

**TYPICAL CHARACTERISTICS  
ON  
P3T-250M40G-60-T-55-292FF**

**PMI MODEL P3T-250M40G-60-T-55-292FF IS AN ABSORPTIVE, SINGLE POLE, THREE THROW PIN DIODE SWITCH CAPABLE OF SWITCHING WITHIN 50 ns. THIS SWITCH OPERATES OVER THE 250 MHz TO 40 GHz FREQUENCY RANGE WITH OVER 60 dB OF ISOLATION.**



Reported By: S. Lange  
Tested By: K. Wagaman

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### P3T-250M40G-60-T-55-292FF

### PRODUCT FEATURE

**DESCRIPTION:**

PMI MODEL P3T-250M40G-60-T-55-292FF IS AN ABSORPTIVE, SINGLE POLE, THREE THROW PIN DIODE SWITCH CAPABLE OF SWITCHING WITHIN 50 ns. THIS SWITCH OPERATES OVER THE 250 MHz TO 40 GHz FREQUENCY RANGE WITH OVER 60 dB OF ISOLATION.

**SPECIFICATIONS:**

- FREQUENCY RANGE:..... 250 MHz TO 40 GHz
- ISOLATION:..... 60 dB MIN
- INSERTION LOSS:..... 7.0 dB MAX
- VSWR IN/OUT:..... 2.0:1 TYP
- INPUT POWER:..... +25 dBm CW (UP TO 18 GHz) MAX  
+23 dBm CW (18 TO 40 GHz) MAX  
+20 dBm HOT SWITCHING
- SURVIVAL POWER:..... 1W PEAK
- RF SWITCHING SPEED:..... 50 ns TYP  
RISE TIME: 15 ns TYP  
FALL TIME: 15 ns TYP  
DELAY ON: 50 ns TYP  
DELAY OFF: 50 ns TYP
- DC VOLTAGE:..... +5 V @ 200 mA TYP  
-5 V @ 100 mA TYP
- CONTROL SIGNAL:..... 2-BIT DECODED TTL LOGIC  
SEE LOGIC TABLE
- CONNECTORS IN/OUT:..... 2.92 mm FEMALE CONNECTORS
- CONTROL CONNECTORS:..... SOLDER PINS
- SIZE:..... 1.0" X 1.0" X 0.5"
- FINISH:..... PAINTED BLUE

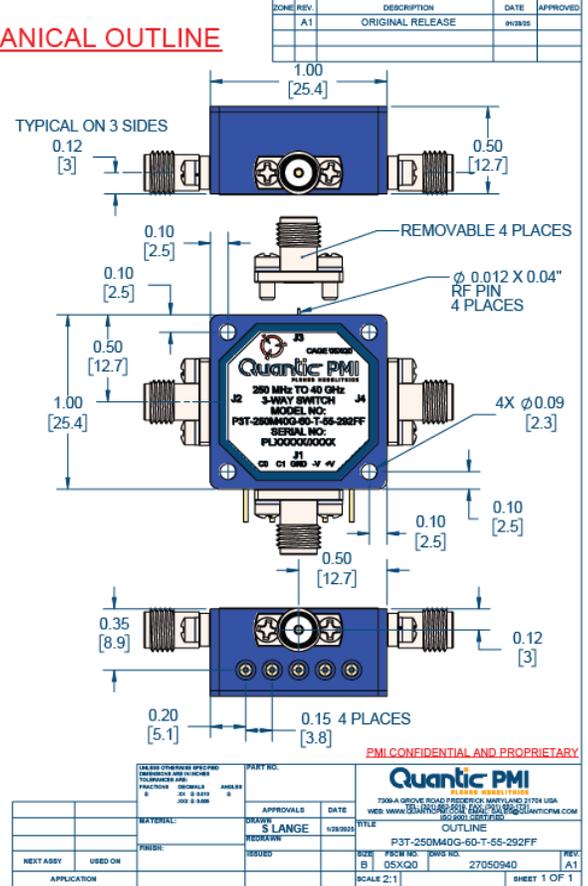
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0	0	ON	OFF	OFF
0	1	OFF	ON	OFF
1	0	OFF	OFF	ON
1	1	OFF	OFF	OFF

**ENVIRONMENTAL RATINGS:**

- TEMPERATURE:..... -40°C TO +85°C (OPERATING)  
-55°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

