



**TYPICAL CHARACTERISTICS
ON
P6T-2G18G-55-R-512-SFF**

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER P6T-2G18G-55-R-512-SFF IS A REFLECTIVE SINGLE POLE, SIX THROW SWITCH THAT OPERATES FROM 2 GHz TO 18.0 GHz



March 21, 2014

Designed By: PMI Engineering

Tested & reported By: Sebastian Palacio

7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
Email: sales@pmi-rf.com



TYPICAL CHARACTERISTICS ON P6T-2G18G-55-R-512-SFF

DESCRIPTION:

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER P6T-2G18G-55-R-512-SFF IS A REFLECTIVE SINGLE POLE, SIX THROW SWITCH THAT OPERATES FROM 2 GHz TO 18.0 GHz

SPECIFICATIONS:

- FREQUENCY: _____ 2 GHz TO 18 GHz
- INSERTION LOSS: _____ 7 dB MAX
- INPUT POWER: _____ +10 dBm CW MAX
- RF POWER SURVIVAL: _____ +25 dBm MAX
- VSWR (IN/OUT): _____ 2.0:1 MAX
- ISOLATION: _____ 55 dB MIN
- SWITCHING SPEED: _____ 15 ns MAX
- VIDEO TRANSIENTS: _____ 15 mV PP MAX
- VIDEO TRANSIENTS SPECTRAL CONTENT: _____ -65 dBm TYP, -60 dBm MAX
- DC VOLTAGE: _____ +5 VDC @ 200mA MAX
_____ -12 VDC @ 60mA MAX
- FINISH: _____ PAINTED BLUE
- CONNECTORS: _____ SMA FEMALE
- SIZE: _____ 1.00"(L) X 1.40"(W) X 0.30"(H)
- CONTROL: _____ All TTL lines Pulled High "1"
All TTL lines "1" = NONE
TTL1 "0" = J0 to J1
TTL2 "0" = J0 to J2
TTL3 "0" = J0 to J3
TTL4 "0" = J0 to J4
TTL5 "0" = J0 to J5
TTL6 "0" = J0 to J6

ENVIRONMENTAL RATINGS

- TEMPERATURE: _____ -55°C TO +85°C (OPERATING)
_____ -60°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. B
- SALT FOG: _____ MIL-STD-202F, METHOD 101D-EST COND. B
- THERMAL SHOCK: _____ MIL-STD-202F, METHOD 107D COND. A
- FUNGUS: _____ MIL-STD-810F, METHOD 508.5
- EMI / EMC: _____ MIL-STD-461E

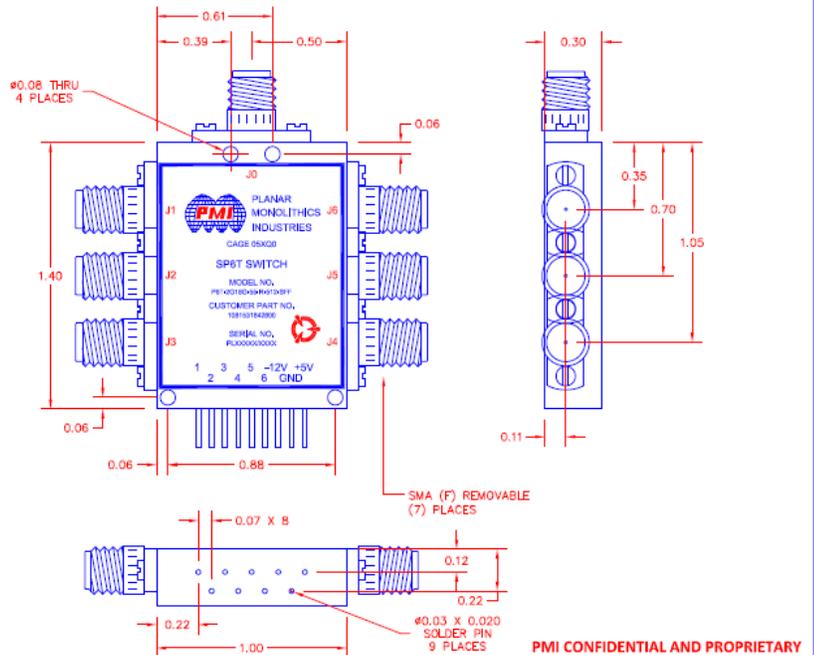
Note: Environmental testing and ESS will be met, but actual testing is not done by PMI
Actual screening is available for an additional charge.

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
X.XX ±0.020
X.XXX ±0.010

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
A1		ORIGINAL RELEASE	10/11/10	
A2		ECN # 13-0227	01/06/11	
A3		ECN # 15-0079	07/17/13	
B1		ECN # 19-0147	02/2/19	
B2		ECN # 22-0102	01/16/22	

MECHANICAL OUTLINE



PLANAR MONOLITHICS INDUSTRIES, INC.

