

Typical Characteristics  
ON  
PMSN-2DR-05-STD-OPT28-XB59D

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER PMSN-2DR-05-STD-OPT28-XB59D IS A REFLECTIVE, SINGLE POLE, TWO THROW PIN DIODE SWITCH THAT OPERATES OVER THE 2.0 GHz TO 8.0 GHz FREQUENCY RANGE. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.



February 15, 2023

Tested and Reported By:  
E. Kretz

Product Feature

**DESCRIPTION:**  
PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER PMSN-2DR-05-STD-OPT28-XB59D IS A REFLECTIVE, SINGLE POLE, TWO THROW PIN DIODE SWITCH THAT OPERATES OVER THE 2.0 GHz TO 8.0 GHz FREQUENCY RANGE. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.

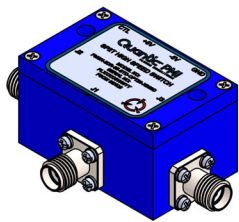
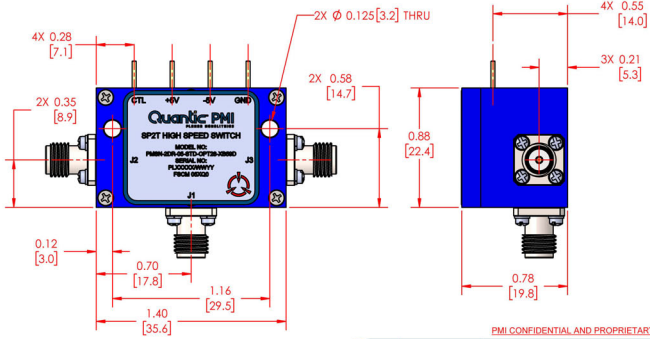
**SPECIFICATIONS:**

- FREQUENCY RANGE:..... 2.0 TO 8.0 GHz
- ISOLATION:..... 60 dB MIN
- INSERTION LOSS:..... 1.2 dB TYP, 1.4 dB MAX
- VSWR:..... 1.65:1 MAX
- INPUT POWER:..... +20 dBm CW MAX
- SURVIVAL POWER:..... 1W CW OR 10W PEAK 1 usec PW
- SWITCHING SPEED:..... RISE: 15 ns MAX  
FALL: 15 ns MAX  
DELAY ON: 100 ns MAX  
DELAY OFF: 100 ns MAX
- DC VOLTAGES :..... +5V @ 100 mA MAX  
-5V @ 75 mA MAX
- CONTROL SIGNAL:..... TTL LOGIC  
"0" = J1 TO J2 "LOW LOSS"  
"1" = J1 TO J3 "LOW LOSS"
- CONNECTORS:..... SMA FEMALE (FIELD REPLACABLE)
- DC & CONTROL:..... SOLDER PINS
- FINISH:..... PAINTED BLUE

