



**Typical Characteristics
On
P4T-0R3G18G-70-T-SFF**

PMI MODEL P4T-0R3G18G-70-T-SFF IS A SINGLE POLE FOUR THROW ABSORPTIVE SWITCH OPERATING FROM 0.3 GHz TO 18.0 GHz. IT HAS A MAXIMUM INSERTION LOSS OF 3.75 dB AND ISOLATION OF 70 dB MINIMUM.



Designed by: PMI Engineering

November 2, 2016

Tested & Reported by: Simon Kuhn

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Typical Characteristics On P4T-0R3G18G-70-T-SFF

Product Feature & Mechanical Drawing

DESCRIPTION

PMI MODEL: P4T-0R3G18G-70-T-SFF IS A SINGLE POLE FOUR THROW ABSORPTIVE SWITCH. THIS MODEL HAS THE FOLLOWING SPECIFICATIONS.

SPECIFICATIONS

- FREQUENCY RANGE:..... 0.3 TO 18.0 GHz
- INSERTION LOSS:..... 3.75 dB MAX
- ISOLATION:..... 0.3 GHz TO 2 GHz: 60 dB MIN
2 GHz TO 18 GHz: 70 dB MIN
- VSWR:..... IN / OUT: 2.0:1 Typ
TERMINATED OUT: 2.0:1 Typ
- RISE/FALL TIME:..... 10 ns TYPICAL, 15 ns MAX
- DELAY ON/OFF:..... 75 ns TYPICAL, 100 ns MAX
- INPUT POWER:..... +20 dBm CW MAX
- SURVIVAL POWER:..... 1 WATT CW MAX (+30 dBm)
10 WATTS PEAK 1 μ s PULSE,
1% DUTY CYCLE
- CONTROL:..... TTL CONTROL - SEE LOGIC TABLE
- POWER SUPPLY:..... +5VDC @ 65 mA MAX
-5VDC @ 50 mA MAX
- CONNECTORS IN/OUT:..... SMA (F) REMOVABLE
- CONTROL CONNECTORS..... SOLDER PINS
- SIZE:..... (L) 1.25" X (W) 1.25" X (H) 0.70"
- FINISH:..... GOLD PLATED

ENVIRONMENTAL RATINGS

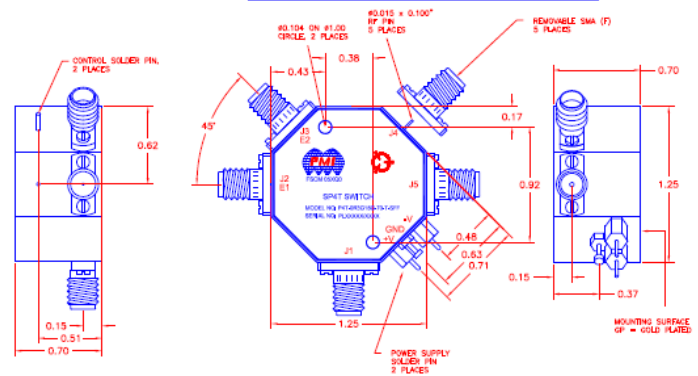
- TEMPERATURE:..... -55°C TO +85°C (OPERATING)
-65°C TO +125°C (STORAGE)
- HUMIDITY:..... MIL-STD-202G, METHOD 103B COND. B
- SHOCK:..... MIL-STD-202G, METHOD 213B COND. B
- VIBRATION:..... MIL-STD-202G, METHOD 204D COND. B
- ALTITUDE:..... MIL-STD-202G, METHOD 105C COND. B
- TEMPERATURE CYCLE:.....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

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

ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
X.XX .0020
X.XXX .0010

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	09/01/16	
	A1	ECN #: 17-0016	02/07/17	

MECHANICAL OUTLINE



LOGIC TABLE

2 BIT DECODER

E1	E2	FUNCTION
0	0	J1-J2 "Low Loss"
0	1	J1-J3 "Low Loss"
1	0	J1-J4 "Low Loss"
1	1	J1-J5 "Low Loss"

PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.

