



**TYPICAL CHARACTERISTICS
ON
P8T-100M40G-85-T-512-292FF-
ROHS**

**THE MODEL P8T-100M40G-85-T-512-292FF-ROHS IS A HIGH SPEED,
SINGLE POLE, EIGHT THROW, ABSORPTIVE SWITCH CAPABLE OF
SWITCHING WITHIN 100ns. THE FREQUENCY RANGE IS 0.1 TO 40.0 GHz
AND THIS SWITCH HAS OVER 70dB OF ISOLATION.**



December 19, 2017

Designed By: PMI Engineering

**Tested and Reported By:
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TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	0.1GHz to 40GHz	0.1GHz to 40GHz (See Plots)	
2	Insertion Loss:	10dB Max. 6dB Typ. (0.1 to 18 GHz) 7dB Typ. (18 to 26.5 GHz) 9.5dB Typ. (26.5 to 40 GHz)	(0.1 to 18 GHz) 4.69 dB (18 to 26.5 GHz) 5.55 dB (26.5 to 40 GHz) 8.69 dB (See Plots)	
3	Isolation:	90dB Min (0.1 to 18 GHz) 80dB Min (18 to 26.5 GHz) 70dB Min (26.5 to 40 GHz)	(0.1to 18 GHz) 90.80 dB (18 to 26.5 GHz) 90.98 dB (26.5 to 40 GHz) 76.49 dB (See Plots)	
4	VSWR:	2.5:1 Typ.	Input 2.49 : 1 Output 2.57 : 1 (See Plots)	
5	Operating Input Power:	+20dBm CW Max	Pass (See Graph)	
6	Switching Speed:	100ns Max	ON: 37 ns. OFF: 38 ns.	
7	Control TTL	Logic "0" = Insertion Loss Logic "1" = Isolation	Pass	
8	Power Supply:	+5VDC @ 180mA -12VDC @ 65mA	+5VDC @ 71 mA -12VDC @ 67 mA	



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DESCRIPTION

THE MODEL P8T-100M40G-85-T-512-292FF IS A HIGH SPEED, SINGLE POLE, EIGHT THROW, ABSORPTIVE SWITCH CAPABLE OF SWITCHING WITHIN 100ns. THE FREQUENCY RANGE IS 0.1 TO 40.0 GHz AND THIS SWITCH HAS OVER 70dB OF ISOLATION.

SPECIFICATIONS

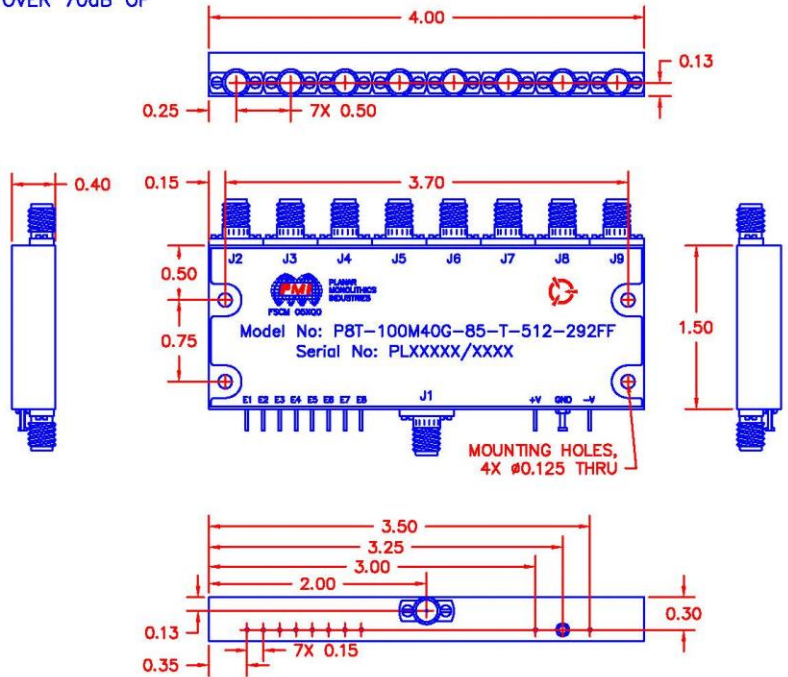
- FREQUENCY RANGE: 0.1 TO 40.0 GHz
- ISOLATION 90dB Min. (0.1 to 18GHz)
80dB Min. (18 to 26.5GHz)
70dB Min. (26.5 to 40GHz)
- INSERTION LOSS 10dB MAX
6dB Typ. (0.1 to 18GHz)
7dB Typ. (18 to 26.5GHz)
9.5dB Typ. (26.5 to 40GHz)
- VSWR IN/OUT 2.5:1 Typ.
- OPERATING INPUT POWER +20dBm CW
- SWITCHING SPEED 100 ns Max.
- DC VOLTAGE AND CURRENT +5VDC @ 180mA
-12VDC @ 65mA
- CONTROL SIGNAL EIGHT LINE TTL
E1 CONTROLS J1-J2
E2 CONTROLS J1-J3
E3 CONTROLS J1-J4
E4 CONTROLS J1-J5
E5 CONTROLS J1-J6
E6 CONTROLS J1-J7
E7 CONTROLS J1-J8
E8 CONTROLS J1-J9
"0" INSERTION LOSS
"1" ISOLATION
- CONNECTORS 2.92mm (F)
- FINISH GOLD PLATED
- SIZE 4.0" X 1.5" X 0.4"

ENVIRONMENTAL RATINGS

- TEMPERATURE: -54°C TO +95°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

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

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	10/29/18	
A1		ECN # 14-0033	08/20/18	



ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
X.XX ±0.020
X.XXX ±0.010
WEIGHT: 2.75 oz.

PLANAR MONOLITHICS INDUSTRIES, INC.

