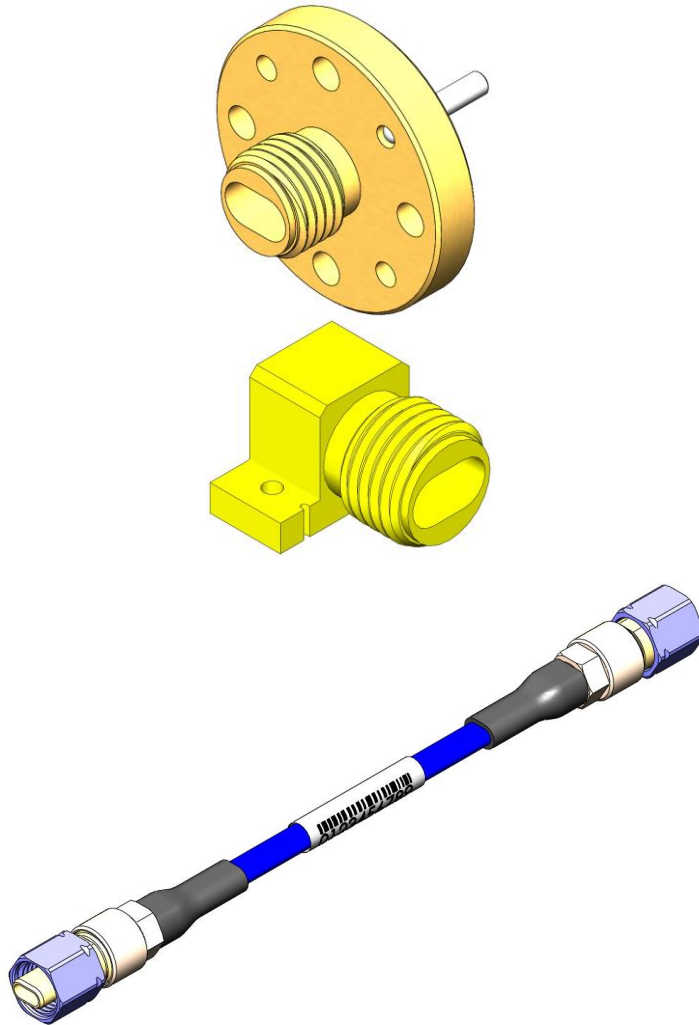


Project Number: Design Qualification Test Report	Tracking Code: CR-893103_Report_Rev_1
Requested by: Corey Rose	Date: 7/14/2023
Part #: WF15-S-75TP-75TP-0305\WGBA-385-75T-J-S\75T-J-P-EE-RA-CM	
Part description: WF15/WGBA/75T	Tech: Richard Ison
Test Start: 2/14/2023	Test Completed: 3/20/2023



DESIGN QUALIFICATION TEST REPORT
WF15/WGBA/75T
WF15-S-75TP-75TP-0305\WGBA-385-75T-J-S\75T-J-P-EE-RA-CM

Tracking Code: CR-893103_Report_Rev_1	Part #: WF15-S-75TP-75TP-0305\WGBA-385-75T-J-S \75T-J-P-EE-RA-CM
Part description: WF15/WGBA/75T	

REVISION HISTORY

DATA	REV.NUM.	DESCRIPTION	ENG
7/12/2023	1	Initial Issue	KH

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to ISO 10012-1 and ANSI/NCSL 2540-1, as applicable.

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SCOPE

To perform the following tests: Design Qualification test. Please see test plan.

APPLICABLE DOCUMENTS

Standards: EIA Publication 364

TEST SAMPLES AND PREPARATION

- 1) All materials were manufactured in accordance with the applicable product specification.
- 2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
- 3) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
- 4) The automated procedure is used with aqueous compatible soldering materials.
- 5) Any additional preparation will be noted in the individual test sequences.
- 6) Solder Information: Lead Free
- 7) Samtec Test PCBs used: PCB-111929-TST.

FLOWCHARTS**Mating/Unmating/Durability**Group 1

WF15-S-75TP-75TP-0305

WGBA-385-75T-J-S

8 Assemblies

*Note: VSWR/IL/RL (at WV) all cables
before and after test sequence.*

Step	Description
1.	VSWR/IL/RL (at WV) All Cables
2.	Cycles Quantity = 100 Cycles
3.	Visual Inspection <i>Note: Inspect for any damage, Shake out or blow out any debris, Do not use any chemicals.</i>
4.	Thermal Age (2)
5.	Humidity (1)
6.	VSWR/IL/RL (at WV) All Cables

(1) Humidity = EIA-364-31

Test Condition = B (240 Hours)

Test Method = III (+25°C to +65°C @ 90% RH to 98% RH)

Test Exceptions: ambient pre-condition and delete steps 7a and 7b

(2) Thermal Age = EIA-364-17

Test Condition = 4 (105°C)

Time Condition = B (250 Hours)

Cable PullGroup 1

WF15-S-75TP-75TP-0305

75T-J-P-EE-RA-CM

5 Assemblies

0 Degrees

Step	Description
1.	Cable Pull (1)

(1) Cable Pull = EIA-364-38

Measure and Record Force Required to Failure

Failure = Discontinuity >1 microsecond at 10 ohms

FLOWCHARTS Continued**Cable Flex**Group 1

WF15-S-75TP-75TP-0305

WGBA-385-75T-J-S

5

Custom Group

Step Description

1. VSWR/IL/RL (At WV) All Cables
2. Cable Flex⁽¹⁾
Note: Cycle 100 time in the flat direction. Use an 8" diameter mandrel.
3. VSWR/IL/RL (At WV) All Cables

(1) Cable Flex = EIA-364-41

Circular Jacket Cable - to be tested 90° each direction (180° total)

Flat Cable - to be tested 70° each direction (140° total)

Monitor continuity during flex testing

Failure = Discontinuity >1 microsecond at 10 ohms

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

THERMAL AGE:

- 1) EIA-364-17, *Temperature Life with or without Electrical Load Test Procedure for Electrical Connectors*.
- 2) Test Condition 4 at 105° C.
- 3) Test Time Condition B for 250 hours.
- 4) All test samples are pre-conditioned at ambient.
- 5) All test samples are exposed to environmental stressing in the mated condition.

HUMIDITY:

- 1) Reference document: EIA-364-31, *Humidity Test Procedure for Electrical Connectors*.
- 2) Test Condition B, 240 Hours.
- 3) Method III, +25° C to + 65° C, 90% to 98% Relative Humidity excluding sub-cycles 7a and 7b.
- 4) All samples are pre-conditioned at ambient.
- 5) All test samples are exposed to environmental stressing in the mated condition.

CYCLES:

- 1) Reference document: EIA-364-13, *Mating and Unmating Forces Test Procedure for Electrical Connectors*.
- 2) The full insertion position was to within 0.003” to 0.004” of the plug bottoming out in the receptacle to prevent damage to the system under test.
- 3) One of the mating parts is secured to a floating X-Y table to prevent damage during cycling.

CABLE PULL:

- 1) Secure cable near center and pull-on connector
 - a. At 0°, in-line with cable



Fig. 1
0° Connector pull.

ATTRIBUTE DEFINITIONS Continued

The following is a brief, simplified description of attributes.

CABLE FLEX:

- 1) Oscillate and monitor electrical continuity for open circuit indication.
 - a. $\pm 90^\circ$ Flex Mode, bend up to 100 cycles. load on cable end.