7311-F GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: 301-662-5019 FAX: 301-662-1731
WEBSITE: www.pmi-rf.com
E-MAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN <i>B. Thomas</i>		9/01/16	PRODUCT FEATURE P4T-0R3G18G-70-T-SFF		
CHECKED			SIZE A	PSCM NO. 05XQ0	DWG NO. 27030421
ISSUED			SCALE N:S		REV. A1
					SHEET 1 OF 1



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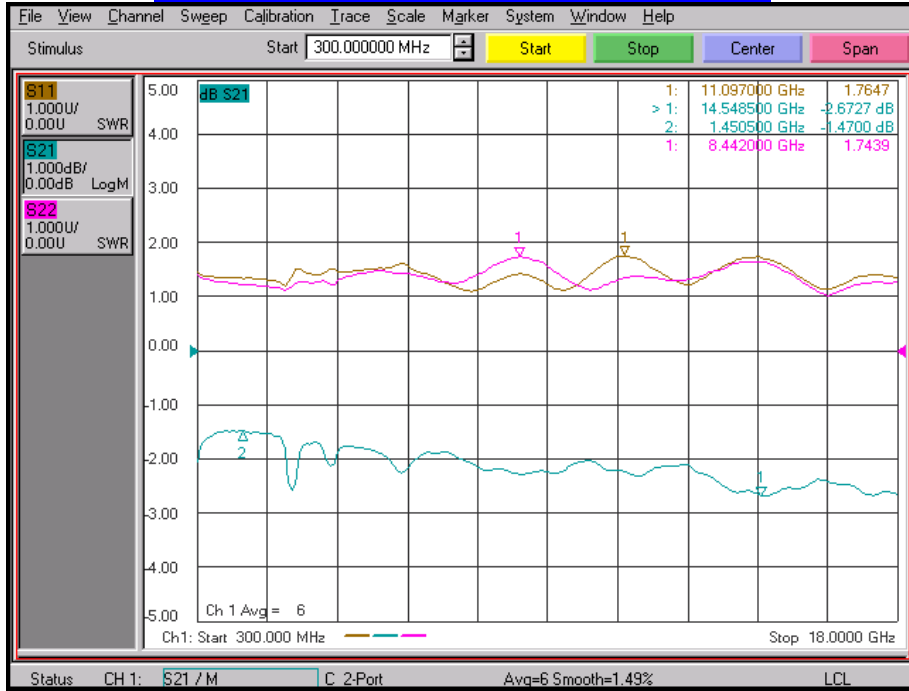
Test Data Table

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE		TEST RESULTS	QA QC	
1	Frequency Range:	0.3 GHz – 18 GHz		0.3 GHz – 18 GHz		
2	Insertion Loss:	3.75 dB Max.		2.98 dB (See Plot)		
3	Isolation:	0.3 GHz TO 2 GHz: 60 dB Min		88.14 dB	(0.3-2 GHz)	
		2 GHz TO 18 GHz: 70 dB Min		80.32 dB	(2-18 GHz)	
				See Plot		
4	VSWR:	In/Out	2.0:1 Typ.	1.99:1		
		Terminated Out:	2.0:1 Typ.	1.79:1 See Plot		
5	Rise/Fall Time:	10 nsec Typ. 15 nsec Max.		<15ns See Plots		
6	Delay On/Off:	75 nsec Typ. 100 nsec Max.		<30ns See Plots		
7	Input Power:	+20 dBm CW Max		Pass		
8	Survival Power:	1W CW Max (+30 dBm) 10W Peak 1 μ s Pulse, 1% Duty Cycle		Pass		
9	DC Supply:	+5VDC @ 65 mA Max -5VDC @ 50 mA Max		45 mA @ +5VDC 35 mA @ -5VDC		
10	Control Signal:	LOGIC TABLE			Pass	
		2 BIT DECODER				
		E1	E2	FUNCTION		
		0	0	J1 – J2 “Low Loss”		
		0	1	J1 – J3 “Low Loss”		
		1	0	J1 – J4 “Low Loss”		
1	1	J1 – J5 “Low Loss”				

