



Tested By: Jim Hopson

Temperature: 0°C TO +85°C

Date 7/18/2024

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	1.58:1 @ 50 Ω (RF IN) 1.79:1 @ 50 Ω (BIT IN) 1.71:1 @ 50 Ω (RF OUT) 1.52:1 @ 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	35.1 dB MIN / 37.1 dB MAX	
9	RF OUT Frequency Flatness:	±2.5 dB MAX	±1 dB	
10	RF OUT 1 dB Compression Point:	+3 dBm MIN	11.1 dBm	
11	RF OUT Second Harmonic:	-9 dBc MIN	-36 dBc	
12	RF OUT Third Harmonic:	-12 dBc MIN	-58 dBc	

Page 1 of 4



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

13	SW Linear Gain	+7 dB MIN, 15 dB MAX	12.3 dB MIN / 13.8 dB MAX	PMI QA3
14	SW Frequency Flatness:	±1.5 dB MAX	±0.7 dB	
15	SW 1 dB Compression Point:	+3 dBm MIN	5.5 dBm	
16	SW Saturated Power:	+9 dBm MAX	7.9 dBm	
17	SW Second Harmonic:	-9 dBc MIN	-30 dBc	
18	SW Third Harmonic:	-12 dBc MIN	-51 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	70.7 mV/dB	
22	VIDEO OUT Log Linearity:	±1.0 dB MAX @12 GHZ	+0.48 / -0.45 dB	
23	VIDEO OUT Log Accuracy:	±2.0 dB MAX	+1.24 / -1.17 dB	
24	VIDEO OUT Absolute Log Accuracy:	±2.25 dB MAX	+1.88 / -1.93 dB	
25	VIDEO OUT DC Offset:	0 ±70 mV (RF Input Terminated & DC Power On)	-26 mV	
26	VIDEO OUT Rise Time (10% to 90%):	25 ns TYP 28 ns MAX	27 ns	
27	VIDEO OUT Fall Time (90% to 10%):	300 ns MAX	185.9 ns	
28	VIDEO OUT Settling Time:	50 ns With in ±70 mV of final value, MAX	40 ns typ	



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

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	±1.11 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	1.5ms	
		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
For
EWDM-6G18G-65-70MV-1

38	VIDEO OUT Propagation Delay:	50 ns MAX (excluding cable)	33 ns	PMI QA ²
39	Power Supply	+15 V @ 1000 mA MAX -15 V @ 500 mA MAX	+15 V @ 630 mA -15 V @ 140 mA	
40	Power Supply Ripple From DC to 10 MHz	100 mV MAX	PASS	

QA/QC Approval:

K. [Signature]

Date:

7-19-24

TESTED BY: Jim Hopson

Test Temp: 25C
Video Offset: -0.025

PLANAR MONOLITHICS INDUSTRIES

4921 Robert J. Mathews Parkway STE 7
TEL: 916-542-1401 FAX: 301-662-1731

ISO 9001:2000 CERTIFIED

-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
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[illegible]

281	625	366	1304	1679	1994	2227	2673	3053	3406	3762	4152	4467	4802
19	13	-6	3	18	-17	-33	-57	-77	-3	3	43	9	-8
0.27	0.19	-0.08	0.04	0.26	-0.24	-0.48	-0.53	-0.09	-0.05	0.04	0.62	0.13	-0.08
1.16	1.07	0.80	0.91	1.13	0.63	0.39	0.33	0.76	0.80	0.89	1.46	0.96	0.74

308	651	368	1349	1707	2022	2347	2678	3054	3410	3766	4155	4478	4824
15	10	0	13	23	-9	-32	-48	-33	-38	13	-12	13	17
0.21	0.15	0.00	0.19	0.34	-0.13	-0.46	-0.70	-0.29	-0.17	-0.05	0.55	0.19	0.17
1.54	1.44	1.26	1.41	1.53	1.03	0.67	0.40	0.77	0.86	0.94	1.50	1.11	1.06

306	658	997	1350	1706	2023	2352	2693	3066	3419	3769	4156	4473	4828
9	13	4	10	-18	-13	-31	-38	-13	-8	-5	34	9	10
0.13	0.19	0.06	0.14	0.26	-0.74	-0.55	-0.51	-0.19	-0.11	-0.08	0.49	0.3	0.15
1.51	1.54	1.38	1.43	1.51	1.04	0.74	0.61	0.94	0.99	0.99	1.51	1.13	1.11

