Abstracts

A wide band multiport planar power divider design by radially combining matched sectorial components

Yung-Jinn Chen and Ruey-Beei Wu. "A wide band multiport planar power divider design by radially combining matched sectorial components." 1997 MTT-S International Microwave Symposium Digest 2. (1997 Vol. II [MWSYM]): 397-400.

This paper proposes a new multiport planar power divider design by radially combining the sectorial components and the input and output matching networks. It can achieve good input match over a wide bandwidth without resorting to transformer sections of high impedance lines which are difficult to realize. This approach is applied to design 4-way and 14-way center fed power dividers in microstrip structures with good input match (VSWR<1.5) over a bandwidth of 30% and 15%, respectively. A simple analysis method using the radial transmission line theory to model the microstrip sectorial components is presented to characterize the power divider. The calculated scattering parameters are found to be in good agreement with the measured data.

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