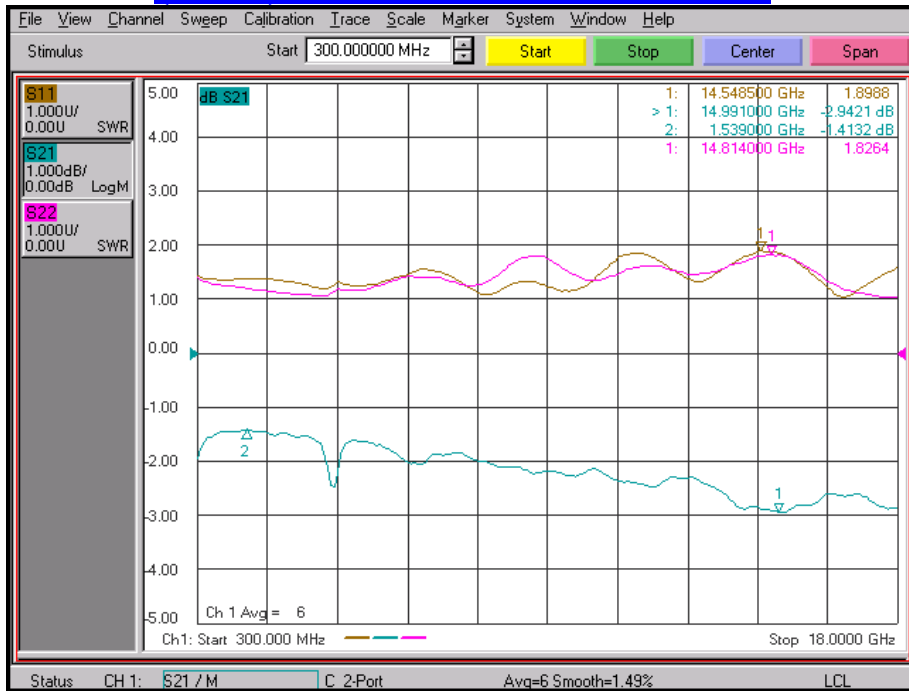


Typical Characteristics On P4T-0R3G18G-70-T-SFF

(J1-J2) Insertion Loss and VSWR



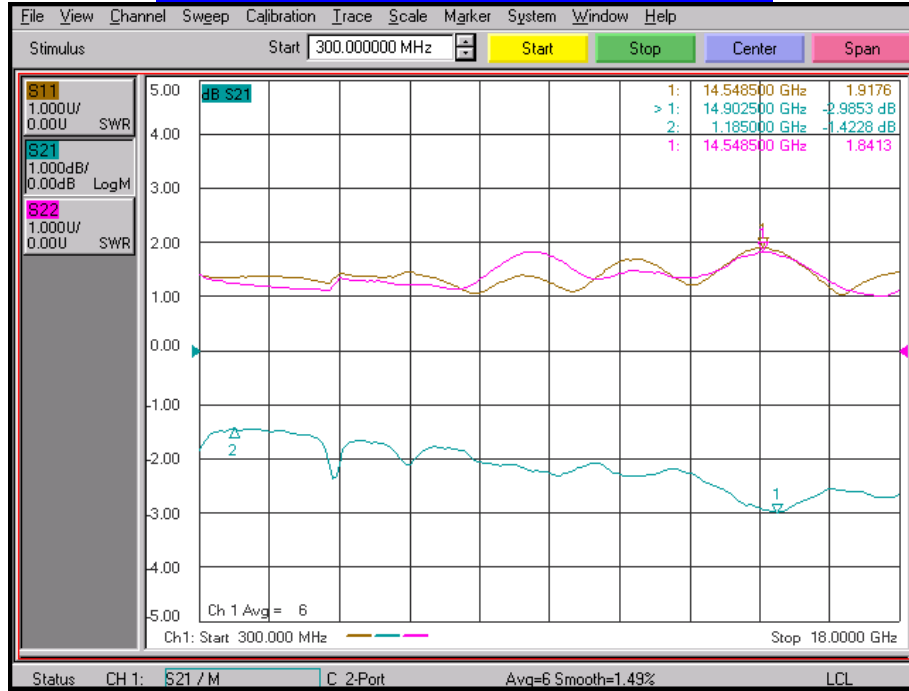
(J1-J3) Insertion Loss and VSWR



