Abstracts

Optimization of a Lumped Element Circulator Based on Eigen Inductance Evaluation and Structural Improvement

T. Miura, M. Kobayashi, H. Nagata and Y. Konishi. "Optimization of a Lumped Element Circulator Based on Eigen Inductance Evaluation and Structural Improvement." 1996 MTT-S International Microwave Symposium Digest 96.1 (1996 Vol. I [MWSYM]): 117-120.

An optimization technique for a lumped element circulators has been established from the point of view of structure and characteristic design. Structural optimization was achieved by the application of multilayer ceramic technology and a novel conductor formation method to decrease the insertion loss of the circulator. A theoretical design based on an evaluation of eigen inductance made it possible to broaden the isolation bandwidth of a structurally improved circulator. The 20dB isolation bandwidth of 5.89% and the insertion loss of 0.55dB at 800MHz obtained by this circulator have significantly exceeded the characteristics of conventional circulators of the same size.

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