Abstracts

Broadband Uniplanar Microstrip to Slot-Line Transitions

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New in line uniplanar microstrip-to-slotline transitions for MIC/MMIC and phased array slotline antenna applications are described. Such transitions are compact and suitable to be used in an open environment or inside a package or a multichip module. The transitions share the concept of using a balun which consists of two microstrip lines connected to a slotline through a pair of coupled microstrips. In this paper, the transitions are studied theoretically using the FDTD technique and measured experimentally using an HP8510C Network Analyzer. For a back-to-back configuration, an insertion loss of less than 1.3 dB per transition is achieved over a 40% 3-dB bandwidth with a minimum of 0.6 dB at the design frequency.

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