**MECHANICAL OUTLINE**



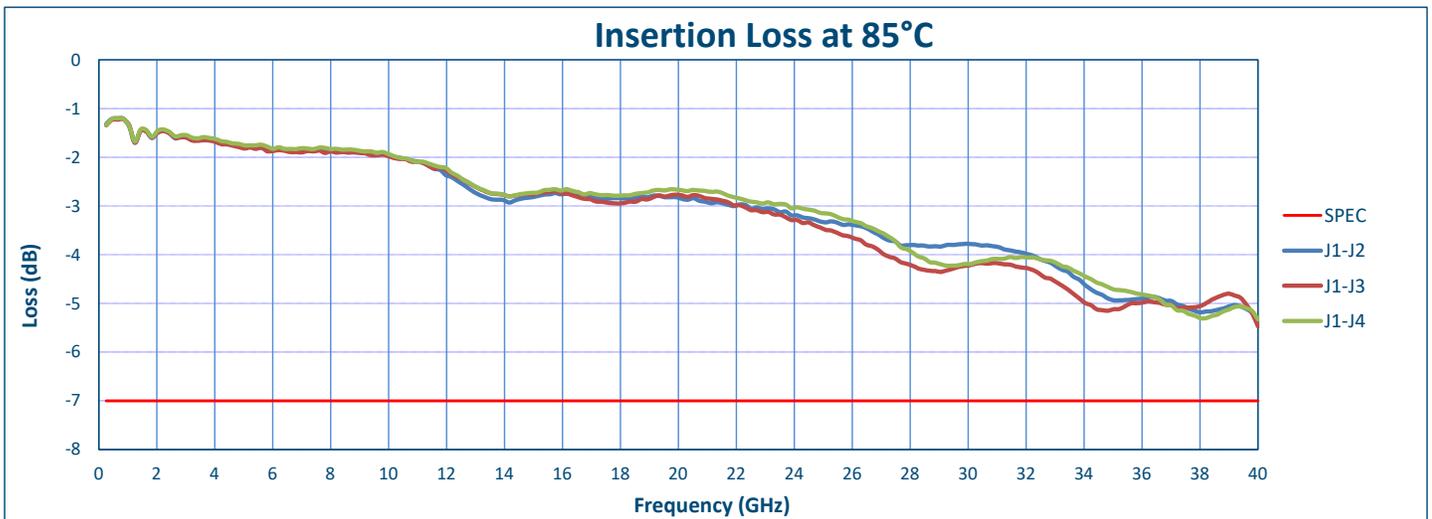
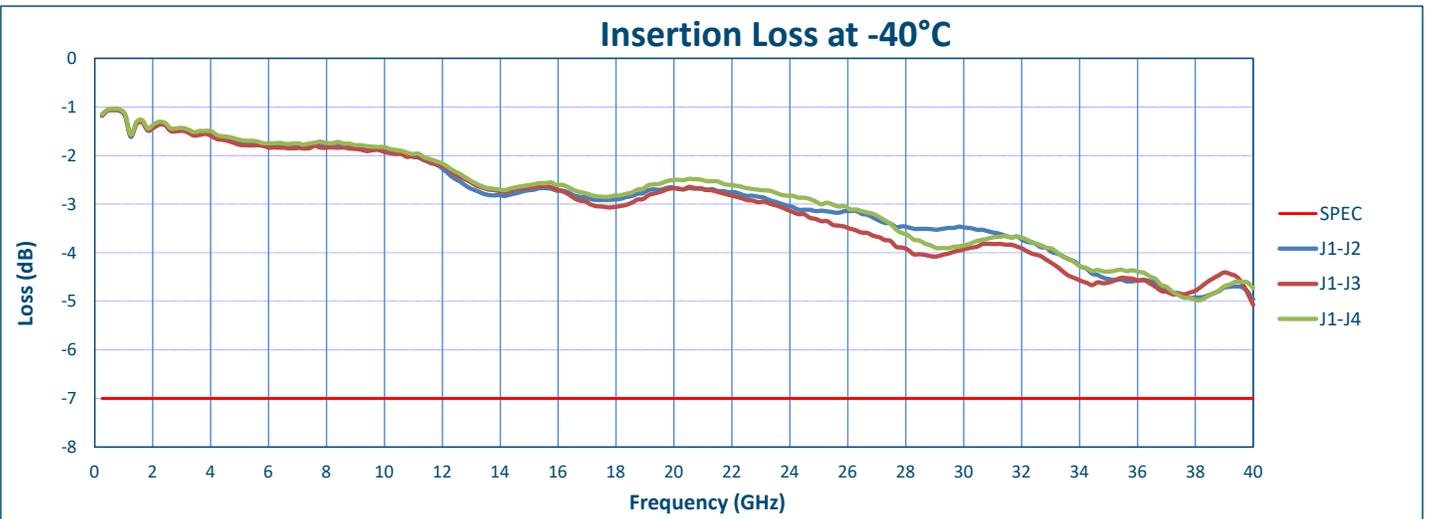
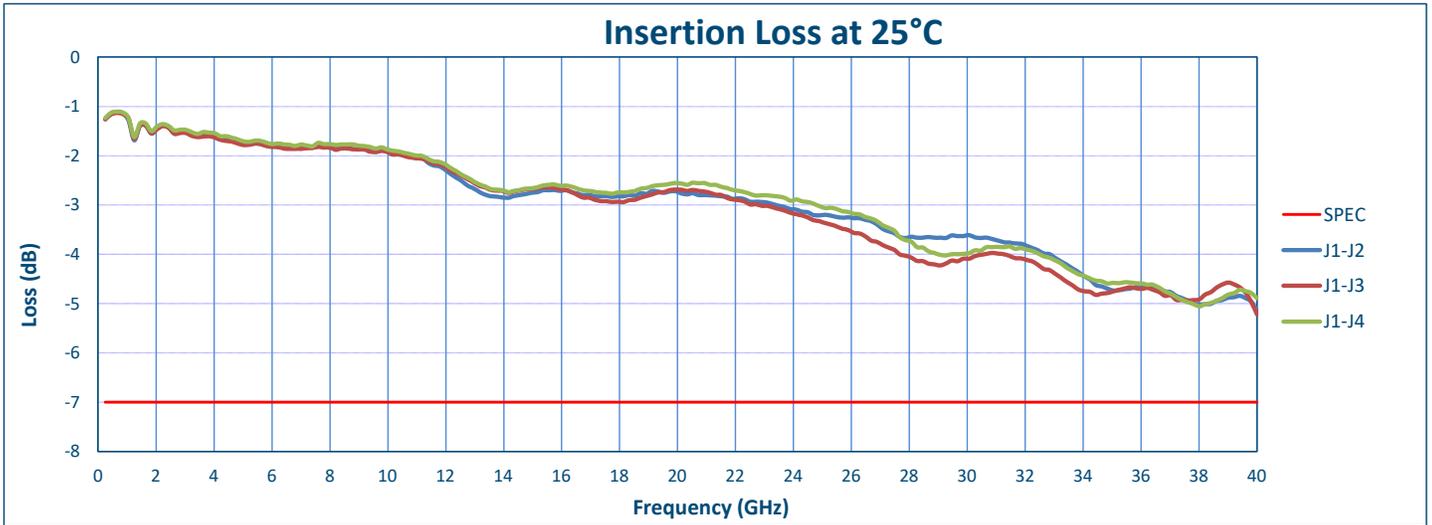
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**TEST DATA**

