



Summary Data
For
EWDM-6G18G-65-70MV

Customer: _____ Tested By: JOHNM
 SO No: _____ Temperature: +25°C, 0°C, 85°C
 Model No: EWDM-6G18G-65-70MV Date 10/10/2019
 Serial No: PL20566 Drawing No: 27624929 Rev: A1

TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	6 to 18 GHz	6 to 18 GHz	PMI QA1
2	VSWR:	2.3:1 MAX @ 50 Ω	1.66 : 1 @ 50 Ω (BIT IN) 1.87 : 1 @ 50 Ω (RF IN) 2.09 : 1 @ 50 Ω (RF OUT) 1.76 : 1 @ 50 Ω (SW)	
3	Noise Figure:	8 dB MAX	4.8 dB	
4	Input Power:	(1) 1 W CW, Max. (2) 100 W Peak @ PW = 1 us & Duty Cycle = 1%, Max.	(1) 1 W CW, Max. (2) 100 W Peak @ PW = 1 us & Duty Cycle = 1%, Max.	
5	TTL Control	See Logic Table	Pass	
6	SP3T Switch Isolation	60 dB MIN (All Ports)	62.6 dB	
7	SP3T Switching Speed:	100 ns MAX	47 ns	
8	RF OUT Linear Gain	+33 dB MIN	41 dB	
9	RF OUT Frequency Flatness:	±2.5 dB MAX	±2.19 dB	
10	RF OUT 1 dB Compression Point:	+3 dBm MIN	4 dBm	
11	RF OUT Saturated Power:	+14 dBm MAX	9 dBm	
12	RF OUT Second Harmonic:	-9 dBc MIN	-10 dBc	
13	RF OUT Third Harmonic:	-12 dBc MIN	-18 dBc	PMI QA1



**Summary Data
For
EWDM-6G18G-65-70MV**

14	SW Linear Gain	+7 dB MIN	12 dB	PMI QA 1
15	SW Frequency Flatness:	±1.5 dB MAX	±1.0 dB	
16	SW 1 dB Compression Point:	+3 dBm MIN	4 dBm	
17	SW Saturated Power:	+9 dBm MAX	8.0 dBm	
18	SW Second Harmonic:	-9 dBc MIN	-10.0 dBc	
19	SW Third Harmonic:	-12 dBc MIN	-18.0 dBc	
20	VIDEO OUT TSS:	-71 dBm MAX	-71 dBm	
21	VIDEO OUT Dynamic Range:	-65 to 0 dBm	-65 to 0 dBm	
22	VIDEO OUT Log Slope Fixed:	70 mV/dB NOM	70 mV/dB	
23	VIDEO OUT Log Linearity (10 GHz):	±1.0 dB MAX	±0.57 dB	
24	VIDEO OUT Log Accuracy:	±1.75 dB MAX	±1.14 dB	
25	VIDEO OUT Absolute Log Accuracy:	±2.0 dB MAX	±1.79 dB	
26	VIDEO OUT DC Offset:	0 ±70 mV (RF Input Terminated & DC Power On)	-5 mV	
27	VIDEO OUT Rise Time (10% to 90%):	25 ns TYP 28 ns MAX	25.5 ns	
28	VIDEO OUT Fall Time (90% to 10%):	300 ns MAX	160 ns	
29	VIDEO OUT Settling Time:	50 ns With in ±35 mV of final value, MAX	50 ns	
30	VIDEO OUT Recovery Time:	1 us MAX	700 ns	PMI QA 1