**ENVIRONMENTAL RATINGS:**

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

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

PMI CONFIDENTIAL AND PROPRIETARY

DATE	DESCRIPTION	DATE	APPROVED
A1	ORIGINAL RELEASE	11/2002	

APPROVALS	DATE	FILE	OUTLINE
M. HANEKN	11/2002		

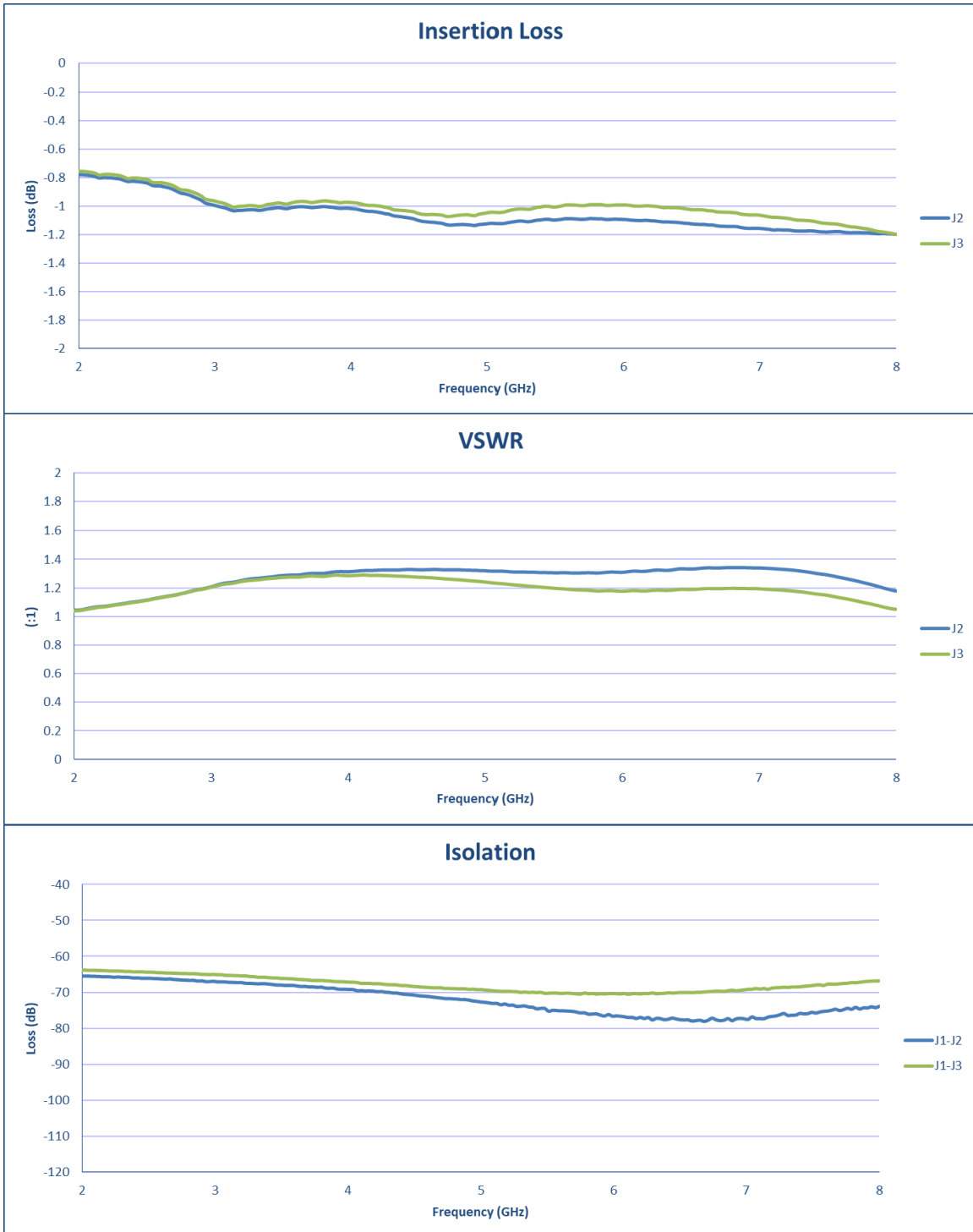
PMSN-2DR-05-STD-OPT28-XB59D		REV	A1
B	05XQ0	27045020	
WORKS 2.1		SHEET 1 OF 1	

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PMSN-2DR-05-STD-OPT28-XB59D

TEST DATA @ 25 °C

TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS
1	Frequency Range:	2.0 GHz to 8.0 GHz	2.0 GHz to 8.0 GHz
2	Insertion Loss:	1.2 dB Typ. 1.4 MAX	1.18 dB See Plot
3	Isolation:	60dB Min	64.61 dB See Plot
4	VSWR:	1.65:1 MAX	In 1.36:1 See Plot
5	Switching Speed:	100 ns MAX	20 ns
6	Operational Input Power:	+20 dBm CW MAX	+20 dBm CW MAX
7	DC Supply:	+5 VDC @ 65 mA MAX -5 VDC @ 65 mA MAX	+5 VDC @ 13 mA -5 VDC @ 19 mA
8	Control:	TTL "0" → (J1-J2) TTL "1" → (J1-J3)	TTL "0" → (J1-J2) TTL "1" → (J1-J3)

