



Tested By: Jim Hopson

SO No:

Temperature: 0°C TO +85°C

Model No: EWDM-6G18G-65-70MV-1

Date 7/18/2024

Serial No: PL40948/2339

Drawing No: 27637972

Rev: A1

TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	6 to 18 GHz	6 to 18 GHz	PMI QA3
2	VSWR:	2.2:1 MAX @ 50 Ω	1.32:1 @ 50 Ω (RF IN) 1.72:1 @ 50 Ω (BIT IN) 1.74:1 @ 50 Ω (RF OUT) 1.83:1 @ 50 Ω (SW OUT)	
3	Noise Figure:	6 dB MAX	4.6 dB TYP	
4	Input Power:	(1) 1 W CW, Max. (2) 100 W Peak @ PW = 1 us & Duty Cycle = 1%, Max.	Pass	
5	TTL Control	See Logic Table	Pass	
6	SP3T Switch Isolation	60 dB MIN (All Ports)	> 60 dB	
7	SP3T Switching Speed:	100 ns MAX	50 ns	
8	RF OUT Linear Gain	+33 dB MIN, 39 dB MAX	36.5 dB MIN / 38.3 dB MAX	
9	RF OUT Frequency Flatness:	±2.5 dB MAX	±0.9 dB	
10	RF OUT 1 dB Compression Point:	+3 dBm MIN	9.4 dBm	
11	RF OUT Second Harmonic:	-9 dBc MIN	-38.58 dBc	
12	RF OUT Third Harmonic:	-12 dBc MIN	-58.98 dBc	

7311-F Grove Road Frederick, MD 21704 USA

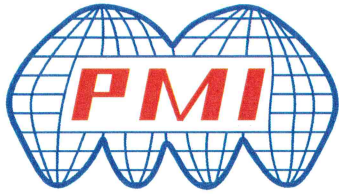
Phone: (301)662-5019 Fax: (301)662-1731

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



Summary Data
For
EWDM-6G18G-65-70MV-1

13	SW Linear Gain	+7 dB MIN, 15 dB MAX	12.5 dB MIN / 14.6 dB MAX	PMI QA3
14	SW Frequency Flatness:	±1.5 dB MAX	±1.1 dB	
15	SW 1 dB Compression Point:	+3 dBm MIN	5.3 dBm	
16	SW Saturated Power:	+9 dBm MAX	6.6 dBm	
17	SW Second Harmonic:	-9 dBc MIN	-33.41 dBc	
18	SW Third Harmonic:	-12 dBc MIN	-58.67 dBc	
19	VIDEO OUT TSS:	-71 dBm MAX	-71 dBm	
20	VIDEO OUT Dynamic Range:	-65 to 0 dBm	-65 to 0 dBm	
21	VIDEO OUT Log Slope Fixed:	70 ± 3mV/dB	70.4 mV/dB	
22	VIDEO OUT Log Linearity:	±1.0 dB MAX @12 GHZ	+0.47 / -0.35 dB	
23	VIDEO OUT Log Accuracy:	±2.0 dB MAX	+1.03 / -0.97 dB	
24	VIDEO OUT Absolute Log Accuracy:	±2.25 dB MAX	+1.34 / -1.34 dB	
25	VIDEO OUT DC Offset:	0 ±70 mV (RF Input Terminated & DC Power On)	9 mV	
26	VIDEO OUT Rise Time (10% to 90%):	25 ns TYP 28 ns MAX	27.3 ns	
27	VIDEO OUT Fall Time (90% to 10%):	300 ns MAX	174.7 ns	
28	VIDEO OUT Settling Time:	50 ns With in ±70 mV of final value, MAX	40 ns typ	



Summary Data
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29	VIDEO OUT Recovery Time:	0.5 us MAX to within 1 dB of baseline	< 0.5 us	PMI QA3
30	VIDEO OUT Video Frequency Flatness:	±1.75 dB MAX	±0.98 dB	
31	VIDEO OUT CW Immunity:	A. CW Immune Power TSS to -40 dBm Baseline Shift: 200 mV MAX	125 mV TYP	
		B. Pulse Peak Amplitude Loss; 2 dB MAX	1.7 dB TYP	
		CW Immunity Time at CW = -40 dBm, ≤ 3 ms	1.3ms	
		CW Recovery Time at CW = -40 dBm, ≤ 50 us	40 us TYP	
32	VIDEO OUT Pulse Response, input Signal:	100 ns to 300 us	100 ns to 300 us	
33	VIDEO OUT Impedance:	75 ±1 Ω	75 Ω	
34	VIDEO driver capability	150 ft RG11 into 75 ohm load	PASS	
35	Pulse density capability	10% duty cycle 100 ns, 70% duty cycle 300 us at peak power -10 dBm with 1 dB variable for pulse amplitude and baseline	PASS	
36	VIDEO OUT Noise Level (Vp-p):	160 mV TYP	140mV TYP	
37	Droop of the Output Video Pulse: @ -65 dBm & 300 us pulse width	70mV (1 dB) MAX	45 mV TYP	



