Abstracts

Experimental study of wideband uniplanar phase inverters for MICs

Tongqing Wang, Zifei Ou and K. Wu. "Experimental study of wideband uniplanar phase inverters for MICs." 1997 MTT-S International Microwave Symposium Digest 2. (1997 Vol. II [MWSYM]): 777-780.

In this work, a class of novel uniplanar phase inverters are presented for hybrid and monolithic microwave integrated circuits (MICs). An extensive experimental study for characterizing frequency response of insertion loss and phase shift has been made. Measured results show that a CPW phase inverter with slotline transition has more than 2.3:1 bandwidth centered at 3.9 GHz with better than 1 dB insertion loss and 140/spl deg/ phase shift. A compact CPW phase inverter without slotline transition has also been developed that demonstrates better electrical performance than its counterpart with slotline transition. It shows more than 3.1:1 bandwidth centered at 3.5 GHz with better than 10.5 dB insertion loss and 140/spl deg/ phase shift. A new CPW phase inverter with triple strip line transition is proposed. It features more than 2.5:1 bandwidth centered at 6.2 GHz with better than 1 dB insertion loss and 140/spl deg/ phase shift.

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