Abstracts

Wide-Band Equivalent Circuits of Microwave Planar Networks

G. D' Inzeo, F. Giannini and R. Sorrentino. "Wide-Band Equivalent Circuits of Microwave Planar Networks." 1980 Transactions on Microwave Theory and Techniques 28.10 (Oct. 1980 [T-MTT]): 1107-1113.

A broad-band equivalent circuit of a generic microwave planar network is derived in terms of lumped constant elements. Contrary to previously proposed equivalent circuits, whose elements are strongly frequency dependent, the elements of the new one show only a smooth dependence on the frequency, because of the dispersion properties of microstrip structures. The equivalent circuit proposed is therefore easy to handle and is shown to be a useful basis for direct synthesis of planar structures. Good agreement with the theory is demonstrated by experiments performed on structures with different geometries up to 12.5 GHz, by using equivalent circuits whose elements are assumed to be constant with the frequency.

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