



Typical Characteristics
For
P4T-500M40G-60-T-55-292FF-SP Rev. B

PL12444/1307

PMI MODEL P4T-500M40G-60-T-55-292FF-SP REV B IS AN ABSORPTIVE, SINGLE POLE, FOUR THROW PIN DIODE SWITCH THAT OPERATES OVER THE 0.5 GHz TO 40 GHz FREQUENCY RANGE. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.



September 25, 2013
Tested By: Hugo Gonzales
Reported by: Hugo Gonzales / Sebastian Palacio



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DESCRIPTION

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SPECIFICATIONS

- FREQUENCY RANGE: 0.5 TO 40 GHz
- ISOLATION: 80 dB MIN
- INSERTION LOSS: 8.0 dB MAX
- VSWR IN / OUT: 2.5 : 1 MAX, 2.0 : 1 TYP
- INPUT POWER: +20 dbm CW MAX
- SURVIVAL POWER: 1W PEAK TYP
- RF SWITCHING SPEED: RISE: 15ns MAX
FALL: 15ns MAX
DELAY ON: 50ns MAX
DELAY OFF: 50ns MAX
- DC VOLTAGE: +5 VDC @ 250 mA MAX
-5 VDC @ 100 mA MAX
- CONTROL SIGNAL: TTL LOGIC
SEE LOGIC TABLE
- CONNECTORS IN/OUT: 2.92mm FEMALE CONNECTORS
- CONTROL CONNECTORS: SOLDER PINS
- FINISH: GOLD PLATED

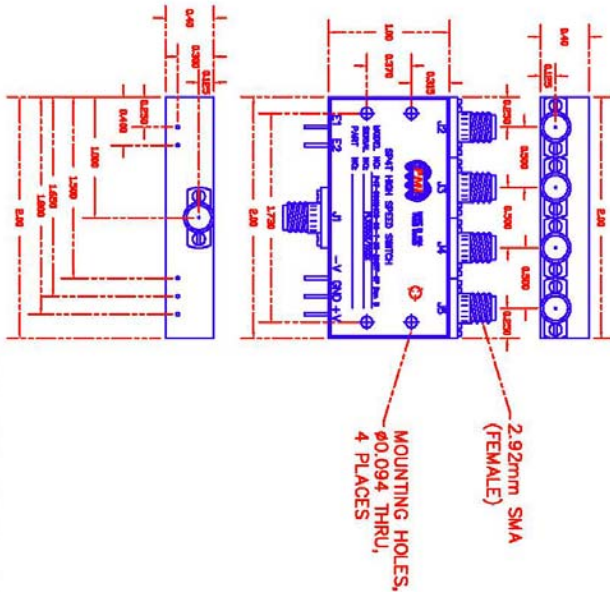
ENVIRONMENTAL RATINGS

- TEMPERATURE: -40°C TO +85°C (OPERATING)
-55°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
 - SALT FOG: MIL-STD-202F, METHOD 107D COND. A
 - FUNGUS: MIL-STD-810C, METHOD 508.2
 - TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107
- NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE RANGE. SEE THE ABOVE SPECIFICATIONS FOR SUBJECT TO CHANGE OR REVISION.

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"

REVISIONS		
DATE	DESCRIPTION	APPROVED
07/28/10	ORIGINAL RELEASE	
02/18/11	NEW DESIGN	
06/28/18	ECN # 13-0072	

MECHANICAL OUTLINE



PMI CONFIDENTIAL AND PROPRIETARY

ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
XXX .0100
XXX .0100
XXX .0100

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 9001:2008 CERTIFIED

PMI

APPROVALS	DATE	TITLE	PRODUCT FEATURE
JKL	07/28/10	P4T-500M40G-60-T-55-292FF-SP Rev. B	
DESIGNED		SIZE / PCH NO.	27013621-B
ISSUED		QTY	1 OF 1