Summary Data
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38	VIDEO OUT Propagation Delay:	50 ns MAX (excluding cable)	33 ns	PMI QA3
39	Power Supply	+15 V @ 1000 mA MAX -15 V @ 500 mA MAX	+15 V @ 640 mA -15 V @ 140 mA	
40	Power Supply Ripple From DC to 10 MHz	100 mV MAX	PASS	

QA/QC Approval: _____

H. M. [Signature]

Date: _____

7-19-24

LOG TRANSFER WITH FREQUENCY

TESTED BY: Jim Hopson
MODEL: EWDMM-6G18G-6S-70MV-1
SERIAL NO.: PL40948 RF
DATE: 07/18/24

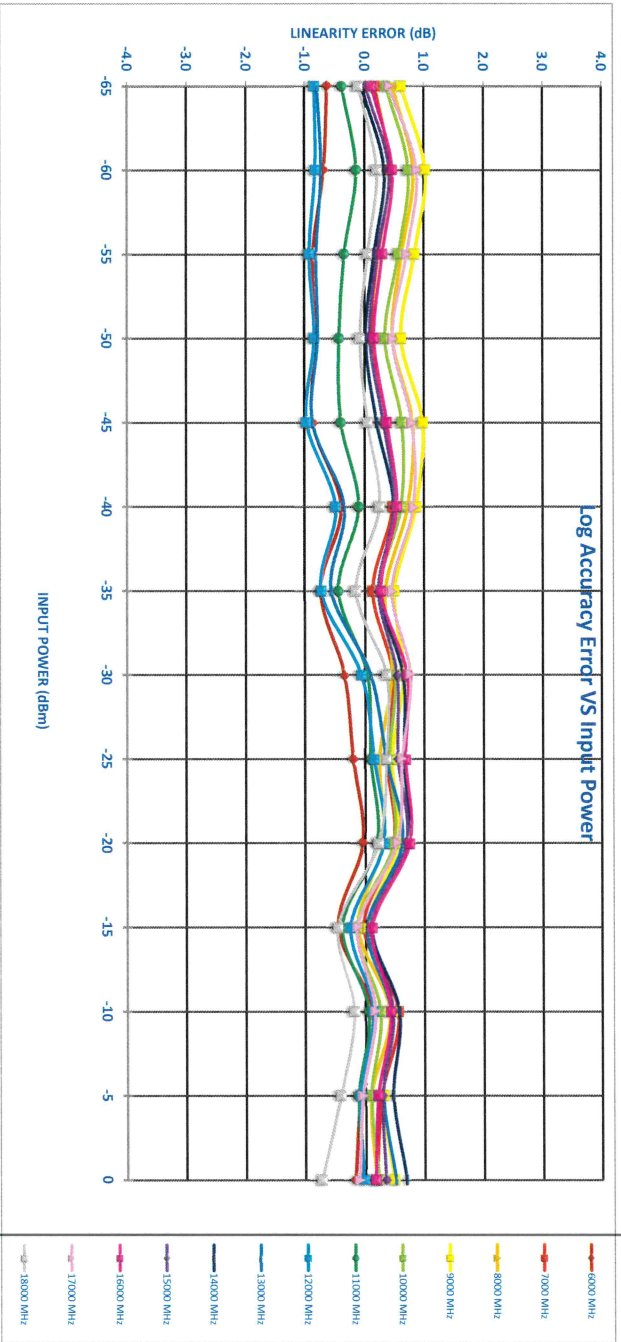
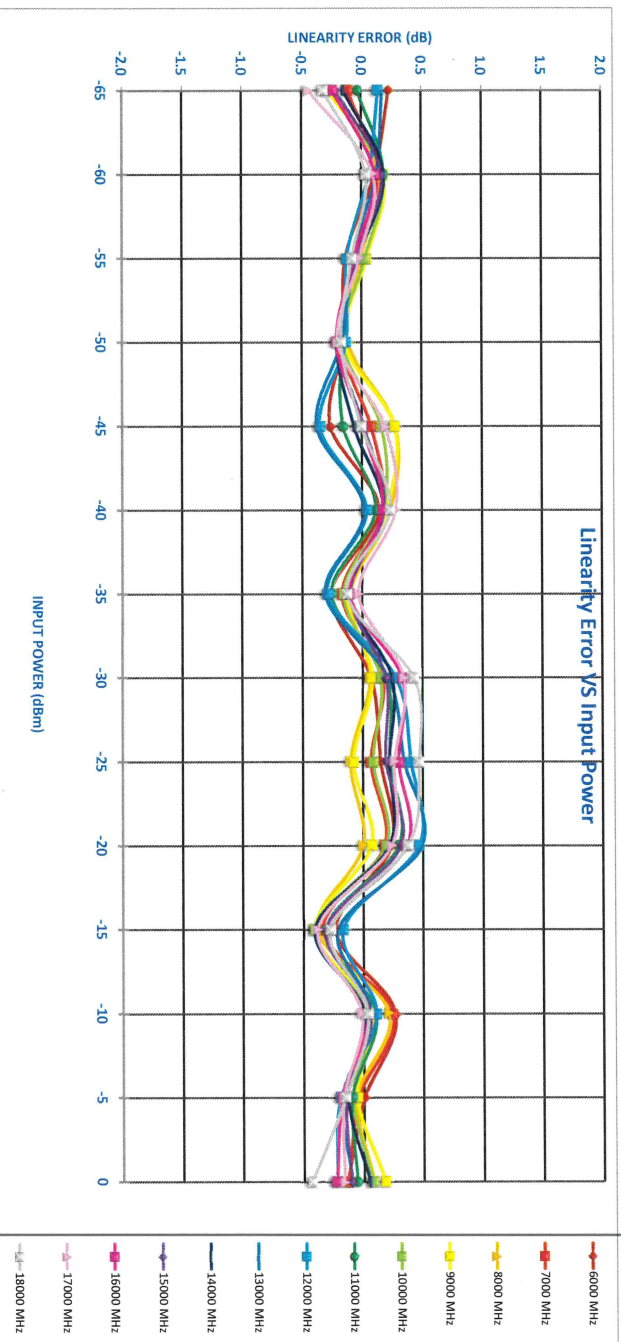
Test Temp: 25C
Video Offset: 0.008999999999998

