Abstracts

Analysis of eddy-current losses over conductive substrates with applications to monolithic inductors and transformers

A.M. Niknejad and R.G. Meyer. "Analysis of eddy-current losses over conductive substrates with applications to monolithic inductors and transformers." 2001 Transactions on Microwave Theory and Techniques 49.1 (Jan. 2001 [T-MTT] (Mini-Special Issue on 2000 Radio-Frequency Integrated Circuits (RFIC) Conference and Automatic Radio Frequency Techniques Group (ARFTG) Meeting)): 166-176.

In this paper, a closed-form integral representation for the eddy-current losses over a conductive substrate is presented. The results are applicable to monolithic inductors and transformers, especially when such structures are realized over an epitaxial CMOS substrate. The technique is verified against measured results from 100 MHz to 14 GHz for spiral inductors.

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