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FREDERICK, MARYLAND 21704 USA
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ISO 9001 CERTIFIED

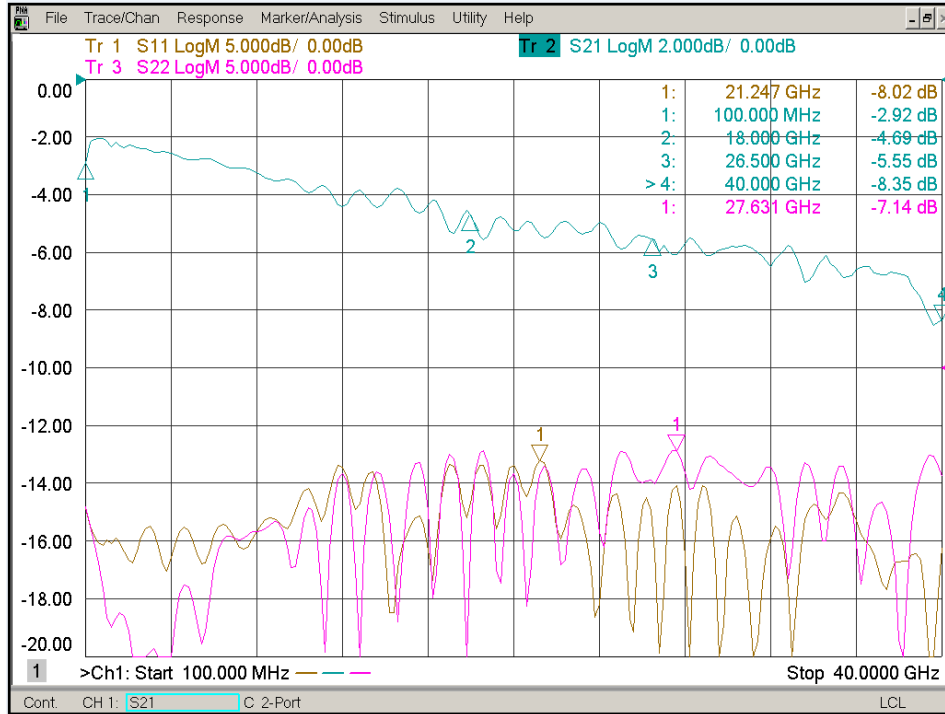


APPROVALS		DATE		TITLE	
DESIGN	<i>JSJ</i>		10/29/18	PRODUCT FEATURE	
CHECKED				P8T-100M40G-85-T-512-292FF	
ISSUED				0.1 TO 40.0 GHz HIGH SPEED SWITCH 8 THROW	
		SIZE	PCBN NO.	DRG NO.	REV.
		A	05XQ0	27021081	A1
		SCALE	N:S	SHEET	1 OF 1