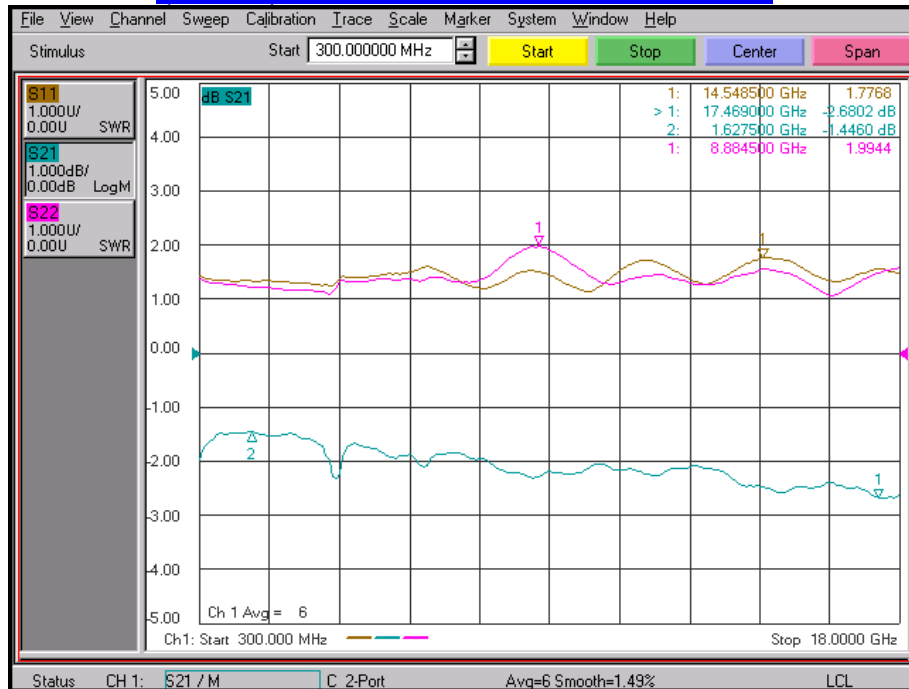


Typical Characteristics On P4T-0R3G18G-70-T-SFF

(J1-J4) Insertion Loss and VSWR



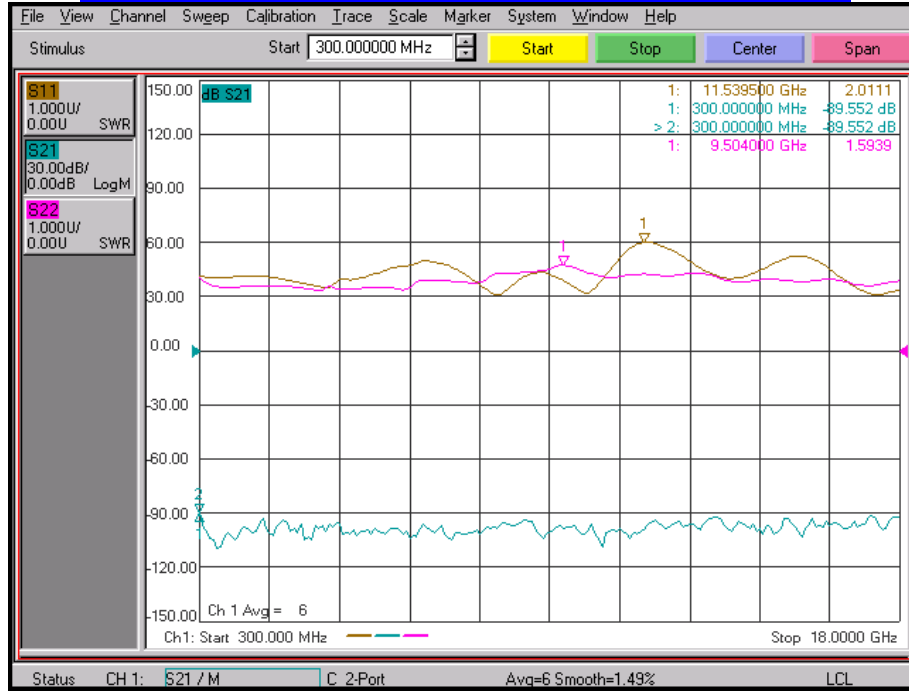
(J1-J5) Insertion Loss and VSWR



