



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

Customer: _____

Tested By: Jim Hopson

SO No: _____

Temperature: 0°C TO +85°C

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

Date 11/1/2024

Serial No: PL42133/DEMO

Drawing No: 27637972

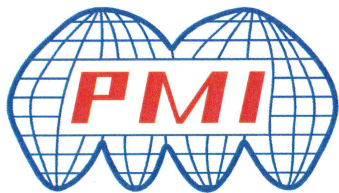
Rev: A1

TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	6 to 18 GHz	6 to 18 GHz	
2	VSWR:	2.2:1 MAX @ 50 Ω	2.00:1 @ 50 Ω (RF IN) 2.06:1 @ 50 Ω (BIT IN) 1.78:1 @ 50 Ω (RF OUT) 1.56:1 @ 50 Ω (SW OUT)	
3	Noise Figure:	6 dB MAX	4.6 dB	
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	35.71/36.81 dB	
9	RF OUT Frequency Flatness:	± 2.5 dB MAX	± 0.87 dB	
10	RF OUT 1 dB Compression Point:	+3 dBm MIN	9.4 dBm	
11	RF OUT Second Harmonic:	-9 dBc MIN	-21 dBc	
12	RF OUT Third Harmonic:	-12 dBc MIN	-39 dBc	



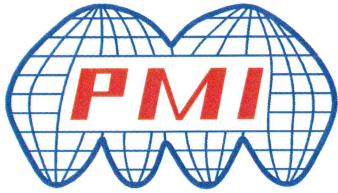
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13	SW Linear Gain	+7 dB MIN, 15 dB MAX	12.46/14.7 dB	PMI QA3
14	SW Frequency Flatness:	±1.5 dB MAX	±1.16 dB	
15	SW 1 dB Compression Point:	+3 dBm MIN	5.0 dBm	
16	SW Saturated Power:	+9 dBm MAX	6.8 dBm	
17	SW Second Harmonic:	-9 dBc MIN	-26 dBc	
18	SW Third Harmonic:	-12 dBc MIN	-46 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	69.63/70.88 mV/dB	
22	VIDEO OUT Log Linearity:	±1.0 dB MAX @12 GHZ	+0.35 / -0.28 dB	
23	VIDEO OUT Log Accuracy:	±2.0 dB MAX	+1.03 / -.97 dB	
24	VIDEO OUT Absolute Log Accuracy:	±2.25 dB MAX	+1.59 / -1.42 dB	
25	VIDEO OUT DC Offset:	0 ±70 mV (RF Input Terminated & DC Power On)	-21 mV	
26	VIDEO OUT Rise Time (10% to 90%):	25 ns TYP 28 ns MAX	24.8 ns	
27	VIDEO OUT Fall Time (90% to 10%):	300 ns MAX	158.8 ns	
28	VIDEO OUT Settling Time:	50 ns With in ±70 mV of final value, MAX	40 ns typ	



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29	VIDEO OUT Recovery Time:	0.5 us MAX to within 1 dB of baseline	0.45 us	PMI QAS
30	VIDEO OUT Video Frequency Flatness:	± 1.75 dB MAX	$\pm .83$ 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	1.6 dB typ	
		CW Immunity Time at CW = -40 dBm, ≤ 3 ms	1.8 ms	
		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:	$75 \pm 1 \Omega$	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	120mV typ	
37	Droop of the Output Video Pulse: @ -65 dBm & 300 us pulse width	70mV (1 dB) MAX	<45 mV typ	



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38	VIDEO OUT Propagation Delay:	50 ns MAX (excluding cable)	40 ns typ	PMI QA3
39	Power Supply	+15 V @ 1000 mA MAX -15 V @ 500 mA MAX	+15 V @ 610 mA -15 V @ 140 mA	
40	Power Supply Ripple From DC to 10 MHz	100 mV MAX	PASS	

QA/QC Approval:

K. Klauweger

Date:

11-12-24

PLANAR MONOLITHICS INDUSTRIES
4921 Robert J. Mathews Parkway STE 1
TEL: 916-542-1401 FAX: 301-662-1731

RF Input Power (dBm)

Measured Value (mV)
Error (mV)

LINEARITY ERROR (dB)	ACCURACY ERROR (dB)
0.00	0.00
0.01	0.01
0.02	0.02
0.03	0.03
0.04	0.04
0.05	0.05
0.06	0.06
0.07	0.07
0.08	0.08
0.09	0.09
0.10	0.10
0.11	0.11
0.12	0.12
0.13	0.13
0.14	0.14
0.15	0.15
0.16	0.16
0.17	0.17
0.18	0.18
0.19	0.19
0.20	0.20
0.21	0.21
0.22	0.22
0.23	0.23
0.24	0.24
0.25	0.25
0.26	0.26
0.27	0.27
0.28	0.28
0.29	0.29
0.30	0.30
0.31	0.31
0.32	0.32
0.33	0.33
0.34	0.34
0.35	0.35
0.36	0.36
0.37	0.37
0.38	0.38
0.39	0.39
0.40	0.40
0.41	0.41
0.42	0.42
0.43	0.43
0.44	0.44
0.45	0.45
0.46	0.46
0.47	0.47
0.48	0.48
0.49	0.49
0.50	0.50
0.51	0.51
0.52	0.52
0.53	0.53
0.54	0.54
0.55	0.55
0.56	0.56
0.57	0.57
0.58	0.58
0.59	0.59
0.60	0.60
0.61	0.61
0.62	0.62
0.63	0.63
0.64	0.64
0.65	0.65
0.66	0.66
0.67	0.67
0.68	0.68
0.69	0.69
0.70	0.70
0.71	0.71
0.72	0.72
0.73	0.73
0.74	0.74
0.75	0.75
0.76	0.76
0.77	0.77
0.78	0.78
0.79	0.79
0.80	0.80
0.81	0.81
0.82	0.82
0.83	0.83
0.84	0.84
0.85	0.85
0.86	0.86
0.87	0.87
0.88	0.88
0.89	0.89
0.90	0.90
0.91	0.91
0.92	0.92
0.93	0.93
0.94	0.94
0.95	0.95
0.96	0.96
0.97	0.97
0.98	0.98
0.99	0.99
1.00	1.00

