Ironwood ELECTRONICS

High Performance Sockets and Adapters

ISO 9001:2008 WITH DESIGN CERTIFIED

SG15 and SG25 Elastomer RF Data

www.ironwoodelectronics.com
Toll Free: (800) 404-0204 U.S. Only
Tel: (952) 229-8200
Fax: (952) 229-8201
email: info@ironwoodelectronics.com

RF test setup

Ironwood ELECTRONICS

1. Evaluation sample

Table 1 Physical structure of anisotropic conductive sheet, ACS

Type	Rubber thickness T (mm)	Conductive material	Wire Diameter ΦD (μm)	Conductive material pitch (mm)		Off-set (mm)
				Pi	Ps	Ps
SG15	0.15	Gold plated beryllium copper wire	23	0.05	0.05	0.075
SG25	0.25		23	0.05	0.05	0.125
SG15HD	0.15		17	0.032	0.05	0.075

RF test setup

2. Measurement set-up

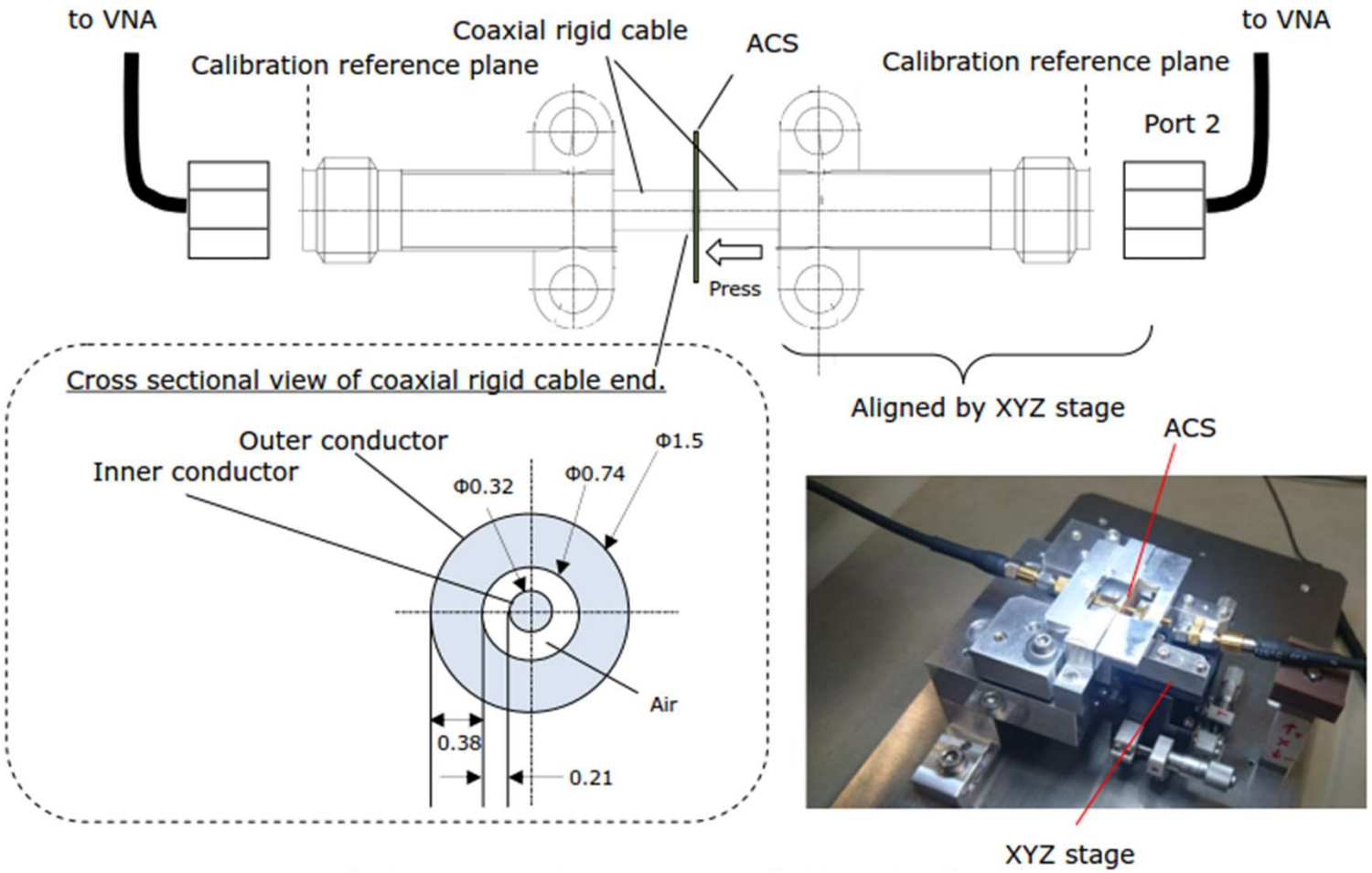


Fig.1 S-parameter measurement setup of ACS

RF measurement result

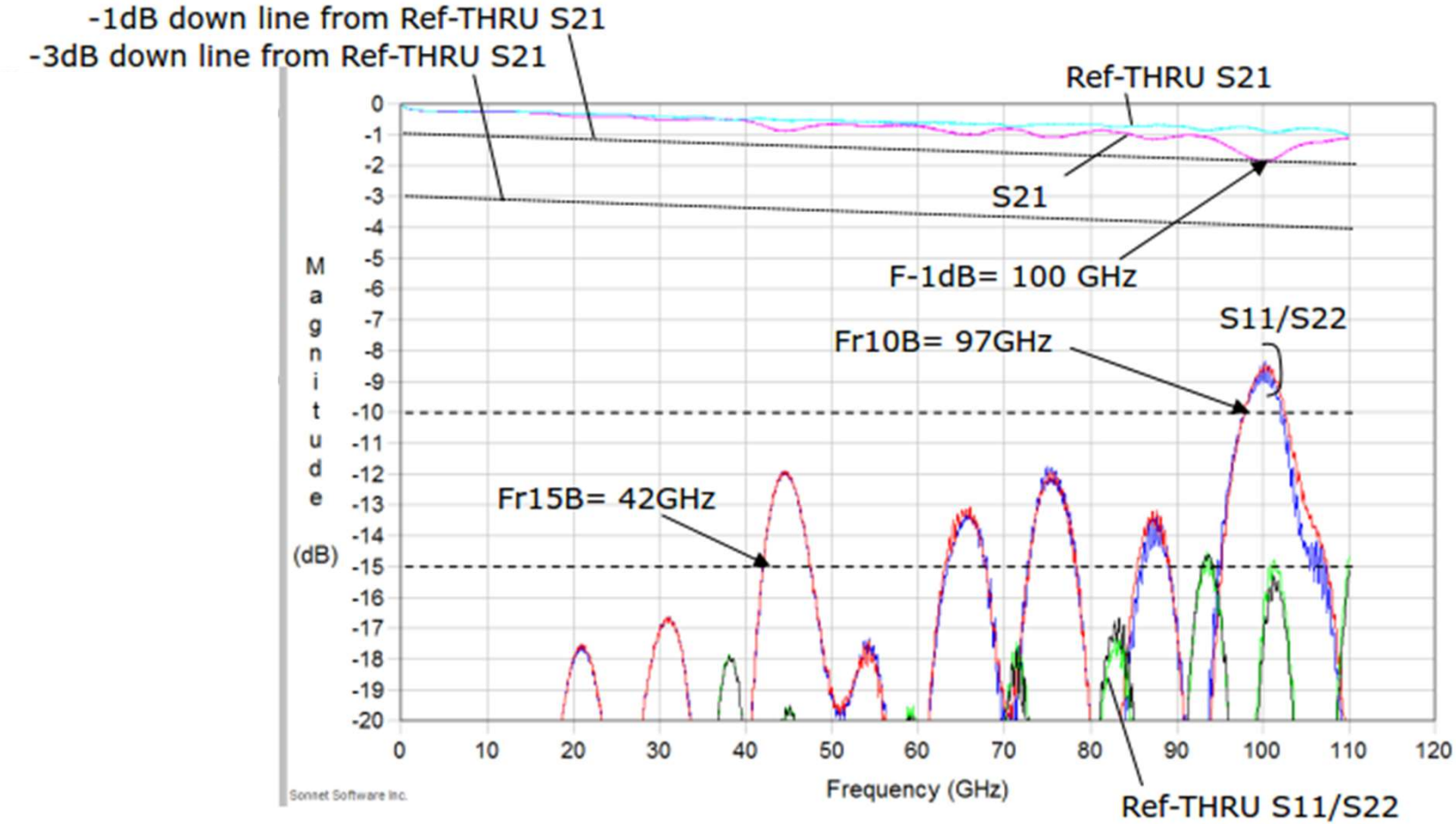


Fig.3 S-parameter for SG15 (Compression amount=0.06mm)

