



TYPICAL CHARACTERISTICS
ON
APD-2-620-292FF

PMI MODEL: APD-2-620-292FF IS A TWO WAY POWER DIVIDER OPERATING OVER THE 6.0 TO 20.0 GHz FREQUENCY RANGE. THIS MODEL HAS A MAXIMUM INSERTION LOSS OF 2.2 dB FROM 6.0 TO 20.0 GHz. THE COMPACT 1.00" x 1.00" x 0.40" HOUSING IS OUTFITTED WITH 2.92 mm FEMALE CONNECTORS.



April 15, 2020

Designed By: Dr. Shen, Garrett Radtke, Dr.Ash(Ashok) Gorwara

**Tested By:
Garrett Radtke**

**Reported By:
Garrett Radtke**



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**TYPICAL CHARACTERISTICS
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OUTLINE

DESCRIPTION

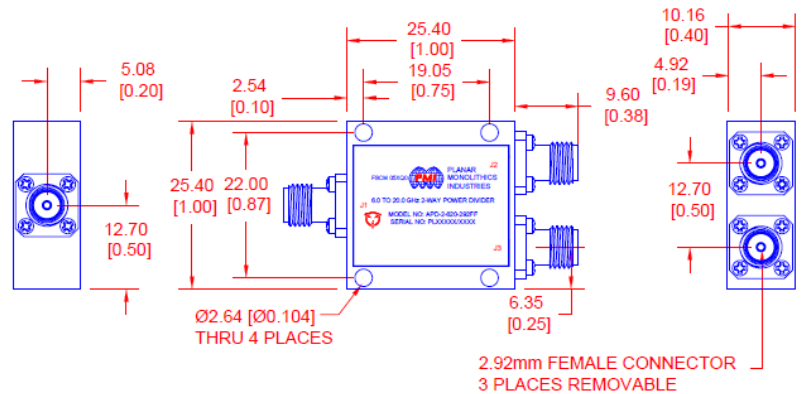
PMI MODEL: APD-2-620-292FF IS A TWO WAY POWER DIVIDER OPERATING OVER THE 6 TO 20 GHz FREQUENCY RANGE. THIS MODEL HAS A MAXIMUM INSERTION LOSS OF 2.2 dB AND HAS VERY GOOD PHASE AND AMPLITUDE MATCH. THE COMPACT 1.00" x 1.00" x 0.40" HOUSING IS OUTFITTED WITH 2.92 mm FEMALE CONNECTORS.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	08/18/20	

SPECIFICATIONS

- FREQUENCY RANGE: — 6 TO 20 GHz
- INSERTION LOSS: — 2.2 dB MAXIMUM
- VSWR: — 1.9:1 MAXIMUM
- ISOLATION: — 20 dB TYPICAL
17 dB MINIMUM
- AMPLITUDE BALANCE: — ±0.20 dB TYPICAL
±0.40 dB MAXIMUM
- PHASE BALANCE: — ±1.5° TYPICAL
±3.0° MAXIMUM
- REVERSE POWER HANDLING: — 1 WATT MINIMUM
- CONNECTORS: — 2.92 mm FEMALE REMOVABLE
- SIZE: — 25.4 mm x 25.4 mm x 10.16 mm
[1.00" x 1.00" x 0.40"]
EXCLUDING CONNECTORS
- FINISH: — PAINTED BLUE WITH HERMETIC SEALING OPTION AVAILABLE

MECHANICAL OUTLINE



ALL DIMENSIONS ARE IN mm [INCH]
TOLERANCES:
X.XXX ± 0.508 [0.020]
X.XXX ± 0.254 [0.010]

ENVIRONMENTAL RATINGS

- TEMPERATURE: — -55 °C TO +85 °C (OPERATING)
-65 °C TO +125 °C (STORAGE)
- HUMIDITY: — MIL-STD-202, METHOD 103B COND. B
- SHOCK: — MIL-STD-202, METHOD 213B COND. B
- VIBRATION: — MIL-STD-202, METHOD 204D COND. B
- ALTITUDE: — MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE: — MIL-STD-202, METHOD 107D COND. A

NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.

7311-F GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: (301)-662-5019, FAX: (301)-662-1731
WEB: www.pmi-rf.com, EMAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN: <i>SJR</i>		08/18/20	PRODUCT FEATURE APD-2-620-292FF 6 to 20 GHz TWO WAY POWER DIVIDER		
CHECKED			SIZE	FRSC NO.	DWG NO.
ISSUED			A	05XQ0	27038680
			SCALE: N:S	SHEET 1 OF 1	

7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731

Email: sales@pmi-rf.com

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TYPICAL CHARACTERISTICS
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TEST RESULTS

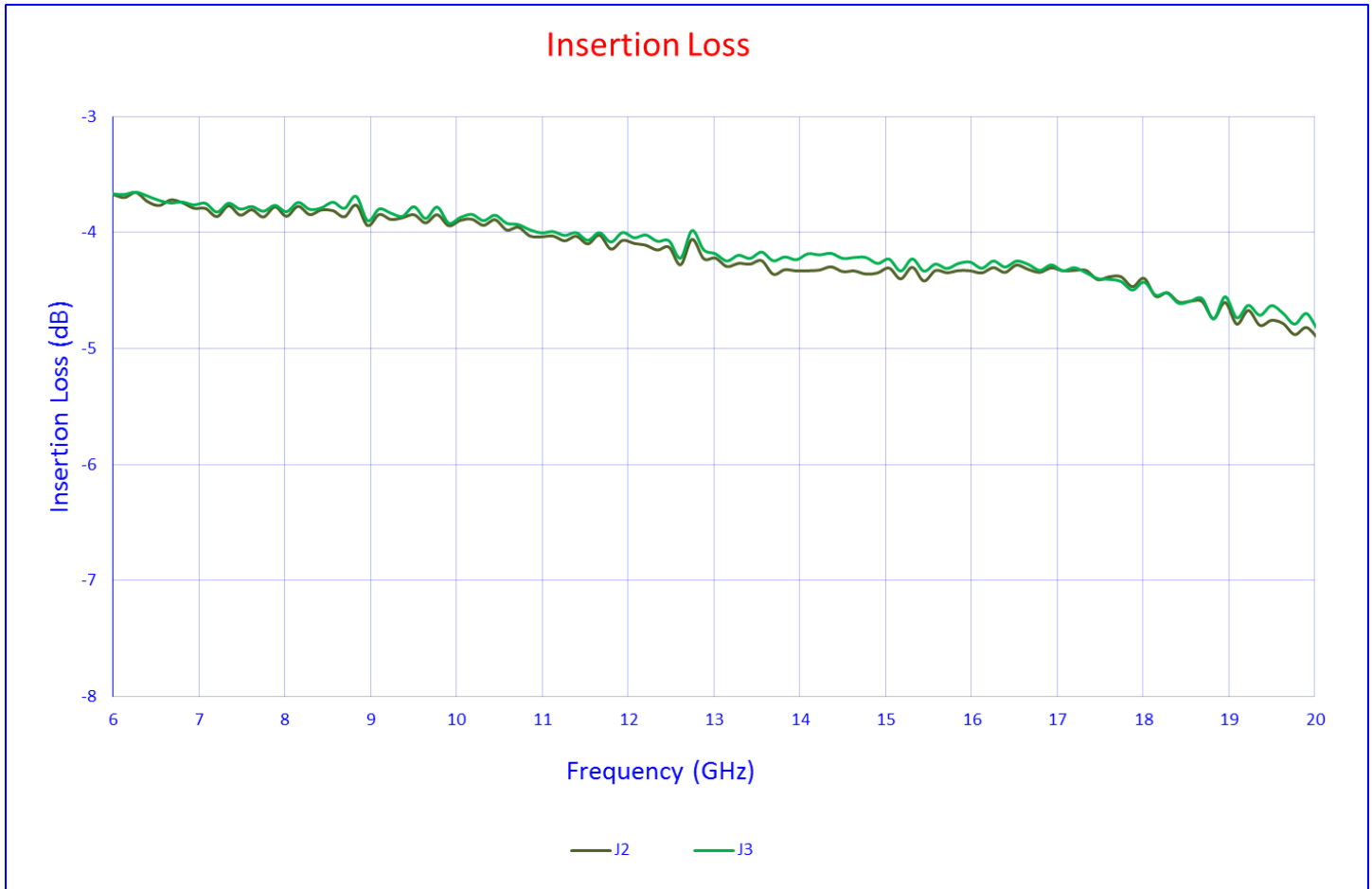
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	ENVIRONMENTAL PARAMETERS	TEST RESULTS
1	Frequency Range:	6.0 GHz – 20.0 GHz See Plots	+25°C	6.0 GHz – 20.0 GHz
2	Insertion Loss	2.2 dB MAX. See Plots	+25°C	1.91 dB
			-55°C	1.91 dB
			+85°C	2.01 dB
3	Isolation	20 dB TYP. 17 dB MIN. See Plots	+25°C	18.4 dB
			-55°C	18.9 dB
			+85°C	18.3 dB
4	VSWR Input	1.9:1 MAX See Plots	+25°C	1.53:1
			-55°C	1.59:1
			+85°C	1.52:1
5	VSWR Output	1.9:1 MAX See Plots	+25°C	1.61:1
			-55°C	1.71:1
			+85°C	1.58:1
6	Amplitude Balance	0.2 dB TYP. 0.4 dB MAX See Plots	+25°C	0.15 dB MAX.
			-55°C	0.20 dB MAX.
			+85°C	0.15 dB MAX.
7	Phase Balance	±1.5° TYP. ±3.0° MAX See Plots	+25°C	1.11° MAX.
			-55°C	1.59° MAX.
			+85°C	0.99° MAX.
8	Reverse Power Handling	1 Watt	+25°C	PASS See Plots

Note: Amplitude and phase balance are relative to J2 Port.



