



TYPICAL CHARACTERISTICS FOR P4T-1G20G-60-T-SFF-2W-2-HERM

PMI MODEL NUMBER P4T-1G20G-60-T-SFF-2W-2-HERM IS A SINGLE POLE, FOUR THROW, BROAD BAND, HIGH POWER, SOLID STATE ABSORPTIVE SWITCH, WITH HIGH ISOLATION AND LOW LOSS.



Designed by: PMI Engineering

Tested by: Kevin Mansfield

March 25, 2017

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



**TYPICAL CHARACTERISTICS
FOR
P4T-1G20G-60-T-SFF-2W-2-HERM**

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TYPICAL CHARACTERISTICS FOR P4T-1G20G-60-T-SFF-2W-2-HERM

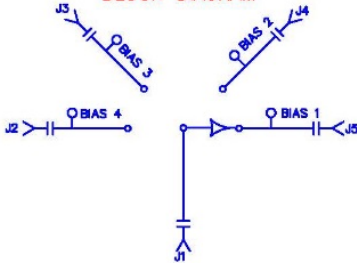
SPECIFICATIONS:

PMI MODEL NUMBER P4T-1G20G-60-T-SFF-2W-2-HERM IS A SINGLE POLE FOUR THROW, BROAD BAND, HIGH POWER, SOLID STATE ABSORPTIVE SWITCH WITH HIGH ISOLATION AND LOW LOSS.

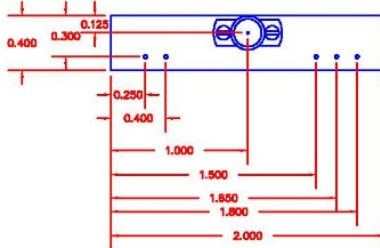
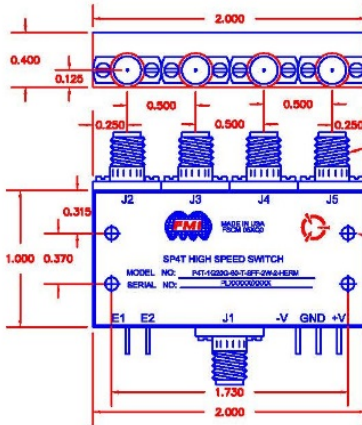
SPECIFICATIONS:

- FREQUENCY: 1 GHz TO 20 GHz
- INSERTION LOSS: 4.5dB Typ. (1-18GHz)
6.5dB Typ. (18-20GHz)
- ISOLATION: 60dB Min. (1-18GHz)
50dB Typ. (18-20GHz)
- VSWR: ABSORPTIVE IN/OUT: 2.0:1 Typ.
ABSORPTIVE OUT/OFF: 2.0:1 Typ.
- SPEED: DELAY ON: 500ns TYPICAL
DELAY OFF: 500ns TYPICAL
- POWER INPUT: +33 dBm CW
- CONTROL: SEE LOGIC TABLE
- POWER SUPPLY: +5V @ 150 mA MAX.
-12V @ 100 mA MAX.
- FINISH: PAINTED BLUE
- SEAL: HERMETIC

BLOCK DIAGRAM



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	9/12/16	
	A1	ECN # 17-0043	3/08/17	



- LOGIC INPUT
LOGIC "0" (BIT OFF) -0.3 to +0.8V
LOGIC "1" (BIT ON) +2.0 to +5.0V

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"

"E1, E2 PULLED "1" BY DESIGN

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



ENVIRONMENTAL RATINGS:

- TEMPERATURE: -55°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. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A

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

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

APPROVALS		DATE	TITLE		
DESIGN	<i>B. Thomas</i>	9/12/16	PRODUCT FEATURE		
CHECKED			P4T-1G20G-60-T-SFF-2W-2-HERM		
ISSUED			SIZE	FRM NO.	DWG. NO.
			A	05XQ0	27030561
			SCALE	N:S	SHEET 1 OF 1
					REV. A1

