Abstracts

Modeling of lumped-element coplanar-stripline low-pass filter

Shau-Gang Mao, Hwann-Kaeo Chiou and Chun Hsiung Chen. "Modeling of lumped-element coplanar-stripline low-pass filter." 1998 Microwave and Guided Wave Letters 8.3 (Mar. 1998 [MGWL]): 141-143.

A novel coplanar-stripline low-pass filter using lumped-element spiral inductors and interdigital capacitors is proposed. To characterize this filter, a simple CAD equivalent-circuit model is established. The elements of this model, which consist of transmission lines, resistances, inductances, and capacitances, can all be handled by the closed-form formulas; hence this model is suitable for CAD application. In this study, results based on CAD model, full-wave simulation, and measurement are presented, and good agreement among these results validates the usefulness of the proposed CAD model. Being compact and uniplanar in structure, this coplanar-stripline low-pass filter is useful in the implementation of monolithic microwave integrated circuits (MMIC's).

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