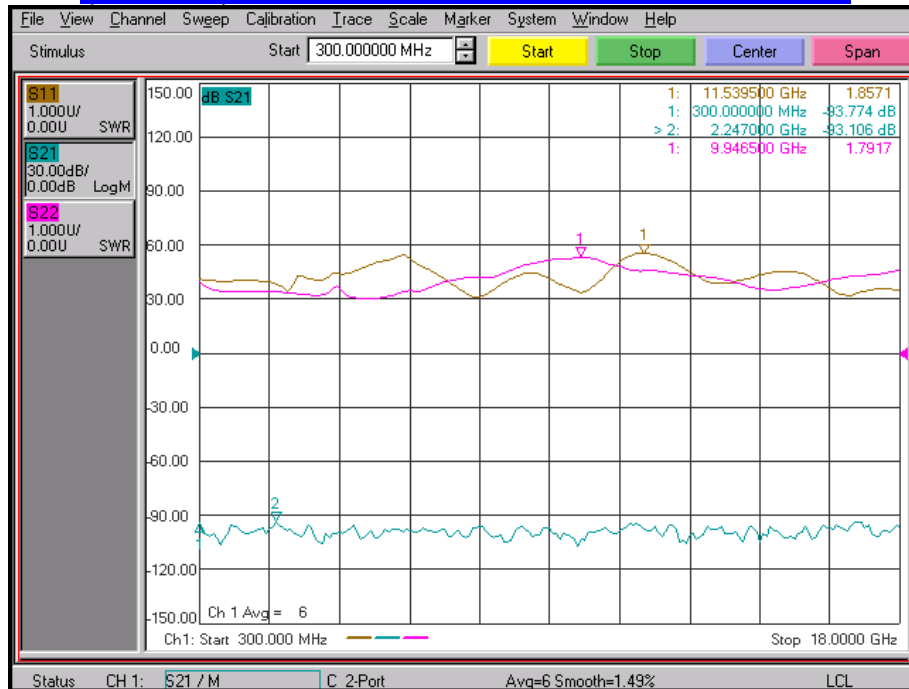


Typical Characteristics On P4T-0R3G18G-70-T-SFF

(J1 – J2) Isolation and Terminated VSWR



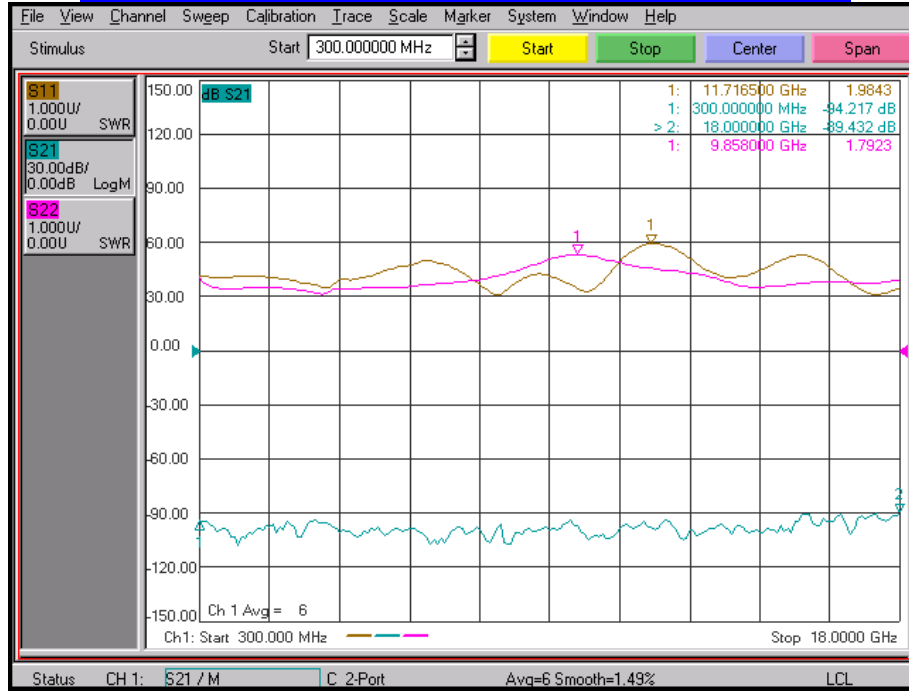
(J1 – J3) Isolation and Terminated VSWR



