



85 ohm ERDL2 Flex Assembly

ERDL2-40-T-05.00-DPG-85



Mated with:
ERM8-040-xx-x-xx-TR

Description:
Flex Assembly, ERDL2 (85 ohm)

Series: ERDL2

Description: Flex Data Link

Introduction

This testing was performed to evaluate the electrical performance of a custom ERDL2 flex data link which was designed for 85 ohm applications

All measurements were made using an Agilent E83645B PNA Vector Network Analyzer (VNA); the data was acquired using Agilent's PLTS V.4.5 software. The data includes: impedance, propagation delay, VSWR, insertion loss (IL), and return loss (RL). All measurements were made by mating the termination connectors to an appropriate ERM8/ERF8 SI test board

Product Description

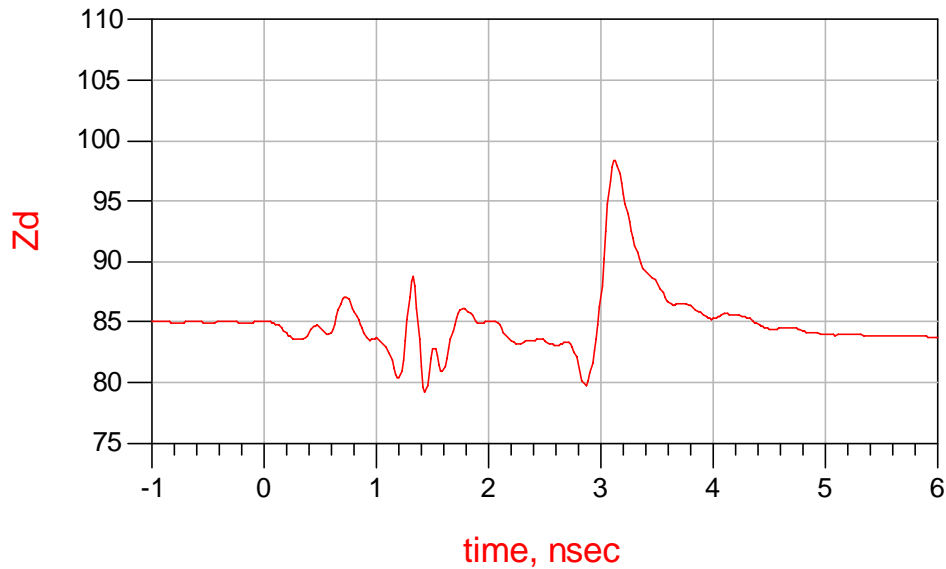
The product consists of one half ounce rolled annealed copper on a three mil polyimide and Kapton base film. The flex cables are terminated with ERMA connectors at one end and ERF8 connectors at the other end. The flex cables were 5 inches long.

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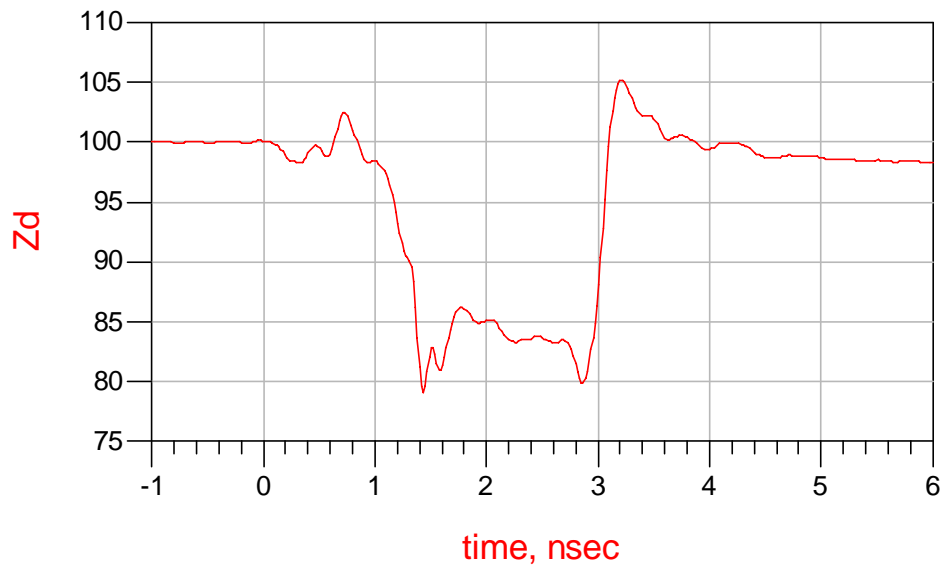
Results Summary

