Abstracts

Existence of a Leaky Dominant Mode on Microstrip Line with an Isotropic Substrate: Theory and Measurement

D. Nghiem, J.T. Williams, D.R. Jackson and A.A. Oliner. "Existence of a Leaky Dominant Mode on Microstrip Line with an Isotropic Substrate: Theory and Measurement." 1993 MTT-S International Microwave Symposium Digest 93.3 (1993 Vol. III [MWSYM]): 1291-1294.

We have made the surprising discovery that a leaky dominant mode is present at higher frequencies on conventional microstrip line with an isotropic substrate, and we have confirmed its existence both theoretically and experimentally. The leaky mode exists independently of, and in addition to, the customary bound dominant mode. This new mode leaks power away from the line into the TM/sub 0/ surface wave supported by the surrounding grounded substrate, and may be responsible for spurious microstrip performance at higher frequencies. This could have important implications for millimeter-wave circuits.

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