25 °C

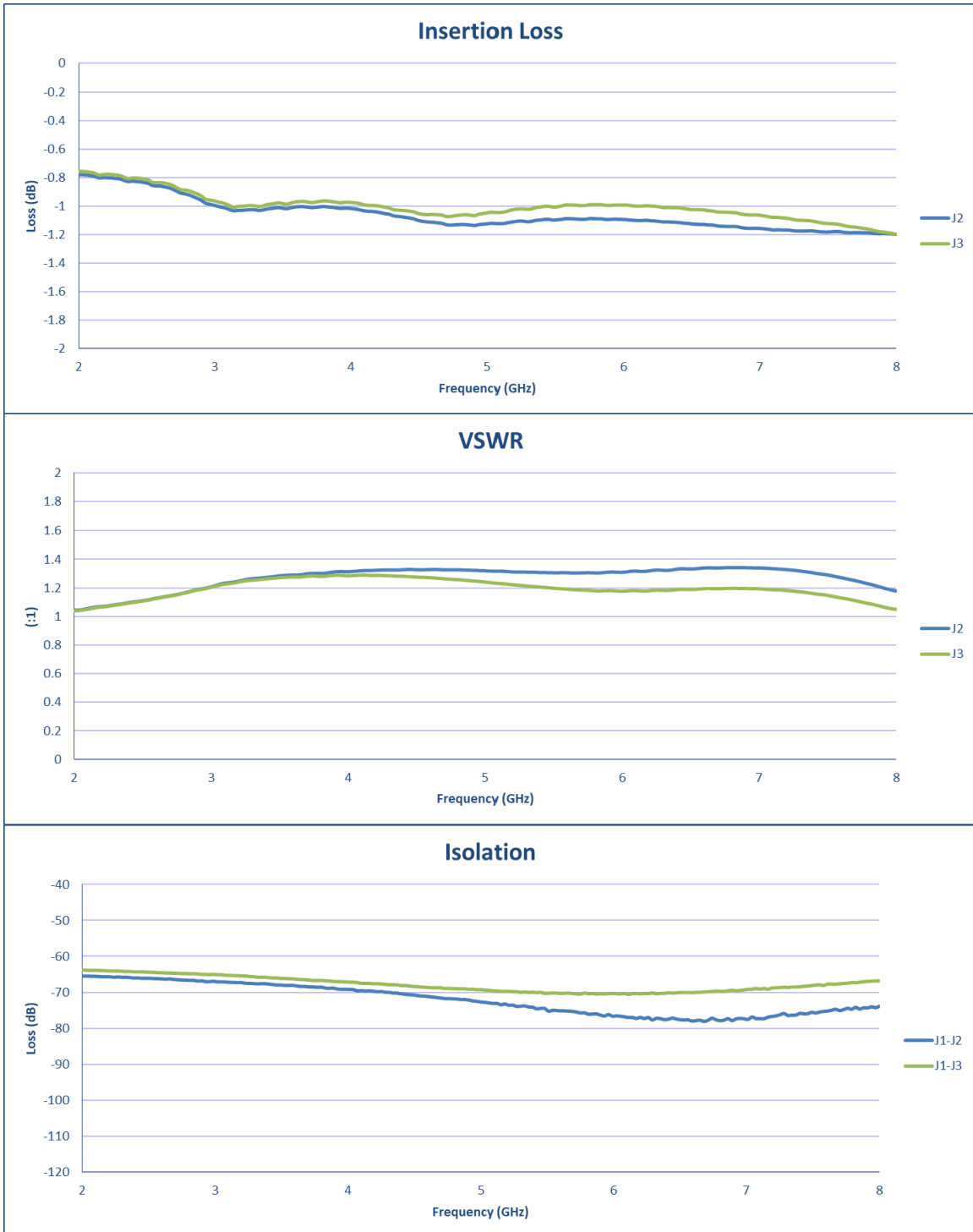


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TEST DATA @ 85 °C

TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS
1	Frequency Range:	2.0 GHz to 8.0 GHz	2.0 GHz to 8.0 GHz
2	Insertion Loss:	1.2 dB Typ. 1.4 MAX	1.2 dB See Plot
3	Isolation:	60dB Min	63.83 dB See Plot
4	VSWR:	1.65:1 MAX	In 1.34:1 See Plot
5	Switching Speed:	100 ns MAX	20 ns
6	Operational Input Power:	+20 dBm CW MAX	+20 dBm CW MAX
7	DC Supply:	+5 VDC @ 100 mA MAX -5 VDC @ 75 mA MAX	+5 VDC @ 13 mA -5 VDC @ 19 mA
8	Control:	TTL "0" → (J1-J2) TTL "1" → (J1-J3)	TTL "0" → (J1-J2) TTL "1" → (J1-J3)

