



**TYPICAL CHARACTERISTICS  
ON  
P4T-8G12G-60-T-SFF-KW**

**PMI MODEL NUMBER: P4T-8G12G-60-T-SFF-KW IS A 8.0 GHz TO 12.0 GHz, SINGLE POLE, FOUR THROW, ABSORPTIVE SWITCH. THIS SWITCH OFFERS 50dB OF PORT TO PORT ISOLATION, AND A TYPICAL INSERTION LOSS OF 2.0dB. IT HAS A SWITCHING SPEED OF 50ns AND IS INDEPENDENTLY TTL CONTROLLED. THE OPERATING POWER IS +20dBm CW AND THE VSWR IS 2.0:1 MAXIMUM.**



**May 23, 2014**

**Designed By: PMI Engineering**

**Tested and Reported By:  
Harold Holvick  
Sebastian Palacio**

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## TYPICAL CHARACTERISTICS ON P4T-8G12G-60-T-SFF-KW

### DESCRIPTION

PMI MODEL NUMBER: P4T-8G12G-60-T-SFF-KW IS A 8.0 GHz TO 12.0 GHz, SINGLE POLE, FOUR THROW, ABSORPTIVE SWITCH. THIS SWITCH OFFERS 50dB OF PORT TO PORT ISOLATION, AND A TYPICAL INSERTION LOSS OF 2.0dB. IT HAS A SWITCHING SPEED OF 50ns AND IS INDEPENDENTLY TTL CONTROLLED. THE OPERATING POWER IS +20dBm CW AND THE VSWR IS 2.0:1 MAXIMUM.

### SPECIFICATIONS

- FREQUENCY RANGE: . . . . . 8.0 GHz TO 12.0 GHz
- INSERTION LOSS: . . . . . 1.5dB GOAL, 2.0dB TYPICAL
- ISOLATION: . . . . . 50dB MIN
- INPUT POWER: . . . . . +20dBm CW (OPERATING)
- VSWR (IN/OUT): . . . . . 2.0:1 MAX
- SPEED:
  - DELAY ON/OFF: . . . . . 50ns
  - RISE/FALL: . . . . . 20ns
- CONTROL TTL: . . . . . 4 LINE INDEPENDENT  
LOGIC "0" = INSERTION LOSS  
LOGIC "1" = ISOLATION
- RF CONNECTORS: . . . . . SMA(F) — Passive Stainless Steel
- CONTROL, POWER, AND GROUND: . . . . . SOLDER PINS
- POWER SUPPLY: . . . . . +5VDC @ 175mA MAX  
-12VDC @ 100mA MAX
- SIZE: . . . . . (L) 2.0" X (W) 1.0" X (H) 0.4"
- FINISH: . . . . . GRAY EPOXY POLIIMIDE COATING IAW MIL-C-22750,  
TYPE I OVER EPOXY POLIIMIDE PRIMER  
IAW MIL-P-23377, TYPE I, CLASS 1 OR 3.