7311-F GROVE ROAD
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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	J. PALAORO	10/11/10	PRODUCT FEATURE P6T-2G18G-55-R-512-SFF SP6T SWITCH		
CHECKED			SIZE	PQDM NO.	DWG NO.
ISSUED			A	05XQ0	27013441
			SCALE	N:S	SHEET 1 OF 1
					REV. B2

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TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	2 GHz – 18 GHz	2 GHz – 18 GHz (See Plots)	
2	Insertion Loss:	7 dB Max.	4.5 dB (See Plots)	
3	Input Power:	10 dBm CW Max	10 dBm CW	
4	RF Power Survival:	25 dBm	25 dBm	
5	VSWR (Input/Output):	2.0:1 Max	1.93:1 (See Plots)	
6	Isolation:	55 dB Min.	73.7 dB (See Plots)	
7	Switching Speed:	15 ns Min.	15ns See Typical Characteristics	
8	Video Transients:	15 mV PP	15 mV Max. See Typical Characteristics	
9	Video Transients Spectral Content:	65 dBm	65 dBm Max. See Typical Characteristics	
10	DC Supply:	+5VDC @ 200mA Typ -12VDC @ 60mA Typ	97mA @ +5VDC 6mA @ -12VDC	
11	Control Signal:	All TTL lines Pulled High "1" All TTL lines "1" = NONE TTL1 "0" → (J0-J1) TTL2 "0" → (J0-J2) TTL3 "0" → (J0-J3) TTL4 "0" → (J0-J4) TTL5 "0" → (J0-J5) TTL6 "0" → (J0-J6)	Pass	



**TYPICAL CHARACTERISTICS
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(J0-J1) Insertion Loss and Return Loss



(J0-J2) Insertion Loss and Return Loss



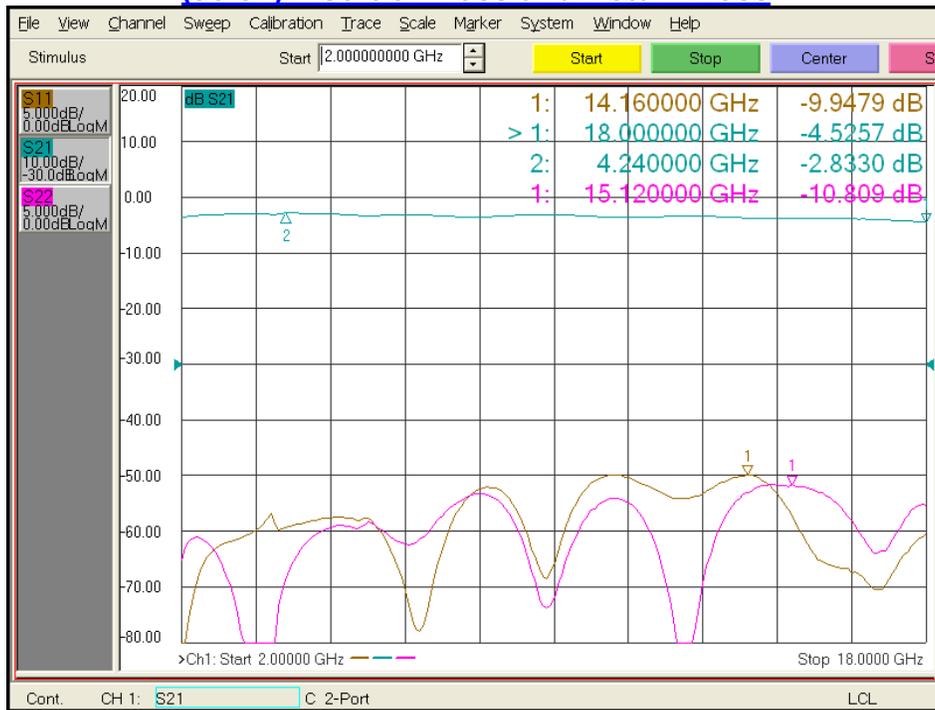


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(J0-J3) Insertion Loss and Return Loss