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



Frequency		-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)	Measured Value (mV)	Error (mV)	LINEARITY ERROR (dB)	ACCURACY ERROR (dB)
6000 MHz	INTERCEPT (mV)																4823.1			
	SLOPE (mV/dB)																70.897			
		231	577	914	1267	1614	1997	2323	2701	3061	3422	3743	4133	4469	4813		Error (mV)			
		18	8	-10	-11	-19	-10	-19	5	10	-17	-17	-19	0	-10		LINEARITY ERROR (dB)			
7000 MHz	INTERCEPT (mV)																4847.2			
	SLOPE (mV/dB)																70.032			
		287	655	991	1333	1701	2058	2384	2758	3101	3459	3773	4164	4494	4838		Error (mV)			
		-8	10	-4	-13	3	12	-12	12	5	12	-24	12	-3	-9		LINEARITY ERROR (dB)			
8000 MHz	INTERCEPT (mV)																4832.5			
	SLOPE (mV/dB)																69.33			
		308	663	1019	1356	1732	2076	2399	2757	3092	3446	3766	4154	4482	4838		Error (mV)			
		-18	10	0	-8	19	17	-7	4	-7	0	-27	15	-4	5		LINEARITY ERROR (dB)			
9000 MHz	INTERCEPT (mV)																4846.7			
	SLOPE (mV/dB)																69.373			
		318	697	1034	1368	1744	2086	2410	2771	3107	3464	3778	4157	4496	4859		Error (mV)			
		-19	13	3	-10	19	14	-9	5	-5	5	-28	4	-4	12		LINEARITY ERROR (dB)			
10000 MHz	INTERCEPT (mV)																4835.8			
	SLOPE (mV/dB)																69.507			
		300	677	1015	1349	1719	2068	2392	2761	3104	3459	3765	4143	4482	4841		Error (mV)			
		-18	12	2	-11	11	13	-11	10	6	13	-28	2	-6	5		LINEARITY ERROR (dB)			
11000 MHz	INTERCEPT (mV)																4825.8			
	SLOPE (mV/dB)																70.393			
		248	615	951	1295	1647	2018	2344	2728	3082	3439	3748	4129	4467	4822		Error (mV)			
		-0.03	0.18	-0.05	-0.16	-0.16	0.11	-0.26	0.20	0.23	0.30	-0.31	0.10	-0.10	-0.05		LINEARITY ERROR (dB)			
12000 MHz	INTERCEPT (mV)																4839.3			
	SLOPE (mV/dB)																71.277			
		216	567	910	1266	1607	1991	2324	2721	3086	3447	3758	4134	4469	4823		Error (mV)			
		0.14	0.06	-0.13	-0.13	-0.35	0.04	-0.29	0.28	0.40	0.47	-0.17	0.10	-0.20	-0.23		LINEARITY ERROR (dB)			
13000 MHz	INTERCEPT (mV)																4867.8			
	SLOPE (mV/dB)																71.709			
		219	574	918	1270	1614	2001	2336	2732	3100	3469	3777	4155	4496	4861		Error (mV)			
		12	9	-6	-12	-27	2	-22	15	25	35	-15	4	-13	-7		LINEARITY ERROR (dB)			
14000 MHz	INTERCEPT (mV)																4870.4			
	SLOPE (mV/dB)																70.593			
		271	648	986	1326	1689	2059	2392	2770	3121	3474	3783	4165	4508	4874		Error (mV)			
		-0.15	0.19	-0.03	-0.21	-0.07	0.17	-0.11	0.25	0.22	0.22	-0.40	0.01	-0.13	0.05		LINEARITY ERROR (dB)			
15000 MHz	INTERCEPT (mV)																4856.4			
	SLOPE (mV/dB)																70.233			
		276	654	990	1331	1697	2060	2391	2763	3114	3474	3781	4158	4495	4849		Error (mV)			
		-0.22	0.17	-0.05	-0.20	0.02	0.18	-0.10	0.19	0.19	0.32	-0.31	0.06	-0.15	-0.10		LINEARITY ERROR (dB)			
16000 MHz	INTERCEPT (mV)																4853.1			
	SLOPE (mV/dB)																70.048			
		283	658	996	1336	1701	2063	2394	2775	3123	3478	3783	4155	4490	4837		Error (mV)			
		-17	8	-4	-15	0	12	-7	23	21	26	-19	2	-13	-16		LINEARITY ERROR (dB)			
17000 MHz	INTERCEPT (mV)																4829.5			
	SLOPE (mV/dB)																69.152			
		304	687	1025	1358	1731	2083	2407	2779	3119	3463	3766	4137	4472	4818		Error (mV)			
		-0.44	0.10	-0.02	-0.20	0.19	0.28	-0.03	0.35	0.26	0.24	-0.38	-0.01	-0.17	-0.17		LINEARITY ERROR (dB)			
18000 MHz	INTERCEPT (mV)																4804			
	SLOPE (mV/dB)																69.458			
		267	639	978	1319	1678	2042	2364	2750	3100	3441	3743	4112	4446	4774		Error (mV)			
		-0.32	0.04	-0.08	-0.17	-0.01	0.23	-0.13	0.43	0.47	0.38	-0.28	0.04	-0.15	-0.43		LINEARITY ERROR (dB)			
Flatness		0.73	0.93	0.89	0.73	0.98	0.68	0.62	0.53	0.44	0.40	0.29	0.26	0.29	0.44		Measured Value (mV)			

