



**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**PMI MODEL PLVA-218-50-618 IS A 50dB DETECTOR LOG VIDEO AMPLIFIER DESIGNED TO OPERATE BETWEEN THE 6GHz to 18GHz FREQUENCY RANGE. IT EMPLOYS PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. IT IS OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.**



**August 5, 2013**

**DESIGNED BY:  
DR. ASHOK GORWARA**

**TESTED BY:  
RANDY COMBS**

7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731  
Email: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)



## TYPICAL CHARACTERISTICS ON PLVA-218-50-618

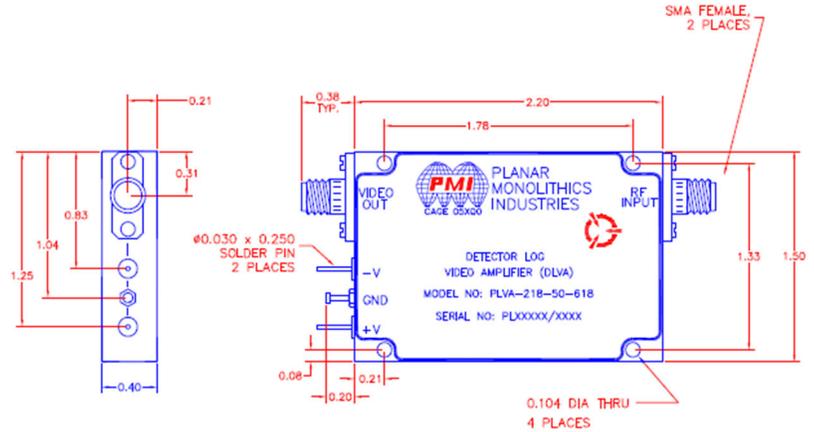
### DESCRIPTION

PMI MODEL PLVA-218-50-618 IS A 50 dB DETECTOR LOG VIDEO AMPLIFIER DESIGNED TO OPERATE BETWEEN THE 6GHz TO 18GHz FREQUENCY RANGE. IT EMPLOYS PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. IT IS OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A1		ORIGINAL RELEASE	09/18/13	
A2		ECN # 13-0079	07/09/13	
B1		ECN # 13-0145	09/06/13	

### SPECIFICATIONS

- FREQUENCY RANGE: 6GHz TO 18GHz
- FREQUENCY FLATNESS: ± 1.0 dB MAXIMUM
- LOGGING RANGE: -40 TO 0 dBm MINIMUM
- USEFUL RANGE: -40 TO +5 dBm
- LOG LINEARITY ERROR: ±1.0 dB MAXIMUM
- LOG SLOPE: 50 mV/dB
- LOG SLOPE ACCURACY: ±4% OF AVERAGE SLOPE
- TEMPERATURE STABILITY: ± 1.0 dB MAXIMUM (-54°C TO +85°C)
- RISE TIME: 20 ns MAXIMUM
- SETTling: 45 ns MAXIMUM
- RECOVERY TIME: 150 ns TYPICAL
- TSS: -40 dBm MINIMUM
- VSWR: 3.0:1 MAXIMUM
- VIDEO OUTPUT LEVEL: 0 TO 2.5 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (NO LOAD)
  - +V: 15V @ 75 mA MAXIMUM
  - V: 15V @ 75 mA MAXIMUM
- SIZE: 2.20" x 1.50" x 0.40"
- FINISH: GOLD PLATED



PMI CONFIDENTIAL AND PROPRIETARY

### ENVIRONMENTAL RATINGS

- TEMPERATURE: -54°C TO +85°C (OPERATING)  
-65°C TO +100°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.XX ±0.020  
X.XXX ±0.010

### PLANAR MONOLITHICS INDUSTRIES, INC.

7311-F GROVE ROAD  
FREDERICK, MARYLAND 21704 USA  
TEL: 301-662-5019 FAX: 301-662-1731  
WEBSITE: [www.pmi-rf.com](http://www.pmi-rf.com)  
E-MAIL: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)  
ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE		REV.
DRAWN <i>ANS</i>		03/18/13	PRODUCT FEATURE PLVA-218-50-618		B1
MOQ'D	SIZE A	FSCW NO. 05XQ0	DWG NO. 27018592		
ISSUED	SCALE N:S	SHEET 1 OF 1			

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<b>PARAMETERS</b>	<b>SPECIFIED VALUE</b>	<b>TEST RESULTS</b>	<b>QA QC</b>
Frequency Range:	6 GHz – 18 GHz	<b>6 GHz – 18 GHz</b>	
Frequency Flatness:	± 1.0 dB Max.	<b>±0.8 dB (See Plot)</b>	
Logging Range:	-40 to 0 dBm Min.	<b>-40 to 0 dBm (See Plot)</b>	
Useful Range:	-40 to + 5 dBm	<b>-40 to +5 dBm (See Plot)</b>	
Log Linearity Error:	±1.0 dB Max (Room Temp)	<b>±0.39 dB (See Plot)</b>	
Log Slope: (Log Slope Accuracy)	50mV/dB (±4% of Average Slope)	<b>50.6 mV/dB (See Plot)</b>	
Temperature Stability:	±1.0 dB Max (-54°C to 85°C)	<b>±0.9 dB</b>	
Rise Time:	20 ns Max.	<b>10.4 ns</b>	
Settling:	45 ns Max.	<b>31 ns</b>	
Recovery Time:	150 ns Typ. 300 ns Max.	<b>110 ns</b>	
TSS:	-40 dBm Min.	<b>-42dBm</b>	
VSWR:	3.0:1 Max	<b>2.45:1 (See Plot)</b>	
Max RF Input:	+15 dBm	<b>+15dBm</b>	
Video Output Level:	0 – 2.5 Volts (50Ω Minimum Load)	<b>0 – 2.5 Volts (See Plot)</b>	
DC Supply:	+15V @ 75 mA Max -15V @ 75 mA Max	<b>40 mA 40 mA</b>	



# TYPICAL CHARACTERISTICS ON PLVA-218-50-618

## Log Transfer vs. Frequency 25 degrees C

LOG TRANSFER VS FREQUENCY @ 25 °C      Friday, August 02, 2013  
 MODEL: PLVA-218-50-618      OPTION :      3:37 PM  
 TESTED BY: Randy Combs  
 SERIAL No. : PL13435/1327



Frequency			-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	RF Input Power (dBm)
0.5 GHz	INTERCEPT (mV)	2312	182	298	546	809	1059	1304	1562	1812	2050	2315	2515	Measured Value (mV)
	SLOPE (mV/dB)	50.3	182	-2	-6	6	4	-3	4	3	-10	3	-48	Error (mV)
			3.63	-0.04	-0.11	0.12	0.09	-0.05	0.08	0.07	-0.21	0.06	-0.96	LINEARITY ERROR (dB)
2.3 GHz	INTERCEPT (mV)	2309	165	279	530	800	1049	1296	1552	1806	2042	2313	2518	Measured Value (mV)
	SLOPE (mV/dB)	50.6	165	-5	-7	10	6	-1	2	3	-13	5	-44	Error (mV)
			3.26	-0.09	-0.14	0.20	0.12	-0.01	0.04	0.06	-0.26	0.09	-0.86	LINEARITY ERROR (dB)
4 GHz	INTERCEPT (mV)	2305	159	269	515	787	1038	1285	1541	1797	2038	2315	2562	Measured Value (mV)
	SLOPE (mV/dB)	50.9	144	0	-9	9	6	-2	-1	0	-13	9	3	Error (mV)
			2.83	0.00	-0.17	0.18	0.11	-0.04	-0.02	0.01	-0.25	0.18	0.05	LINEARITY ERROR (dB)
5.8 GHz	INTERCEPT (mV)	2302	157	266	515	787	1038	1285	1540	1796	2034	2309	2554	Measured Value (mV)
	SLOPE (mV/dB)	50.8	142	-3	-8	10	7	-1	0	2	-14	7	-2	Error (mV)
			2.79	-0.06	-0.16	0.20	0.13	-0.01	0.00	0.04	-0.28	0.14	-0.05	LINEARITY ERROR (dB)
7.5 GHz	INTERCEPT (mV)	2311	158	272	526	799	1049	1295	1550	1805	2043	2315	2559	Measured Value (mV)
	SLOPE (mV/dB)	50.8	133	-7	-7	12	8	1	1	2	-14	5	-6	Error (mV)
			2.62	-0.14	-0.13	0.23	0.15	0.01	0.03	0.04	-0.28	0.09	-0.11	LINEARITY ERROR (dB)
9.3 GHz	INTERCEPT (mV)	2299	155	263	512	786	1038	1284	1539	1795	2031	2303	2530	Measured Value (mV)
	SLOPE (mV/dB)	50.8	141	-5	-9	10	8	1	2	3	-14	4	-23	Error (mV)
			2.77	-0.09	-0.19	0.20	0.16	0.02	0.03	0.07	-0.27	0.07	-0.45	LINEARITY ERROR (dB)
11 GHz	INTERCEPT (mV)	2288	155	265	513	787	1037	1283	1536	1790	2022	2287	2525	Measured Value (mV)
	SLOPE (mV/dB)	50.4	135	-7	-11	11	9	3	4	6	-14	-1	-15	Error (mV)
			2.69	-0.13	-0.22	0.21	0.18	0.07	0.09	0.12	-0.28	-0.02	-0.30	LINEARITY ERROR (dB)
12.8 GHz	INTERCEPT (mV)	2256	148	241	464	740	997	1243	1495	1753	1992	2264	2503	Measured Value (mV)
	SLOPE (mV/dB)	50.7	171	11	-19	4	7	0	-1	3	-11	7	-7	Error (mV)
			3.38	0.22	-0.38	0.08	0.14	0.00	-0.02	0.06	-0.22	0.14	-0.14	LINEARITY ERROR (dB)
14.5 GHz	INTERCEPT (mV)	2285	154	261	502	777	1028	1274	1527	1783	2019	2288	2532	Measured Value (mV)
	SLOPE (mV/dB)	50.6	145	-1	-12	9	7	0	1	4	-13	3	-5	Error (mV)
			2.87	-0.02	-0.24	0.18	0.15	0.01	0.03	0.08	-0.25	0.07	-0.10	LINEARITY ERROR (dB)
16.3 GHz	INTERCEPT (mV)	2259	150	247	477	753	1007	1253	1504	1759	1996	2262	2509	Measured Value (mV)
	SLOPE (mV/dB)	50.4	159	5	-17	6	8	2	1	4	-11	3	-2	Error (mV)
			3.15	0.09	-0.35	0.13	0.16	0.04	0.01	0.08	-0.22	0.06	-0.05	LINEARITY ERROR (dB)
18 GHz	INTERCEPT (mV)	2255	152	253	483	759	1013	1259	1510	1763	1993	2251	2494	Measured Value (mV)
	SLOPE (mV/dB)	50.1	150	1	-19	6	10	5	6	8	-12	-4	-12	Error (mV)
			2.99	0.02	-0.39	0.12	0.20	0.10	0.11	0.17	-0.25	-0.09	-0.25	LINEARITY ERROR (dB)