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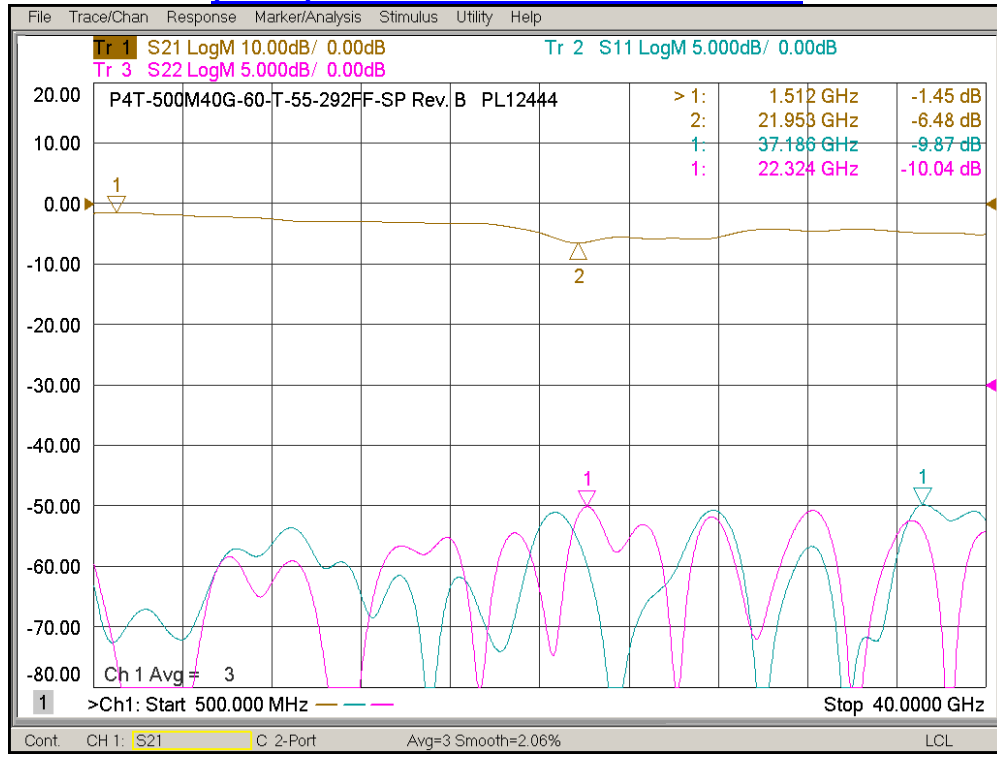
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE			TEST RESULTS	QA/QC
1	Frequency Range:	0.5 – 40 GHz			0.5 – 40 GHz	
2	Isolation:	60dB Min.			74.66dB See Plots	
3	Insertion Loss:	8.0dB Max.			6.56dB See Plots	
4	VSWR : In/Out	2.5:1 Max. 2.0:1 Typ.			Input 1.95:1 Output 1.92:1 See Plots	
5	Input Power	+20dBm CW Max.			Pass	
6	Survival Power	1W Peak 1us			Pass	
7	RF Switching Speed:	Rise/Fall:	15 ns Max.		5ns Max. 20ns Max. See Plots	
		Delay On/Off :	50 ns Max.			
8	DC Supply:	+5V @ 250mA Max. -5V @ 100mA Max.			125mA 70mA	
9	Video Transients	Not Specified			1V Peak to Peak Typ.	
10	Control Signal	E1	E2	Function	Pass	
		0	0	J1 – J2 “Low Loss”		
		0	1	J1 – J3 “Low Loss”		
		1	0	J1 – J4 “Low Loss”		
		1	1	J1 – J5 “Low Loss”		