Time Domain Data

Differential Impedance vs Time (85 ohm Reference Impedance)



Differential Impedance vs Time (100 ohm Reference Impedance)

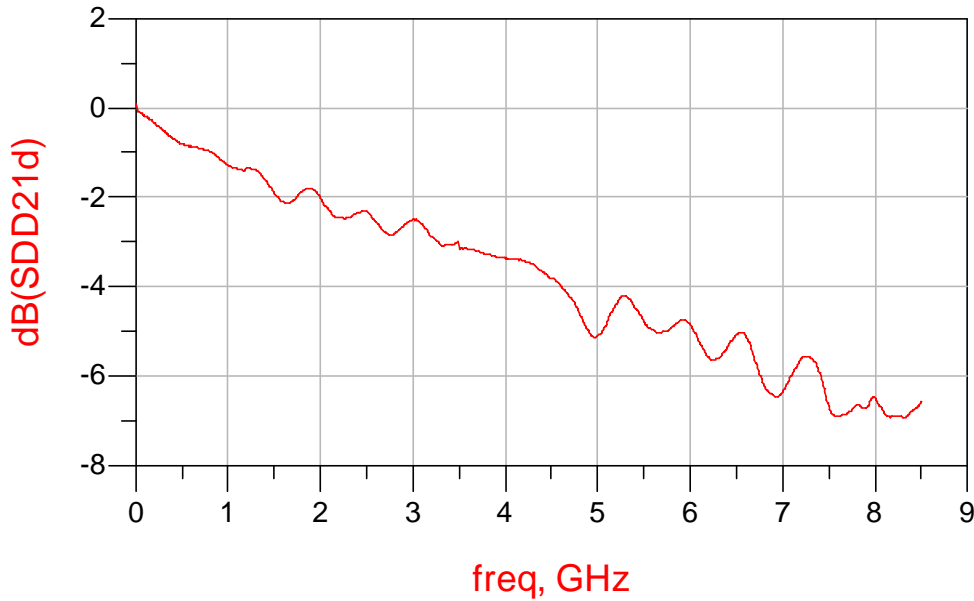


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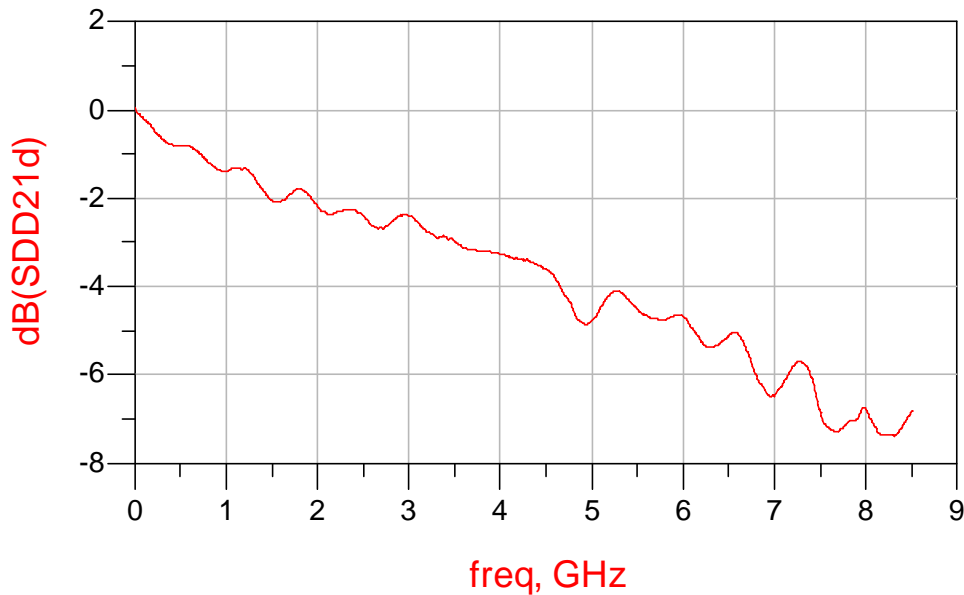
Frequency Domain Data