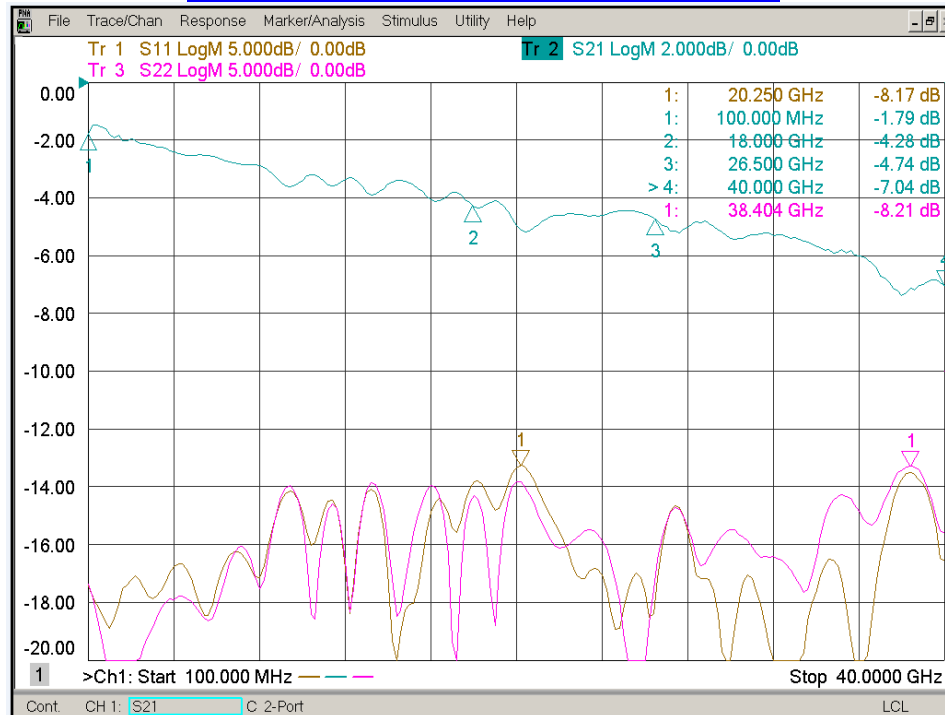


**TYPICAL CHARACTERISTICS
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(J1-J2) Insertion Loss and Return Loss



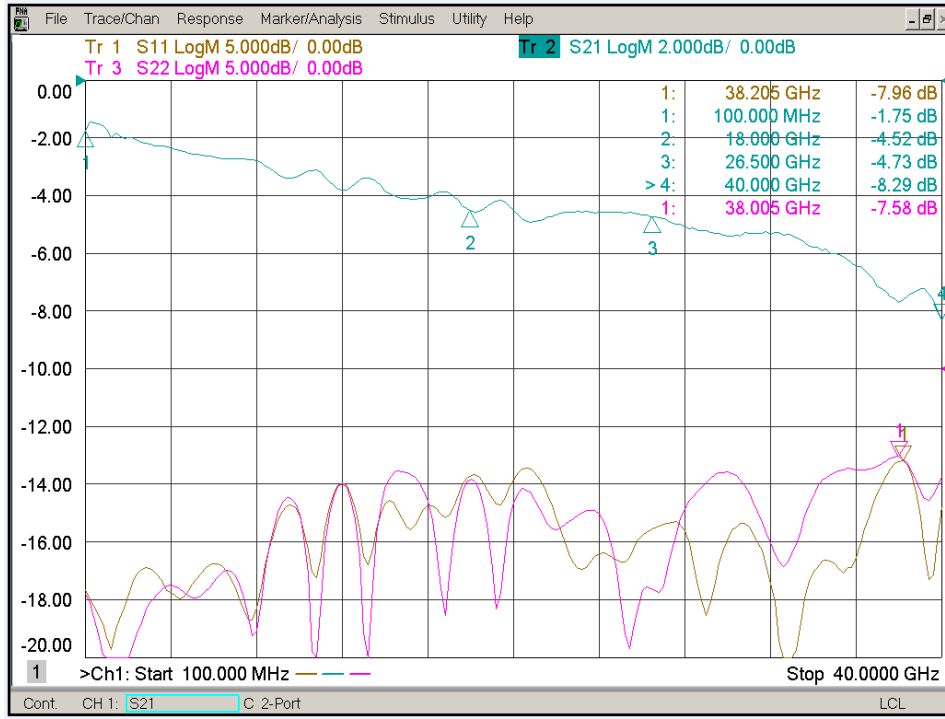
(J1-J3) Insertion Loss and Return Loss



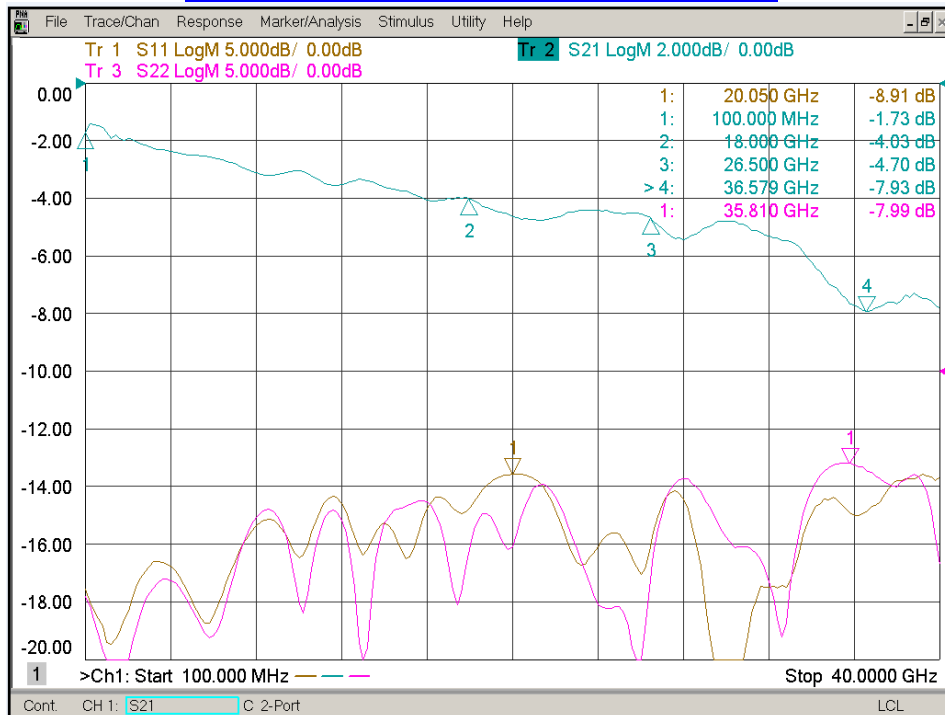


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(J1-J4) Insertion Loss and Return Loss



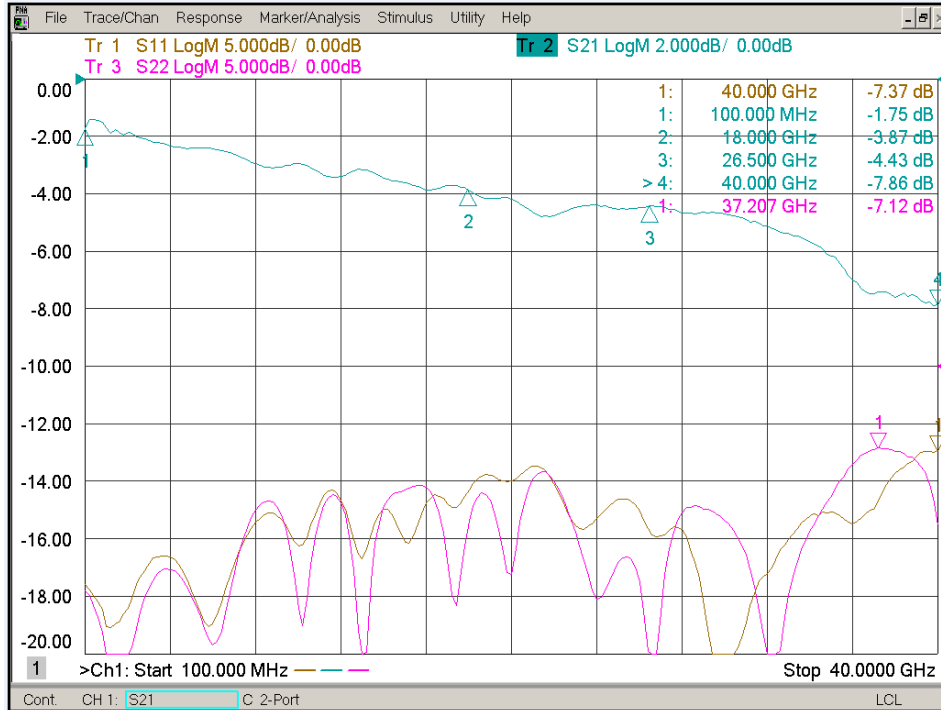
(J1-J5) Insertion Loss and Return Loss



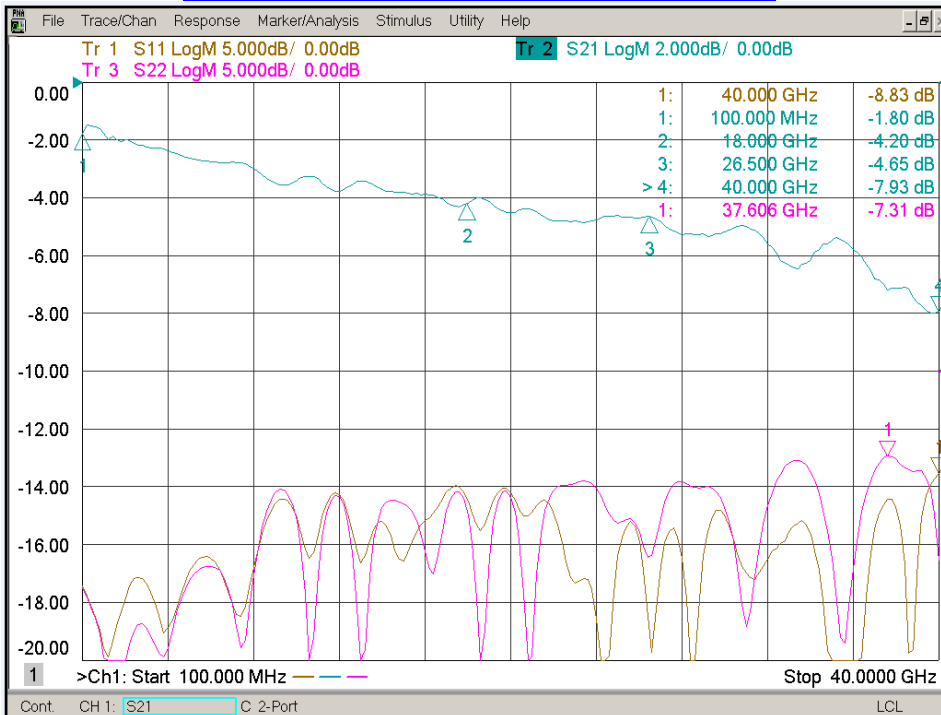


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(J1-J6) Insertion Loss and Return Loss



