Abstracts

Modeling and Design of Novel Passive MMIC Components with Three and More Conductor Levels

M. Engels and R.H. Jansen. "Modeling and Design of Novel Passive MMIC Components with Three and More Conductor Levels." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 1293-1296.

Novel passive MMIC components with 3,4 or more conductor levels have been investigated. They are described by a simulation approach which is a generalization and improvement of previous approaches for 1 and 2 metal levels. Simulated S-parameters agree well with measurements for spiral inductors using 4 conductor levels. The design of MMIC broadband transformers with small space consumption and coverage of 23 octaves (5 to 22 GHz and 0.6 to 4.2 GHz, respectively) is discussed. Also, a compact broadband balun for 10-40 GHz operation is given as an example.

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