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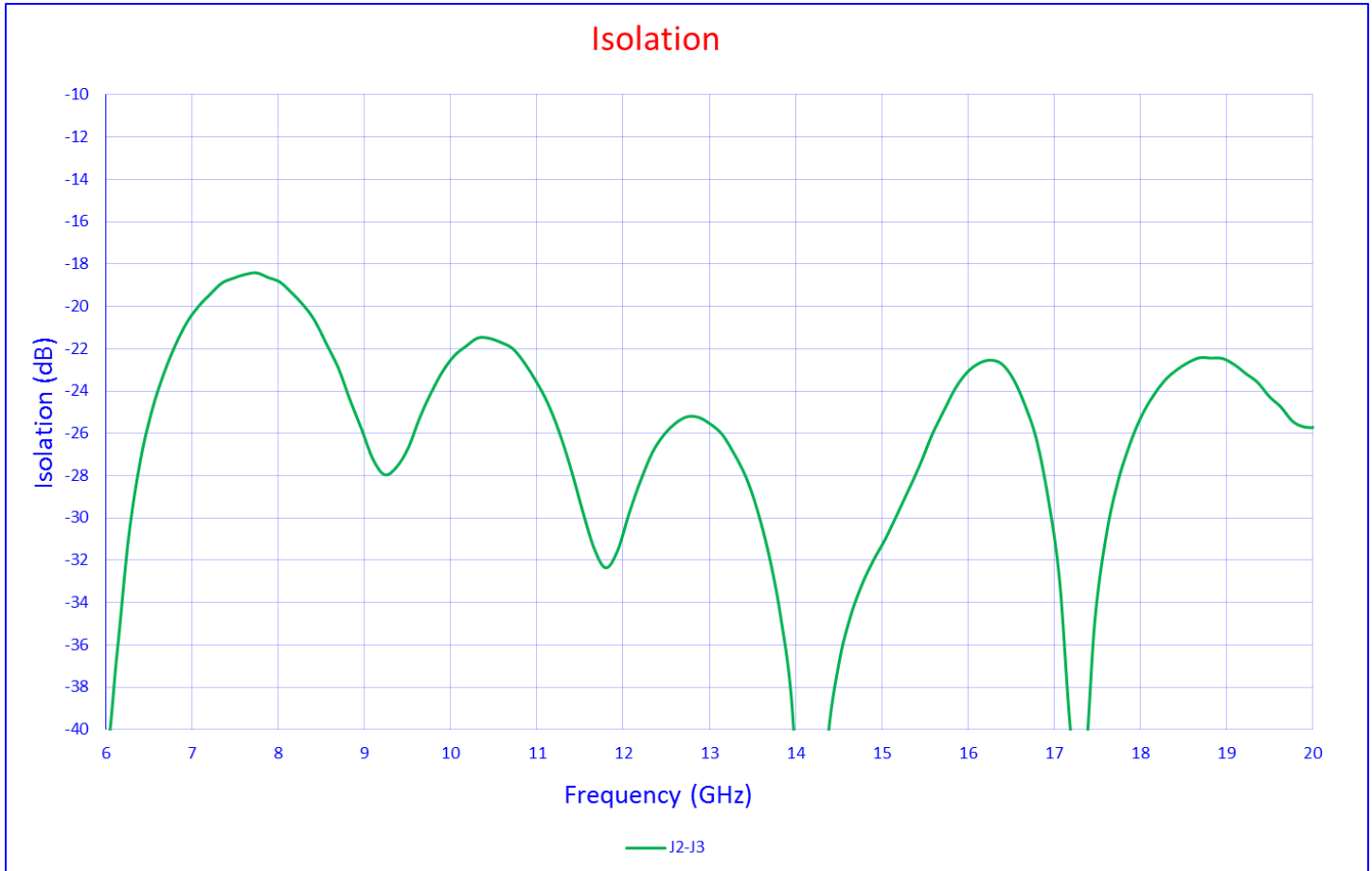
ABSOLUTE INSERTION LOSS WITH THEROETICAL 3 dB POWER
SPLIT AT 25°C





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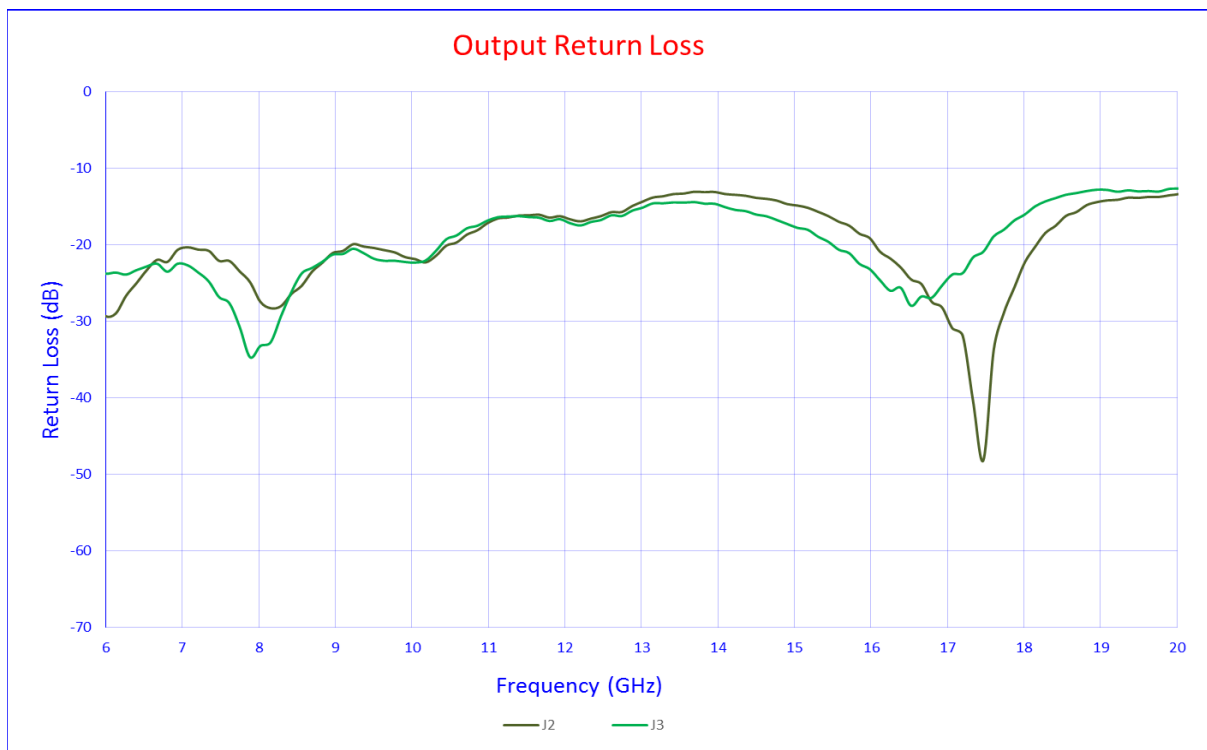
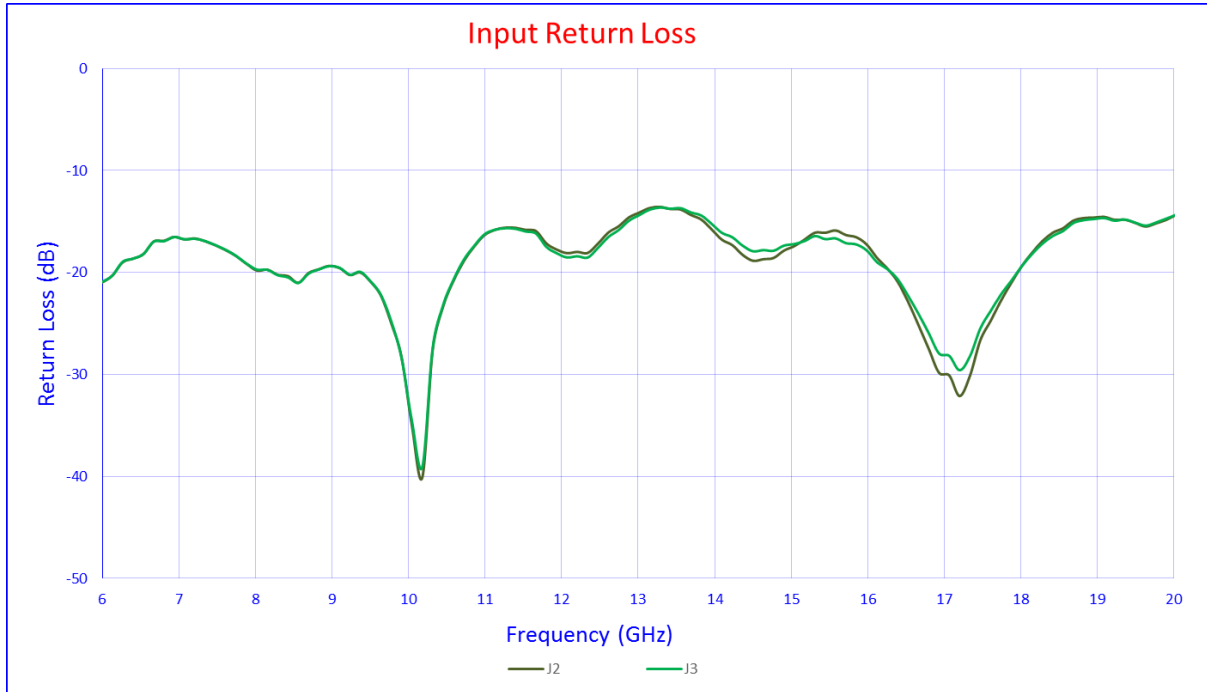
ISOLATION AT 25°C