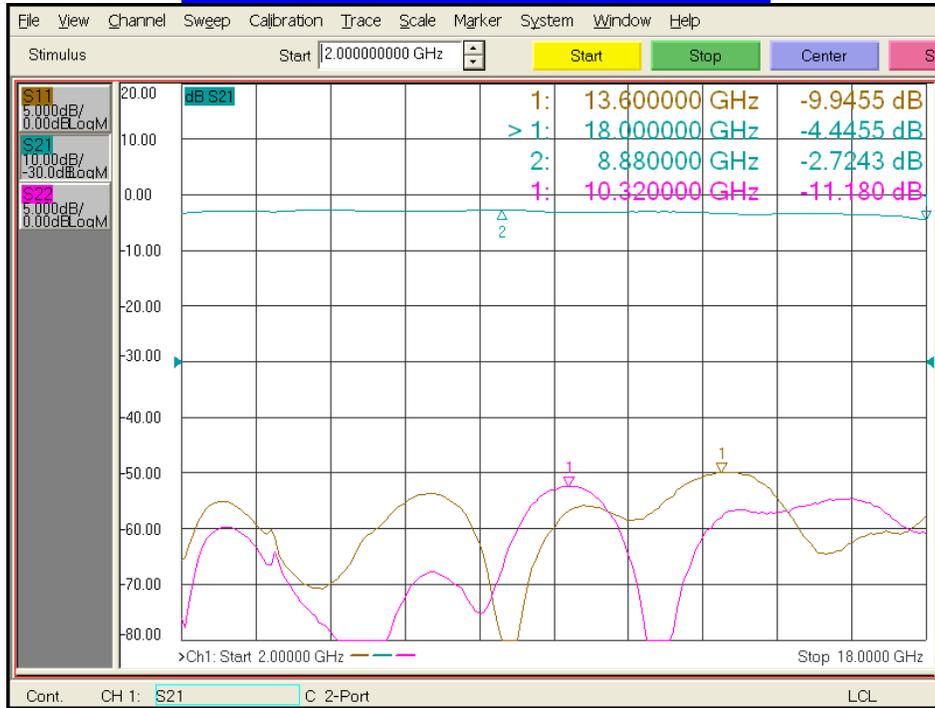
(J0-J4) Insertion Loss and Return Loss



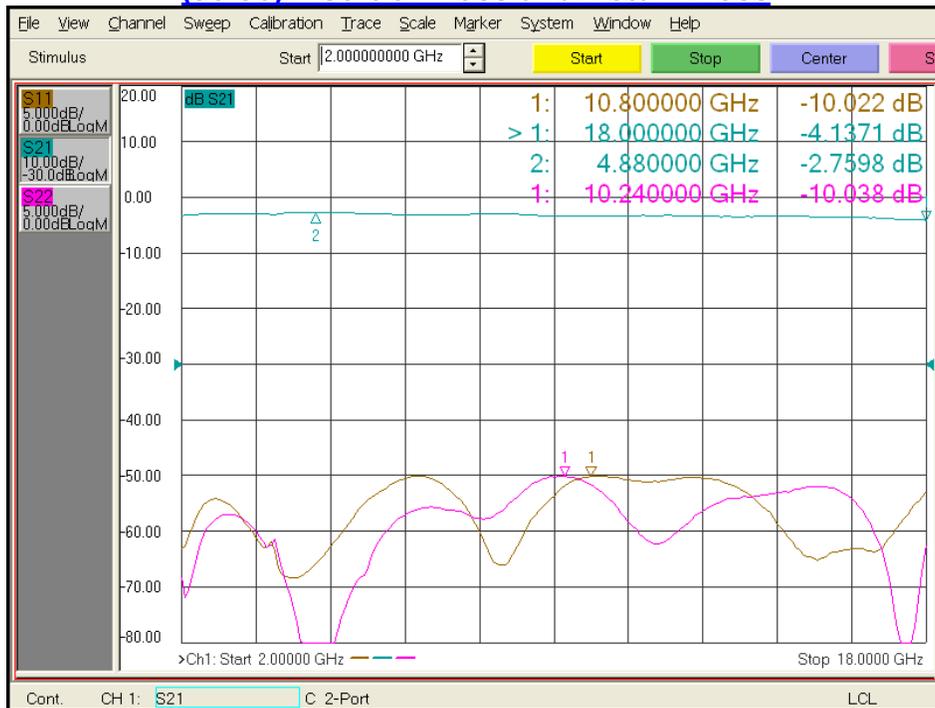


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(J0-J5) Insertion Loss and Return Loss



