



**TYPICAL CHARACTERISTICS
ON
P2T-0R5G4G-30-R-SFF-50W-MB**

PMI MODEL: P2T-0R5G4G-30-R-SFF-50W-MB IS A SINGLE POLE, TWO THROW, REFLECTIVE SWITCH DESIGNED TO OPERATE OVER THE 0.5 GHz TO 4.0 GHz FREQUENCY RANGE. THIS MODEL IS DESIGNED TO HANDLE 50 WATTS AVERAGE INPUT POWER.



JUNE 9, 2018

DESIGNED BY: PMI ENGINEERING

TESTED BY: A. LOPEZ & M. BERRY

REPORTED BY: M. BERRY



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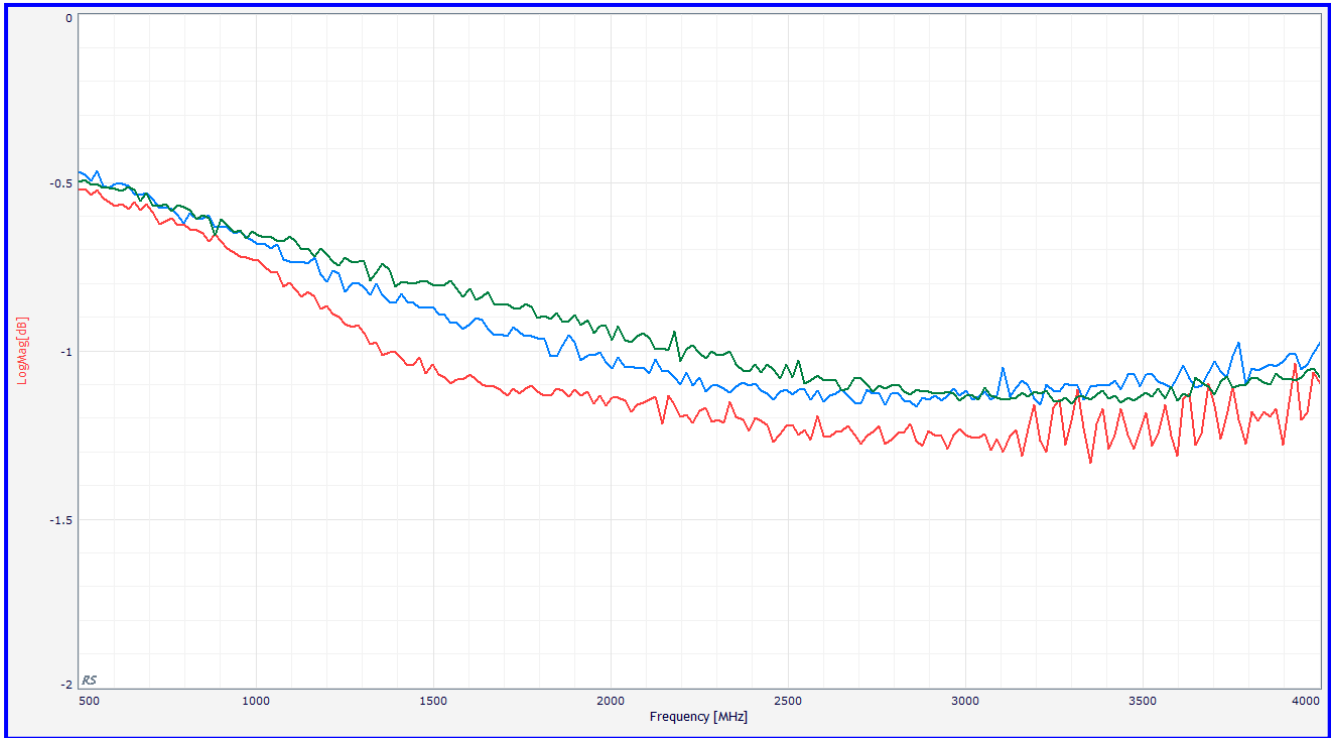
TEST DATA SUMMARY

TEST ITEM	PARAMETER	SPECIFIED VALUE	+25°C TEST MEASUREMENT	
1	Frequency Range	0.5 GHz to 4.0 GHz	0.5 to 4.0 GHz	
2	RF Input Power	50 Watts Average	47 dBm (50.12 W)	
3	Insertion Loss	1.25 dB Maximum	1.15 dB MAX	1.03 dB MAX
4	Isolation	30 dB Typical	25.11 dB MIN 47.5 dB MAX	26.18 dB MIN 47.9 dB MAX
5	VSWR	2.0:1 Maximum	1.73:1 MAX	1.52:1 MAX
6	Switching Speed	1 μ s Maximum	674 ns	
7	Switching Rate	15 kHz Maximum @ 50% Duty Cycle	15 kHz	
8	Cold Switching	Yes	TRUE	
9	Power Supply	+5 VDC @ 100 mA Maximum	+5 VDC @ 10 mA	