Fig. 2
(Setup picture)

RESULTS

Cable Pull force

- 0° Pull
 - Min -----34.16 lbs
 - Max -----34.99 lbs

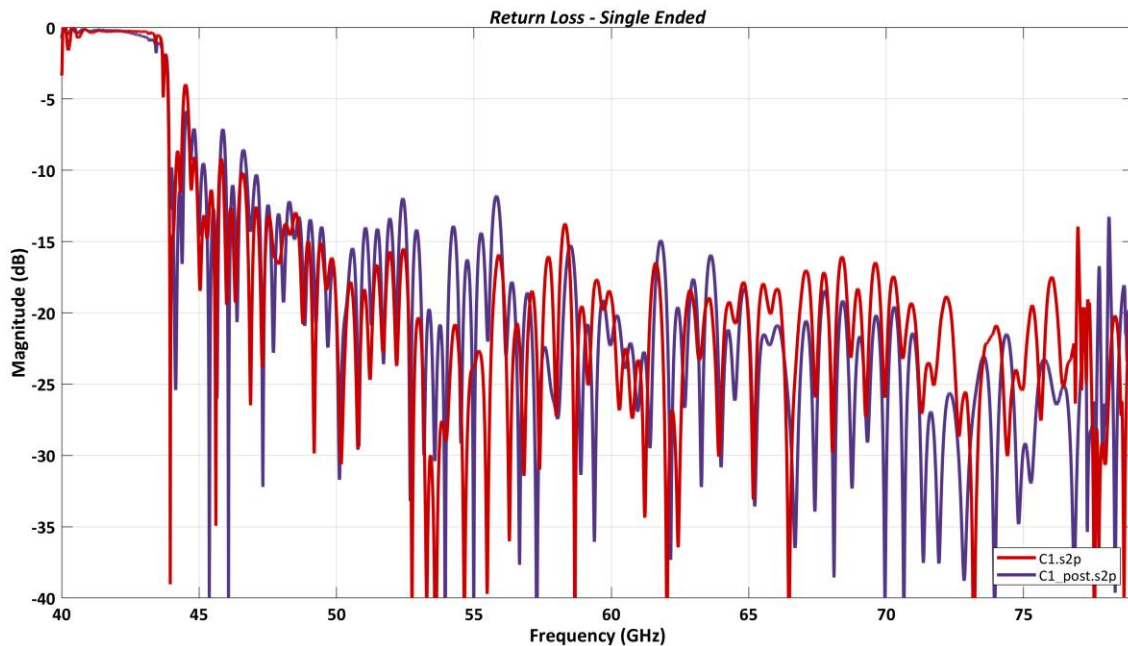
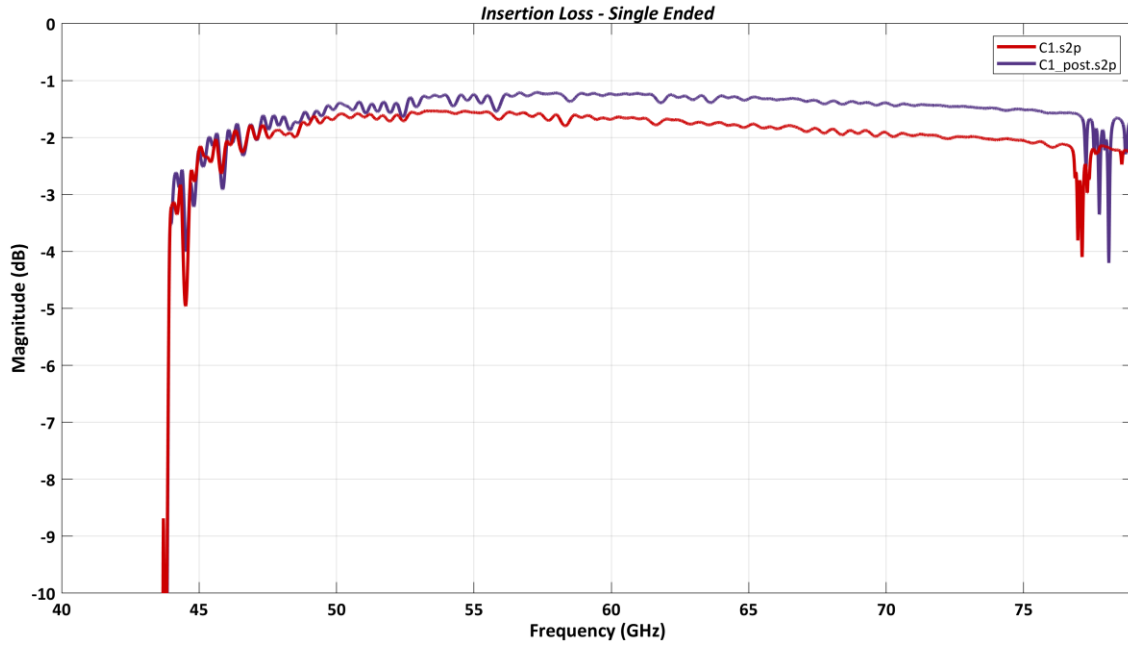
DATA SUMMARIES

**Cable Pull Force:
0° Pull**

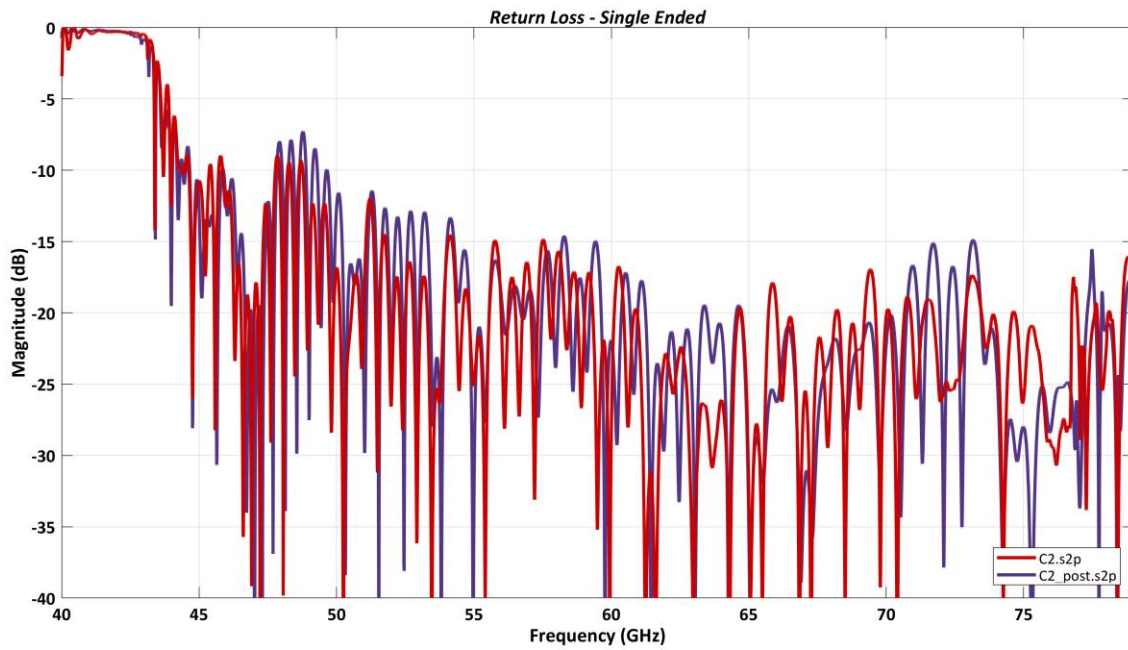
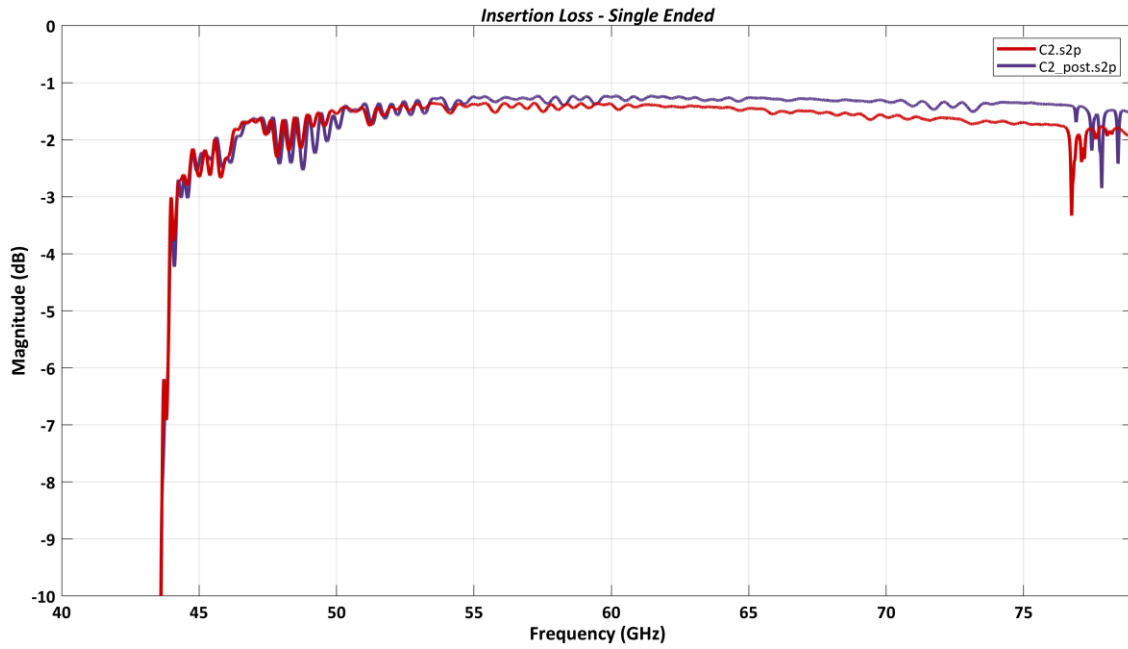
	Force (lbs)
Minimum	34.16
Maximum	34.99
Average	34.65