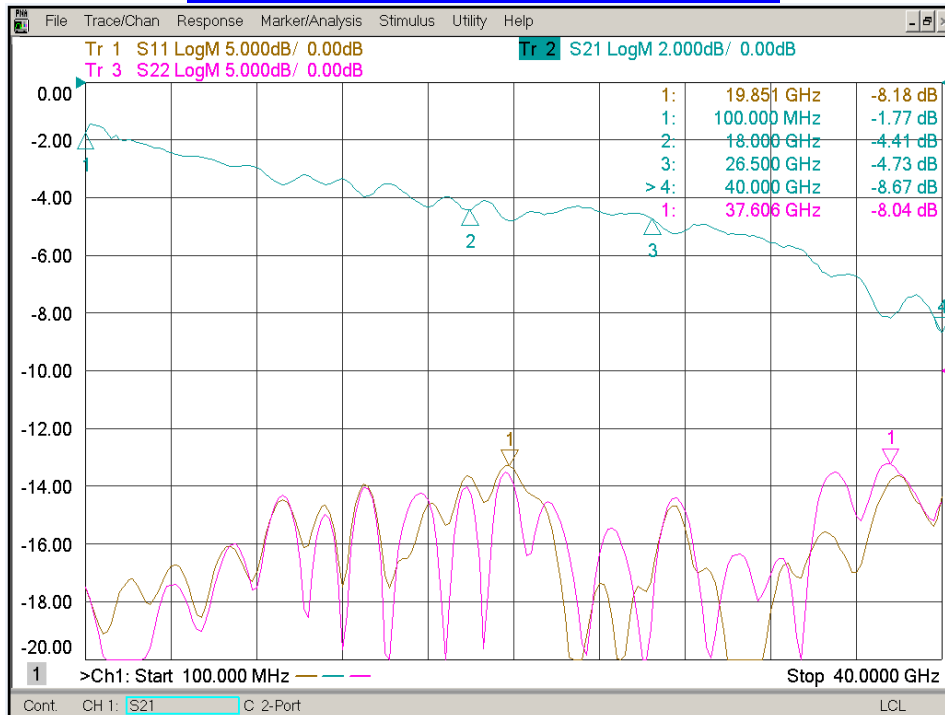
(J1-J7) Insertion Loss and Return Loss



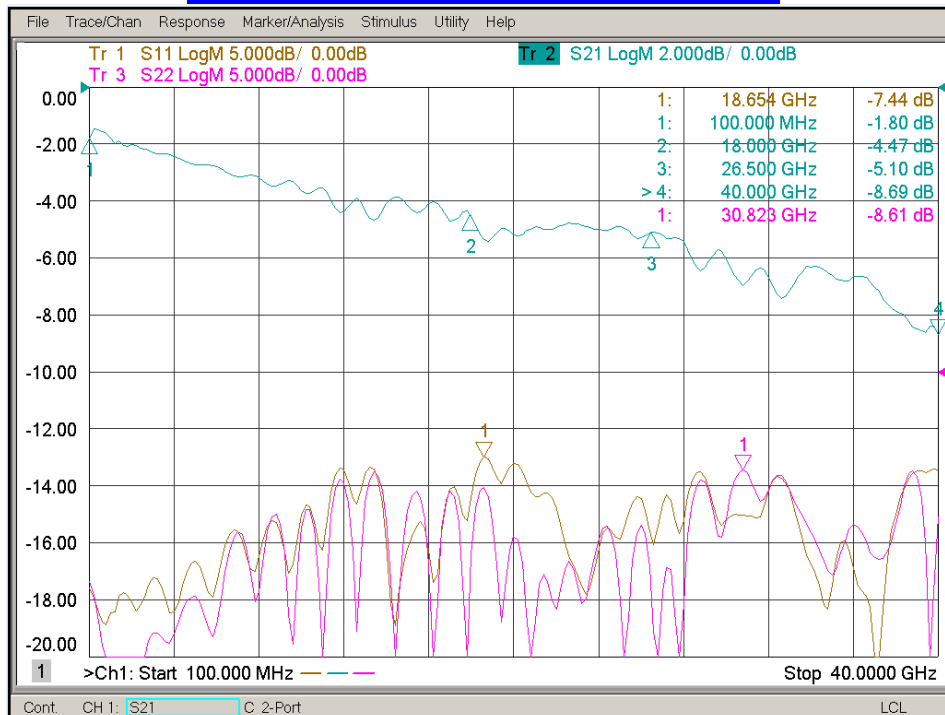


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(J1-J8) Insertion Loss and Return Loss