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J1-J2 INSERTION LOSS

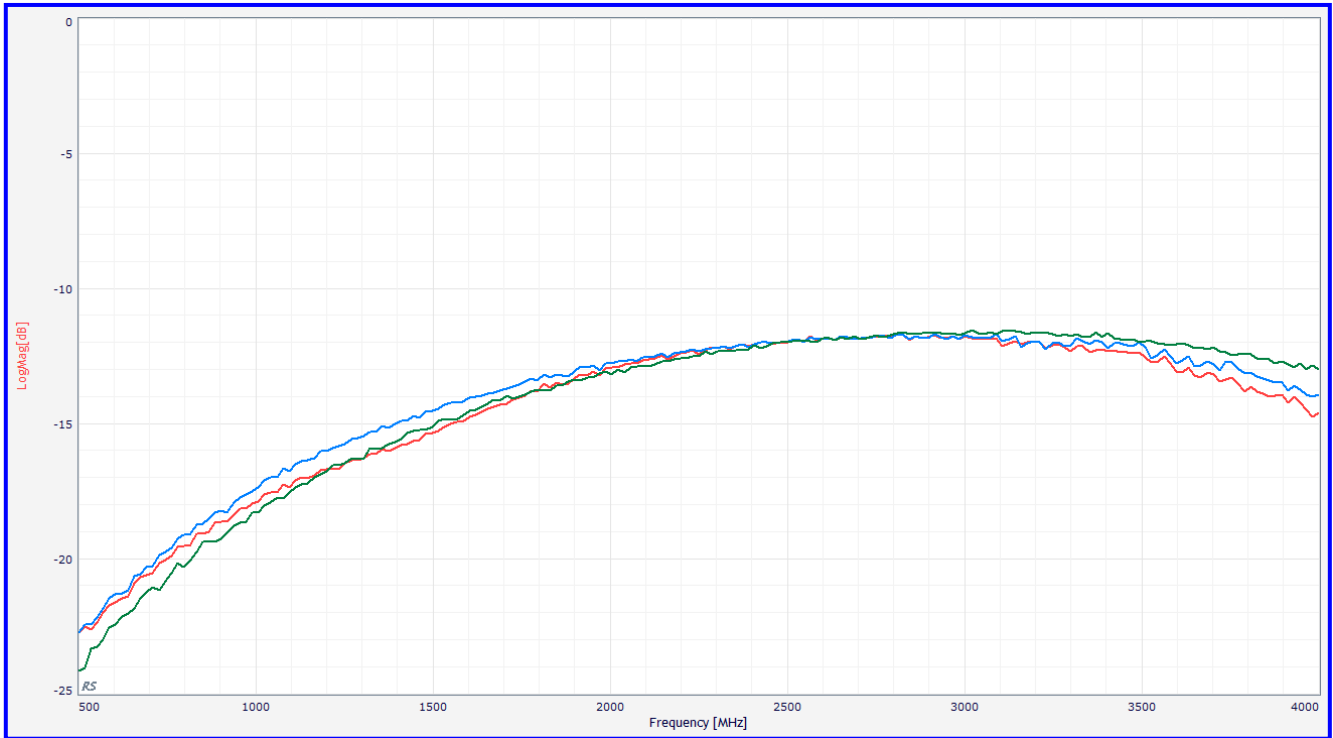


Frequency (GHz)	J1- J2 Insertion Loss (dB)		
	-45°C	+25°C	+85°C
0.5	-0.46	-0.46	-0.52
1.0	-0.68	-0.65	-0.73
1.5	-0.87	-0.82	-1.04
2.0	-1.04	-0.95	-1.14
2.5	-1.12	-1.05	-1.22
3.0	-1.12	-1.13	-1.24
3.5	-1.09	-1.13	-1.21
4.0	-0.97	-1.08	-1.09