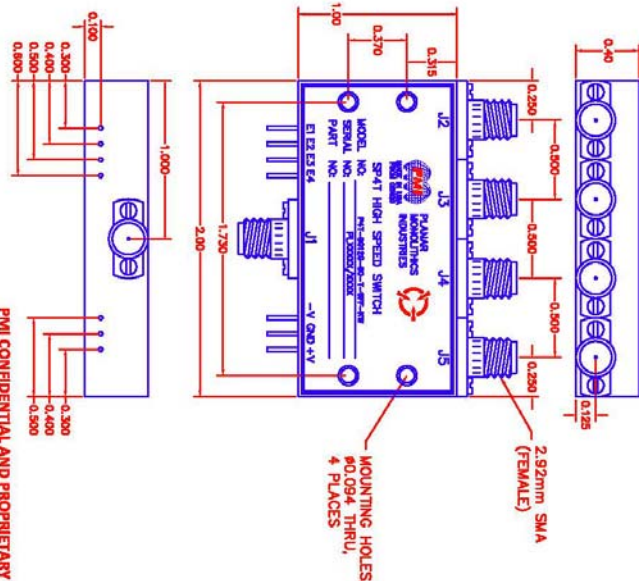
### ENVIRONMENTAL RATINGS

- TEMPERATURE: . . . . . -54°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. C
  - VIBRATION: . . . . . MIL-STD-202F, METHOD 204D COND. G
  - SALT FOG: . . . . . MIL-STD-202F, METHOD 101D+EST COND. B
  - FUNGUS: . . . . . MIL-STD-810F, METHOD 508.5
- NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE  
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
XXX .0100  
XX .0050  
X .0030

REVISIONS		DATE	APPROVED
ZONE	REV.	DESCRIPTION	
	1	ORIGINAL RELEASE	6/18/74

### MECHANICAL OUTLINE



PMI CONFIDENTIAL AND PROPRIETARY

**PLANAR MONOLITHICS INDUSTRIES, INC.**

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WEBSITE: [www.pmi-rf.com](http://www.pmi-rf.com)  
E-MAIL: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)  
ISO 9001 CERTIFIED

APPROVALS	DATE	TITLE
[Signature]	6/18/74	PRODUCT FEATURE
DESIGN	SIZE / PROJ. NO.	REV. NO.
CHECKED	A 05X00	27022072
ISSUED	SCALE: N:S	SHEET 1 OF 1



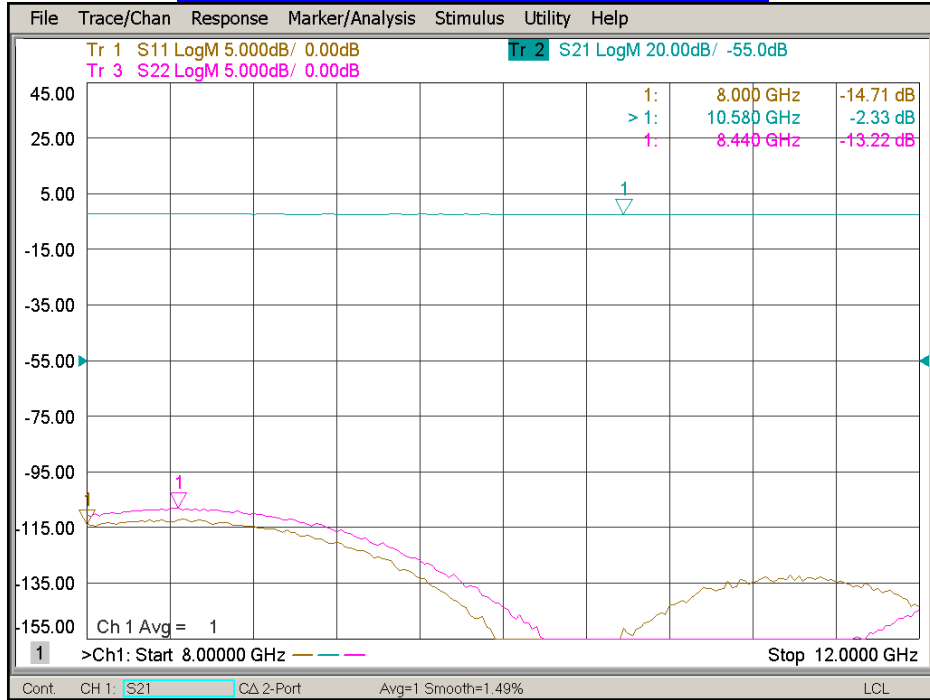
**TYPICAL CHARACTERISTICS  
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TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	8.0 GHz to 12.0 GHz	<b>8.0 GHz to 12.0 GHz (See Plots)</b>	
2	Insertion Loss:	1.5dB Goal, 2.0dB Typical	<b>2.43 dB (See Plots)</b>	
3	Isolation:	50dB Min	<b>95 dB (See Plots)</b>	
4	Input Power:	+20dBm CW (Operating)	<b>Pass</b>	
5	VSWR (In/Out):	2.0:1 Max	<b>1.6:1 (See Plots)</b>	
6	Switching Speed (Delay On/Off):	50 ns	<b>20 ns (See Plots)</b>	
7	Switching Speed (Rise/Fall):	20 ns	<b>10 ns (See Plots)</b>	
8	Video Transients:	Not Specified	<b>1.0V P-P Typ. (See Plot)</b>	
9	Control TTL:	4 Line Independent Logic "0" = Insertion Loss Logic "1" = Isolation	<b>Pass</b>	
10	Power Supply:	+5VDC @ 175mA Max -12 VDC @ 100mA	<b>64 mA 67 mA</b>	

