

Wideband Filtering Phase Shifters Using Vertically Installed Planar Structure

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Abstract

A wideband filtering phase shifter is proposed based on vertically installed planar (VIP) circuit structures, where the VIP circuit is used to realize a tight coupling. The even-odd mode analysis is adopted to analyze the whole structure. Then, a 45° filtering phase shifter is designed to verify the design methodology. The simulated and measured results demonstrate that the proposed phase shifter has low insertion losses (<0.5 dB) and excellent return losses (< -15 dB) in the frequency band of 1.12 ~ 2.23 GHz. The 3°-phase shift bandwidth is more than 64.31%.

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