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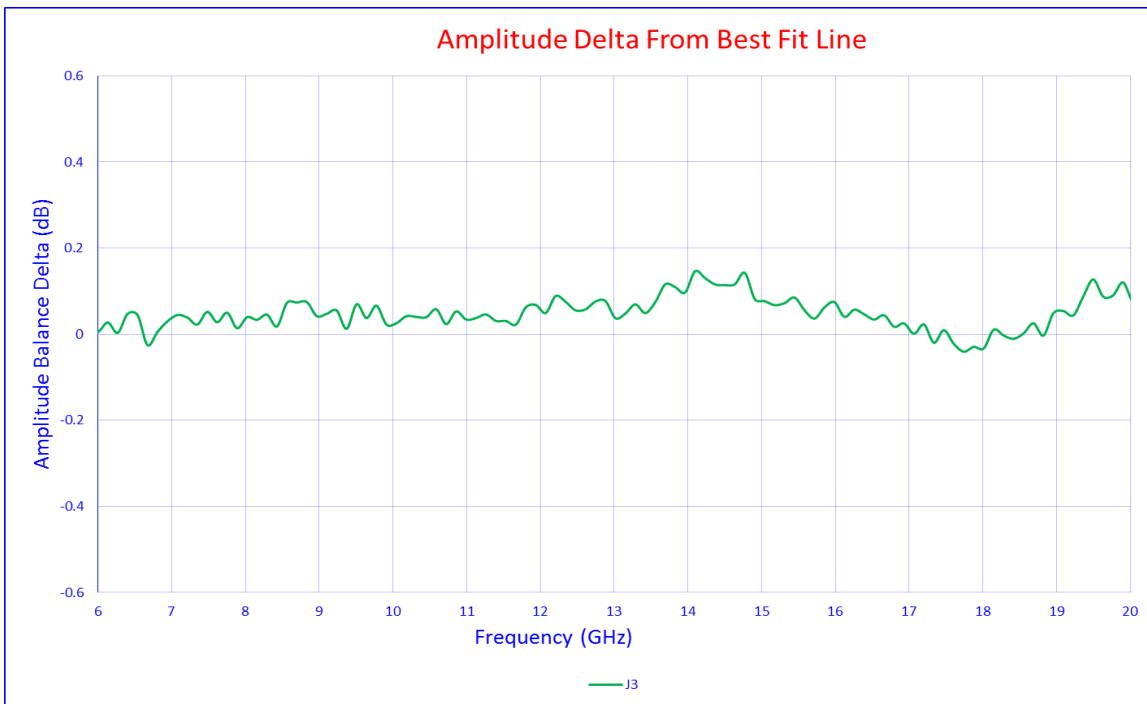
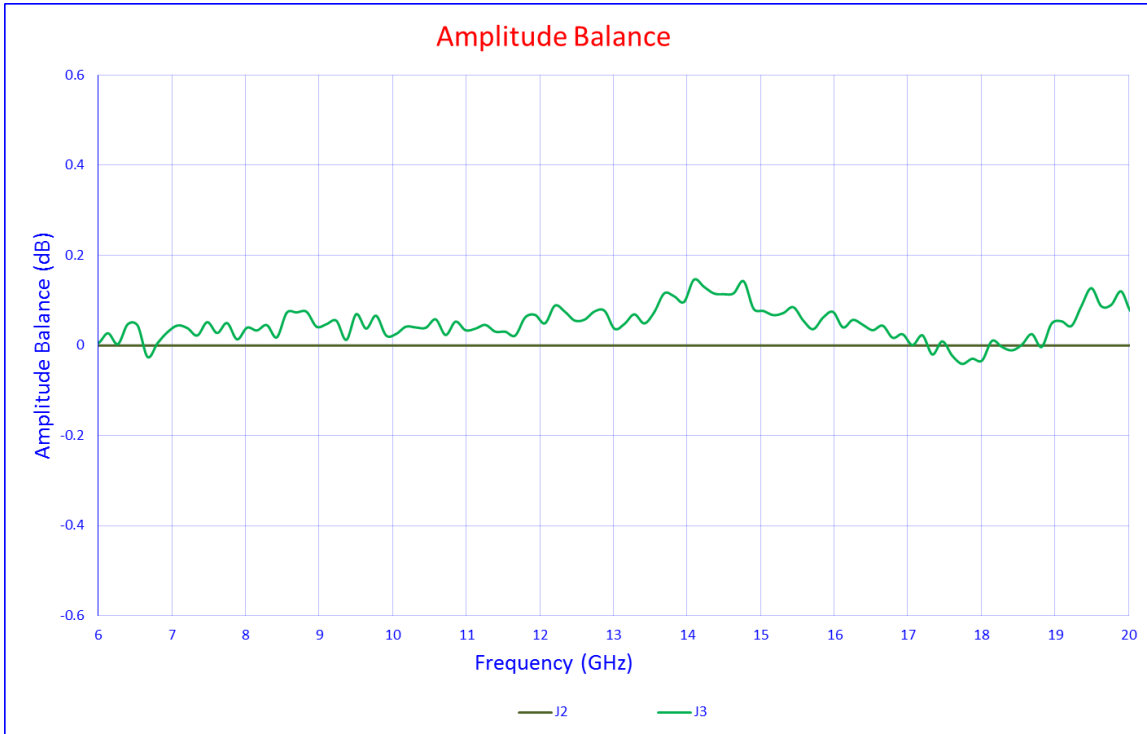
RETURN LOSS AT 25°C





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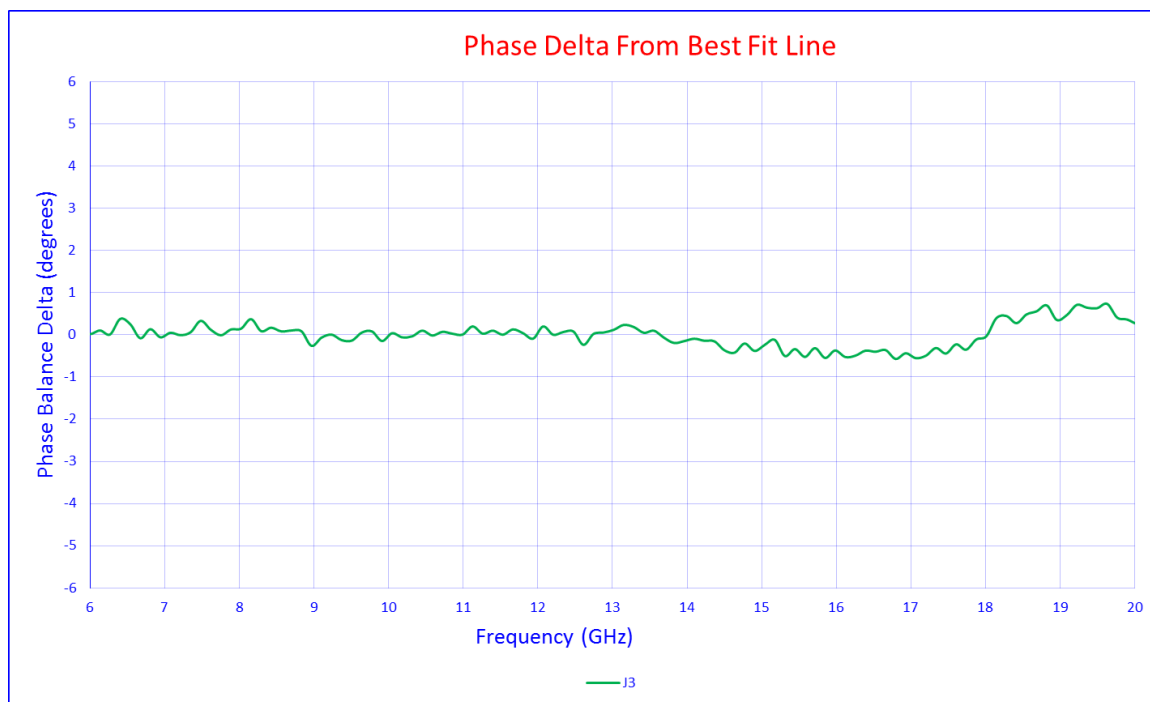
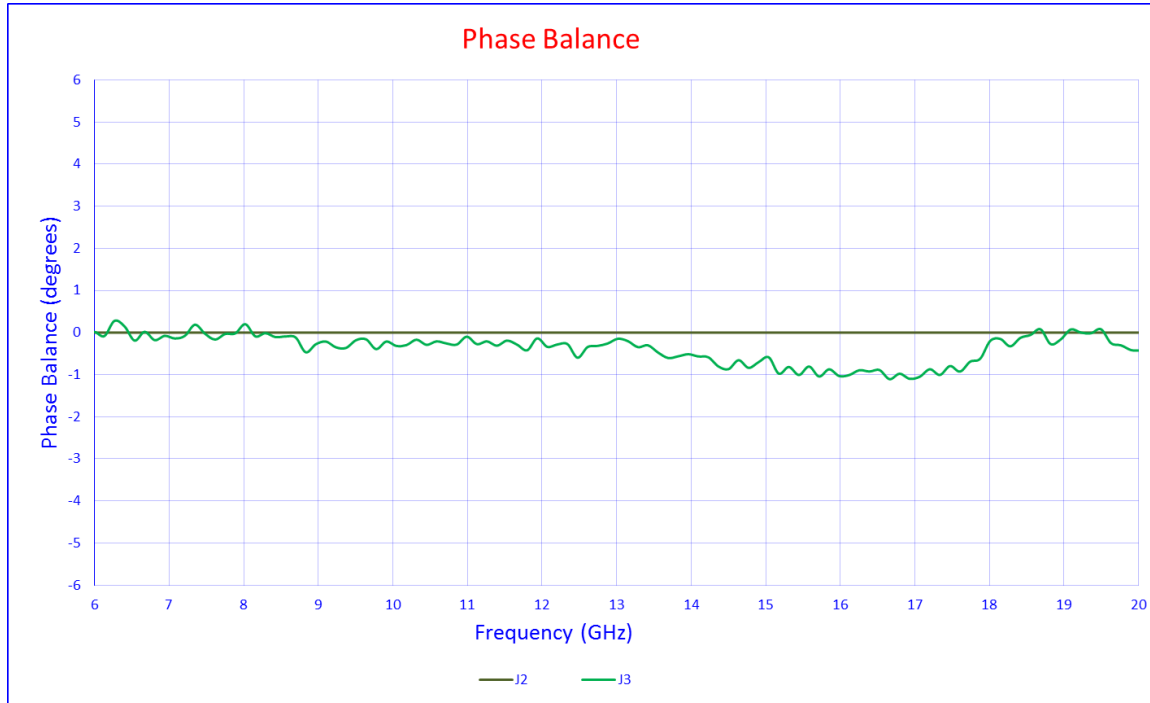
AMPLITUDE BALANCE & DELTA FROM BEST FIT LINE AT 25°C





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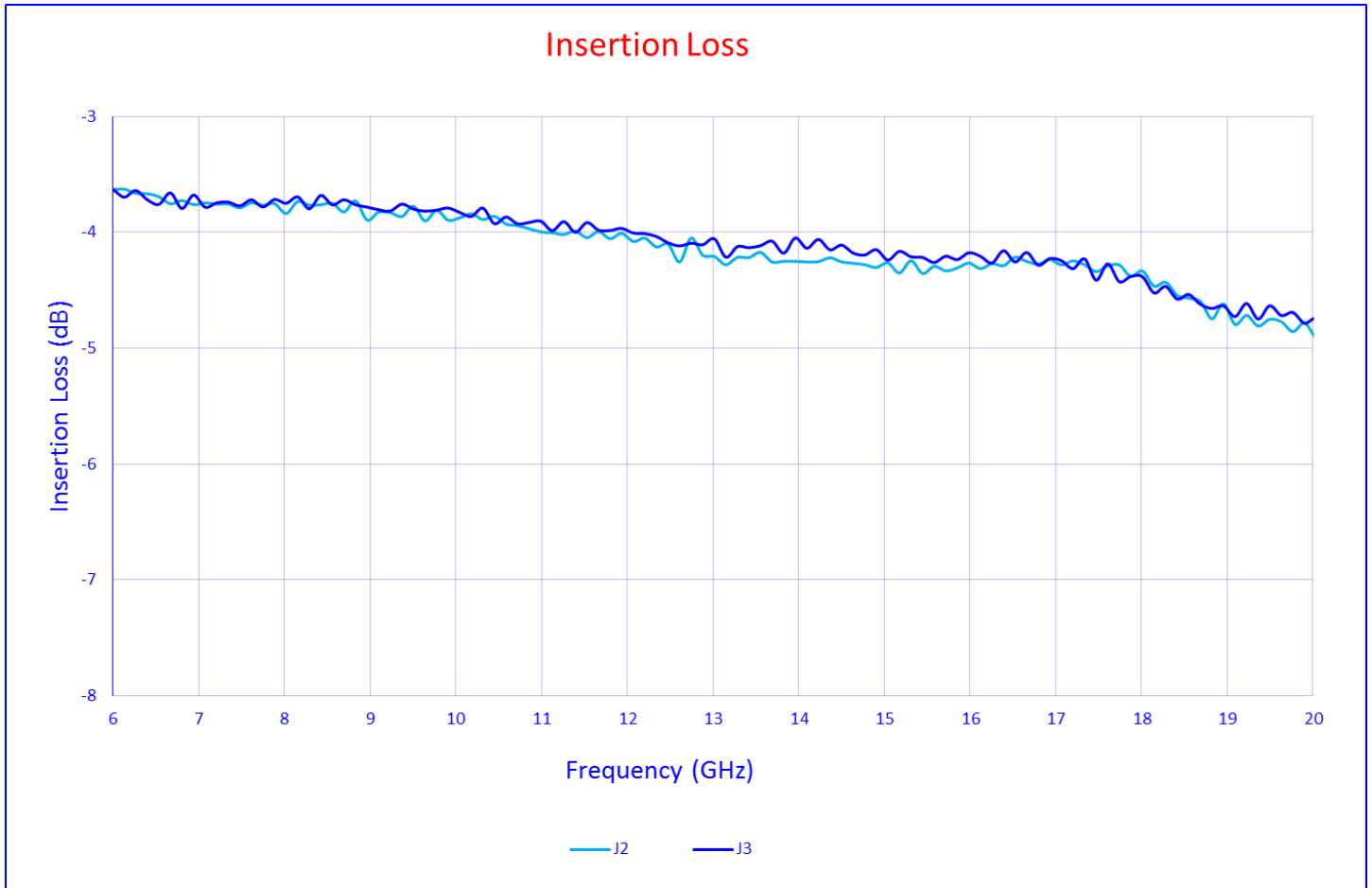
PHASE BALANCE & DELTA FROM BEST FIT LINE AT 25°C





