



**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

MODEL SDLVA-100M4G-CD-2 IS A SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA) THAT OPERATES BETWEEN THE 100 TO 4000 MHz FREQUENCY RANGE CAPABLE OF EXTENDING TO 6000 MHz. IT HAS A DYNAMIC RANGE OF 70 dB, A LOG SLOPE OF 25 mV / dB, AND A NOMINAL VIDEO BANDWIDTH OF 11.67 MHz. FURTHERMORE, IT HAS BEEN DESIGNED USING CUTTING EDGE GaAs TECHNOLOGY WHICH PROVIDES STUNNING PERFORMANCE AND RELIABILITY IN A COMPACT PACKAGE MAKING IT AN OPTIMUM SOLUTION FOR HIGH SPEED CHANNELIZED RECEIVER APPLICATIONS.



August 21, 2013

**Prepared By: E. Benson
Tested By: E. Benson
Designed By: Paul Kuhn**

PLANAR MONOLITHICS INDUSTRIES, INC.
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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

Test Data @ 25°C

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE
1	Frequency Range:	100 MHz to 4 GHZ	100 MHz to 6 GHZ
2	Pulse Range:	100 ns to CW	100 ns to CW
3	Input Power:	+17 dBm CW Max (J1)	+17 dBm CW
4	Flatness:	± 50mV Max. (J3)	± 40mV
5	Log Linearity	± 2.5 dB Max. (J3)	± 1.05 dB
6	Log Range:	-70 to 0 dBm (J3)	-70 to 0 dBm
7	Log Slope	25mV/dB Typ (J3) (50 Ohm Load)	24.7 mV/dB
8	VSWR:	2.0:1 Max. (J1)	1.519 :1
9	Rise Time:	30ns Max. (J3)	26.5 ns
10	Recovery Time:	200 ns Max. (J3)	183.0 ns
11	TSS:	-73 dBm Typ. -71dBm Max.(J3)	-74.1 dBm
12	RF Gain: (Small Signal)	55dB Typ (J1 to J2)@-50dBm	52dB
13	PSAT:	+13dBm Typ.(J2)	+9.25dBm
14	Harmonics:	15dBc -70 to 0dBm(J2)	16.05dBc
15	DC Supply:	+15VDC @ 350 mA -15VDC @ 180 mA	+15 VDC @ 271 mA -15 VDC @ 93 mA



**TYPICAL CHARACTERISTICS
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SDLVA-100M4G-CD-2**

Test Data @ -40°C

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE
1	Frequency Range:	100 MHz to 4 GHZ	100 MHz to 6 GHZ
2	Pulse Range:	100 ns to CW	100 ns to CW
3	Input Power:	+17 dBm CW Max (J1)	+17 dBm CW
4	Flatness:	± 50mV Max. (J3)	± 42.5mV
5	Log Linearity	± 2.5 dB Max. (J3)	± 1.61 dB
6	Log Range:	-70 to 0 dBm (J3)	-70 to 0 dBm
7	Log Slope	25mV/dB Typ (J3) (50 Ohm Load)	24.0 mV/dB
8	VSWR:	2.0:1 Max. (J1)	1.448 :1
9	Rise Time:	30ns Max. (J3)	24.9 ns
10	Recovery Time:	200 ns Max. (J3)	183.0 ns
11	TSS:	-73 dBm Typ. -71dBm Max.(J3)	-73.8 dBm
12	RF Gain: (Small Signal)	55dB Typ (J1 to J2)@-50dBm	53dB
13	PSAT:	+13dBm Typ.(J2)	+9.15dBm
14	Harmonics:	15dBc -70 to 0dBm(J2)	15.34dBc
15	DC Supply:	+15VDC @ 350 mA -15VDC @ 180 mA	+15 VDC @ 208 mA -15 VDC @ 82 mA



**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

Summary Test Data @ 75°C

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE
1	Frequency Range:	100 MHz to 4 GHZ	100 MHz to 6 GHZ
2	Pulse Range:	100 ns to CW	100 ns to CW
3	Input Power:	+17 dBm CW Max (J1)	+17 dBm CW
4	Flatness:	± 50mV Max. (J3)	± 37.5mV
5	Log Linearity	± 2.5 dB Max. (J3)	± 1.04 dB
6	Log Range:	-70 to 0 dBm (J3)	-70 to 0 dBm
7	Log Slope	25mV/dB Typ (J3) (50 Ohm Load)	25.5 mV/dB
8	VSWR:	2.0:1 Max. (J1)	1.323 :1
9	Rise Time:	30ns Max. (J3)	24.2 ns
10	Recovery Time:	200 ns Max. (J3)	170.0 ns
11	TSS:	-73 dBm Typ. -71dBm Max.(J3)	-73.2 dBm
12	RF Gain: (Small Signal)	55dB Typ (J1 to J2)@-50dBm	51dB
13	PSAT:	+13dBm Typ.(J2)	+9.05dBm
14	Harmonics:	15dBc -70 to 0dBm(J2)	17.78dBc
15	DC Supply:	+15VDC @ 350 mA -15VDC @ 180 mA	+15 VDC @ 248 mA -15 VDC @ 102 mA



TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (Tabulated Data) @ -40°C

LOG TRANSFER VS FREQUENCY
MODEL: SDLVA-100M4G-CD-2
TESTED BY: E.Benson
SERIAL No.: PL13732
TEST: 8/22/2013
TEST TEMP: -40C

Thursday, August 22, 2013
11:37 AM



PLANAR MONOLITHICS INDUSTRIES
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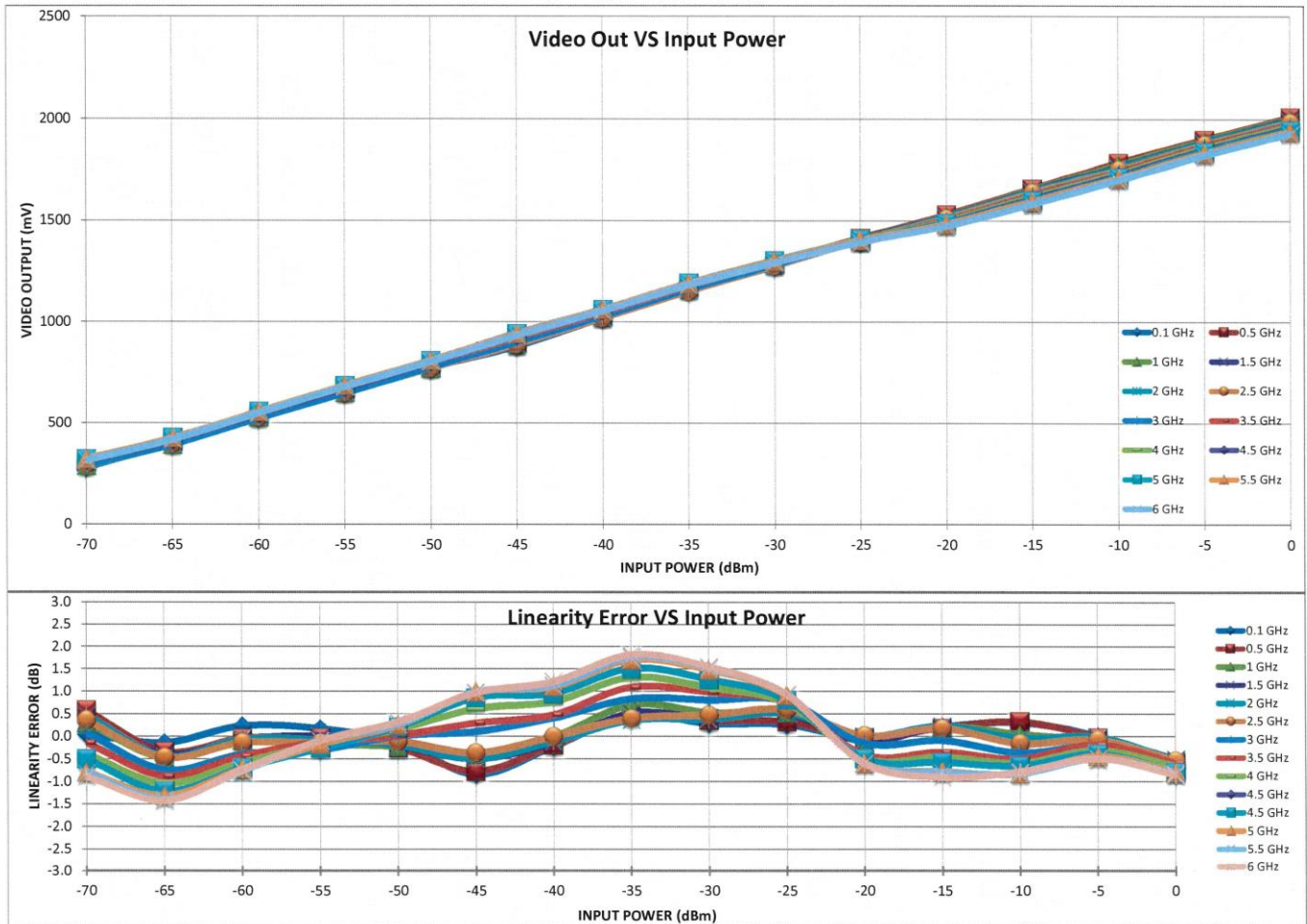
Frequency		-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
0.1 GHz	INTERCEPT (mV)	279	399	533	666	773	880	1020	1162	1282	1406	1523	1654	1781	1898	2008	Measured Value (mV)
	SLOPE (mV/dB)	0.04	-0.14	0.23	0.17	-0.14	-0.84	-0.23	0.47	0.29	0.26	-0.04	0.21	0.31	0.00	-0.59	Error (mV)
																	LINEARITY ERROR (dB)
0.5 GHz	INTERCEPT (mV)	306	407	538	662	780	891	1029	1170	1290	1413	1528	1657	1784	1899	2009	Measured Value (mV)
	SLOPE (mV/dB)	0.58	-0.34	-0.04	-0.03	-0.26	-0.77	-0.20	0.50	0.35	0.33	-0.02	0.19	0.32	-0.03	-0.58	Error (mV)
																	LINEARITY ERROR (dB)
1 GHz	INTERCEPT (mV)	287	392	526	648	771	891	1025	1167	1287	1411	1520	1652	1772	1892	2002	Measured Value (mV)
	SLOPE (mV/dB)	0.30	-0.48	-0.08	-0.18	-0.23	-0.40	-0.01	0.70	0.53	0.52	-0.10	0.21	0.04	-0.13	-0.71	Error (mV)
																	LINEARITY ERROR (dB)
1.5 GHz	INTERCEPT (mV)	307	411	541	665	782	897	1028	1166	1286	1410	1517	1647	1763	1885	1996	Measured Value (mV)
	SLOPE (mV/dB)	0.35	-0.40	-0.07	0.00	-0.21	-0.50	-0.13	0.52	0.43	0.51	-0.11	0.21	-0.04	-0.05	-0.50	Error (mV)
																	LINEARITY ERROR (dB)
2 GHz	INTERCEPT (mV)	300	400	532	654	774	889	1021	1155	1278	1404	1514	1642	1758	1881	1991	Measured Value (mV)
	SLOPE (mV/dB)	0.47	-0.45	-0.06	-0.08	-0.19	-0.49	-0.11	0.36	0.38	0.52	0.01	0.23	-0.04	-0.02	-0.53	Error (mV)
																	LINEARITY ERROR (dB)
2.5 GHz	INTERCEPT (mV)	295	397	527	649	772	888	1019	1151	1275	1400	1508	1634	1748	1872	1983	Measured Value (mV)
	SLOPE (mV/dB)	0.36	-0.47	-0.14	-0.15	-0.11	-0.37	0.00	0.40	0.48	0.59	0.02	0.17	-0.16	-0.08	-0.54	Error (mV)
																	LINEARITY ERROR (dB)
3 GHz	INTERCEPT (mV)	290	392	522	646	775	899	1026	1160	1281	1402	1501	1624	1739	1864	1974	Measured Value (mV)
	SLOPE (mV/dB)	0.06	-0.74	-0.40	-0.30	0.00	0.10	0.40	0.83	0.80	0.78	-0.15	-0.09	-0.37	-0.23	-0.71	Error (mV)
																	LINEARITY ERROR (dB)
3.5 GHz	INTERCEPT (mV)	321	422	551	677	799	924	1047	1180	1296	1409	1500	1620	1735	1861	1970	Measured Value (mV)
	SLOPE (mV/dB)	-0.14	-0.88	-0.44	-0.13	0.02	0.29	0.48	1.09	0.98	0.75	-0.41	-0.35	-0.50	-0.18	-0.59	Error (mV)
																	LINEARITY ERROR (dB)
4 GHz	INTERCEPT (mV)	316	419	548	676	802	931	1053	1184	1297	1407	1496	1615	1730	1855	1965	Measured Value (mV)
	SLOPE (mV/dB)	-0.40	-1.04	-0.58	-0.17	0.16	0.61	0.77	1.31	1.09	0.75	-0.49	-0.46	-0.59	-0.31	-0.66	Error (mV)
																	LINEARITY ERROR (dB)
4.5 GHz	INTERCEPT (mV)	311	412	542	670	799	932	1052	1183	1295	1402	1489	1605	1721	1845	1953	Measured Value (mV)
	SLOPE (mV/dB)	-0.51	-1.22	-0.70	-0.27	0.21	0.86	0.95	1.51	1.27	0.81	-0.50	-0.57	-0.65	-0.39	-0.80	Error (mV)
																	LINEARITY ERROR (dB)
5 GHz	INTERCEPT (mV)	320	424	554	683	809	942	1061	1191	1302	1405	1486	1598	1713	1838	1946	Measured Value (mV)
	SLOPE (mV/dB)	-0.80	-1.32	-0.72	-0.17	0.26	0.98	1.11	1.70	1.48	0.92	-0.60	-0.78	-0.83	-0.44	-0.79	Error (mV)
																	LINEARITY ERROR (dB)
5.5 GHz	INTERCEPT (mV)	321	423	553	684	808	940	1059	1189	1299	1401	1481	1592	1707	1830	1938	Measured Value (mV)
	SLOPE (mV/dB)	-0.81	-1.40	-0.77	-0.10	0.27	0.98	1.13	1.76	1.52	0.94	-0.60	-0.80	-0.82	-0.49	-0.82	Error (mV)
																	LINEARITY ERROR (dB)
8 GHz	INTERCEPT (mV)	314	417	548	678	803	933	1054	1183	1292	1393	1473	1581	1699	1821	1928	Measured Value (mV)
	SLOPE (mV/dB)	-0.90	-1.43	-0.74	-0.10	0.32	0.97	1.22	1.82	1.55	0.93	-0.60	-0.91	-0.79	-0.49	-0.85	Error (mV)
																	LINEARITY ERROR (dB)
Average Slope		24.0															
Flatness ± dB		0.9															
Average Offset		305.2															
		279	392	522	646	771	880	1019	1151	1275	1393	1473	1581	1699	1821	1928	
		321	424	554	684	809	942	1061	1191	1302	1413	1528	1657	1784	1899	2009	