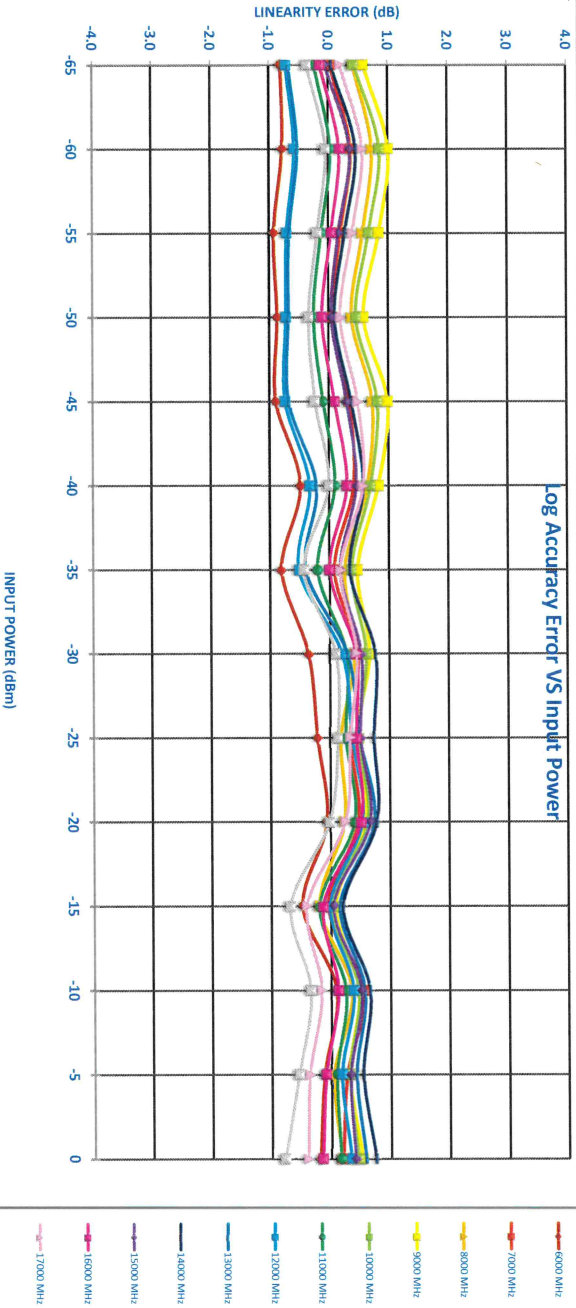
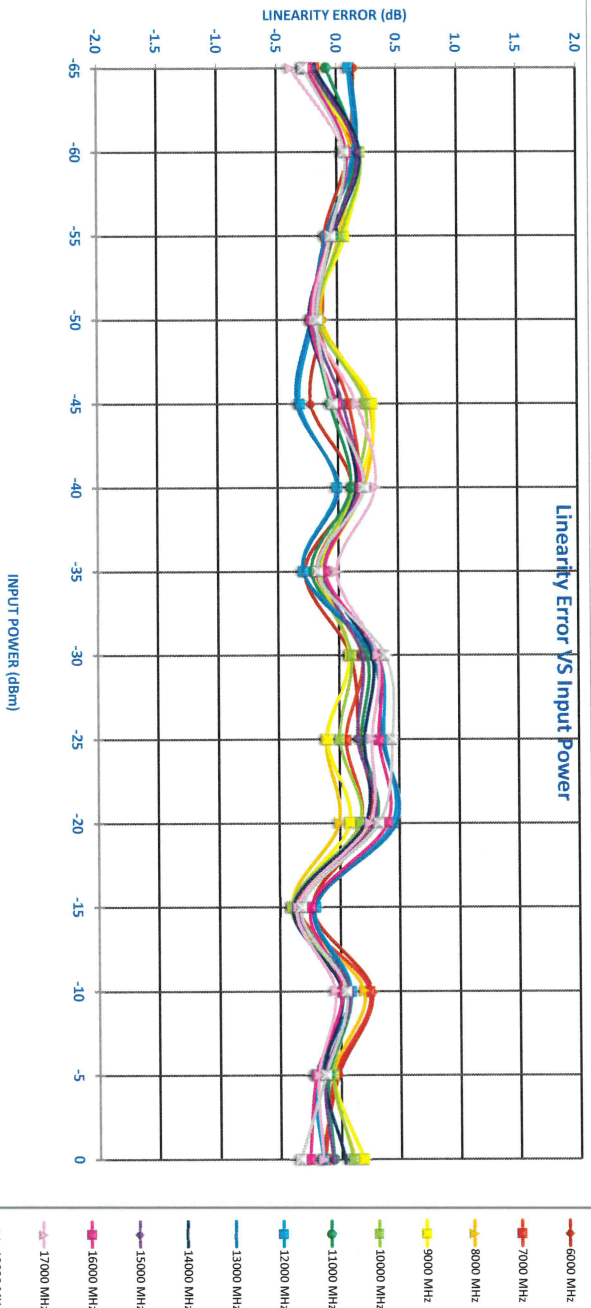
PL40948 RF