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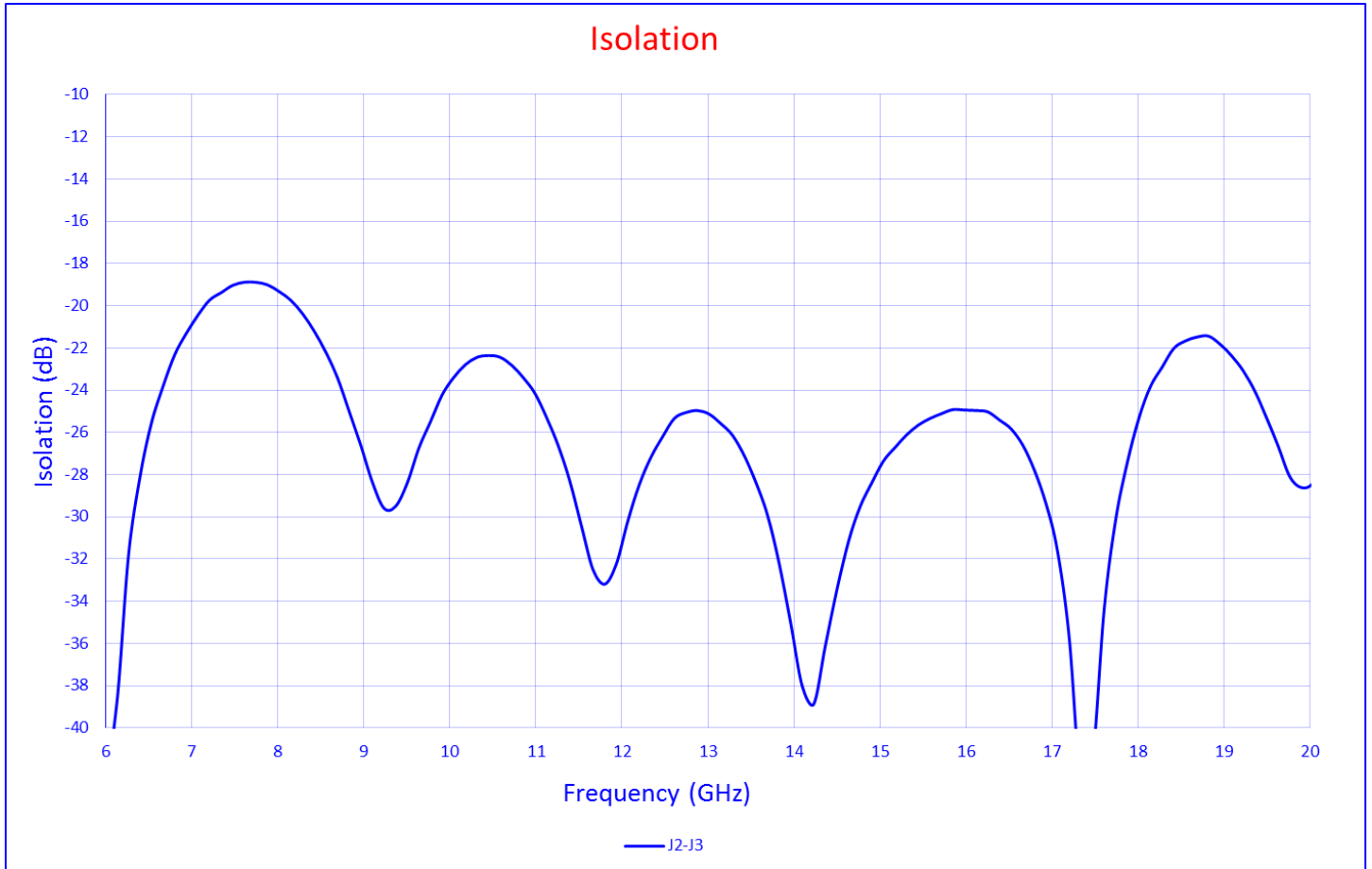
ABSOLUTE INSERTION LOSS WITH THEROETICAL 3 dB POWER
SPLIT AT -55°C





TYPICAL CHARACTERISTICS
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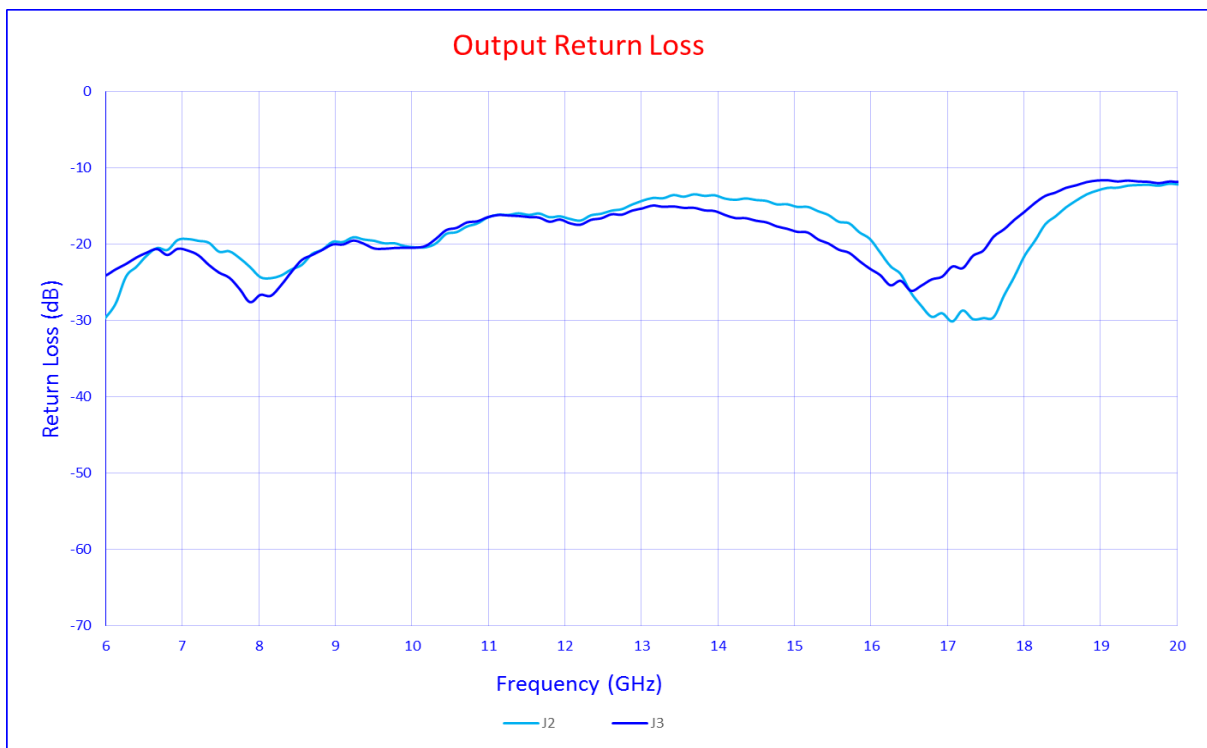
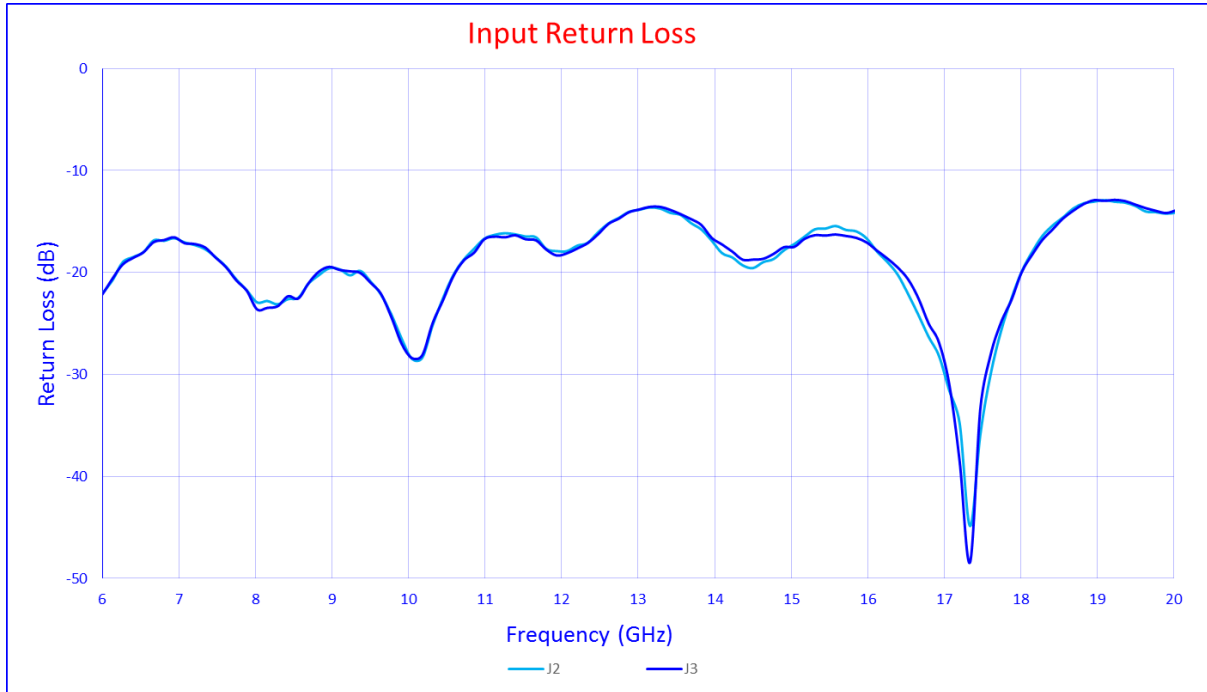
ISOLATION AT -55°C





