Abstracts

High Directivity CTL-Couplers and a New Technique for the Measurement of CTL-Coupler Parameters (1977 [MWSYM])

S. Rehnmark. "High Directivity CTL-Couplers and a New Technique for the Measurement of CTL-Coupler Parameters (1977 [MWSYM])." 1977 MTT-S International Microwave Symposium Digest 77.1 (1977 [MWSYM]): 495-498.

A very powerful method to measure the parameters of a one-section Coupled Transmission Line (CTL) coupler is presented. Three transmission measurements at the frequency of maximum coupling is sufficient to give the even and odd mode impedances (Z/sub e/, Z/sub 0/) and the even and odd mode lengths (Theta/sub e/, Theta/sub 0/). Explicit equations are presented for the necessary calculations. A new method for wideband improvement of CTL-coupler directivity when Theta/sub e/ /spl ne/ Theta/sub 0/ has been developed. The theory is presented with all necessary equations and it covers bothTheta/sub e/ > Theta/sub 0/ (microstrip) and Theta/sub e/ < Theta/sub 0/. The new method makes use of short compensating sections in the coupler to achieve a directivity pole at an arbitrary frequency. The wanted bandwidth determines the optimum location of the pole. Several examples with design data are given.

❑ Return to main document.