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TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (2D-Plots) @ -40°C

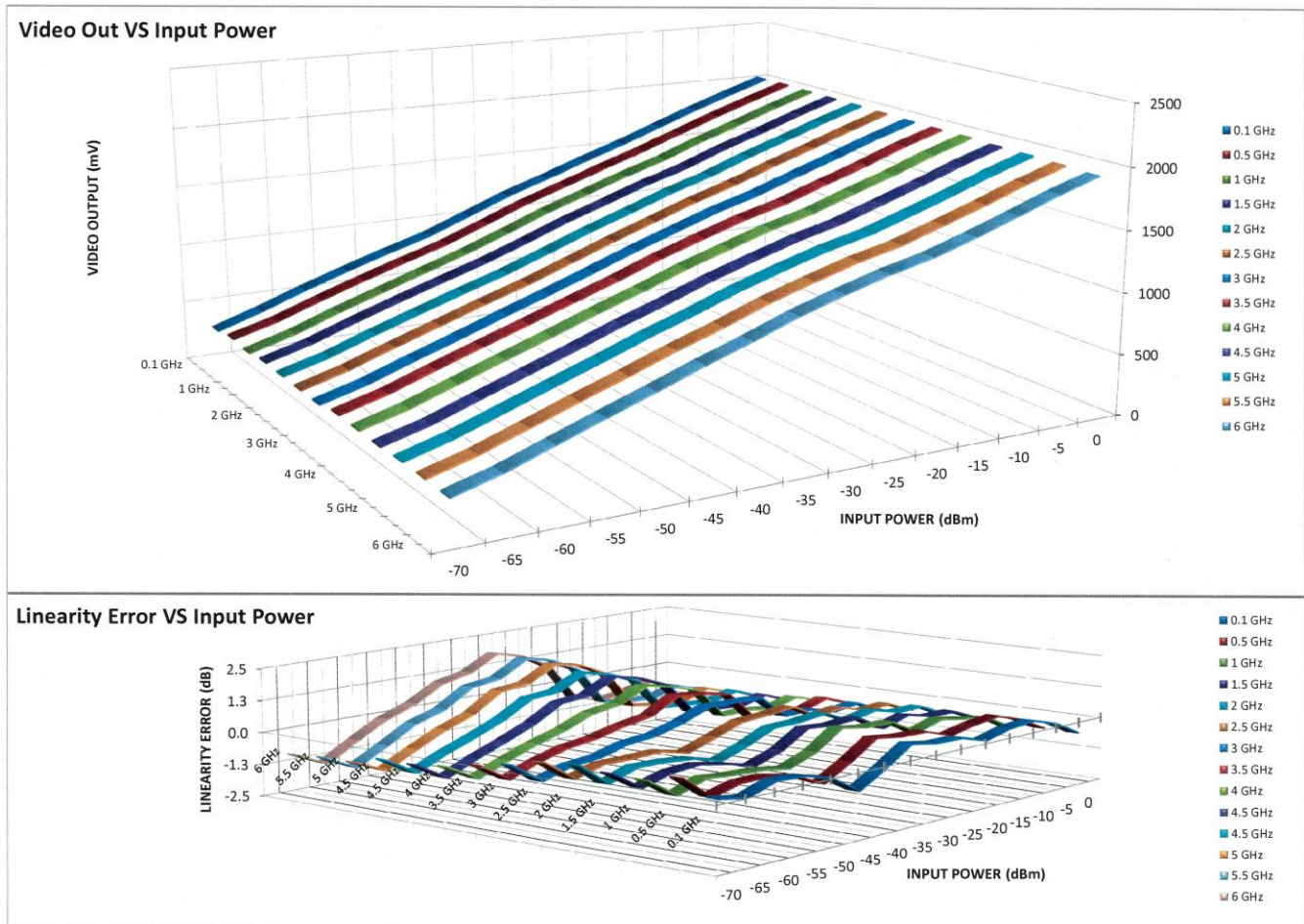


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TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (3D-Plots) @ -40°C





TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (Tabulated Data) @ -20°C

LOG TRANSFER VS FREQUENCY
 MODEL: SDLVA-100M4G-CD-2
 TESTED BY: E.Benson
 SERIAL No.: PL13732
 TEST : 8/22/2013
 TEST TEMP: -20C

Thursday, August 22, 2013
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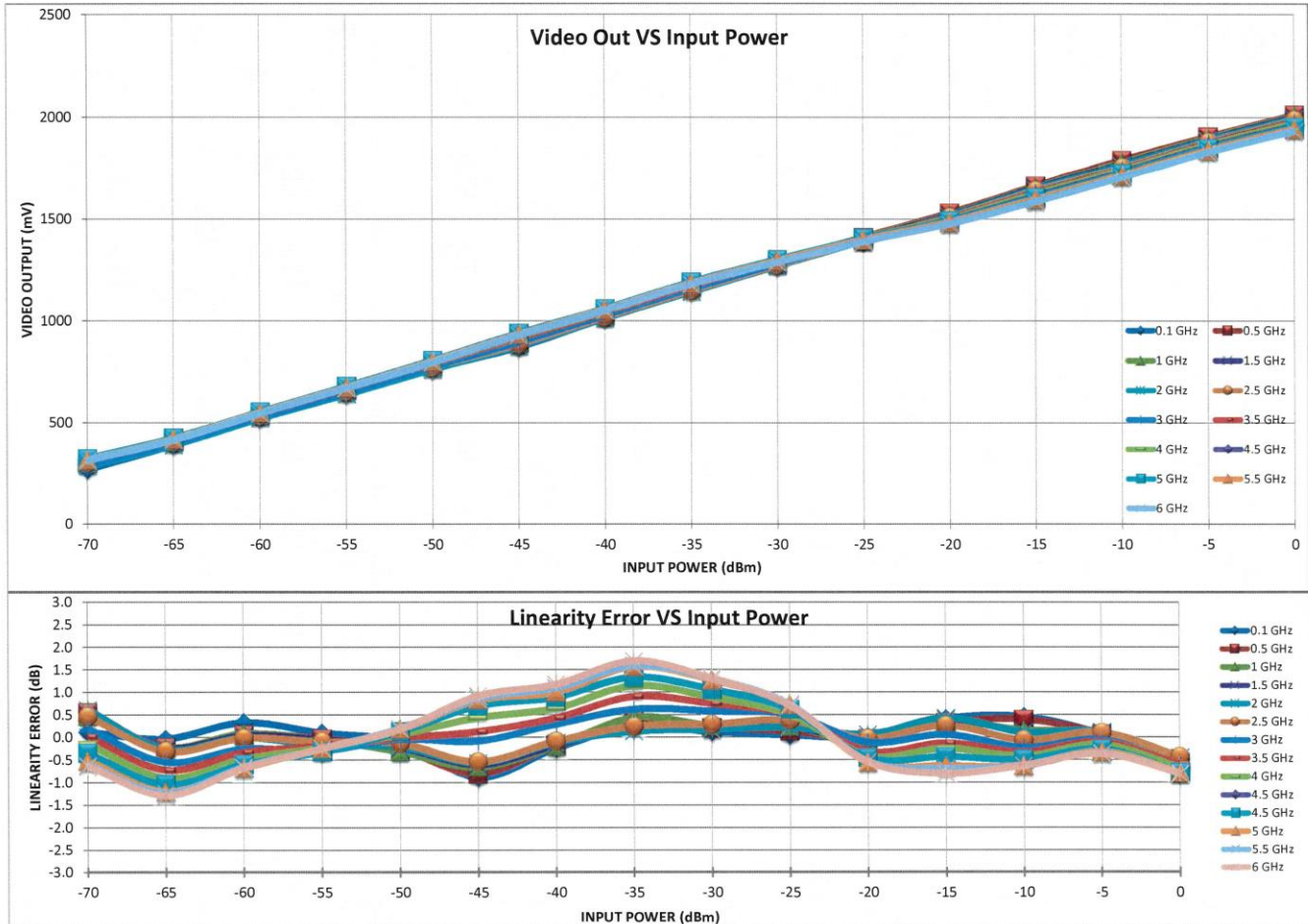
Frequency		-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
0.1 GHz	INTERCEPT (mV)	2026															Measured Value (mV)
	SLOPE (mV/dB)	25.2															Error (mV)
		267	389	524	644	765	871	1013	1151	1274	1398	1523	1659	1786	1902	2011	LINEARITY ERROR (dB)
		3	-1	8	2	-3	-22	-6	6	3	1	0	10	11	2	-15	
		0.12	-0.04	0.33	0.09	-0.10	-0.89	-0.25	0.23	0.12	0.04	0.01	0.41	0.46	0.06	-0.61	
0.5 GHz	INTERCEPT (mV)	2026															Measured Value (mV)
	SLOPE (mV/dB)	24.8															Error (mV)
		302	407	538	660	778	889	1029	1167	1287	1409	1529	1662	1788	1904	2012	LINEARITY ERROR (dB)
		14	-6	1	-1	-7	-20	-4	10	5	3	-1	8	10	2	-14	
		0.55	-0.22	0.05	-0.03	-0.28	-0.81	-0.17	0.39	0.22	0.13	-0.03	0.32	0.40	0.07	-0.58	
1 GHz	INTERCEPT (mV)	2018															Measured Value (mV)
	SLOPE (mV/dB)	24.7															Error (mV)
		302	408	539	659	776	891	1026	1165	1284	1407	1521	1656	1775	1897	2006	LINEARITY ERROR (dB)
		12	-6	2	-1	-8	-16	-5	11	6	6	-3	8	4	2	-12	
		0.48	-0.23	0.08	-0.06	-0.32	-0.66	-0.19	0.44	0.26	0.24	-0.14	0.33	0.15	0.10	-0.49	
1.5 GHz	INTERCEPT (mV)	2012															Measured Value (mV)
	SLOPE (mV/dB)	24.7															Error (mV)
		298	403	533	654	773	887	1021	1155	1276	1401	1517	1652	1768	1891	2001	LINEARITY ERROR (dB)
		13	-6	1	-1	-6	-15	-4	6	4	6	-2	10	3	2	-11	
		0.51	-0.23	0.04	-0.06	-0.23	-0.61	-0.18	0.26	0.16	0.23	-0.07	0.41	0.11	0.10	-0.44	
2 GHz	INTERCEPT (mV)	2006															Measured Value (mV)
	SLOPE (mV/dB)	24.8															Error (mV)
		287	389	519	639	762	877	1012	1142	1267	1392	1512	1645	1761	1885	1993	LINEARITY ERROR (dB)
		15	-7	0	-4	-5	-14	-5	11	6	4	5	2	11	3	-13	
		0.62	-0.26	-0.02	-0.17	-0.21	-0.57	-0.12	0.13	0.17	0.22	0.06	0.43	0.11	0.12	-0.52	
2.5 GHz	INTERCEPT (mV)	1996															Measured Value (mV)
	SLOPE (mV/dB)	24.4															Error (mV)
		301	404	533	653	774	886	1019	1149	1272	1396	1508	1637	1751	1877	1986	LINEARITY ERROR (dB)
		11	-8	-1	-2	-3	-13	-2	6	7	9	-1	6	-2	2	-10	
		0.46	-0.31	-0.02	-0.10	-0.14	-0.54	-0.09	0.24	0.29	0.37	-0.03	0.26	-0.07	0.10	-0.43	
3 GHz	INTERCEPT (mV)	1994															Measured Value (mV)
	SLOPE (mV/dB)	24.4															Error (mV)
		292	396	525	646	774	895	1026	1156	1277	1397	1504	1630	1745	1871	1979	LINEARITY ERROR (dB)
		5	-13	-6	-7	-1	-2	-7	15	14	12	-3	1	-6	-1	-15	
		0.19	-0.55	-0.26	-0.29	-0.04	-0.08	0.29	0.62	0.58	0.50	-0.11	0.06	-0.23	-0.06	-0.63	
3.5 GHz	INTERCEPT (mV)	1990															Measured Value (mV)
	SLOPE (mV/dB)	23.9															Error (mV)
		315	417	546	669	793	916	1043	1174	1290	1404	1504	1628	1743	1868	1976	LINEARITY ERROR (dB)
		0	-17	-8	-5	0	3	10	22	18	12	-7	-3	-8	-2	-14	
		0.01	-0.72	-0.33	-0.20	-0.02	0.12	0.43	0.90	0.75	0.51	-0.31	-0.13	-0.33	-0.10	-0.59	
4 GHz	INTERCEPT (mV)	1986															Measured Value (mV)
	SLOPE (mV/dB)	23.8															Error (mV)
		316	417	546	671	797	925	1049	1180	1293	1403	1500	1623	1738	1863	1970	LINEARITY ERROR (dB)
		-3	-21	-12	-6	1	10	15	27	21	12	-10	-6	-10	-4	-16	
		-0.15	-0.90	-0.48	-0.23	0.06	0.43	0.84	1.15	0.89	0.51	-0.41	-0.25	-0.42	-0.17	-0.67	
4.5 GHz	INTERCEPT (mV)	1978															Measured Value (mV)
	SLOPE (mV/dB)	23.7															Error (mV)
		311	413	542	667	796	928	1051	1180	1292	1400	1493	1612	1729	1853	1959	LINEARITY ERROR (dB)
		-8	-25	-14	-8	3	17	21	32	25	15	-11	-10	-12	-6	-19	
		-0.35	-1.04	-0.60	-0.32	0.12	0.70	0.89	1.33	1.06	0.62	-0.45	-0.43	-0.49	-0.26	-0.78	
5 GHz	INTERCEPT (mV)	1970															Measured Value (mV)
	SLOPE (mV/dB)	23.4															Error (mV)
		322	423	552	679	806	938	1059	1189	1299	1403	1490	1605	1722	1846	1952	LINEARITY ERROR (dB)
		-12	-28	-16	-6	4	19	24	37	30	17	-13	-15	-15	-8	-18	
		-0.52	-1.20	-0.68	-0.25	0.18	0.83	1.01	1.57	1.27	0.72	-0.55	-0.63	-0.63	-0.32	-0.79	
5.5 GHz	INTERCEPT (mV)	1962															Measured Value (mV)
	SLOPE (mV/dB)	23.3															Error (mV)
		316	418	548	674	801	933	1055	1183	1293	1396	1483	1596	1714	1837	1943	LINEARITY ERROR (dB)
		-14	-29	-15	-6	5	20	26	37	30	17	-13	-16	-15	-8	-19	
		-0.61	-1.23	-0.66	-0.25	0.20	0.86	1.10	1.59	1.31	0.73	-0.54	-0.69	-0.63	-0.35	-0.81	
6 GHz	INTERCEPT (mV)	1951															Measured Value (mV)
	SLOPE (mV/dB)	23.2															Error (mV)
		313	414	544	670	796	929	1051	1179	1286	1388	1475	1585	1705	1827	1933	LINEARITY ERROR (dB)
		-15	-30	-16	-6	4	21	27	39	30	16	-13	-19	-15	-8	-18	
		-0.64	-1.29	-0.68	-0.25	0.18	0.92	1.18	1.70	1.31	0.71	-0.54	-0.80	-0.63	-0.37	-0.80	
Average Slope	24.2																
Flatness ± dB																	
Average Offset	303.2																
		1.1	0.7	0.7	0.8	0.9	1.4	1	1	0.7	0.4	1.1	1.6	1.7	1.6	1.6	
		267	389	519	639	762	871	1012	1142	1267	1388	1475	1585	1705	1827	1933	
		322	423	552	679	806	938	1059	1189	1299	1409	1529	1662	1788	1904	2012	