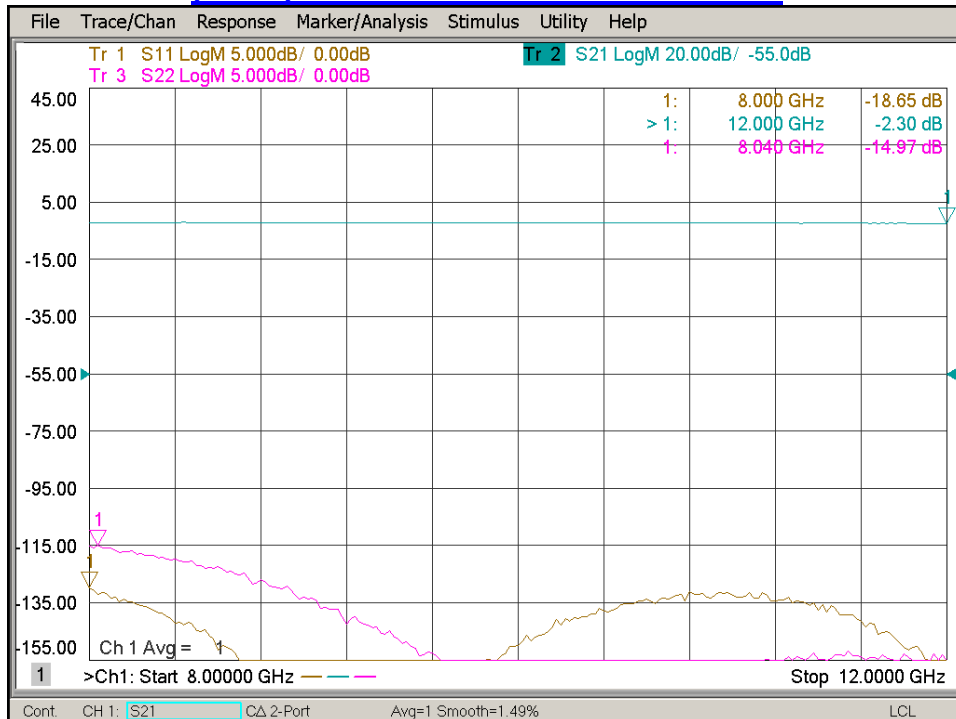


**TYPICAL CHARACTERISTICS  
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**(J1-J2) Insertion Loss and Return Loss**