DATA SUMMARIES Continued

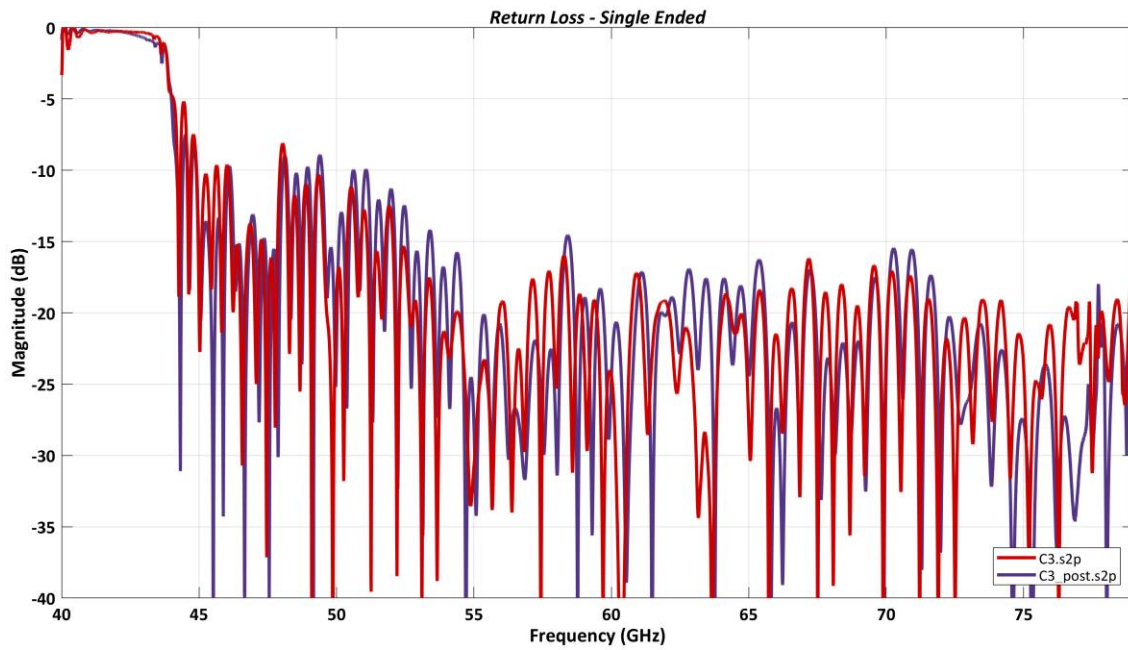
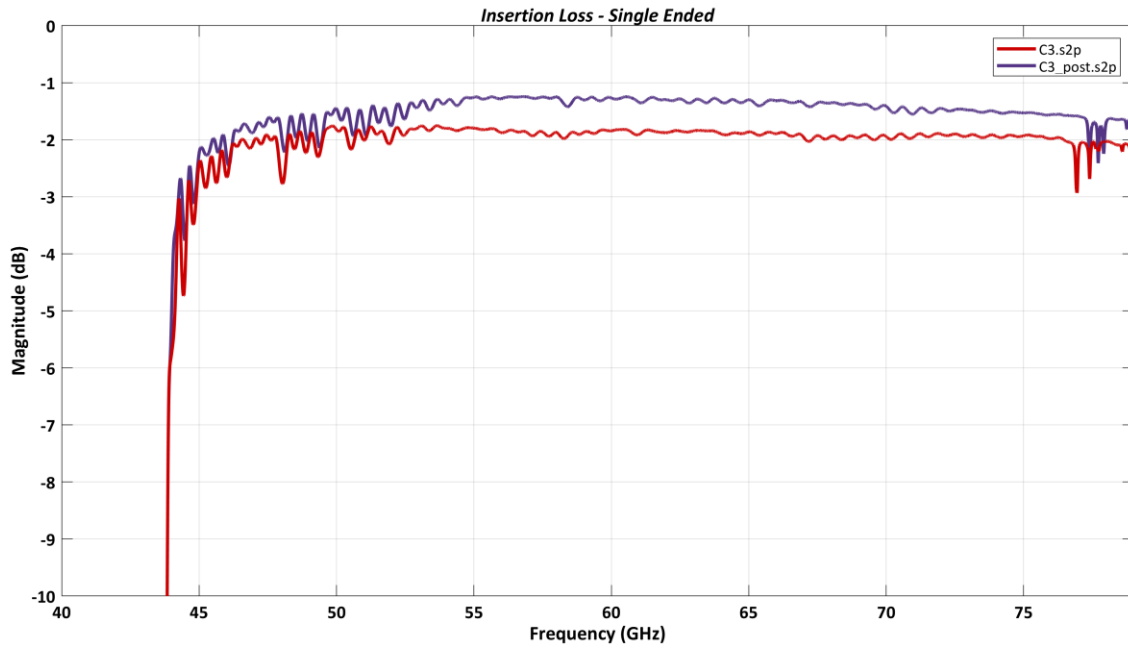
VSWR/IL/RL MATING-UNMATING DURABILITY