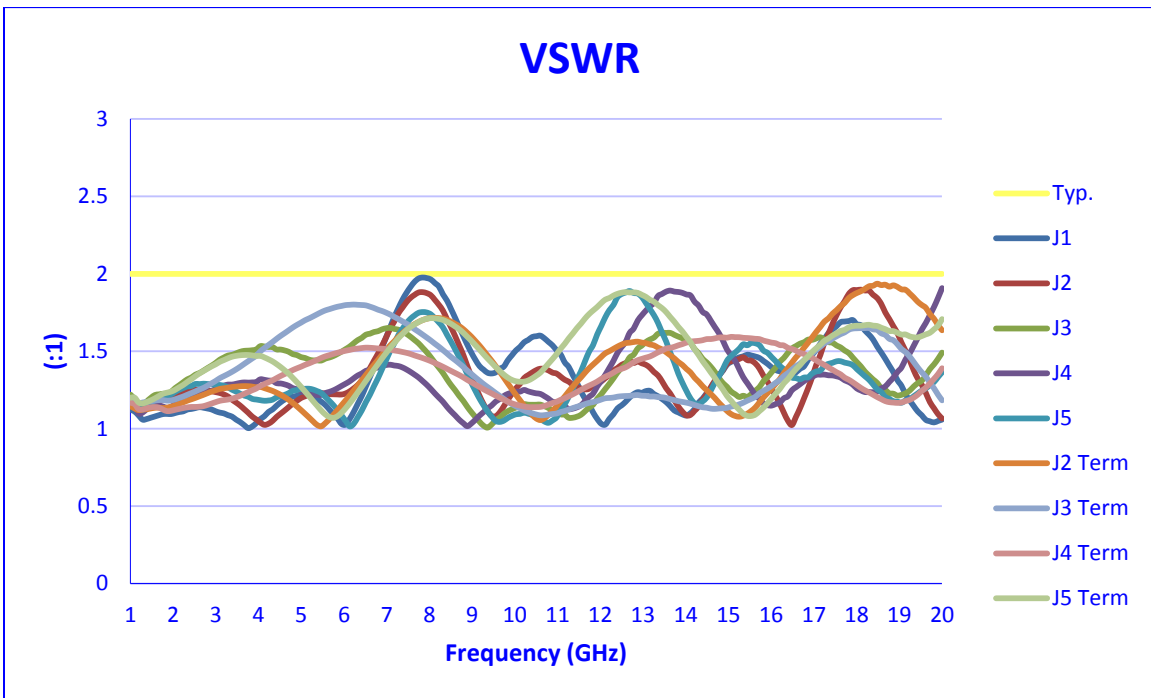
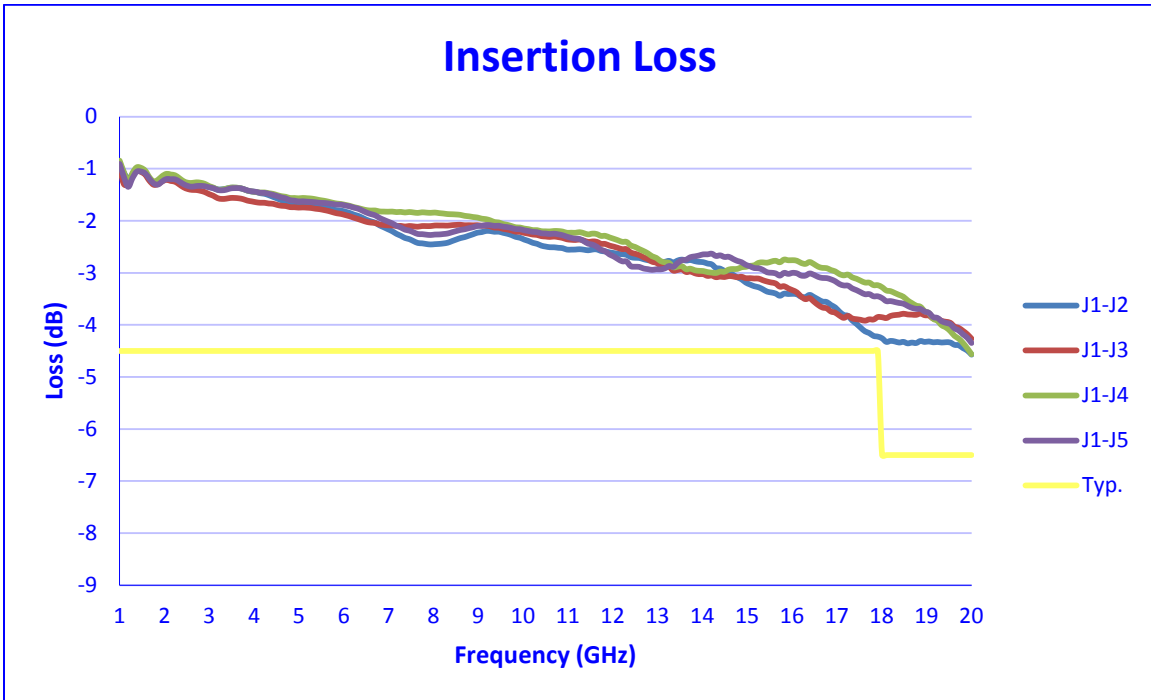


