Abstracts

High-Impedance Coplanar Waveguides with Low Attenuation

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The conventional MMIC coplanar line covers an impedance range from about 30-80 Omega. Values outside this range cannot be fabricated reliably or cause excessive losses. For several applications, however, it is desirable to use high-impedance lines (e.g., for reduced-size couplers and nonlinear transmission lines). This letter reports results from experiment and electromagnetic simulation for a coplanar waveguide (CPW) structure with an elevated center conductor realized by an air-bridge technique. We achieve wave impedances of about 100 Omega at a lower attenuation level as conventional 50-Omega CPW'S of comparable size.

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