Abstracts

The danger of high-frequency spurious effects on wide microstrip line (2002 Vol. II [MWSYM])

F. Mesa and D.R. Jackson. "The danger of high-frequency spurious effects on wide microstrip line (2002 Vol. II [MWSYM])." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 945-948 vol.2.

It has been found that remarkably severe spurious effects can occur in the current excited on microstrip line at moderate to high frequency, when the strip is wide (w/h > 3). This newly observed effect occurs because one or more leaky modes approaches the branch point at k/sub 0/ in the complex longitudinal wavenumber plane. This effect only occurs when the strip is wide. This effect can be disastrous, since the continuous-spectrum part of the current then decays very slowly with distance from the source, so that the total strip current excited by the source exhibits spurious oscillations out to very large distances from the source. An approximate design rule for predicting this effect is given, which is accurate for wide strips (w/h > 6).

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