TYPICAL CHARACTERISTICS FOR P4T-1G20G-60-T-SFF-2W-2-HERM

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC															
1	Frequency Range:	1 GHz TO 20 GHz	1 GHz TO 20 GHz																
2	Insertion Loss:	4.5 dB Typ. (1-18 GHz) 6.5 dB Typ. (18-20 GHz)	4.3 dB (1-18 GHz) 4.5 dB (18-20 GHz) (See Plot)																
3	Isolation:	60 dB Min. (1-18 GHz) 50 dB Typ. (18-20 GHz)	68 dB (1-18 GHz) 58 dB (18-20 GHz) (See Plot)																
4	VSWR:	Absorptive In/Out: 2.0:1 Typ. Absorptive Out/Off: 2.0:1 Typ.	2:1 In/Out 1.9:1 Out/Off (See Plot)																
5	Speed:	Delay On: 500 ns Typ. Delay Off: 500 ns Typ.	333 ns On 41 ns Off (See Plot)																
6	Power Input:	+33 dBm CW	Pass																
7	Power Supply:	+5 VDC @ 150 mA -12 VDC @ 100 mA	86 mA 61 mA																
8	Control:	<table border="0"> <tr> <td>E1</td> <td>E2</td> <td>Function</td> </tr> <tr> <td>0</td> <td>0</td> <td>J1-J2 "Low Loss"</td> </tr> <tr> <td>0</td> <td>1</td> <td>J1-J3 "Low Loss"</td> </tr> <tr> <td>1</td> <td>0</td> <td>J1-J4 "Low Loss"</td> </tr> <tr> <td>1</td> <td>1</td> <td>J1-J5 "Low Loss"</td> </tr> </table>	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"	Pass	
E1	E2	Function																	
0	0	J1-J2 "Low Loss"																	
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1	0	J1-J4 "Low Loss"																	
1	1	J1-J5 "Low Loss"																	