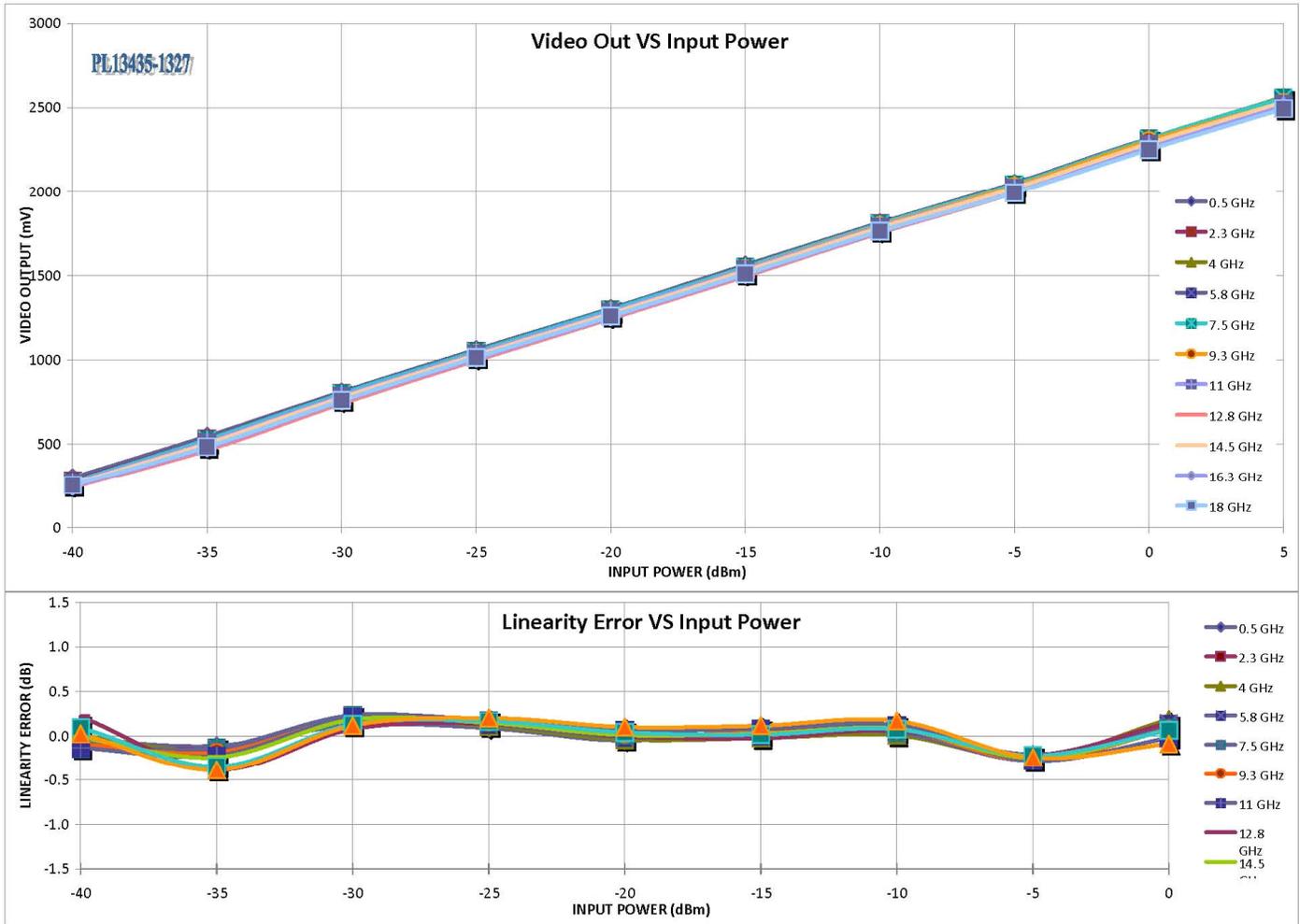
Average Slope	50.6
Flatness ± dB	
Average Offset @ -40dBm	265

	0.6	0.8	0.7	0.6	0.6	0.7	0.6	0.6	0.6	0.7
241	464	740	997	1243	1495	1753	1992	2251	2494	
298	546	809	1059	1304	1562	1812	2050	2315	2562	



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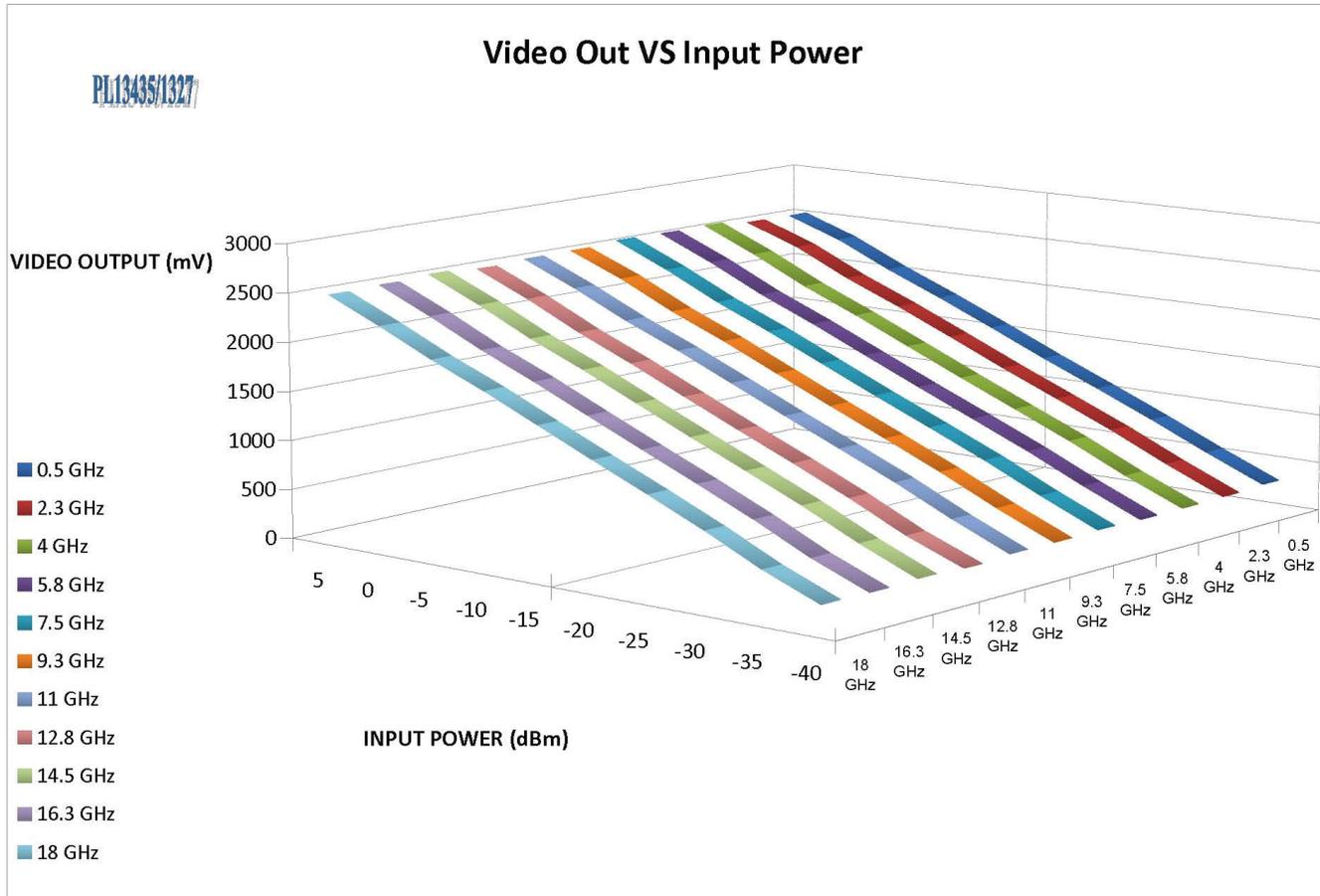
## Log Transfer Plot and Linearity Error at 25 degrees C