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TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (2D-Plots) @ -20°C

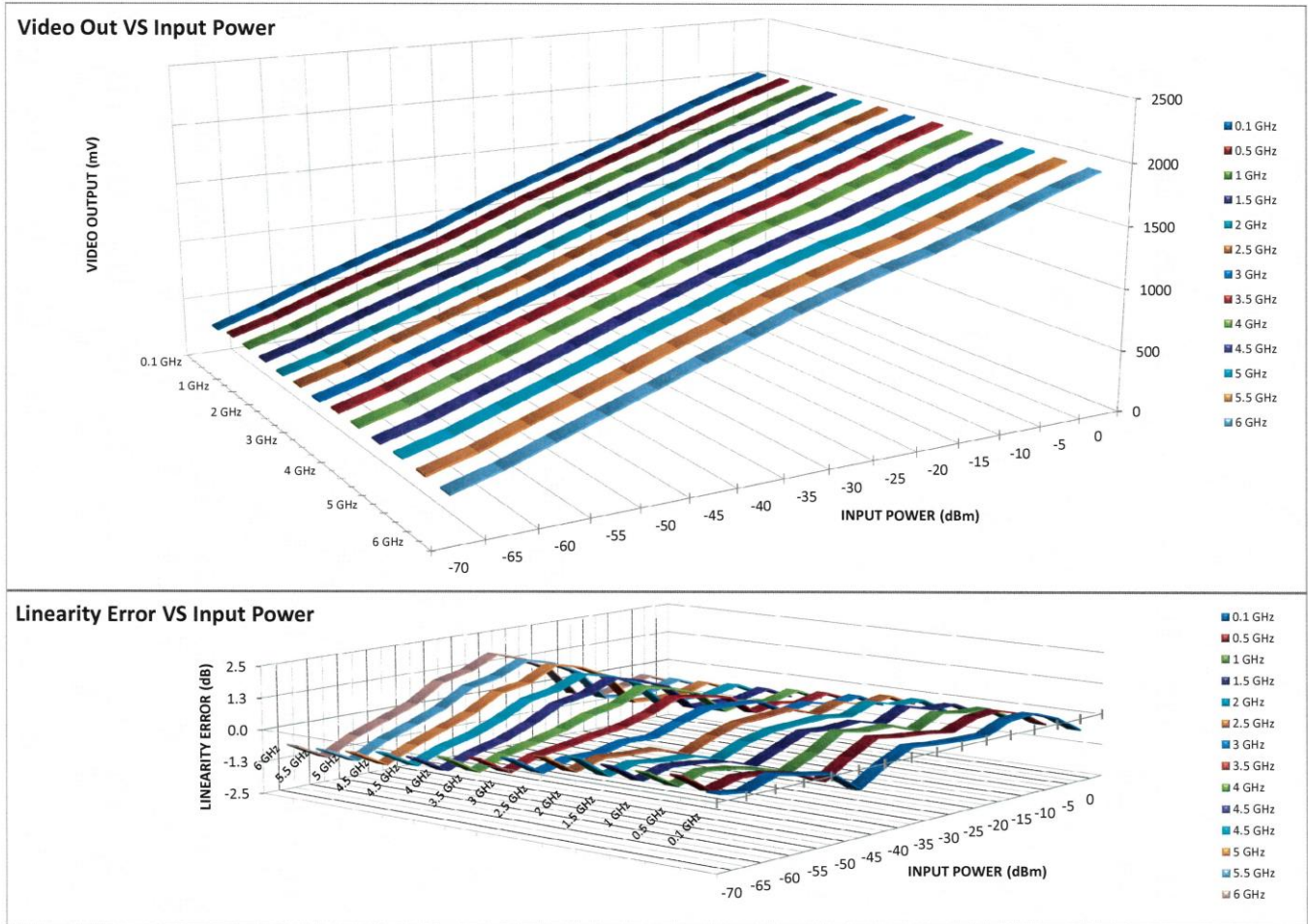


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TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (3D Data) @ -20°C



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SDLVA-100M4G-CD-2 (Tabulated Data) @ +25°C

LOG TRANSFER VS FREQUENCY
MODEL: SDLVA-100M4G-CD-2
TESTED BY: E.Benson
SERIAL No.: PL13732
TEST: 8/22/2013
TEST TEMP: +25C

Thursday, August 22, 2013
11:23 AM



PLANAR MONOLITHICS INDUSTRIES
7311-F GROVE ROAD, FREDERICK, MD 21704
USA
TEL: 301-662-5019 FAX: 301-662-1731
URL: WWW.PMI-RF.COM