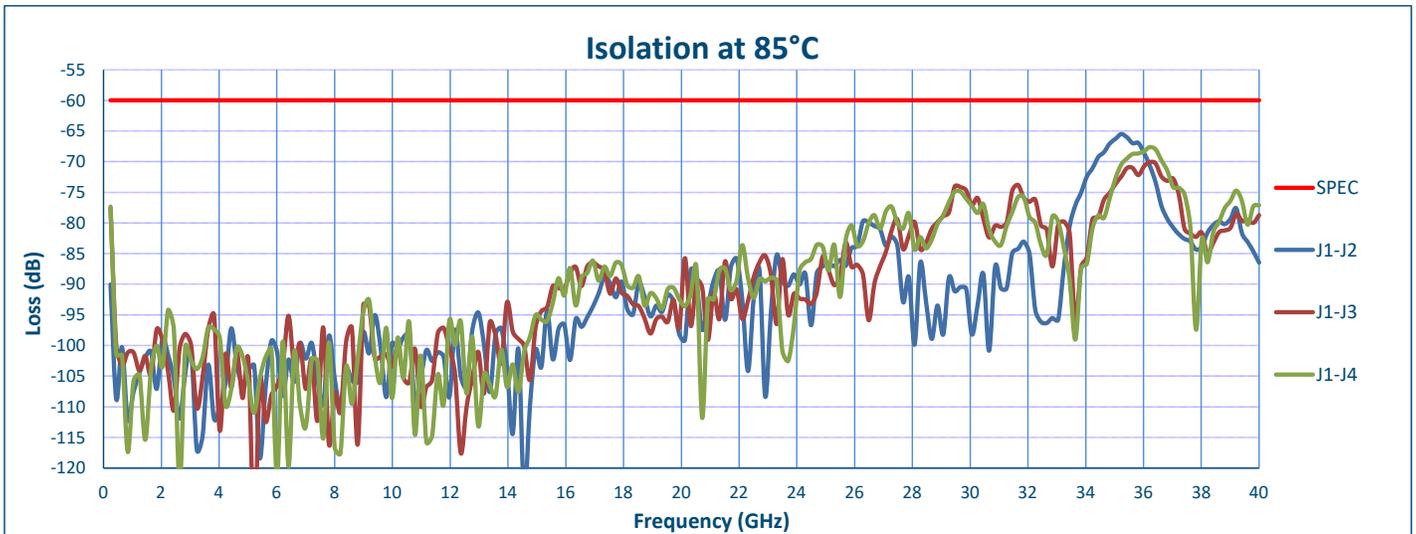
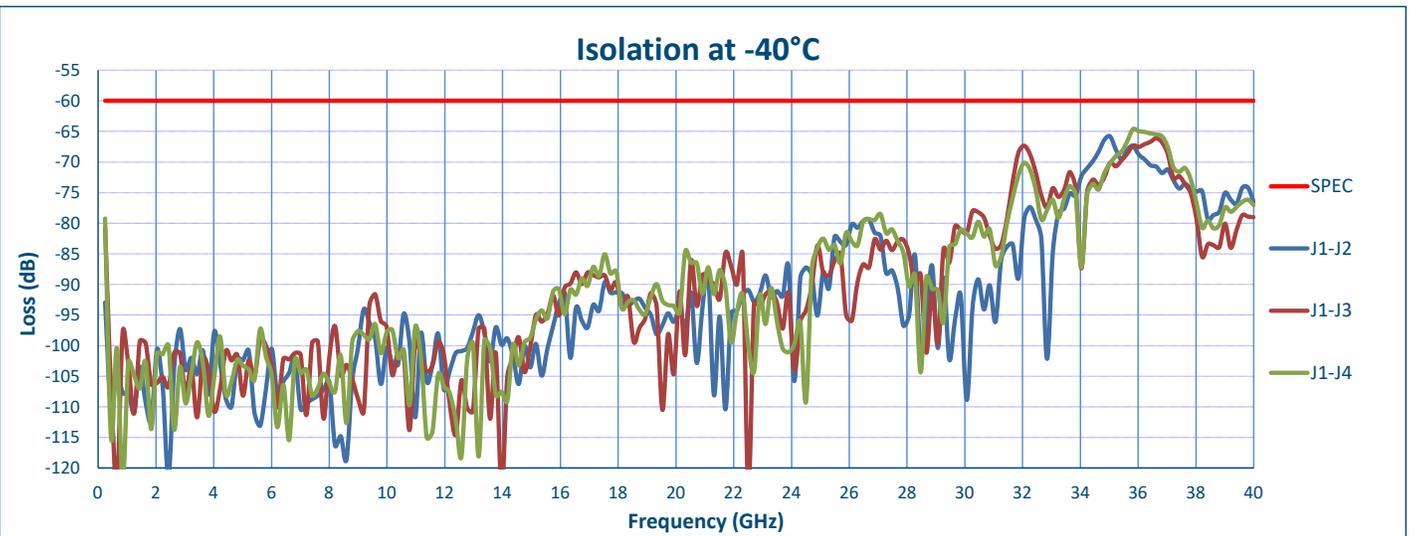
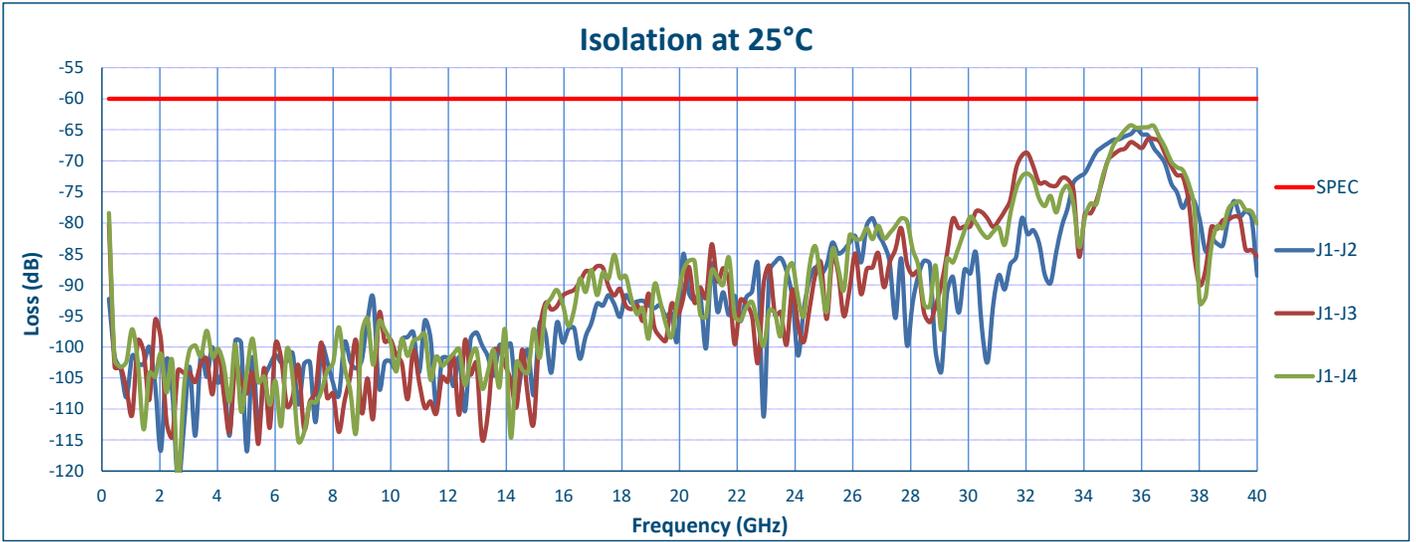
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS		
			+25°C	-40°C	85°C
1	Frequency Range:	250 MHz to 40 GHz	250 MHz to 40 GHz		
2	Insertion Loss:	7.0 dB Max.	5.22 dB	5.08 dB	5.47 dB
3	VSWR Input/Output	2.0:1 Typ.	2.11 :1	2.25 :1	2.04 :1
4	Isolation:	60 dB Min.	64.28 dB	64.6 dB	65.5 dB
5	Switching Speed	50 ns Typ. Rise/Fall Time: 15 ns Typ. Delay On/Off: 50 ns Typ.	See Graphs		
6	Input Power:	+25 dBm CW (Up to 18 GHz) Max. +23 dBm CW (18 to 40 GHz) Max. +20 dBm (Hot Switching)	+25 dBm CW (Up to 18 GHz) Max. +23 dBm CW (18 to 40 GHz) Max. +20 dBm (Hot Switching)		
7	Control Signal:	TTL Logic (See Logic Table Below)	Pass		
8	DC Supply:	+5 V @ 200 mA Typ -5 V @ 100 mA Typ	+5 to +15 V @ 95 mA -5 to -15 V @ 19 mA		