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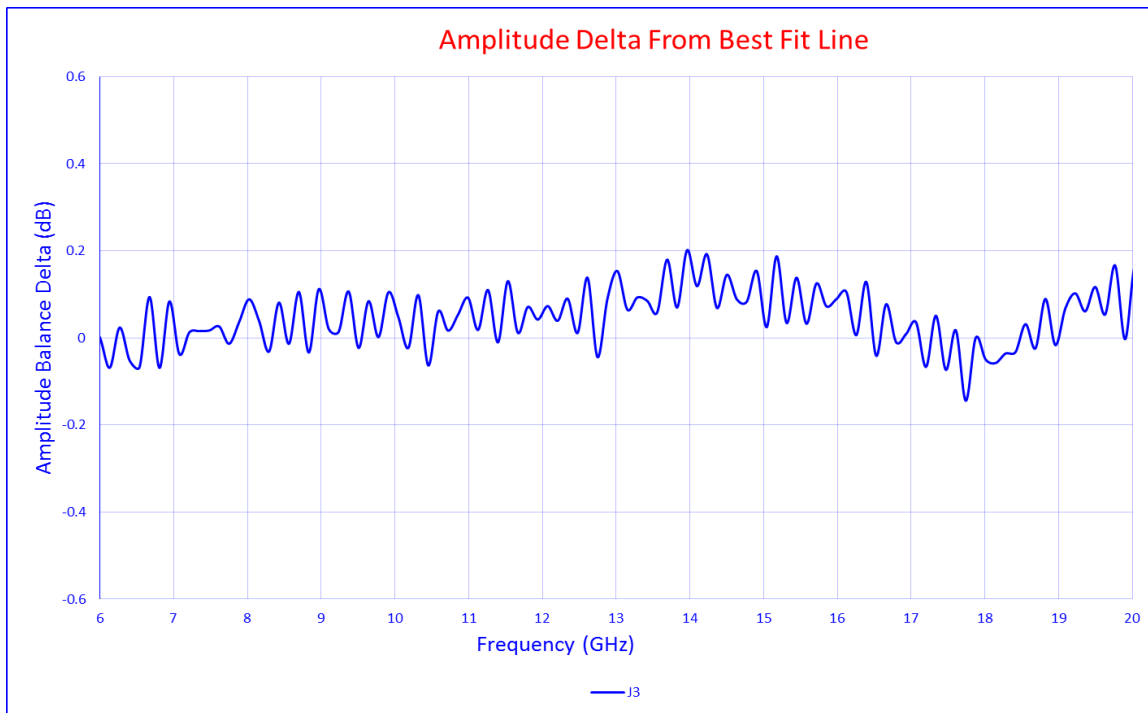
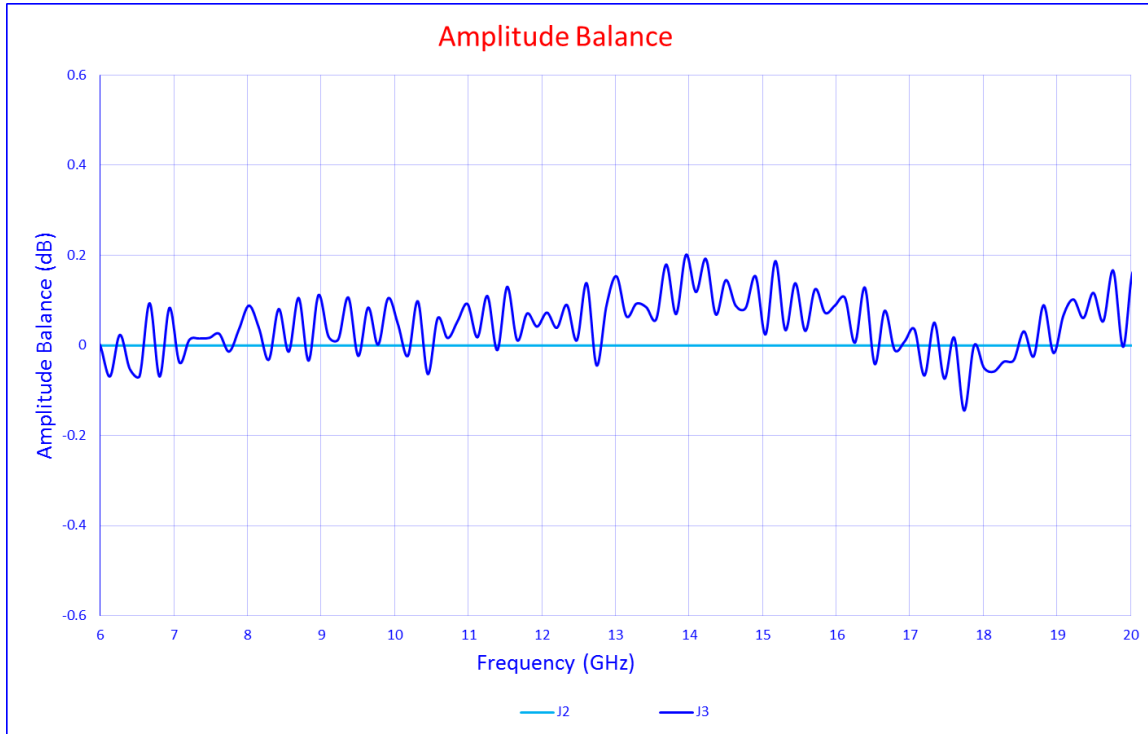
RETURN LOSS AT -55°C





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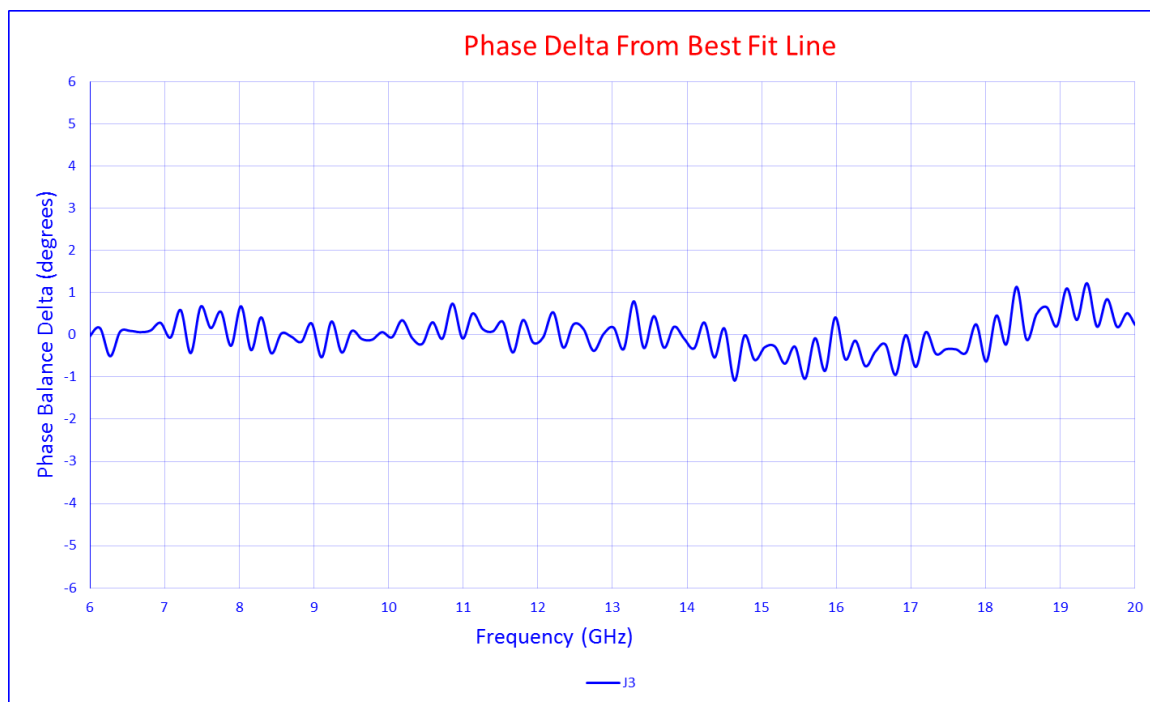
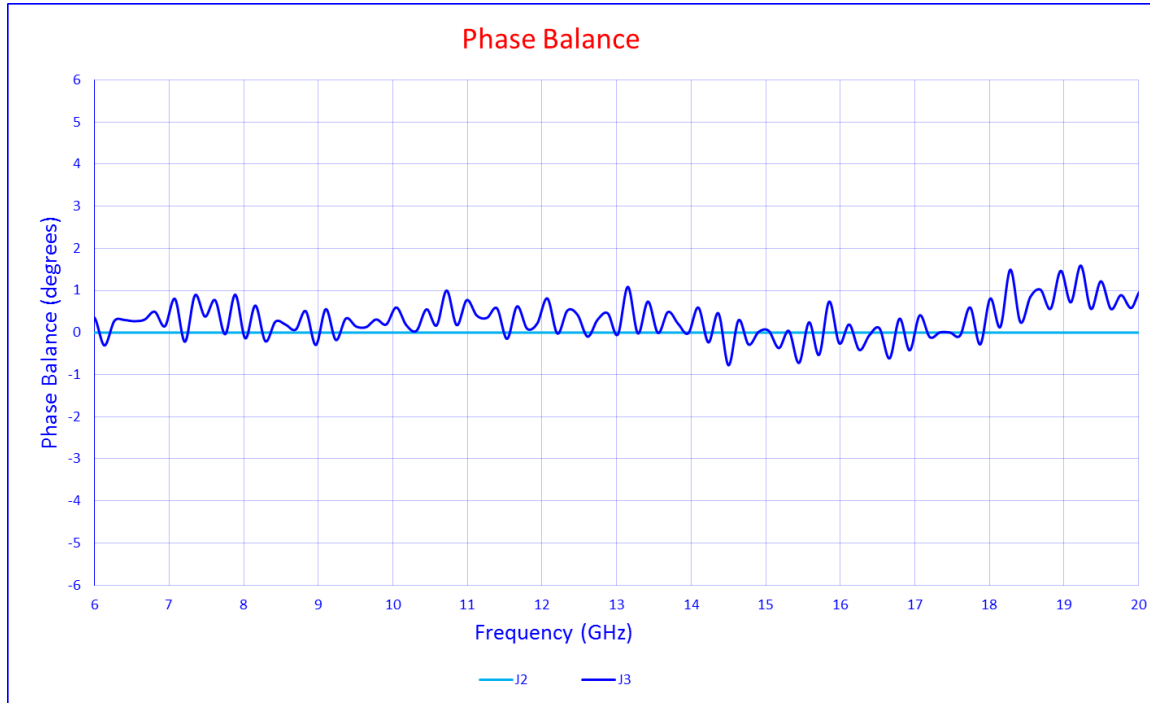
AMPLITUDE BALANCE & DELTA FROM BEST FIT LINE AT -55°C