**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**3-D Log Transfer Plot at 25 degrees C**





**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**3-D Linearity Error at 25 degrees C**





# TYPICAL CHARACTERISTICS ON PLVA-218-50-618

## Log Transfer vs. Frequency -54 degrees C

LOG TRANSFER VS FREQUENCY @ -54 °C      Friday, June 01, 2012  
 MODEL: PLVA-218-50-618      OPTION :      10:33 AM  
 TESTED BY: Randy Combs  
 SERIAL No. : PL13436/1327



Frequency			-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	RF Input Power (dBm)
0.5 GHz	INTERCEPT (mV)	2278	235	363	597	841	1075	1313	1566	1815	2052	2257	2483	Measured Value (mV)
	SLOPE (mV/dB)	47.9	235	2	-4	0	-5	-7	7	16	13	-22	-36	Error (mV)
			4.91	0.04	-0.09	0.01	-0.11	-0.15	0.14	0.34	0.27	-0.45	-0.74	LINEARITY ERROR (dB)
2.3 GHz	INTERCEPT (mV)	2275	220	346	582	831	1063	1303	1555	1809	2049	2251	2491	Measured Value (mV)
	SLOPE (mV/dB)	48.2	220	1	-4	3	5	-7	3	17	16	-24	-25	Error (mV)
			4.55	0.01	-0.09	0.07	-0.11	-0.14	0.07	0.35	0.33	-0.49	-0.51	LINEARITY ERROR (dB)
4 GHz	INTERCEPT (mV)	2271	215	338	570	820	1053	1293	1544	1800	2045	2252	2545	Measured Value (mV)
	SLOPE (mV/dB)	48.5	125	5	-5	3	-6	-9	0	14	17	-19	32	Error (mV)
			2.58	0.10	-0.10	0.05	-0.13	-0.18	0.00	0.29	0.35	-0.38	0.66	LINEARITY ERROR (dB)
5.8 GHz	INTERCEPT (mV)	2271	212	335	572	822	1055	1295	1546	1802	2044	2250	2531	Measured Value (mV)
	SLOPE (mV/dB)	48.4	121	1	-4	4	-5	-7	1	15	15	-21	18	Error (mV)
			2.49	0.02	-0.09	0.08	-0.11	-0.15	0.03	0.32	0.31	-0.42	0.38	LINEARITY ERROR (dB)
7.5 GHz	INTERCEPT (mV)	2281	216	346	586	836	1069	1309	1560	1814	2055	2256	2544	Measured Value (mV)
	SLOPE (mV/dB)	48.3	109	-3	-4	5	-4	-5	4	16	16	-25	22	Error (mV)
			2.27	-0.05	-0.08	0.11	-0.09	-0.11	0.08	0.34	0.34	-0.52	0.45	LINEARITY ERROR (dB)
9.3 GHz	INTERCEPT (mV)	2273	211	336	574	825	1059	1299	1550	1805	2045	2249	2509	Measured Value (mV)
	SLOPE (mV/dB)	48.4	117	-1	-5	4	-4	-6	3	17	15	-24	-5	Error (mV)
			2.41	-0.03	-0.09	0.09	-0.08	-0.11	0.07	0.34	0.31	-0.49	-0.11	LINEARITY ERROR (dB)
11 GHz	INTERCEPT (mV)	2266	212	340	577	829	1061	1301	1550	1803	2039	2240	2502	Measured Value (mV)
	SLOPE (mV/dB)	48.1	110	-3	-6	5	-3	-4	5	18	13	-26	-5	Error (mV)
			2.29	-0.06	-0.12	0.10	-0.06	-0.07	0.11	0.38	0.27	-0.54	-0.10	LINEARITY ERROR (dB)
12.8 GHz	INTERCEPT (mV)	2234	203	310	531	781	1017	1256	1505	1762	2004	2224	2471	Measured Value (mV)
	SLOPE (mV/dB)	48.4	148	13	-9	0	-6	-10	-3	13	12	-10	-5	Error (mV)
			3.05	0.26	-0.18	0.00	-0.12	-0.20	-0.06	0.26	0.25	-0.20	-0.10	LINEARITY ERROR (dB)
14.5 GHz	INTERCEPT (mV)	2263	213	338	571	821	1053	1292	1542	1797	2037	2242	2514	Measured Value (mV)
	SLOPE (mV/dB)	48.2	118	2	-6	4	-5	-7	2	16	15	-21	10	Error (mV)
			2.45	0.05	-0.12	0.08	-0.10	-0.14	0.04	0.34	0.31	-0.44	0.21	LINEARITY ERROR (dB)
16.3 GHz	INTERCEPT (mV)	2242	207	323	551	801	1035	1273	1520	1775	2014	2226	2486	Measured Value (mV)
	SLOPE (mV/dB)	48.1	131	6	-7	3	-4	-7	0	14	12	-16	3	Error (mV)
			2.71	0.12	-0.15	0.05	-0.09	-0.14	0.00	0.29	0.26	-0.33	0.06	LINEARITY ERROR (dB)
18 GHz	INTERCEPT (mV)	2243	211	332	560	811	1045	1283	1531	1783	2014	2221	2445	Measured Value (mV)
	SLOPE (mV/dB)	47.8	119	2	-9	2	-2	-3	5	18	10	-22	-38	Error (mV)
			2.50	0.05	-0.20	0.05	-0.05	-0.07	0.10	0.38	0.21	-0.46	-0.79	LINEARITY ERROR (dB)

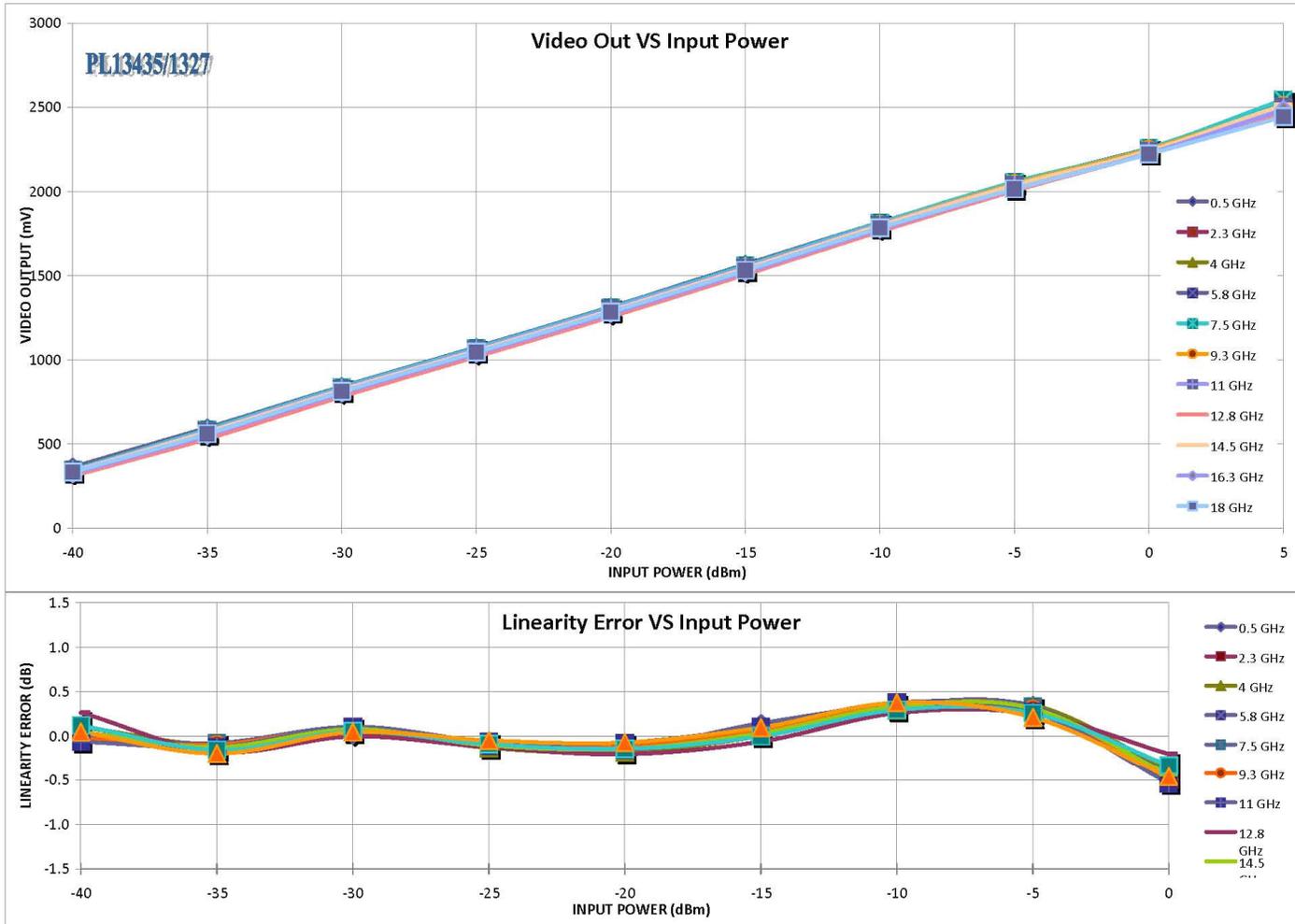
Average Slope	48.2
Flatness ± dB	
Average Offset @-40dBm	336.9

0.6	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.4	1
310	531	781	1017	1256	1505	1762	2004	2221	2445
363	597	841	1075	1313	1566	1815	2055	2257	2545