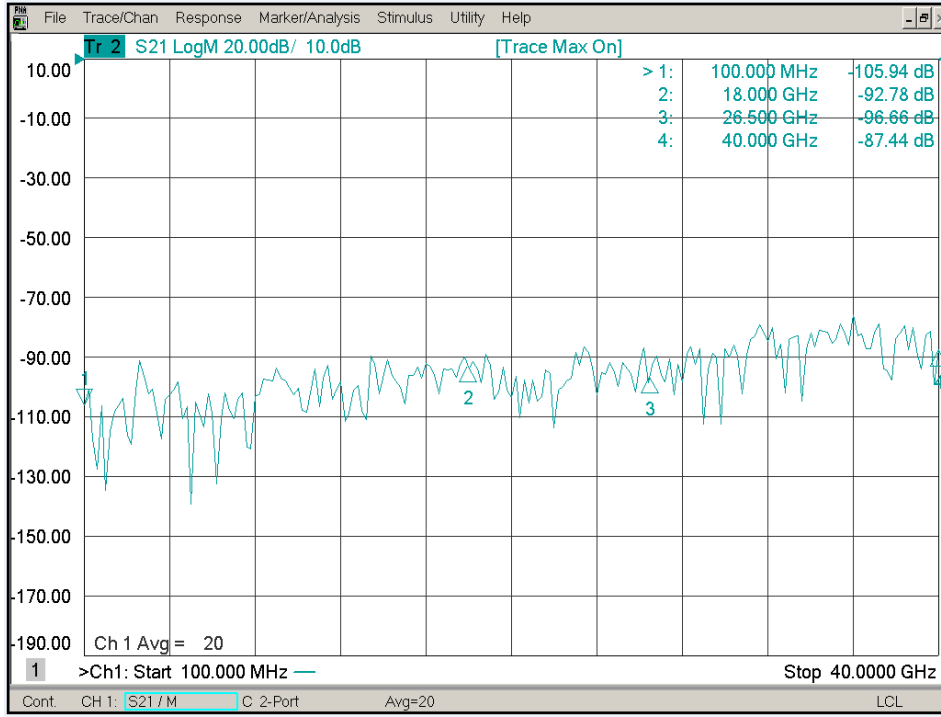
(J1-J9) Insertion Loss and Return Loss



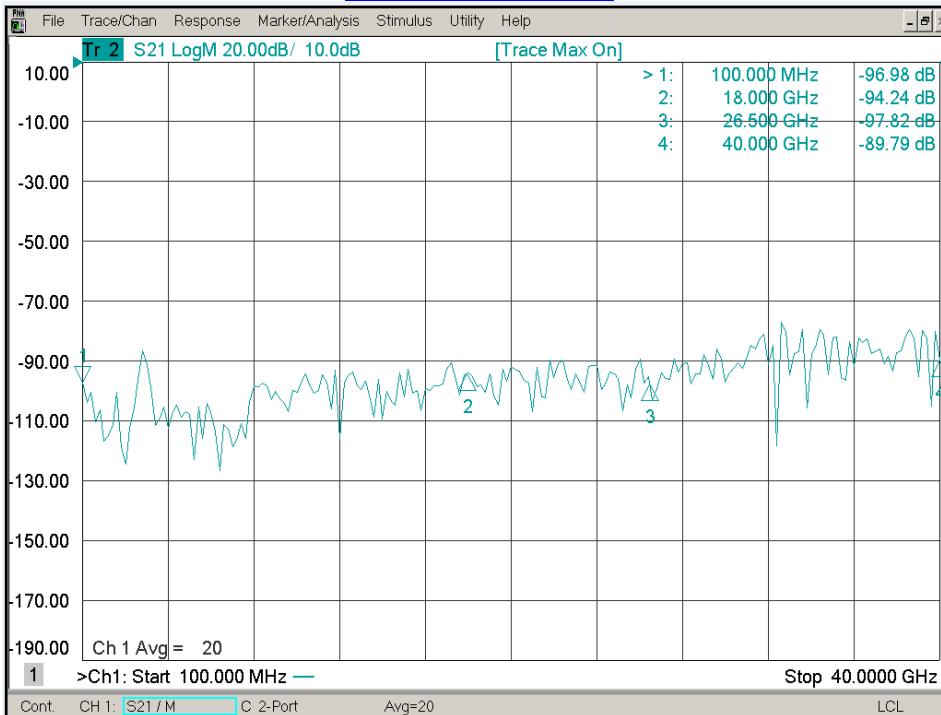


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(J1 – J2) Isolation



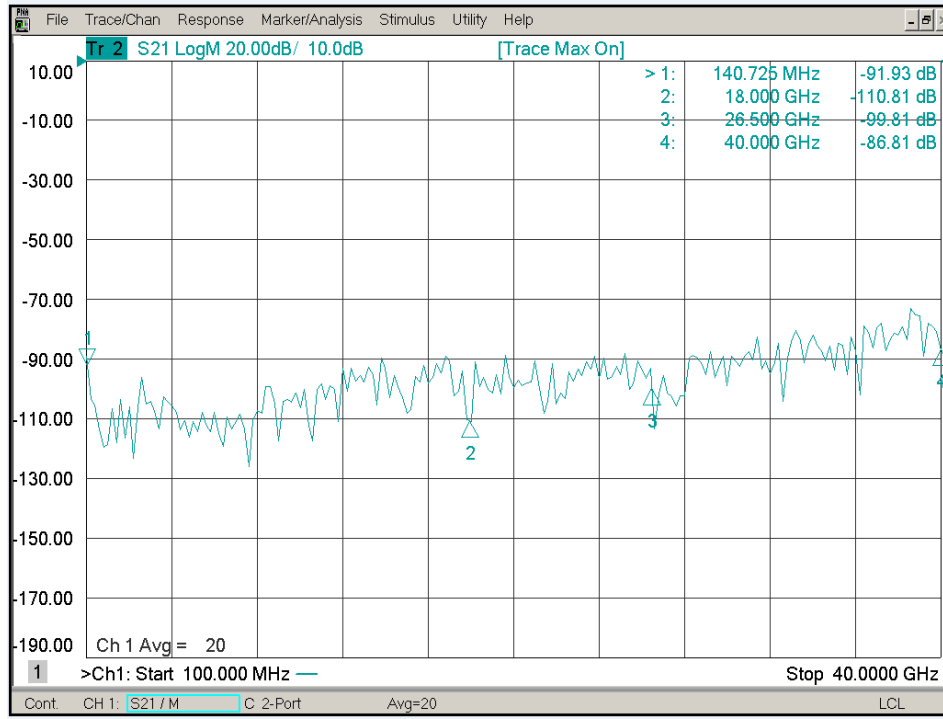
(J1 – J3) Isolation



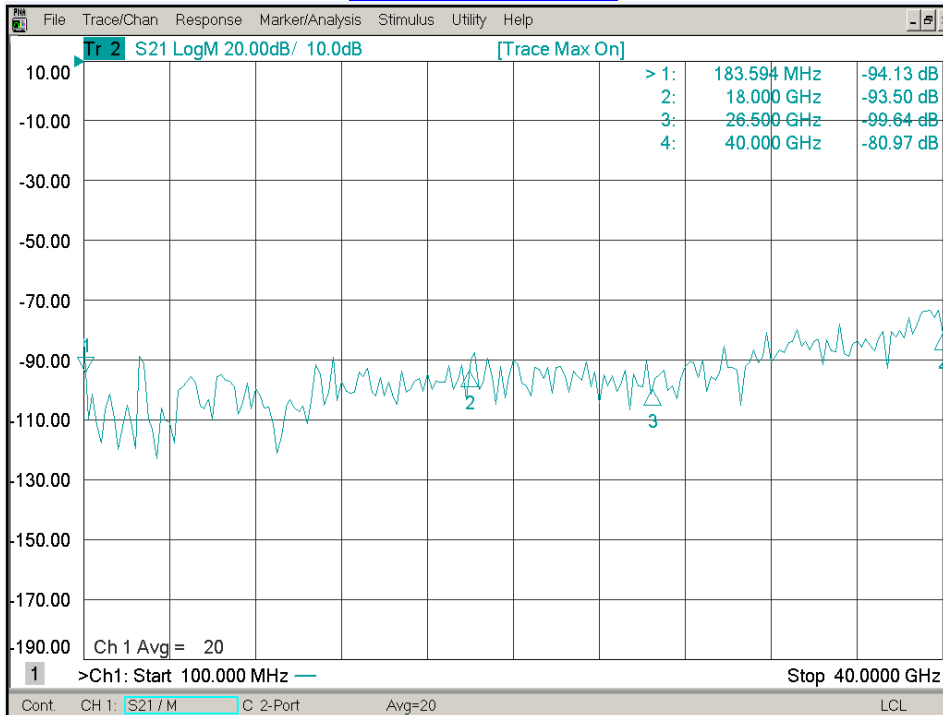