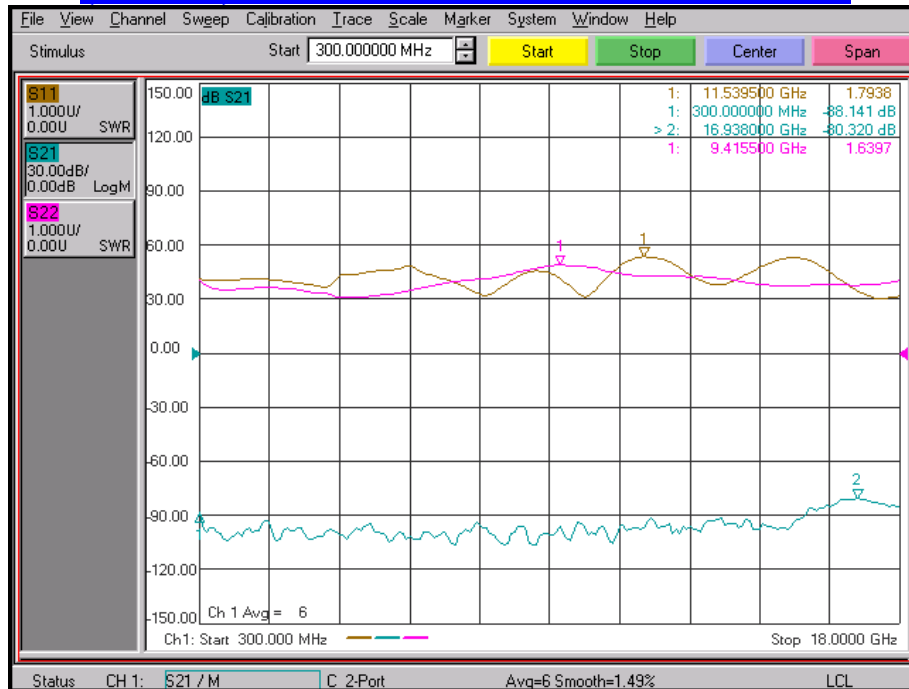


Typical Characteristics On P4T-0R3G18G-70-T-SFF

(J1 – J4) Isolation and Terminated VSWR



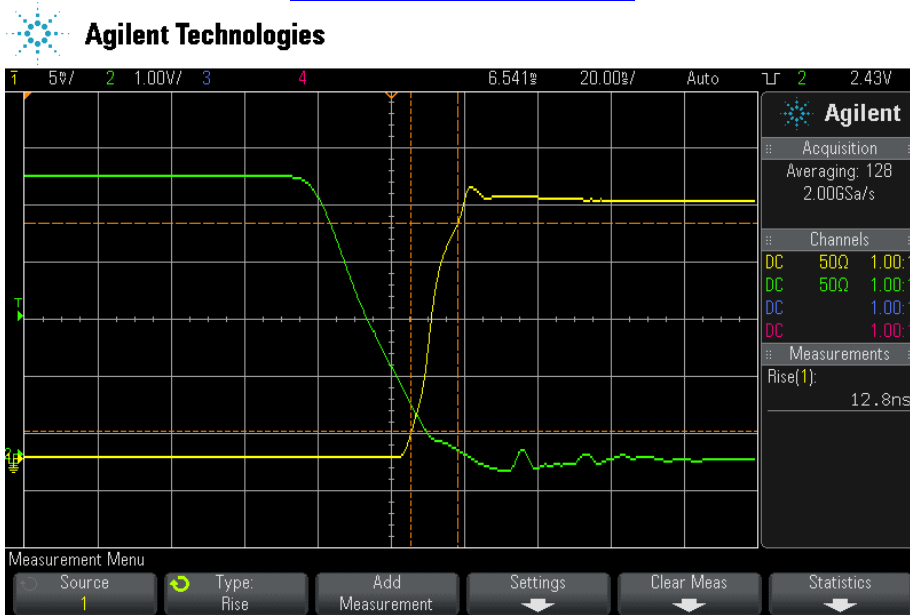
(J1 – J5) Isolation and Terminated VSWR