# TYPICAL CHARACTERISTICS ON PLVA-218-50-618

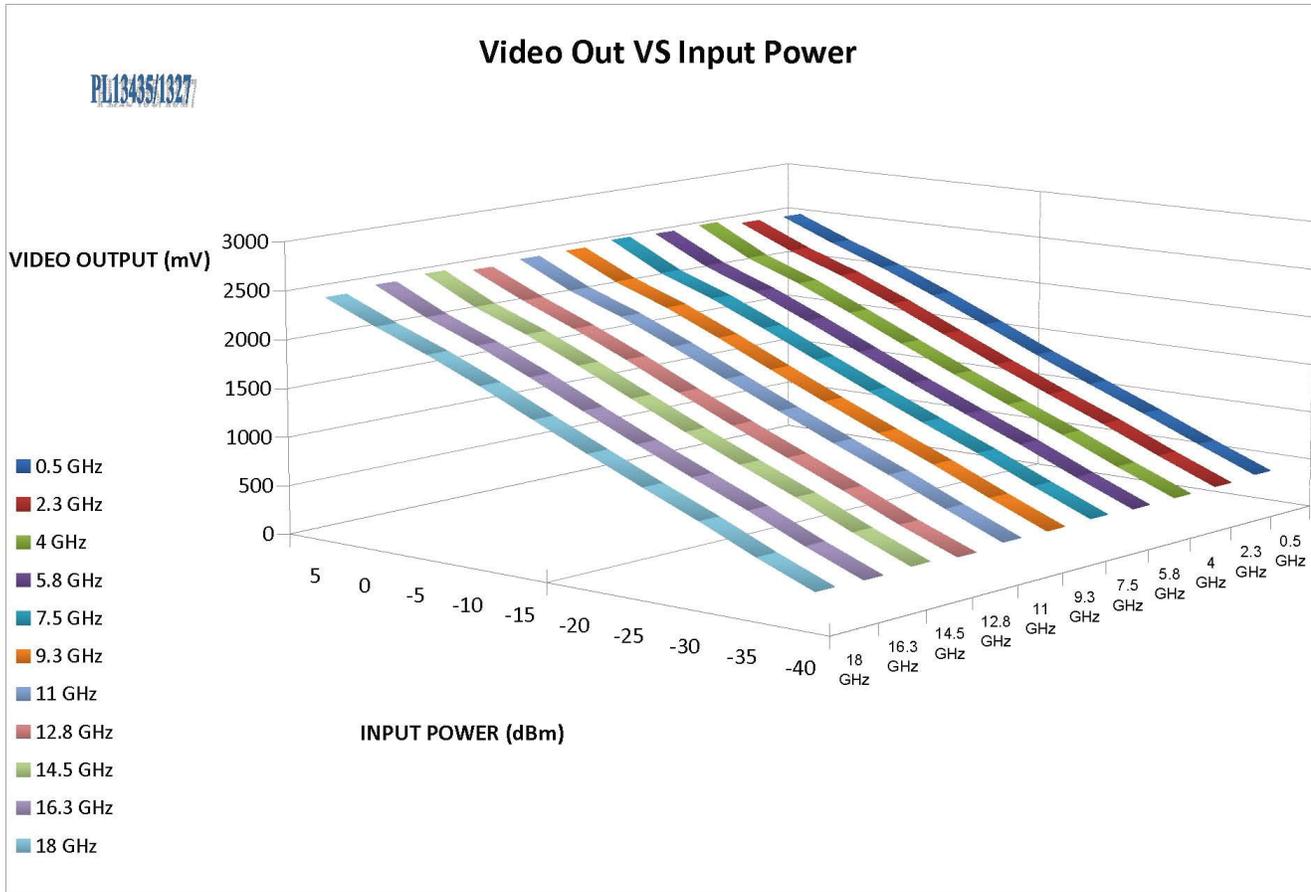
## Log Transfer Plot and Linearity Error at -54 degrees C





**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

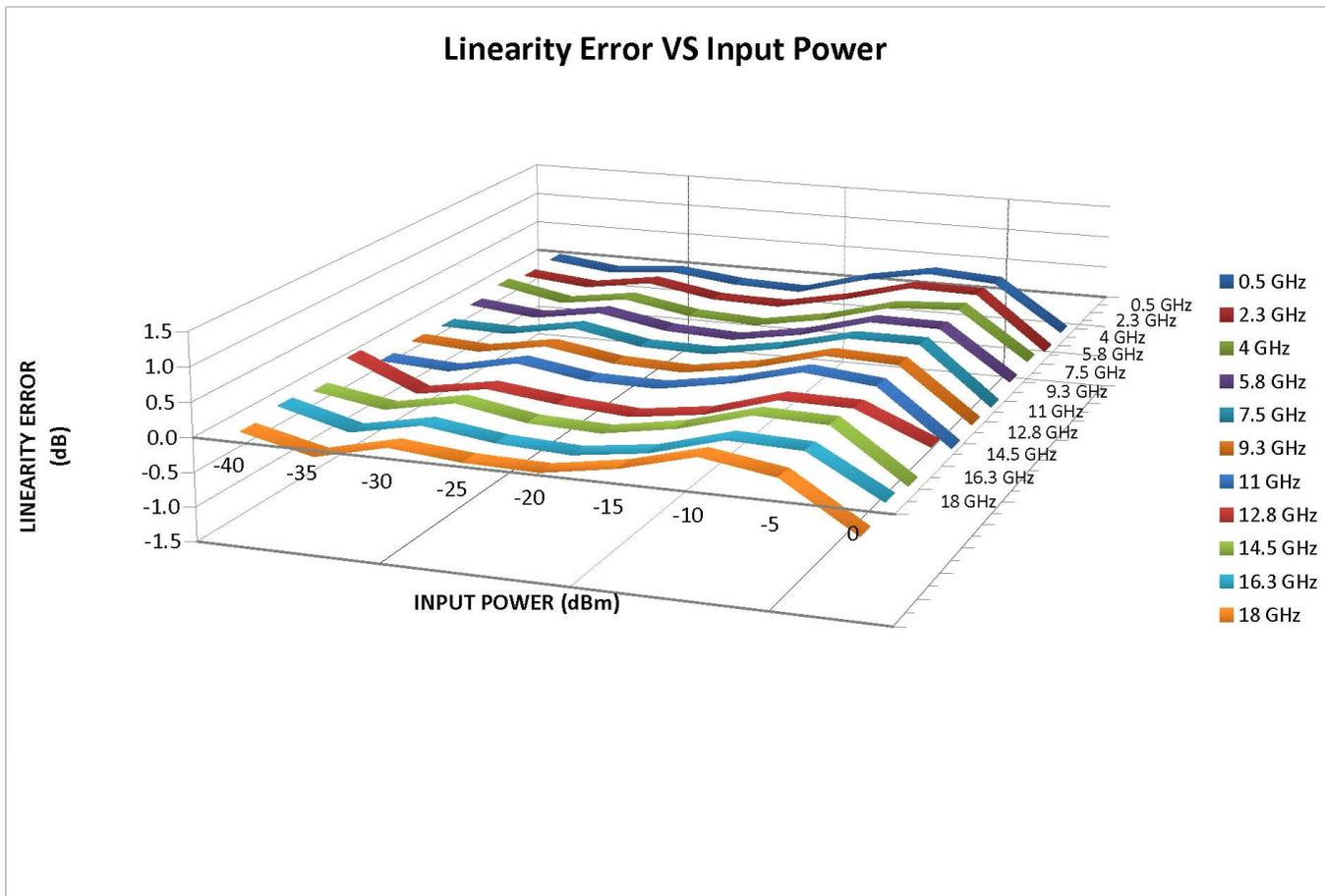
**3-D Log Transfer Plot at -54 degrees C**





**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**3-D Linearity Error at -54 degrees C**





# TYPICAL CHARACTERISTICS ON PLVA-218-50-618

## Log Transfer vs. Frequency 85 degrees C

LOG TRANSFER VS FREQUENCY @85 °C      Thursday, August 01, 2013  
 MODEL: PLVA-218-50-618      OPTION :      11:33 AM  
 TESTED BY: Randy Combs  
 SERIAL No. : PL13436/1327