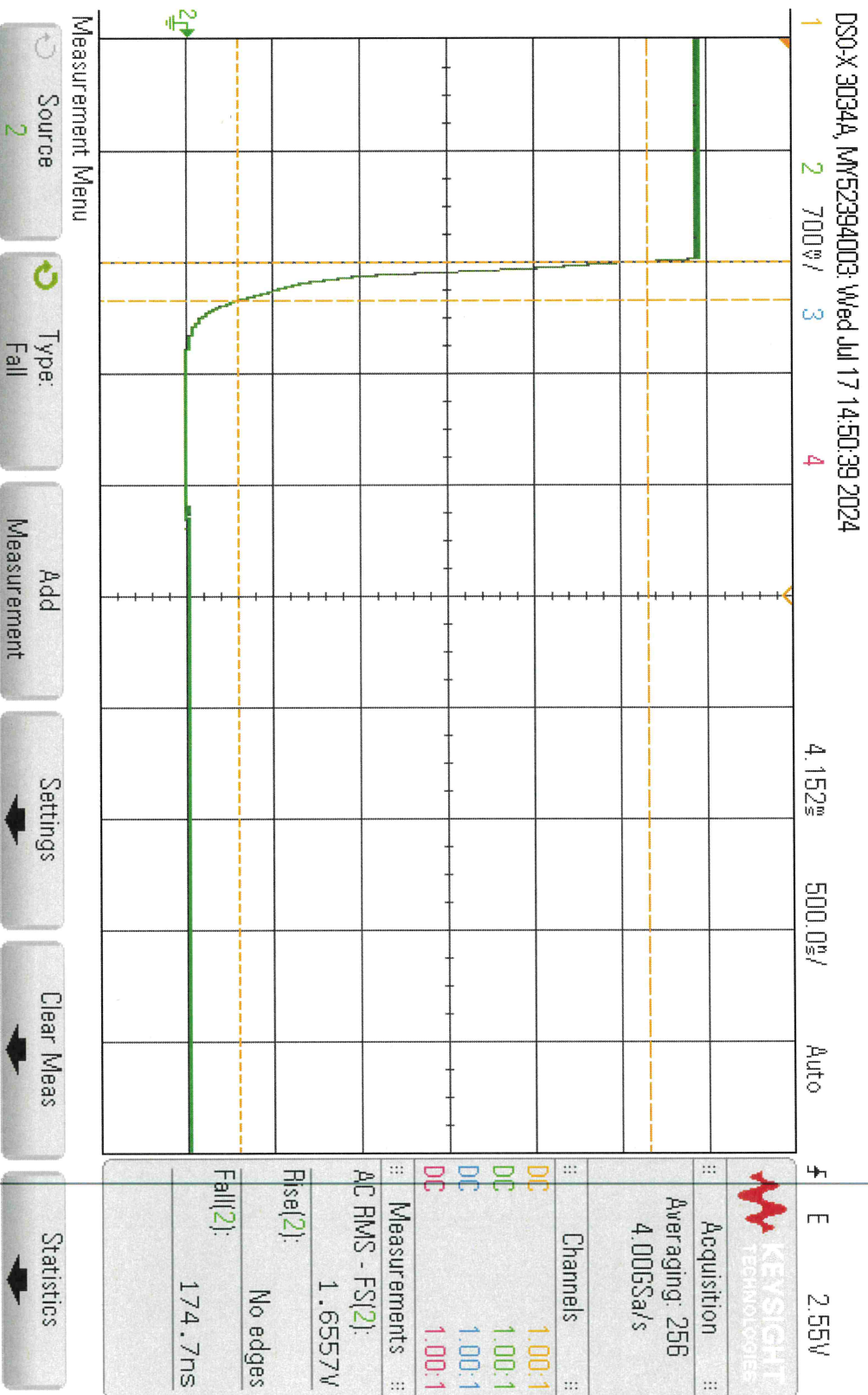
PLANAR MONOLITHICS INDUSTRIES
4921 Robert J. Mathews Parkway STE
TEL: 916-542-1401 FAX: 301-662-1733

Frequency	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
6000 MHz	INTERCEPT (mV)	4833.6												
	SLOPE (mV/dB)	71.018												
	Measured Value (mV)	228	580	920	1274	1622	2001	2328	2710	3070	3431	3752	4142	4822
3000 MHz	INTERCEPT (mV)	4858.3												
	SLOPE (mV/dB)	70.134												
	Measured Value (mV)	287	661	999	1340	1709	2064	2391	2768	3109	3468	3782	4174	4504
30000 MHz	INTERCEPT (mV)	4840.1												
	SLOPE (mV/dB)	69.387												
	Measured Value (mV)	314	686	1025	1362	1736	2080	2403	2765	3098	3452	3772	4160	4489
30000 MHz	INTERCEPT (mV)	4859.8												
	SLOPE (mV/dB)	69.444												
	Measured Value (mV)	326	705	1044	1376	1754	2093	2418	2782	3116	3476	3791	4168	4507
10000 MHz	INTERCEPT (mV)	4859.8												
	SLOPE (mV/dB)	69.639												
	Measured Value (mV)	315	695	1032	1367	1742	2084	2411	2778	3119	3479	3787	4168	4507
10000 MHz	INTERCEPT (mV)	4851.3												
	SLOPE (mV/dB)	70.422												
	Measured Value (mV)	268	637	976	1317	1678	2042	2371	2755	3104	3464	3772	4153	4492
32000 MHz	INTERCEPT (mV)	4870												