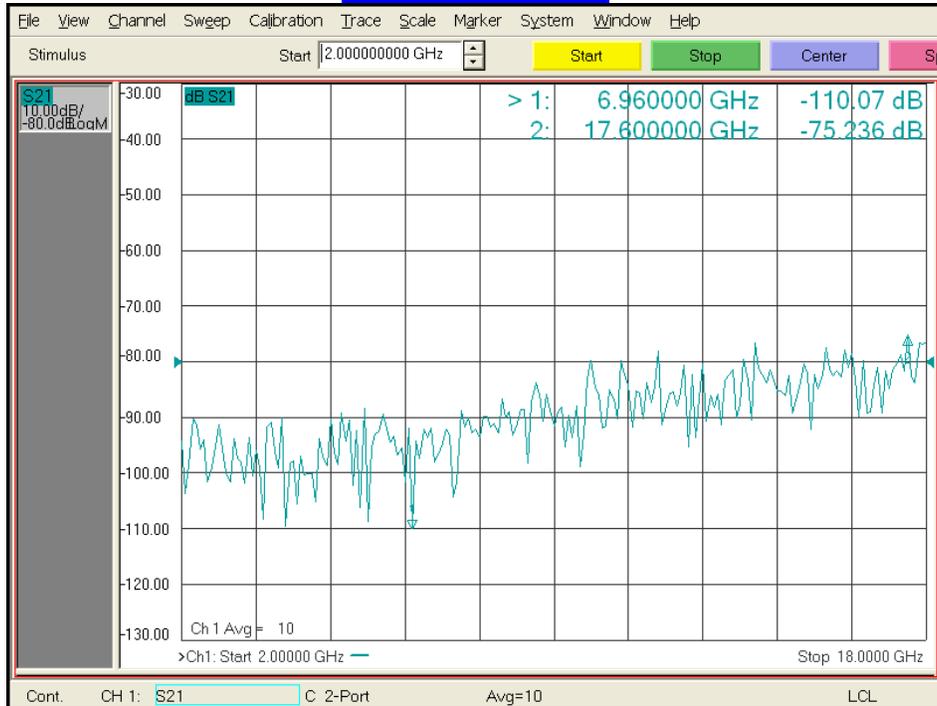
(J0-J6) Insertion Loss and Return Loss



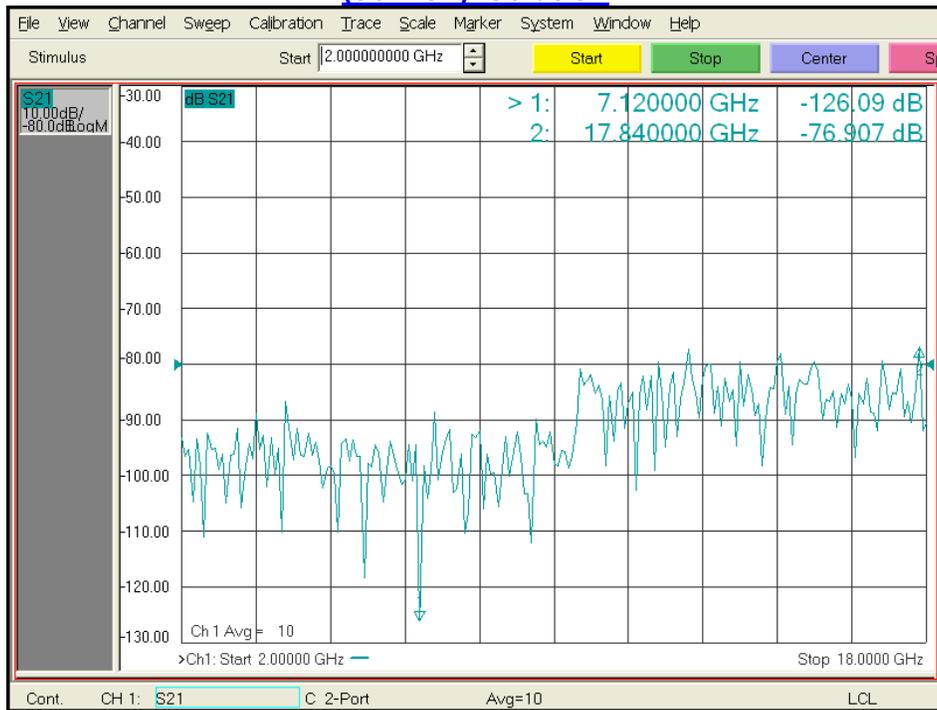


TYPICAL CHARACTERISTICS ON P6T-2G18G-55-R-512-SFF

(J0 – J1) Isolation



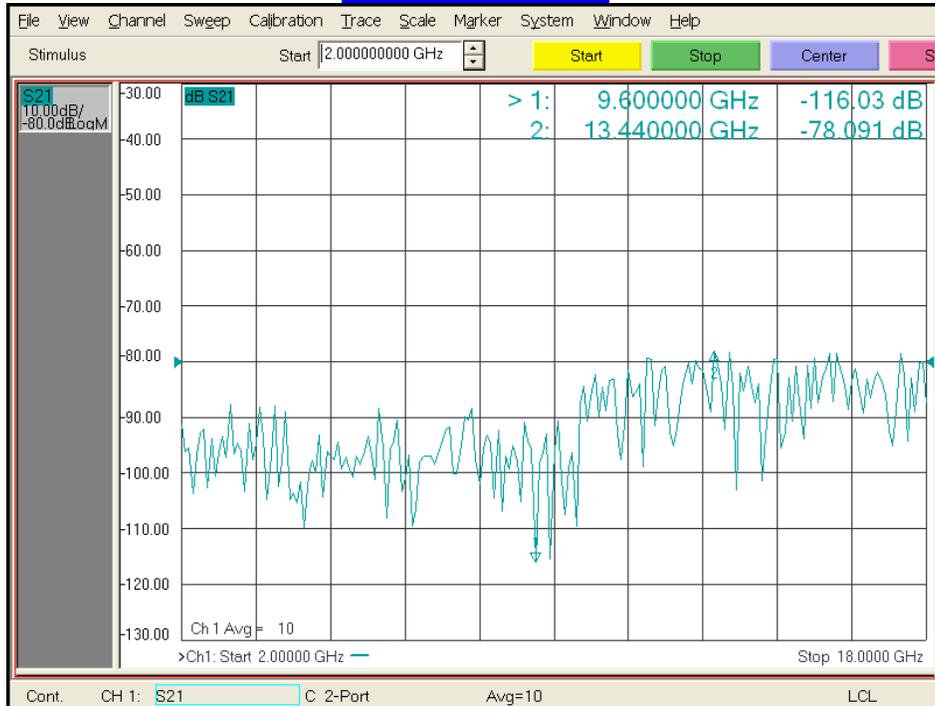
(J0 – J2) Isolation



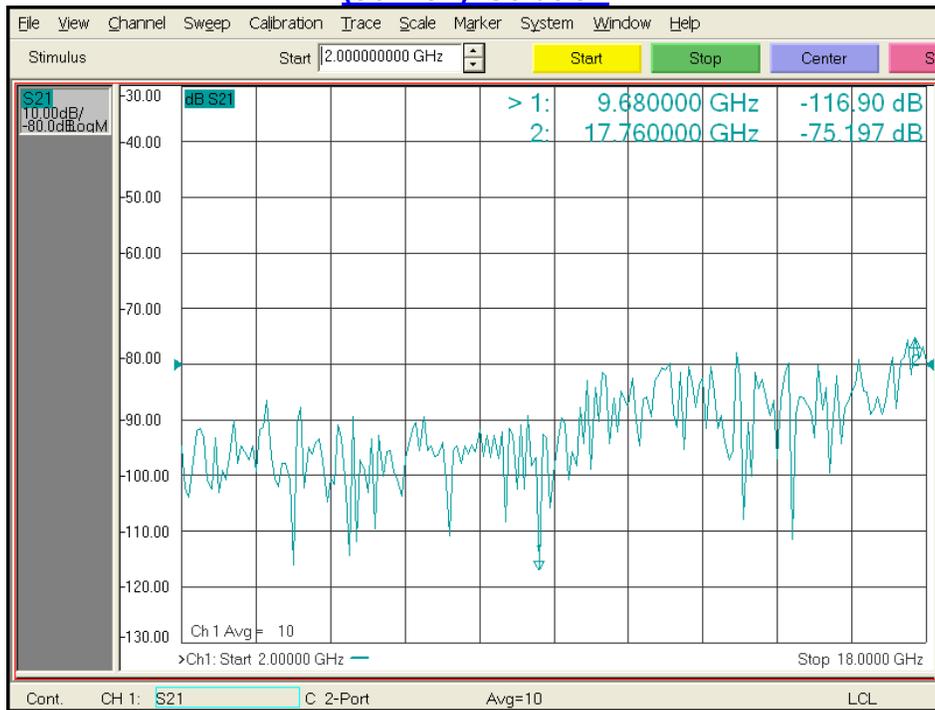