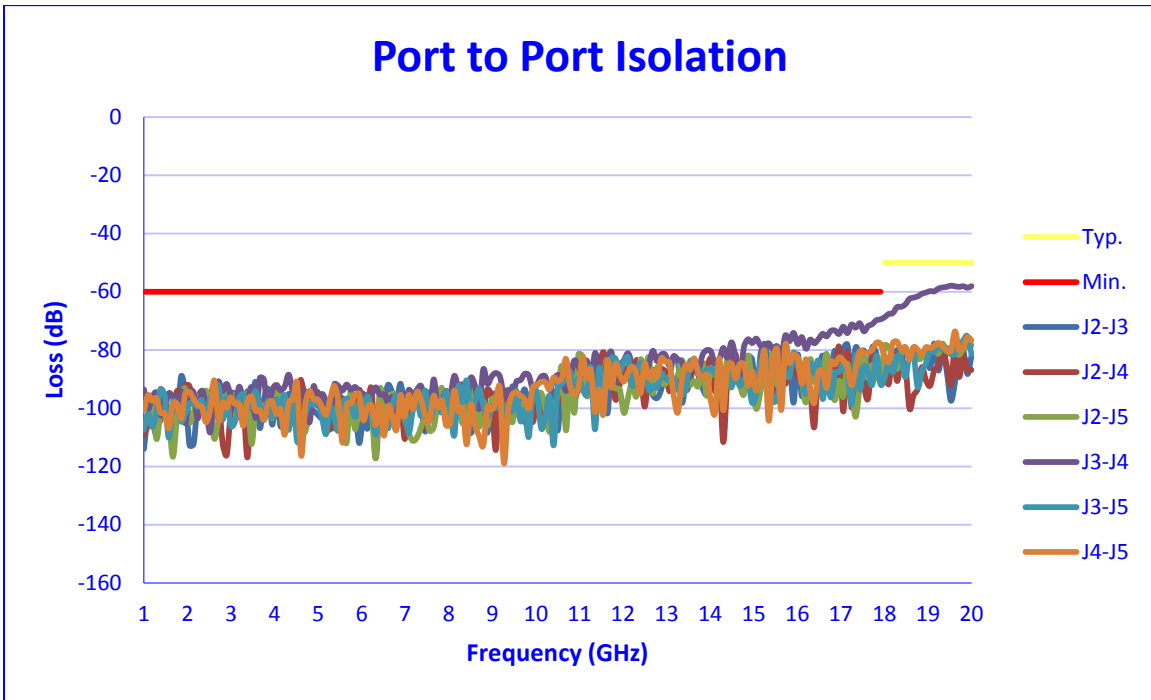
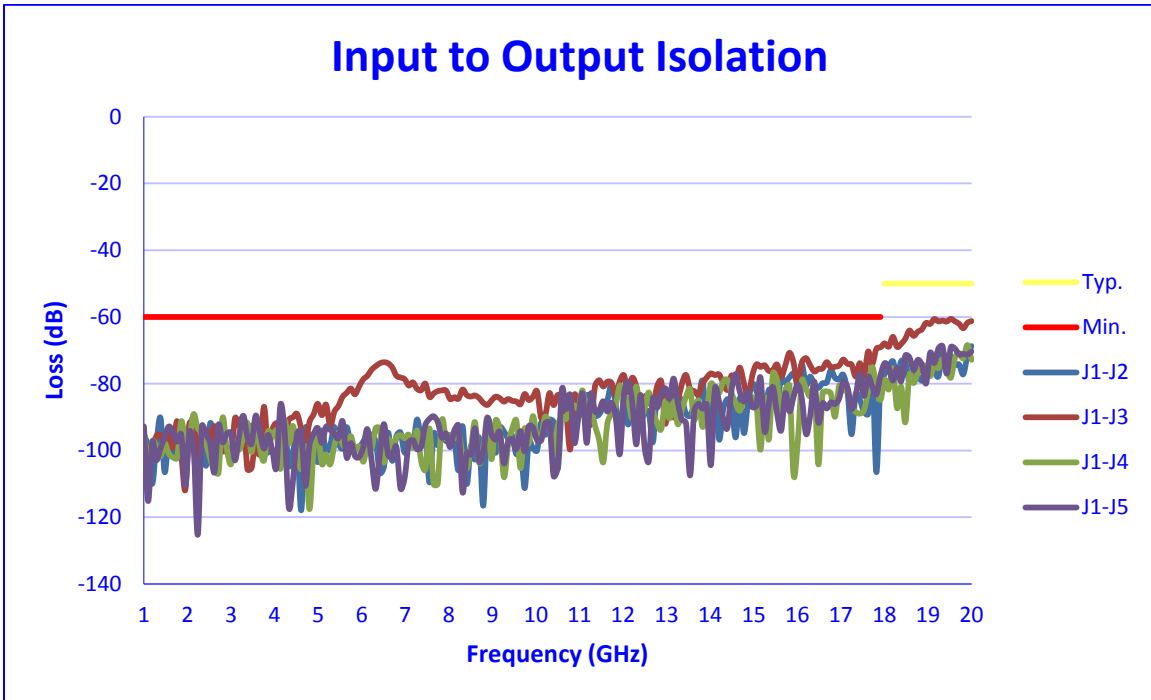


