


Thermal Shock Test for Flexible RF Cable Assembly

DC-40 GHz, PL380P, 2.92mm male, 1 meter

1. Test Purpose

This test is conducted for the purpose of determining the resistance of our Flexible RF Cable Assemblies to the exposures at high and low temperatures and to the shock of alternate exposures to these extreme temperatures. This test was performed in accordance with method 107 of MIL-STD-202.

2. DUT Product Information

Product Name	Flexible Cable Assembly DC-40 GHz, PL380P, 2.92mm male, 1 meter	
Specs	DC-40 GHz VSWR<1.3, Assembly insertion Loss < 2.92dB	
P/N	PL380P-292M292M-1M	
Qty	1 PC	

3. Test Instrument

No.	Instrument	Model
1	Hot And Cold Test Chambers	Shanghai Zhichou ZH/GDJS-50L
2	VNA	Ceyear VNA 3672E

4. Test Description

4.1 Before the thermal shock test, the DUT Cable Assembly shall be measured by VNA in VSWR and insertion loss from 50MHz to 40GHz.

4.2 The DUT cable assembly PL380P-292M292M-1M shall be tested in accordance with test condition A, method 107 of MIL-STD-202 in below procedures.

Two thermal conditioning chambers were used, one set to -55°C and the other set to 85°C .

The DUT was placed into the 85°C chamber first and conditioned for a minimum of 30 minutes. DUT was then transferred to the -55°C chamber within 120 seconds. The DUT was transferred between two (2) thermal conditioning chambers for 10 cycles.



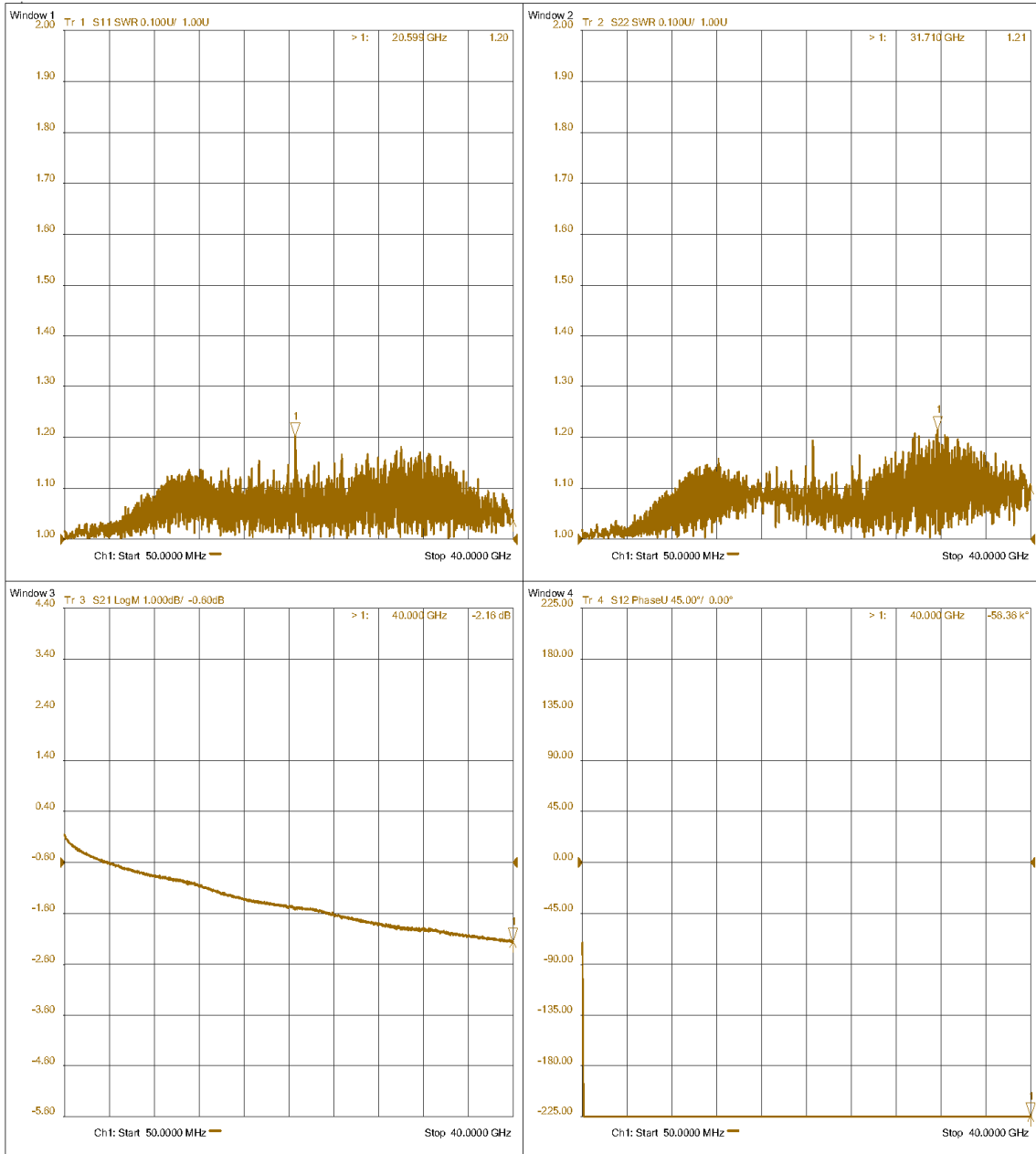
4.3 After thermal shock test, repeat the step of 4.1.