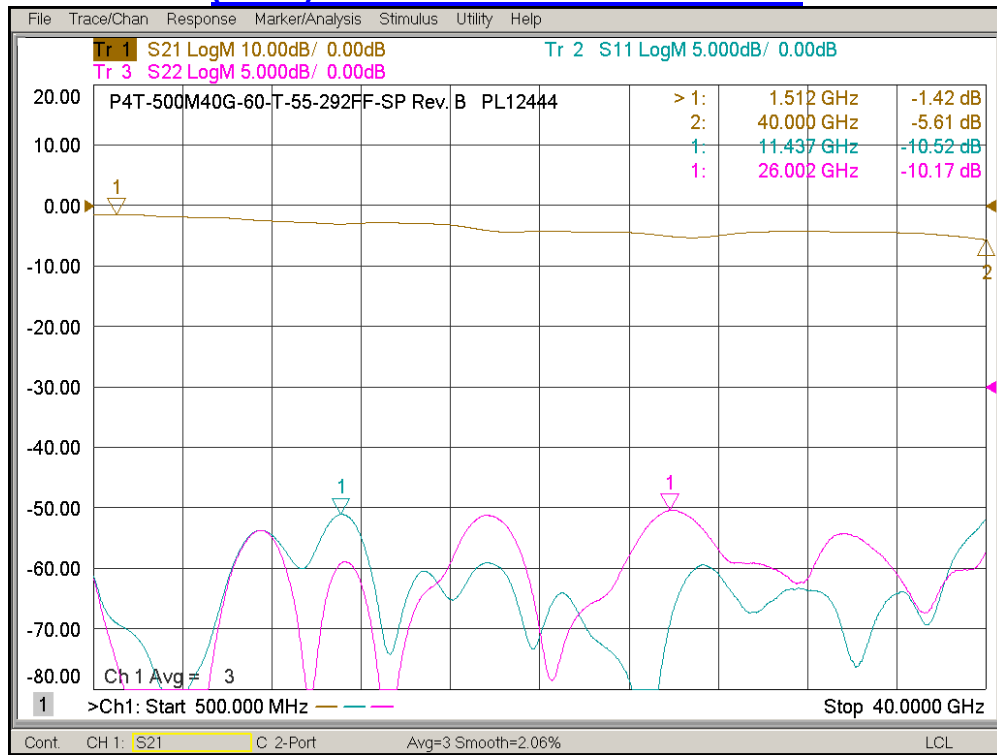
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(J1-J2) Insertion Loss and Return Loss