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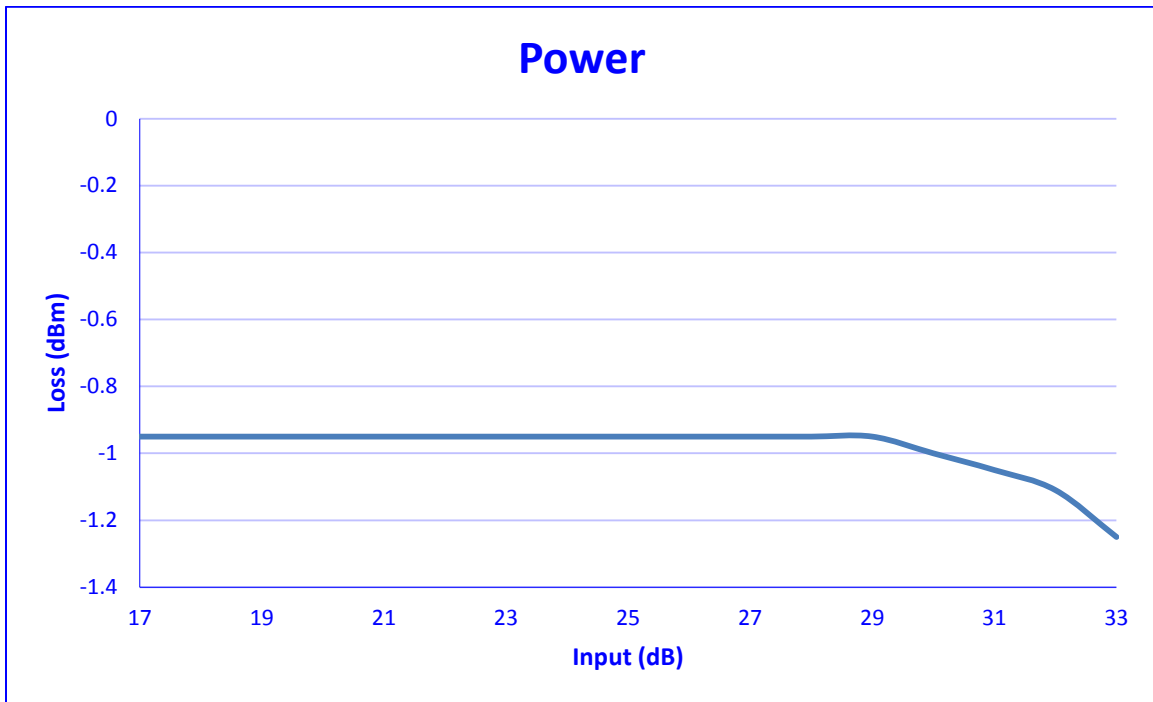