TTL LOGIC CONTROL TABLE				
CTL 1	CTL 0	J1-J2	J1-J3	J1-J4
0	0	ON	OFF	OFF
0	1	OFF	ON	OFF
1	0	OFF	OFF	ON
1	1	OFF	OFF	OFF

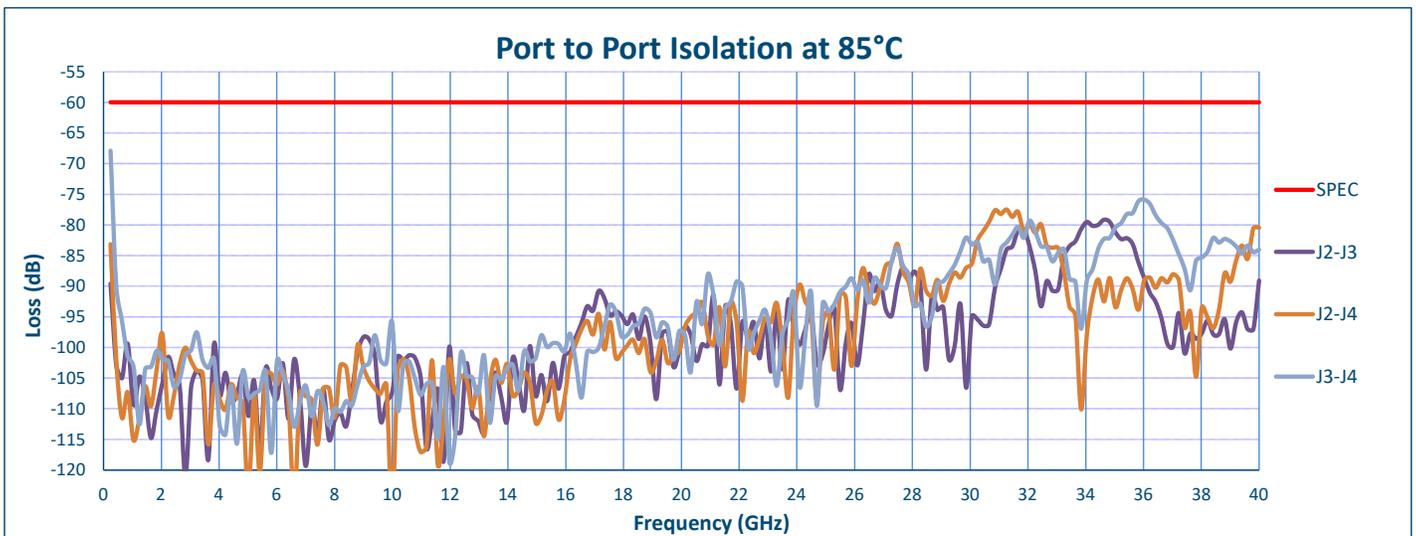
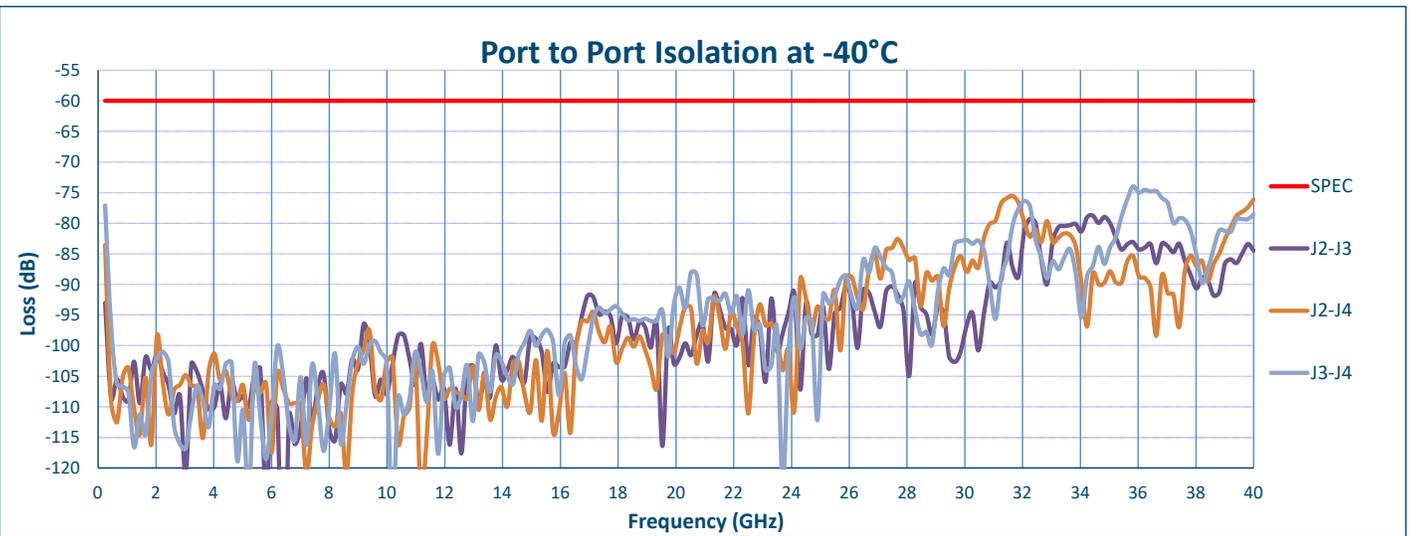