(J1-J3) Insertion Loss and Return Loss

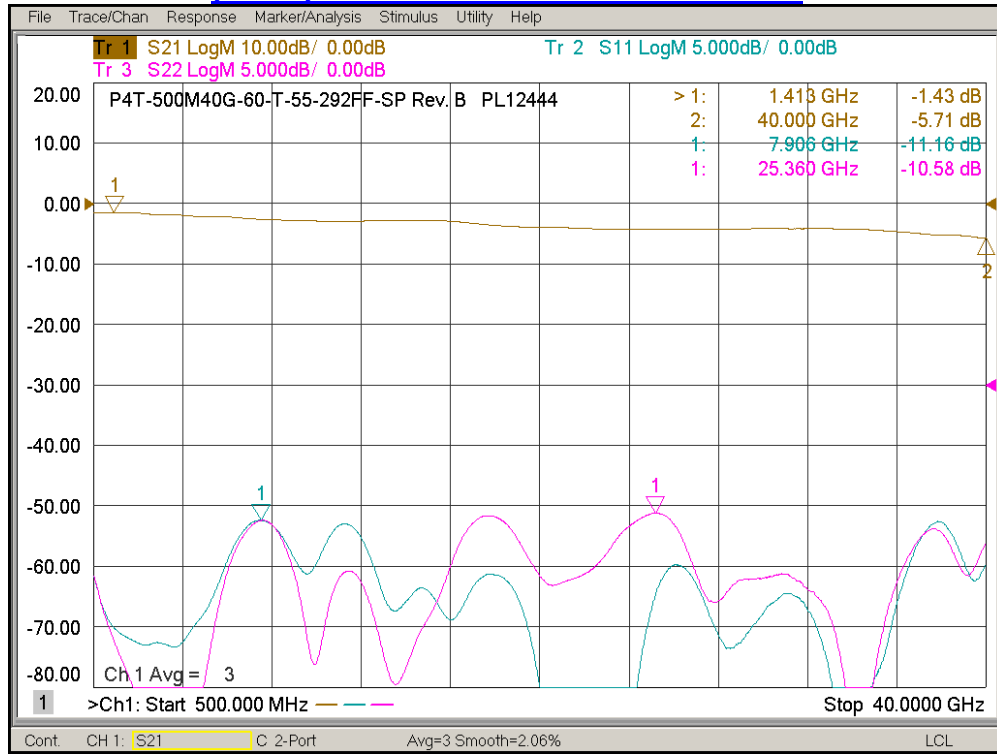




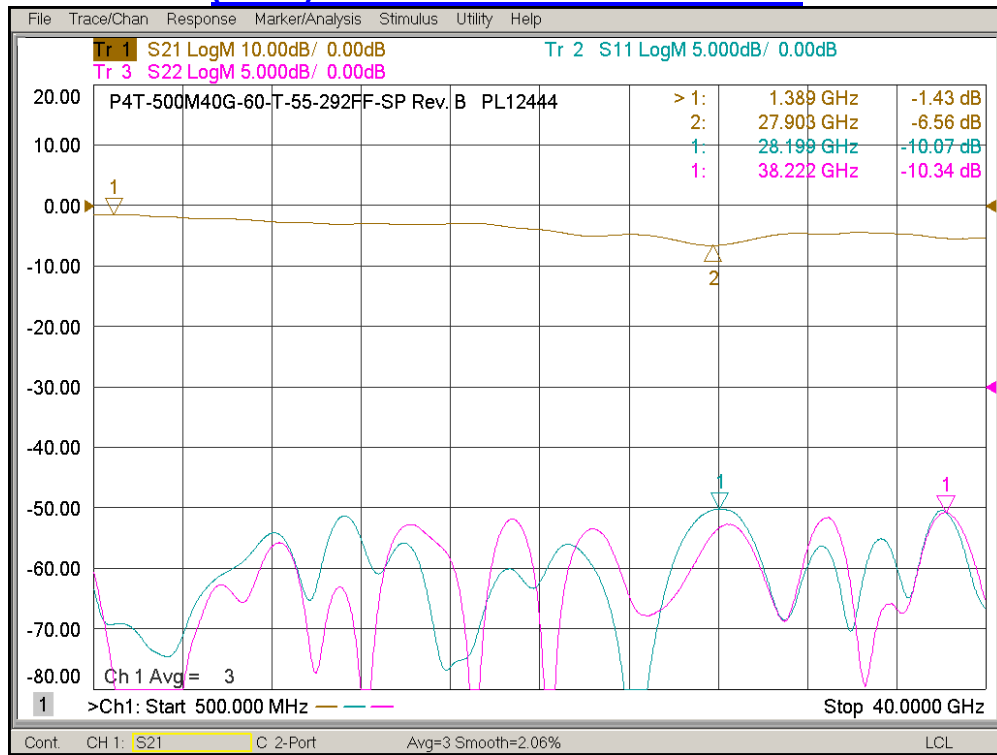
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(J1-J4) Insertion Loss and Return Loss