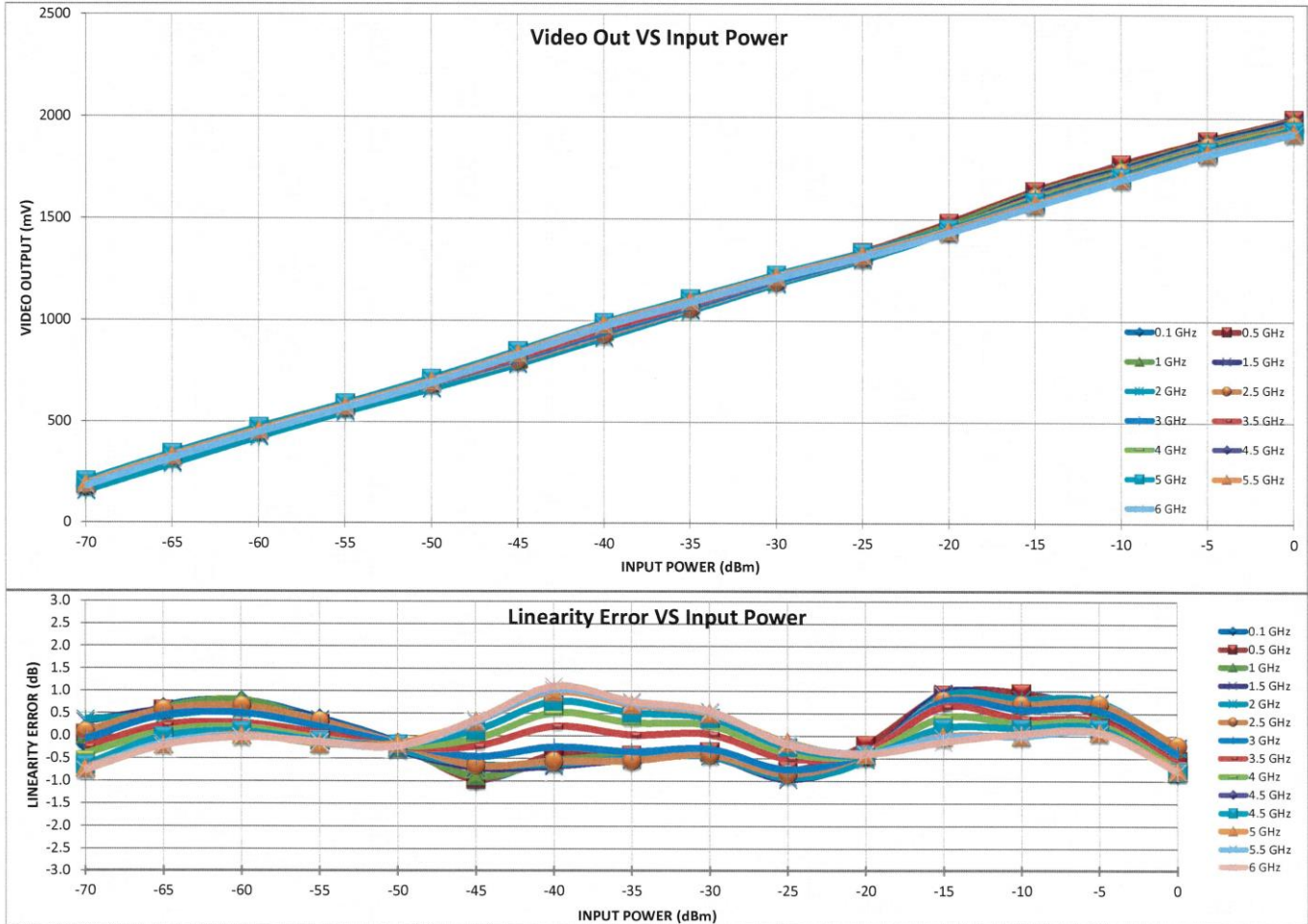
Frequency		-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
0.1 GHz	INTERCEPT (mV)	230	371	506	626	747	853	996	1129	1257	1379	1516	1661	1790	1906	2013	Measured Value (mV)
	SLOPE (mV/dB)	-5	8	15	6	-1	-23	-8	-3	-3	-9	0	17	17	5	-16	Error (mV)
		-0.20	0.30	0.57	0.25	-0.03	-0.89	-0.31	-0.12	-0.12	-0.36	-0.01	0.65	0.68	0.21	-0.62	LINEARITY ERROR (dB)
0.5 GHz	INTERCEPT (mV)	263	383	516	636	758	867	1011	1144	1268	1389	1522	1664	1791	1907	2014	Measured Value (mV)
	SLOPE (mV/dB)	8	1	7	1	-4	-22	-4	2	-1	-7	0	15	15	4	-15	Error (mV)
		0.31	0.04	0.29	0.03	-0.16	-0.86	-0.18	0.07	-0.04	-0.26	-0.01	0.59	0.60	0.18	-0.60	LINEARITY ERROR (dB)
1 GHz	INTERCEPT (mV)	273	394	528	645	761	870	1008	1142	1265	1387	1512	1656	1777	1900	2007	Measured Value (mV)
	SLOPE (mV/dB)	7	2	11	3	-6	-22	-9	0	-2	-5	-5	14	10	8	-10	Error (mV)
		0.26	0.10	0.46	0.14	-0.22	-0.86	-0.35	0.01	-0.07	-0.19	-0.19	0.57	0.41	0.33	-0.39	LINEARITY ERROR (dB)
1.5 GHz	INTERCEPT (mV)	237	363	494	614	736	853	990	1119	1247	1369	1503	1650	1769	1894	2003	Measured Value (mV)
	SLOPE (mV/dB)	6	4	8	1	-5	-15	-5	-4	-3	-8	-2	18	10	7	-11	Error (mV)
		0.22	0.17	0.31	0.03	-0.18	-0.59	-0.21	-0.15	-0.12	-0.33	-0.07	0.70	0.37	0.28	-0.44	LINEARITY ERROR (dB)
2 GHz	INTERCEPT (mV)	246	367	496	616	738	851	986	1112	1242	1363	1496	1640	1759	1885	1993	Measured Value (mV)
	SLOPE (mV/dB)	9	4	9	1	-3	-16	-7	-7	-4	-9	-2	16	9	9	-9	Error (mV)
		0.35	0.15	0.35	0.03	-0.13	-0.65	-0.29	-0.30	-0.14	-0.34	-0.06	0.65	0.37	0.37	-0.35	LINEARITY ERROR (dB)
2.5 GHz	INTERCEPT (mV)	269	387	517	634	756	864	999	1123	1251	1372	1498	1636	1753	1879	1986	Measured Value (mV)
	SLOPE (mV/dB)	7	1	8	1	-2	-17	-5	-5	-1	-4	-2	13	6	9	-9	Error (mV)
		0.29	0.06	0.31	0.04	-0.08	-0.67	-0.22	-0.21	-0.04	-0.15	-0.06	0.51	0.24	0.33	-0.35	LINEARITY ERROR (dB)
3 GHz	INTERCEPT (mV)	251	373	503	622	748	868	1003	1127	1252	1371	1495	1632	1749	1875	1980	Measured Value (mV)
	SLOPE (mV/dB)	0	-3	3	-3	-2	-8	4	4	4	-1	-2	10	3	4	-15	Error (mV)
		-0.01	-0.11	0.10	-0.12	-0.06	-0.25	0.17	0.15	0.17	-0.06	-0.08	0.42	0.11	0.17	-0.61	LINEARITY ERROR (dB)
3.5 GHz	INTERCEPT (mV)	269	387	518	638	764	886	1020	1144	1265	1380	1498	1632	1748	1873	1978	Measured Value (mV)
	SLOPE (mV/dB)	-3	-8	0	-3	0	-1	10	11	9	1	-4	7	0	2	-16	Error (mV)
		-0.14	-0.34	-0.01	-0.14	-0.01	-0.05	0.39	0.43	0.35	0.03	-0.18	0.27	-0.01	0.07	-0.66	LINEARITY ERROR (dB)
4 GHz	INTERCEPT (mV)	276	393	524	644	772	899	1030	1155	1272	1384	1496	1627	1744	1869	1973	Measured Value (mV)
	SLOPE (mV/dB)	-7	-12	-3	-5	1	6	15	18	13	3	-7	2	-3	0	-18	Error (mV)
		-0.30	-0.51	-0.14	-0.22	0.03	0.24	0.61	0.73	0.53	0.12	-0.29	0.08	-0.12	0.00	-0.74	LINEARITY ERROR (dB)
4.5 GHz	INTERCEPT (mV)	275	393	524	645	774	905	1034	1159	1274	1383	1490	1616	1735	1859	1962	Measured Value (mV)
	SLOPE (mV/dB)	-13	-16	-6	-6	2	12	20	24	18	6	-8	-3	-5	-2	-20	Error (mV)
		-0.54	-0.66	-0.25	-0.25	0.08	0.49	0.82	0.98	0.73	0.24	-0.34	-0.14	-0.22	-0.10	-0.84	LINEARITY ERROR (dB)
5 GHz	INTERCEPT (mV)	285	401	533	654	782	915	1042	1167	1279	1386	1487	1609	1728	1852	1956	Measured Value (mV)
	SLOPE (mV/dB)	-16	-20	-7	-6	2	16	23	29	21	8	-10	-8	-8	-4	-20	Error (mV)
		-0.67	-0.82	-0.31	-0.25	0.10	0.66	0.97	1.20	0.88	0.35	-0.43	-0.33	-0.35	-0.17	-0.82	LINEARITY ERROR (dB)
5.5 GHz	INTERCEPT (mV)	275	393	525	646	774	908	1036	1159	1271	1377	1480	1599	1719	1843	1947	Measured Value (mV)
	SLOPE (mV/dB)	-18	-20	-7	-6	3	17	25	29	21	8	-9	-9	-9	-4	-20	Error (mV)
		-0.76	-0.83	-0.31	-0.25	0.11	0.71	1.06	1.21	0.89	0.32	-0.37	-0.39	-0.37	-0.19	-0.84	LINEARITY ERROR (dB)
6 GHz	INTERCEPT (mV)	267	387	518	640	768	901	1032	1152	1263	1368	1472	1588	1710	1833	1938	Measured Value (mV)
	SLOPE (mV/dB)	-20	-20	-8	-5	3	17	29	30	21	7	-8	-12	-9	-5	-20	Error (mV)
		-0.86	-0.83	-0.34	-0.22	0.14	0.72	1.21	1.24	0.89	0.29	-0.35	-0.49	-0.37	-0.22	-0.82	LINEARITY ERROR (dB)
Average Slope		1.1	0.8	0.8	0.8	0.9	1.3	1.1	1.1	0.7	0.5	1	1.5	1.6	1.5	1.5	
Flatness ± dB		230	363	494	614	736	851	986	1112	1242	1363	1472	1588	1710	1833	1938	
Average Offset		285	401	533	654	782	915	1042	1167	1279	1389	1522	1664	1791	1907	2014	

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TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (2D-Plots) @ +25°C

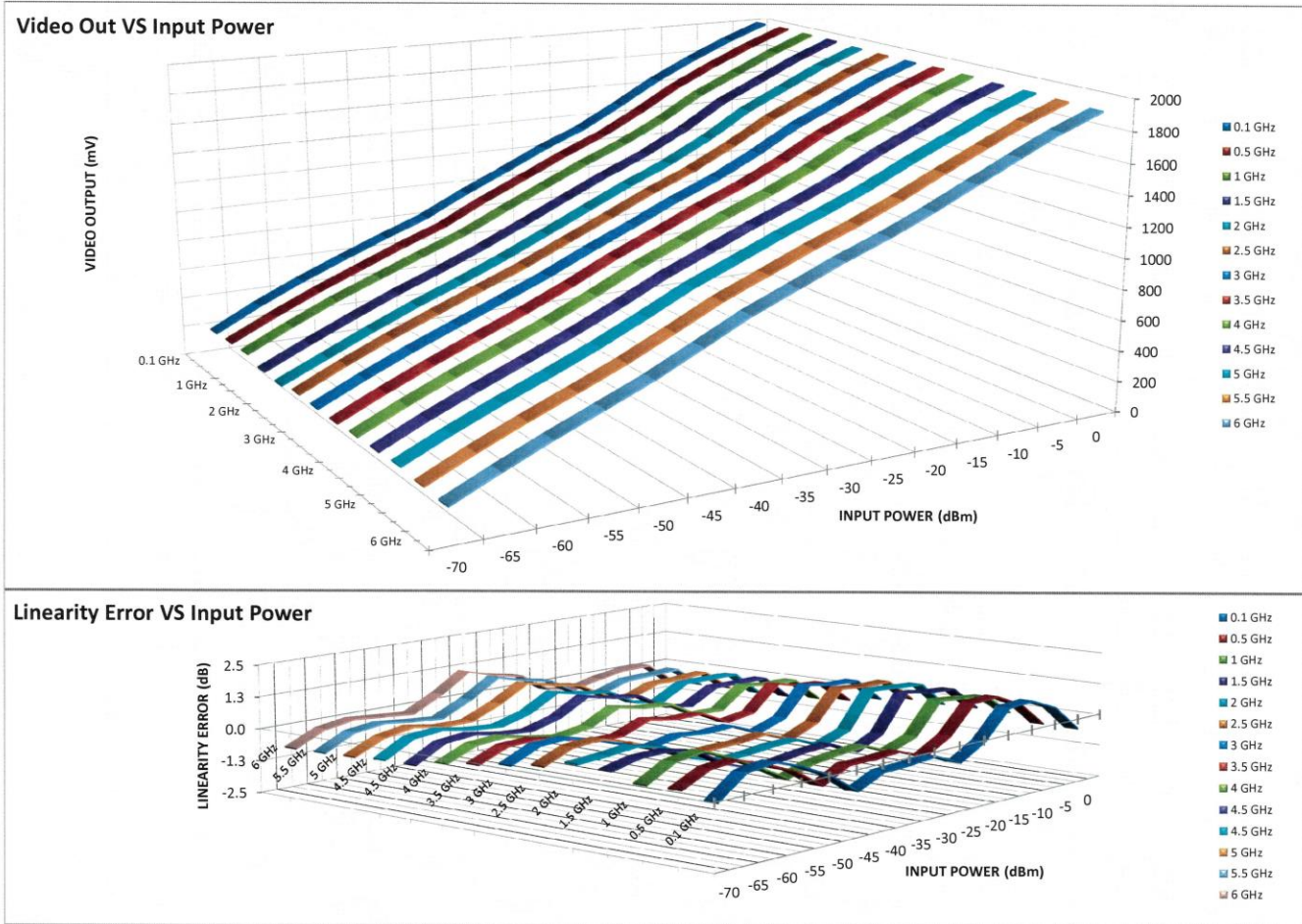


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SDLVA-100M4G -CD-2 (3D Data) @ +25°C



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TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (Tabulated Data) @ +50°C