Measured Value (mV)	Error (mV)
0.0	0.0
1.0	0.1
2.0	0.2
3.0	0.3
4.0	0.4
5.0	0.5
6.0	0.6
7.0	0.7
8.0	0.8
9.0	0.9
10.0	1.0

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

Measured Value (mV)
Error (mV)

LINEARITY ERROR (dB)	ACCURACY ERROR (dB)
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Measured Value (mV)	Error (mV)
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[illegible]

Measured Value (mV)
Error (mV)

LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

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

ACCURACY ERROR (dB)

Measured Value (mV)
Error (mV)

LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

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

LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

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

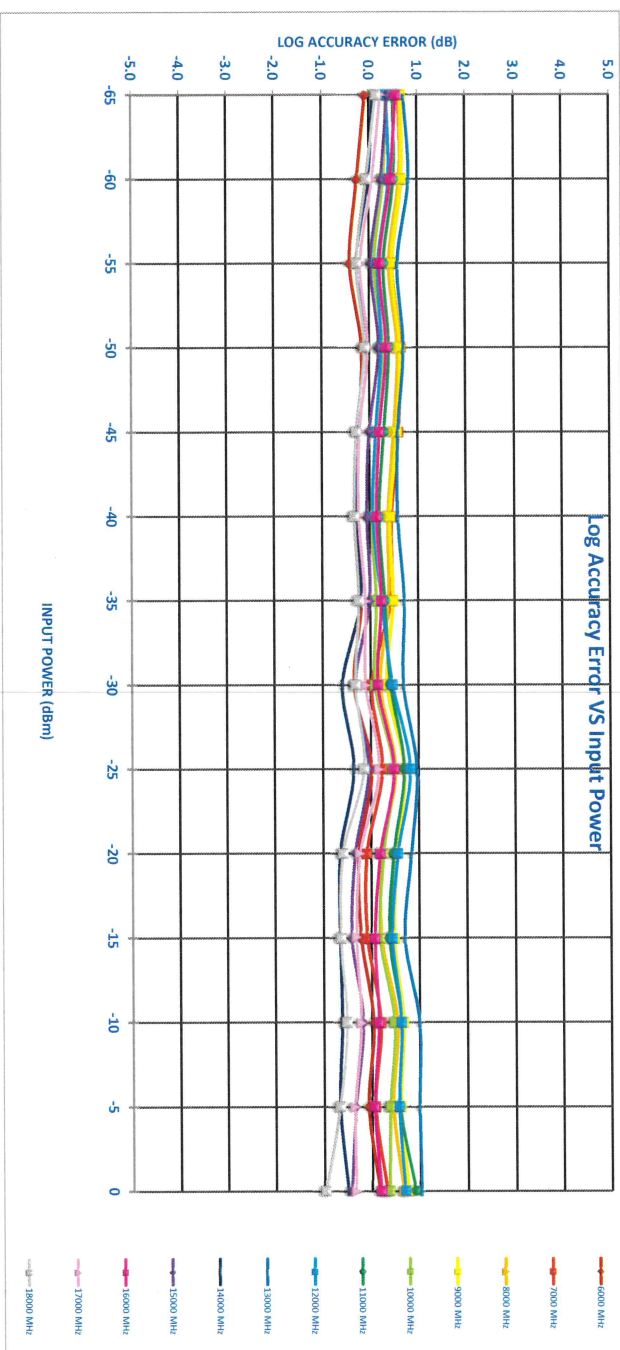
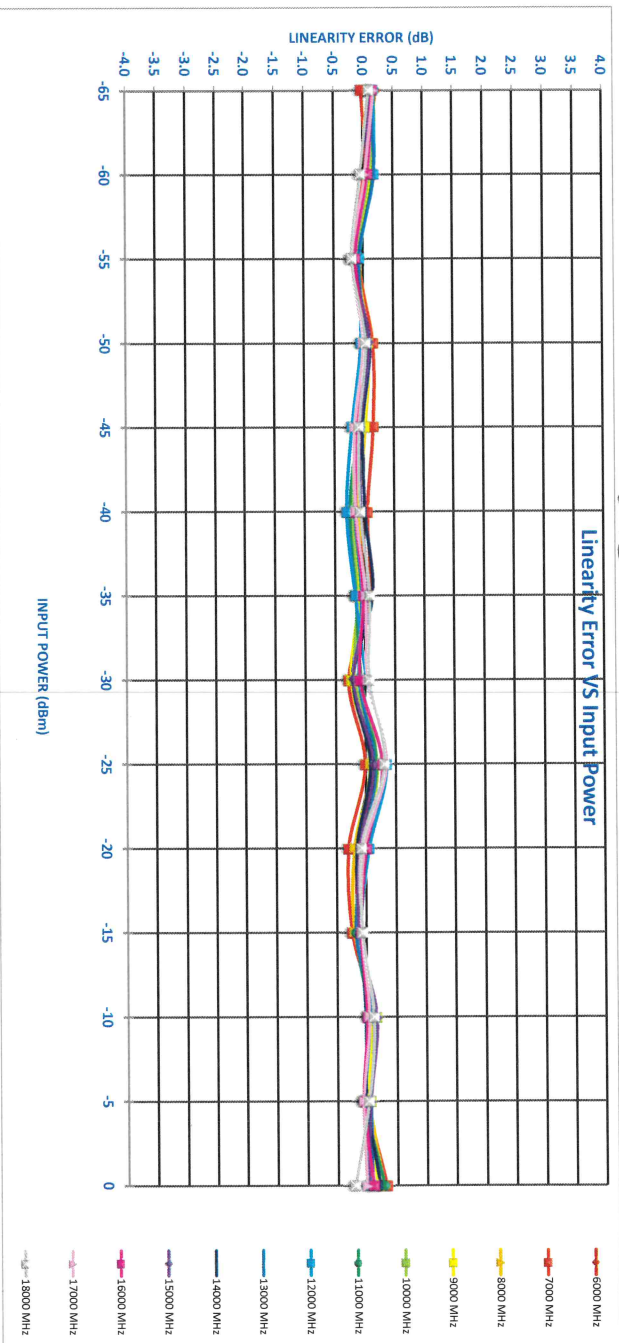
Measured Value (mV)	Error (mV)
---------------------	------------