(J1-J5) Insertion Loss and Return Loss

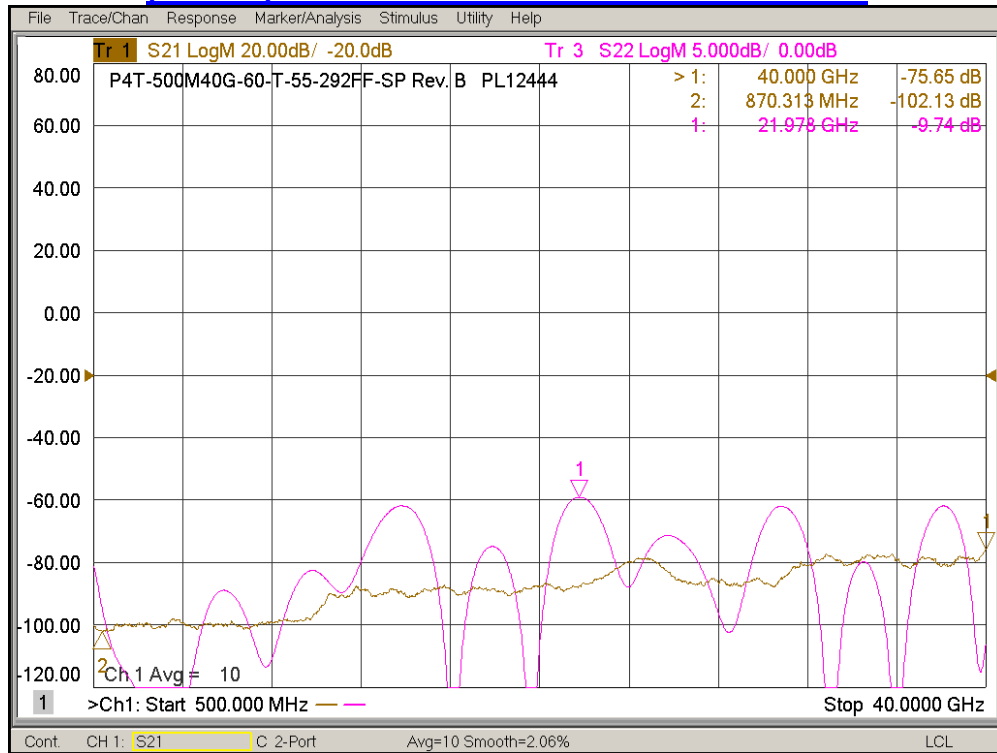




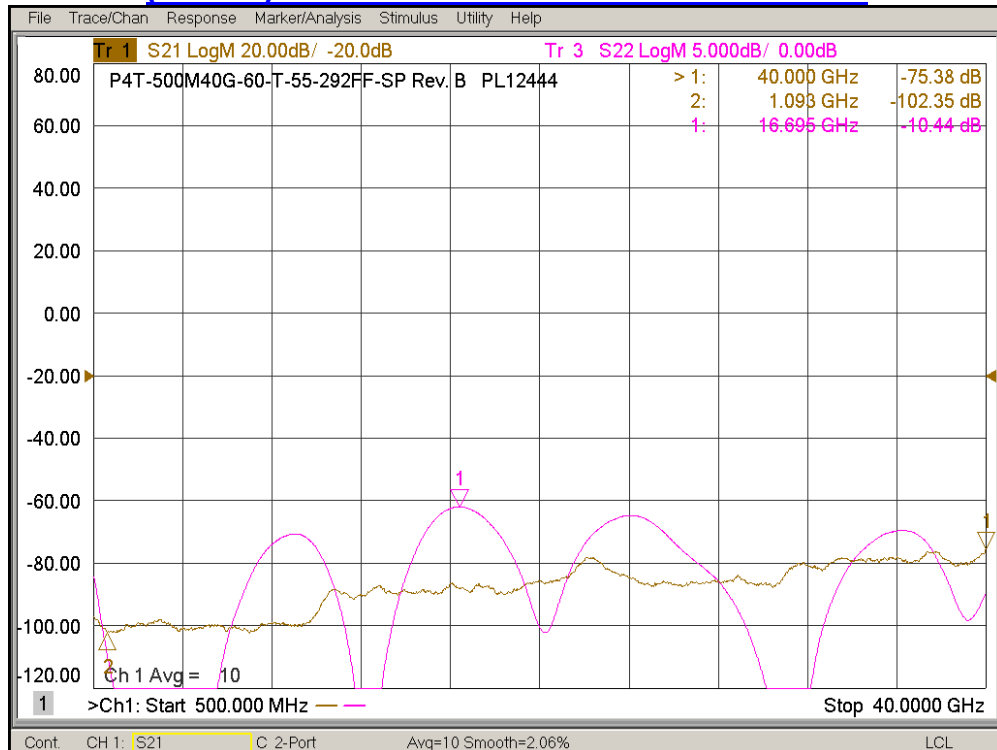
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(J1 – J2) Isolation and Termination Return Loss