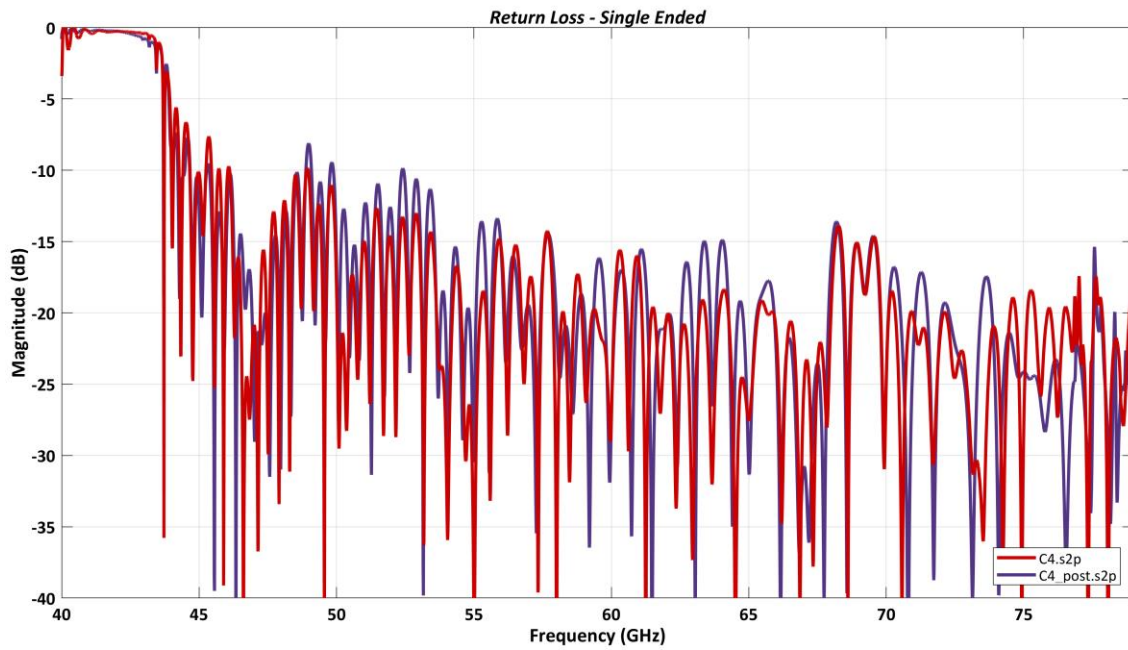
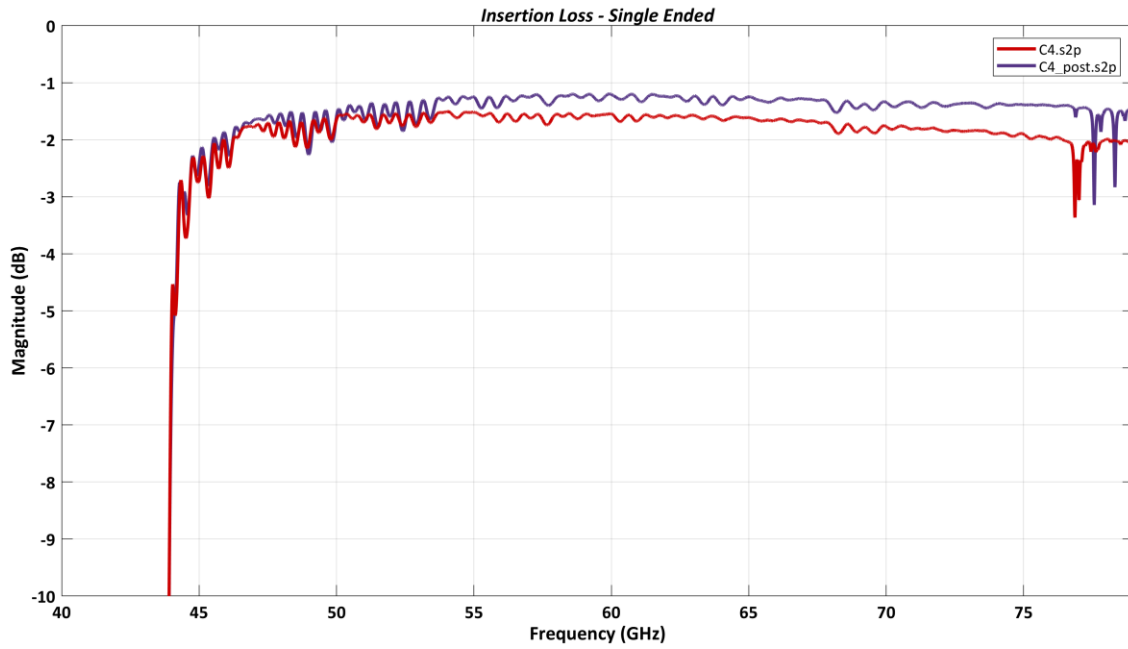
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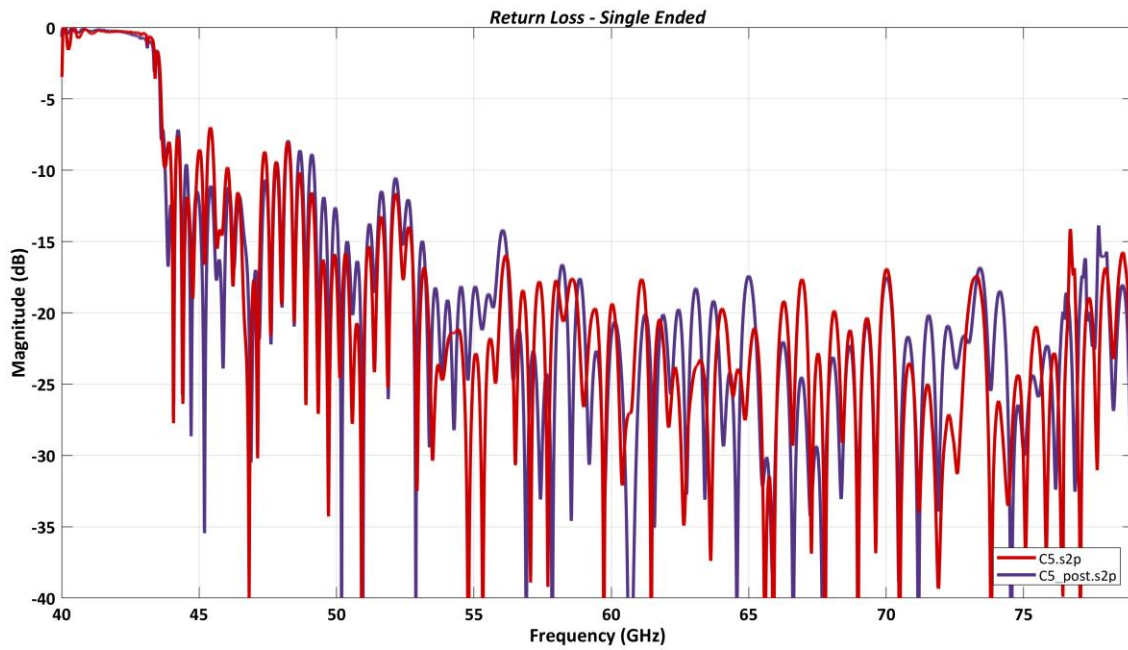
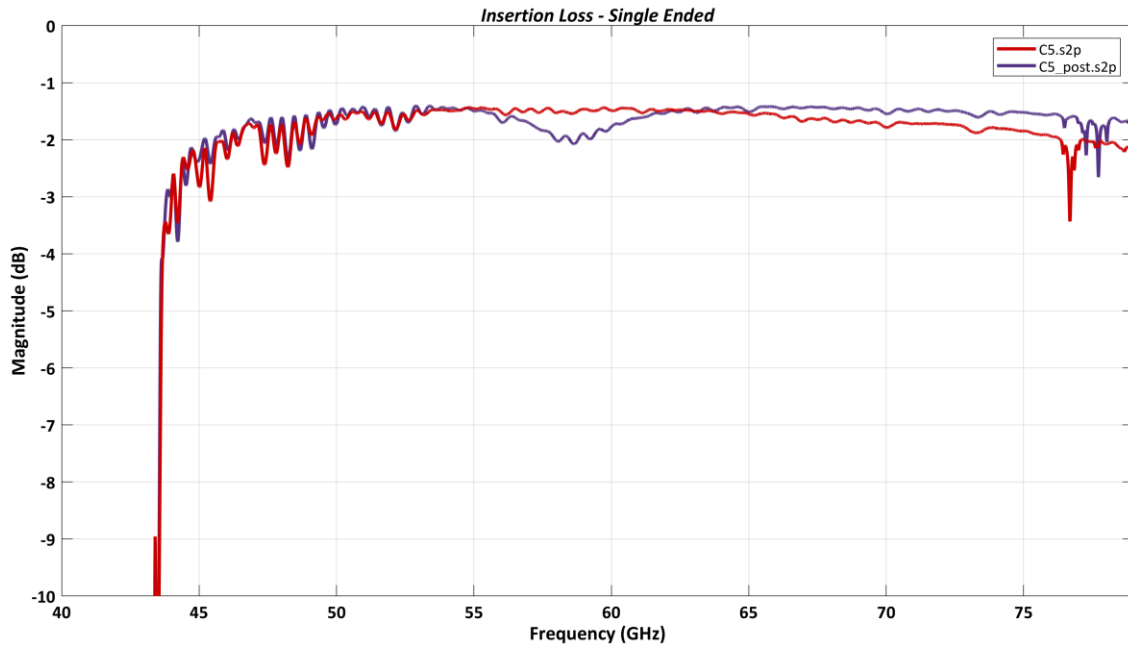