RF measurement result

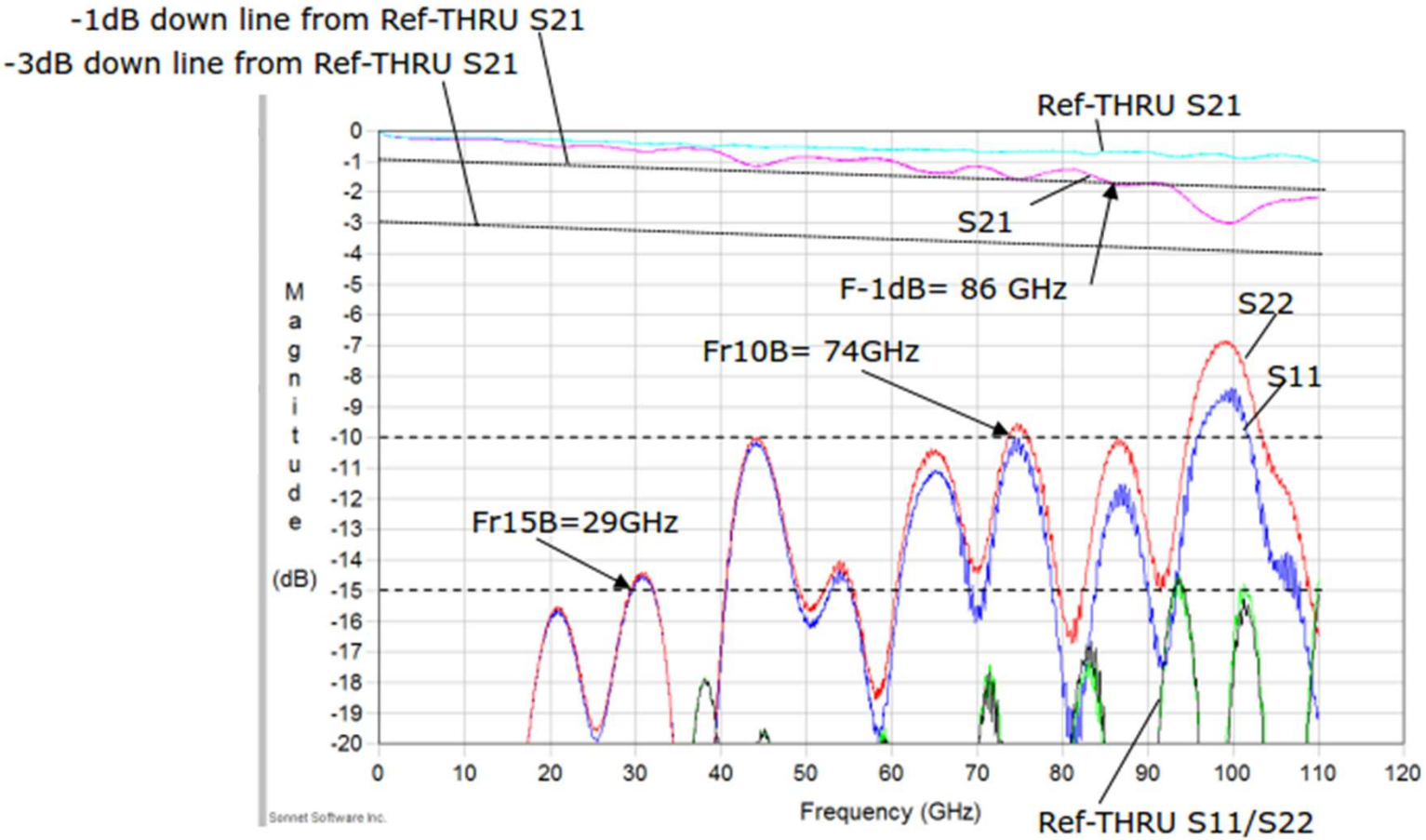


Fig.4 S-parameter for SG25 (Compression amount =0.06mm)