LOG TRANSFER VS FREQUENCY
 MODEL: SDLVA-100M4G-CD-2
 TESTED BY: E.Benson
 SERIAL No. : PL13732
 TEST : 8/22/2013
 TEST TEMP: +50C

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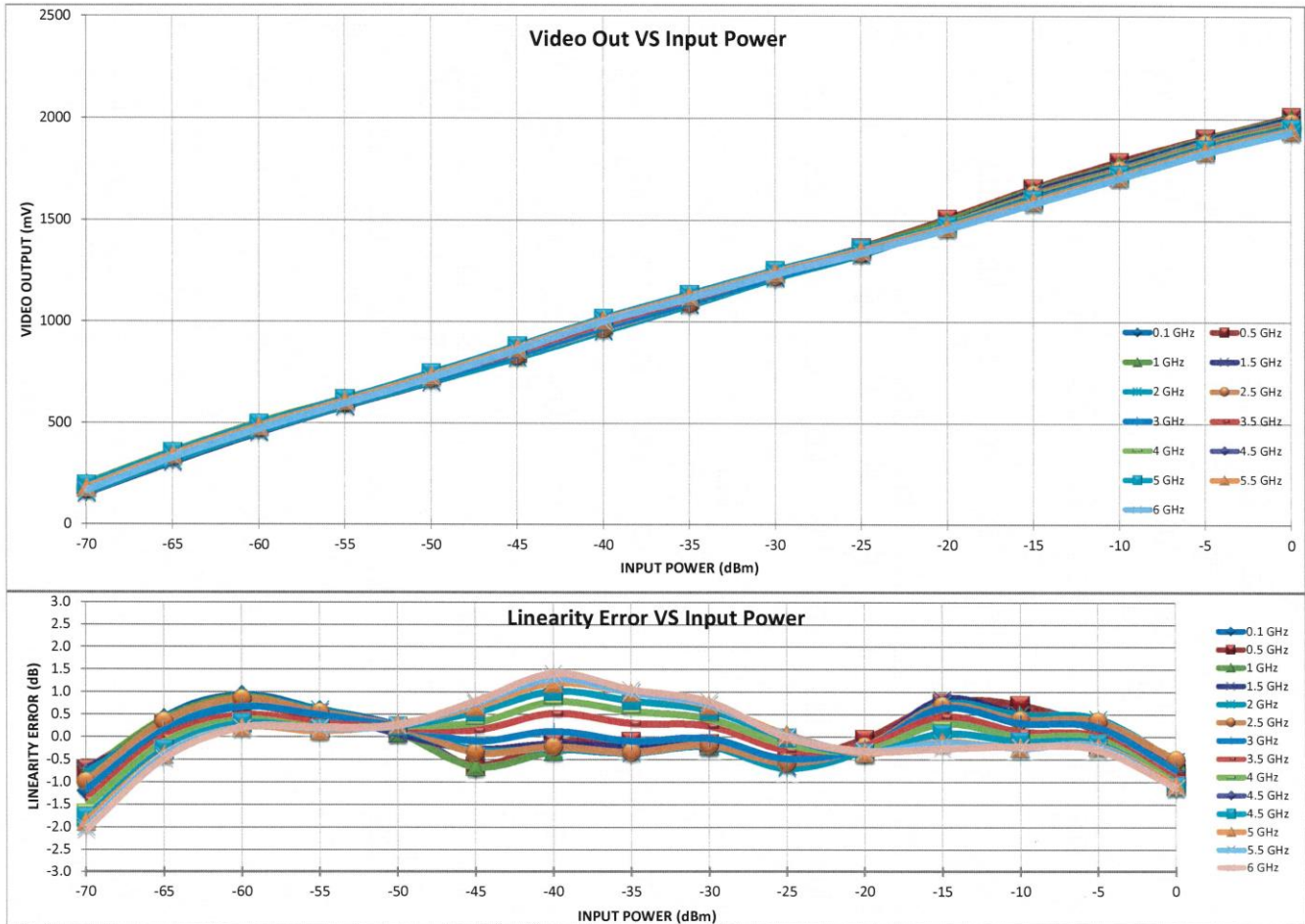
Frequency		-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
0.1 GHz	INTERCEPT (mV)	2030															Measured Value (mV)
	SLOPE (mV/dB)	26.1															Error (mV)
																	LINEARITY ERROR (dB)
0.5 GHz	INTERCEPT (mV)	2031															Measured Value (mV)
	SLOPE (mV/dB)	26															Error (mV)
																	LINEARITY ERROR (dB)
1 GHz	INTERCEPT (mV)	2017															Measured Value (mV)
	SLOPE (mV/dB)	25.7															Error (mV)
																	LINEARITY ERROR (dB)
1.5 GHz	INTERCEPT (mV)	2015															Measured Value (mV)
	SLOPE (mV/dB)	26.4															Error (mV)
																	LINEARITY ERROR (dB)
2 GHz	INTERCEPT (mV)	2001															Measured Value (mV)
	SLOPE (mV/dB)	26.1															Error (mV)
																	LINEARITY ERROR (dB)
2.5 GHz	INTERCEPT (mV)	1994															Measured Value (mV)
	SLOPE (mV/dB)	25.6															Error (mV)
																	LINEARITY ERROR (dB)
3 GHz	INTERCEPT (mV)	1994															Measured Value (mV)
	SLOPE (mV/dB)	25.7															Error (mV)
																	LINEARITY ERROR (dB)
3.5 GHz	INTERCEPT (mV)	1996															Measured Value (mV)
	SLOPE (mV/dB)	25.5															Error (mV)
																	LINEARITY ERROR (dB)
4 GHz	INTERCEPT (mV)	1993															Measured Value (mV)
	SLOPE (mV/dB)	25.2															Error (mV)
																	LINEARITY ERROR (dB)
4.5 GHz	INTERCEPT (mV)	1985															Measured Value (mV)
	SLOPE (mV/dB)	25.1															Error (mV)
																	LINEARITY ERROR (dB)
5 GHz	INTERCEPT (mV)	1979															Measured Value (mV)
	SLOPE (mV/dB)	24.8															Error (mV)
																	LINEARITY ERROR (dB)
5.5 GHz	INTERCEPT (mV)	1971															Measured Value (mV)
	SLOPE (mV/dB)	24.9															Error (mV)
																	LINEARITY ERROR (dB)
6 GHz	INTERCEPT (mV)	1963															Measured Value (mV)
	SLOPE (mV/dB)	24.9															Error (mV)
																	LINEARITY ERROR (dB)
Average Slope		25.5															
Flatness ± dB			1	1.1	1	0.8	0.9	1.1	1.3	1.1	0.8	0.7	1	1.5	1.6	1.4	1.5
Average Offset		176.5	150	304	451	579	698	820	951	1079	1213	1331	1456	1582	1708	1831	1935
			200	359	500	619	745	879	1016	1135	1252	1367	1509	1660	1789	1904	2010

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TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (2D-Plots) @ +50°C

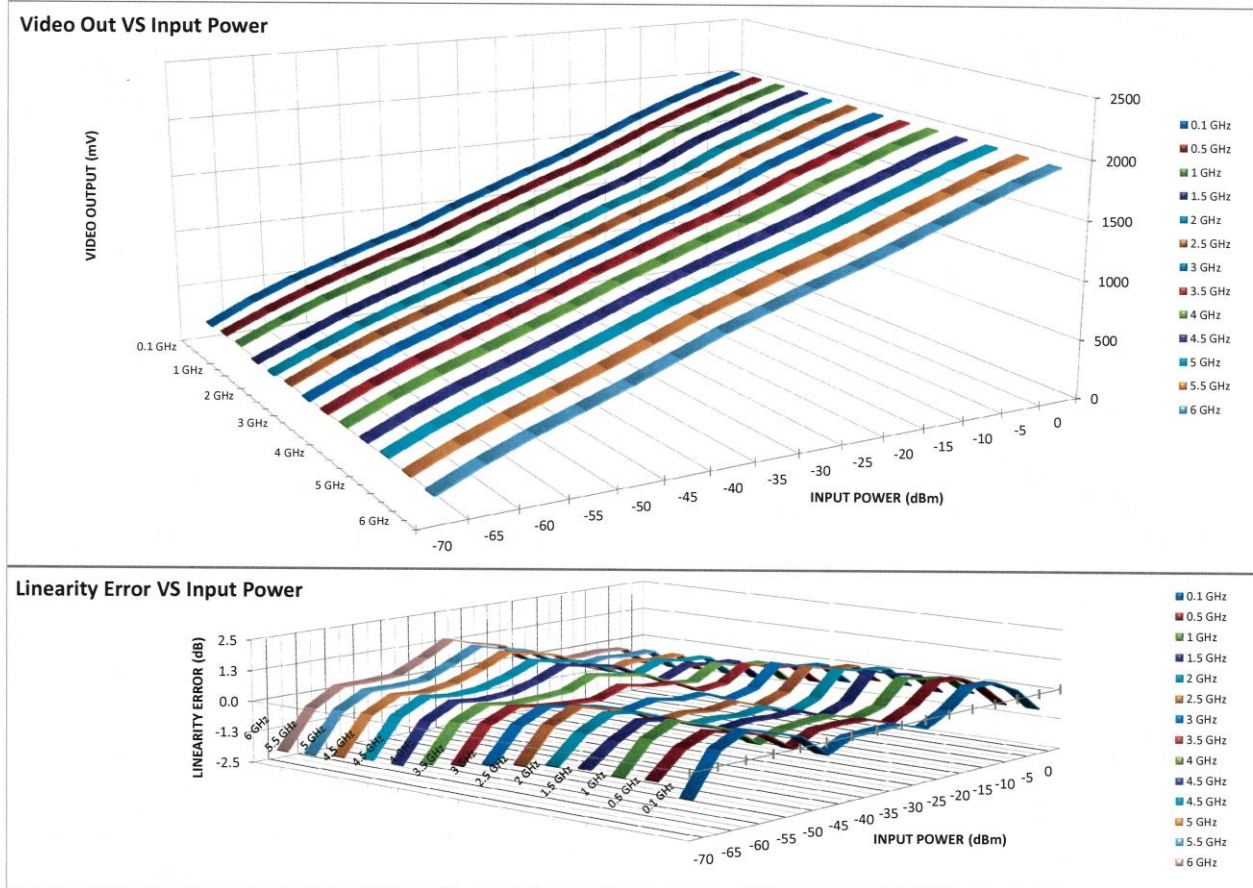


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TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (3D Data) @ +50°C



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TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (Tabulated Data) @ +75°C

LOG TRANSFER VS FREQUENCY
MODEL: SDLVA-100M4G-CD-2
TESTED BY: E.Benson
SERIAL No.: PL13732
TEST: 8/22/2013
TEST TEMP: +75C