TYPICAL CHARACTERISTICS ON P6T-2G18G-55-R-512-SFF

(J0 – J3) Isolation



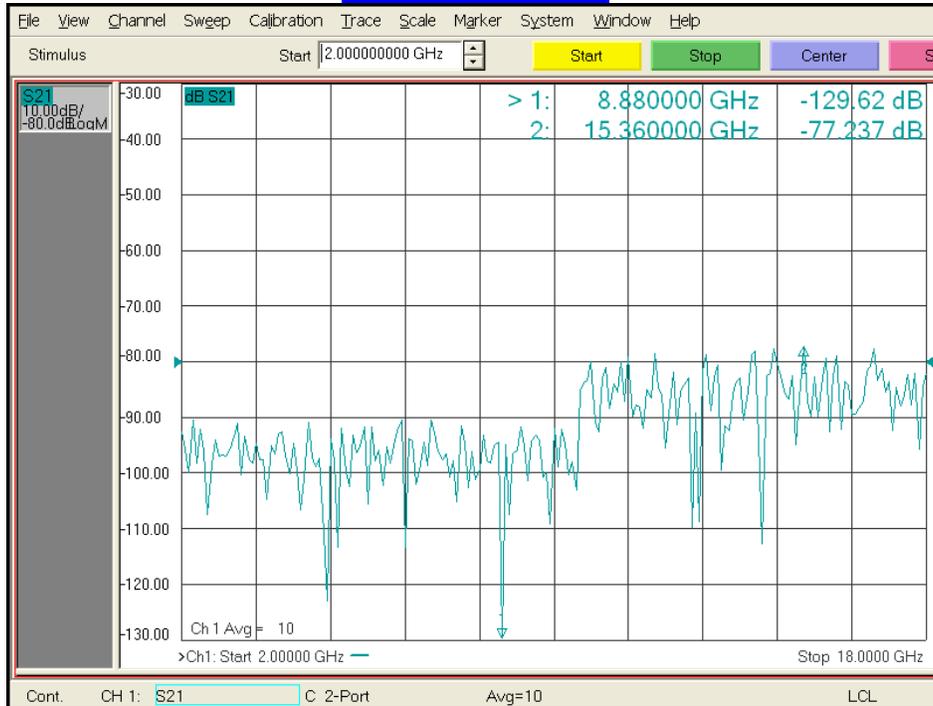
(J0 – J4) Isolation



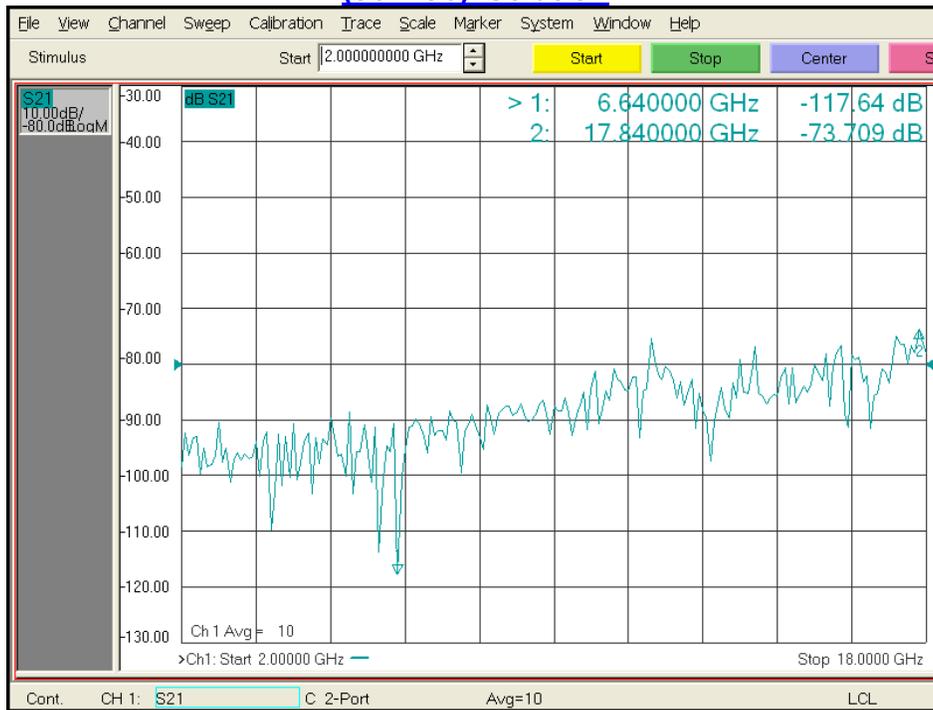


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(J0 – J5) Isolation



(J0 – J6) Isolation

