Abstracts

A 6 to 20 GHz Planar Balun Using a Wilkinson Divider and Lange Couplers

J. Rogers and R. Bhatia. "A 6 to 20 GHz Planar Balun Using a Wilkinson Divider and Lange Couplers." 1991 MTT-S International Microwave Symposium Digest 91.2 (1991 Vol. II [MWSYM]): 865-868.

A simple broadband microstrip balun has been developed using a Wilkinson divider for power splitting followed by Lange couplers for phase shifting. This planar balun structure can be easily fabricated on alumina substrate using conventional MIC process without the need for multi-layer or suspended substrate techniques. The inherent wideband characteristics of the Wilkinson divider and Lange couplers and symmetry of the structure has resulted in good broadband amplitude and phase balance performance. The balun fabricated on 10 mil alumina measures an amplitude imbalance of +/- 0.6dB average phase imbalance of 7 degrees and total insertion loss of 1.2 dB max. from 6 to 20 GHz.

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