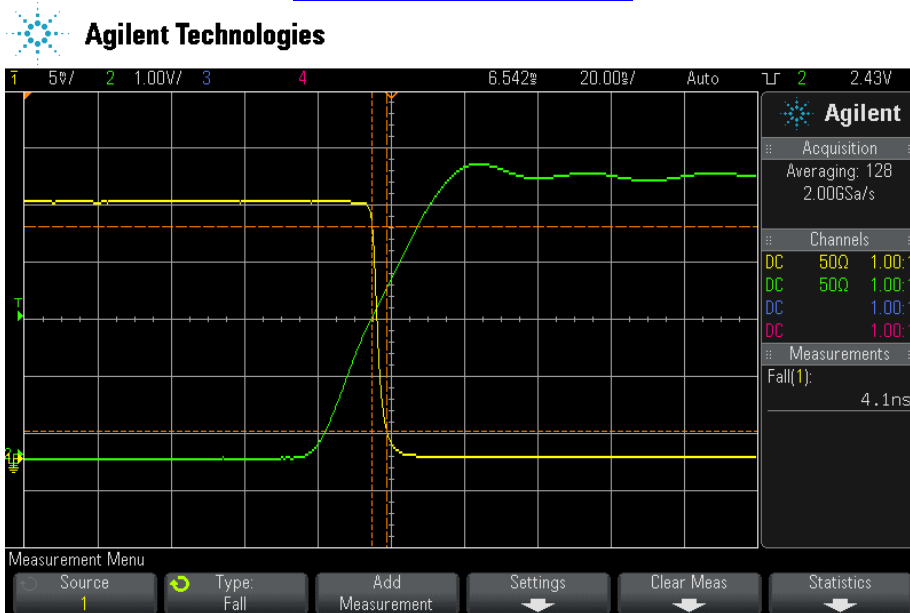


**Typical Characteristics
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**Switching Speed TYP.
Rise Time - 20ns per Div.**



Fall Time - 20ns per Div.