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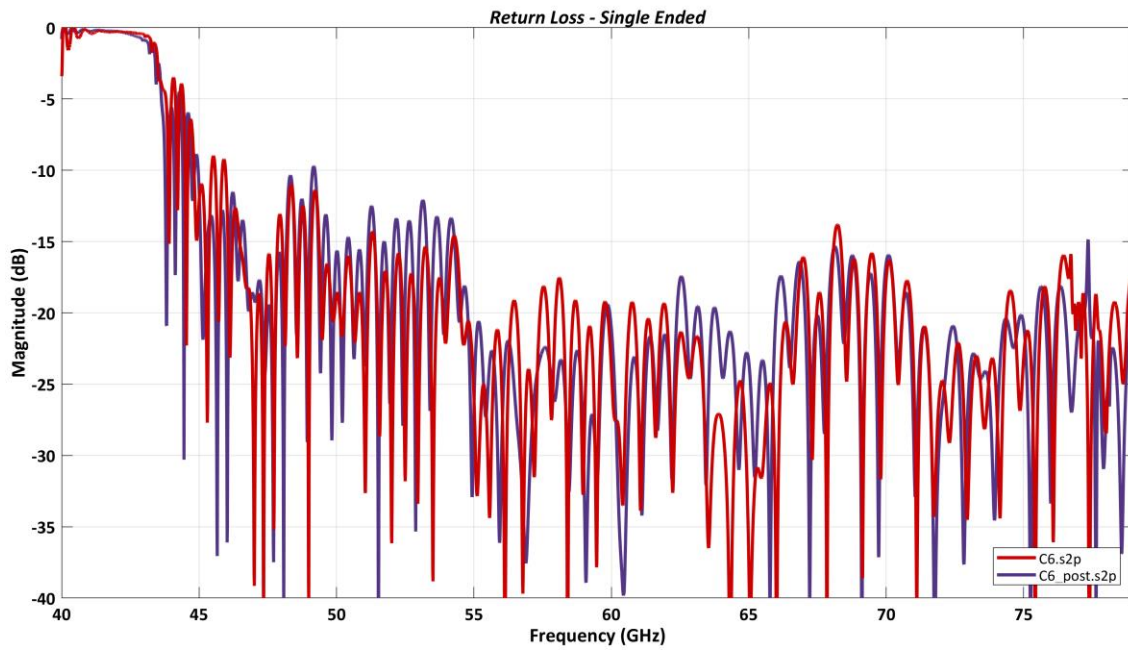
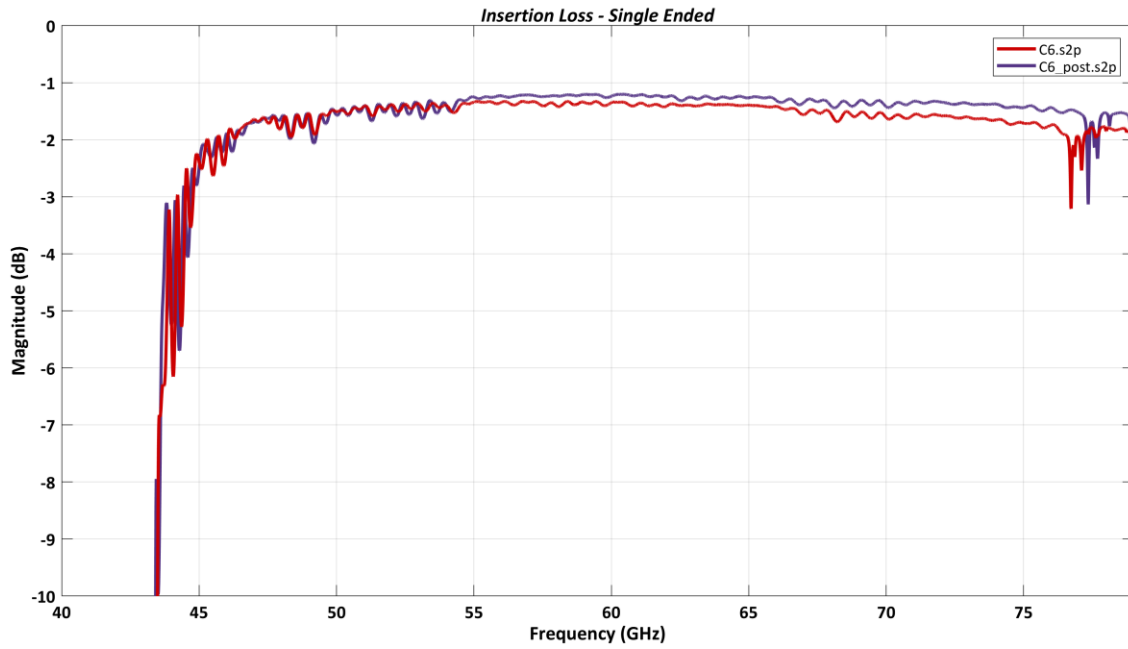
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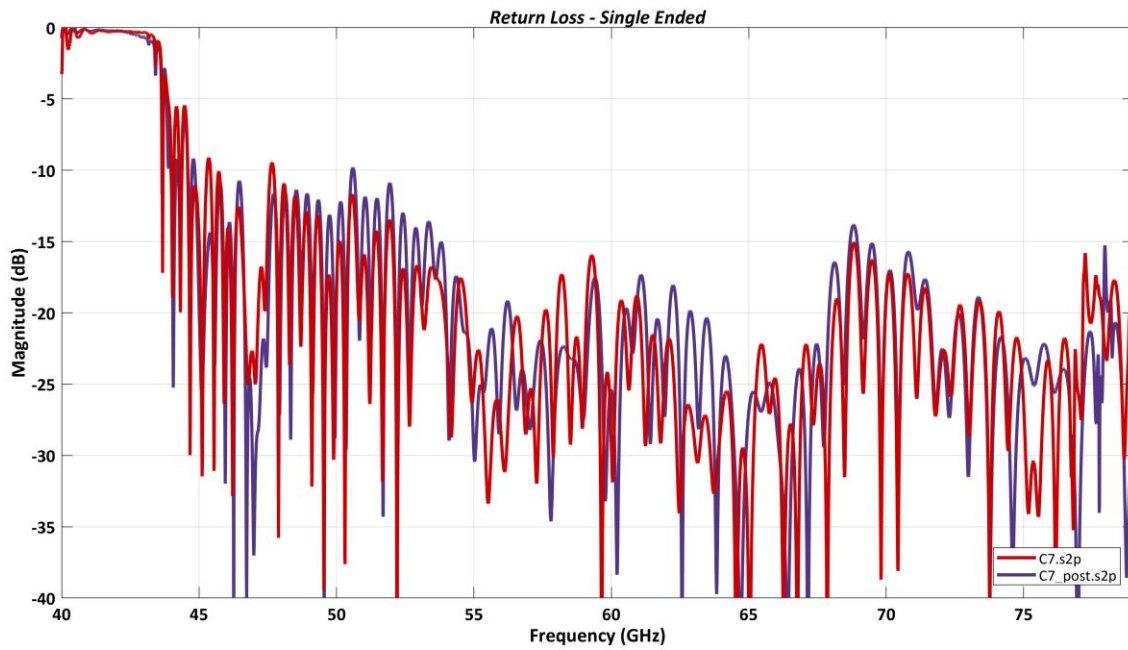
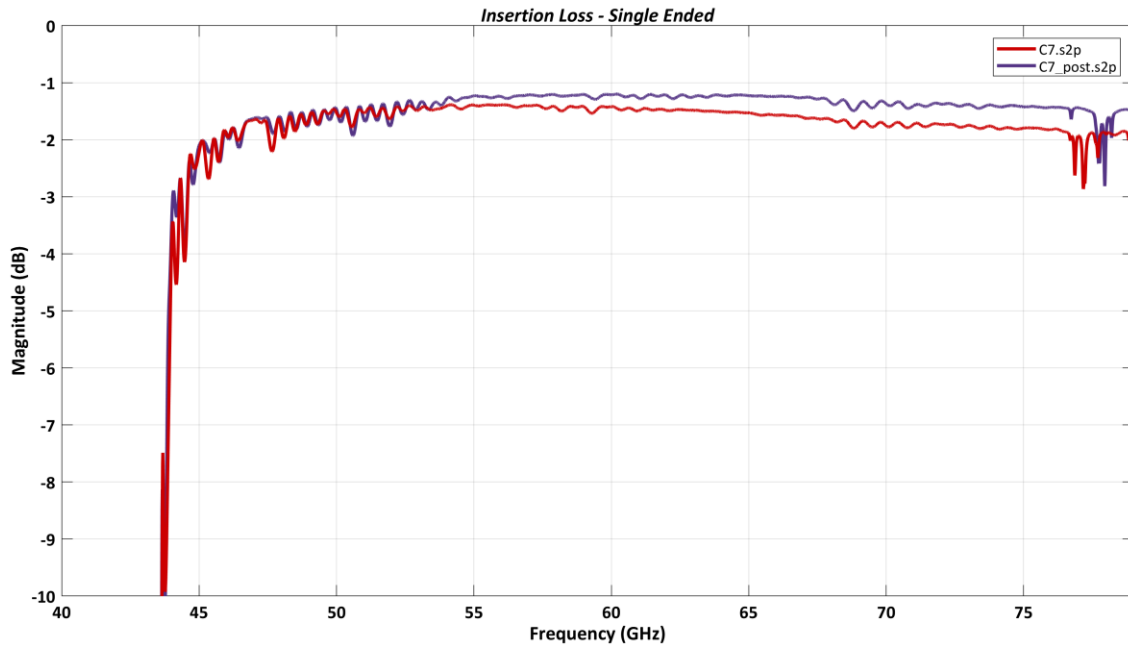