7311-F Grove Road Frederick, MD 21704 USA

Phone: (301)662-5019 Fax: (301)662-1731

Website: www.pmi-rf.com Email: sales@pmi-rf.com



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31	VIDEO OUT Video Frequency Flatness:	± 1.75 dB MAX	± 1.48 dB	PMI QA 1
32	VIDEO OUT CW Immunity:	A. CW Immune Power TSS to -40 dBm Baseline Shift: 140 mV MAX	135 mV	
		B. Pulse Peak Amplitude Loss; 2 dB MAX	0 dB	
		C. At CW > -40 dBm, pulse on CW	> -40 dBm	
		CW Immunity Time at CW = -40 dBm, ≤ 3 ms	0.9 ms	
		CW Recovery Time at CW = -40 dBm, ≤ 100 us	40 us	
33	VIDEO OUT Pulse Response, input Signal:	100 ns to CW	100 ns to CW	
34	VIDEO OUT Impedance:	$75 \pm 1 \Omega$	$75 \pm 1 \Omega$	
35	VIDEO OUT Video Output @ -65 dBm Within Frequency Difference:	320 ± 123 mV	366-440 mV	
36	VIDEO OUT Output Pulse Peak variation Versus duty Cycle:	± 70 mV MAX	0 mV	
37	VIDEO OUT Signal Processing Capability:	100 ns to 330 ns Pulse Duty Cycle up to 60%	100 ns to 330 ns Pulse Duty Cycle up to 60%	
38	VIDEO OUT Noise Level (Vp-p):	150 mV MaX	135 mV	PMI QA 1



**Summary Data
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39	VIDEO OUT Drop of the Output Video Pulse:	70mV (1 dB) MAX	0 mV	PMI QA 1
40	VIDEO OUT Propagation Delay:	80 ns MAX	32 ns	
41	Power Supply	+15 V @ 1000 mA MAX -15 V @ 500 mA MAX	+15 V @ 440 mA -15 V @ 130 mA	
42	Power Supply Ripple From DC to 10 MHz	100 mV MAX	100 mV MAX	PMI QA 1

QA/QC Approval:

PMI
QA 1

Date:

10/16/19

LOG TRANSFER WITH FREQUENCY

TESTED BY: J. Merriner
 MODEL: EWDM-6G18G-65-70MV
 SERIAL NO: PL20566
 DATE: 10-7-19

Test Temp: 25C

RF PORT



PLANAR MONOLITHICS INDUSTRIES
 4921 Robert J. Mathews Parkway STE 1
 TEL: 916-542-1401 FAX: 301-662-1731
 EMAIL: SALES@PMI-RF.COM
 ISO 9001:2000 CERTIFIED

Frequency

6000 MHz	INTERCEPT (mV)	5093.4
	SLOPE (mV/dB)	72.499

9000 MHz	INTERCEPT (mV)	4860.1
	SLOPE (mV/dB)	67.898

12000 MHz	INTERCEPT (mV)	4915.6
	SLOPE (mV/dB)	68.94

15000 MHz	INTERCEPT (mV)	4994
	SLOPE (mV/dB)	69.452

18000 MHz	INTERCEPT (mV)	4939.5
	SLOPE (mV/dB)	69.829

-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
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366	723	1106	1474	1831	2184	2570	2949	3315	3647	4015	4359	4711	5070
-15	-20	0	6	0	-9	14	31	34	4	9	-9	-20	-23
-0.21	-0.28	0.00	0.08	0.00	-0.13	0.19	0.42	0.47	0.05	0.13	-0.13	-0.27	-0.32
-0.50	-0.40	0.07	0.33	0.43	0.47	0.99	1.40	1.63	1.37	1.63	1.54	1.57	1.70

410	767	1159	1503	1851	2167	2445	2793	3135	3490	3834	4181	4541	4871
-37	-19	33	38	46	23	-39	-30	-28	-12	-8	0	20	11
-0.54	-0.28	0.49	0.56	0.68	0.34	-0.57	-0.44	-0.41	-0.18	-0.11	0.00	0.30	0.16
0.13	0.23	0.83	0.74	0.71	0.23	-0.80	-0.83	-0.94	-0.87	-0.96	-1.00	-0.86	-1.14

408	753	1144	1490	1840	2171	2480	2848	3191	3533	3891	4234	4584	4884
-27	-26	20	21	27	13	-23	1	-1	-4	9	8	13	-32
-0.38	-0.38	0.29	0.31	0.39	0.19	-0.33	0.01	-0.02	-0.06	0.14	0.11	0.19	-0.46
0.10	0.03	0.61	0.56	0.56	0.29	-0.30	-0.04	-0.14	-0.26	-0.14	-0.24	-0.24	-0.96