276	627	960	1306	1666	1983	2316	2674	3055	3404	3751	4131	4454	4805
17	19	2	-1	10	-22	-39	-30	2	2	0	30	4	6
0.24	0.27	0.03	-0.01	0.14	-0.32	-0.55	-0.43	0.03	0.03	-0.01	0.44	0.06	0.09
1.09	1.10	0.86	0.80	0.94	0.47	0.23	0.34	0.79	0.77	0.73	1.16	0.77	0.79

209	547	869	1226	1557	1912	2252	2612	3001	3345	3695	4086	4409	4748
32	78	-11	-6	3	-34	-56	-20	2	-1	38	9	-4	
0.46	0.26	-0.16	-0.09	0.04	-0.34	-0.51	-0.40	0.13	0.01	-0.01	0.54	0.13	-0.06
0.13	-0.04	-0.44	-0.34	-0.19	-0.54	-0.69	-0.54	0.01	-0.07	-0.07	0.51	0.13	-0.03

203	538	560	1227	1590	1918	2262	2617	3013	3359	3709	4091	4410	4745
30	12	-19	-5	5	-20	-29	-27	16	3	7	36	2	-13
0.42	-0.17	-0.27	0.07	0.07	-0.28	-0.41	-0.38	0.23	0.13	0.09	0.50	0.02	-0.23
0.04	-0.17	-0.57	-0.33	-0.14	-0.46	-0.54	-0.47	0.19	0.13	0.13	0.59	0.14	-0.07

203	531	851	1214	1579	1912	2259	2621	3024	3382	3728	4103	4430	4774
44	16	-20	-13	-4	-27	-35	-29	18	20	10	30	1	-11
0.61	0.22	-0.28	-0.18	-0.05	-0.37	-0.50	-0.41	0.25	0.28	0.15	0.42	0.01	-0.15
0.04	-0.27	-0.51	-0.30	-0.54	-0.59	-0.41	0.34	0.46	0.40	0.76	0.43	0.34	

211	551	873	1228	1593	1928	2278	2652	3050	3393	3738	4137	4456	4805
38	21	-14	-15	-7	-29	-36	-18	23	9	-2	34	2	-6
0.53	0.30	-0.19	-0.22	-0.10	-0.40	-0.50	0.32	0.63	0.3	-0.03	0.47	0.3	-0.08
0.16	0.01	-0.39	-0.31	-0.10	-0.37	-0.31	0.26	0.77	0.61	0.54	1.16	0.80	0.79

191	524	647	1209	1574	1911	2259	2631	3038	3386	3732	4107	4445	4775
37	14	-20	-15	-6	-26	-34	-19	31	26	12	24	-8	-15
0.52	0.19	-0.20	-0.20	-0.09	-0.38	-0.48	-0.27	0.44	0.54	0.17	0.34	-0.12	-0.21
-0.13	-0.37	-0.76	-0.59	-0.37	-0.56	-0.59	0.27	0.54	0.54	0.46	0.73	0.36	0.26

179	510	833	1196	1561	1900	2257	2669	3059	3406	3748	4126	4443	4766
41	12	-24	-20	-14	-35	-37	-4	64	34	17	35	-7	-43
0.57	0.17	-0.33	-0.28	-0.20	-0.48	-0.52	-0.06	0.64	0.47	0.23	0.49	-0.10	-0.60
-0.30	-0.57	-0.96	-0.77	-0.56	-0.74	-0.61	0.01	0.84	0.80	0.69	1.09	0.61	0.23

211	554	8/6	1232	1599	1932	2281	2661	3052	3391	3732	4111	4431	4764
26	14	-18	-16	-3	-34	-30	-4	43	18	5	30	-5	-26
0.36	0.20	-0.23	-0.23	-0.05	-0.24	-0.42	-0.05	0.47	0.25	0.07	0.42	-0.07	-0.36
0.16	0.06	-0.34	-0.26	-0.01	-0.26	-0.27	-0.16	0.74	0.59	0.46	0.87	0.44	0.20