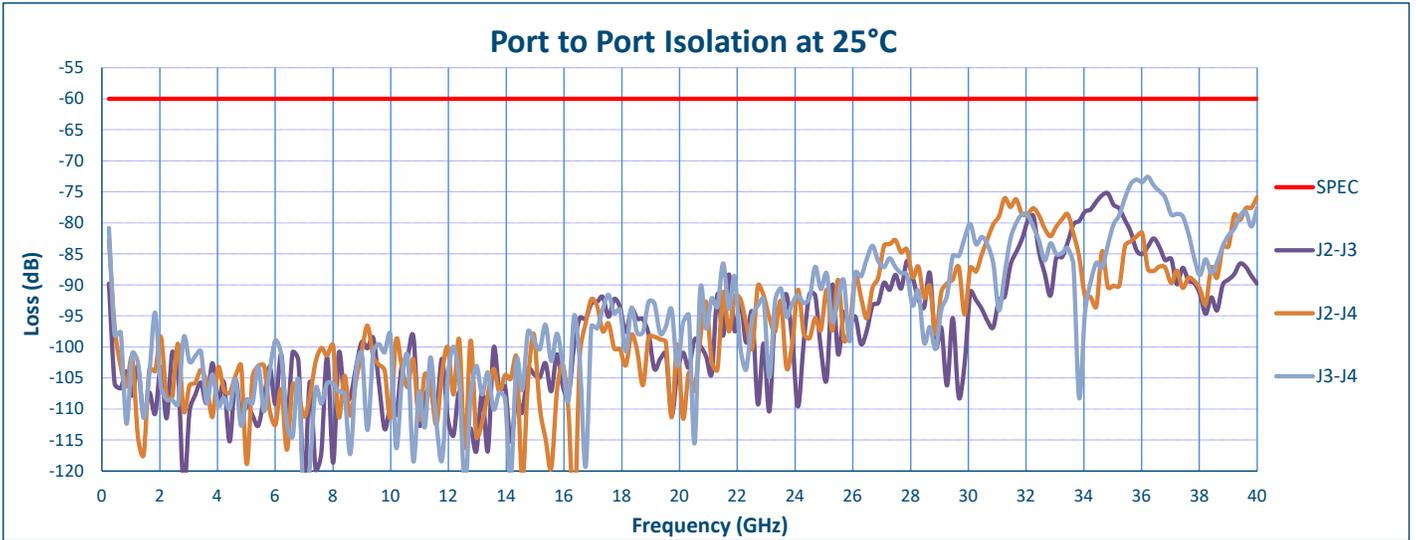
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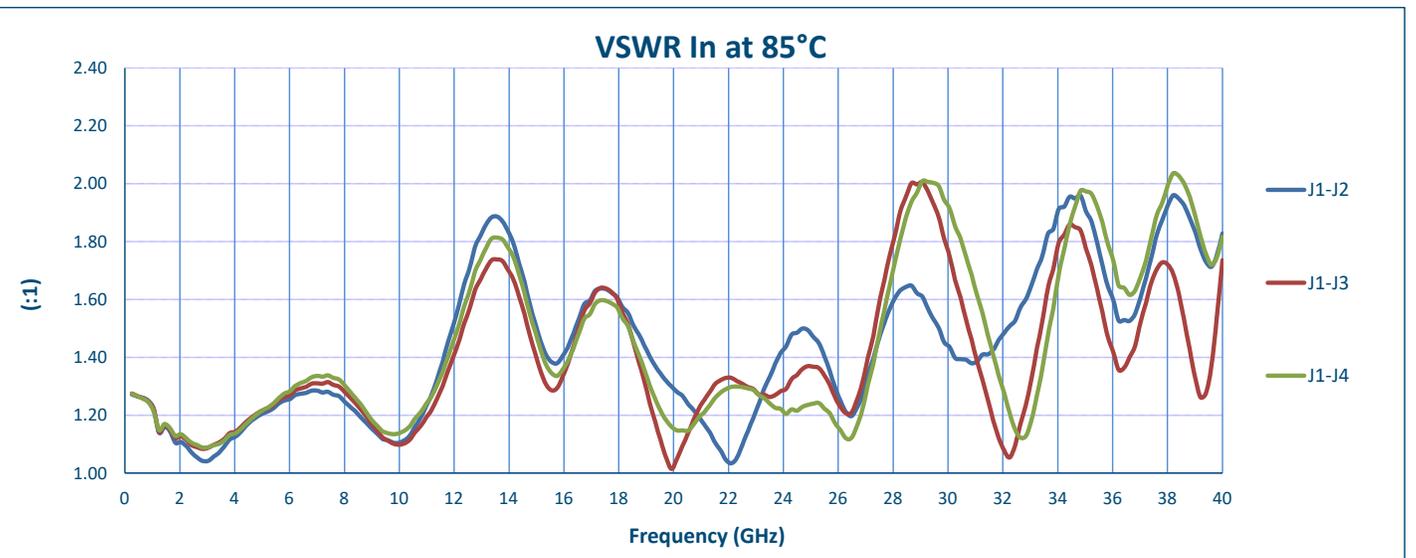
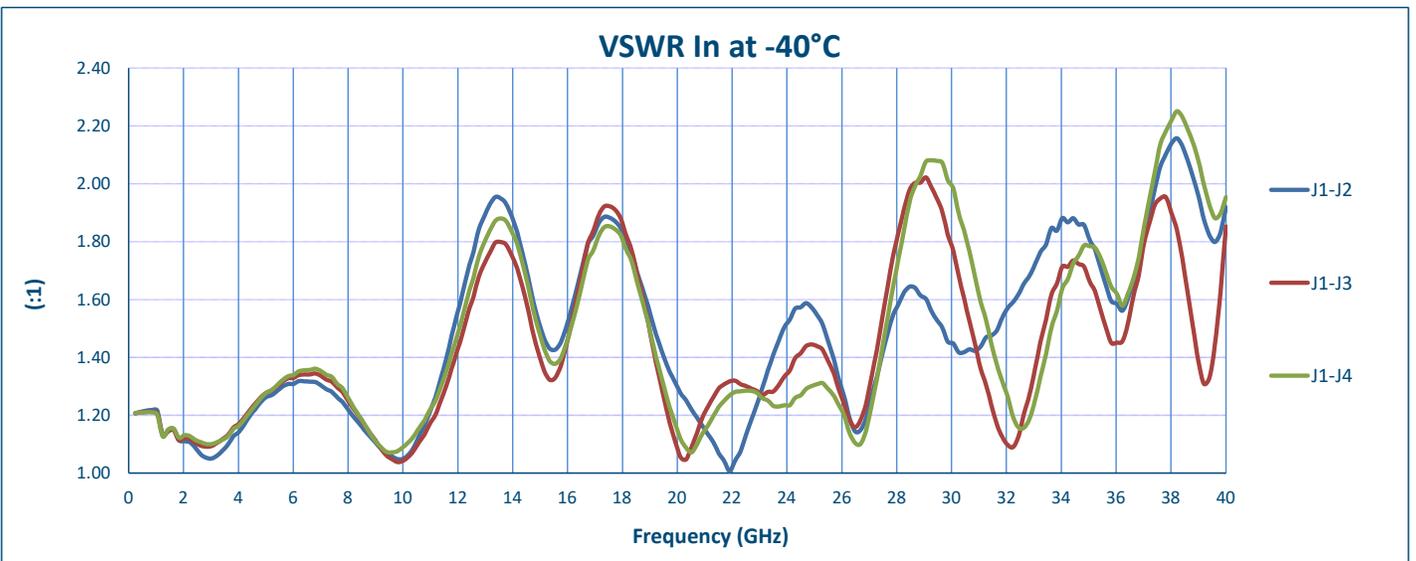
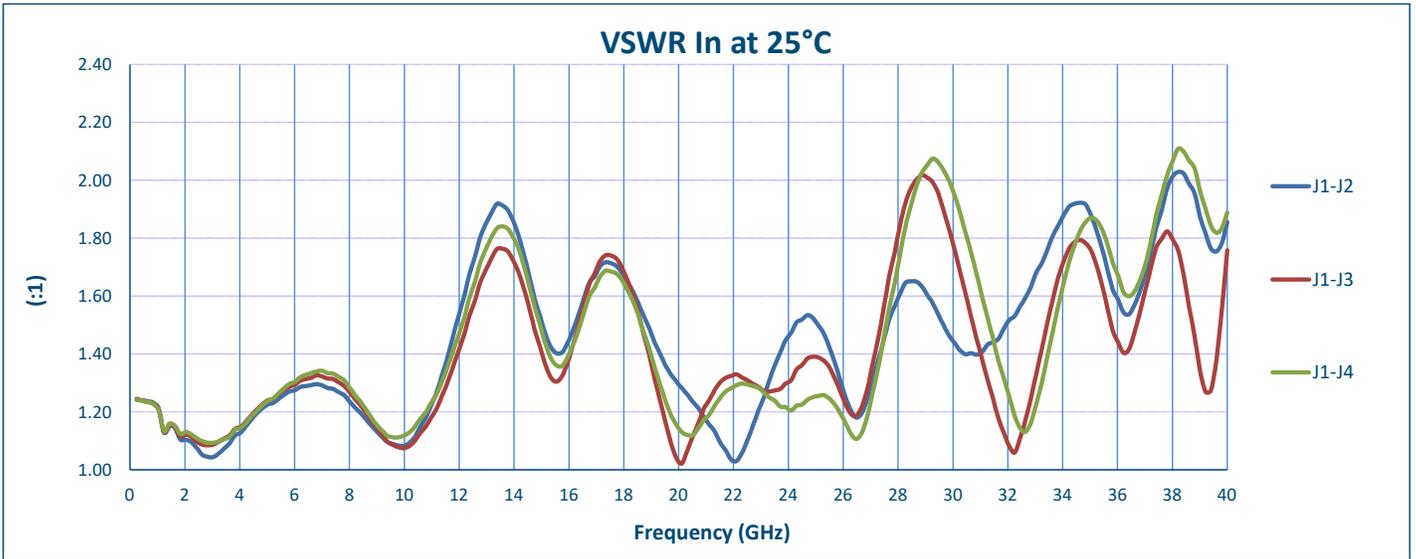