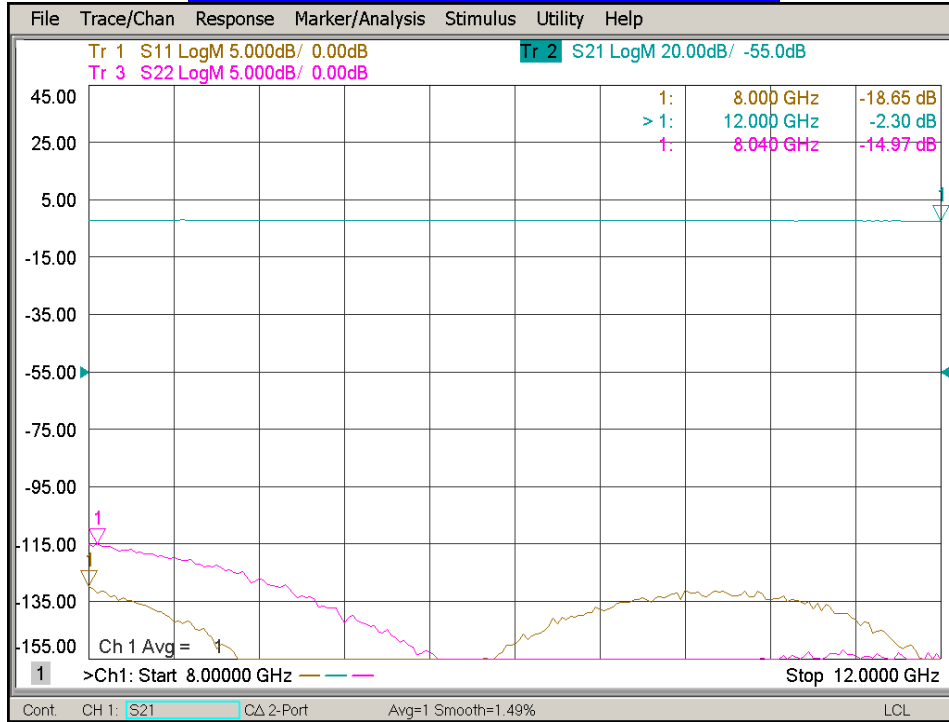
**(J1-J3) Insertion Loss and Return Loss**



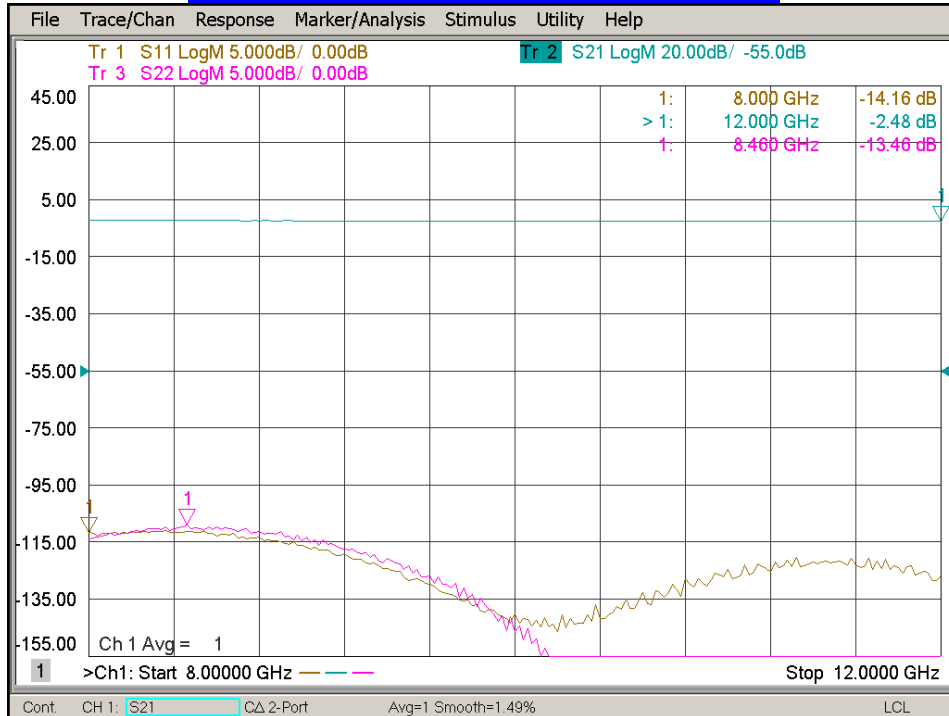


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**(J1-J4) Insertion Loss and Return Loss**