217	553	8/6	1237	1605	1931	2264	2613	2994	3317	3664	4023	4353	4685
12	2	-21	-5	17	-3	-12	23	0	2	15	-1	-14	
0.17	0.03	-0.30	-0.08	0.25	-0.04	-0.22	-0.18	0.34	0.03	0.22	-0.01	-0.21	
0.24	0.04	-0.34	-0.19	0.07	-0.27	-0.51	0.53	-0.09	-0.47	-0.51	-0.39	-0.67	-0.93

0.92	1.06	1.17	1.10	1.04	0.88	0.71	0.61	0.46	0.53	0.53	0.50	0.50	0.59
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Measured Value (mV)

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

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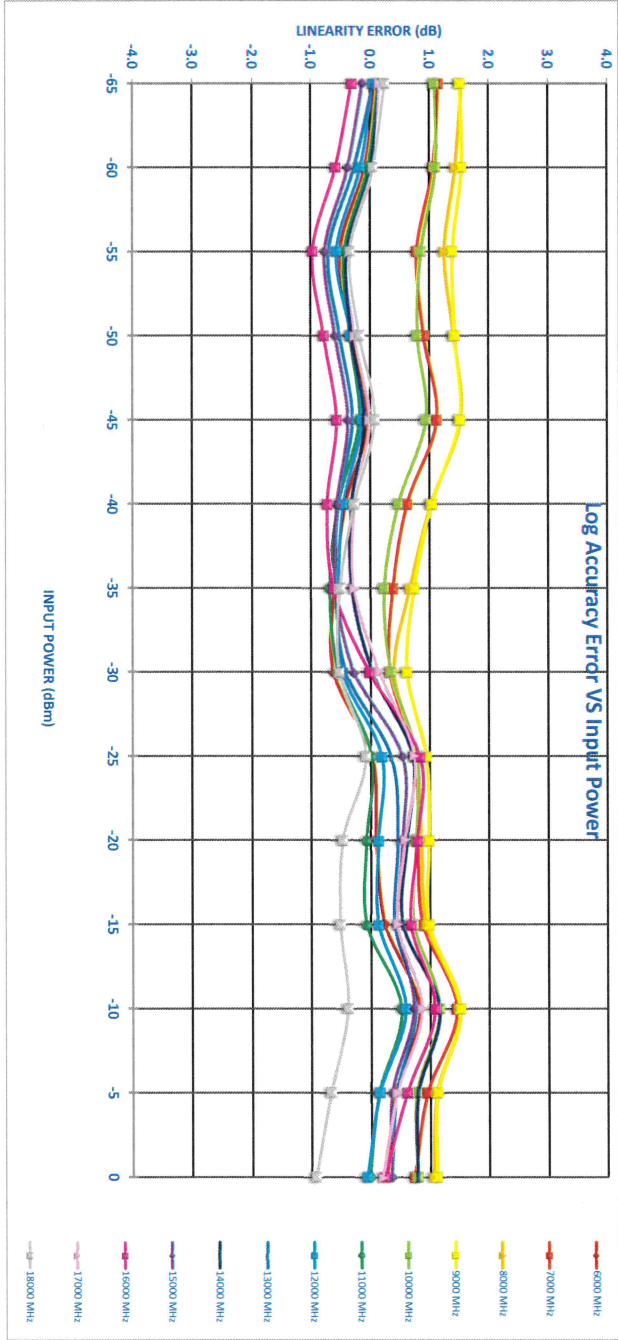
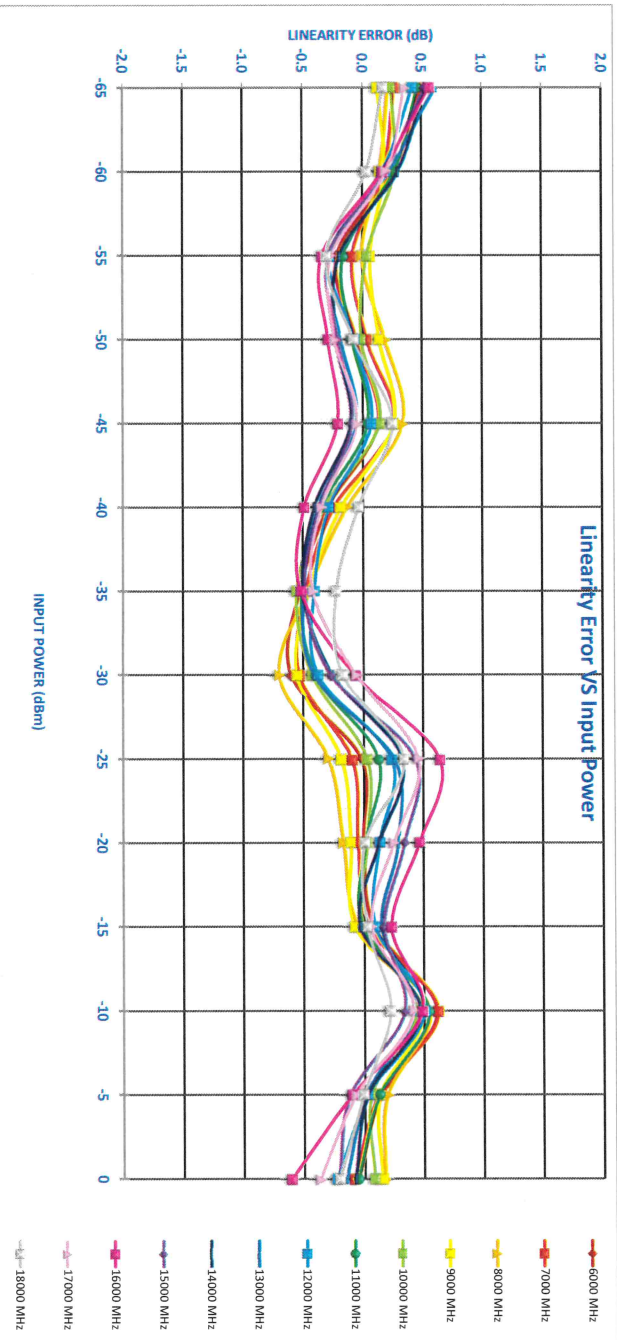
Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