Insertion Loss

Differential Insertion Loss (85 ohm Reference Impedance)



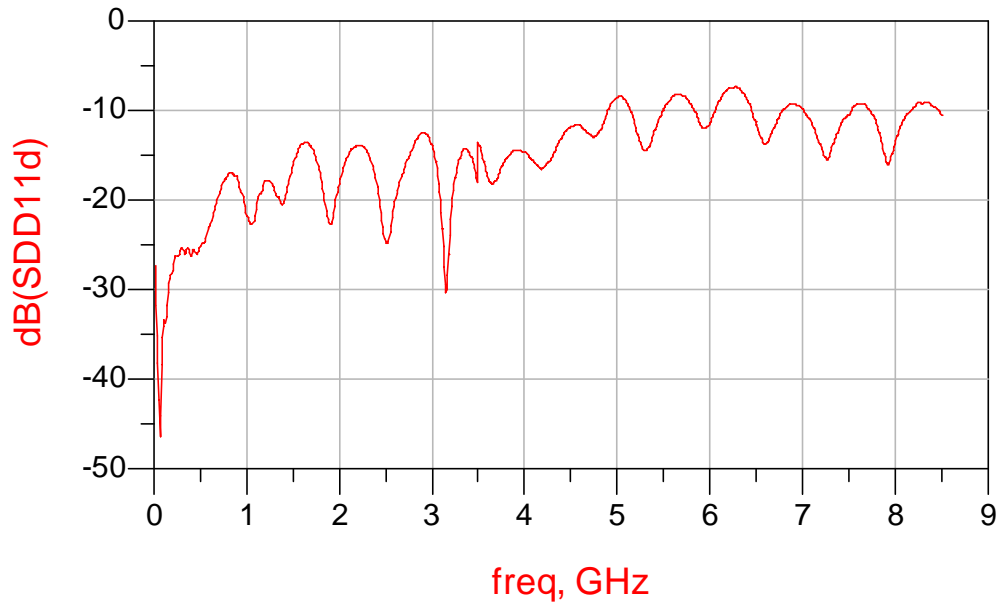
Differential Insertion Loss (100 ohm Reference Impedance)