440	812	1207	1548	1887	2234	2532	2913	3266	3592	3953	4284	4643	5004
-40	-15	33	27	18	18	-31	3	8	-13	1	-15	-4	10
-0.57	-0.21	0.47	0.38	0.26	0.26	-0.45	0.04	0.12	-0.19	0.01	-0.22	-0.05	0.14
0.56	0.87	1.51	1.39	1.23	1.19	0.44	0.89	0.93	0.59	0.74	0.47	0.60	0.76

381	736	1120	1451	1799	2160	2488	2863	3208	3529	3887	4228	4593	4938
-20	-14	21	3	2	14	-7	18	14	-14	-5	-13	3	-2
-0.28	-0.20	0.30	0.04	0.03	0.20	-0.11	0.26	0.20	-0.20	-0.07	-0.19	0.04	-0.02
-0.29	-0.21	0.27	0.00	-0.03	0.13	-0.19	0.17	0.10	-0.31	-0.20	-0.33	-0.11	-0.19

RF Input Power (dBm)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

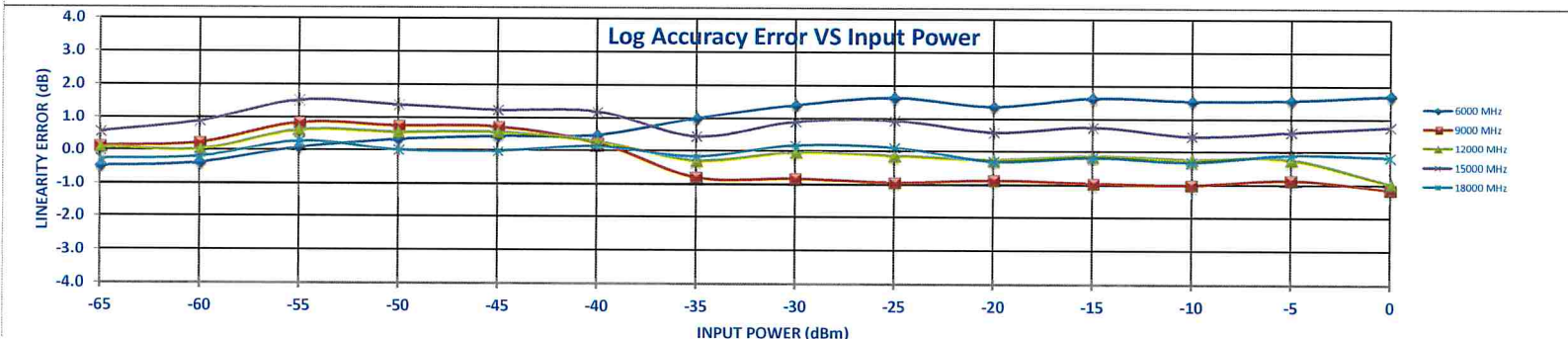
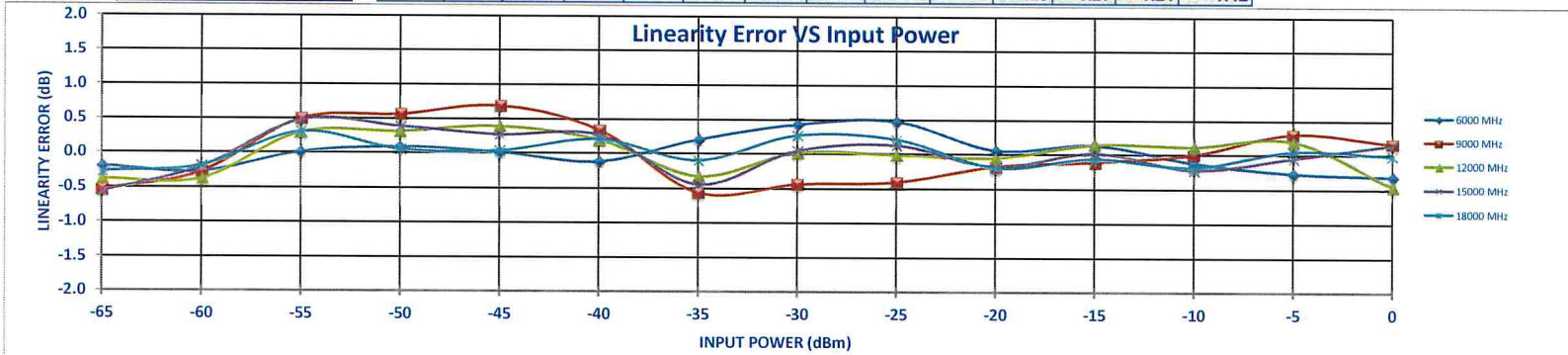
Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