85 °C

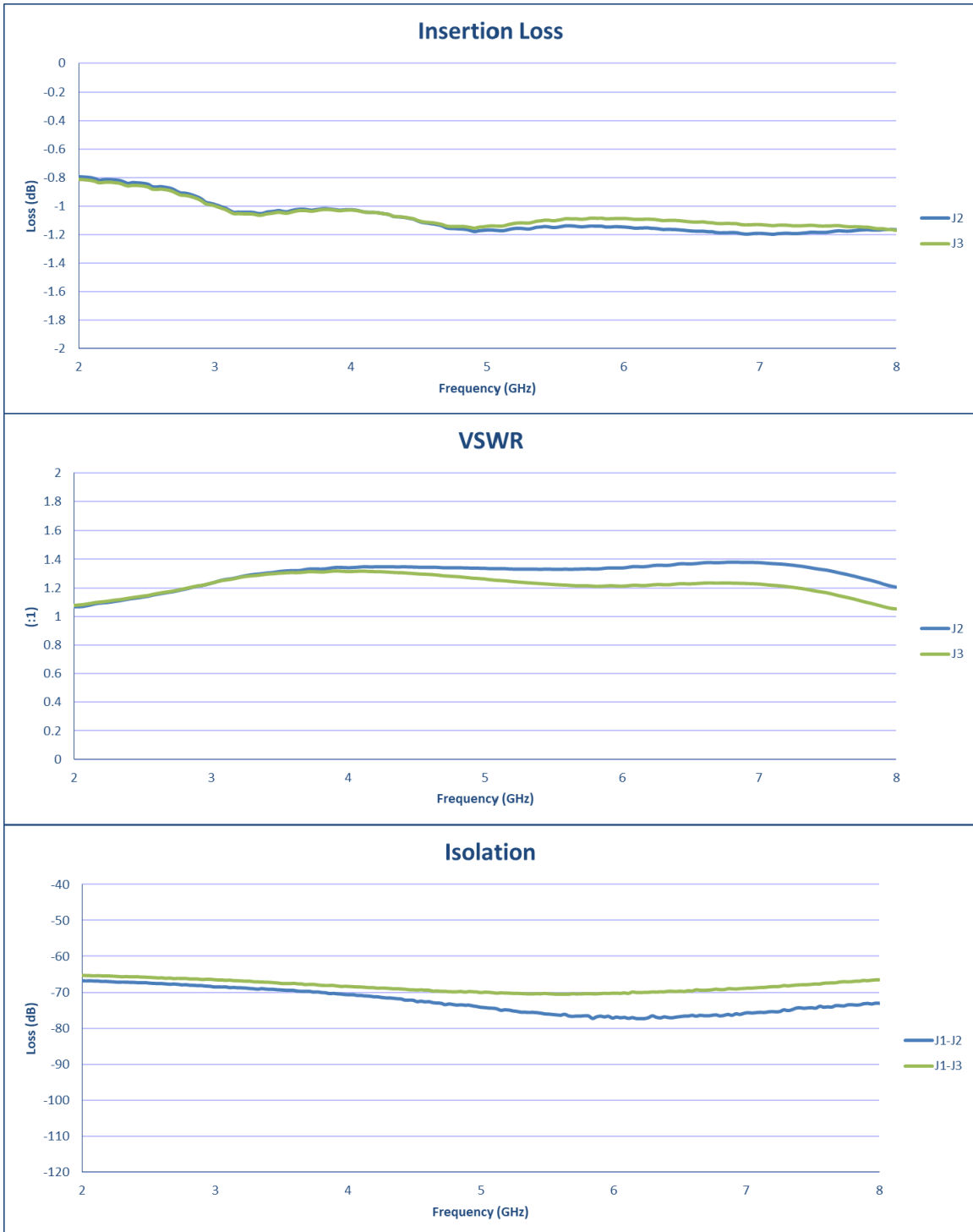


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TEST DATA @ -55 °C

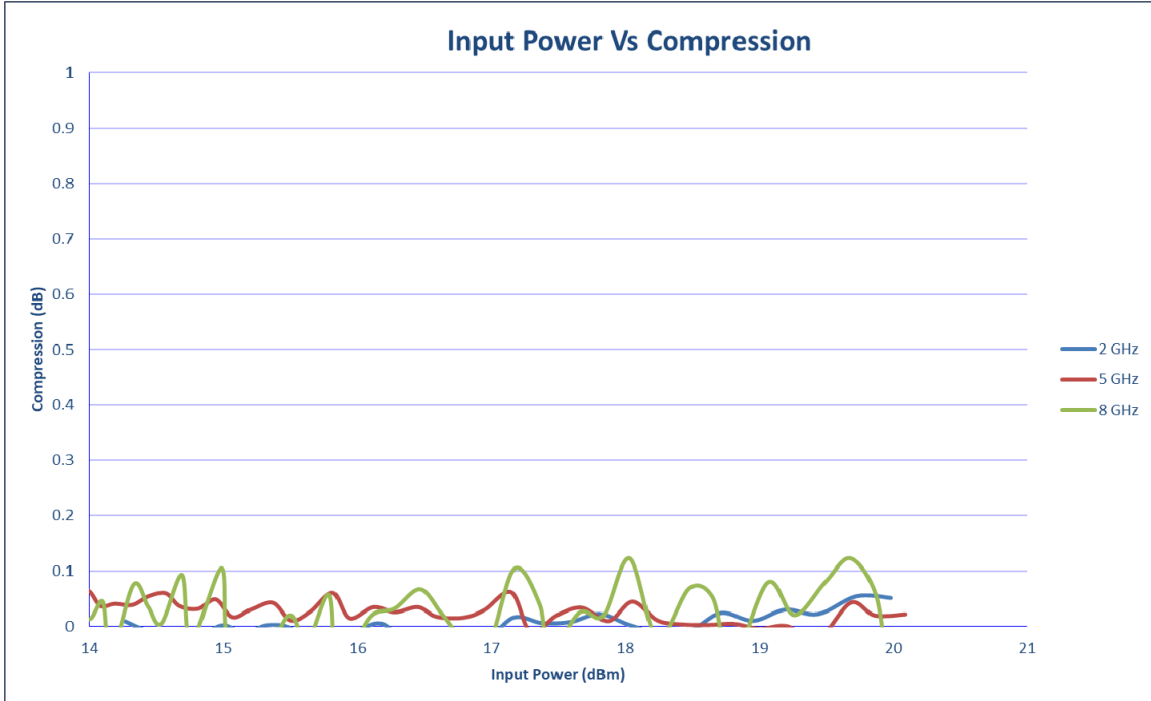
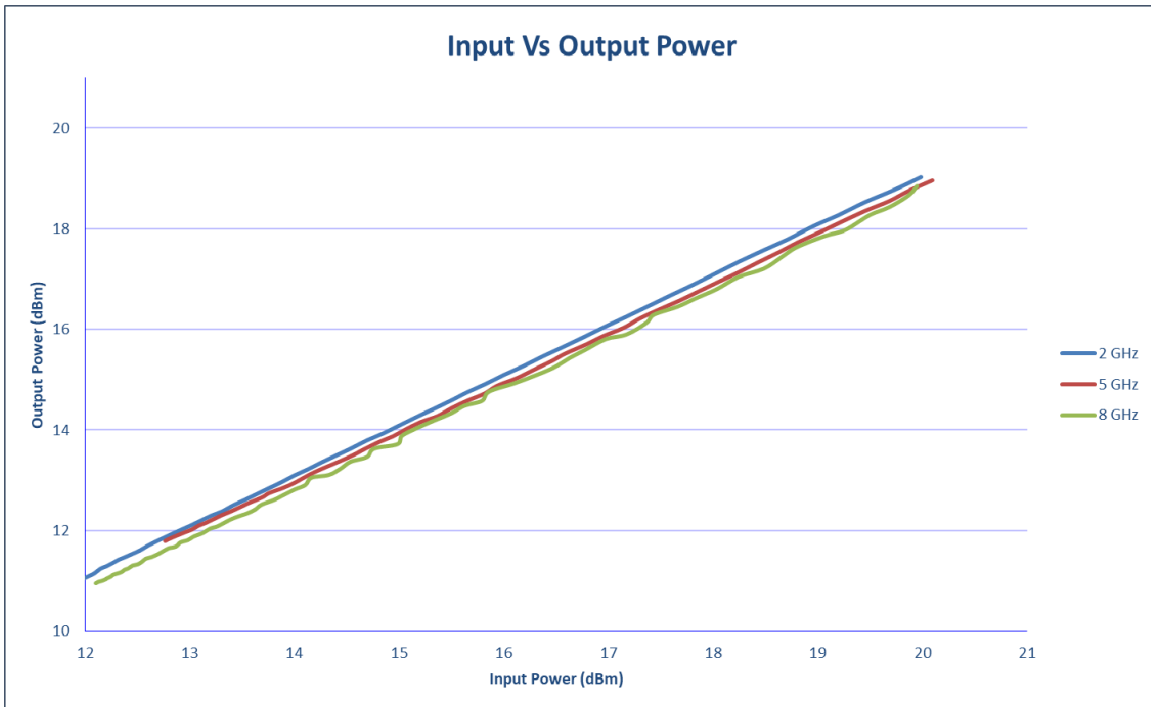
TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS
1	Frequency Range:	2.0 GHz to 8.0 GHz	2.0 GHz to 8.0 GHz
2	Insertion Loss:	1.2 dB Typ. 1.4 MAX	1.2 dB See Plot
3	Isolation:	60dB Min	65.28 dB See Plot
4	VSWR:	1.65:1 MAX	In 1.38:1 See Plot
5	Switching Speed:	100 ns MAX	20 ns
6	Operational Input Power:	+20 dBm CW MAX	+20 dBm CW MAX
7	DC Supply:	+5 VDC @ 100 mA MAX -5 VDC @ 75 mA MAX	+5 VDC @ 13 mA -5 VDC @ 19 mA
8	Control:	TTL "0" → (J1-J2) TTL "1" → (J1-J3)	TTL "0" → (J1-J2) TTL "1" → (J1-J3)