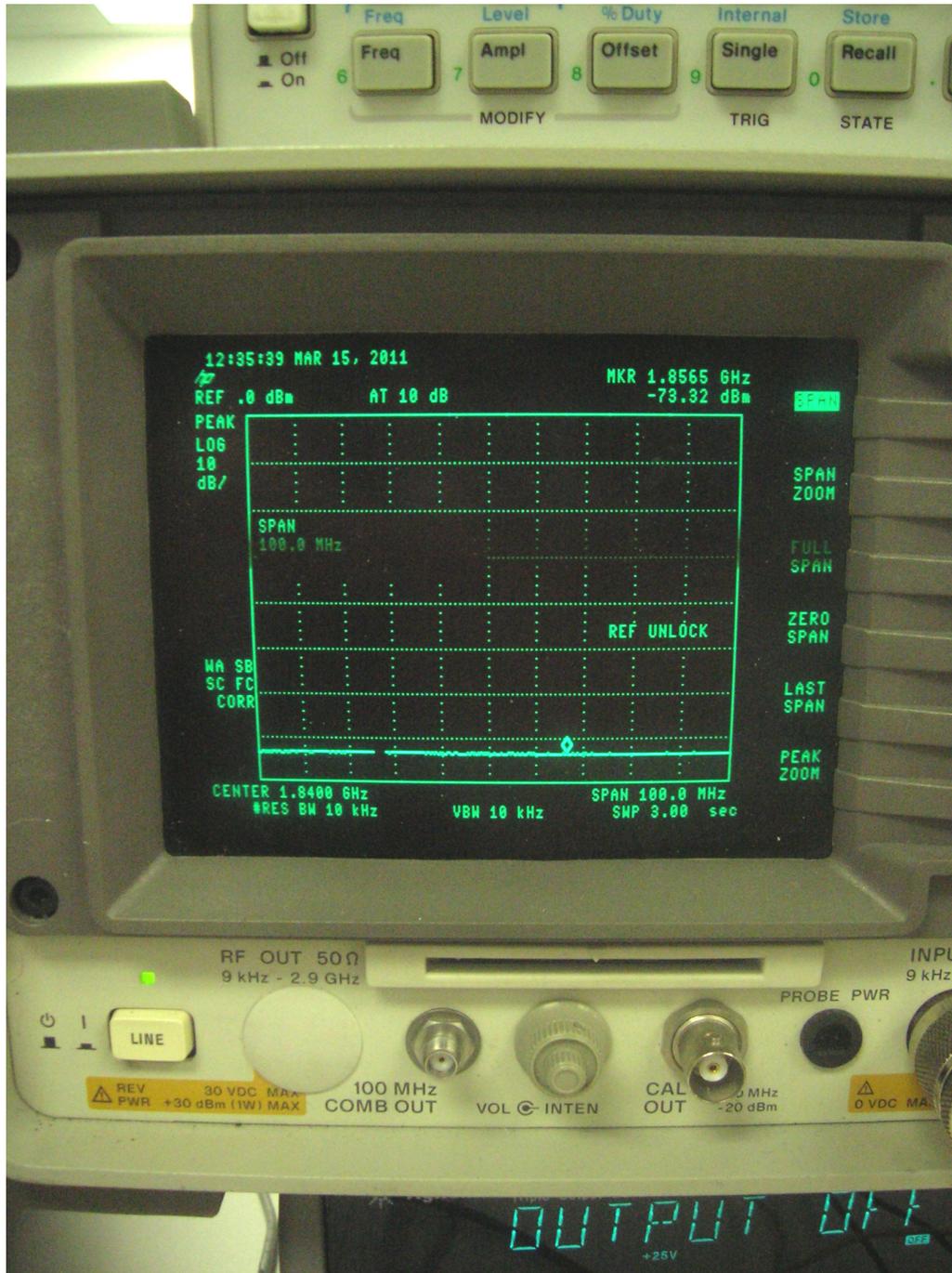




**TYPICAL CHARACTERISTICS
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Spectral Content @ 1.8565 GHz

Worst Case – Pulse OFF



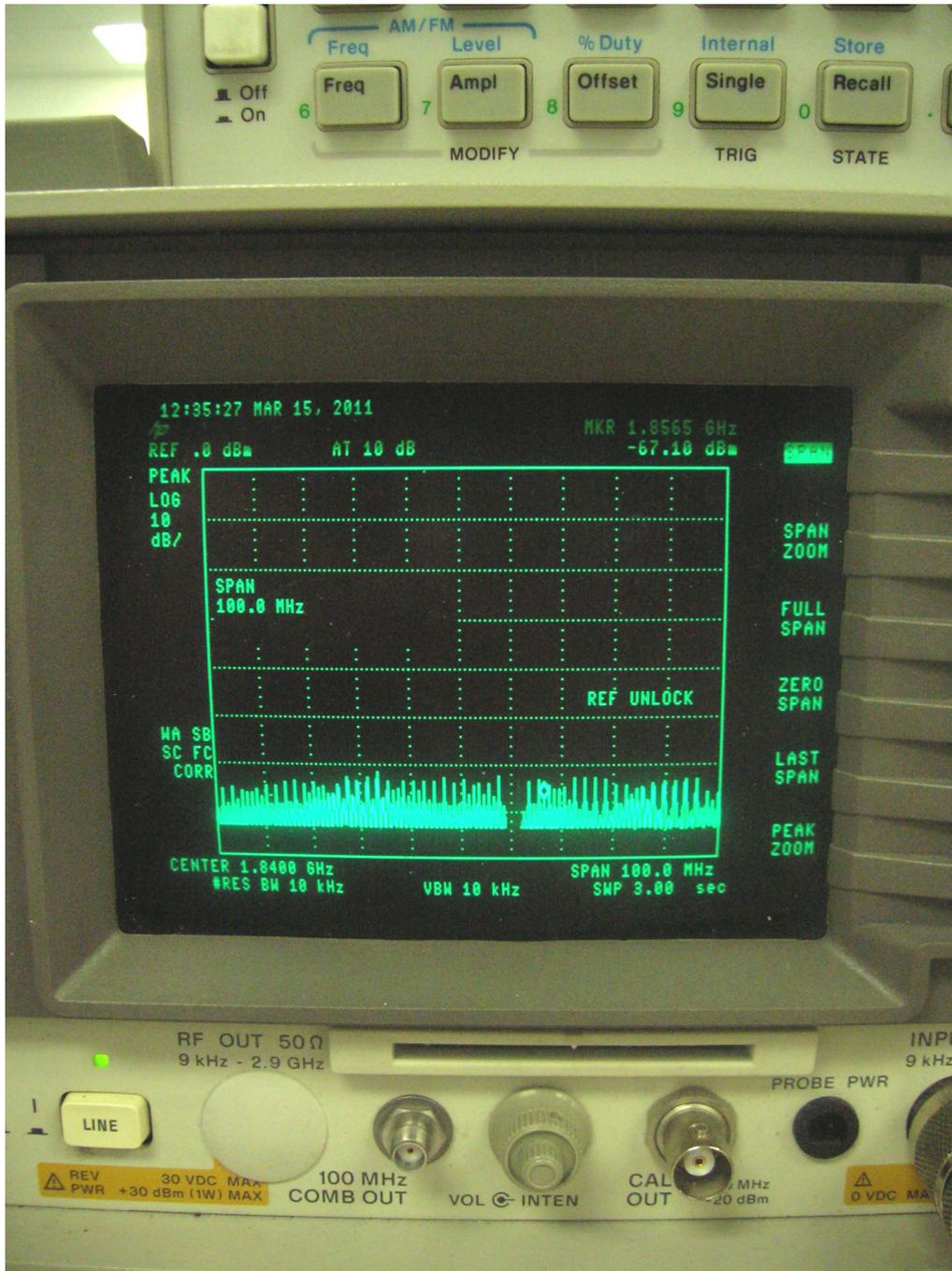
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Spectral Content @ 1.8565 GHz