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Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

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Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

Flatness	+/- dB	0.53	0.64	0.72	0.69	0.63	0.53	0.89	1.11	1.29	1.12	1.29	1.27	1.21	1.42
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LOG TRANSFER WITH FREQUENCY

TESTED BY: J. Merriner
 MODEL: EWDM-6G18G-65-70MV
 SERIAL NO: PL20566
 DATE: 10-7-19

Test Temp: 0C

RF PORT



PLANAR MONOLITHICS INDUSTRIES
 4921 Robert J. Mathews Parkway STE 1
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 EMAIL: SALES@PMI-RF.COM
 ISO 9001:2000 CERTIFIED

Frequency

6000 MHz	INTERCEPT (mV)	5131.3
	SLOPE (mV/dB)	72.942

-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
380	739	1113	1478	1844	2204	2597	2988	3340	3676	4046	4401	4744	5100
-10	-16	-7	-6	-5	-10	19	45	32	4	9	-1	-23	-31
-0.14	-0.22	-0.09	-0.09	-0.07	-0.13	0.26	0.62	0.44	0.05	0.12	-0.01	-0.31	-0.43
-0.52	-0.39	-0.05	0.16	0.39	0.53	1.15	1.73	1.76	1.56	1.85	1.92	1.82	1.91

RF Input Power (dBm)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

9000 MHz	INTERCEPT (mV)	4922.2
	SLOPE (mV/dB)	68.654

419	784	1171	1529	1880	2198	2476	2838	3189	3546	3895	4240	4597	4911
-41	-19	25	40	47	22	-43	-25	-17	-3	3	4	18	-11
-0.59	-0.28	0.36	0.58	0.69	0.32	-0.63	-0.36	-0.25	-0.05	0.04	0.06	0.26	-0.16
0.03	0.25	0.78	0.89	0.91	0.45	-0.58	-0.41	-0.39	-0.29	-0.31	-0.38	-0.28	-0.79

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

12000 MHz	INTERCEPT (mV)	4971.7
	SLOPE (mV/dB)	69.341

432	788	1184	1528	1881	2214	2512	2870	3243	3588	3951	4294	4640	4928
-32	-23	26	23	30	16	-33	-21	5	3	19	16	15	-44
-0.47	-0.33	0.38	0.34	0.43	0.23	-0.47	-0.31	0.07	0.05	0.28	0.23	0.22	-0.63
0.22	0.31	0.96	0.88	0.92	0.68	-0.07	0.05	0.38	0.31	0.49	0.39	0.33	-0.55

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

15000 MHz	INTERCEPT (mV)	5047.9
	SLOPE (mV/dB)	69.914

440	842	1245	1581	1924	2266	2566	2956	3318	3648	4011	4340	4690	5032
-63	-11	42	29	22	15	-35	6	18	-2	12	-9	-8	-16
-0.91	-0.16	0.61	0.41	0.32	0.21	-0.50	0.08	0.26	-0.02	0.17	-0.12	-0.12	-0.23
0.33	1.08	1.83	1.63	1.53	1.42	0.71	1.28	1.45	1.16	1.35	1.05	1.05	0.93