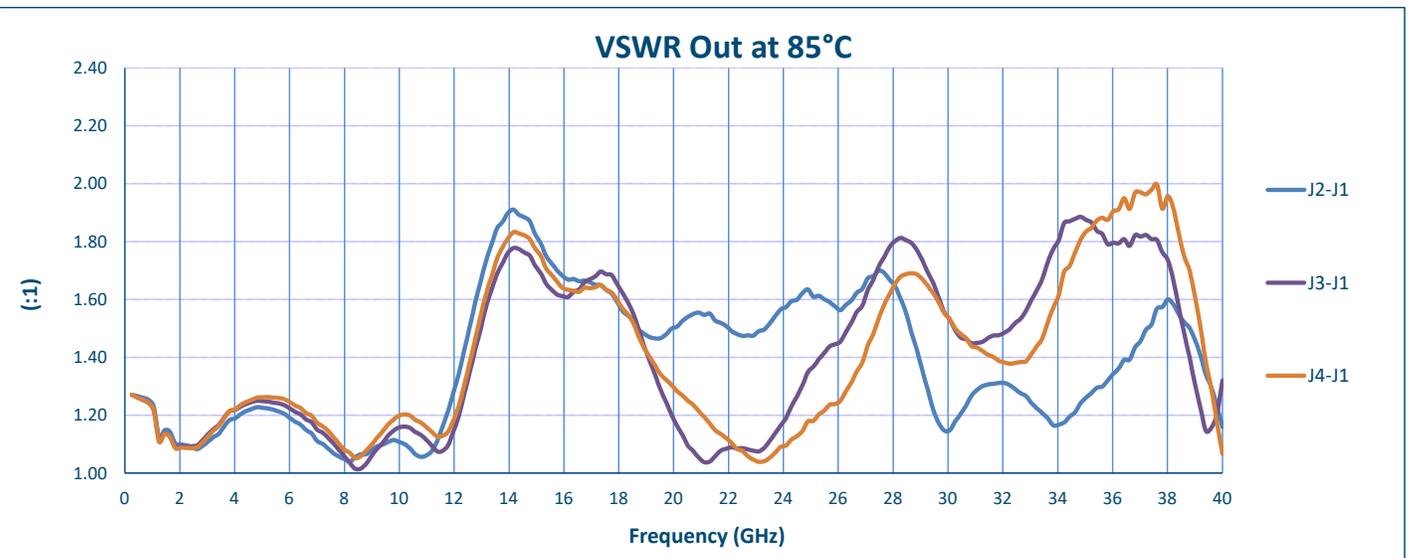
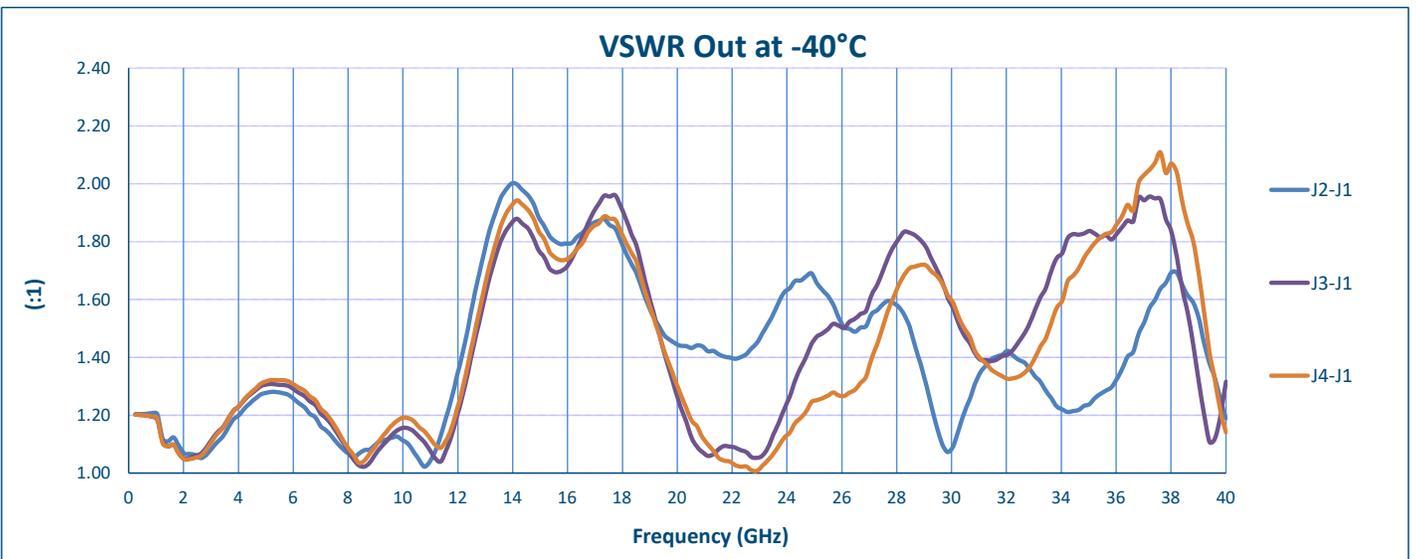
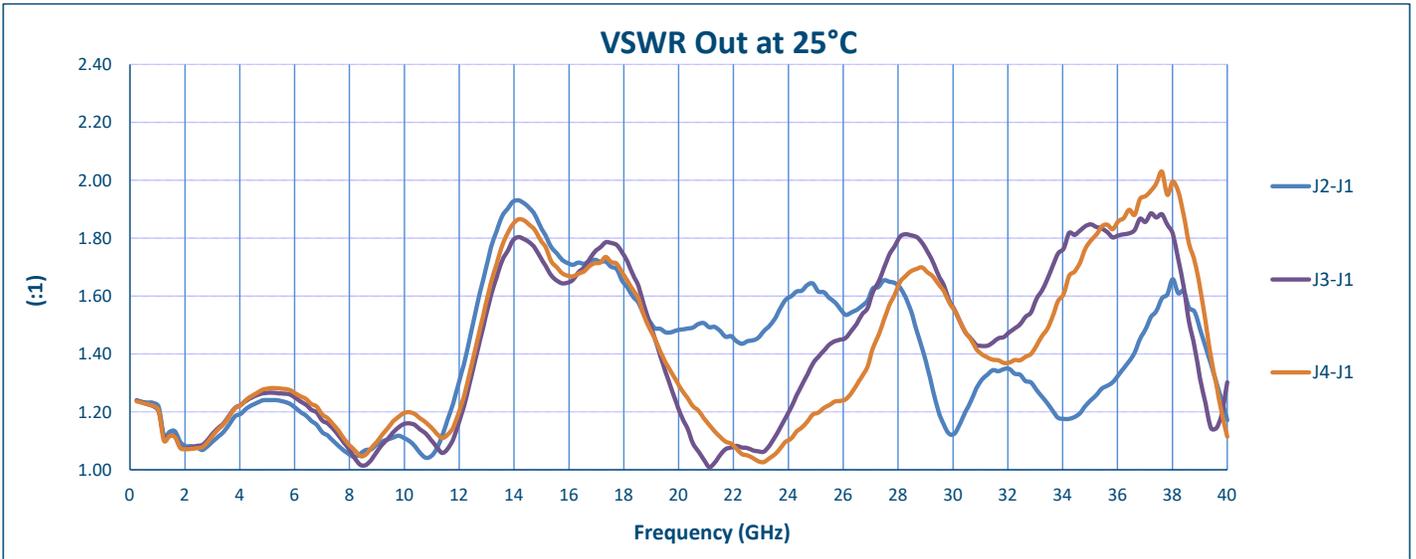
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