Frequency			-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	RF Input Power (dBm)
0.5 GHz	INTERCEPT (mV)	2294												Measured Value (mV)
	SLOPE (mV/dB)	49.9	201	300	530	795	1052	1299	1554	1803	2036	2296	2467	Error (mV)
			4.02	0.08	-0.32	-0.01	0.13	0.09	0.19	0.17	-0.17	-0.15	-1.53	LINEARITY ERROR (dB)
2.3 GHz	INTERCEPT (mV)	2297												Measured Value (mV)
	SLOPE (mV/dB)	50.6	183	281	510	780	1039	1289	1545	1799	2034	2295	2493	Error (mV)
			3.62	0.13	-0.35	0.00	0.13	0.07	0.13	0.15	-0.21	-0.05	-1.14	LINEARITY ERROR (dB)
4 GHz	INTERCEPT (mV)	2293												Measured Value (mV)
	SLOPE (mV/dB)	50.8	172	272	494	767	1028	1278	1534	1789	2029	2296	2514	Error (mV)
			3.38	0.24	-0.38	-0.02	0.11	0.04	0.06	0.09	-0.20	0.05	-0.66	LINEARITY ERROR (dB)
5.8 GHz	INTERCEPT (mV)	2289												Measured Value (mV)
	SLOPE (mV/dB)	50.8	173	265	490	764	1025	1276	1531	1787	2024	2290	2508	Error (mV)
			3.36	0.18	-0.39	0.00	0.14	0.07	0.09	0.12	-0.22	0.01	-0.69	LINEARITY ERROR (dB)
7.5 GHz	INTERCEPT (mV)	2296												Measured Value (mV)
	SLOPE (mV/dB)	50.8	172	268	499	774	1035	1285	1540	1794	2030	2294	2512	Error (mV)
			3.19	0.09	-0.37	0.04	0.17	0.10	0.12	0.12	-0.24	-0.04	-0.75	LINEARITY ERROR (dB)
9.3 GHz	INTERCEPT (mV)	2285												Measured Value (mV)
	SLOPE (mV/dB)	50.8	167	259	483	760	1022	1273	1528	1783	2019	2282	2498	Error (mV)
			3.36	0.15	-0.42	0.01	0.18	0.11	0.12	0.14	-0.23	-0.05	-0.79	LINEARITY ERROR (dB)
11 GHz	INTERCEPT (mV)	2270												Measured Value (mV)
	SLOPE (mV/dB)	50.5	166	256	478	756	1018	1268	1521	1774	2005	2263	2493	Error (mV)
			3.32	0.12	-0.48	0.01	0.20	0.16	0.17	0.19	-0.24	-0.14	-0.59	LINEARITY ERROR (dB)
12.8 GHz	INTERCEPT (mV)	2240												Measured Value (mV)
	SLOPE (mV/dB)	50.8	158	235	431	710	977	1228	1480	1738	1978	2242	2480	Error (mV)
			3.99	0.51	-0.63	-0.13	0.13	0.08	0.03	0.12	-0.15	0.05	-0.26	LINEARITY ERROR (dB)
14.5 GHz	INTERCEPT (mV)	2267												Measured Value (mV)
	SLOPE (mV/dB)	50.7	163	251	466	744	1007	1258	1511	1767	2003	2266	2499	Error (mV)
			3.52	0.26	-0.51	-0.02	0.16	0.10	0.10	0.15	-0.21	-0.03	-0.42	LINEARITY ERROR (dB)
16.3 GHz	INTERCEPT (mV)	2237												Measured Value (mV)
	SLOPE (mV/dB)	50.5	157	236	436	716	982	1233	1483	1739	1976	2234	2480	Error (mV)
			3.84	0.40	-0.63	-0.09	0.17	0.14	0.08	0.14	-0.16	-0.05	-0.19	LINEARITY ERROR (dB)
18 GHz	INTERCEPT (mV)	2234												Measured Value (mV)
	SLOPE (mV/dB)	50.3	158	239	438	718	985	1236	1487	1742	1973	2226	2474	Error (mV)
			3.76	0.37	-0.67	-0.12	0.20	0.18	0.16	0.22	-0.18	-0.16	-0.22	LINEARITY ERROR (dB)

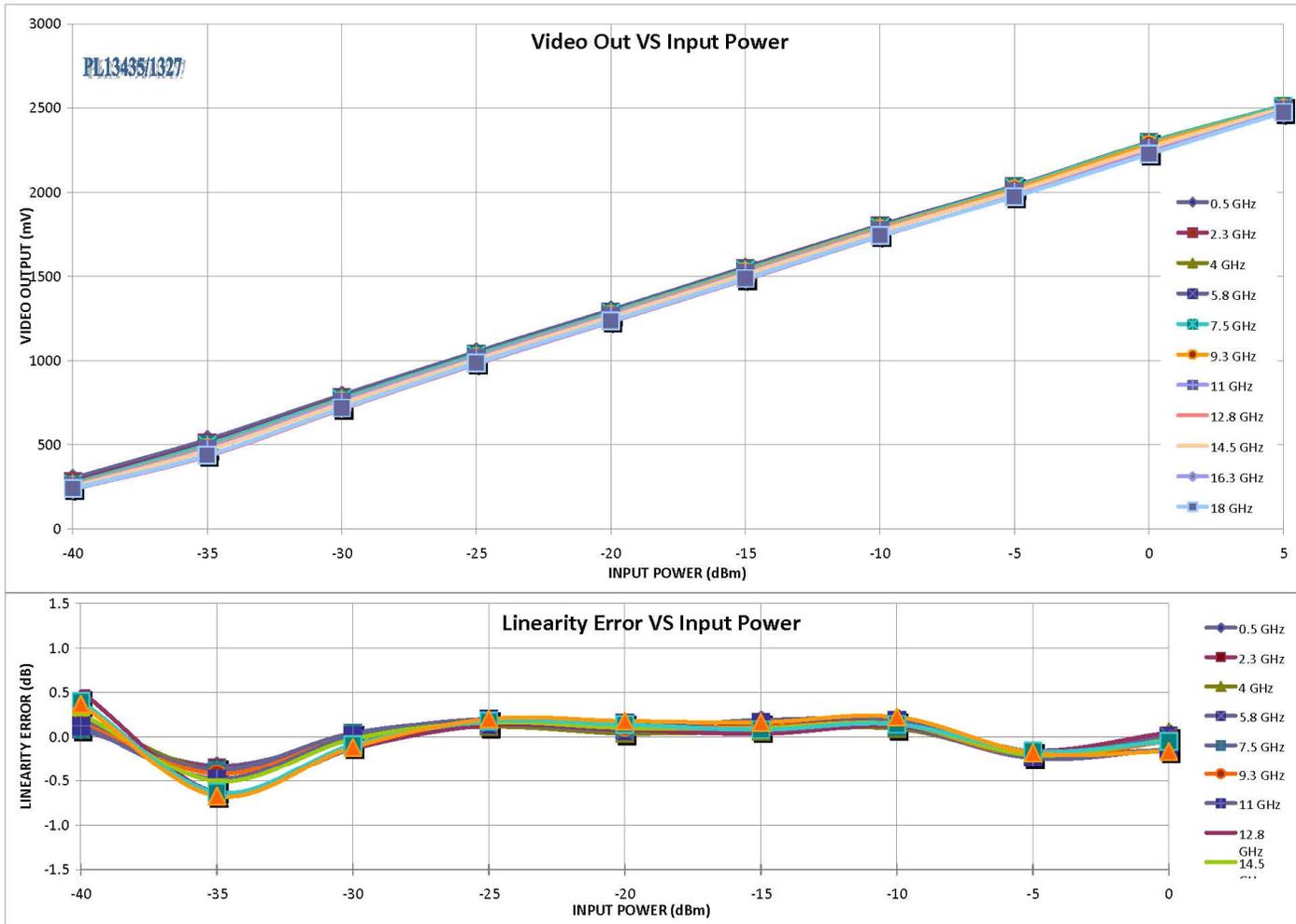
Average Slope	50.6
Flatness ± dB	
Average Offset @-40dBm	260.1

0.6	1	0.8	0.7	0.7	0.7	0.6	0.6	0.7	0.5
235	431	710	977	1228	1480	1738	1973	2226	2467
300	530	795	1052	1299	1554	1803	2036	2296	2514



# TYPICAL CHARACTERISTICS ON PLVA-218-50-618

## Log Transfer Plot and Linearity Error at 85 degrees C

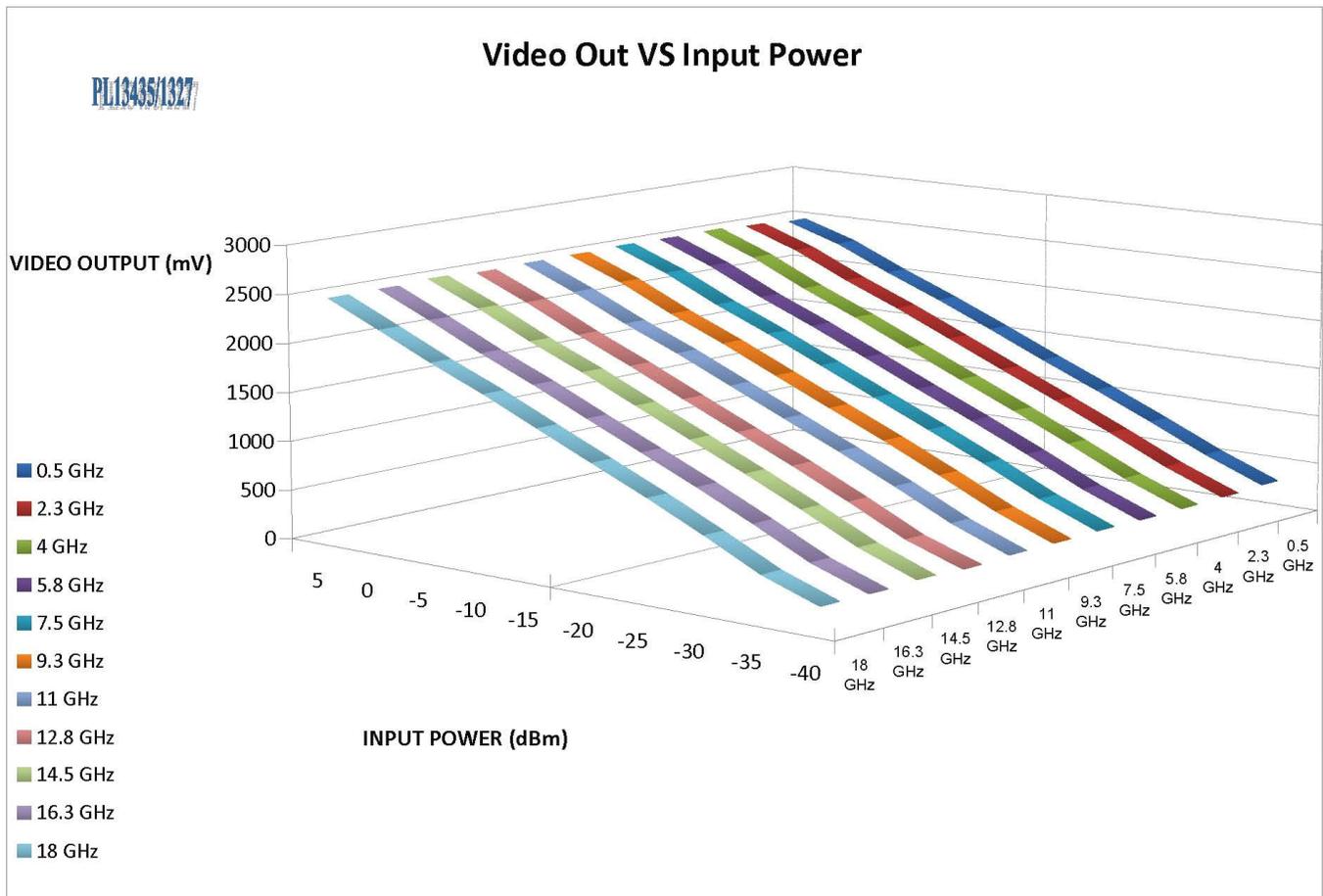


7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731  
Email: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)