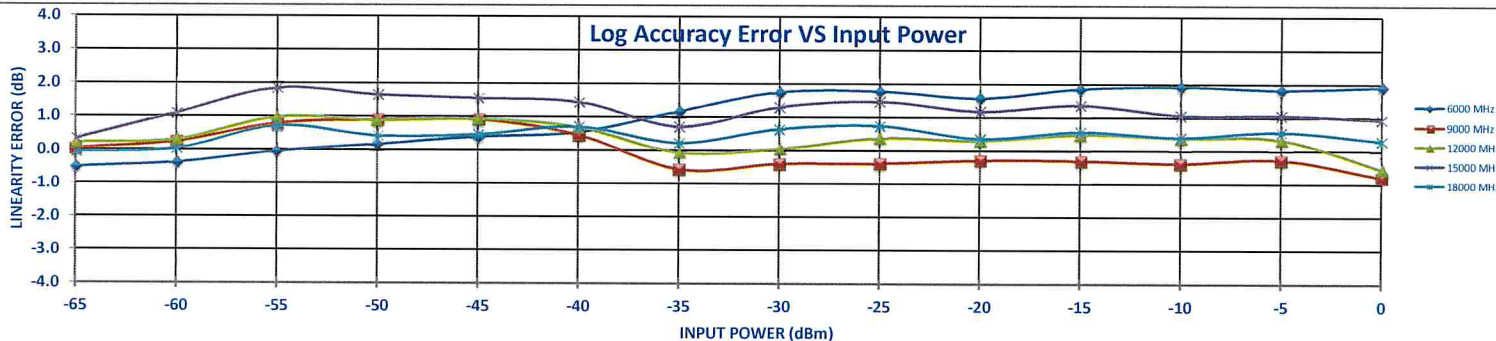
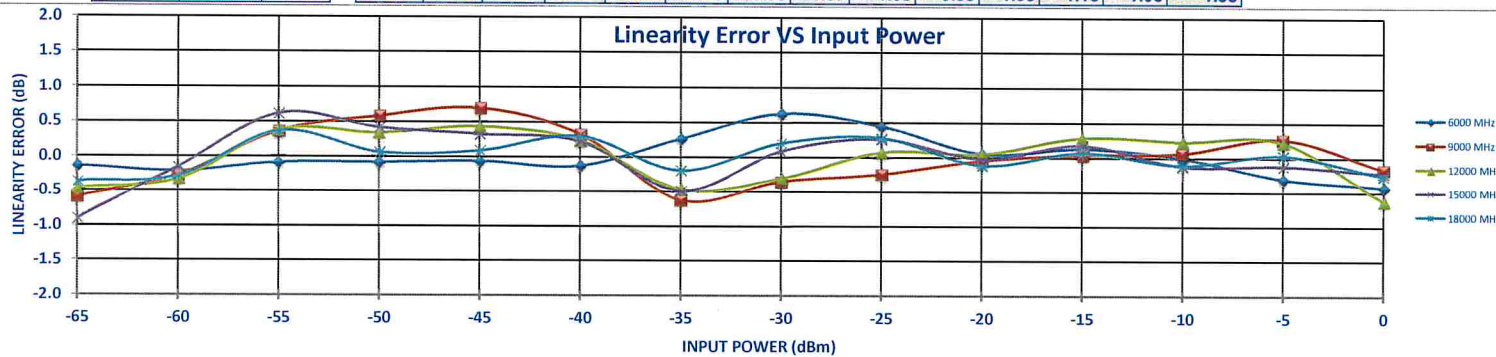
Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

18000 MHz	INTERCEPT (mV)	5005.5
	SLOPE (mV/dB)	70.271

412	769	1166	1496	1849	2215	2532	2911	3268	3592	3956	4295	4656	4987
-26	-20	25	4	6	20	-14	14	19	-8	5	-8	2	-19
-0.37	-0.29	0.36	0.06	0.08	0.29	-0.20	0.19	0.27	-0.12	0.06	-0.11	0.03	-0.26
-0.07	0.03	0.71	0.42	0.46	0.69	0.22	0.63	0.73	0.36	0.56	0.41	0.56	0.29

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

Flatness	+/- dB	0.43	0.74	0.94	0.74	0.57	0.49	0.86	1.07	1.08	0.93	1.08	1.15	1.05	1.35
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LOG TRANSFER WITH FREQUENCY

