Abstracts

A Microstrip Phase-Trim Device Using a Dielectric Overlay

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A design procedure is given for a microstrip phase-trim device using a dielectric overlay on a conventional microstrip line. The physical operation of the device is based on the change in the effective dielectric constant of the microstrip line caused by the presence of the dielectric layer on top of the microstrip line. The amount of phase trim produced by the device can be selected by the appropriate choice of dielectric constant, height, and length of the dielectric overlay. An approximate expression is given for the effective dielectric constant of the microstrip line as a function of the dielectric constant and height of the overlay. Measured results at 10 GHz are compared with predicted performance.

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