**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

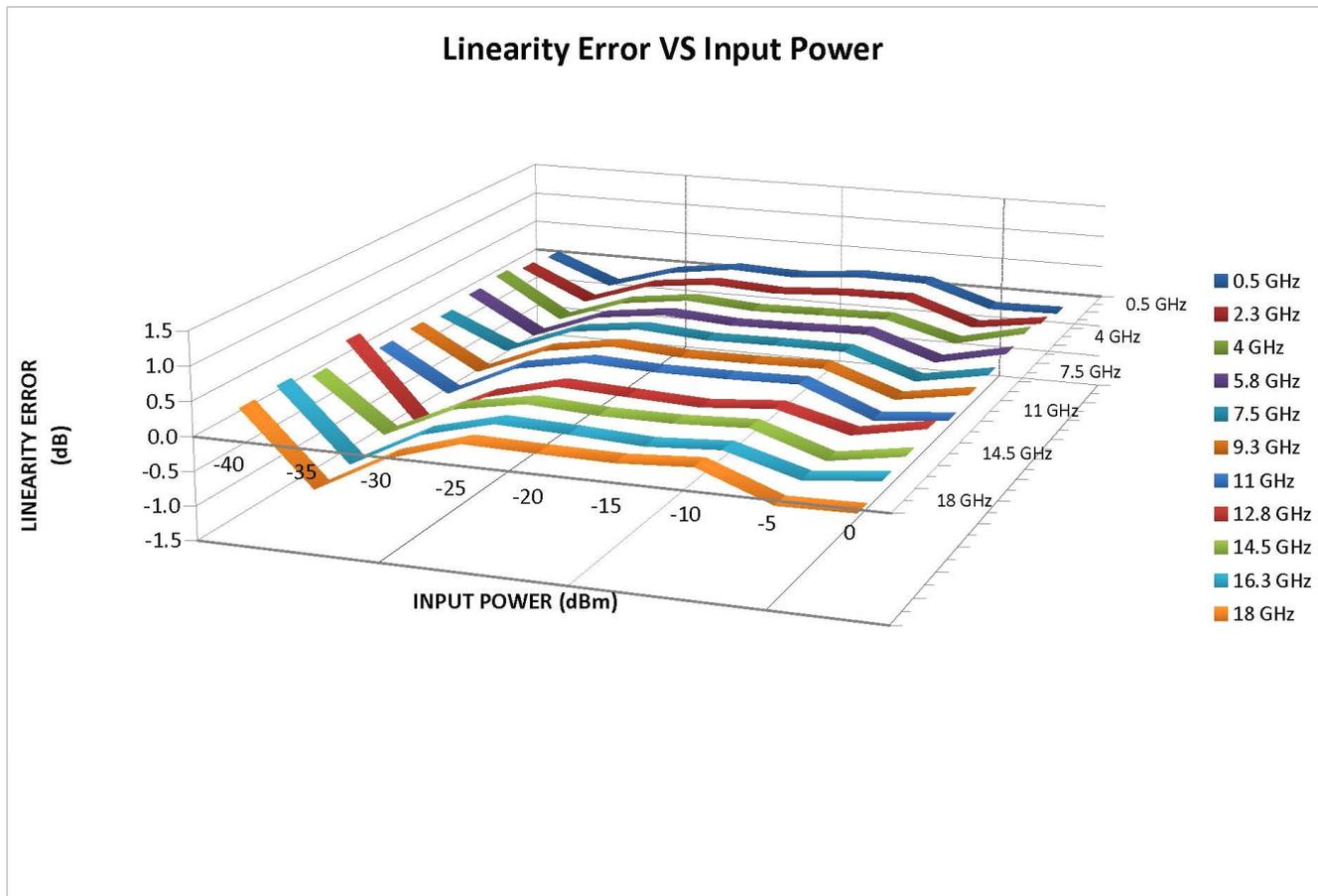
**3-D Log Transfer Plot at 85 degrees C**





**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**3-D Linearity Error at 85 degrees C**

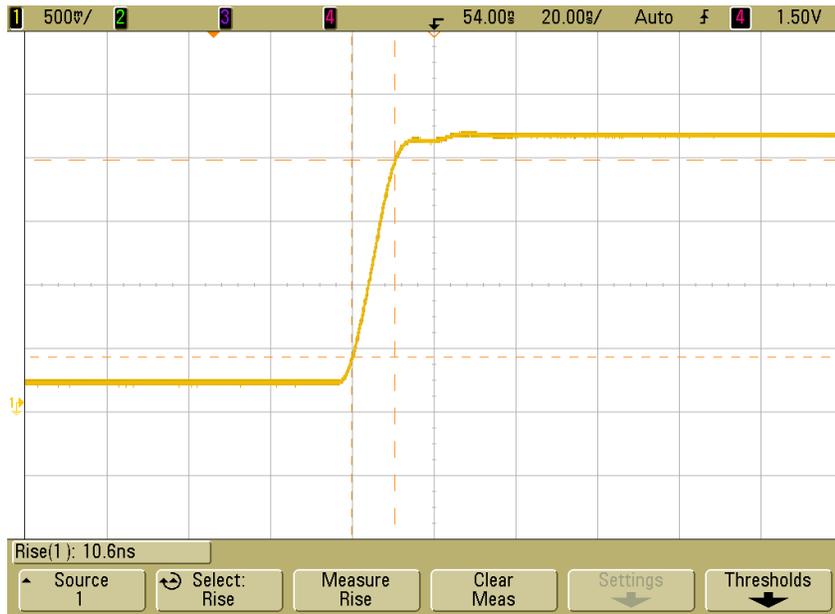




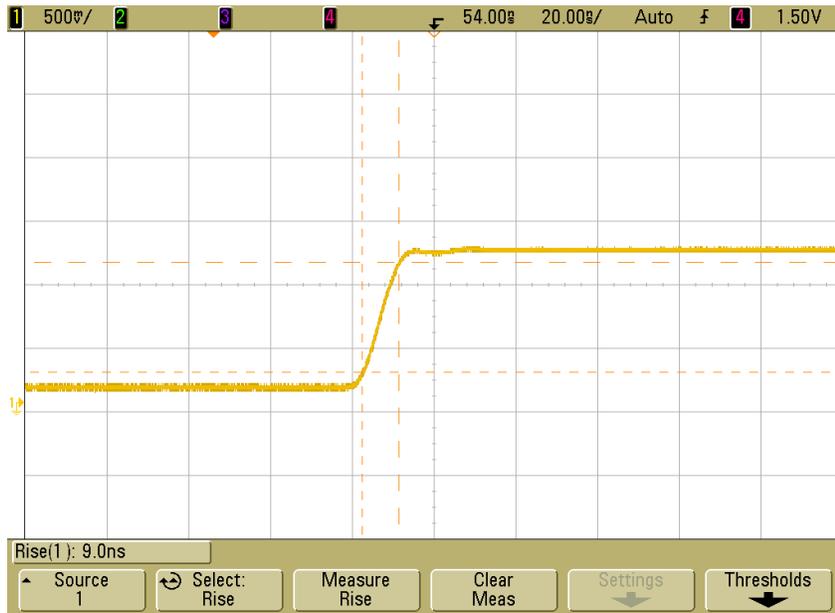
**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**Pulse Response**

**Rise Time at 25 Degrees C. 18GHz at 0dBm**



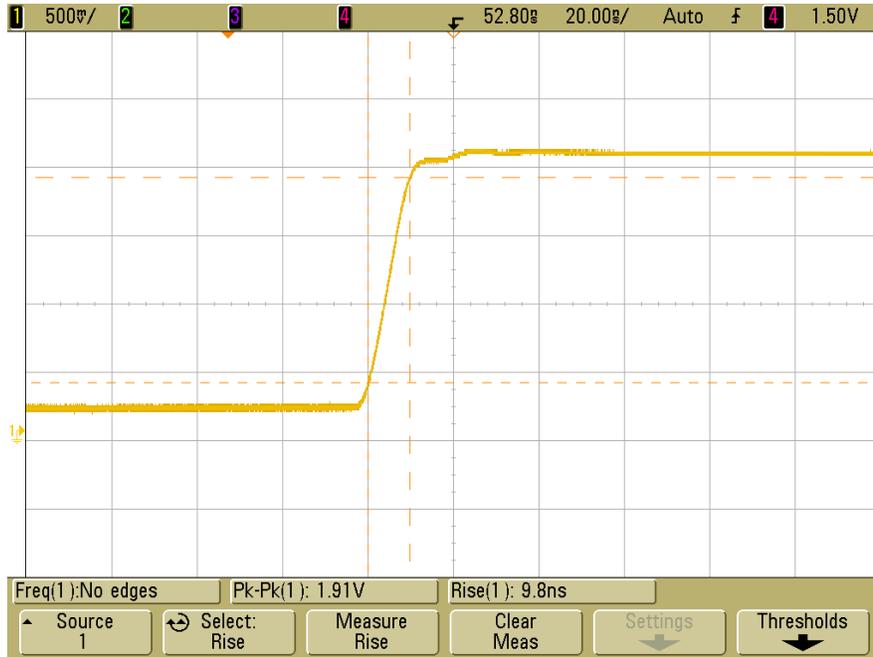
**Rise Time at 25 Degrees C. 18GHz at -20dBm**