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(J1 – J4) Isolation



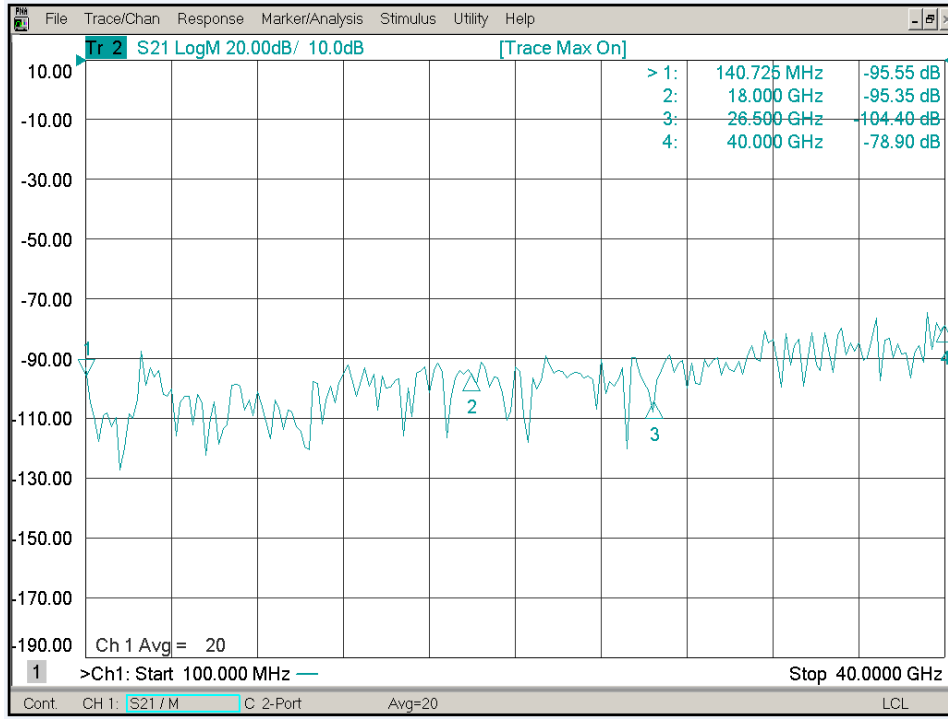
(J1 – J5) Isolation



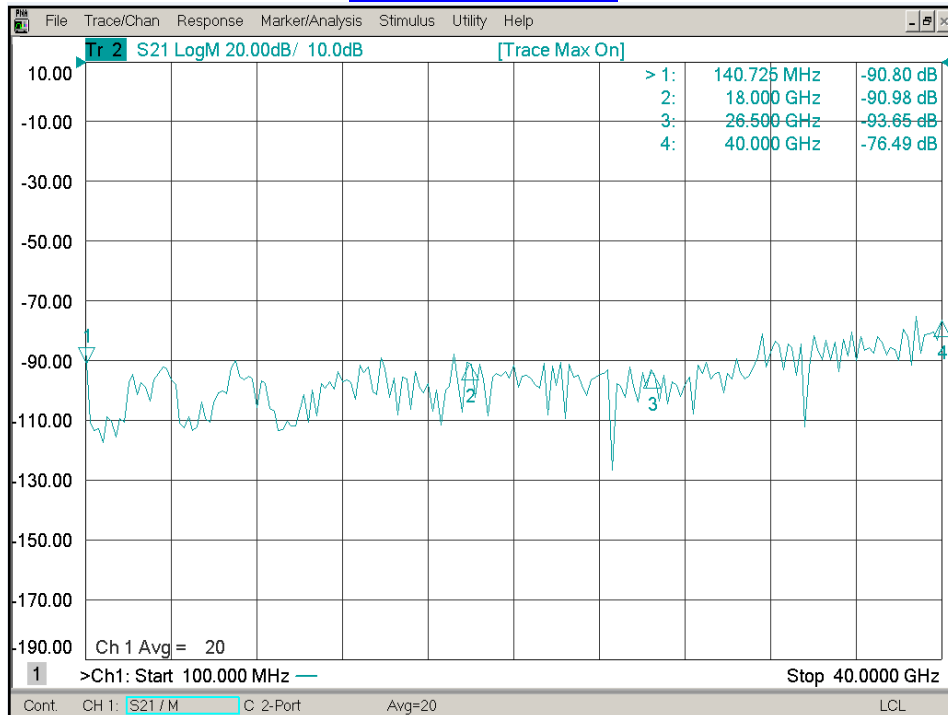


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(J1 – J6) Isolation



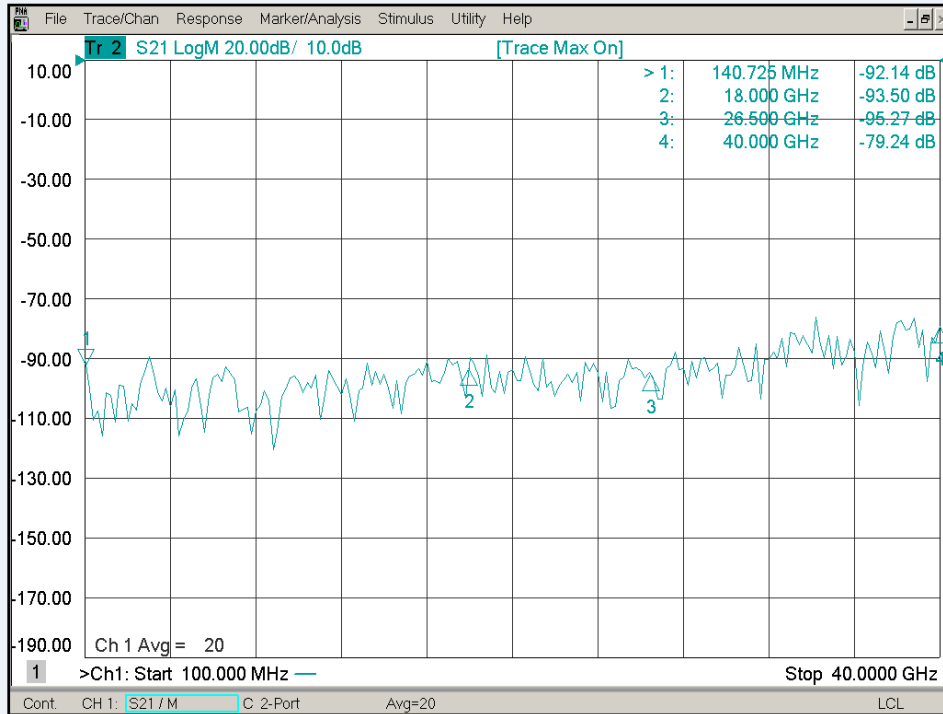
(J1 – J7) Isolation



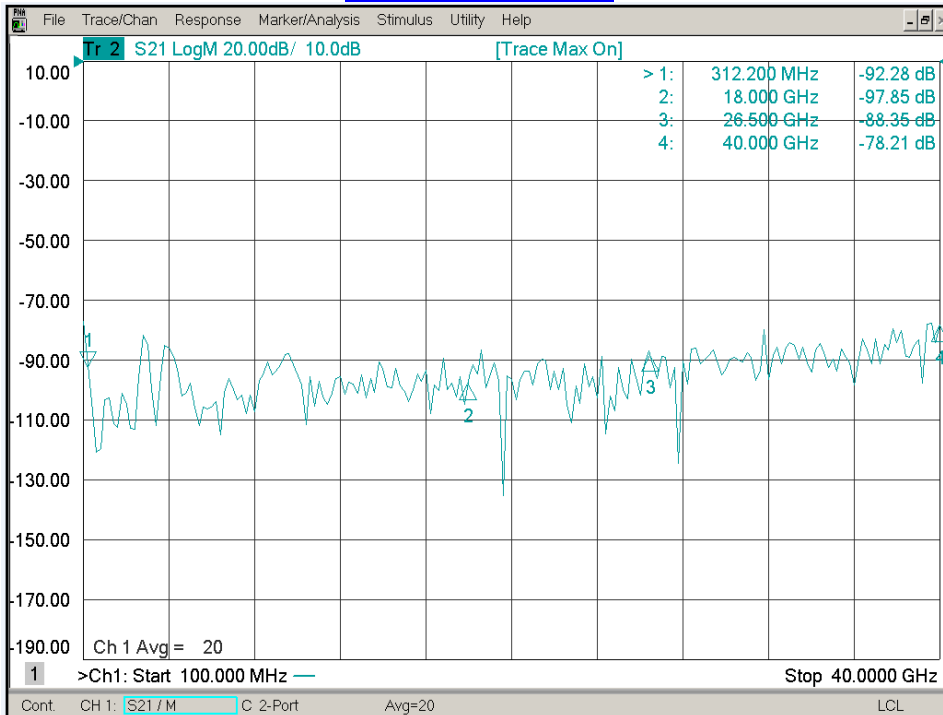


