Abstracts

A general-purpose circuit model of interdigital capacitor for accurate design of low-loss microstrip circuit

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A general-purpose CAD-oriented circuit model is presented for accurately modeling interdigital capacitor (IDC) in optimized design of low-loss IDC-related microstrip circuits. This equivalent model is formulated as an admittance-based /spl pi/-network through the use of a so-called "Short-Open Calibration (SOC)" technique for extracting precisely circuit parameters from a fullwave method of moments (MoM). A J-inverter based topology is further developed for explicit characterization of IDC-related coupling characteristics that accounts for frequency dispersion and fringing effect. Extracted model parameters are given for two types of IDC structure and the model accuracy is well validated by our experiments for an IDC-related quasi-lumped bandpass filter.

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