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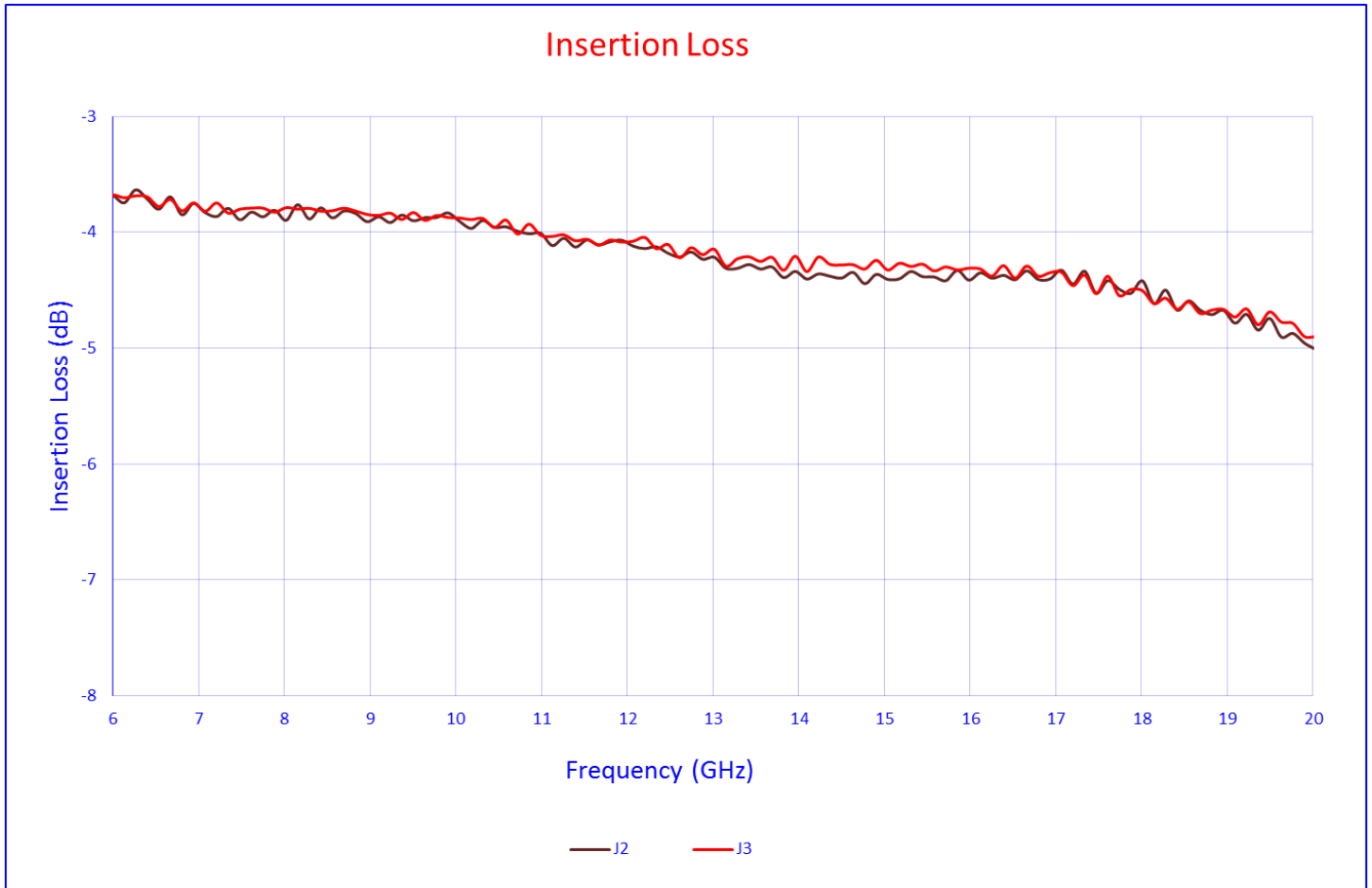
PHASE BALANCE & DELTA FROM BEST FIT LINE AT -55°C





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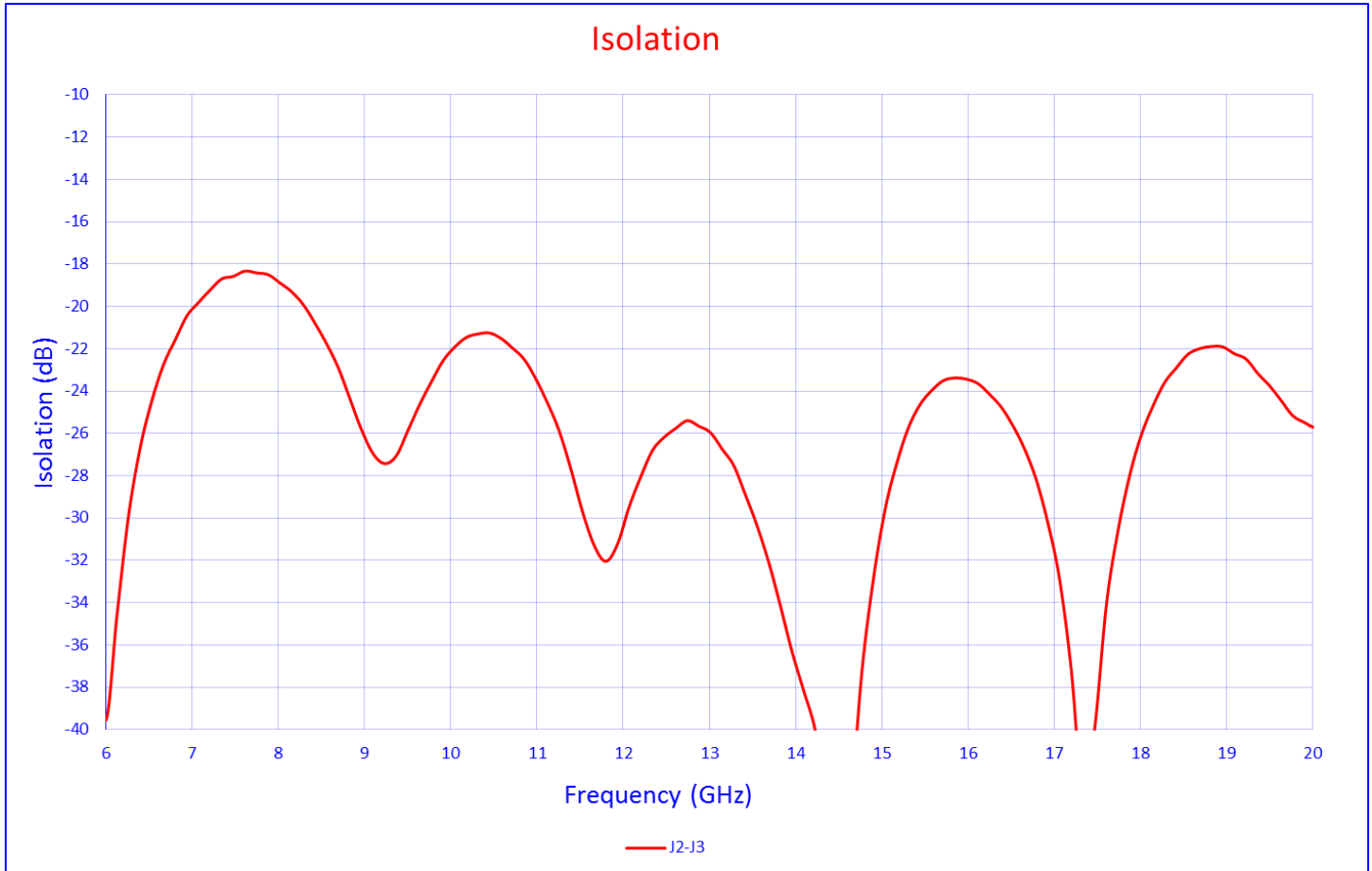
ABSOLUTE INSERTION LOSS WITH THEROETICAL 3 dB POWER
SPLIT AT 85°C