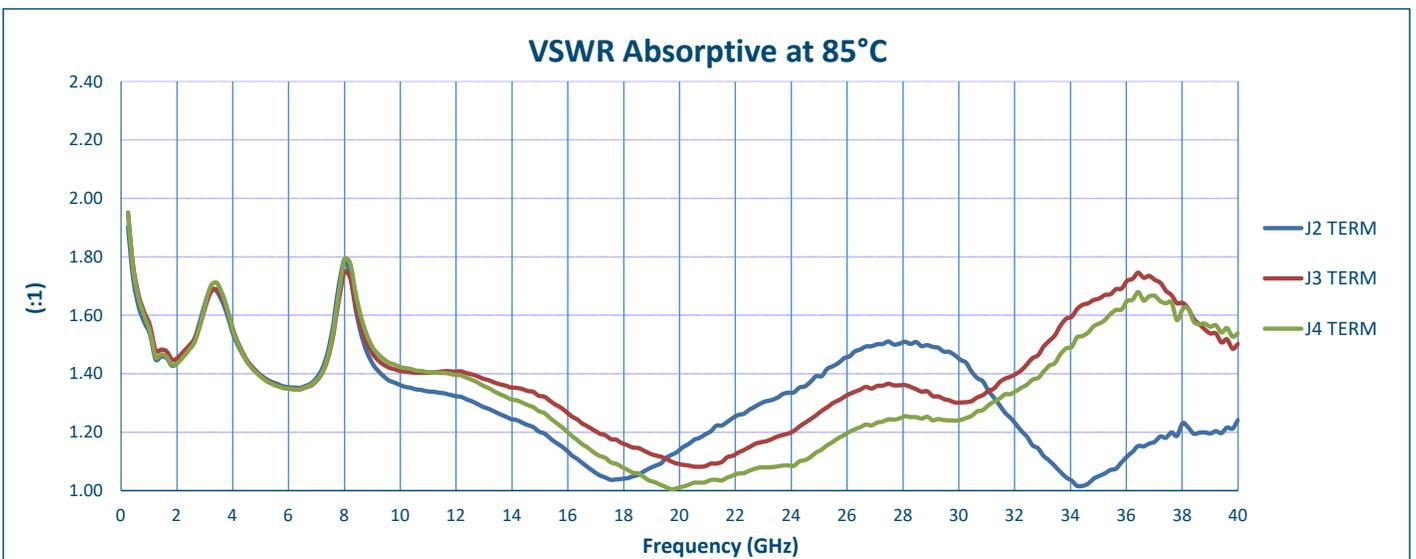
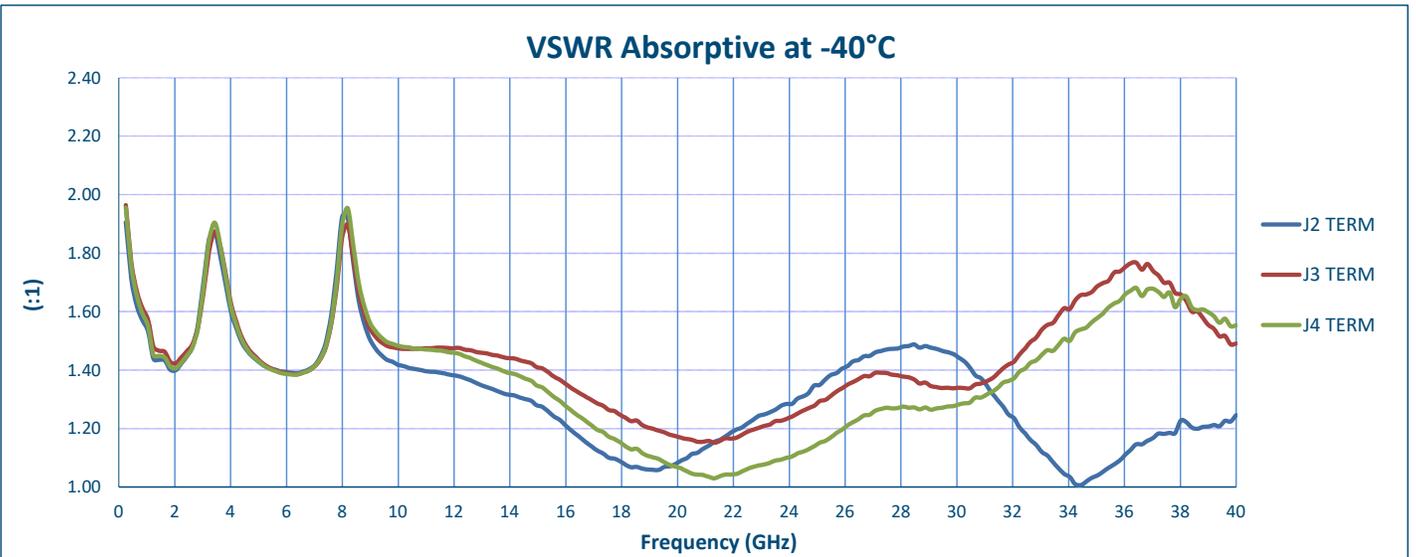
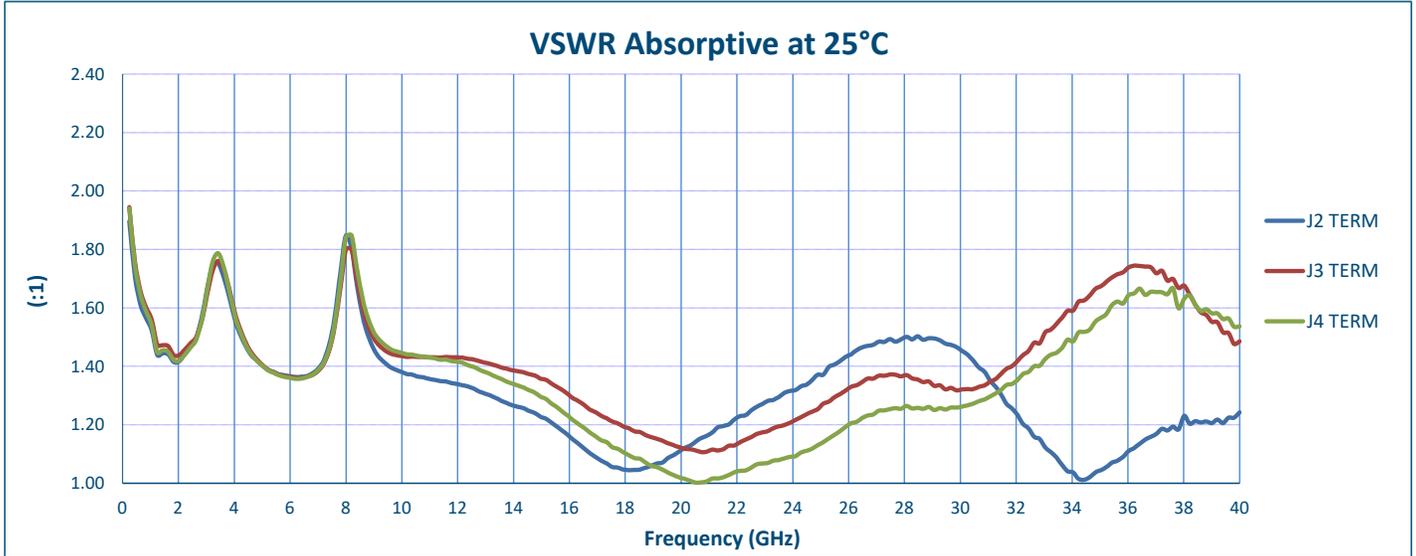