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

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



PL40937 BIT



LOG TRANSFER WITH FREQUENCY

TESTED BY: Jim Hopson
MODEL: EMDM-6G18G-6S-70MV-1
SERIAL NO: PL40937 RF
DATE: 07/18/24

Test Temp: 25C
Video Offset: -0.026

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

-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
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6000 MHz	INTERCEPT (mV)	4787.2
	SLOPE (mV/dB)	70.833

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

7000 MHz	INTERCEPT (mV)	4825.4
	SLOPE (mV/dB)	70.007

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

8000 MHz	INTERCEPT (mV)	4825.9
	SLOPE (mV/dB)	69.442

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

9000 MHz	INTERCEPT (mV)	4836.2
	SLOPE (mV/dB)	69.569

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

10000 MHz	INTERCEPT (mV)	4818.4
	SLOPE (mV/dB)	69.873

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

12000 MHz	INTERCEPT (mV)	4764.9
	SLOPE (mV/dB)	70.306

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

14000 MHz	INTERCEPT (mV)	4780.2
	SLOPE (mV/dB)	70.528

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

16000 MHz	INTERCEPT (mV)	4816.1
	SLOPE (mV/dB)	71.23

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

18000 MHz	INTERCEPT (mV)	4832.9
	SLOPE (mV/dB)	71.27

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

15000 MHz	INTERCEPT (mV)	4845
	SLOPE (mV/dB)	71.51

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

16000 MHz	INTERCEPT (mV)	4835.1
	SLOPE (mV/dB)	71.872

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

17000 MHz	INTERCEPT (mV)	4792.3
	SLOPE (mV/dB)	70.718

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

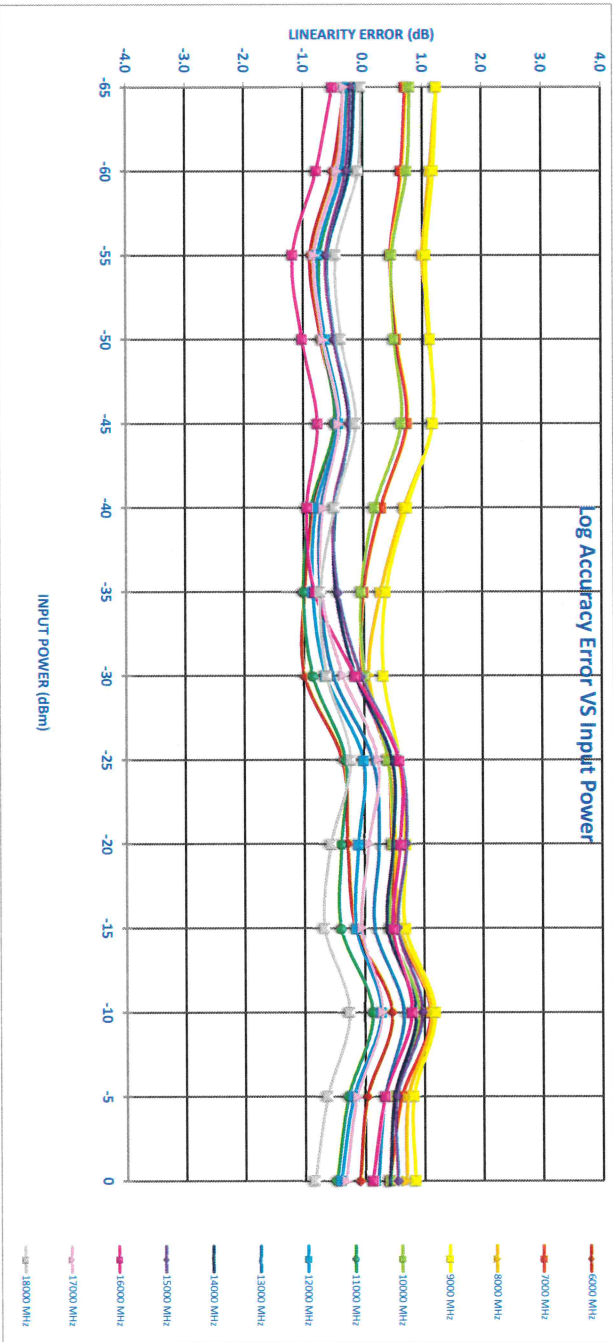
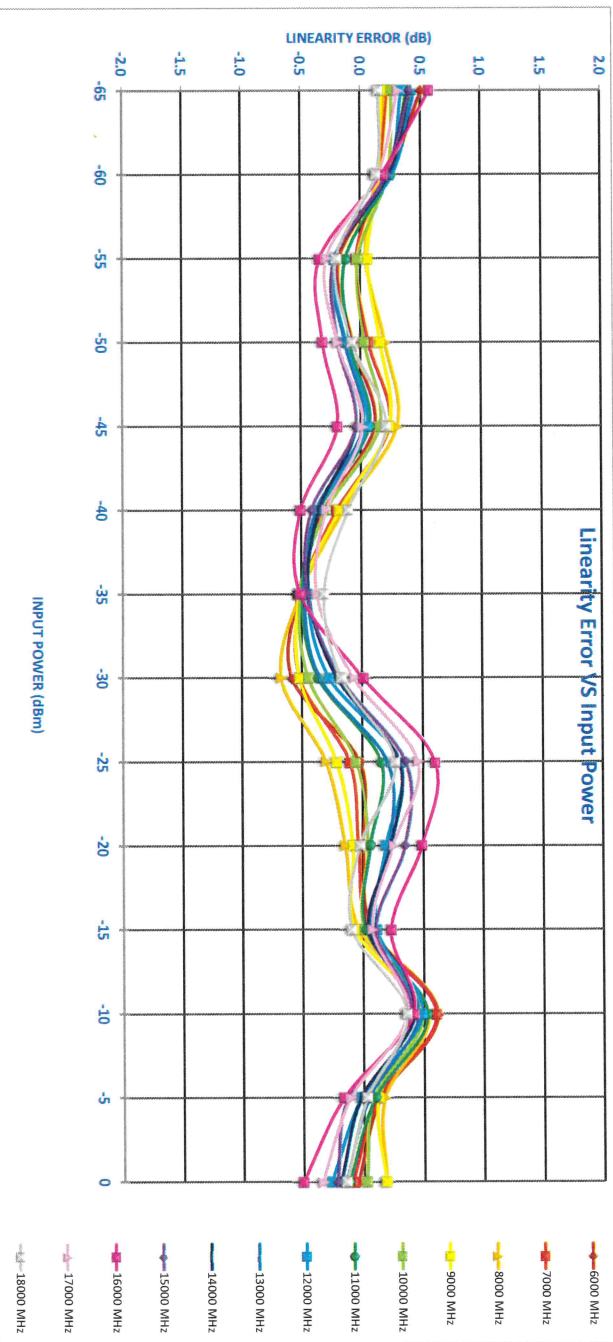
18000 MHz	INTERCEPT (mV)	4741.4
	SLOPE (mV/dB)	69.442