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(J1 – J8) Isolation



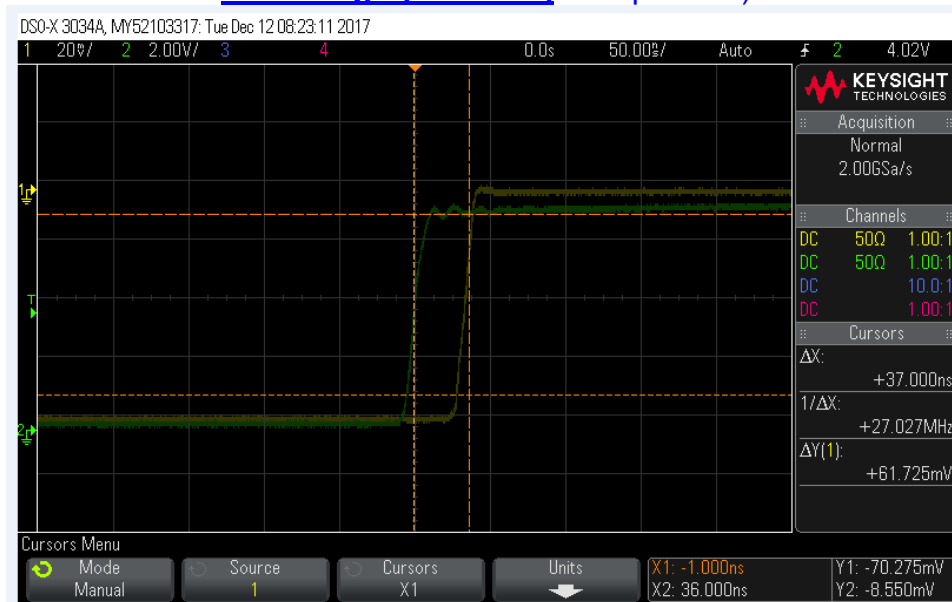
(J1 – J9) Isolation





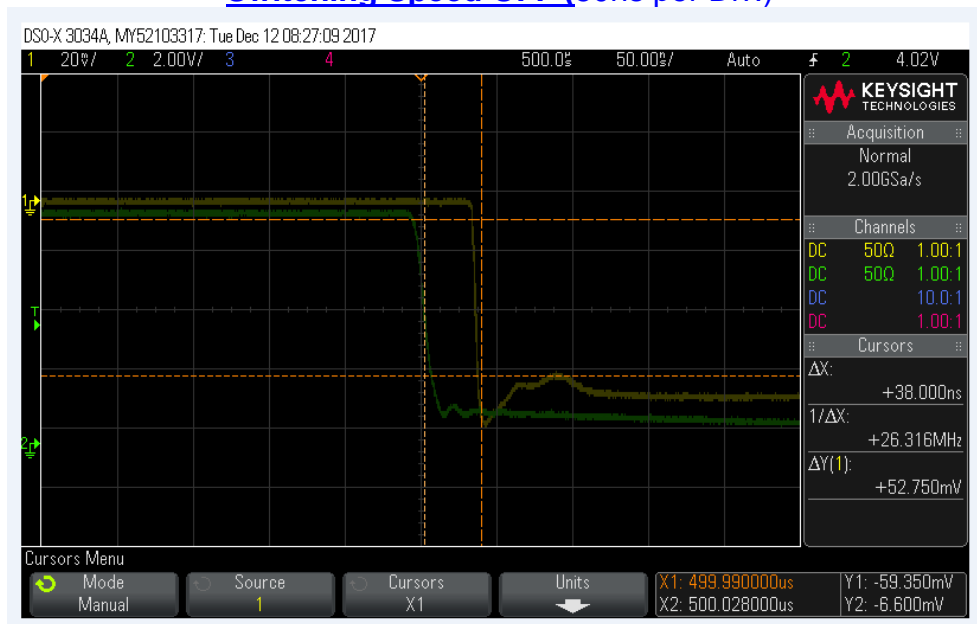
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Switching Speed ON (50ns per Div.)



**GREEN TRACE: TTL SIGNAL
YELLOW TRACE: RF SIGNAL**

Switching Speed OFF (50ns per Div.)