4.4 After thermal shock test, perform visual and mechanical inspection to verify if there are permanent changes and physical damages such as cracking and delamination etc.

5. Test Results

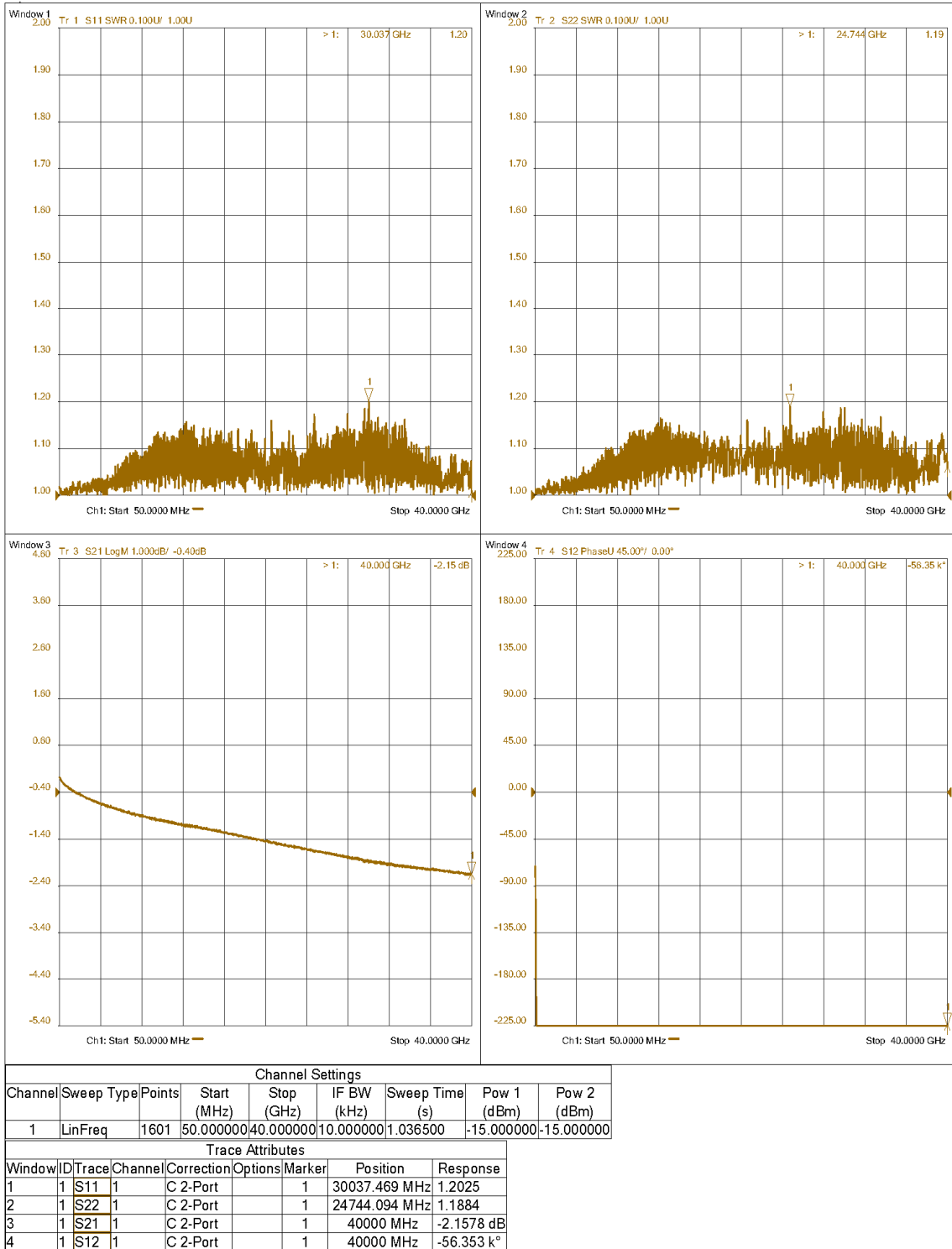
Before and after thermal shock, VSWR and insertion loss measurement of the DUT cable assembly PL380P-292M292M-1M showed minimum change.

PL380P-292M2 92M-1M	Max VSWR measurement from 50MHz-40GHz		Insertion loss (dB) measurement from 50MHz -40GHz	
	Before Thermal Shock Test	After Thermal Shock Test	Before Thermal Shock Test	After Thermal Shock Test
Results	1.2138	1.2025	2.1598	2.1578
Test plots are attached in the next pages.				



Channel Settings								
Channel	Sweep Type	Points	Start (MHz)	Stop (GHz)	IF BW (kHz)	Sweep Time (s)	Pow 1 (dBm)	Pow 2 (dBm)
1	LinFreq	1601	50.000000	40.000000	10.000000	1.022000	-15.000000	-15.000000
Trace Attributes								
Window	ID	Trace	Channel	Correction	Options	Marker	Position	Response
1	1	S11	1	C 2-Port		1	20599.281 MHz	1.2005
2	1	S22	1	C 2-Port		1	31710.375 MHz	1.2138
3	1	S21	1	C 2-Port		1	40000 MHz	-2.1598 dB
4	1	S12	1	C 2-Port		1	40000 MHz	-56.357 k°

Before Thermal Shock Test



After Thermal Shock Test