Worst Case – Pulse ON





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Spectral Content Table

GHz	STEP 1		STEP 2	STEP 4		STEP 5	STEP 6		
	GAIN (dB)		Noise level without switching signal (dBm)	Noise level with switching signal (dBm)		(N)		dBm	mW
1	G1	30	-73	X1	-73	0	Y1	-103	
1.8565	G2	29.4	-73	X2	-64	9	Y2	-96.4	
3	G3	30.2	-73	X3	-70	3	Y3	-100.2	
4	G4	30.25	-73	X4	-73	0	Y4	-103.25	
5	G5	30.1	-73	X5	-73	0	Y5	-103.1	
6	G6	29.9	-73	X6	-73	0	Y6	-102.9	
7	G7	29.7	-73	X7	-73	0	Y7	-102.7	
8	G8	30	-73	X8	-73	0	Y8	-103	
9	G9	30.5	-73	X9	-73	0	Y9	-103.5	
10	G10	30.8	-73	X10	-73	0	Y10	-103.8	
11	G11	30.3	-73	X11	-73	0	Y11	-103.3	
12	G12	29.2	-73	X12	-73	0	Y12	-102.2	
13	G13	29.2	-73	X13	-73	0	Y13	-102.2	
14	G14	28.8	-73	X14	-73	0	Y14	-101.8	
15	G15	28.6	-73	X15	-73	0	Y15	-101.6	
16	G16	28.6	-73	X16	-73	0	Y16	-101.6	
17	G17	28.7	-73	X17	-73	0	Y17	-101.7	
18	G18	28.6	-73	X18	-73	0	Y18	-101.6	

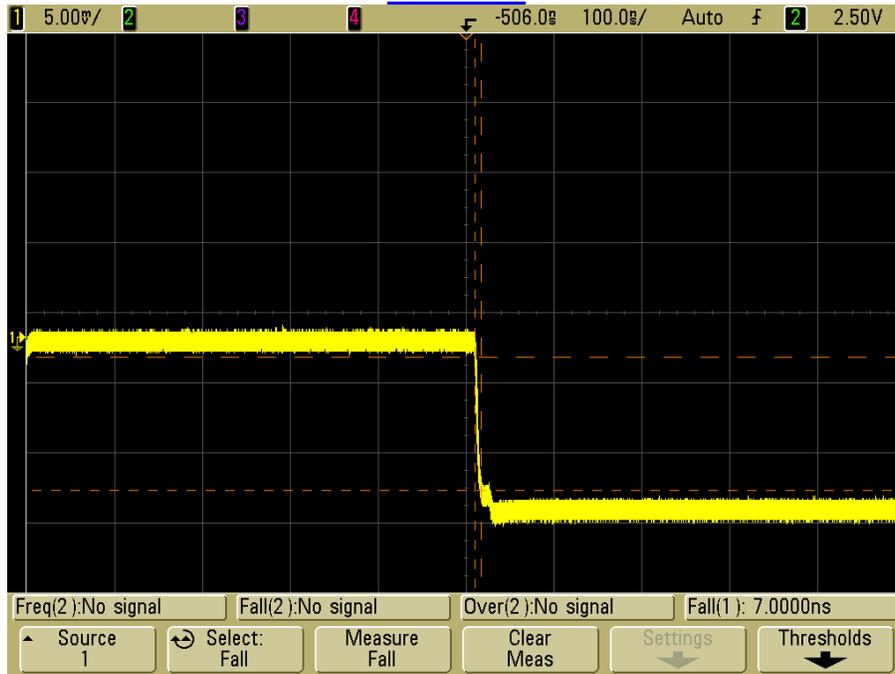
-9.64
2.29087E-10
-10.02
9.54993E-11
3.24586E-10
1.62293E-10
-9.78970018
-97.8970018
L= -59.8970018