LINEARITY ERROR (dB)
ACCURACY ERROR (dB)

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

PL42133
250C



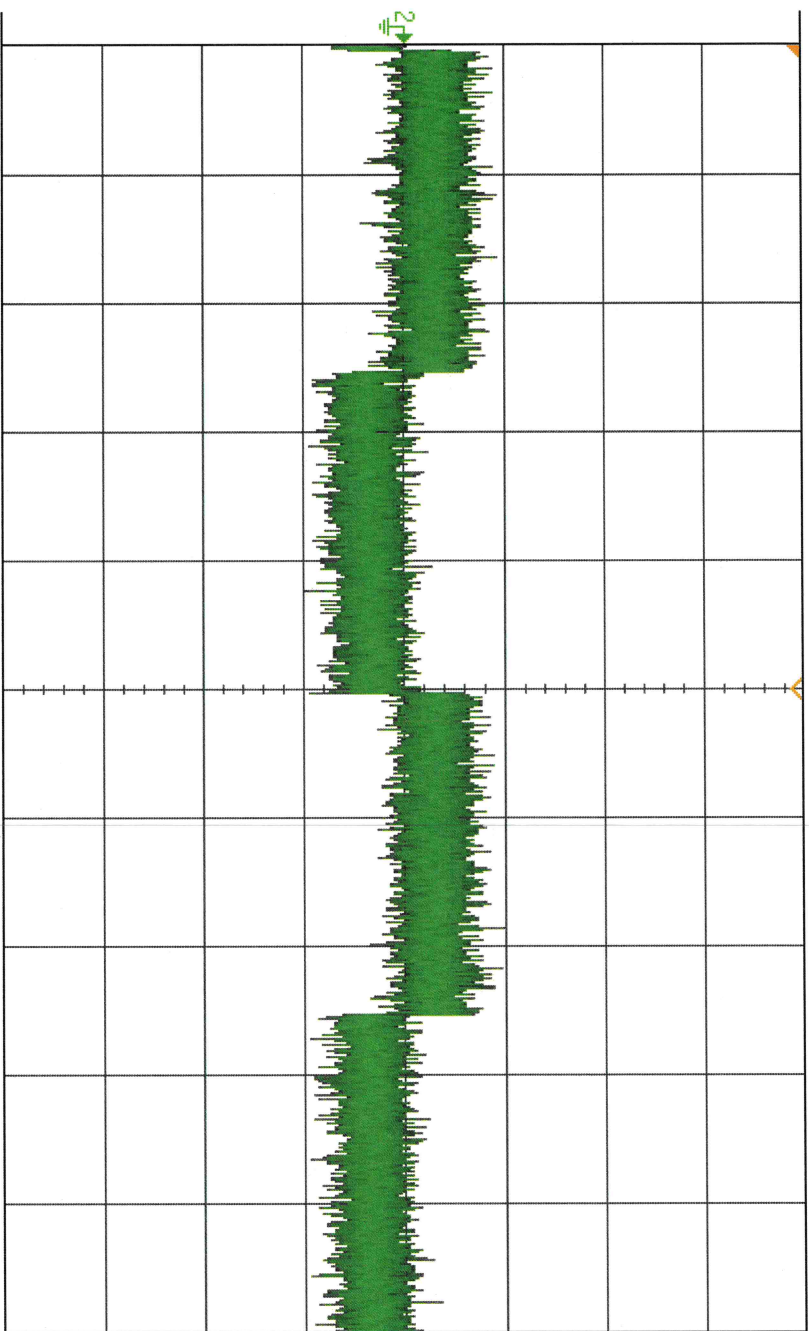
PL412133
TSS - 71dbm

DSO-X 3034A, MW52394003: Thu Oct 31 14:49:31 2024

1 2 100% / 3 4

25.00ms 20.00ns / Auto

f E 2.51V



KEYSIGHT TECHNOLOGIES	
Acquisition	:
Normal	:
4.00GSa/s	:
Channels	:
DC	1.00:1
DC	1.00:1
DC	1.00:1
DC	1.00:1

Cursors Menu

Mode Off

To turn on cursors, press the [Cursors] key on the front panel.