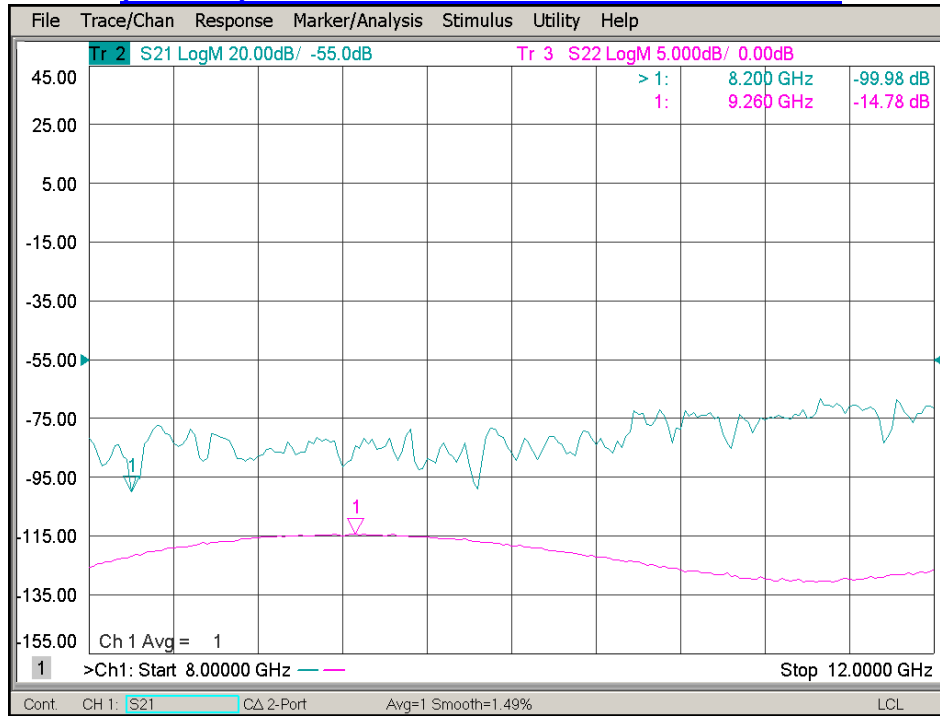
**(J1-J5) Insertion Loss and Return Loss**