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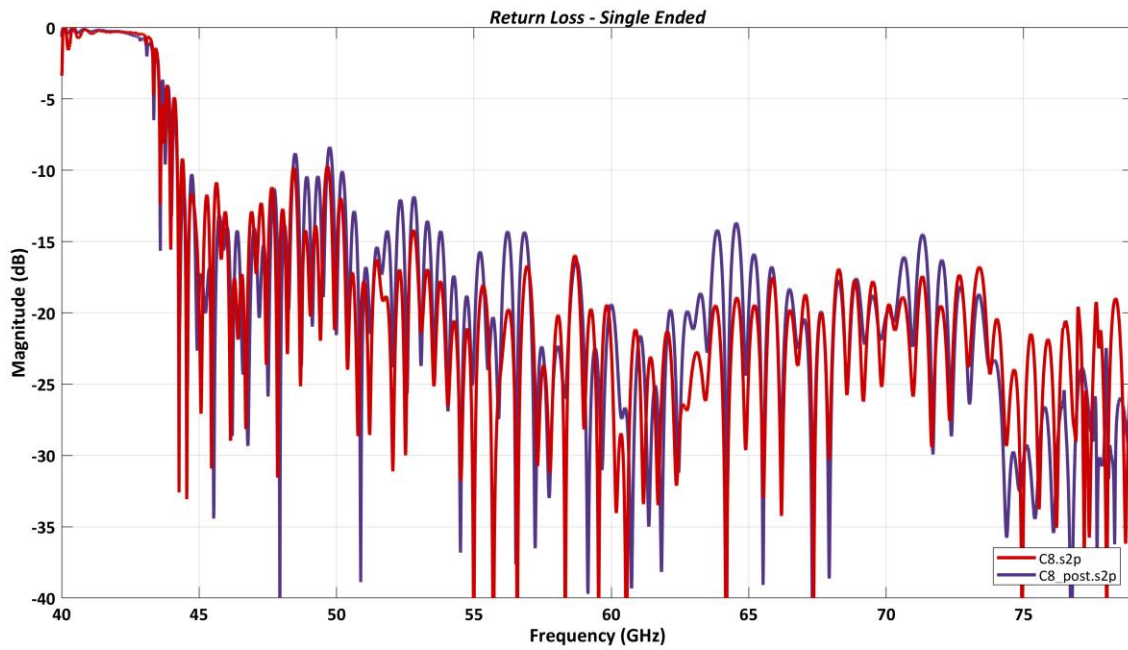
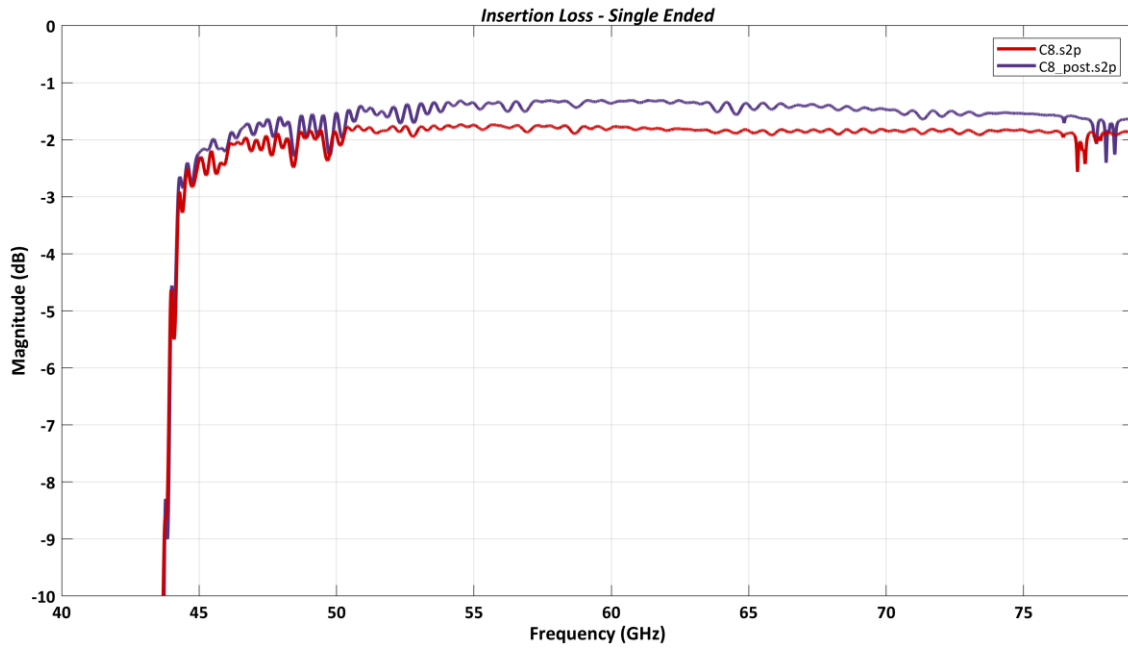
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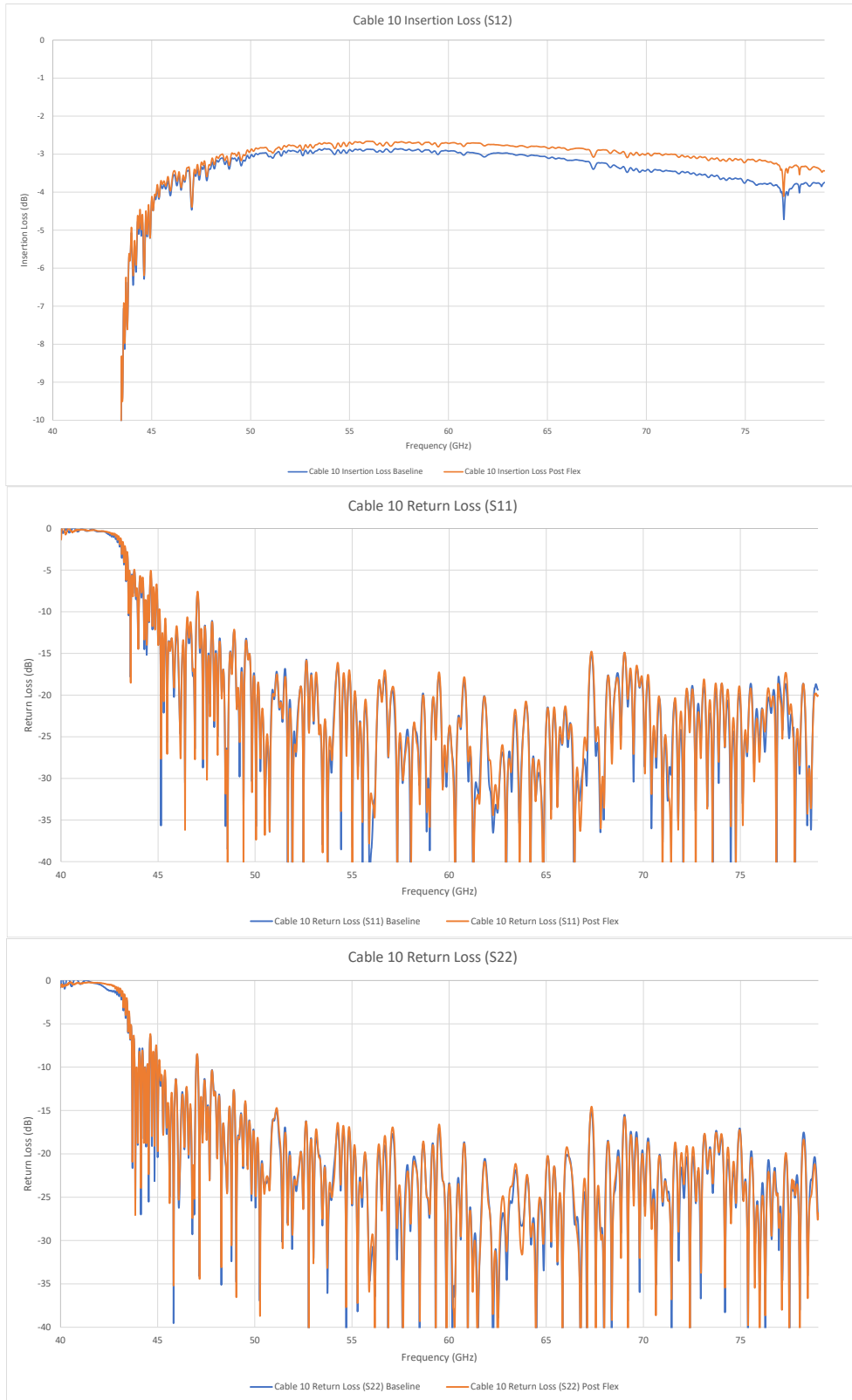