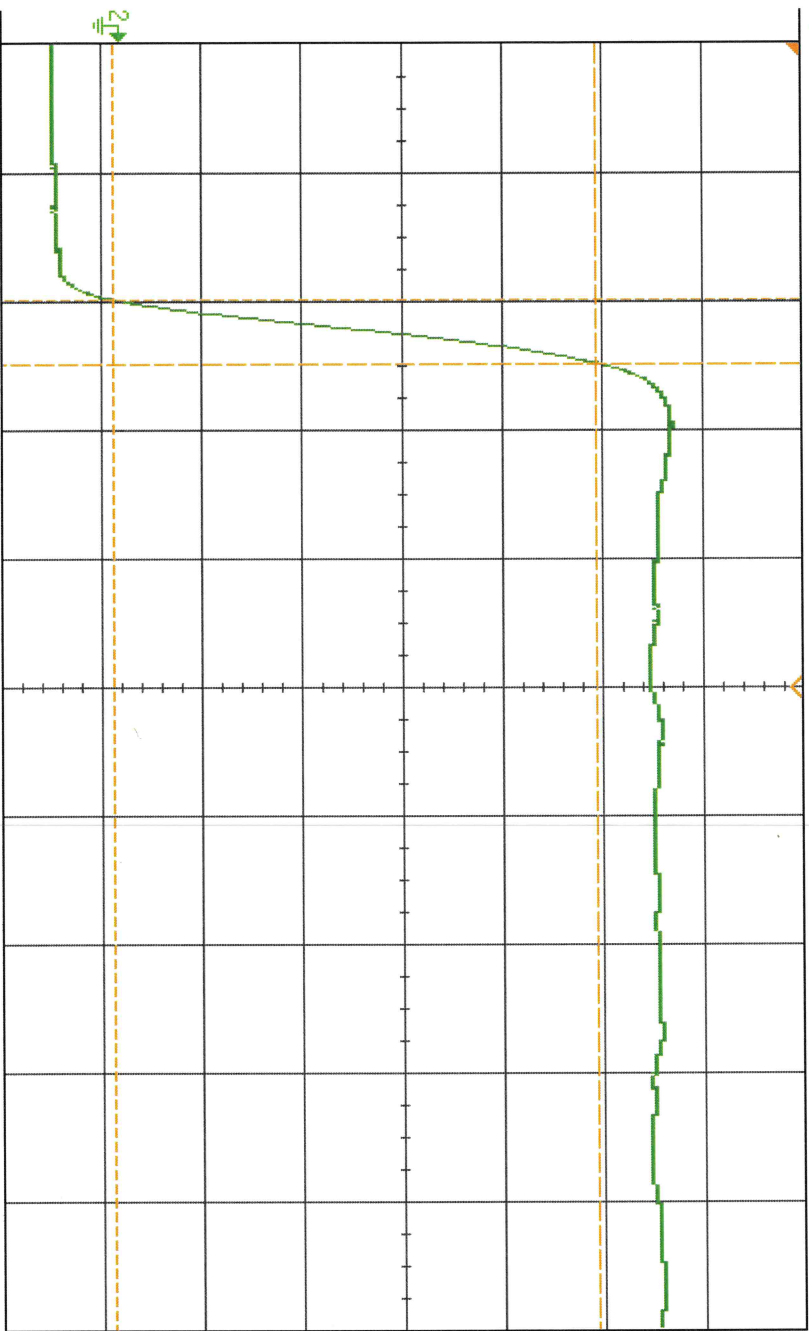
PL42133
Rise Time

DSO-X 3034A, MW52394003: Thu Oct 31 14:00:55 2024

1 2 40% / 3 4

23.10% 50.00%/ Stop

f E 2.51V



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):	
97.348mV	
Fall(2):	
No edges	
Rise(2):	
24.8ns	