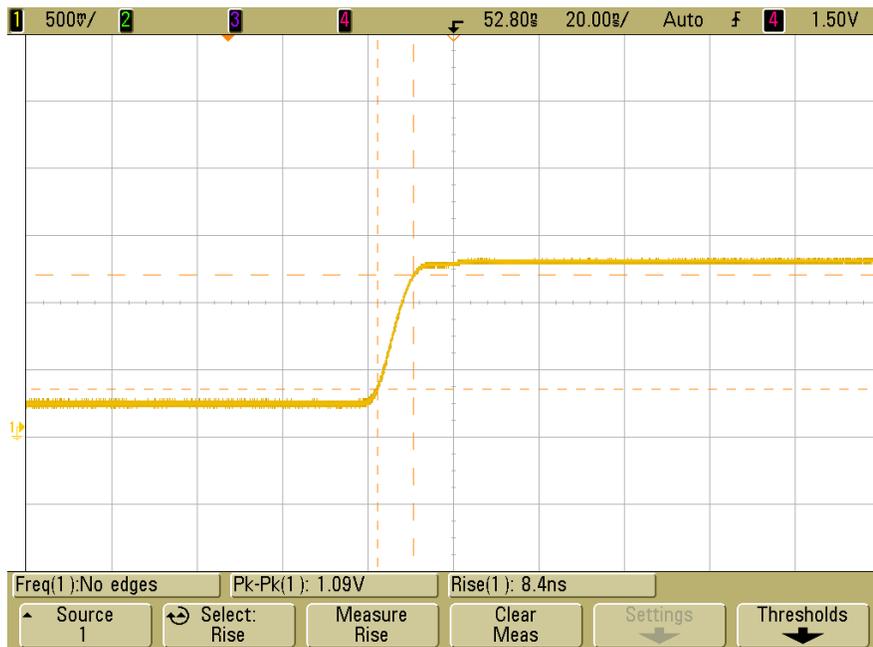


**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**Rise Time at -54 Degrees C. 18GHz at 0dBm**



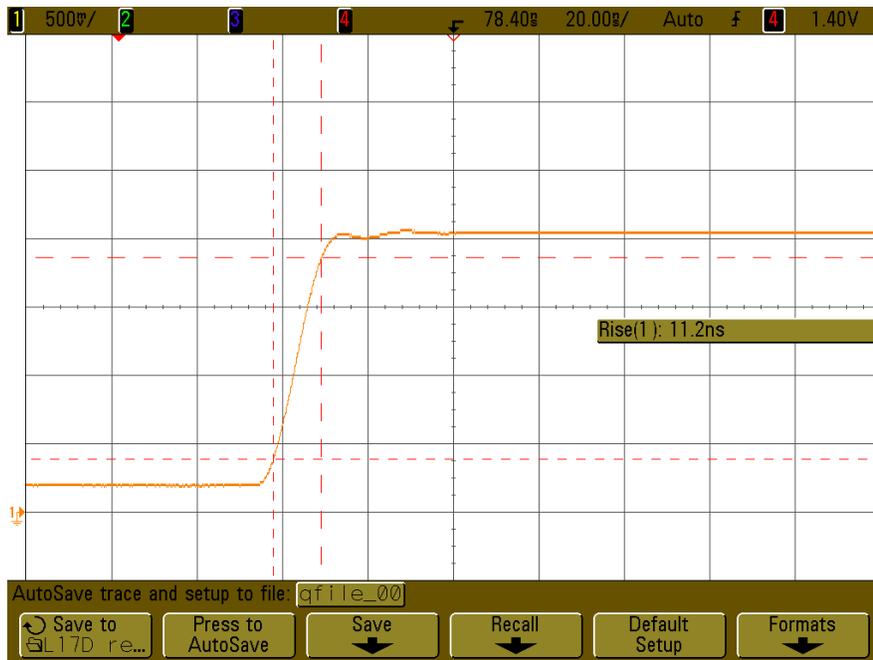
**Rise Time at -54 Degrees C. 18GHz at -20dBm**



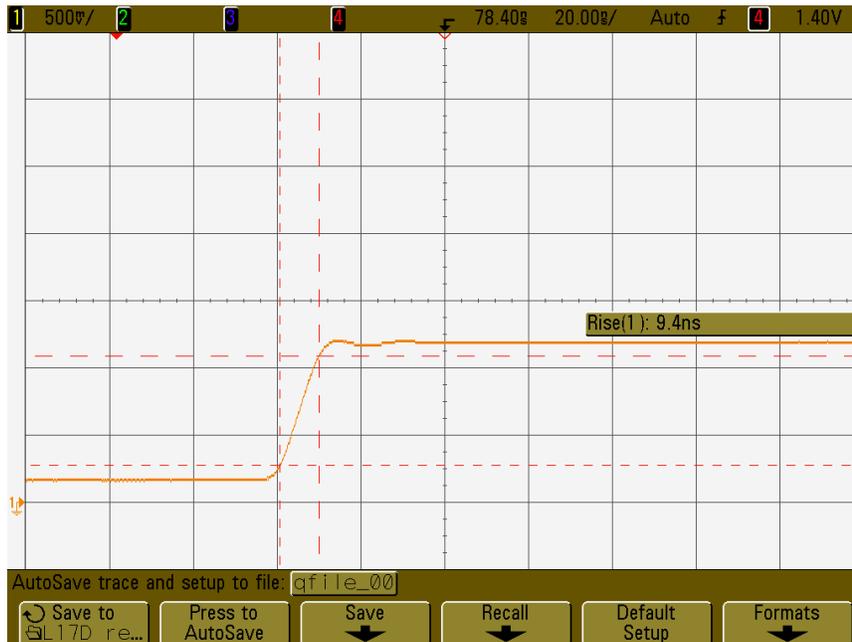


**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**Rise Time at 85 Degrees C. 18GHz at 0dBm**



**Rise Time at 85 Degrees C. 18GHz at -20dBm**



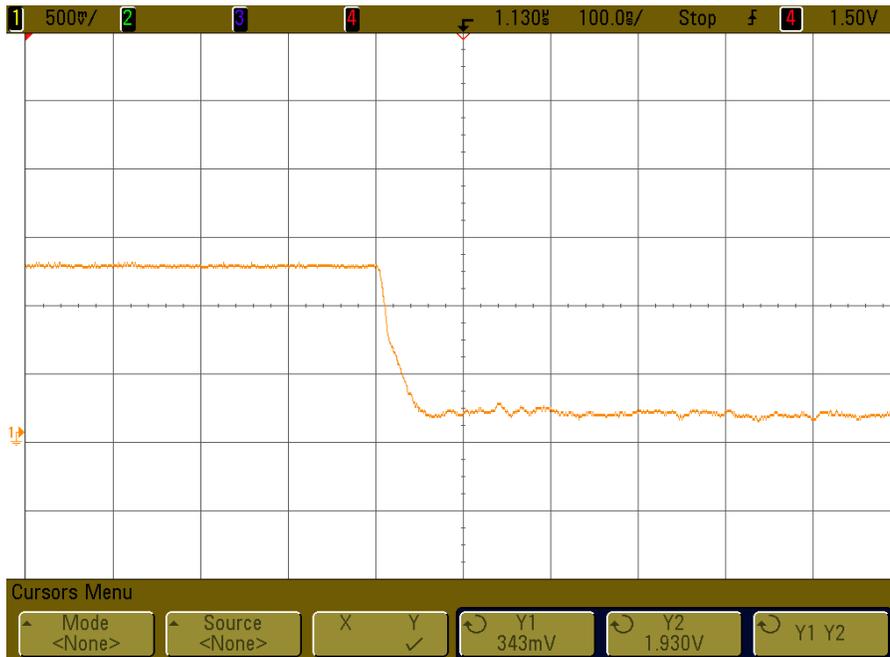


**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**Recovery Time at 25 Degrees C. 18GHz at 0dBm**



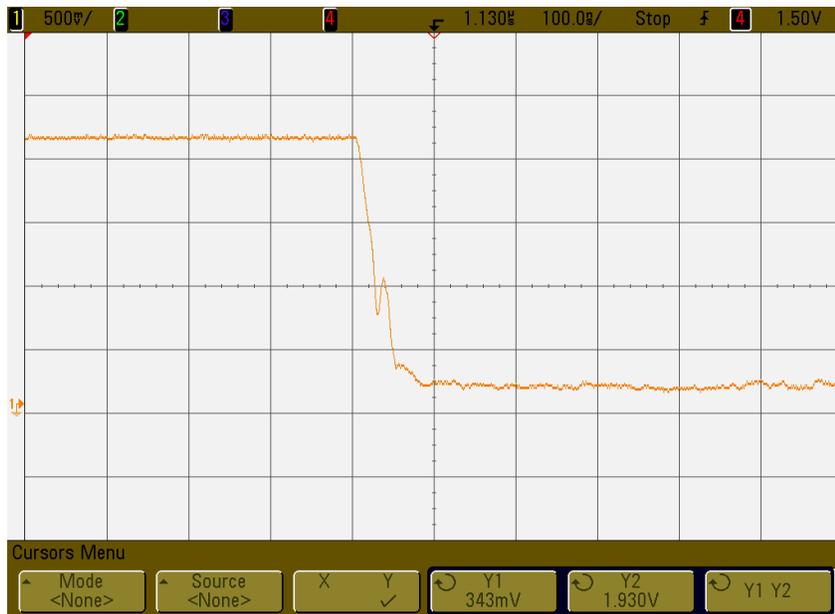
**Recovery Time at 25 Degrees C. 18GHz at -20dBm**