(J1 – J3) Isolation and Termination Return Loss

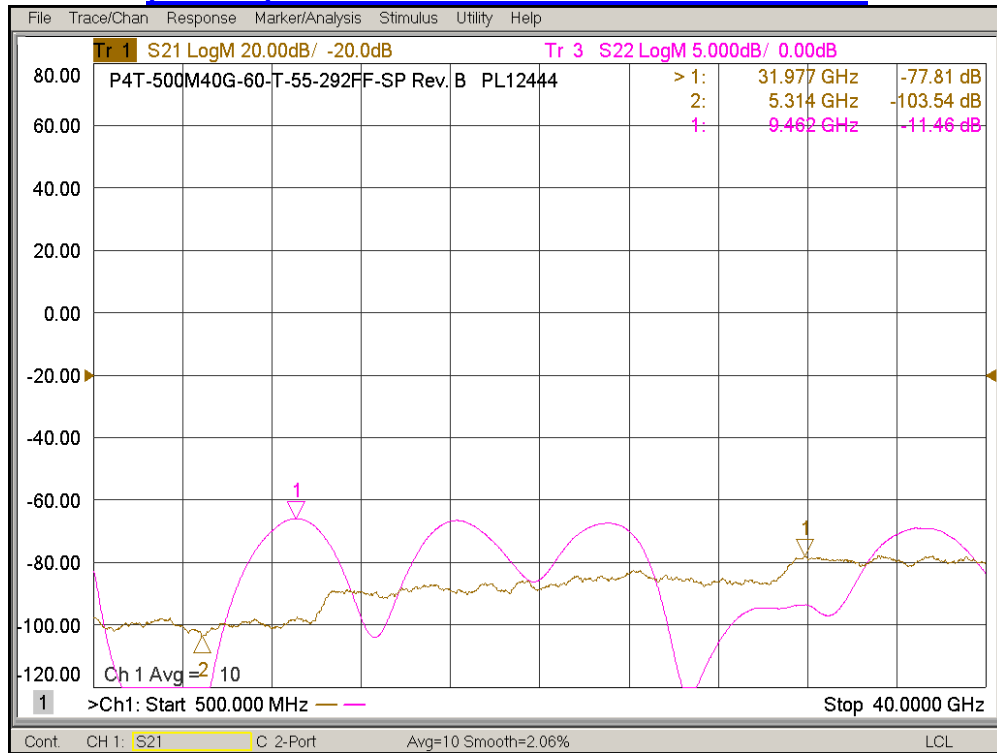




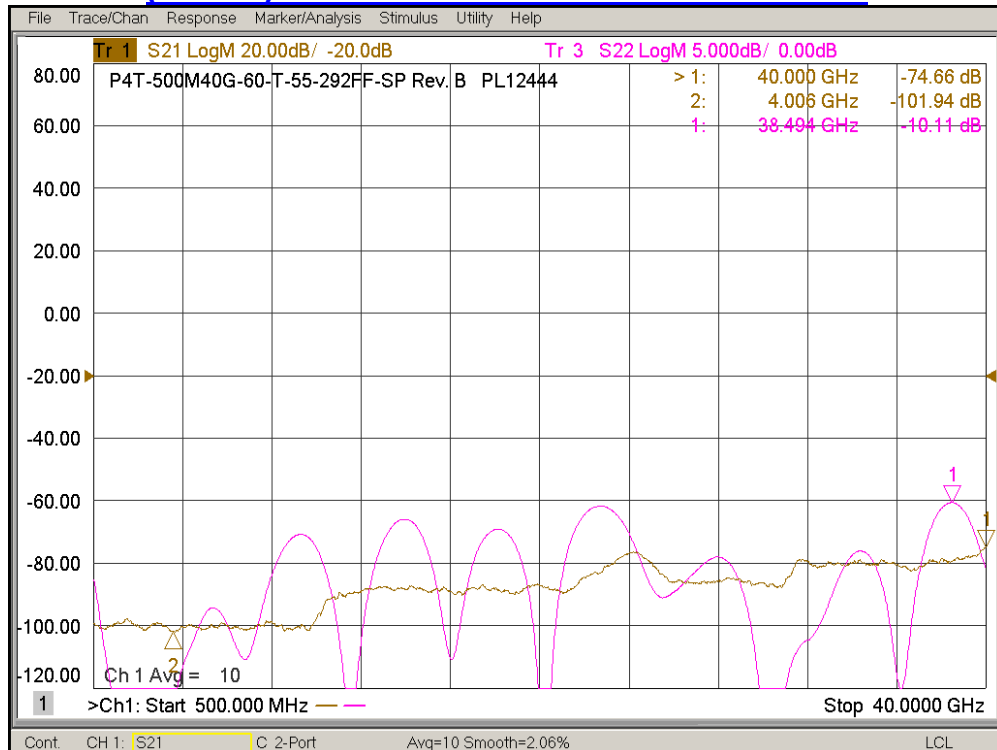
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(J1 – J4) Isolation and Termination Return Loss