	SLOPE (mV/dB)	71.433												
	Measured Value (mV)	234	594	935	1284	1633	2012	2349	2730	3111	3473	3784	4162	4498
13000 MHz	INTERCEPT (mV)	4886.2												
	SLOPE (mV/dB)	71.665												
	Measured Value (mV)	237	598	938	1287	1637	2020	2357	2756	3120	3487	3796	4175	4515
14000 MHz	INTERCEPT (mV)	4885.7												
	SLOPE (mV/dB)	70.539												
	Measured Value (mV)	237	598	938	1287	1637	2020	2357	2756	3120	3487	3796	4175	4515
15000 MHz	INTERCEPT (mV)	4886.8												
	SLOPE (mV/dB)	70.35												
	Measured Value (mV)	281	660	997	1338	1706	2067	2398	2772	3121	3482	3789	4171	4508
16000 MHz	INTERCEPT (mV)	4843.3												
	SLOPE (mV/dB)	70.019												
	Measured Value (mV)	275	648	988	1327	1692	2056	2385	2766	3116	3471	3776	4144	4479
17000 MHz	INTERCEPT (mV)	4818.3												
	SLOPE (mV/dB)	69.12												
	Measured Value (mV)	299	675	1013	1349	1719	2075	2398	2767	3109	3453	3754	4123	4460
18000 MHz	INTERCEPT (mV)	4803.7												
	SLOPE (mV/dB)	69.621												
	Measured Value (mV)	259	631	971	1311	1668	2034	2355	2742	3094	3434	3737	4111	4447
Flatness	+/- dB													
	0.70	0.89	0.89	0.73	0.94	0.66	0.64	0.56	0.48	0.42	0.34	0.28	0.33	0.47