TESTED BY: J. Merriner
 MODEL: EWDM-6G18G-65-70MV
 SERIAL NO: PL20566
 DATE: 10-7-19

Test Temp: +85C



PLANAR MONOLITHICS INDUSTRIES
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 ISO 9001:2000 CERTIFIED

RF PORT

Frequency

6000 MHz	INTERCEPT (mV)	4978.7
	SLOPE (mV/dB)	71.938

9000 MHz	INTERCEPT (mV)	4742.9
	SLOPE (mV/dB)	67.238

12000 MHz	INTERCEPT (mV)	4790.6
	SLOPE (mV/dB)	68.376

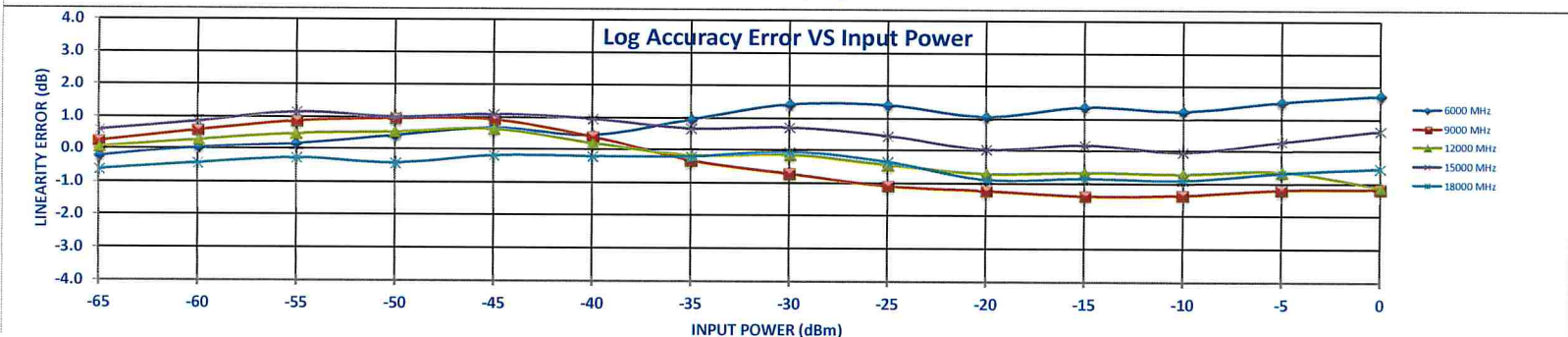
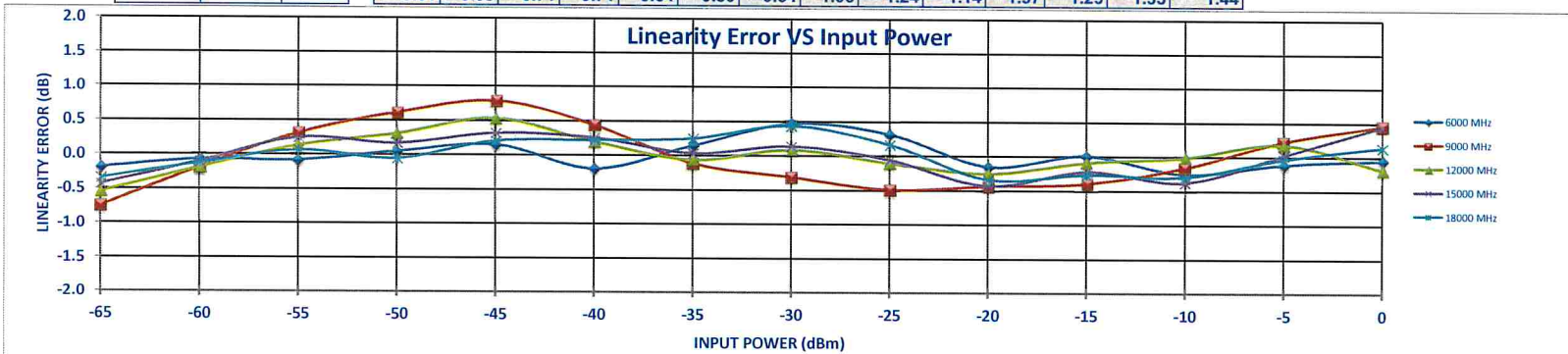
15000 MHz	INTERCEPT (mV)	4868.9
	SLOPE (mV/dB)	69.109