Acquire Menu

Acq Mode Averaging

Avgs 64

Segmented

PL42133
settle

DSO-X 3034A, MW52394003, Thu Oct 31 13:59:38 2024

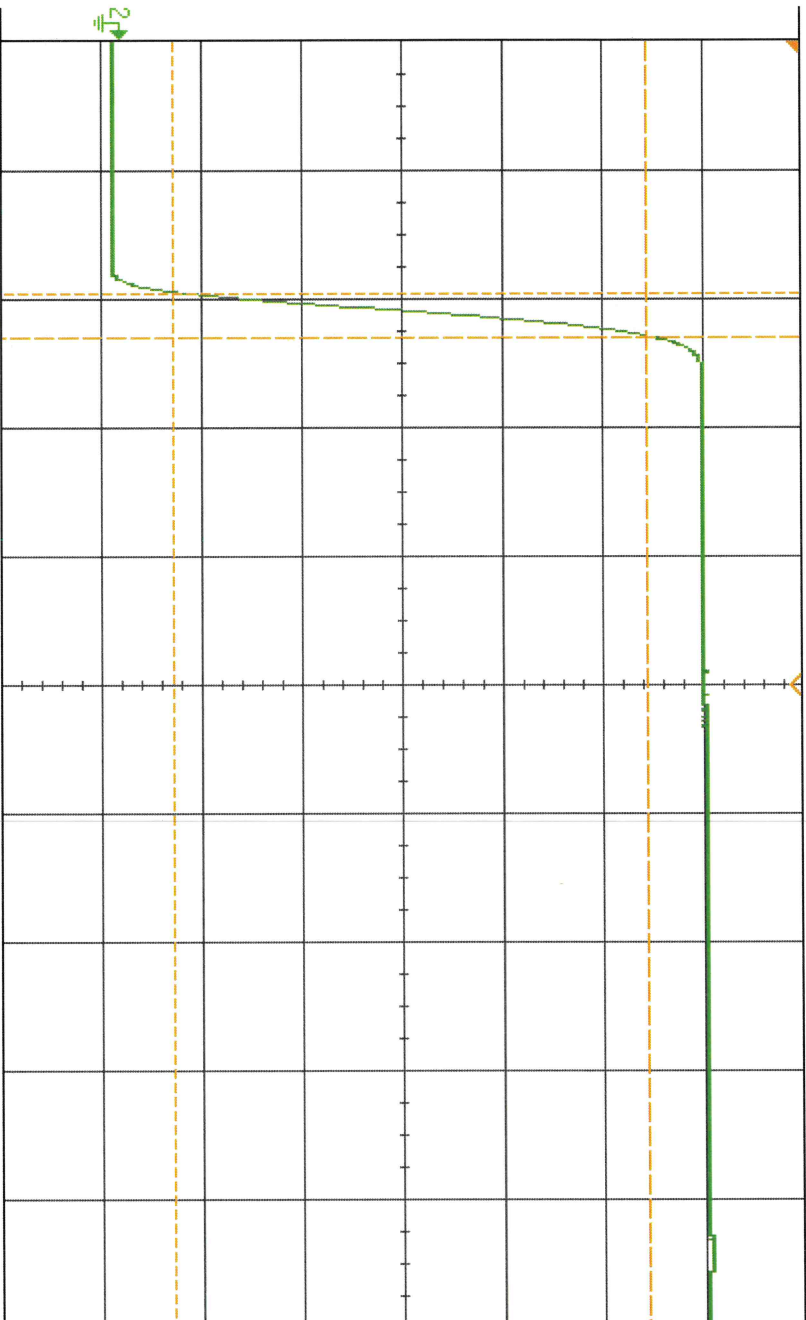
1 2 700V/ 3 4

23.10ms

50.00ns/

Auto

f E 2.51V



Save to file = pl42133_settle

Format PNG

Save to USB

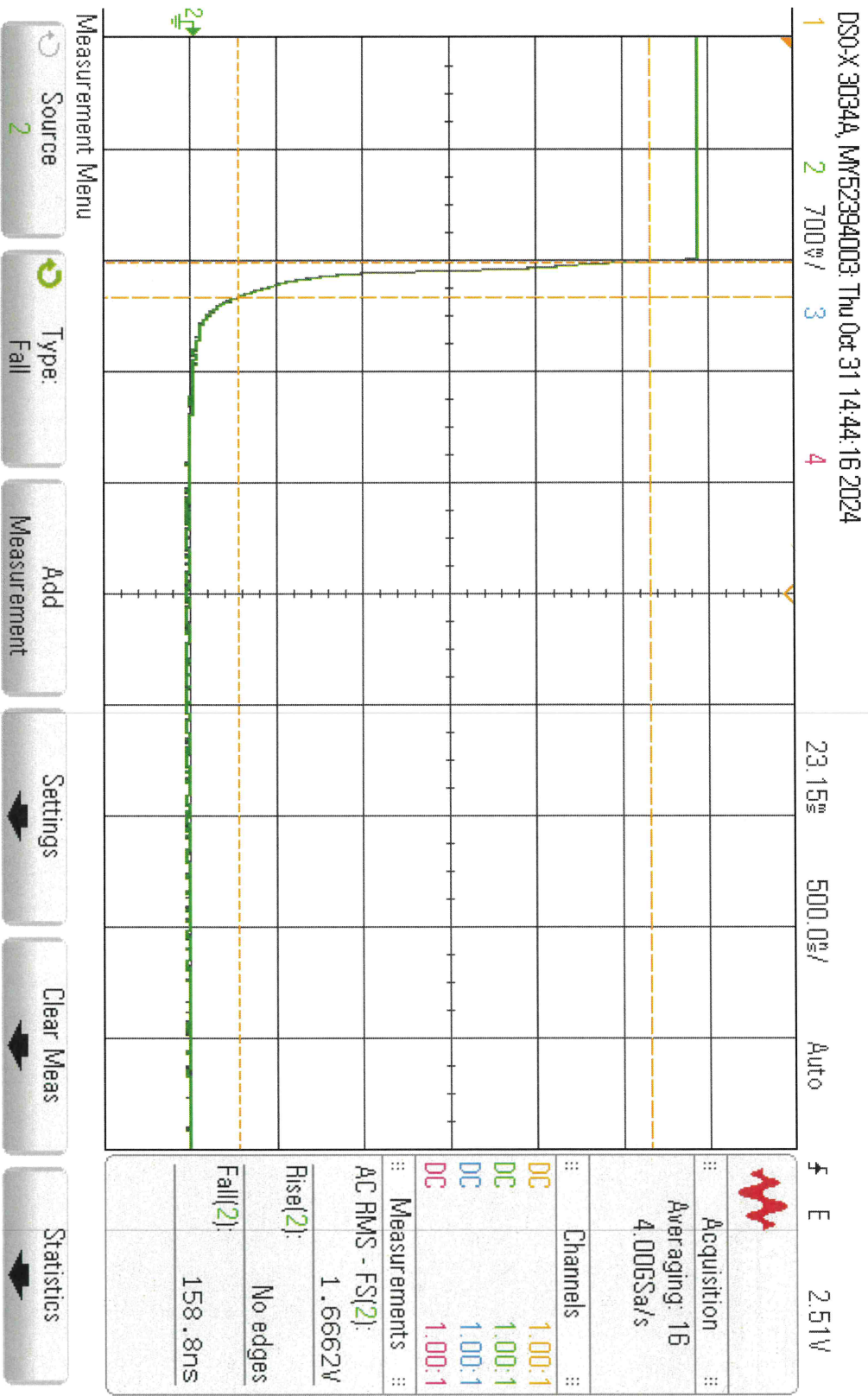
File Name

Settings

Press to Save

Acquisition	
Averaging: 32	
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): 1.6544V	
Fall(2): No edges	
Rise(2): 17.0ns	