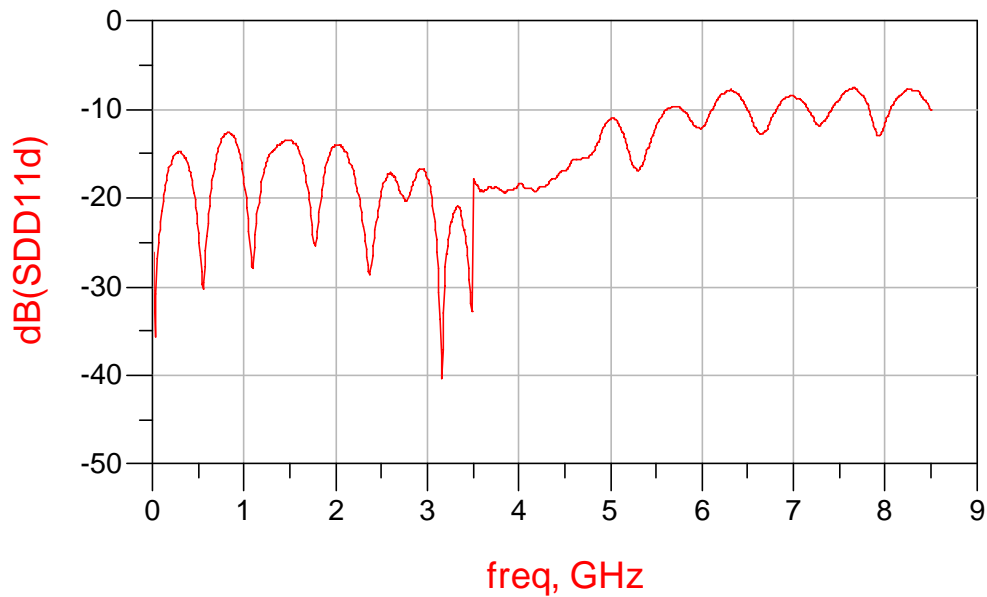
Series: ERDL2
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Return Loss

Differential Return Loss (85 Ohm Reference Impedance)



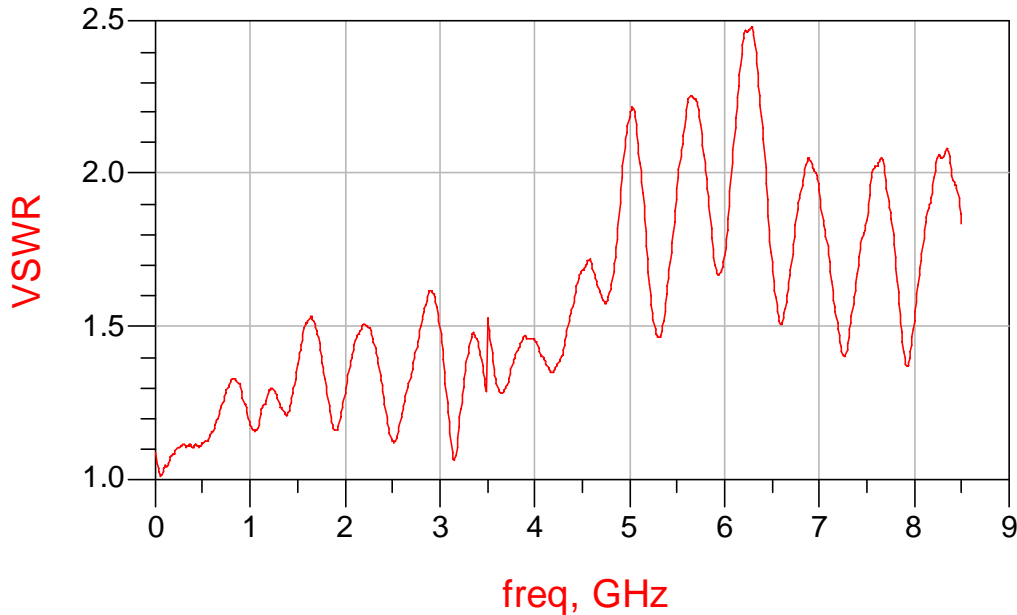
Differential Return Loss (100 Ohm Reference Impedance)



