The transmission line losses of plated gold GaAs microstip were investigated from 5 to 30 GHz. Experimental attenuation coefficients were extracted from quality factor measurements of 50 Omega straight microstrip resonators. The measured attenuation coefficients for plated gold microstrip were found to be 38% higher than previously published data on evaporated gold microstrip, and 44% higher than Computer-Aided Design (CAD) simulations. Empirical bulk resistivities were found that correctly characterize GaAs plated line losses for CAD models. This paper indicates that GaAs microstrip line attenuation cannot be completely characterized by dc resistivity alone, and that empirical microstrip parameters are needed for accurate CAD modeling.

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