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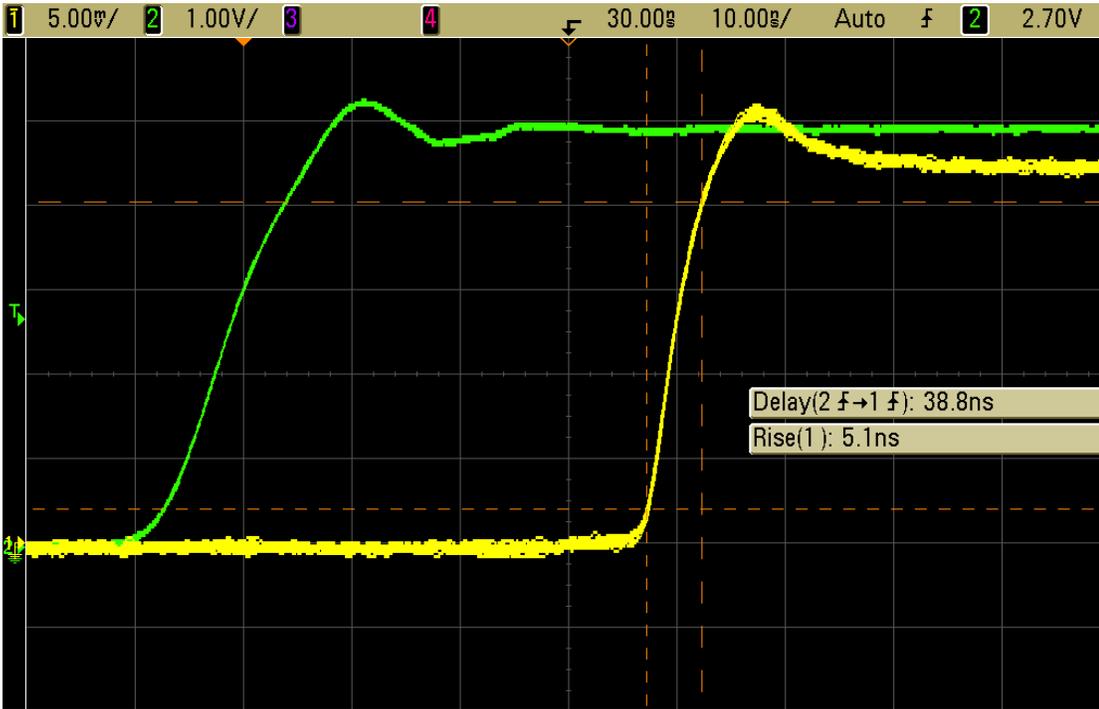








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**Green: TTL**  
**Yellow: RF**  
**Rise Time: 5.1 ns**  
**Delay On: 38.8 ns**



**Green: TTL**  
**Yellow: RF**  
**Fall Time: 11.2 ns**  
**Delay Off: 23.3 ns**

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