RF measurement result

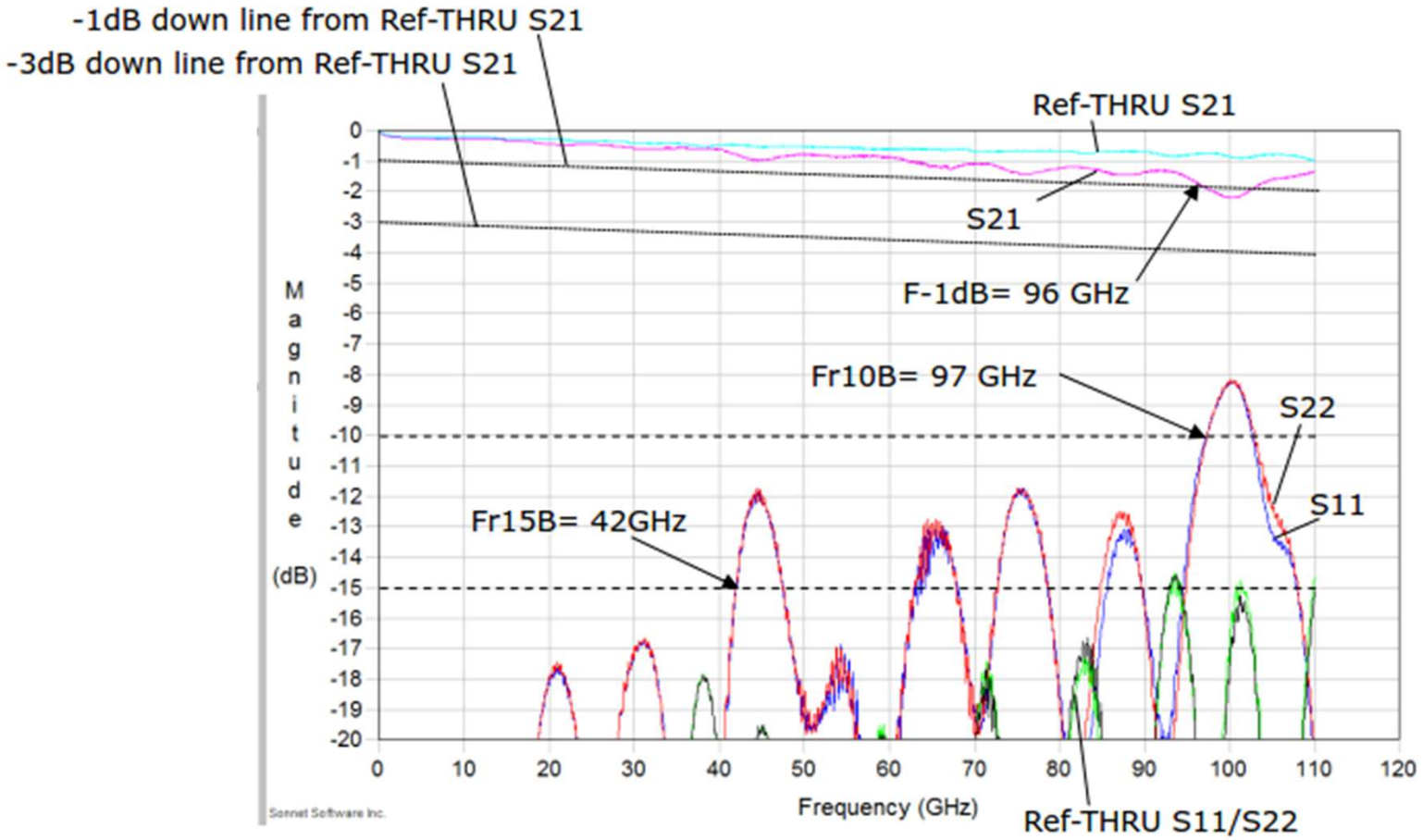


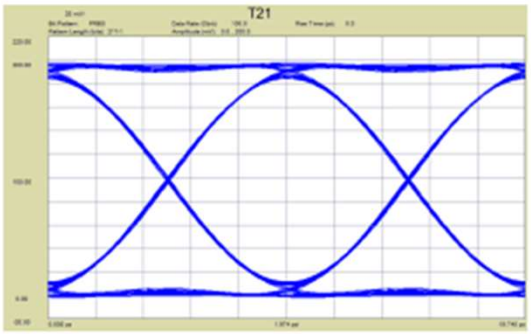
Fig.5 S-parameter for SG15HD (Compression amount =0.06mm)

