Abstracts

A measurement-based design equation for the attenuation of MMIC-compatible coplanar waveguides

G.E. Ponchak, M. Matloubian and L.P.B. Katehi. "A measurement-based design equation for the attenuation of MMIC-compatible coplanar waveguides." 1999 Transactions on Microwave Theory and Techniques 47.2 (Feb. 1999 [T-MTT]): 241-243.

Measured attenuation of coplanar waveguide (CPW) transmission lines with narrow strip and slot widths fabricated on GaAs, high-resistivity Si, and InP is used to derive a new closed form equation to calculate line losses. This new equation is shown to be more accurate than previous expressions, yet simple enough to be programmed into a hand-held calculator since it is based on a simple relationship between attenuation and the product of the strip and slot widths. The derived equation is applicable to CPW's with aspect ratio and metal thicknesses commonly used in monolithic microwave integrated circuits.

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