

Abstracts

Measurement-based extrinsic modeling of RF components

K. Naishadham. "Measurement-based extrinsic modeling of RF components." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 1281-1284 vol.2.

An understanding of the high-frequency parasitic and packaging effects of passive surface-mounted devices (SMDs) is required for robust equivalent circuit modeling of the device. In this paper, we develop a CAD model for SMD inductors on a CPW layout, which incorporates the non-ideal behavior associated with frequency dispersion, board layout, component parasitics, and the device packaging. The equivalent circuit parameters are extracted in closed-form from an accurate measurement of the S-parameters of the board-mounted SMD inductor, without the necessity for cumbersome optimization procedures normally followed in RF circuit synthesis.

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