S-Parameter Test

Introduction

S-Parameter

S parameter is also called scattering parameter and suitable for microwave circuit analysis. It is a network parameter based on the incident and the reflected wave relations. S parameter describe circuit network with reflected signal and transmitted signal to evaluation DUT (device under test).

Mixed-Mode S Parameter

Differential transmission system is the mainstream of high speed signal transmission. The actual differential system is imperfect. Those factors like imbalance two single-mode, unequal length and untighten coupling lead differential mode shifting to common mode. Thus, single-ended four-port S parameter cannot provide information about matching and transferring in the differential mode and common mode, so we need to use mixed-mode S parameter measurements.

			Stimulus			
			Differential Mode		Common Mode	
			Port 1	Port 2	Port 1	Port 2
Response	Differential Mode	Port 1	SDD11	SDD12	SDC11	SDC12
		Port 2	SDD21	SDD22	SDC21	SDC22
	Common Mode	Port 1	SCD11	SCD12	SCC11	SCC12
		Port 2	SCD21	SCD22	SCC21	SCC22

Service Contact: Tel：0755-29832333(ext. 2665), E-mail: central_lab@sunlordinc.com

Figure .4-Port Mixed-Mode S-Parameters

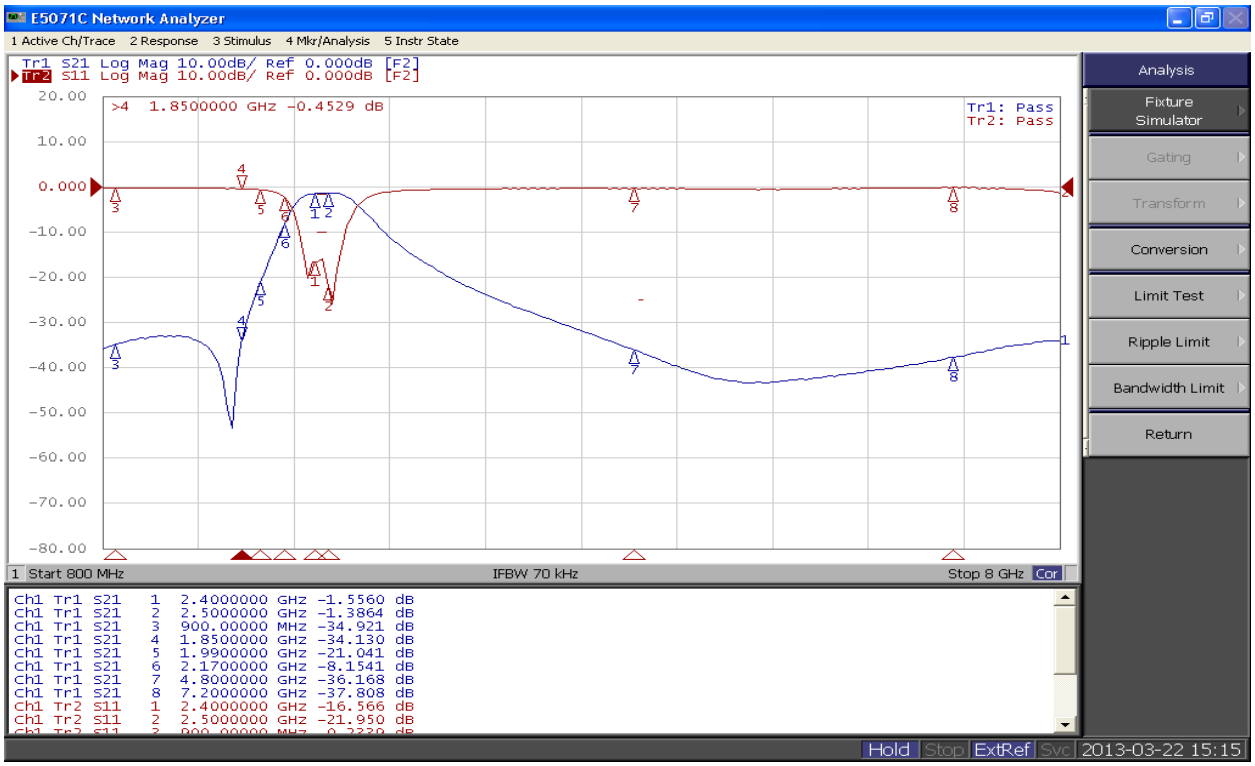
Test System

A large frequency from 100 kHz to 20 GHz.

Device Name	Equipment Type	Frequency Range	Trace Noise
Network analyzer	E5071C	100 kHz to 20 GHz	0.003 to 0.006 dBrms

Data Output

Spectrum graphics or spectral data can be saved. It is the S parameter spectral curve of filter below.



Service Contact: Tel：0755-29832333(ext. 2665), E-mail: central_lab@sunlordinc.com