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J1-J2 RETURN LOSS

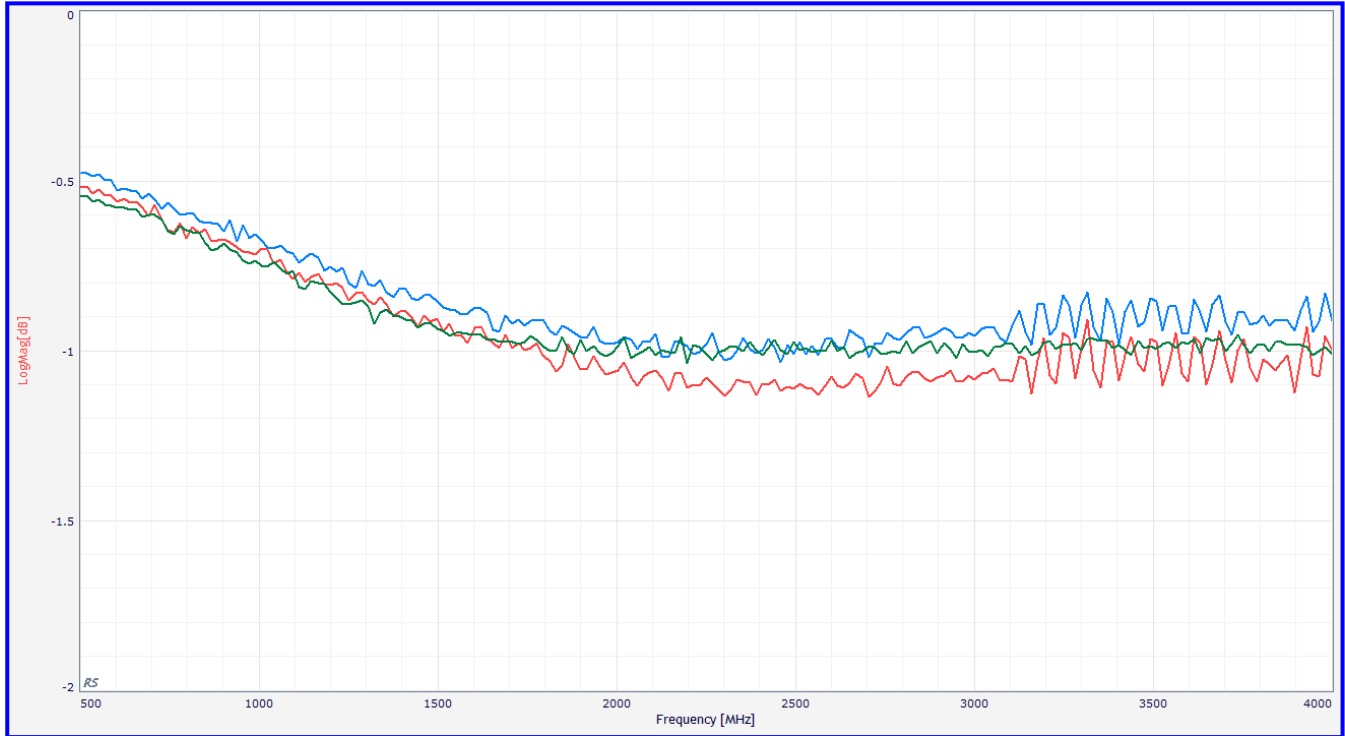


Frequency (GHz)	J1- J2 Return Loss (dB)		
	-45°C	+25°C	+85°C
0.5	-22.7	-24.1	-22.7
1.0	-17.4	-18.3	-17.9
1.5	-14.5	-15.1	-15.3
2.0	-12.7	-13.1	-12.9
2.5	-11.9	-11.9	-12
3.0	-11.7	-11.6	-11.7
3.5	-12	-11.9	-12.4
4.0	-13.9	-13	-14.6



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J1-J3 INSERTION LOSS

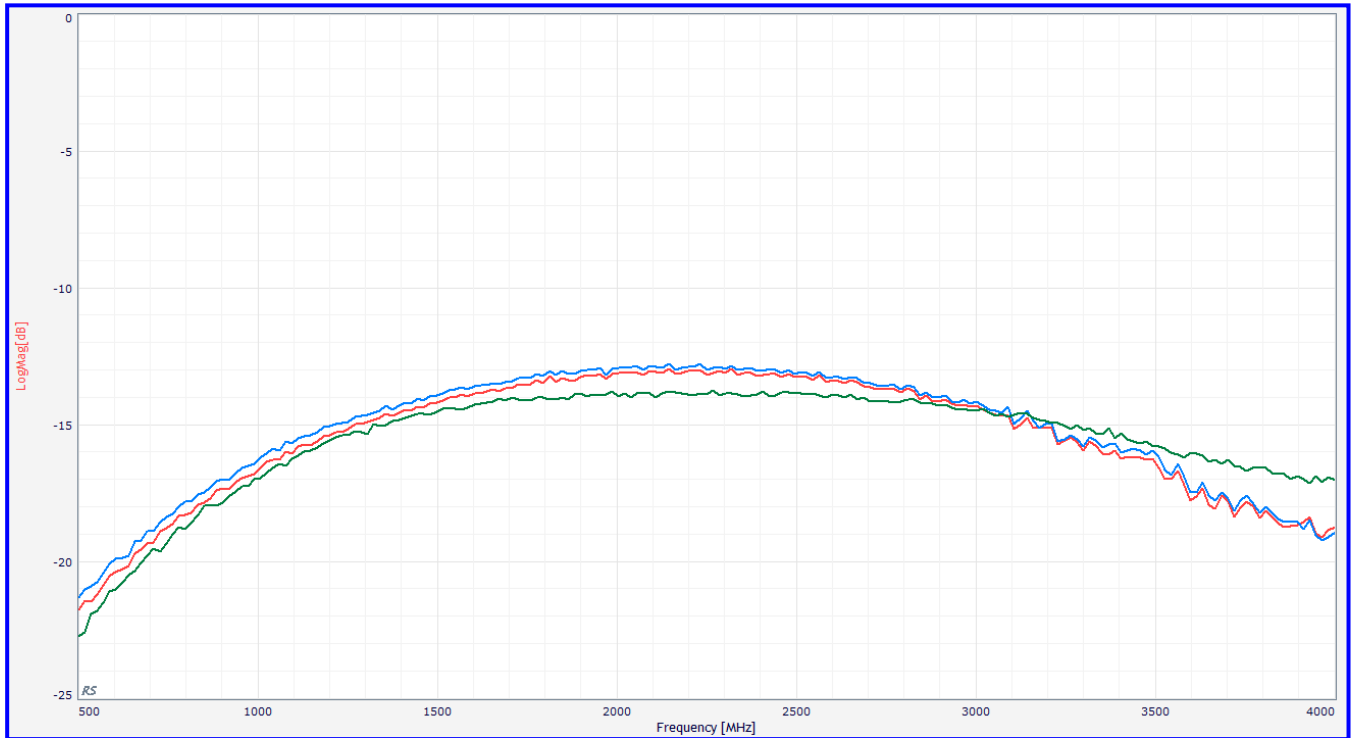


Frequency (GHz)	J1- J3 Insertion Loss (dB)		
	-45°C	+25°C	+85°C
0.5	-0.47	-0.54	-0.52
1.0	-0.66	-0.74	-0.71
1.5	-0.86	-0.93	-0.91
2.0	-0.97	-0.99	-1.06
2.5	-1	-0.98	-1.1
3.0	-0.95	-1	-1.08
3.5	-0.85	-0.99	-0.97
4.0	-0.91	-1.01	-1



