Abstracts

Complete Calibration of a Six-Port Reflectometer with One Sliding Load and One Short

T. Yakabe, M. Kinoshita and H. Yabe. "Complete Calibration of a Six-Port Reflectometer with One Sliding Load and One Short." 1994 Transactions on Microwave Theory and Techniques 42.11 (Nov. 1994 [T-MTT]): 2035-2039.

A novel method is presented for calibrating a six-port reflectometer using only one sliding load of unknown reflection coefficient and one short as a calibration standard. The calibration procedure is derived from the fact that the Fourier coefficients of the periodic port power ratios corresponding to the sliding load positions are closely related to the six-port system parameters. The unknown reflection coefficient of the sliding load as well as the eleven system parameters at each frequency is determined in the procedure. The validity and utility of the proposed method are confirmed by experiments over the frequency range 8.5-12.0 GHz in 0.5 GHz steps with a rectangular waveguide sliding load and a polished metal standard short.

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