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

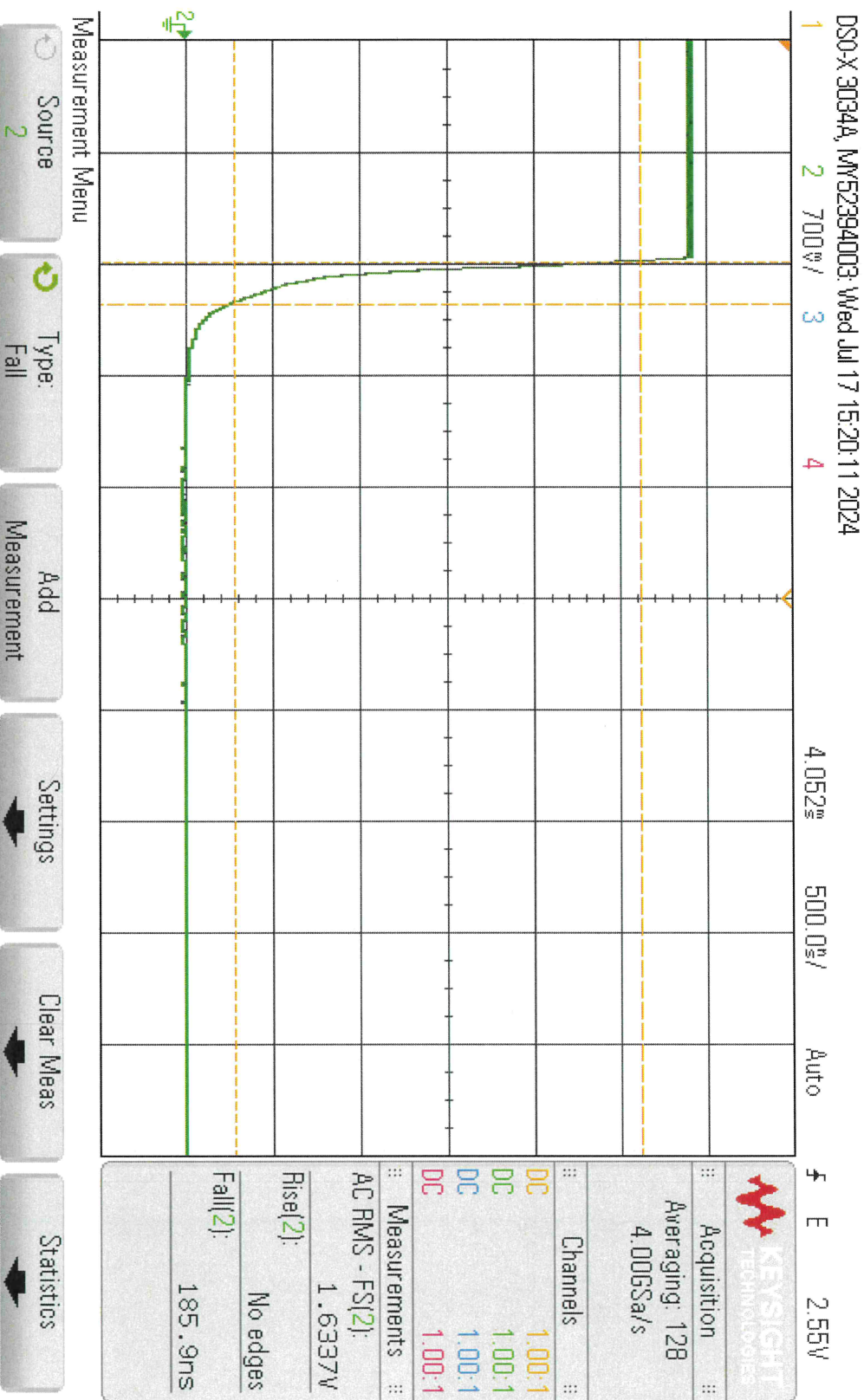
Flatness	+/- dB
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0.87	0.98	1.11	1.07	0.96	0.84	0.69	0.66	0.49	0.55	0.54	0.53	0.55	0.66
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PL48937 RF