Output eye-diagram

(Input signal : NRZ PRBS2^7-1 with 0 ps tr/tf)
Output eye diagrams are obtained by frequency-time domain conversion software (PLTS ; Keysight) from measured S-parameter shown in Fig. 3,4 and 5.

3.10 ps/div

a) 64 Gb/s

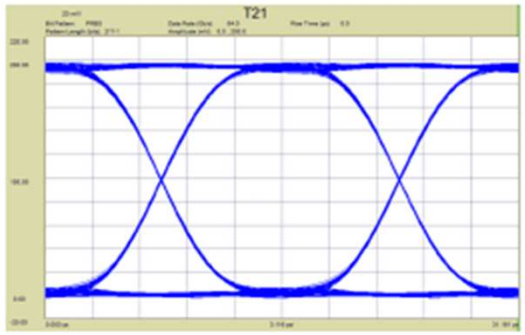


2 ps/div

b) 100 Gb/s

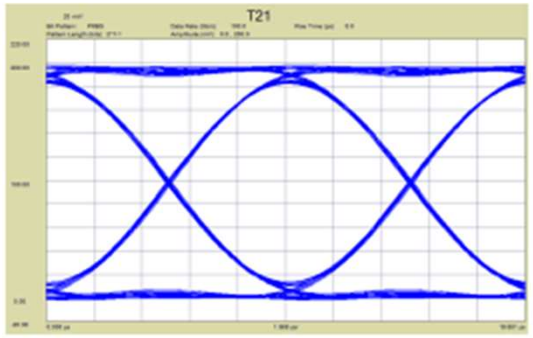
Fig.6 Output eye diagram for SG15 (Compression amount =0.06mm)

Output eye-diagram



3.10 ps/div

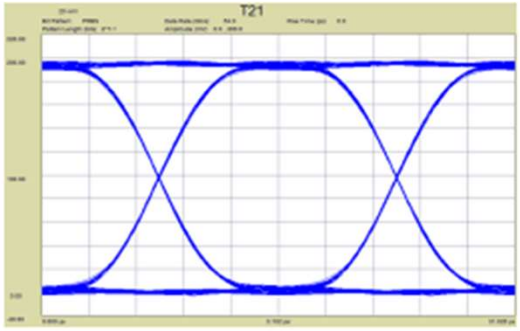
a) 64 Gb/s



2 ps/div

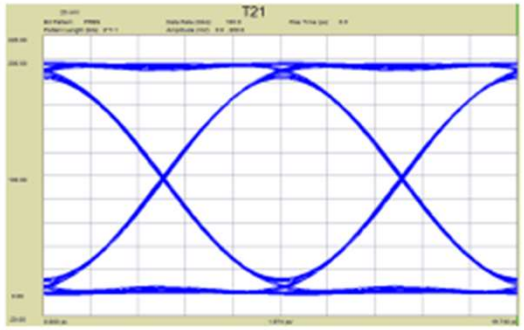
b) 100 Gb/s

Fig.7 Output eye diagram for SG25 (Compression amount =0.06mm)



3.10 ps/div

a) 64 Gb/s



2 ps/div

b) 100 Gb/s

Fig.8 Output eye diagram for SG15HD (Compression amount =0.06mm)

Summary

Transmission

S21 3dB down cut-off frequency; F-3dB

S21 1dB down cut-off frequency; F-1dB

Reflection

Maximum frequency with larger than 10 dB return loss; Fr10dB

Maximum frequency with larger than 15 dB return loss; Fr15dB

Eye diagram

Maximum operating data speed; DRmax

Table 2

Sample	F-3dB (GHz)	F-1dB (GHz)	Fr10dB (GHz)	Fr15dB (GHz)	DRmax (Gb/s (baud))
SG15	>110	100	97	42	100
SG25	>110	86	74	29	100
SG15HD	>110	96	97	42	100