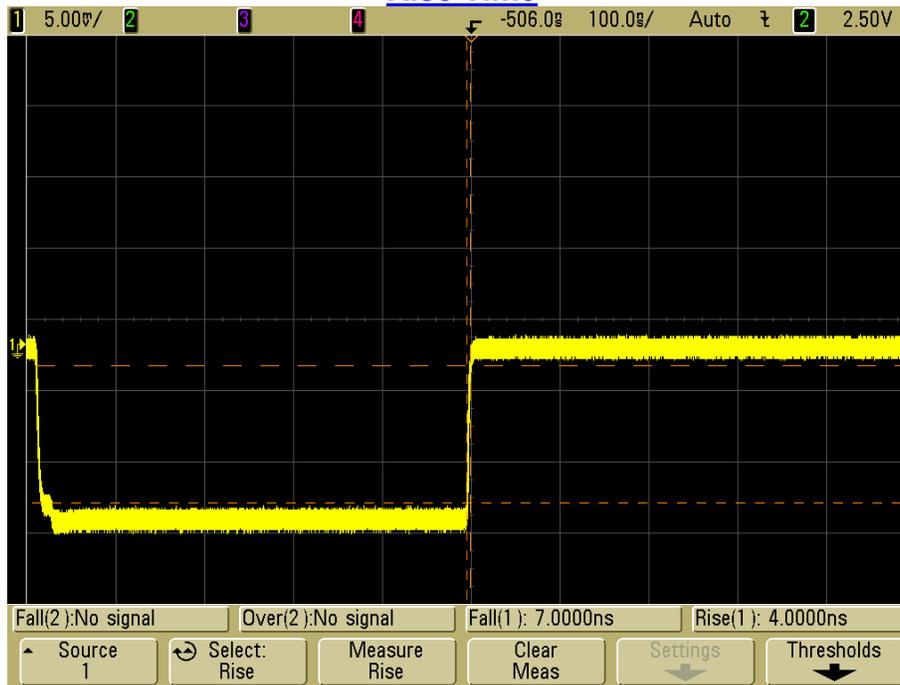
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Switching Speed

Fall Time



Rise Time



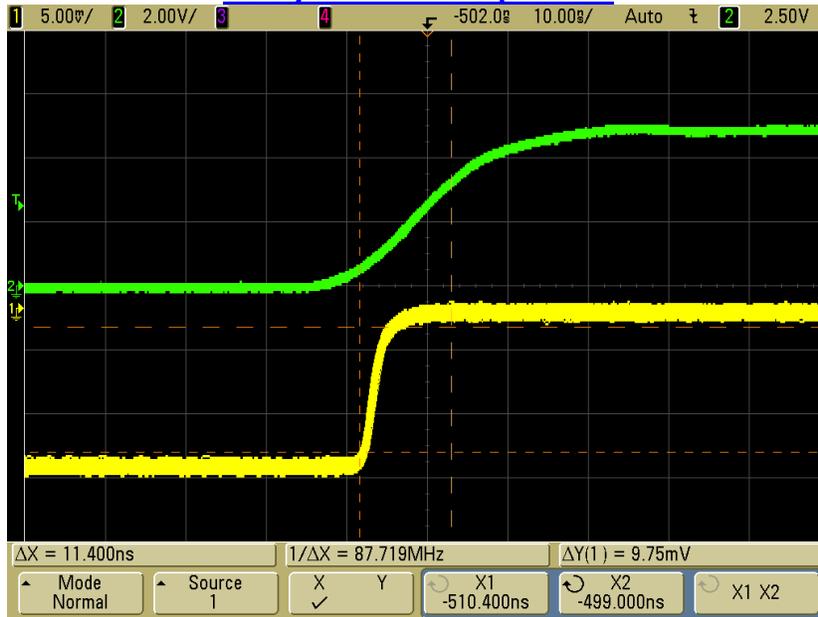
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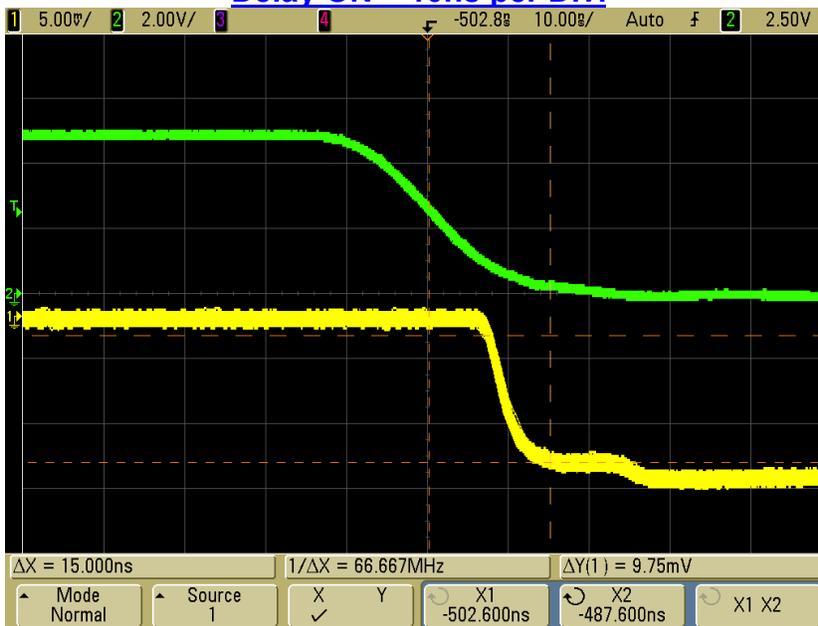
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Switching Speed

Delay OFF – 10ns per Div.



Delay ON – 10ns per Div.



Green Trace: TTL Signal
Yellow trace: RF Signal

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