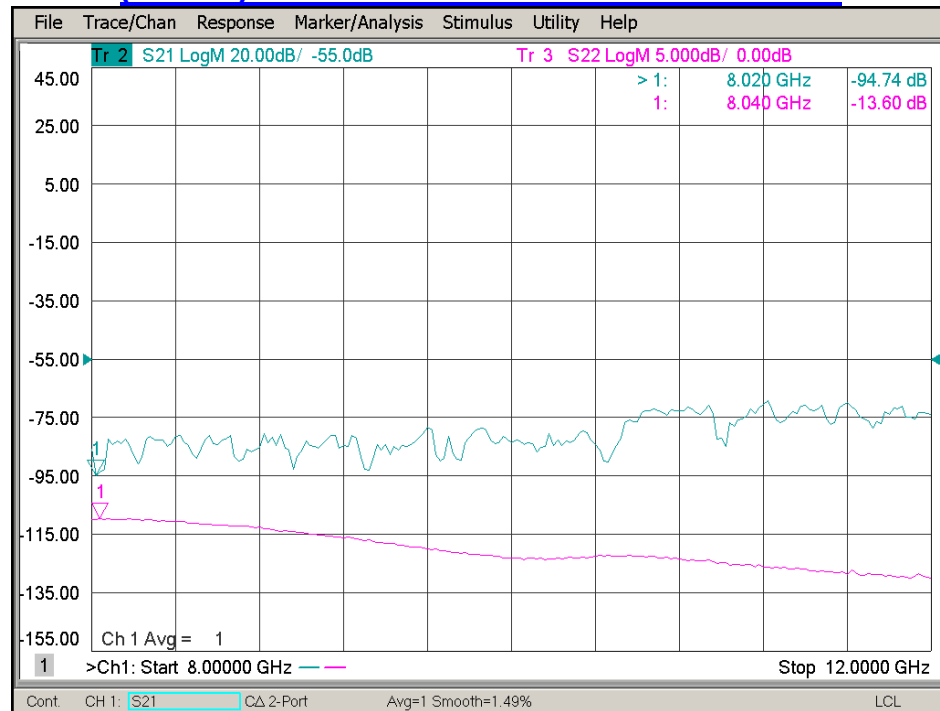


## TYPICAL CHARACTERISTICS ON P4T-8G12G-60-T-SFF-KW

### (J1 – J2) Isolation and Termination Return Loss



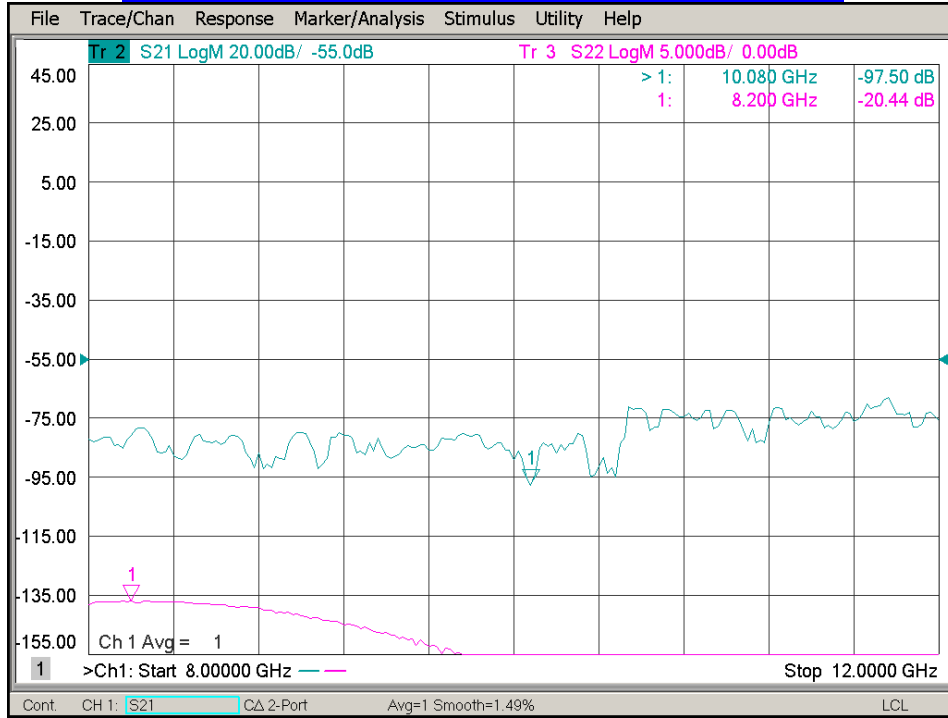
### (J1 – J3) Isolation and Termination Return Loss