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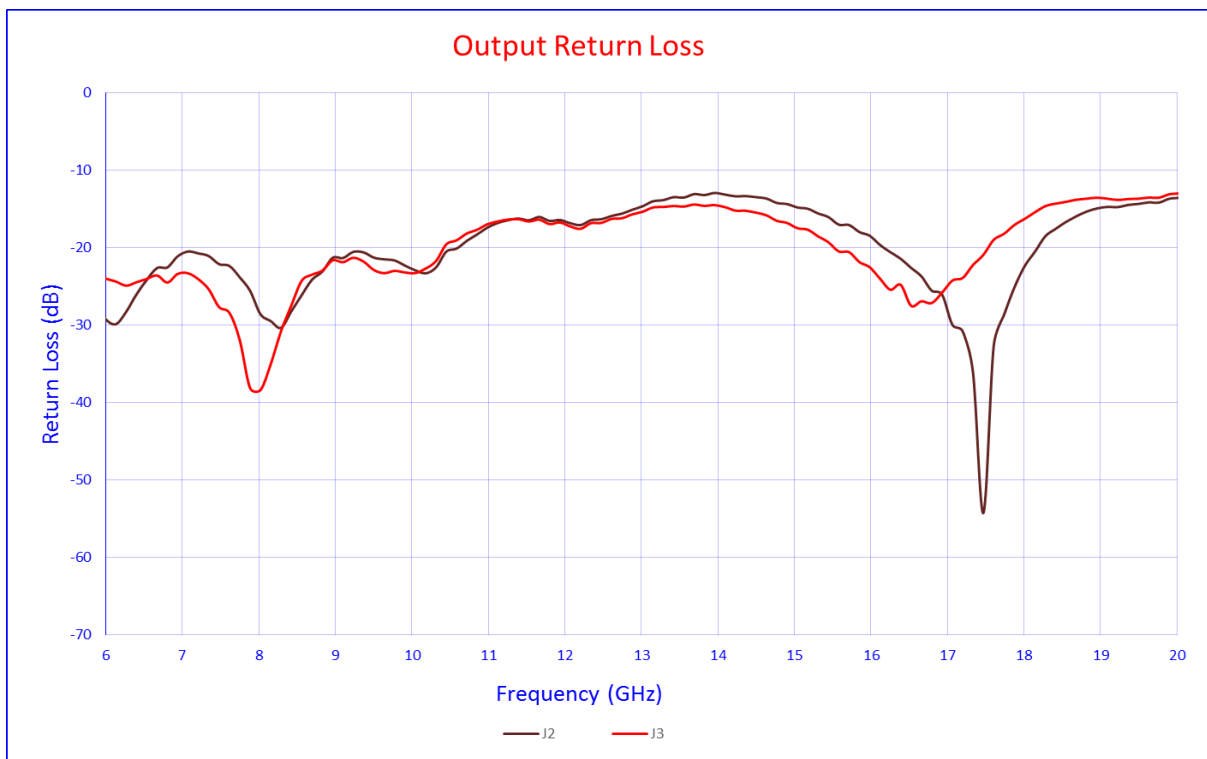
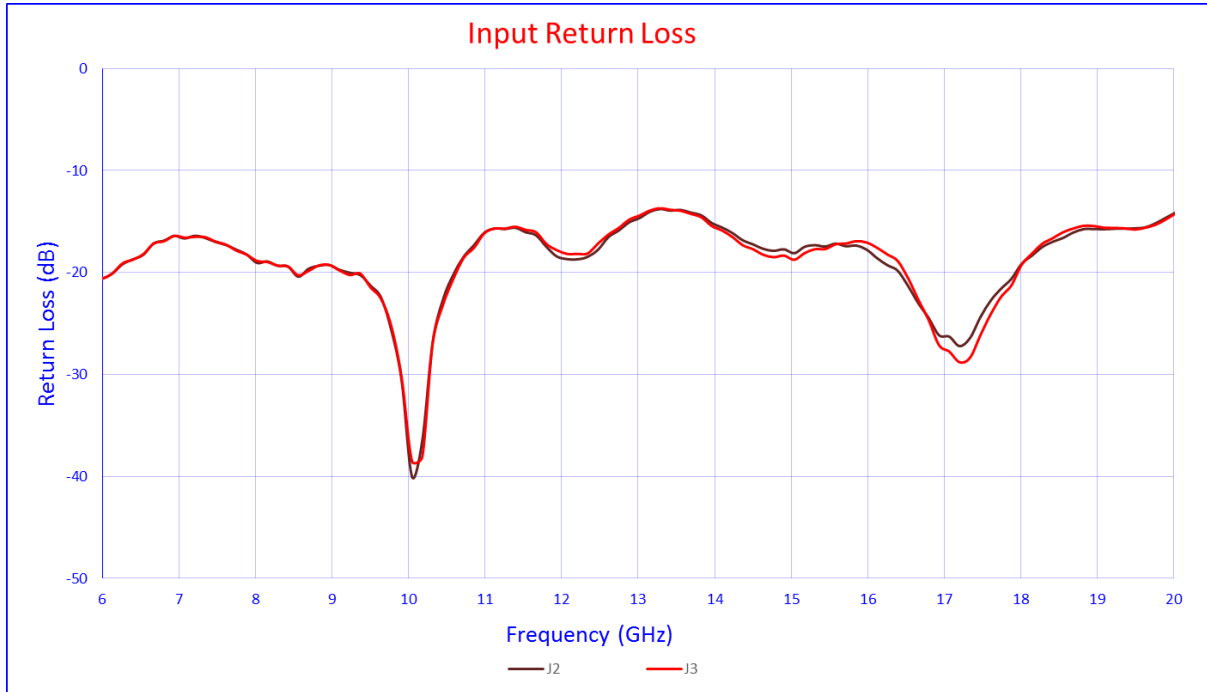
ISOLATION AT 85°C





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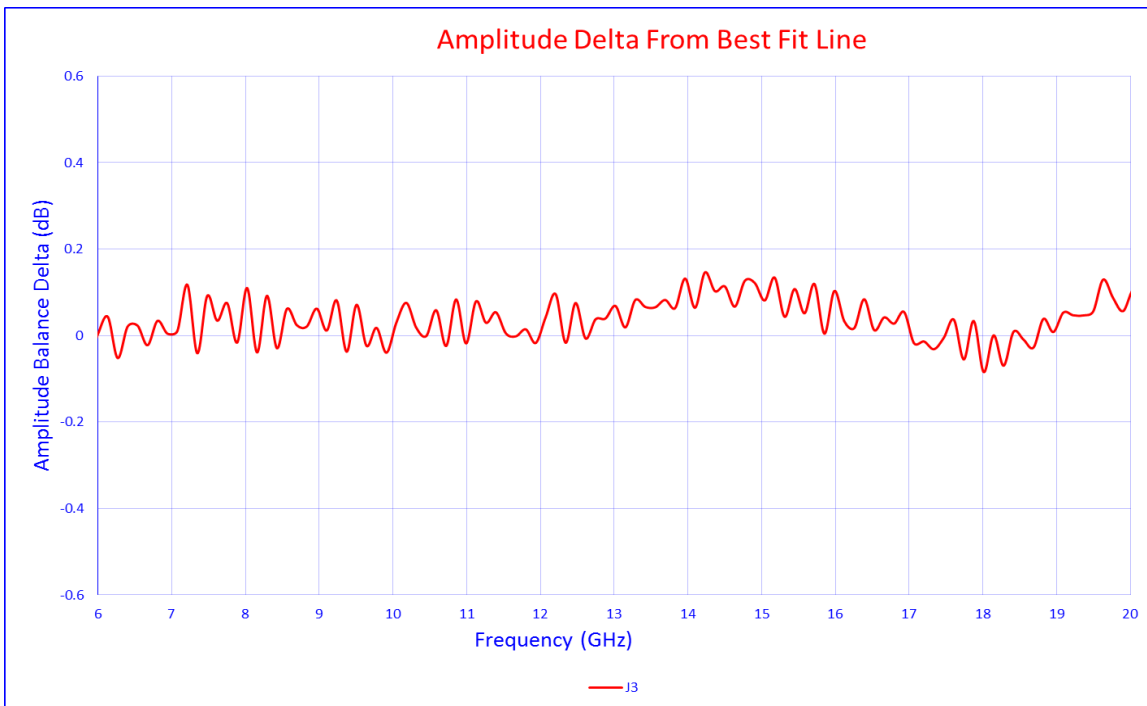
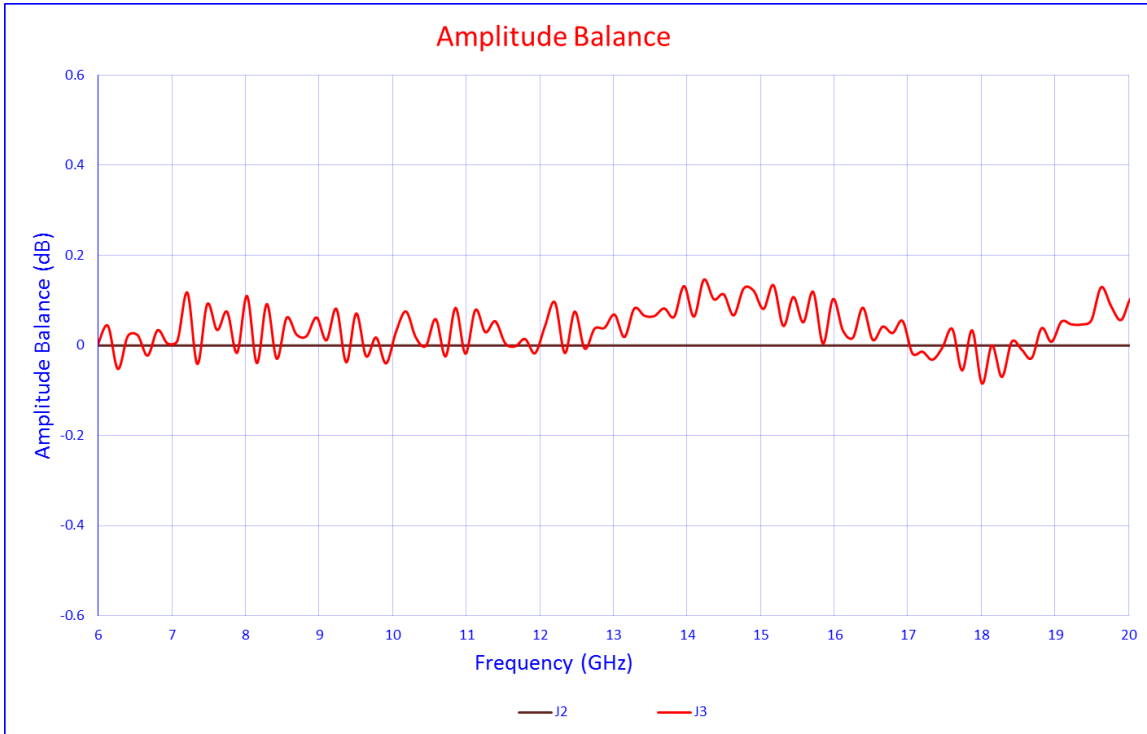
RETURN LOSS AT 85°C