(J1 – J5) Isolation and Termination Return Loss



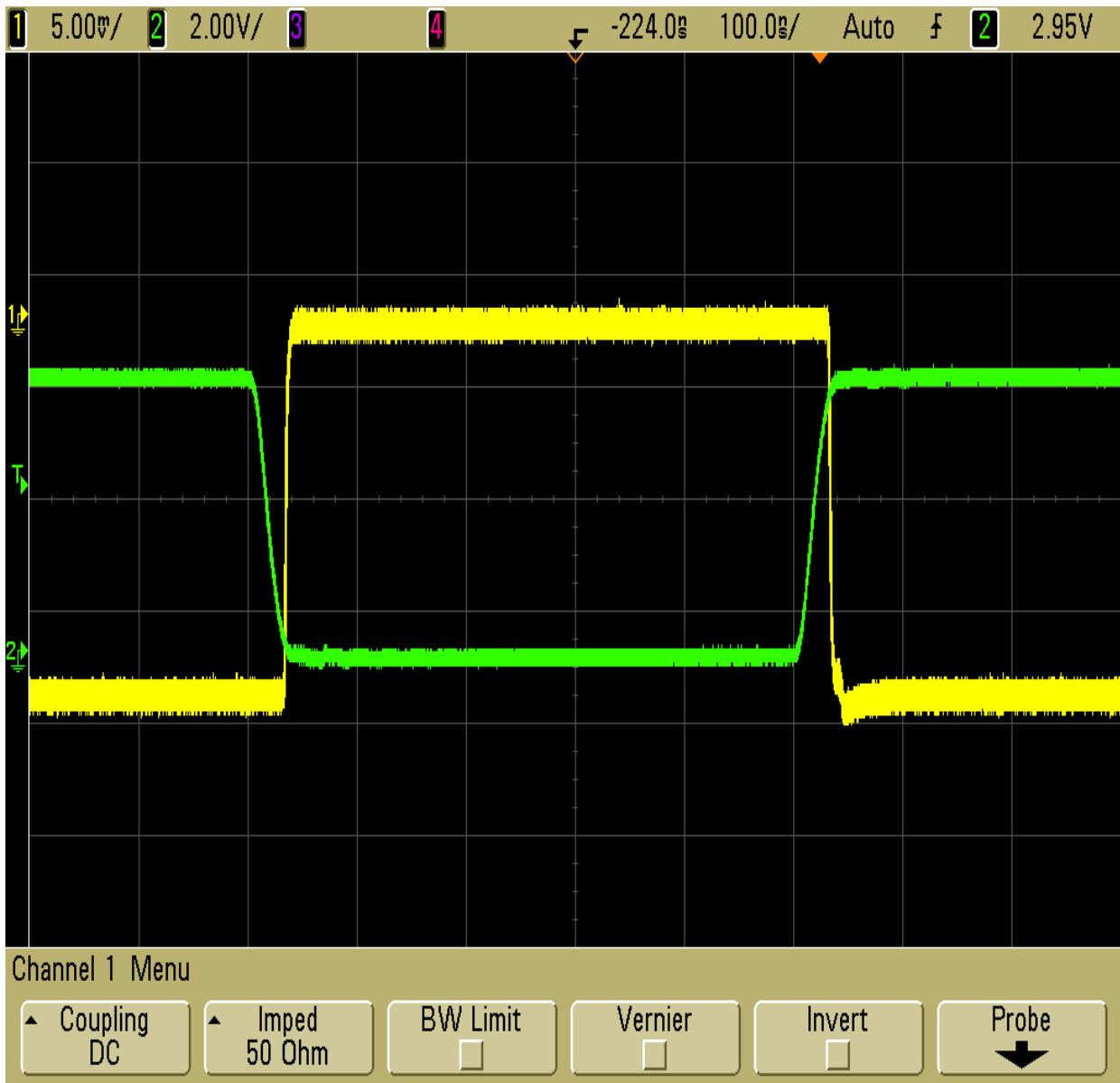


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Switching Speed

Full Pulse



Green Trace: TTL Signal
Yellow Trace: RF Signal



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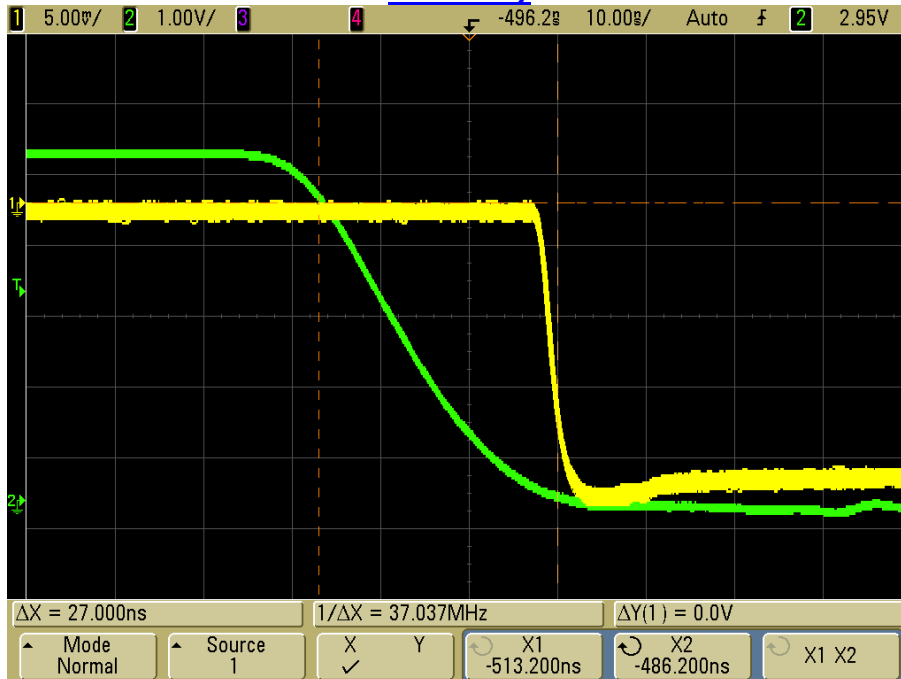
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Switching Speed