18000 MHz	INTERCEPT (mV)	4808.4
	SLOPE (mV/dB)	69.589

	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
289	657	1016	1385	1752	2087	2471	2854	3203	3529	3900	4241	4611	4975	
-14	-5	-6	3	11	-14	10	33	23	-11	0	-18	-8	-4	
-0.19	-0.08	-0.09	0.04	0.15	-0.20	0.14	0.46	0.32	-0.15	0.01	-0.25	-0.11	-0.05	
-0.24	0.02	0.15	0.42	0.66	0.45	0.93	1.41	1.39	1.05	1.35	1.22	1.51	1.71	
322	696	1066	1422	1770	2083	2382	2705	3029	3369	3708	4060	4422	4774	
-50	-13	21	41	53	30	-8	-21	-33	-29	-26	-11	15	31	
-0.75	-0.19	0.31	0.61	0.78	0.44	-0.11	-0.31	-0.49	-0.43	-0.39	-0.16	0.23	0.46	
0.23	0.58	0.86	0.95	0.92	0.39	-0.34	-0.72	-1.09	-1.24	-1.39	-1.37	-1.19	-1.17	
309	675	1039	1393	1750	2069	2393	2745	3074	3406	3759	4106	4461	4778	
-37	-13	9	21	36	13	-4	6	-7	-17	-6	-1	12	-13	
-0.54	-0.19	0.13	0.31	0.53	0.20	-0.06	0.08	-0.10	-0.25	-0.09	-0.01	0.18	-0.18	
0.05	0.28	0.48	0.53	0.63	0.19	-0.18	-0.15	-0.45	-0.71	-0.67	-0.71	-0.64	-1.11	
347	715	1085	1425	1781	2122	2452	2805	3137	3457	3817	4152	4525	4900	
-30	-7	17	12	22	17	2	9	-4	-30	-15	-26	2	31	
-0.43	-0.11	0.25	0.17	0.32	0.25	0.03	0.14	-0.06	-0.43	-0.22	-0.37	0.02	0.45	
0.59	0.85	1.13	0.99	1.08	0.95	0.66	0.71	0.45	0.02	0.16	-0.05	0.28	0.63	
261	624	985	1325	1691	2040	2390	2751	3080	3393	3746	4092	4458	4818	
-24	-9	4	-4	14	15	17	30	11	-24	-19	-20	-2	10	
-0.35	-0.13	0.06	-0.06	0.20	0.22	0.25	0.44	0.16	-0.34	-0.27	-0.29	-0.03	0.14	
-0.64	-0.45	-0.29	-0.44	-0.21	-0.22	-0.22	-0.07	-0.37	-0.89	-0.85	-0.91	-0.68	-0.54	

RF Input Power (dBm)
Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)
Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)
Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)
Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

Flatness	+/- dB	0.61	0.65	0.71	0.71	0.64	0.59	0.64	1.06	1.24	1.14	1.37	1.29	1.35	1.44
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LOG TRANSFER WITH FREQUENCY

TESTED BY: J. Merriner
 MODEL: EWDM-6G18G-65-70MV
 SERIAL NO: PL20566
 DATE: 10-7-19

Test Temp: 25C



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 EMAIL: SALES@PMI-RF.COM
 ISO 9001:2000 CERTIFIED

BIT PORT

Frequency

6000 MHz	INTERCEPT (mV)	5117.2
	SLOPE (mV/dB)	72.924

9000 MHz	INTERCEPT (mV)	4855.9
	SLOPE (mV/dB)	68.315

12000 MHz	INTERCEPT (mV)	4911.1
	SLOPE (mV/dB)	69.176

15000 MHz	INTERCEPT (mV)	5075.7
	SLOPE (mV/dB)	69.634

18000 MHz	INTERCEPT (mV)	5024.9
	SLOPE (mV/dB)	69.897

	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
6000 MHz	357	720	1111	1474	1829	2192	2576	2967	3338	3669	4037	4383	4730	5078
9000 MHz	385	736	1124	1477	1827	2142	2424	2780	3127	3486	3828	4175	4531	4858
12000 MHz	386	738	1121	1473	1823	2151	2459	2842	3191	3536	3893	4233	4580	4855
15000 MHz	534	889	1254	1610	1954	2291	2612	2993	3360	3673	4039	4374	4725	5069
18000 MHz	459	813	1208	1530	1869	2236	2568	2953	3313	3615	3987	4327	4681	4986

RF Input Power (dBm)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

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Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

Flatness	+/- dB	1.26	1.21	1.02	0.98	0.94	1.06	1.34	1.52	1.66	1.34	1.51	1.49	1.42	1.59
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