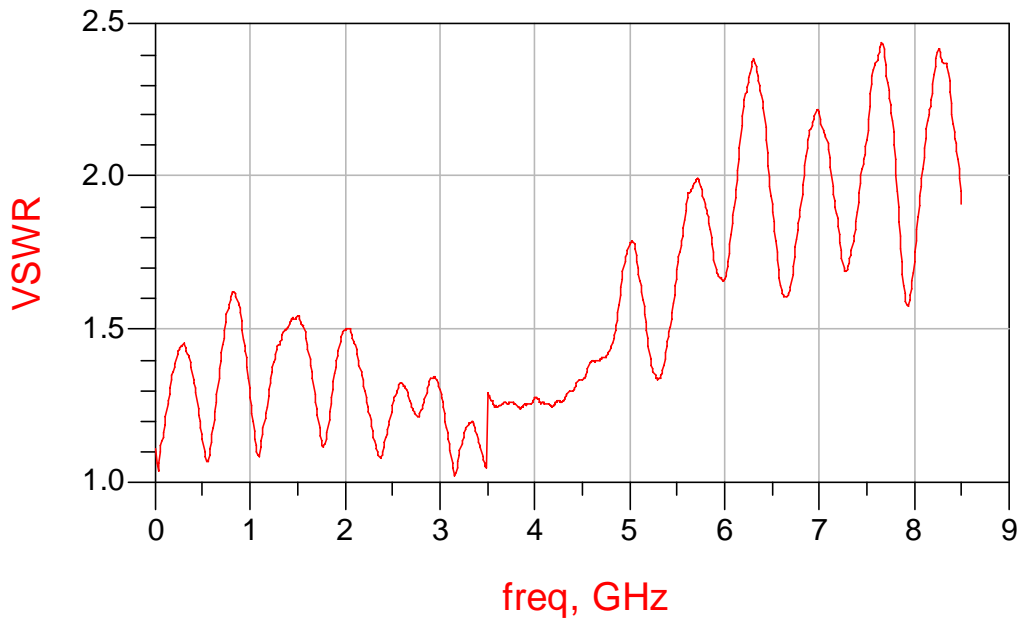
Series: ERDL2
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VSWR

VSWR (85 Ohm Reference Impedance)



VSWR (100 Ohm Reference Impedance)



Series: ERDL2
 Description: Flex Data Link

Test Procedures

Fixturing:

All measurements were performed by mating the ERDL2 flex assembly to the appropriate test boards as shown in figure 1. The TRL calibration board used to establish the measurement reference plane is shown in figure 2.