PL40937
Recovery

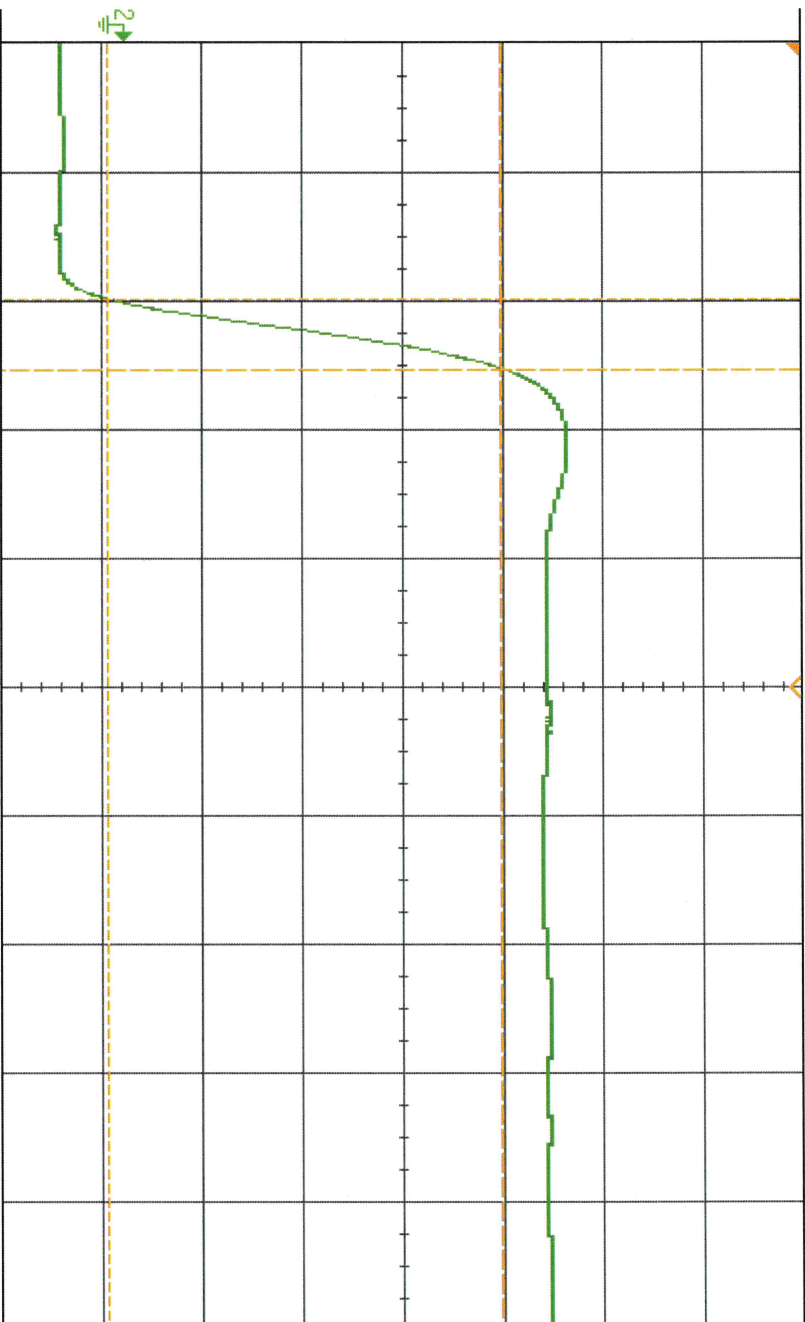


PL40937

Rise Time

DSO-X 3034A, MW52394003: Wed Jul 17 15:18:59 2024

1 2 50V/ 3 4 4.000ns 50.00ns/ Stop f E 2.55V



KEYSIGHT TECHNOLOGIES	
Acquisition	Averaging: 128
Channels	4.00GSa/s
DC	1.00:1
DC	1.00:1
DC	1.00:1
Measurements	
Fall(2):	No edges
AC RMS - FS(2):	98.571mV
Rise(2):	27.0ns

Acquire Menu

Acq Mode Averaging

Avgs 128

Segmented

PL40937
Settle