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J1-J3 RETURN LOSS

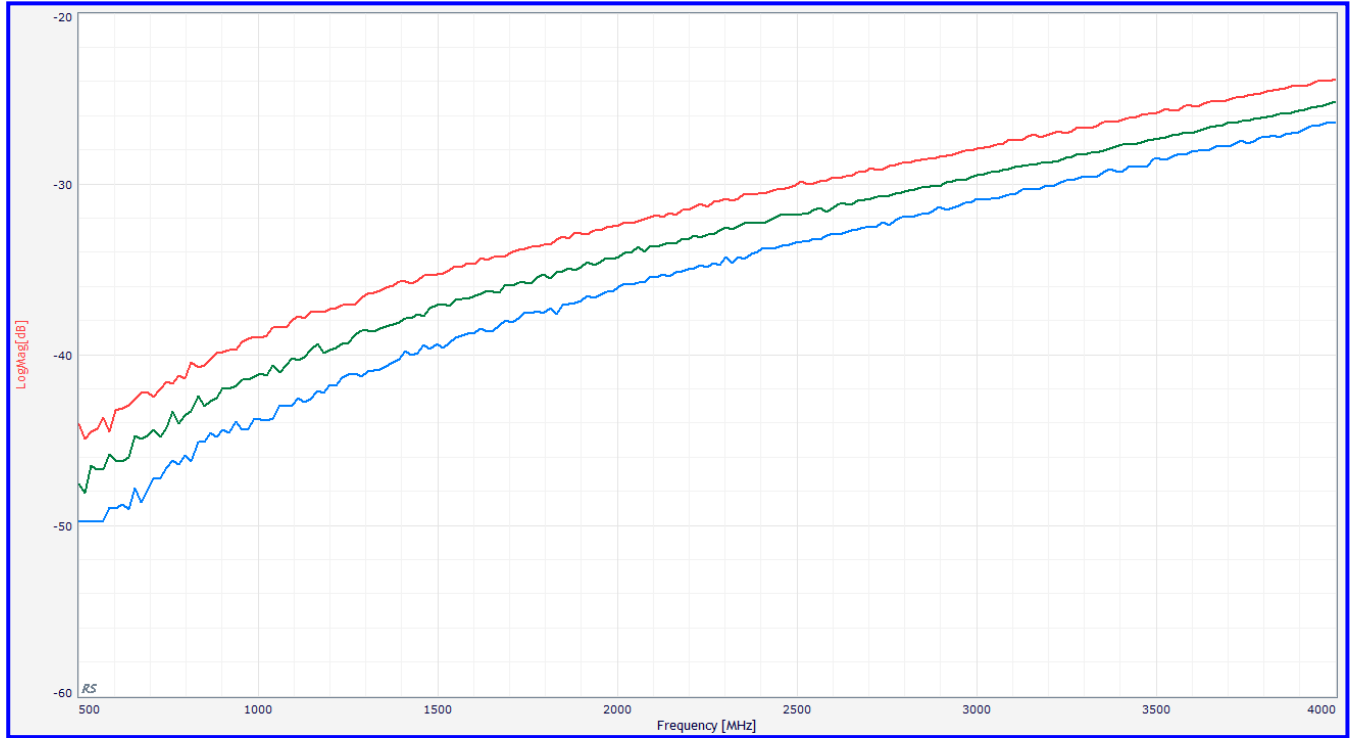


Frequency (GHz)	J1- J3 Return Loss (dB)		
	-45°C	+25°C	+85°C
0.5	-21.3	-22.7	-21.7
1.0	-16.3	-16.9	-16.7
1.5	-13.9	-14.5	-14.1
2.0	-12.9	-13.9	-13.1
2.5	-13.1	-13.8	-13.2
3.0	-14.1	-14.5	-14.3
3.5	-16	-15.8	-16.4
4.0	-18.9	-17	-18.7