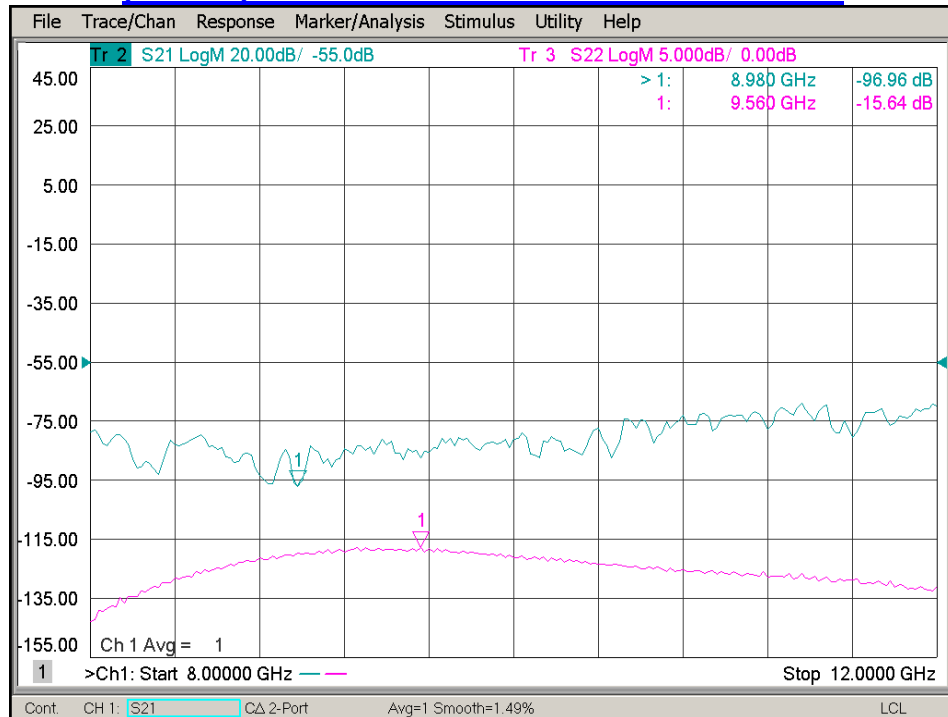


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**(J1 – J4) Isolation and Termination Return Loss**



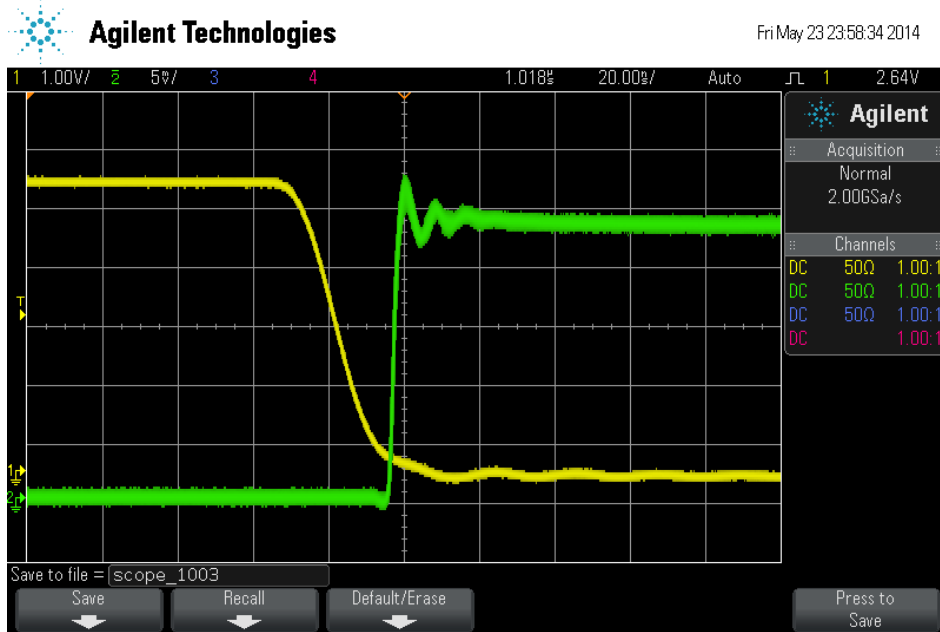
**(J1 – J5) Isolation and Termination Return Loss**