PL 42133
Recovery

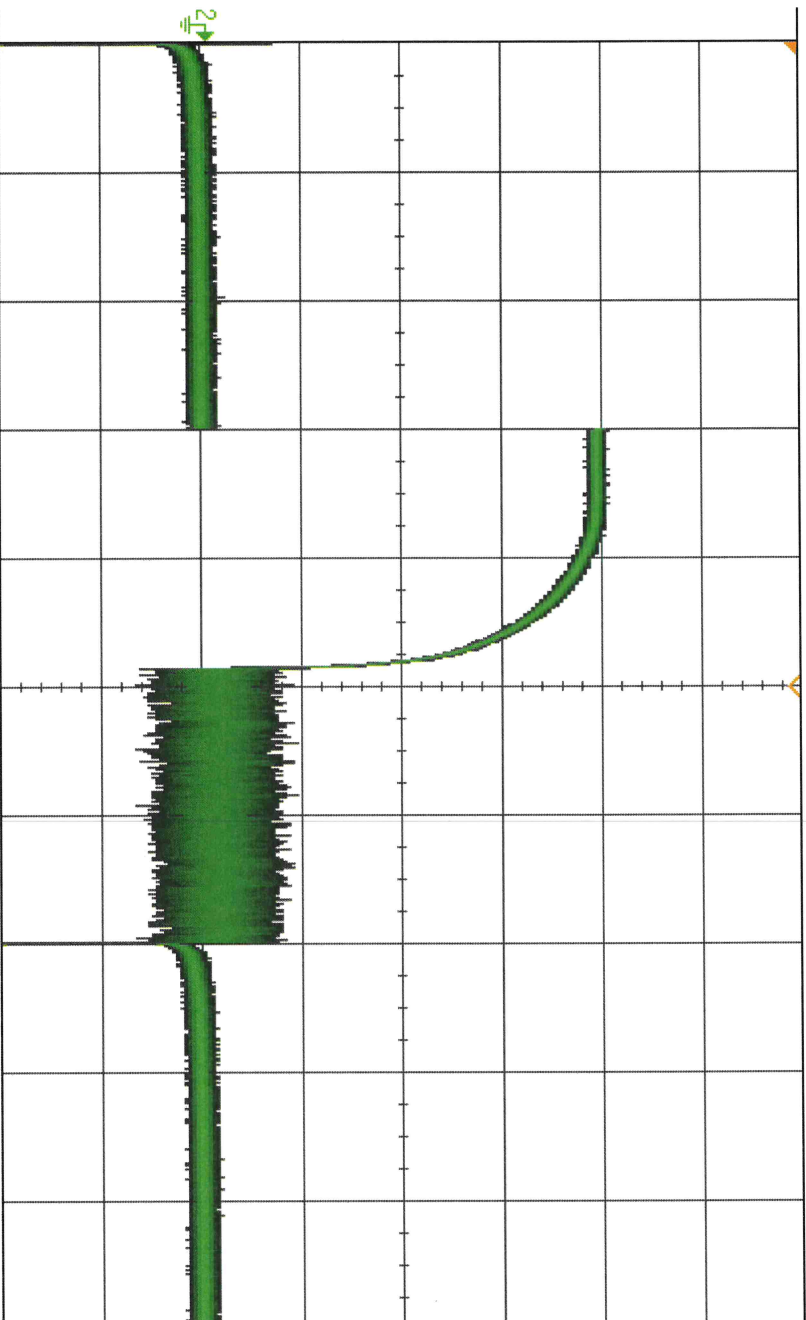


PL 42133
CW Imm44x

DSO-X 3034A, MW52394003: Thu Oct 31 14:45:57 2024

1 2 500V/ 3 4

23.00ms 1.000ms/ Auto f E 2.51V



Acquisition	Channels
Peak Detect	1.00:1
50.0MSa/s	DC
	1.00:1
	DC
	1.00:1

Acquire Menu

Acq Mode
Peak Detect

Avgs
16

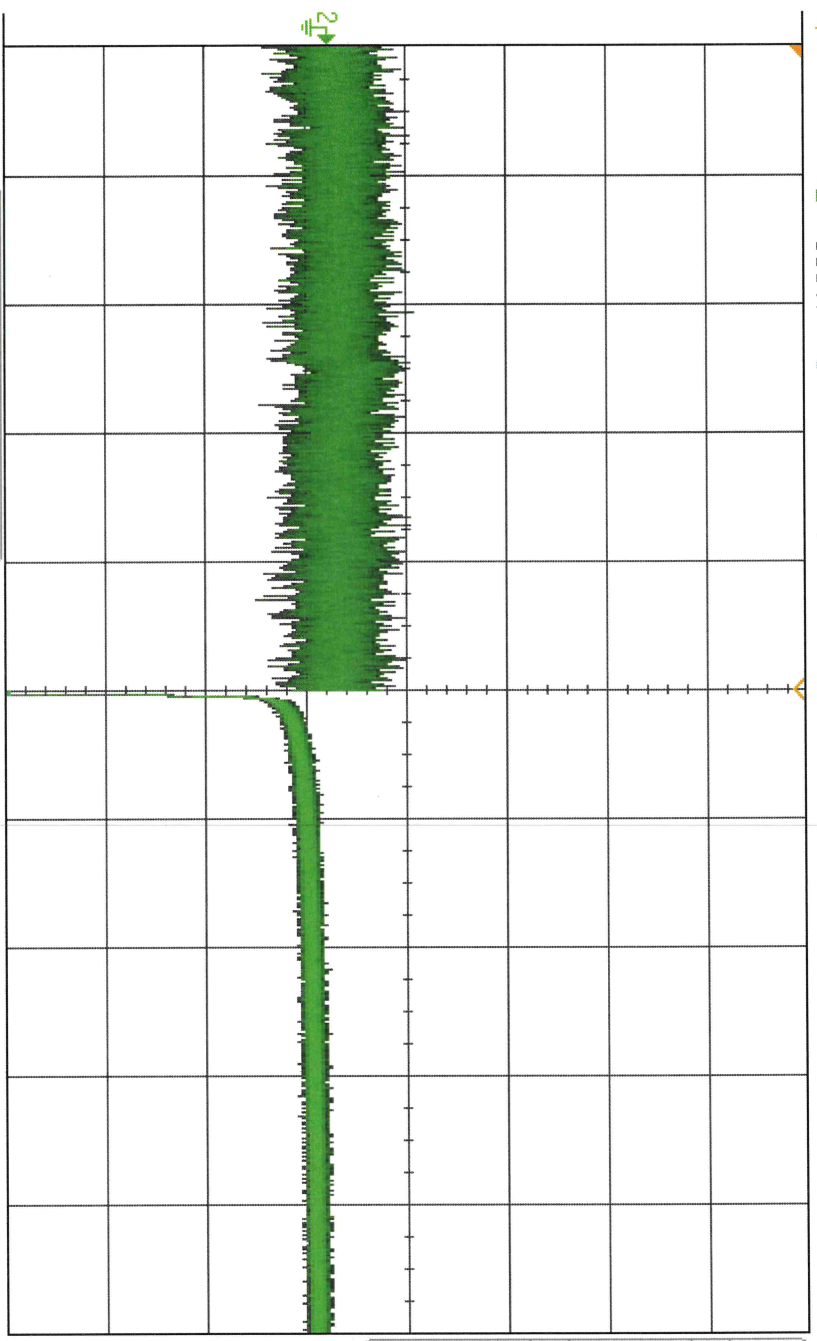
Segmented

PL42133

cw Recovery

DSO-X 3034A, MW52394003: Thu Oct 31 14:47:20 2024

1 2 500V/ 3 4 25.00ms 50.00ns/ Auto f E 2.51V



Acquisition	
Peak Detect	
4.00GSa/s	
Channels	
DC	1.00:1
DC	1.00:1
DC	1.00:1
DC	1.00:1