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J1-J2 ISOLATION

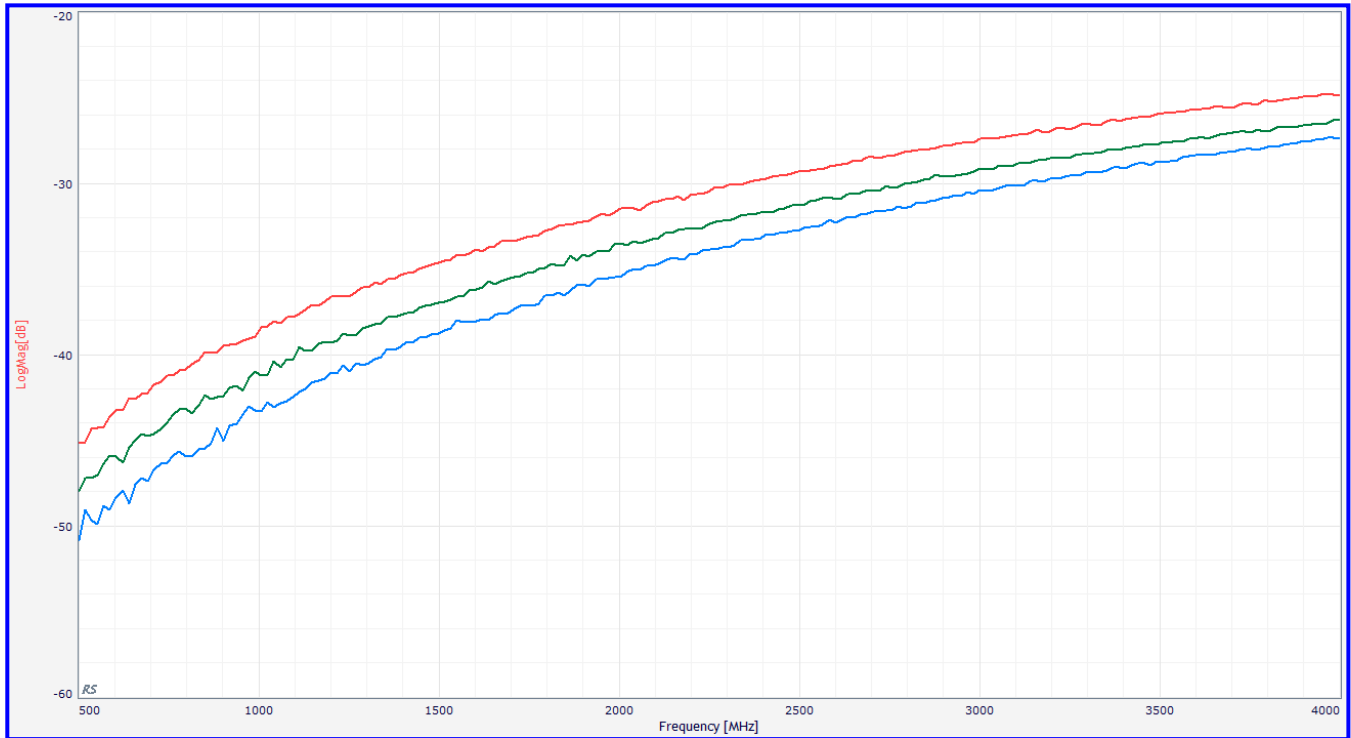


Frequency (GHz)	J1- J2 Isolation (dB)		
	-45°C	+25°C	+85°C
0.5	-49.7	-47.5	-44
1.0	-43.7	-41.1	-38.9
1.5	-39.3	-37	-35.2
2.0	-36	-34.3	-32.4
2.5	-33.4	-31.8	-30
3.0	-30.8	-29.5	-27.9
3.5	-28.5	-27.3	-25.8
4.0	-26.4	-26.1	-23.8



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J1-J3 ISOLATION

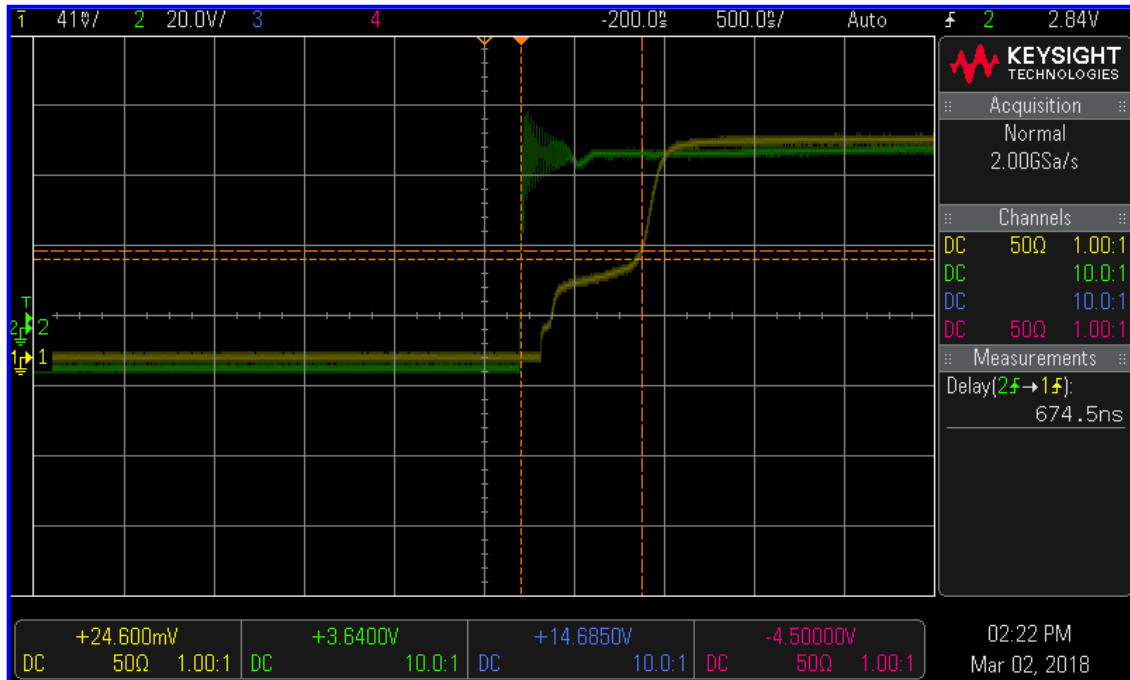


Frequency (GHz)	J1- J3 Isolation (dB)		
	-45°C	+25°C	+85°C
0.5	-50.8	-47.9	-45.1
1.0	-43.3	-41.1	-38.6
1.5	-38.7	-36.9	-34.6
2.0	-35.4	-33.5	-31.5
2.5	-32.7	-31.2	-29.3
3.0	-30.4	-29.1	-27.4
3.5	-28.7	-27.6	-25.9
4.0	-27.3	-26.2	-24.8