OFF Delay



ON Delay



Green Trace: TTL Signal
Yellow Trace: RF Signal

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



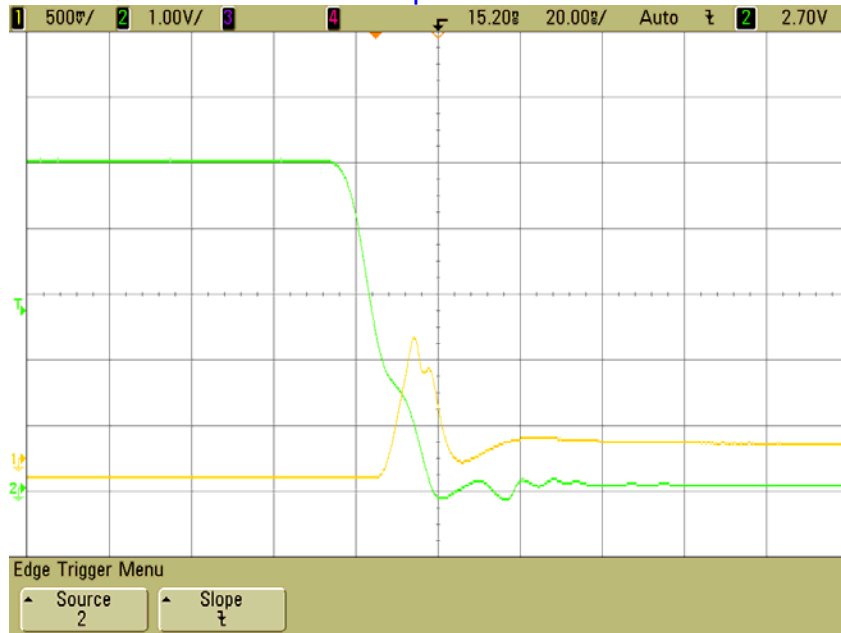
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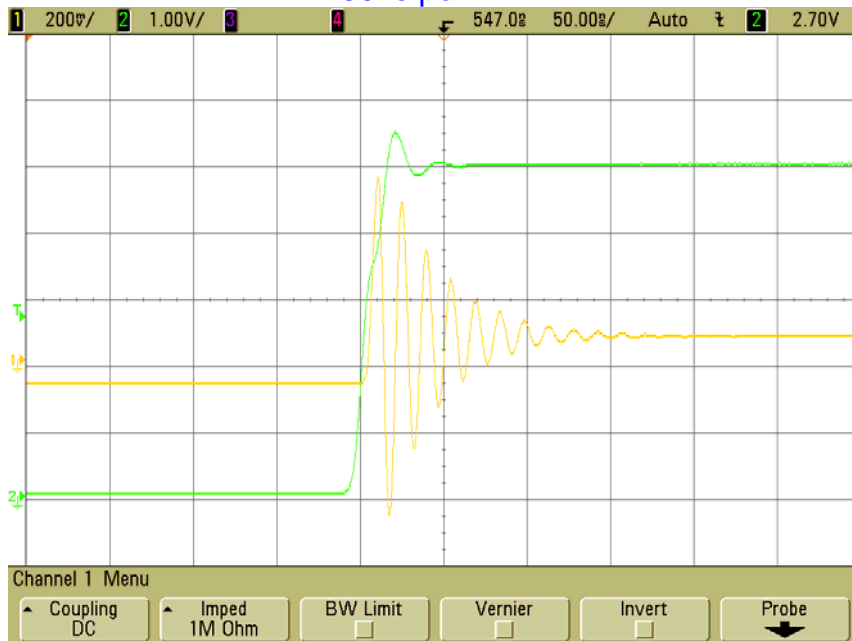
Video Transients

Common Arm (J1)

20ns per Div.



50ns per Div.



Green Trace: TTL Signal
Yellow Trace: Video Transients