Save to file = pl42133_cw_recovery

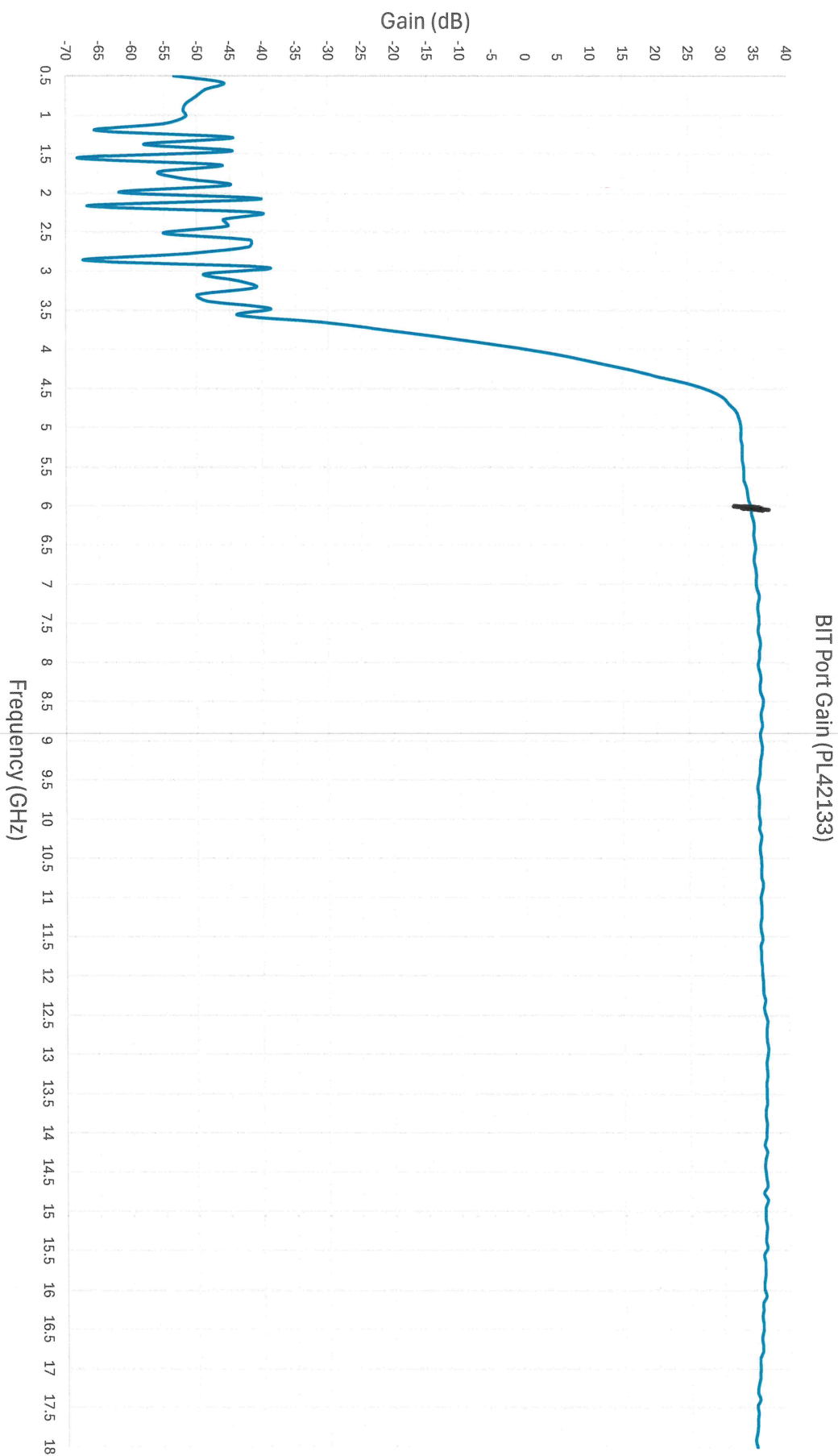
Save

Recall

Default/Erase

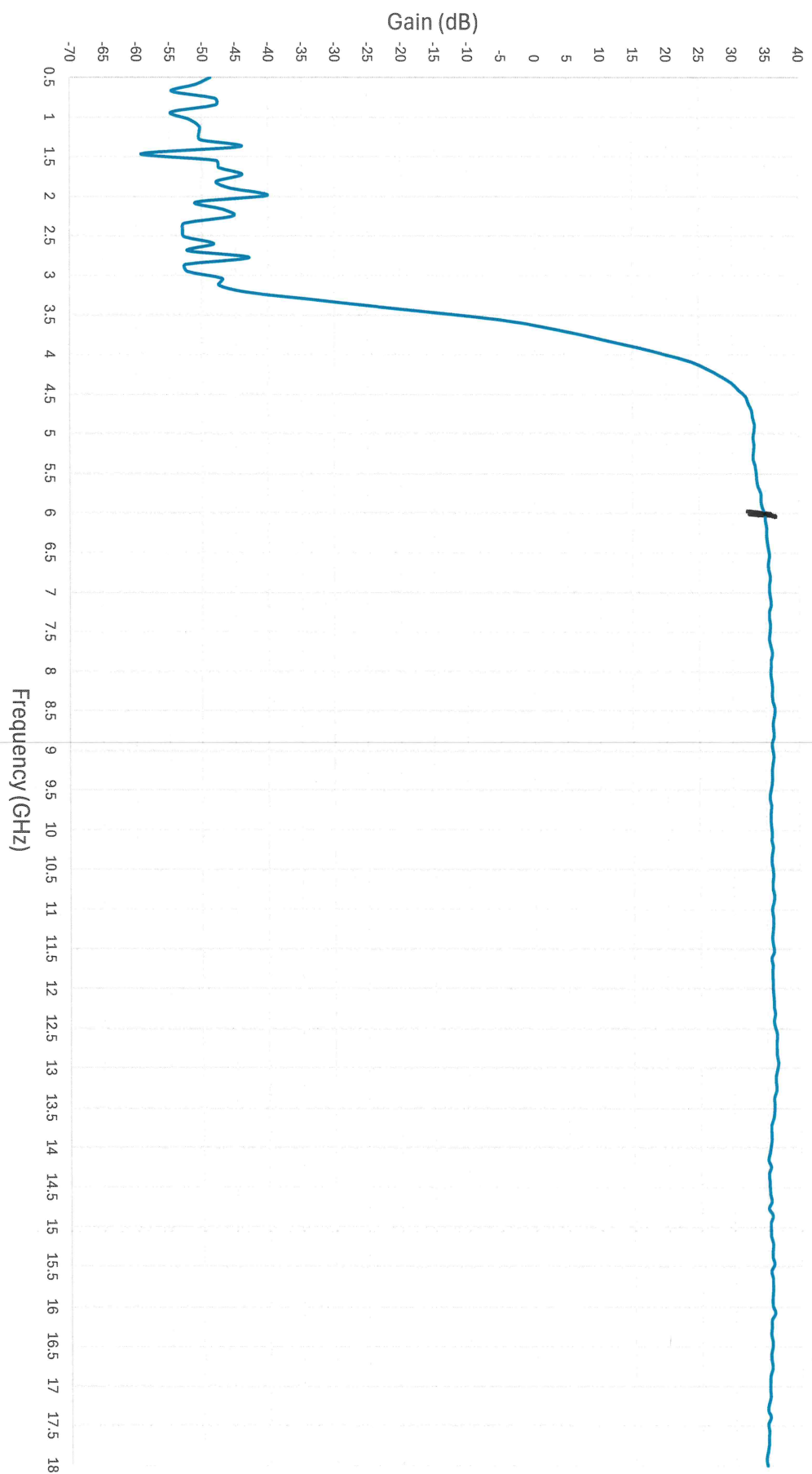
Press to Save

6-18GHz unit
with Filters



6-18GHz unit
with filters

RF Port Gain (PL42133)



6-18GHz unit
with filters

RF SW Port Gain (PL42133)