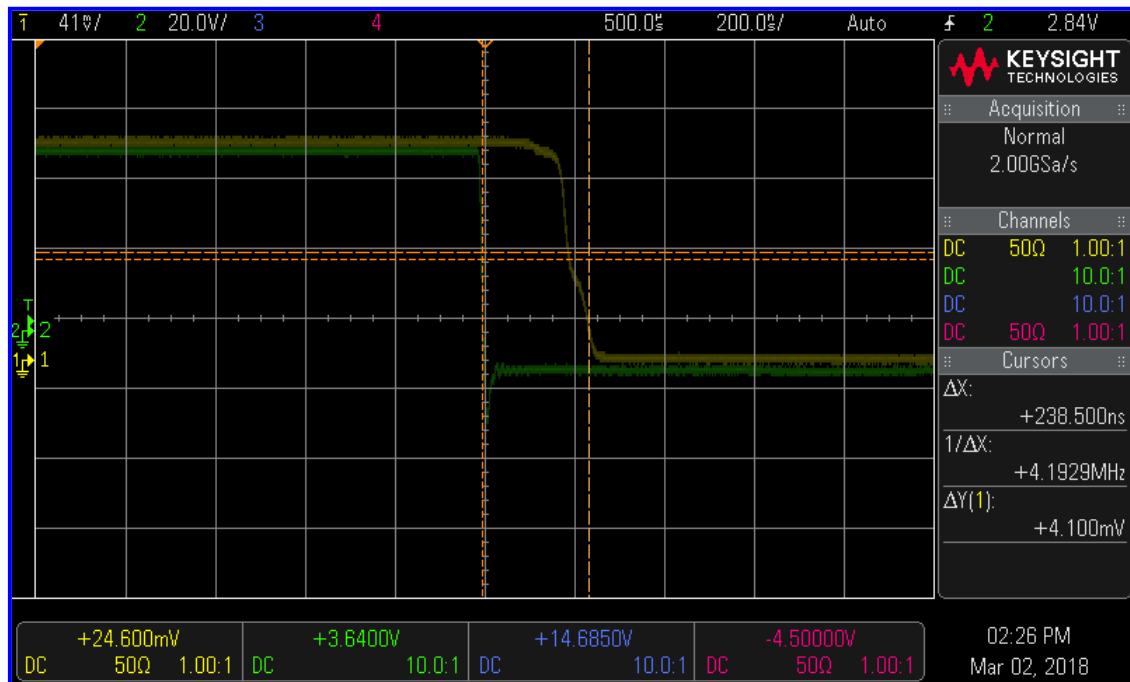


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ON SWITCHING SPEED



OFF SWITCHING SPEED

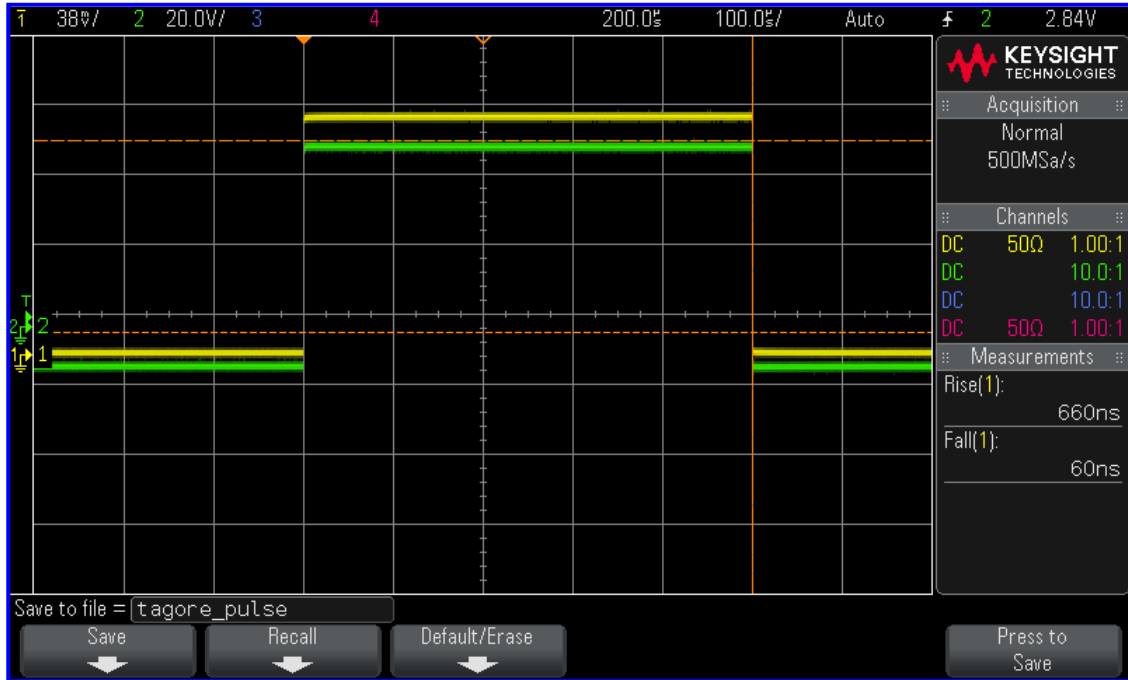


GREEN TRACE = TTL, YELLOW TRACE = RF



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SWITCHING SPEED – FULL PULSE