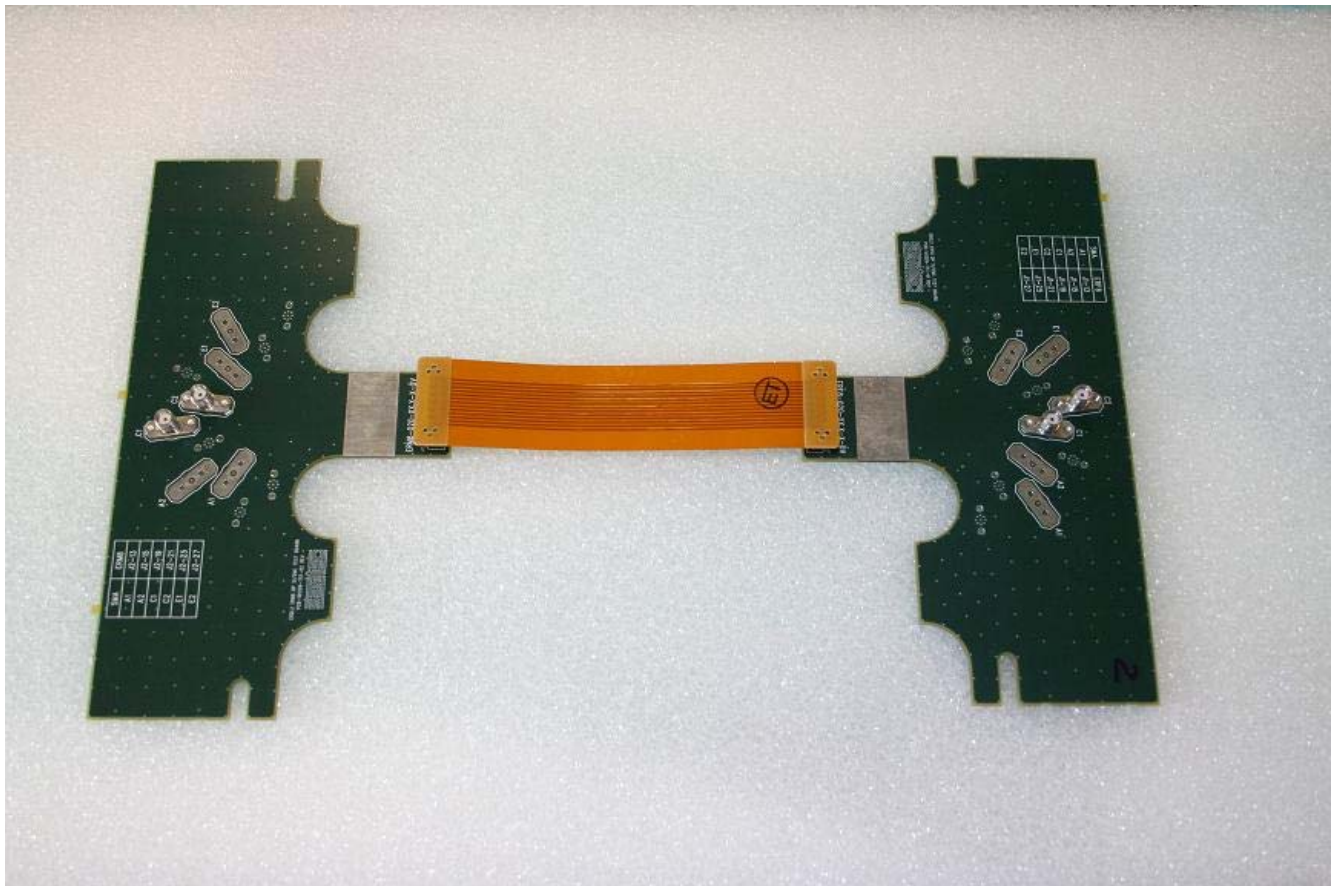


Figure 1. Test Boards and 85 ohm ERDL2

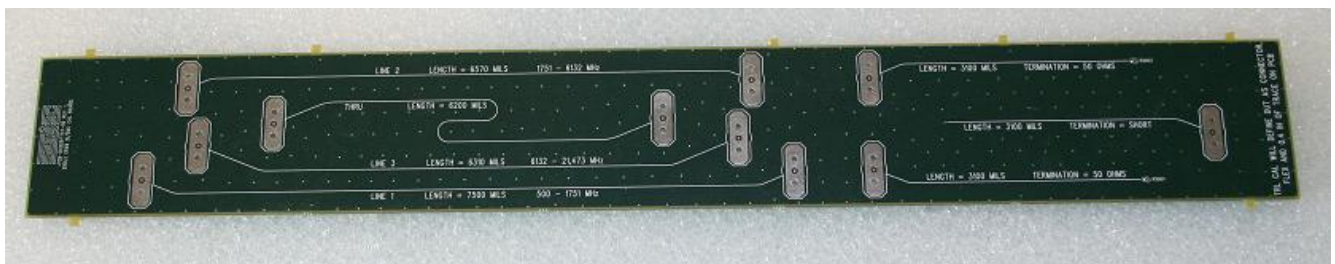


Figure 2. TRL Calibration boards

Series: ERDL2

Description: Flex Data Link

Testing

All measurements were made using an Agilent E8364B PNA Series VNA. A TRL calibration was performed which set the reference plane ¼" from the connector footprint. The calibration effectively removed the test board effects on the measured S-parameters. The calibration frequency sweep was set from 10 MHz to 20 GHz. This sweep span creates 2000 points with a 8.5 MHz step and equates to a risetime of 85ps. The frequency domain data is reported up to 8.5 GHz.

Time Domain

Impedance:

The impedance profile was derived from the measured S-parameters using Agilent ADS 2008 Update 2.

Frequency Domain Testing

All frequency domain data was acquired directly from the E8364B VNA using PLTS software.

Equipment

Agilent Technologies E8364B PNA Series VNA
Agilent Technologies PLTS Software Version 4.5
Agilent ADS 2008 Update 2.