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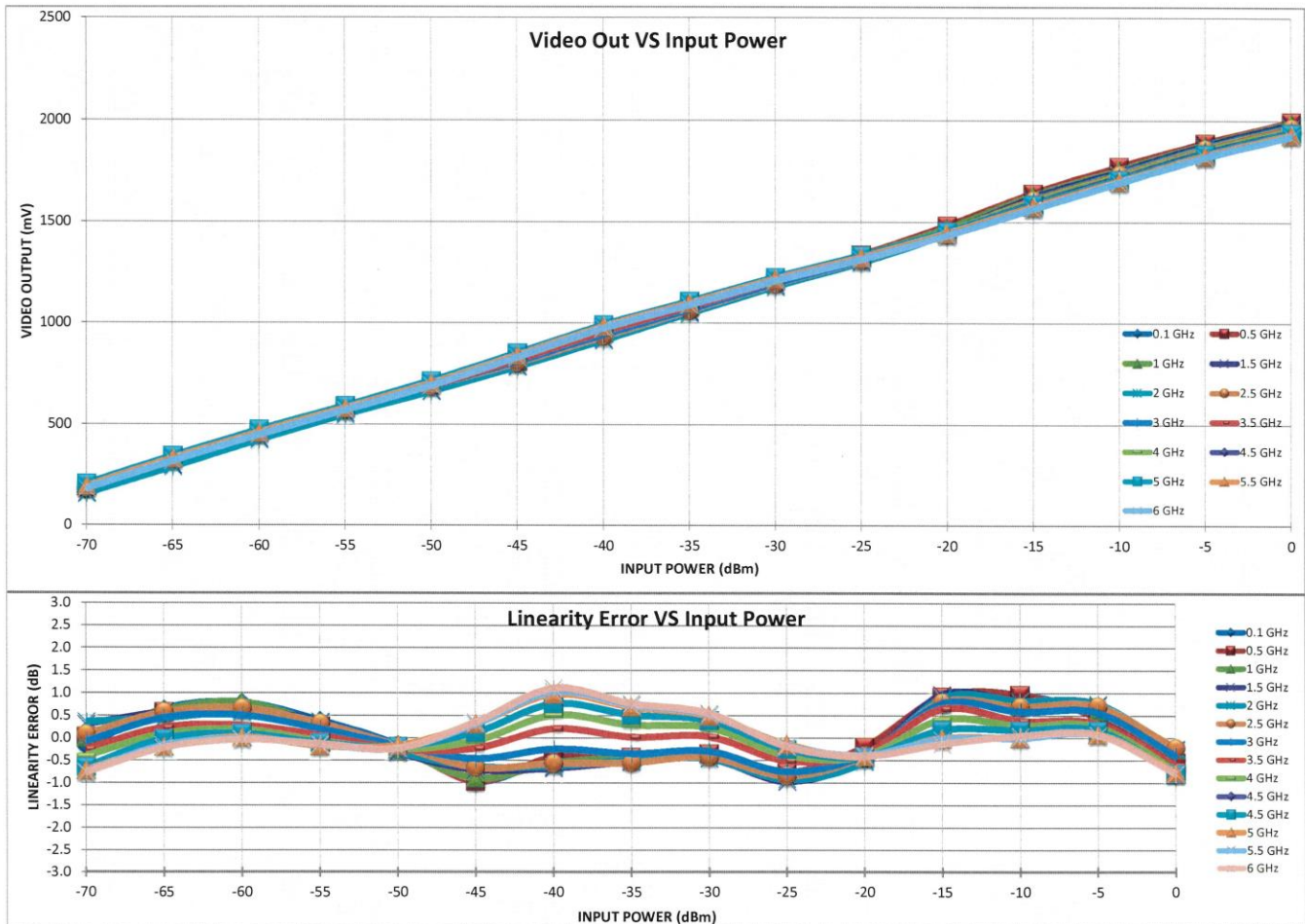
Frequency			-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
0.1 GHz	INTERCEPT (mV)	2006	178	330	464	584	700	809	952	1083	1216	1334	1480	1639	1771	1889	1992	Measured Value (mV)
	SLOPE (mV/dB)	26.0	-5	17	20	10	-4	-25	-13	-12	-9	-21	-5	23	25	13	-14	Error (mV)
			-0.20	0.64	0.78	0.39	-0.16	-0.97	-0.48	-0.45	-0.34	-0.81	-0.21	0.90	0.97	0.50	-0.55	LINEARITY ERROR (dB)
0.5 GHz	INTERCEPT (mV)	2007	188	332	464	584	702	812	956	1086	1218	1337	1482	1641	1772	1889	1993	Measured Value (mV)
	SLOPE (mV/dB)	26.0	1	15	17	7	-5	-25	-11	-11	-9	-20	-5	24	25	12	-14	Error (mV)
			0.03	0.57	0.65	0.27	-0.20	-0.97	-0.43	-0.43	-0.35	-0.77	-0.19	0.92	0.96	0.46	-0.54	LINEARITY ERROR (dB)
1 GHz	INTERCEPT (mV)	1993	195	339	472	588	702	814	951	1083	1214	1331	1469	1629	1755	1880	1987	Measured Value (mV)
	SLOPE (mV/dB)	25.7	0	16	20	8	-7	-23	-14	-11	-8	-20	-10	21	19	15	-6	Error (mV)
			0.01	0.61	0.79	0.31	-0.26	-0.90	-0.56	-0.43	-0.33	-0.77	-0.40	0.83	0.73	0.60	-0.24	LINEARITY ERROR (dB)
1.5 GHz	INTERCEPT (mV)	1988	160	298	430	555	668	789	921	1056	1189	1307	1451	1620	1747	1876	1982	Measured Value (mV)
	SLOPE (mV/dB)	26.2	8	15	16	10	-9	-19	-18	-14	-12	-25	-12	25	21	19	-6	Error (mV)
			0.31	0.57	0.60	0.37	-0.32	-0.71	-0.68	-0.53	-0.46	-0.96	-0.47	0.97	0.81	0.73	-0.23	LINEARITY ERROR (dB)
2 GHz	INTERCEPT (mV)	1977	155	288	422	547	661	783	914	1048	1180	1299	1440	1608	1737	1866	1970	Measured Value (mV)
	SLOPE (mV/dB)	26.2	9	12	15	9	-8	-17	-16	-13	-12	-24	-14	24	22	20	-7	Error (mV)
			0.36	0.45	0.57	0.35	-0.30	-0.63	-0.63	-0.50	-0.46	-0.91	-0.52	0.90	0.83	0.76	-0.26	LINEARITY ERROR (dB)
2.5 GHz	INTERCEPT (mV)	1968	184	324	454	573	688	803	933	1061	1192	1309	1448	1606	1731	1859	1963	Measured Value (mV)
	SLOPE (mV/dB)	25.5	2	14	17	8	-4	-17	-15	-14	-11	-21	-10	20	18	18	-5	Error (mV)
			0.08	0.57	0.66	0.32	-0.17	-0.67	-0.57	-0.56	-0.42	-0.84	-0.39	0.80	0.70	0.71	-0.21	LINEARITY ERROR (dB)
3 GHz	INTERCEPT (mV)	1968	180	321	450	570	688	808	941	1066	1195	1311	1448	1605	1728	1855	1958	Measured Value (mV)
	SLOPE (mV/dB)	25.5	-2	11	13	5	-4	-12	-6	-9	-8	-19	-10	20	15	15	-10	Error (mV)
			-0.08	0.45	0.51	0.21	-0.17	-0.46	-0.25	-0.35	-0.29	-0.75	-0.38	0.78	0.60	0.57	-0.39	LINEARITY ERROR (dB)
3.5 GHz	INTERCEPT (mV)	1974	179	319	448	570	690	818	957	1080	1208	1322	1454	1607	1728	1854	1958	Measured Value (mV)
	SLOPE (mV/dB)	25.5	-6	6	7	1	-6	-6	5	1	1	-13	-9	17	10	8	-16	Error (mV)
			-0.25	0.23	0.28	0.06	-0.25	-0.24	0.21	0.02	0.03	-0.51	-0.34	0.65	0.39	0.32	-0.61	LINEARITY ERROR (dB)
4 GHz	INTERCEPT (mV)	1971	190	329	458	578	700	831	972	1093	1218	1329	1455	1602	1725	1851	1953	Measured Value (mV)
	SLOPE (mV/dB)	25.3	-10	2	5	-2	-6	-2	13	7	6	-10	-10	11	7	7	-18	Error (mV)
			-0.41	0.09	0.19	-0.07	-0.24	-0.07	0.51	0.29	0.23	-0.38	-0.40	0.42	0.28	0.26	-0.71	LINEARITY ERROR (dB)
4.5 GHz	INTERCEPT (mV)	1962	194	335	463	583	706	839	980	1099	1221	1330	1451	1591	1716	1841	1942	Measured Value (mV)
	SLOPE (mV/dB)	25	-16	0	2	-3	-5	3	19	13	10	-6	-10	5	4	4	-20	Error (mV)
			-0.66	-0.02	0.10	-0.11	-0.19	0.12	0.76	0.52	0.39	-0.25	-0.41	0.18	0.18	0.17	-0.79	LINEARITY ERROR (dB)
5 GHz	INTERCEPT (mV)	1957	205	342	471	590	714	850	990	1107	1226	1334	1451	1585	1709	1835	1938	Measured Value (mV)
	SLOPE (mV/dB)	24.8	-18	-5	0	-4	-4	8	24	17	12	-3	-10	0	0	2	-19	Error (mV)
			-0.72	-0.19	0.02	-0.18	-0.17	0.32	0.97	0.69	0.50	-0.14	-0.42	-0.01	0.00	0.09	-0.75	LINEARITY ERROR (dB)
5.5 GHz	INTERCEPT (mV)	1948	190	329	457	578	700	838	980	1097	1216	1323	1442	1575	1700	1826	1929	Measured Value (mV)
	SLOPE (mV/dB)	24.9	-19	-4	0	-4	-6	8	26	18	13	-4	-9	-1	0	2	-19	Error (mV)
			-0.76	-0.17	-0.02	-0.15	-0.24	0.32	1.03	0.74	0.53	-0.17	-0.38	-0.03	0.00	0.07	-0.78	LINEARITY ERROR (dB)
6 GHz	INTERCEPT (mV)	1941	180	318	447	569	691	830	973	1089	1208	1314	1433	1564	1693	1818	1921	Measured Value (mV)
	SLOPE (mV/dB)	24.9	-19	-6	-1	-3	-6	9	28	19	14	-5	-10	-3	1	2	-20	Error (mV)
			-0.77	-0.22	-0.04	-0.13	-0.23	0.36	1.11	0.77	0.55	-0.19	-0.40	-0.14	0.05	0.07	-0.78	LINEARITY ERROR (dB)
	Average Slope	25.5																
	Flatness ± dB		1	1.1	1	0.8	1	1.3	1.5	1.2	0.9	0.7	1	1.5	1.5	1.4	1.4	
	Average Offset	182.9	155	288	422	547	661	783	914	1048	1180	1299	1433	1564	1693	1818	1921	
			205	342	472	590	714	850	990	1107	1226	1337	1482	1641	1772	1889	1993	

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TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (2D-Plots) @ +75°C



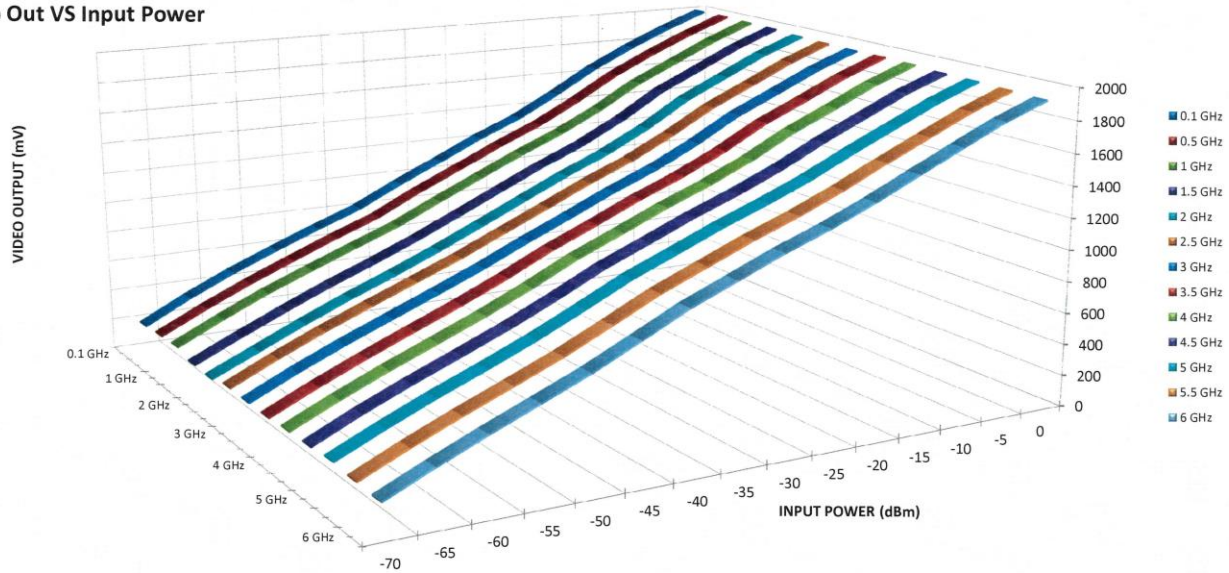
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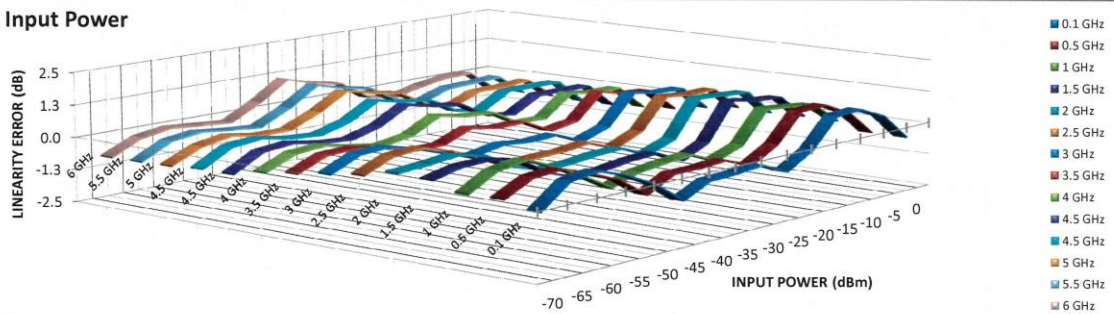
TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