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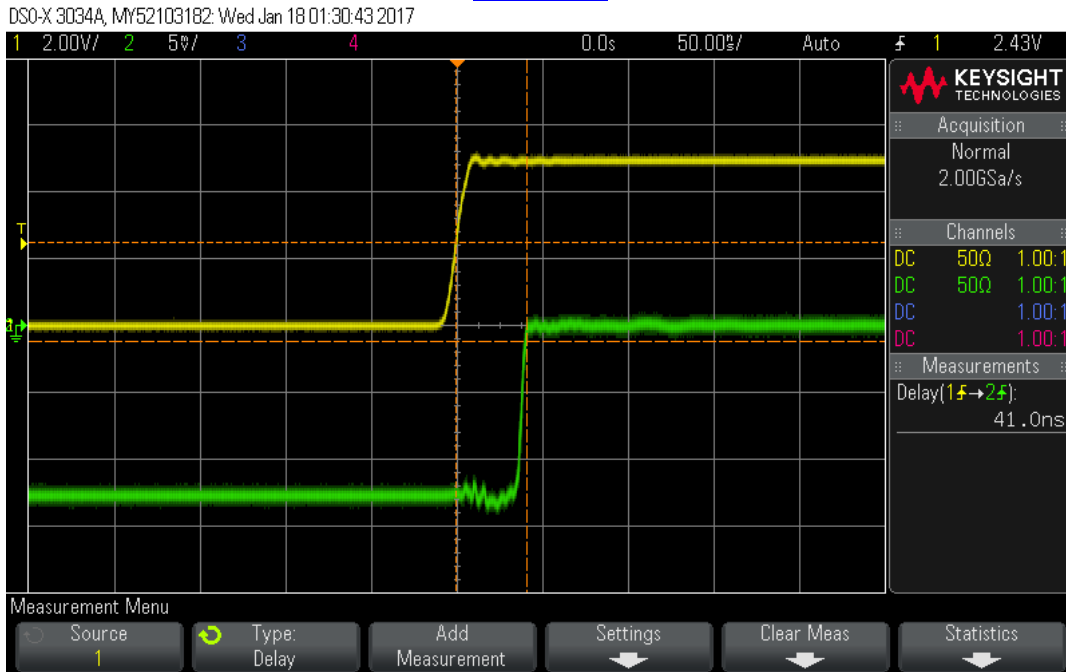
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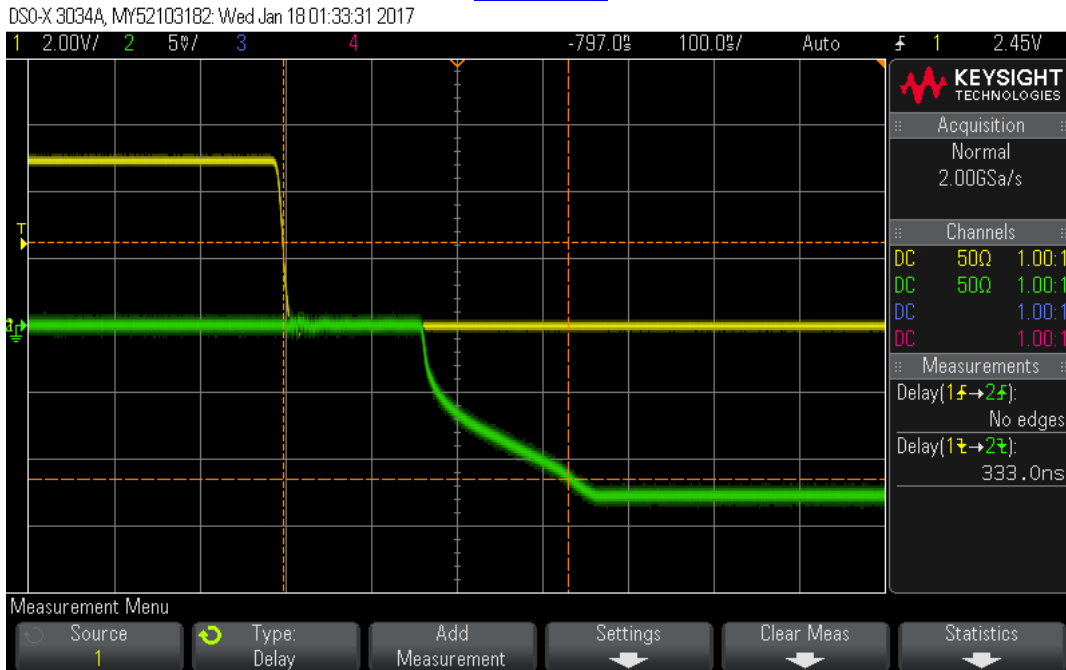


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Delay (Off)



Delay (On)

