Abstract

This paper presents the complete analysis, design of microwave Parallel coupler using synthesis approach and Branch Line Coupler which has been fabricated using FR-4 PCB substrate material and tested in the lab environment successfully. The design of all above components is done using the IE3D simulation tool and tested its S-Parameter results with Vector Network Simulator (VNA). The design parameters with respect to the IE3D structures of the physical dimensions are optimized successfully using Matlab.

**Index Terms**
- Computer Science
- Circuits And Systems

**Keywords**
- Branch Line Coupler (blc); Fr-4 Substrate; Ie3d Tool; Parallel Coupler; Vector Network Simulator (vna)