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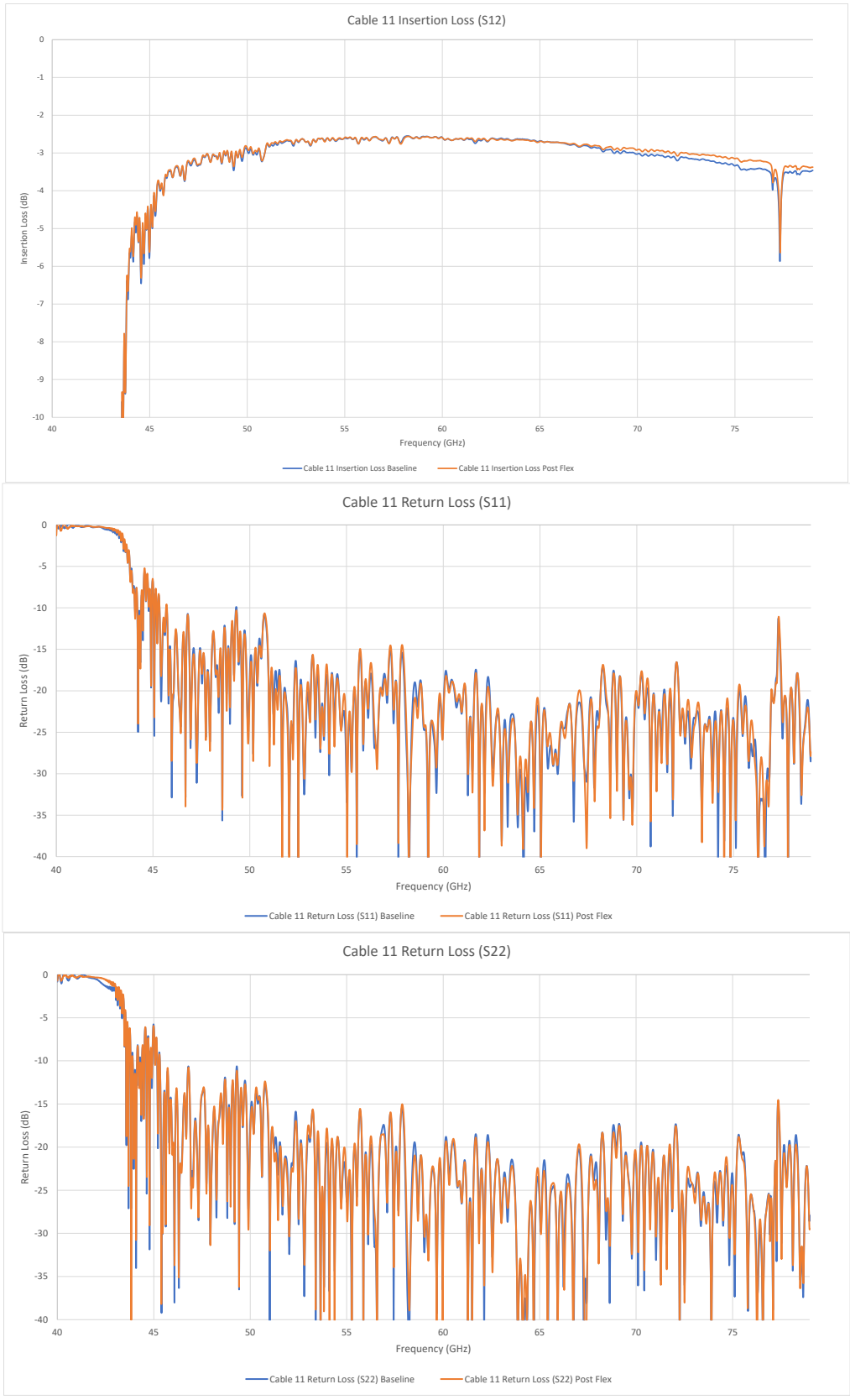
VSWR/IL/RL CABLE FLEX



