Abstracts

Design and implementation of micromachined lumped quadrature (90/spl deg/) hybrids

L.-H. Lu, S. Mohammadi, G.E. Ponchak, P. Bhattacharya and L.P.B. Katehi. "Design and implementation of micromachined lumped quadrature (90/spl deg/) hybrids." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 1285-1288 vol.2.

To reduce the chip size of a quadrature hybrid at frequencies below K-band, lumped components have been employed to replace the transmission line segments. Systematic analysis and design technique has been developed. For the first time, X-band lumped quadrature hybrids with low insertion loss and wide bandwidth have been fabricated using a micromachined process technology. Approximately, two order of magnitude area reduction has been achieved by this approach compared with distributed designs.

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