Abstracts

Terahertz-Bandwidth Pulse Propagation on a Coplanar Stripline Fabricated on a Thin Membrane

H. Cheng, J.F. Whitaker, T.M. Weller and L.P.B. Katehi. "Terahertz-Bandwidth Pulse Propagation on a Coplanar Stripline Fabricated on a Thin Membrane." 1994 Microwave and Guided Wave Letters 4.3 (Mar. 1994 [MGWL]): 89-91.

An ultra-broadband coplanar stripline employing a durable 1.4-µm-thick membrane substrate has been devised, fabricated, and tested. Nearly distortionless propagation of terahertz-bandwidth electrical pulses over lengths in excess of 4 mm has been experimentally demonstrated using subpicosecond test signals and a sampling measurement technique based on ultrashort-duration laser pulses. A comparison to pulse propagation data on identical coplanar strips on a GaAs substrate illustrates a dramatic improvement in the radiation attenuation and phase velocity dispersion for the membrane CPS with increasing frequency.

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