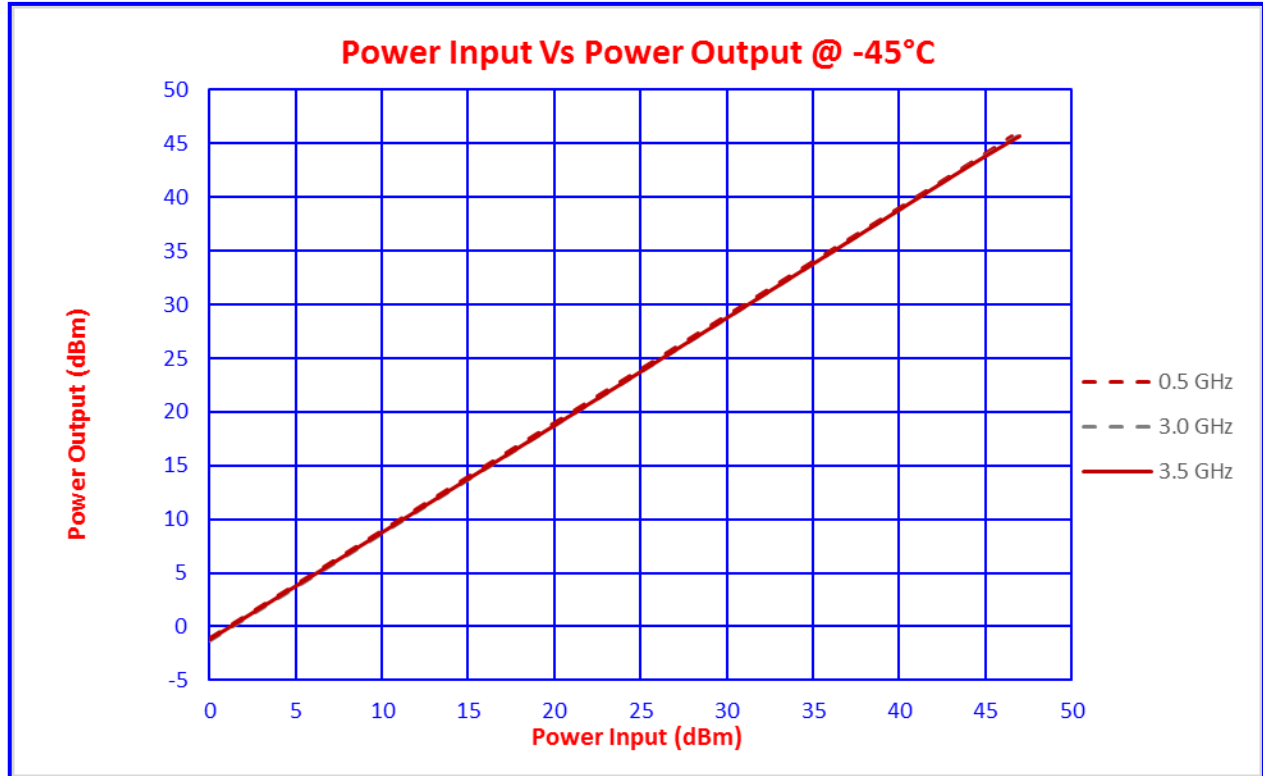


GREEN TRACE = TTL, YELLOW TRACE = RF



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HIGH POWER DATA – INPUT POWER VS OUTPUT POWER @ -45°C

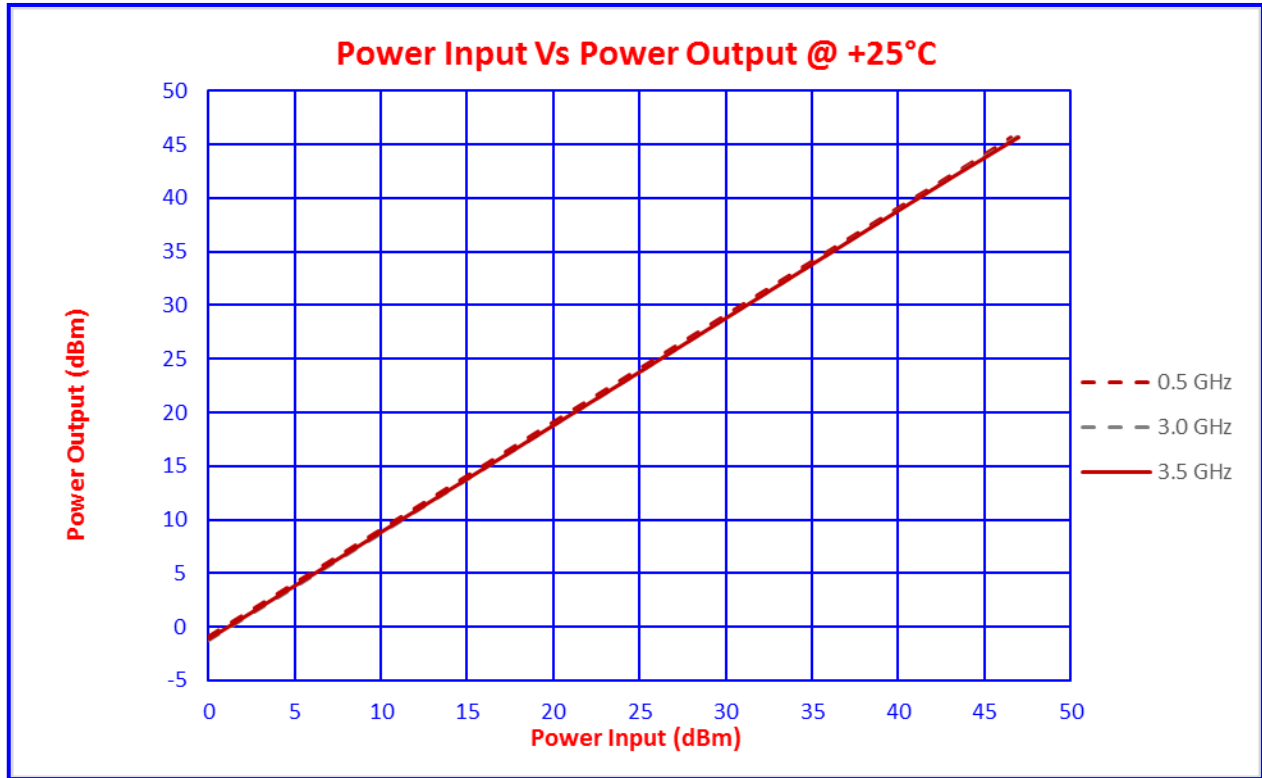


0.5 GHz		3.0 GHz		3.5 GHz	
POWER INPUT (dBm)	POWER OUTPUT (dBm)	POWER INPUT (dBm)	POWER OUTPUT (dBm)	POWER INPUT (dBm)	POWER OUTPUT (dBm)
0	-1.08	0	-1.34	0	-1.15
5	3.94	5	3.64	5	3.83
10	8.97	10	8.65	10	8.81
15	14.00	15	13.68	15	13.80
20	19.01	20	18.70	20	18.76
25	24.02	25	23.70	25	23.76
30	29.04	30	28.72	30	28.76
35	34.06	35	33.77	35	33.79
40	39.06	40	38.82	40	38.81
41	40.08	41	39.84	41	39.83
42	41.09	42	40.86	42	40.83
43	42.09	43	41.85	43	41.84
44	43.11	44	42.88	44	42.83
45	44.14	45	43.89	45	43.80
46	45.20	46	44.88	46	44.75
46.5	45.71	47	45.82	46.5	45.68