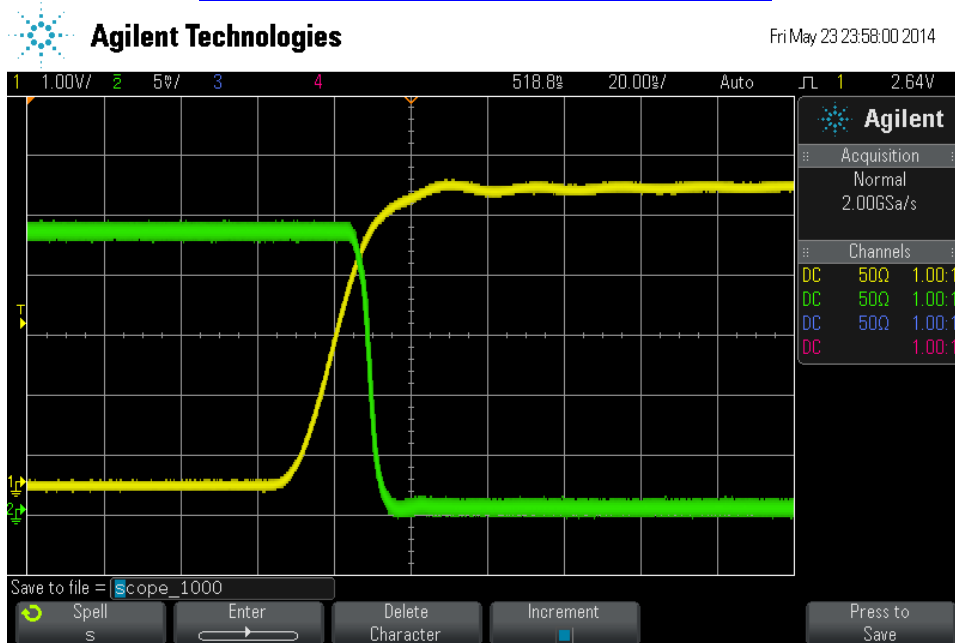


**TYPICAL CHARACTERISTICS  
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**Switching Speed  
ON Delay & Rise Time – 20ns per Div.**



**OFF Delay & Fall Time – 20ns per Div.**



Yellow Signal: TTL Signal  
Green Signal: RF Signal





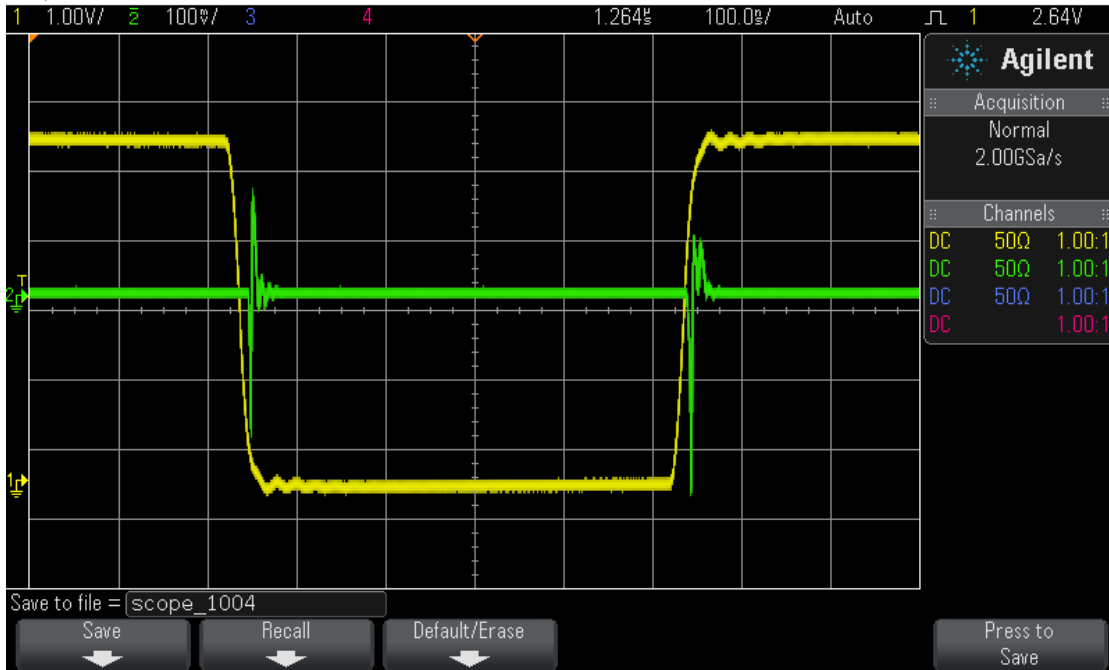
**TYPICAL CHARACTERISTICS  
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**Video Transients**



**Agilent Technologies**

Sat May 24 00:00:16 2014



Yellow Signal: TTL Signal  
Green Signal: Video Transient