SDLVA-100M4G-CD-2 (3D Data) @ +75°C

Video Out VS Input Power



Linearity Error VS Input Power

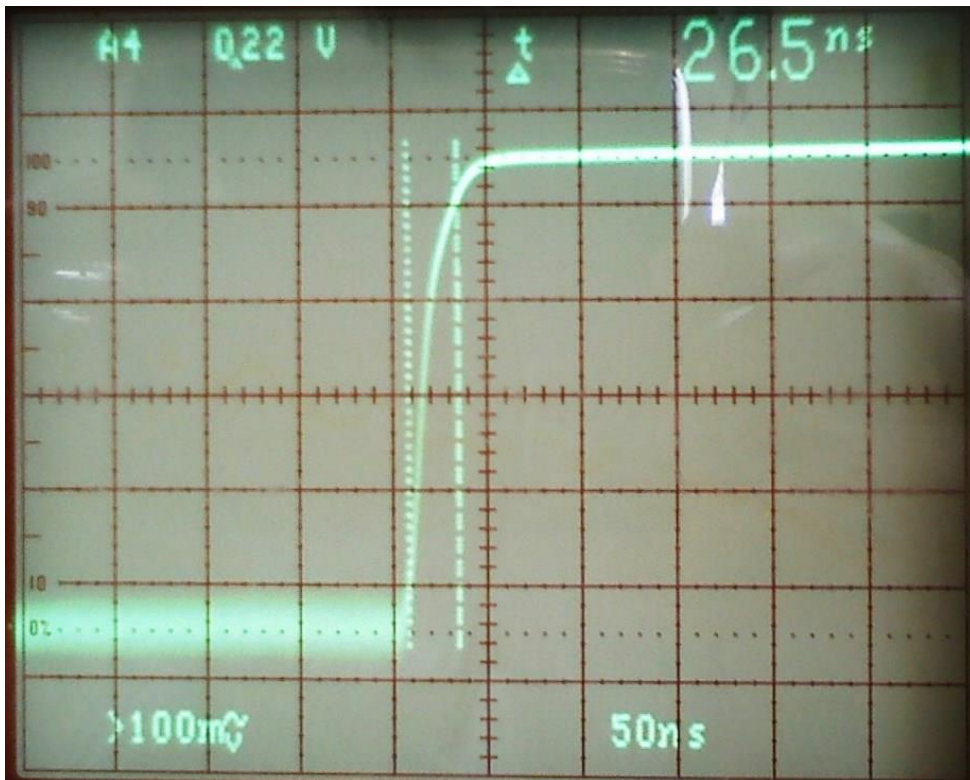


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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