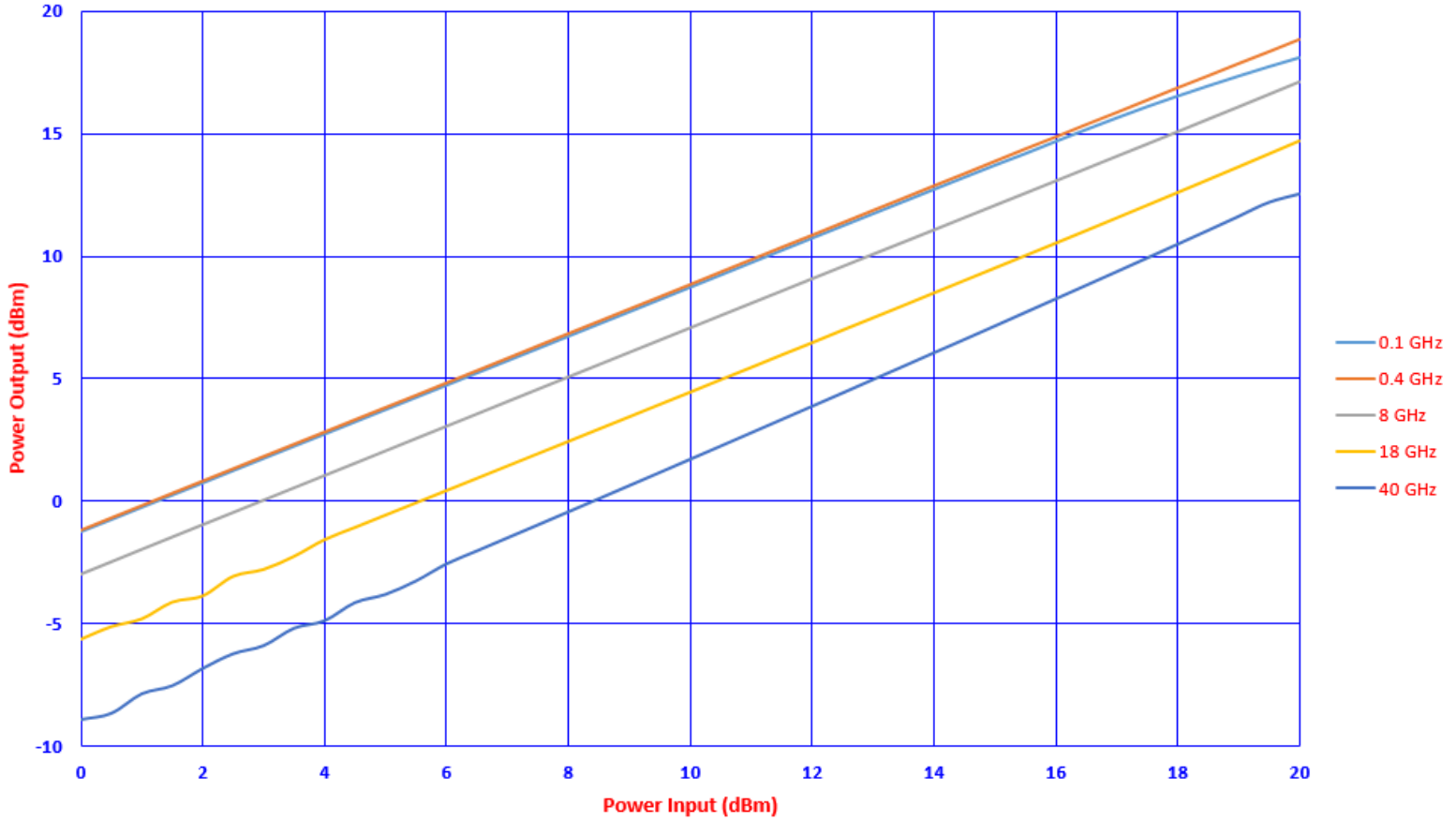


**GREEN TRACE: TTL SIGNAL
YELLOW TRACE: RF SIGNAL**



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Operating Input Power





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POWER INPUT (dBm)	POWER OUTPUT 0.1 GHz (dBm)	POWER OUTPUT 0.4 GHz (dBm)	POWER OUTPUT 8 GHz (dBm)	POWER OUTPUT 18 GHz (dBm)	POWER OUTPUT 40 GHz (dBm)
0.00	-1.24	-1.17	-2.98	-5.61	-8.92
0.50	-0.74	-0.67	-2.47	-5.09	-8.66
1.00	-0.24	-0.17	-1.97	-4.78	-7.86
1.50	0.25	0.33	-1.46	-4.10	-7.53
2.00	0.75	0.83	-0.96	-3.84	-6.83
2.50	1.25	1.33	-0.46	-3.05	-6.23
3.00	1.75	1.83	0.04	-2.76	-5.90
3.50	2.25	2.33	0.55	-2.23	-5.19
4.00	2.75	2.83	1.05	-1.55	-4.88
4.50	3.24	3.32	1.55	-1.05	-4.14
5.00	3.74	3.82	2.05	-0.55	-3.80
5.50	4.24	4.32	2.56	-0.05	-3.26
6.00	4.74	4.82	3.06	0.45	-2.56
6.50	5.24	5.32	3.56	0.95	-2.03
7.00	5.74	5.82	4.07	1.45	-1.50
7.50	6.24	6.33	4.57	1.95	-0.97
8.00	6.74	6.83	5.07	2.45	-0.43
8.50	7.24	7.33	5.57	2.95	0.10
9.00	7.74	7.83	6.08	3.45	0.64
9.50	8.24	8.32	6.58	3.96	1.17
10.00	8.74	8.83	7.08	4.46	1.71
10.50	9.24	9.34	7.58	4.96	2.25
11.00	9.74	9.84	8.08	5.46	2.79
11.50	10.25	10.34	8.58	5.97	3.33
12.00	10.74	10.83	9.08	6.47	3.87
12.50	11.24	11.34	9.58	6.98	4.42
13.00	11.74	11.84	10.09	7.48	4.96
13.50	12.24	12.34	10.58	7.99	5.51
14.00	12.74	12.84	11.08	8.50	6.06
14.50	13.23	13.34	11.58	9.00	6.60
15.00	13.72	13.84	12.08	9.51	7.15
15.50	14.20	14.35	12.58	10.02	7.71
16.00	14.70	14.84	13.08	10.53	8.26
16.50	15.18	15.34	13.58	11.04	8.82
17.00	15.66	15.83	14.09	11.55	9.37
17.50	16.12	16.33	14.59	12.07	9.93
18.00	16.55	16.84	15.09	12.59	10.49
18.50	16.96	17.32	15.60	13.11	11.06
19.00	17.37	17.82	16.11	13.63	11.63
19.50	17.75	18.31	16.62	14.16	12.21
20.00	18.12	18.81	17.13	14.69	12.55