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HIGH POWER DATA – INPUT POWER VS OUTPUT POWER @ +25°C

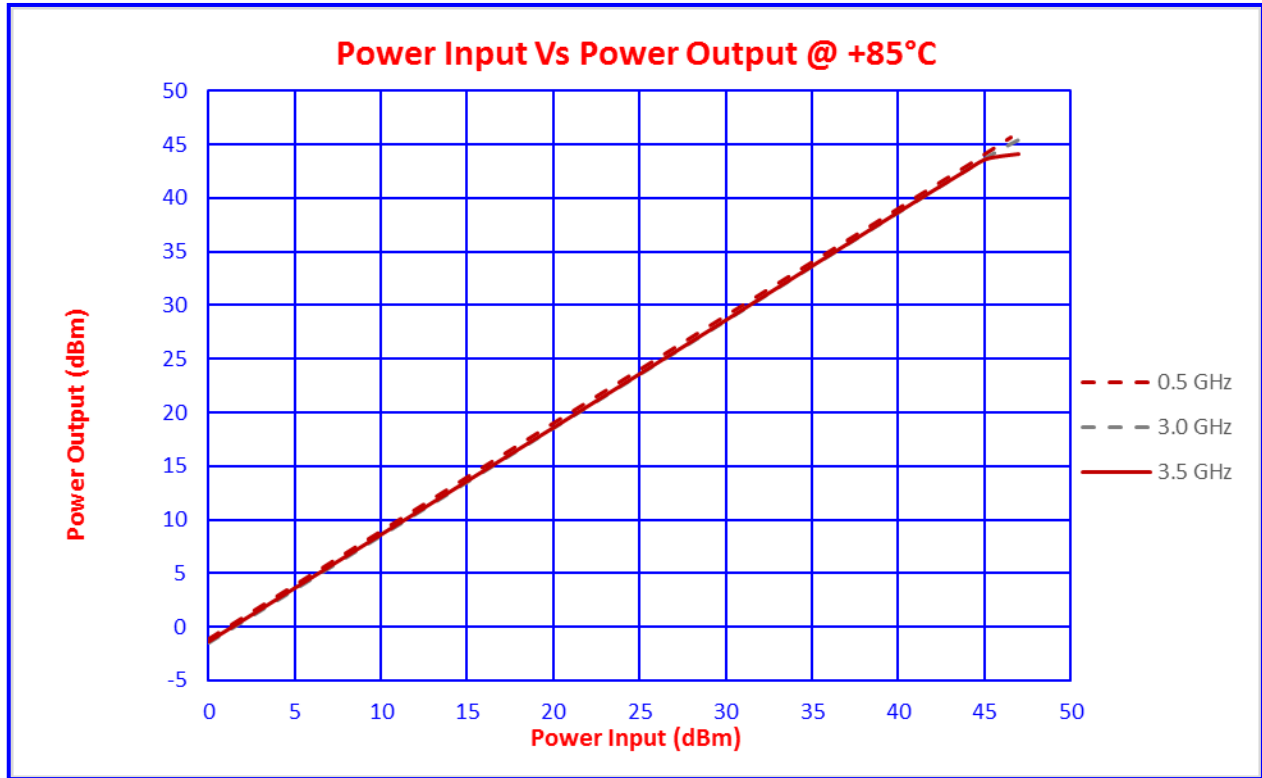


0.5 GHz		3.0 GHz		3.5 GHz	
POWER INPUT (dBm)	POWER OUTPUT (dBm)	POWER INPUT (dBm)	POWER OUTPUT (dBm)	POWER INPUT (dBm)	POWER OUTPUT (dBm)
0	-0.83	0	-1.21	0	-1.12
5	4.16	5	3.76	5	3.85
10	9.17	10	8.76	10	8.84
15	14.18	15	13.80	15	13.81
20	19.19	20	18.81	20	18.79
25	24.18	25	23.79	25	23.77
30	29.19	30	28.82	30	28.78
35	34.18	35	33.83	35	33.80
40	39.18	40	38.87	40	38.80
41	40.18	41	39.84	41	39.80
42	41.15	42	40.86	42	40.79
43	42.16	43	41.83	43	41.79
44	43.14	44	42.86	44	42.76
45	44.16	45	43.86	45	43.72
46	45.18	46	44.81	46	44.70
46.5	45.71	47	45.79	47	45.65



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HIGH POWER DATA – INPUT POWER VS OUTPUT POWER @ +85°C



0.5 GHz		3.0 GHz		3.5 GHz	
POWER INPUT (dBm)	POWER OUTPUT (dBm)	POWER INPUT (dBm)	POWER OUTPUT (dBm)	POWER INPUT (dBm)	POWER OUTPUT (dBm)
0	-1.12	0	-1.52	0	-1.30
5	3.92	5	3.46	5	3.69
10	8.94	10	8.47	10	8.67
15	13.98	15	13.49	15	13.66
20	19.01	20	18.51	20	18.63
25	24.00	25	23.51	25	23.63
30	29.02	30	28.53	30	28.64
35	34.01	35	33.60	35	33.68
40	39.01	40	38.63	40	38.69
41	40.04	41	39.63	41	39.69
42	41.03	42	40.64	42	40.67
43	42.02	43	41.62	43	41.66
44	43.01	44	42.62	44	42.63
45	44.06	45	43.61	45	43.58
46	45.10	46	44.58	46	43.93
46.5	45.61	47	45.42	47	44.12