PL40948 BIT



PL40948
Recovery

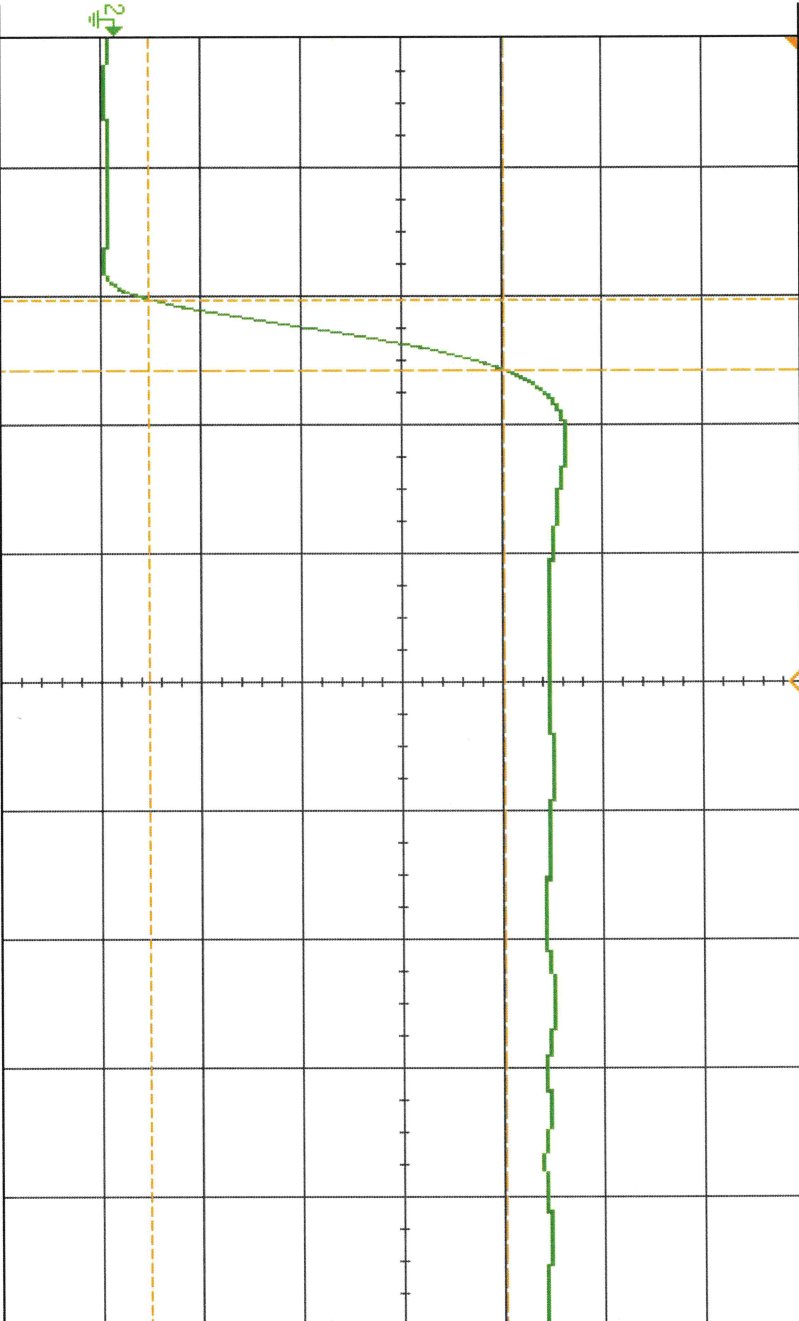


PL40948

Rise Time

DSO-X 3034A, MW52394003: Wed Jul 17 14:49:12 2024

1 2 49V/ 3 4 4.000ns 50.00ns/ Stop



Acquire Menu

Acq Mode Averaging

Avgs 256

Segmented

Acquisition	256
Averaging	256
4.00GSa/s	

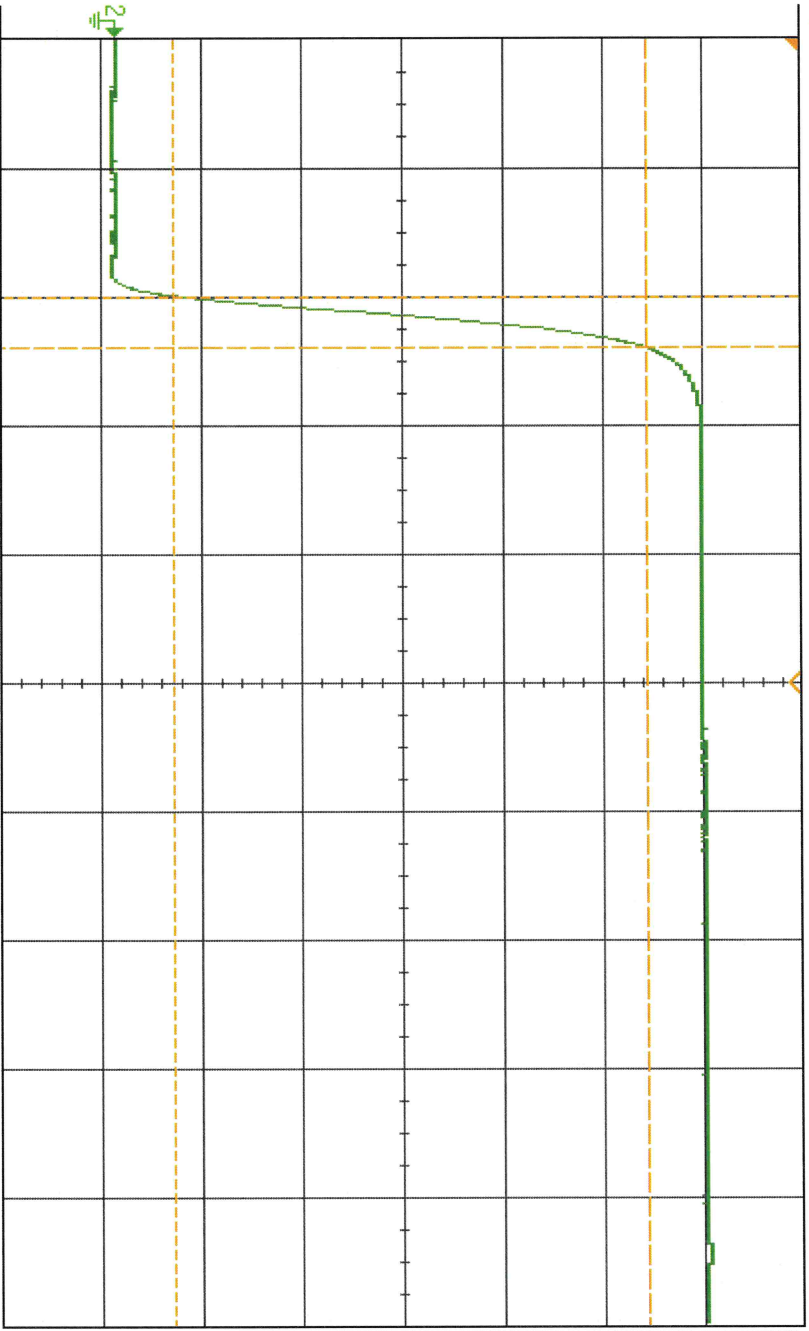
Channels	1.00:1
DC	1.00:1
DC	1.00:1
DC	1.00:1
DC	1.00:1

Measurements	
AC RMS - FS(2)	88.621mV
Fall(2)	No edges
Rise(2)	27.3ns

PL40948
Settle

DSO-X 3034A, MW52394003: Wed Jul 17 14:47:04 2024

1 2 700% / 3 4 4.000ms 50.00ns / Auto f E 2.55V



Measurement Menu

Source 2

Type: Rise

Add Measurement

Settings

Clear Meas

Statistics

KEYSIGHT TECHNOLOGIES	
Acquisition	
Averaging: 64	
4.00GSa/s	
Channels	
DC	1.00:1
DC	1.00:1
DC	1.00:1
DC	1.00:1
Measurements	
AC RMS - FS(2)	1.6616V
Fall(2):	No edges
Rise(2):	20.0ns