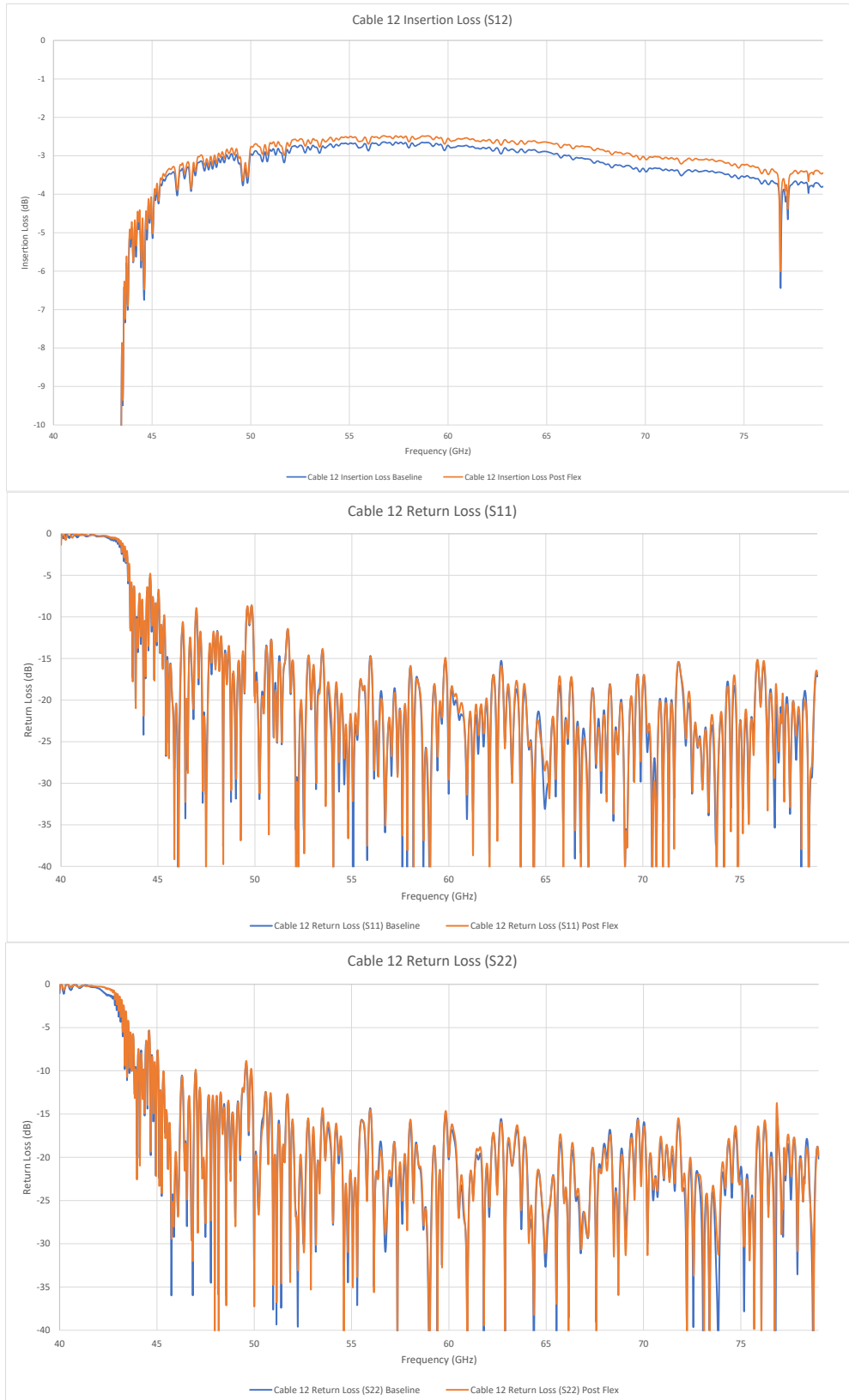
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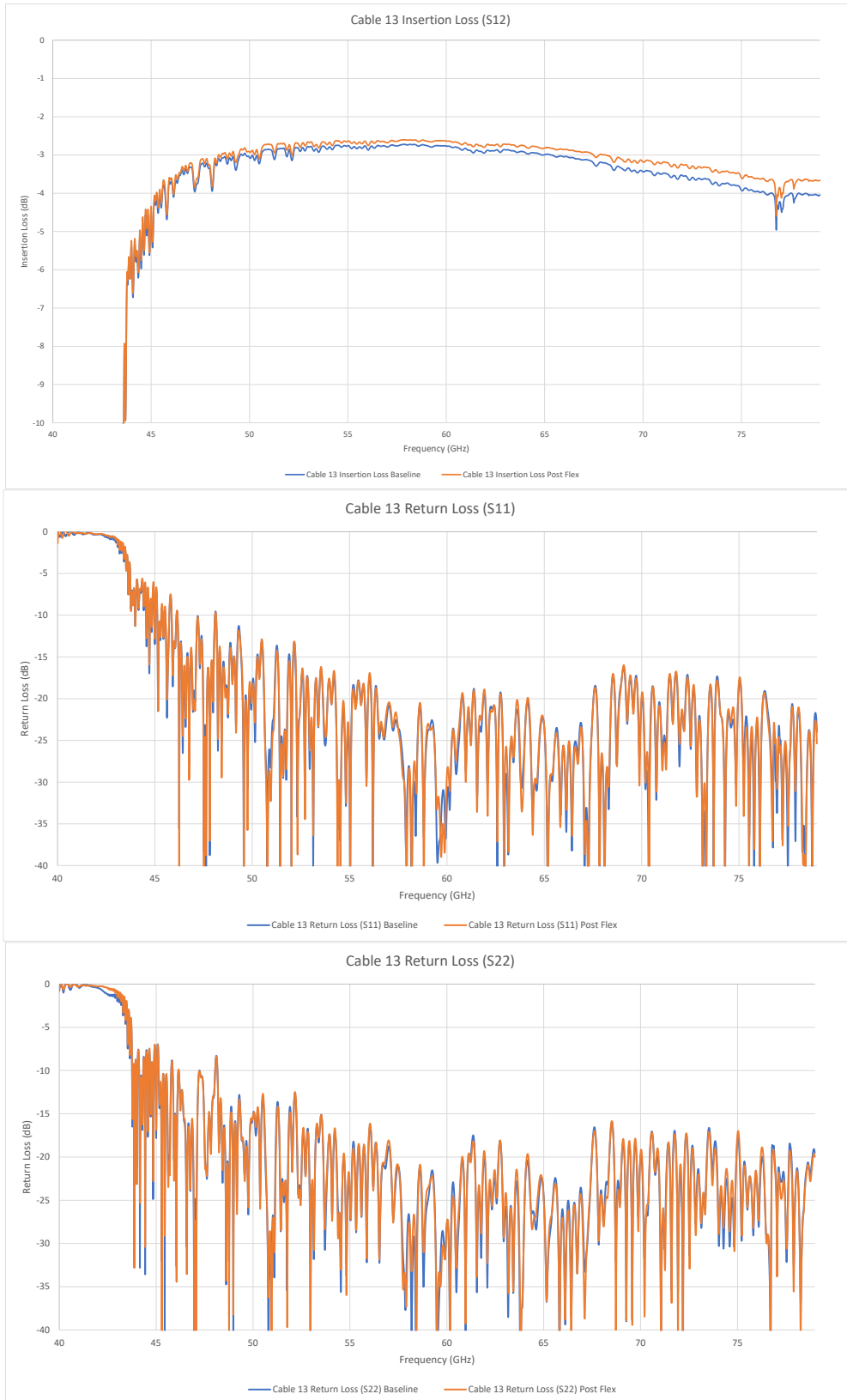
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DATA SUMMARIES Continued



EQUIPMENT AND CALIBRATION SCHEDULES**Equipment #:** TCT-04**Description:** Dillon Quantrol TC21 25-1000 mm/min series test stand**Manufacturer:** Dillon Quantrol**Model:** TC2 I series test stand**Serial #:** 04-1041-04**Accuracy:** Speed Accuracy: +/- 5% of indicated speed; Speed Accuracy: +/- 5% of indicated speed;

... Last Cal: 05/29/2023, Next Cal: 05/29/2024

Equipment #: THC-05**Description:** Temperature/Humidity Chamber (Chamber Room)**Manufacturer:** Thermotron**Model:** SM-8-3800**Serial #:** 05 23 00 02**Accuracy:** See Manual

... Last Cal: 11/14/2022, Next Cal: 11/14/2023

Equipment #: OV-05**Description:** Forced Air Oven, 5 Cu. Ft., 120 V (Chamber Room)**Manufacturer:** Sheldon Mfg.**Model:** CE5F**Serial #:** 02008008**Accuracy:** +/- 5 deg. C

... Last Cal: 02/18/2023, Next Cal: 02/18/2024