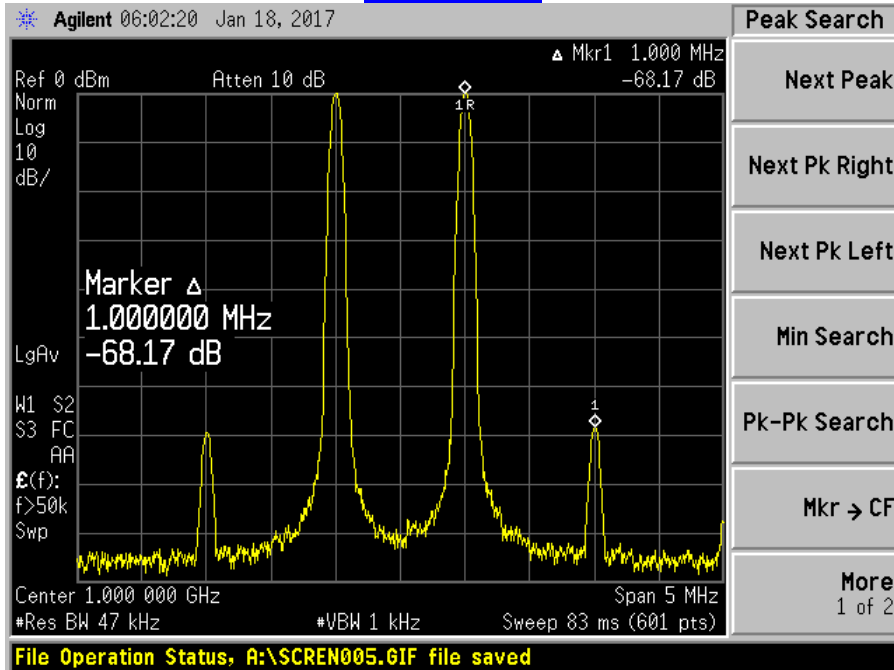


Yellow Trace = TTL
Green Trace = RF



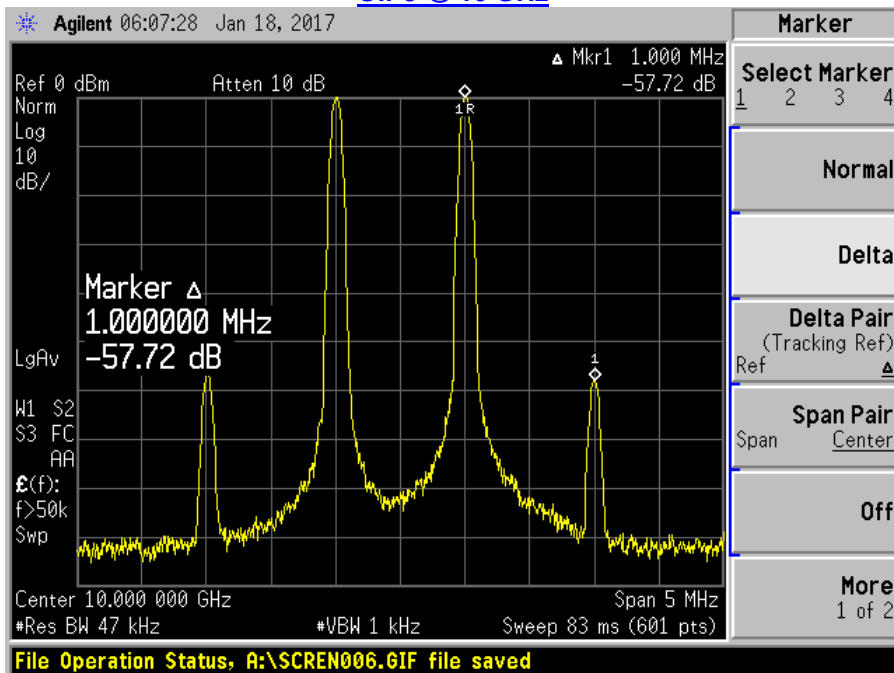
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OIP3 @ 1 GHz



OIP3 = 34.1 dBm

OIP3 @ 10 GHz

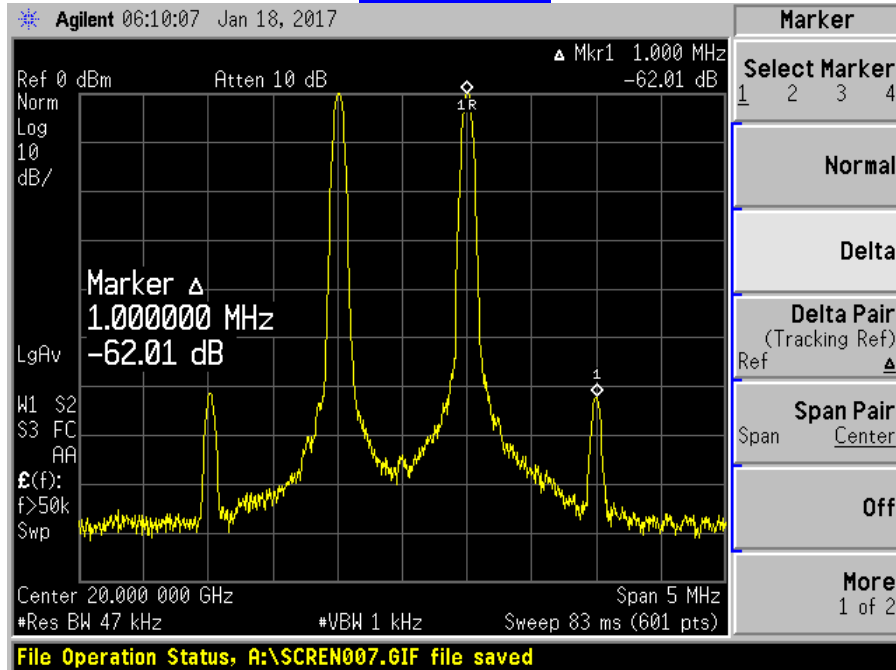


OIP3 = 28.9 dBm



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OIP3 @ 20 GHz



OIP3 = 31.0 dBm