

The Measurement of Complex Reflection Coefficient by Means of a Five-Port Reflectometer

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A detailed analysis of the five-port reflectometer is presented in this paper. The possibility and application limitation of using a five-port to measure complex reflection coefficients is discussed and the related design consideration is derived. From the point of view of minimum measurement error, an optimized, multi-octave five-port circuit is suggested and realized by ordinary microwave integrated circuit technology. Some measurement results are reported to prove the above analysis and design consideration.

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