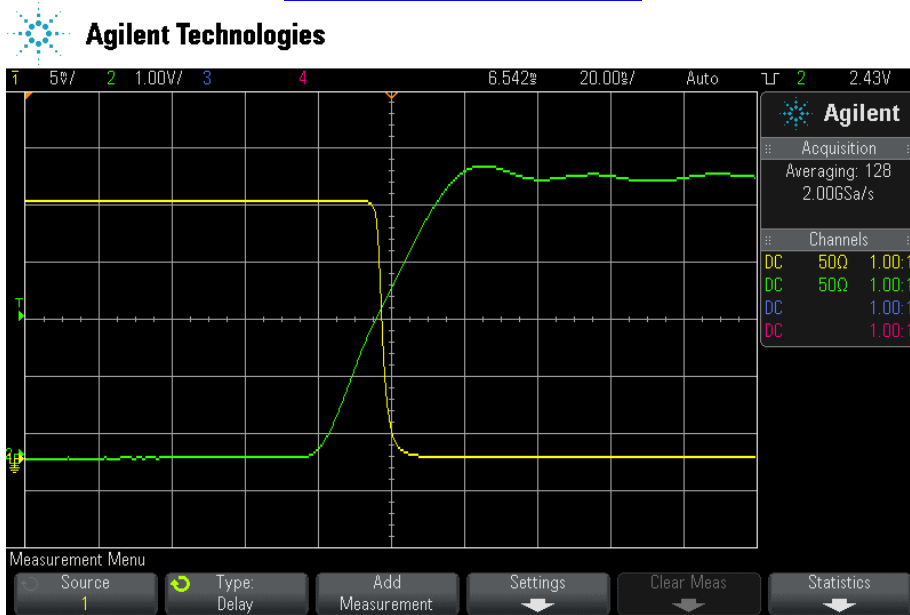


GREEN TRACE: TTL SIGNAL
YELLOW TRACE: RF SIGNAL

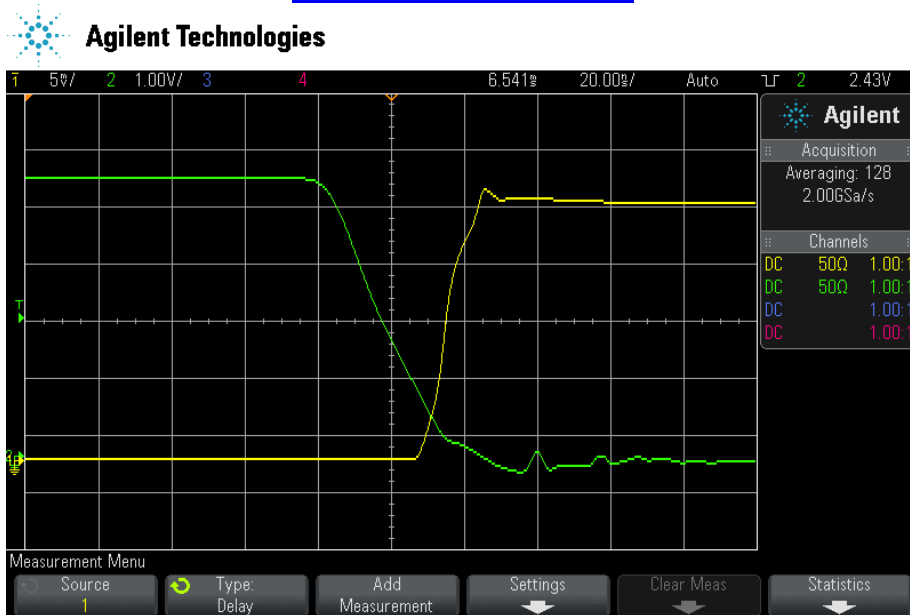


**Typical Characteristics
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Switching Speed TYP.
Delay OFF - 20ns per Div.



Delay ON - 20ns per Div.



GREEN TRACE: TTL SIGNAL
YELLOW TRACE: RF SIGNAL