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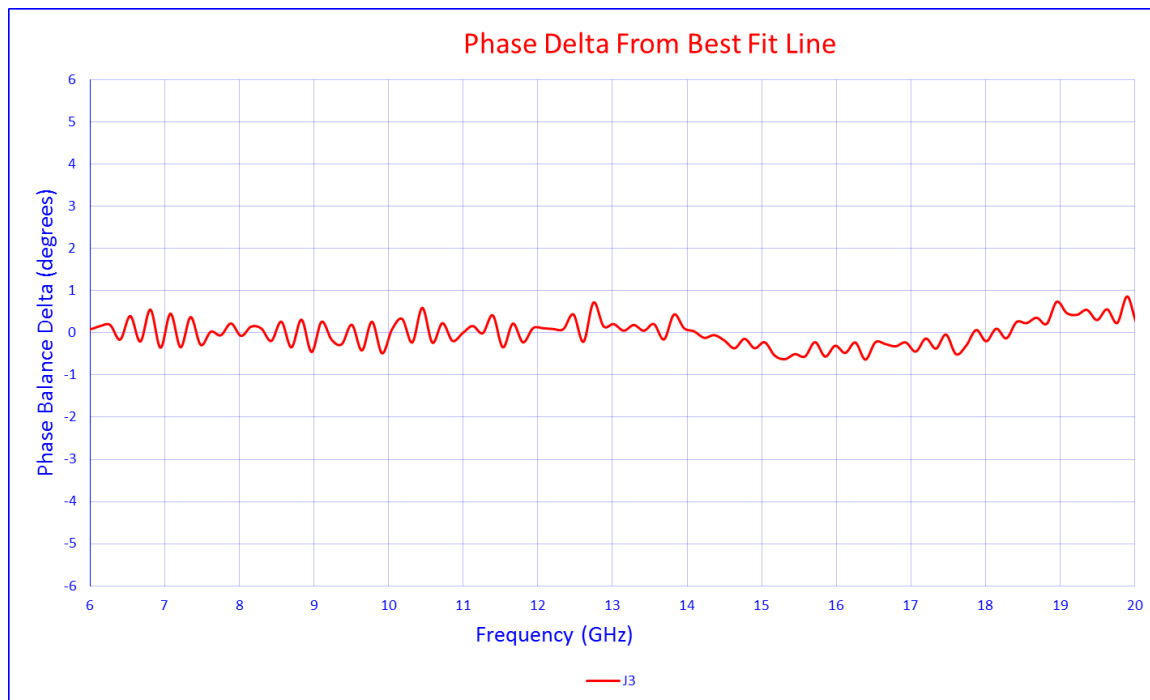
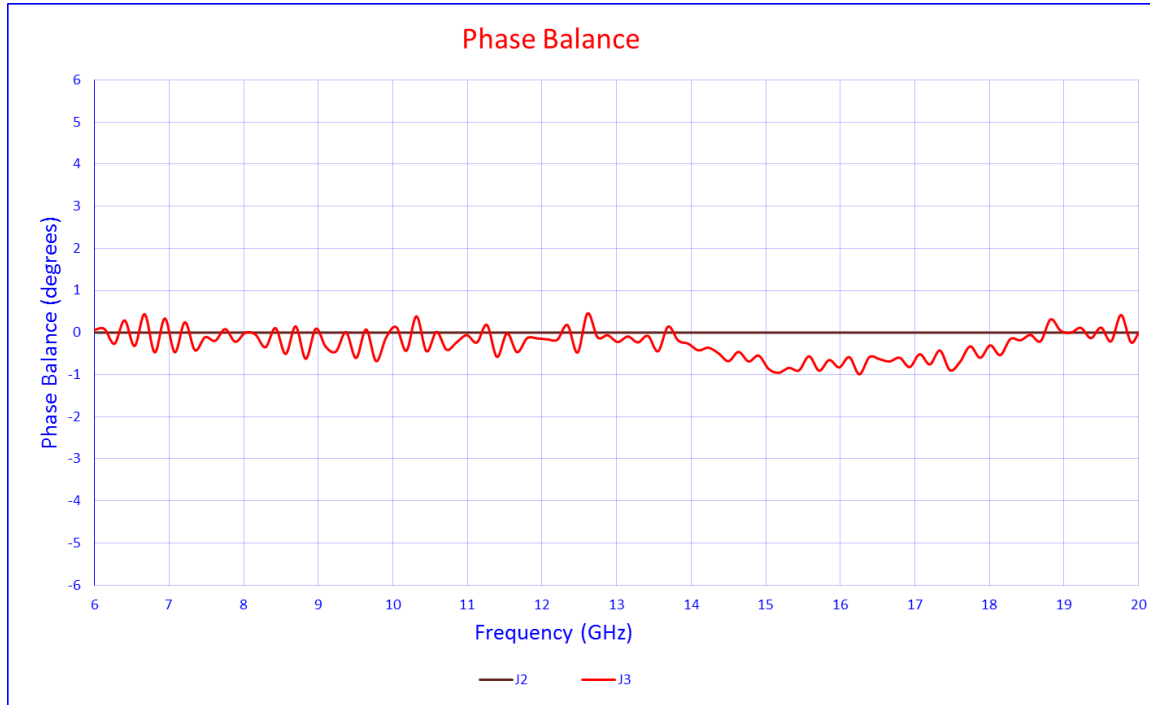
AMPLITUDE BALANCE & DELTA FROM BEST FIT LINE AT 85°C





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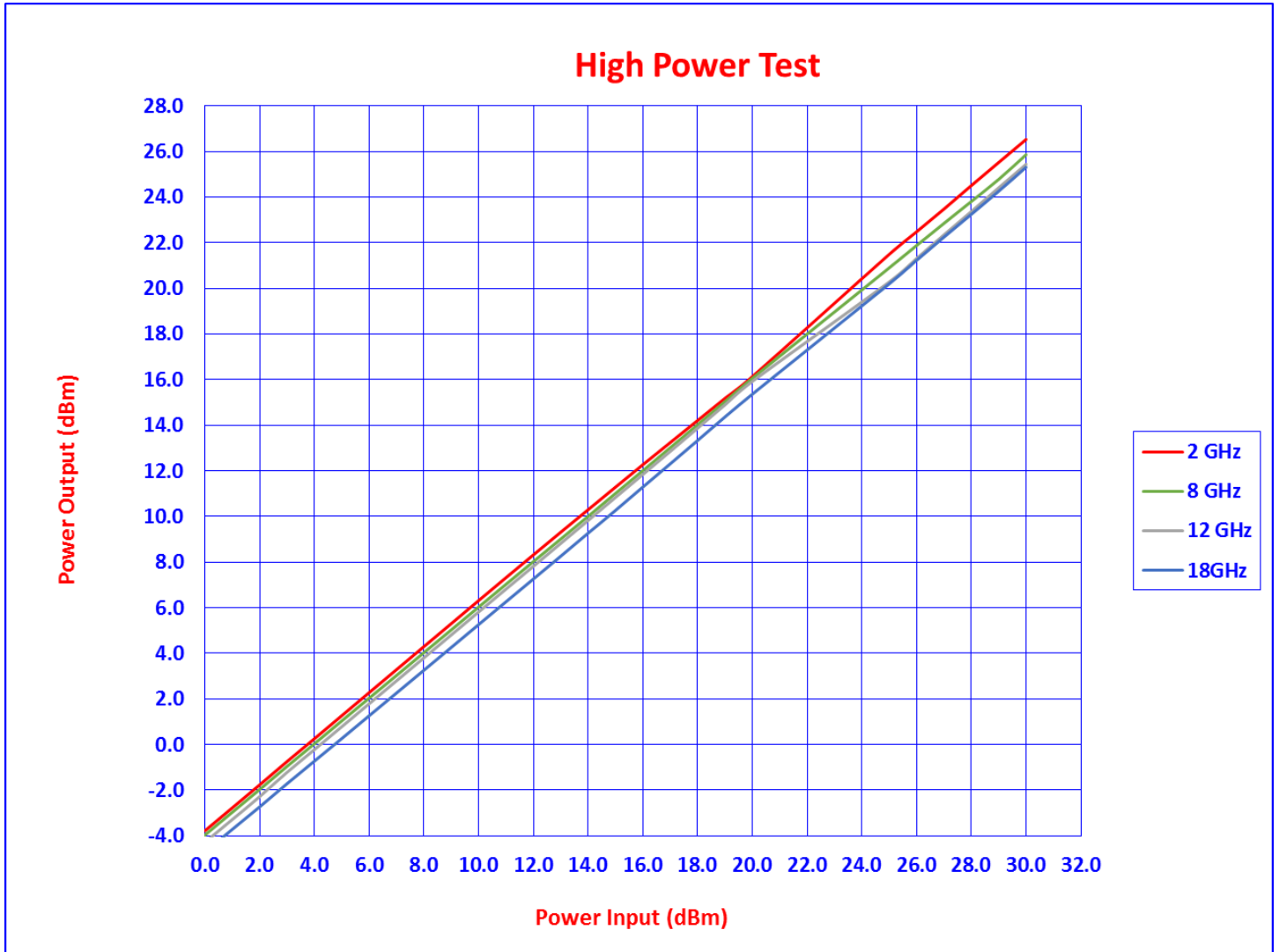
PHASE BALANCE & DELTA FROM BEST FIT LINE AT 85°C





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REVERSE POWER TESTING GRAPH





TYPICAL CHARACTERISTICS
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REVERSE POWER TESTING DATA

2 GHz				8GHz				12GHz				18GHz			
CAL	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	CAL	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	CAL	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	CAL	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS
	0.0	-3.8	3.78		0.0	-3.96	3.96		0.0	-4.29	4.29		0.0	-4.71	4.71
	1.0	-2.8	3.77		1.0	-2.97	3.97		1.0	-3.29	4.29		1.0	-3.72	4.72
	2.0	-1.8	3.76		2.0	-1.97	3.97		2.0	-2.28	4.28		2.0	-2.73	4.73
	3.0	-0.7	3.74		3.0	-0.95	3.95		3.0	-1.22	4.22		3.0	-1.71	4.71
	4.0	0.3	3.74		4.0	0.04	3.96		4.0	-0.22	4.22		4.0	-0.73	4.73
	5.0	1.3	3.73		5.0	1.04	3.96		5.0	0.78	4.22		5.0	0.26	4.74
	6.0	2.3	3.72		6.0	2.03	3.97		6.0	1.79	4.21		6.0	1.26	4.74
	7.0	3.3	3.71		7.0	3.03	3.97		7.0	2.79	4.21		7.0	2.26	4.74
	8.0	4.3	3.71		8.0	4.03	3.97		8.0	3.80	4.20		8.0	3.26	4.74
	9.0	5.3	3.70		9.0	5.03	3.97		9.0	4.81	4.19		9.0	4.26	4.74
	10.0	6.3	3.69		10.0	6.03	3.97		10.0	5.81	4.19		10.0	5.26	4.74
	11.0	7.3	3.68		11.0	7.03	3.97		11.0	6.82	4.18		11.0	6.26	4.74
	12.0	8.3	3.68		12.0	8.02	3.98		12.0	7.82	4.18		12.0	7.26	4.74
	13.0	9.3	3.69		13.0	9.01	3.99		13.0	8.82	4.18		13.0	8.26	4.74
	14.0	10.3	3.70		14.0	10.00	4.00		14.0	9.82	4.18		14.0	9.27	4.73
	15.0	11.3	3.71		15.0	11.01	3.99		15.0	10.83	4.17		15.0	10.27	4.74
	16.0	12.3	3.73		16.0	12.01	3.99		16.0	11.84	4.16		16.0	11.29	4.71
	17.0	13.2	3.76		17.0	13.02	3.99		17.0	12.85	4.15		17.0	12.31	4.69
	18.0	14.2	3.79		18.0	14.02	3.98		18.0	13.87	4.13		18.0	13.33	4.67
	19.0	15.2	3.82		19.0	15.04	3.97		19.0	14.89	4.11		19.0	14.36	4.64
	20.0	16.1	3.87		20.0	16.00	4.00		20.0	15.92	4.08		20.0	15.36	4.64
-38.17	25.0	21.5	3.51	-19.73	25.0	20.90	4.10	-19.45	25.0	20.28	4.72	-18.76	25.0	20.20	4.80
-37.08	26.0	22.5	3.52	-18.74	26.0	21.88	4.12	-18.38	26.0	21.31	4.69	-17.69	26.0	21.23	4.77
-36.05	27.0	23.5	3.52	-17.73	27.0	22.85	4.15	-17.27	27.0	22.35	4.65	-16.58	27.0	22.25	4.75
-35.01	28.0	24.5	3.49	-16.73	28.0	23.81	4.19	-16.16	28.0	23.37	4.63	-15.44	28.0	23.25	4.75
-33.99	29.0	25.5	3.48	-15.69	29.0	24.78	4.22	-14.99	29.0	24.41	4.59	-14.23	29.0	24.26	4.74
-32.98	30.0	26.5	3.47	-14.59	30.0	25.86	4.14	-13.77	30.0	25.44	4.56	12.86	30.0	25.31	4.69