-55 °C

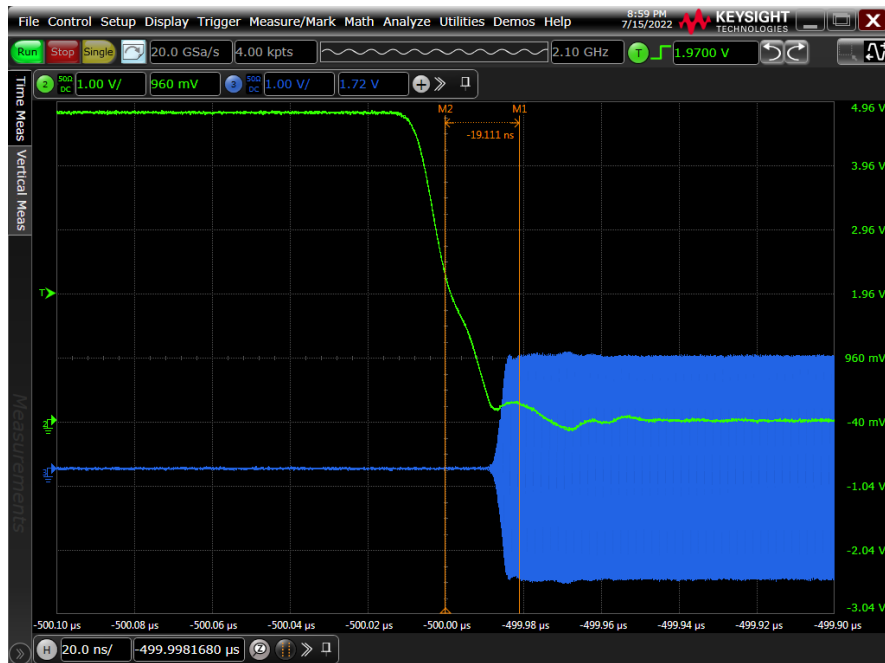
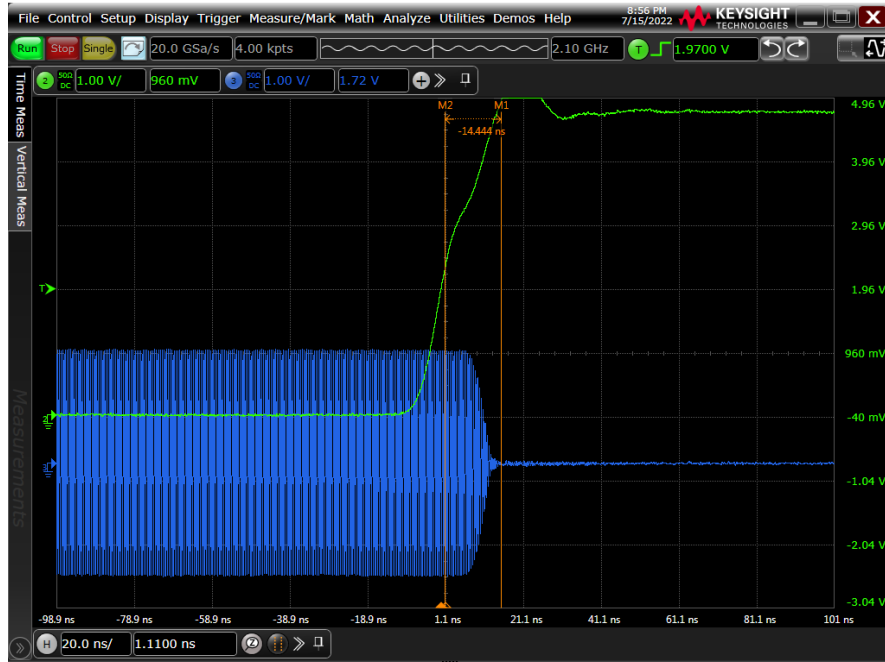




High Power Test.



Switching Speed



Green = Signal TTL  
Blue = Signal RF

Full Pulse



Green = Signal TTL  
Yellow = Signal RF