**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**Recovery Time at -54 Degrees C. 18GHz at 0dBm**



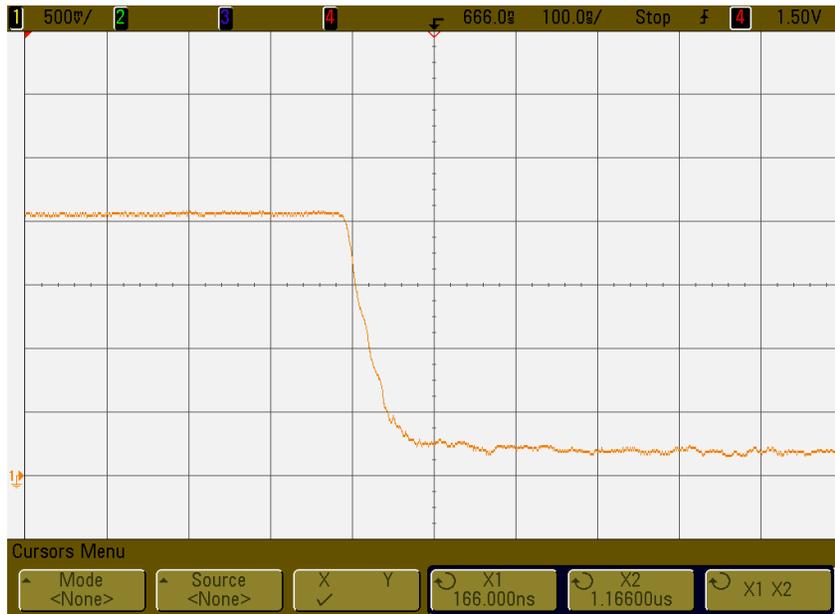
**Recovery Time at -54 Degrees C. 18GHz at -20dBm**



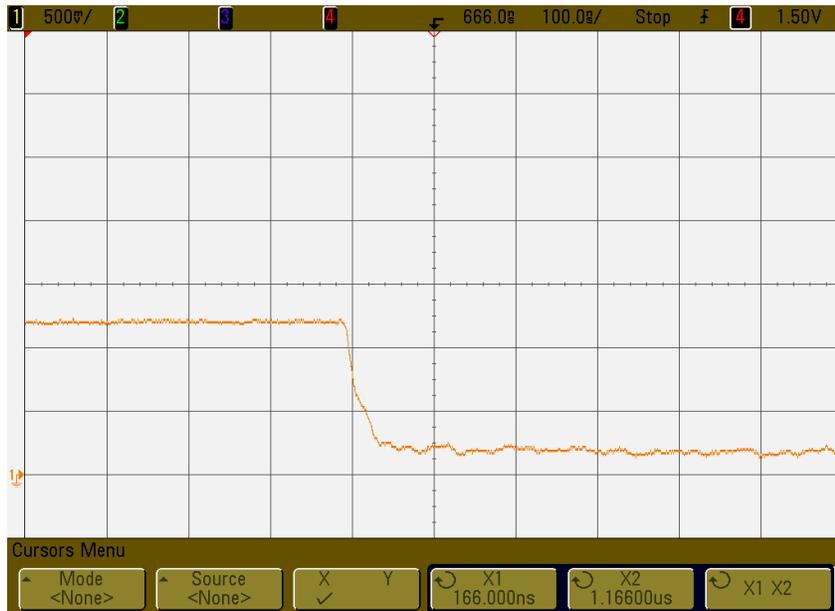


**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**Recovery Time at 85 Degrees C. 18GHz at 0dBm**



**Recovery Time at 85 Degrees C. 18GHz at -20dBm**

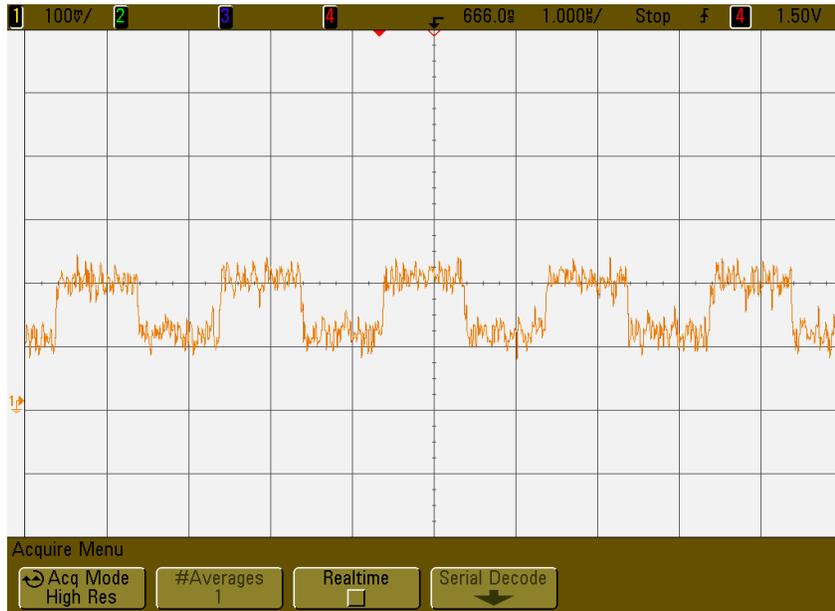




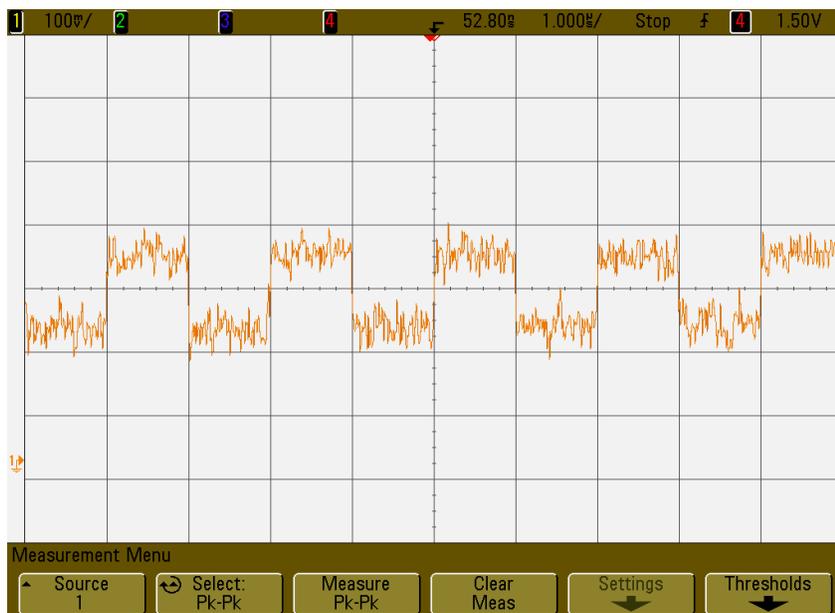
**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**TSS performance**

**25 Degrees C. 18GHz at -42dBm**



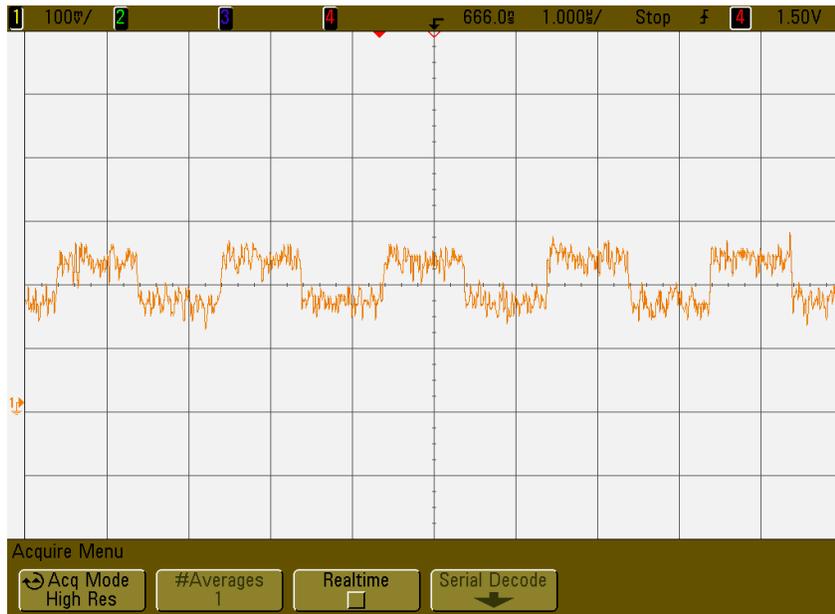
**-54 Degrees C. 18GHz at -42dBm**





**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**85 Degrees C. 18GHz at -42dBm**





**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**VSWR**

**25 Degrees C at -20 dBm**



**-54 Degrees C at -20 dBm**





**TYPICAL CHARACTERISTICS  
ON  
PLVA-218-50-618**

**85 Degrees C at -20 dBm**