Rise Time @0dBm, 3GHz & +25°C



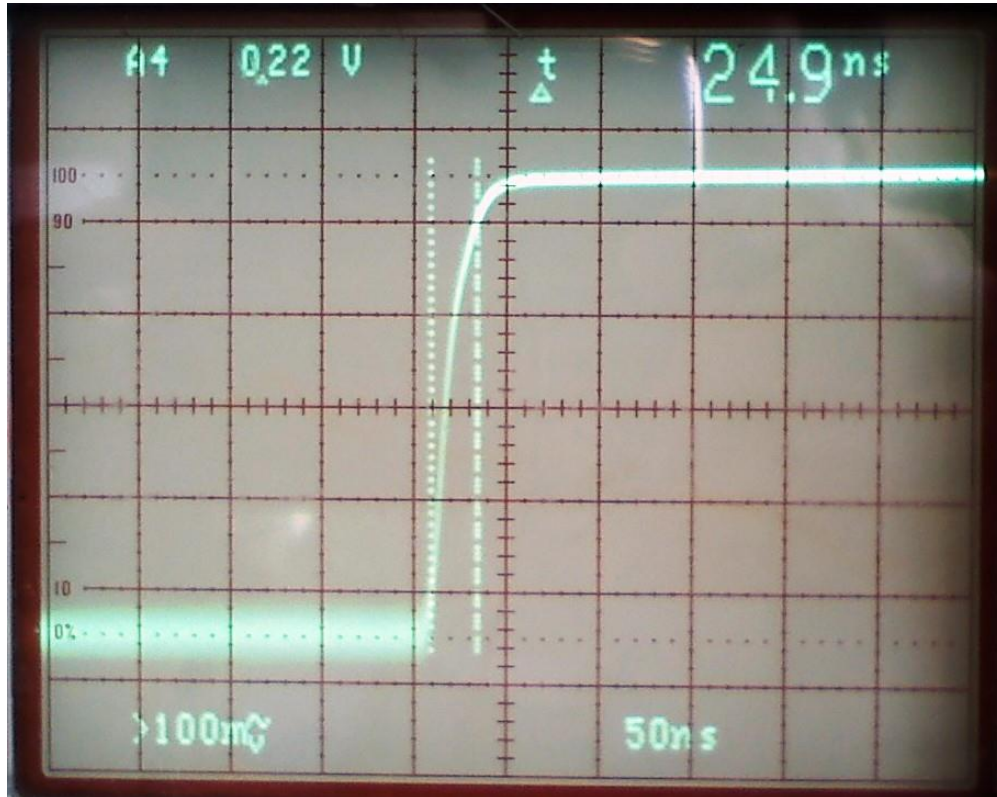
26.5ns Rise Time 10% – 90%

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

Rise Time @0dBm, 3GHz & -40°C



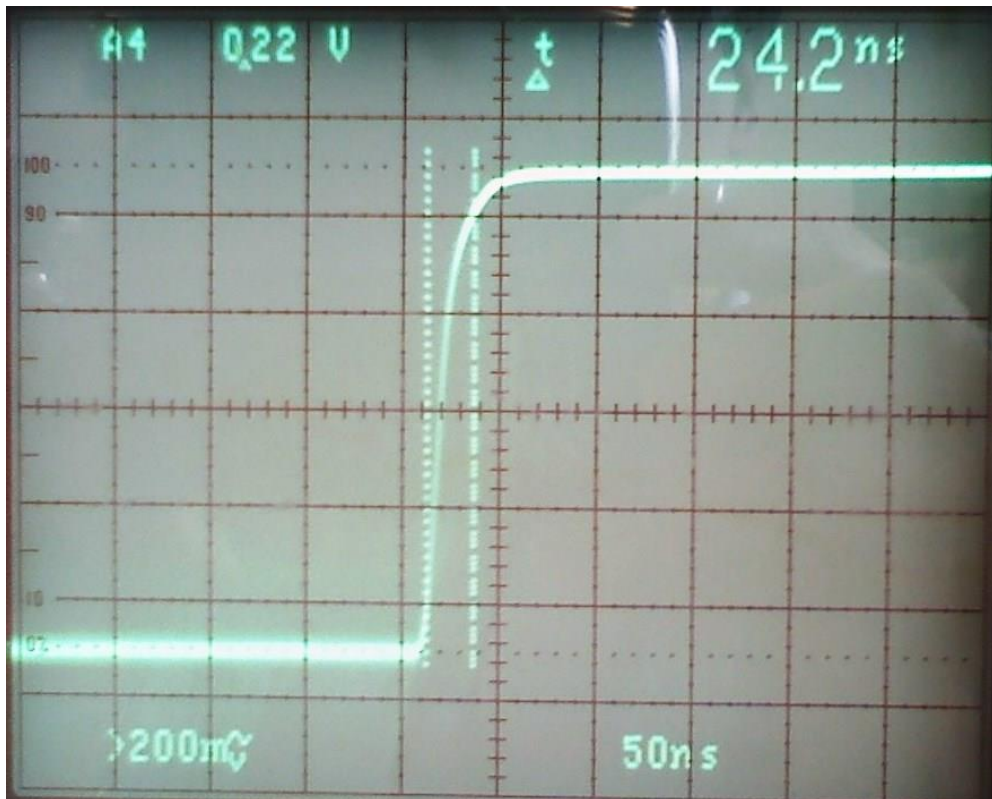
24.9ns Rise Time 10% – 90%

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

Rise Time @0dBm, 3GHz & +75°C



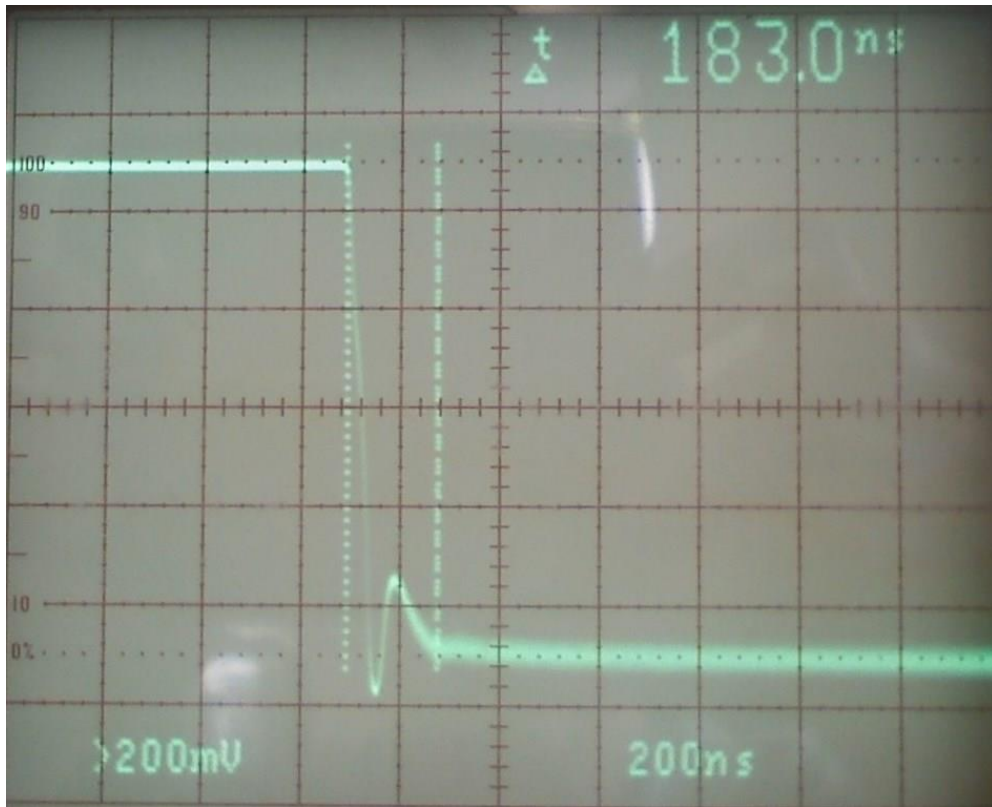
24.2ns Rise Time 10% – 90%

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

Recovery Time @0dBm, 3GHz & +25°C



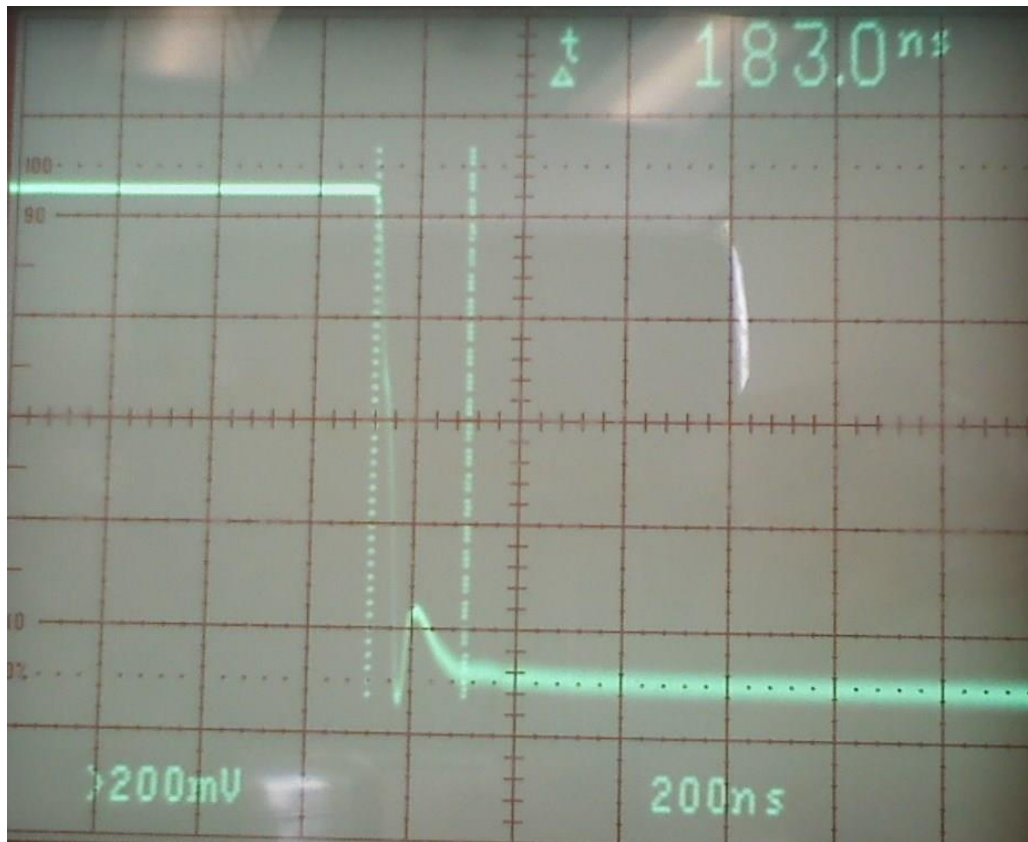
183.0ns Recovery Time 100% to Baseline

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

Recovery Time @0dBm, 3GHz & -40°C



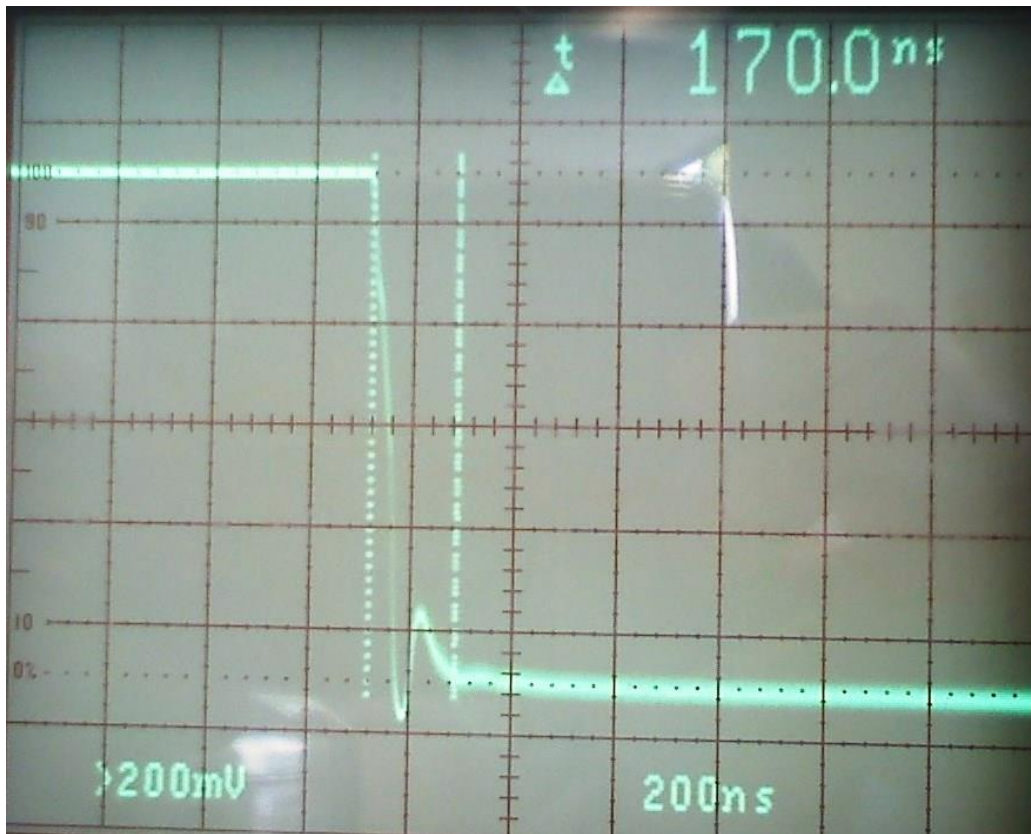
183.0ns Recovery Time 100% to Baseline

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

Recovery Time @0dBm, 3GHz & +75°C



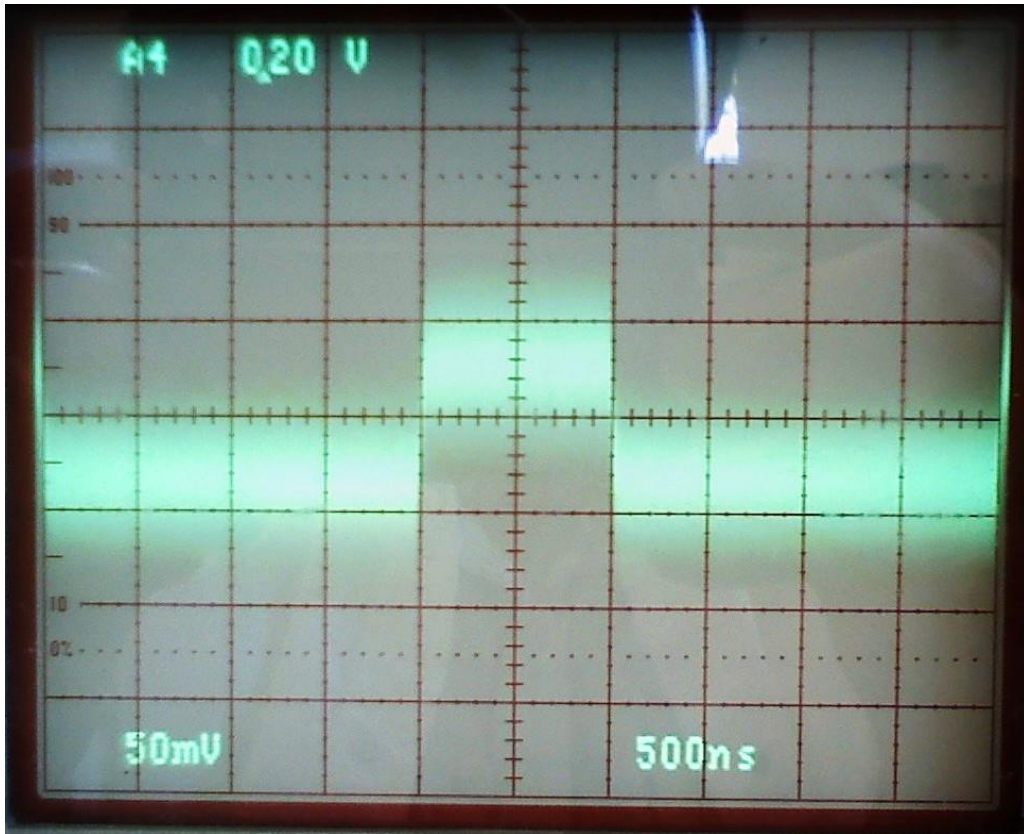
170.0ns Recovery Time 100% to Baseline

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

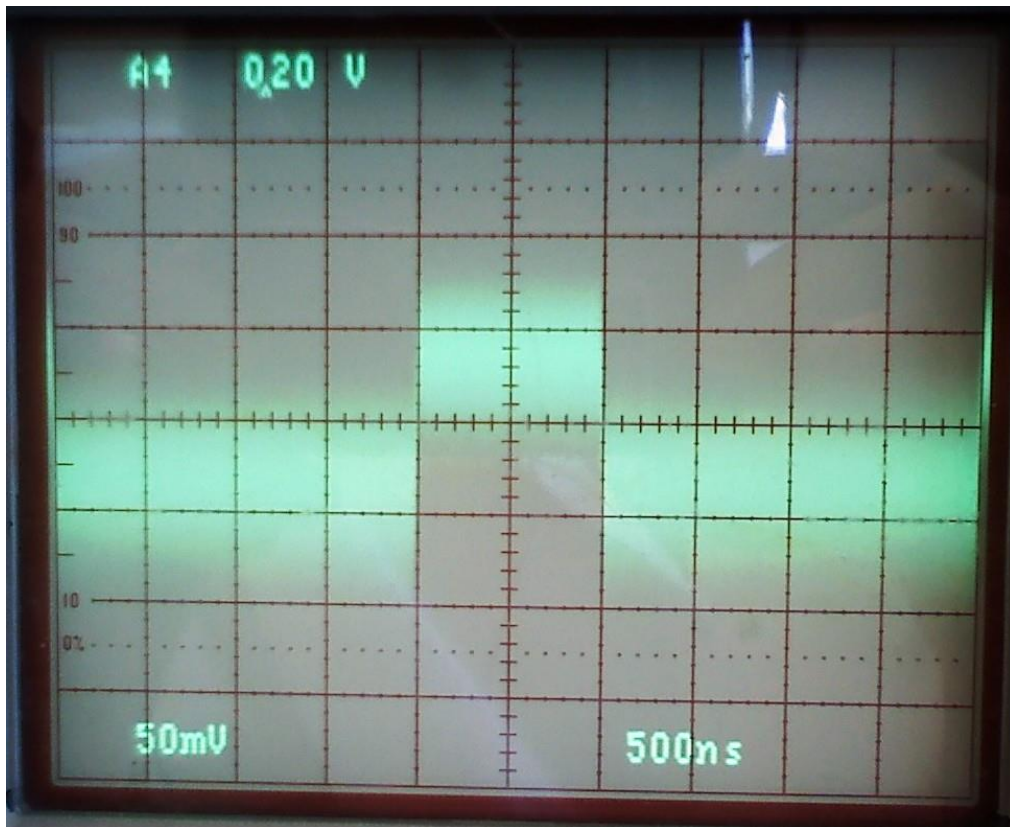
Tangential Signal Sensitivity (TSS), 3GHz, -74.1dBm @ +25°C





**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

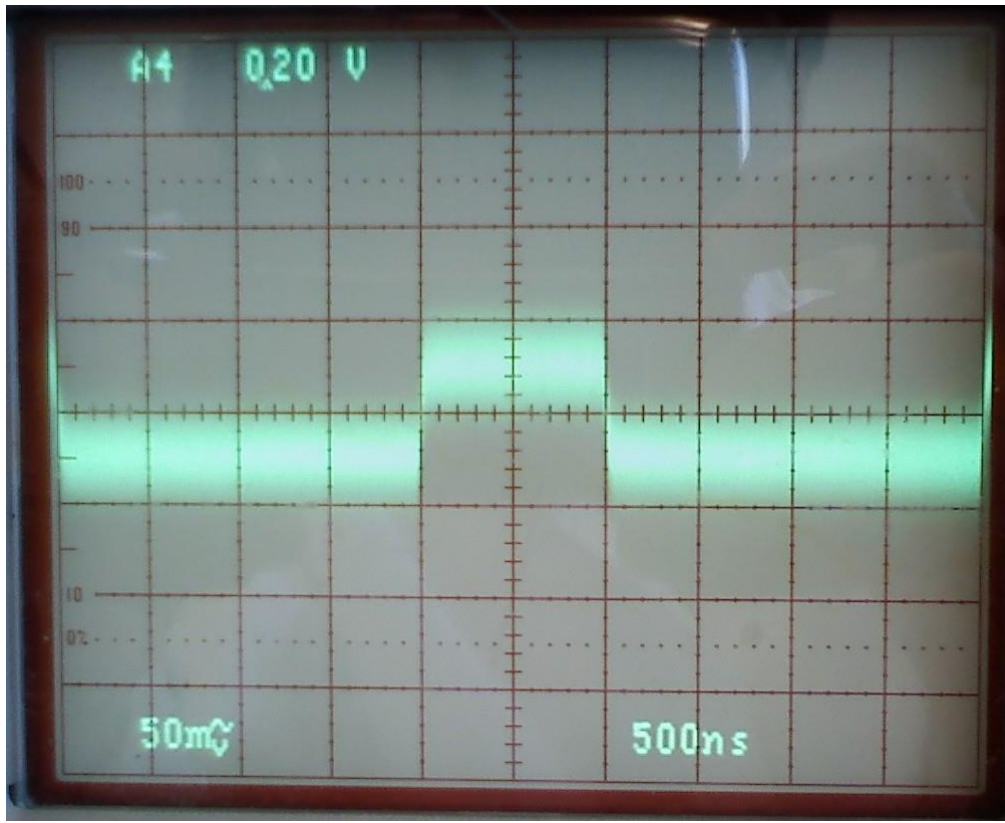
Tangential Signal Sensitivity (TSS), 3GHz, -73.8dBm @ -40°C





**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

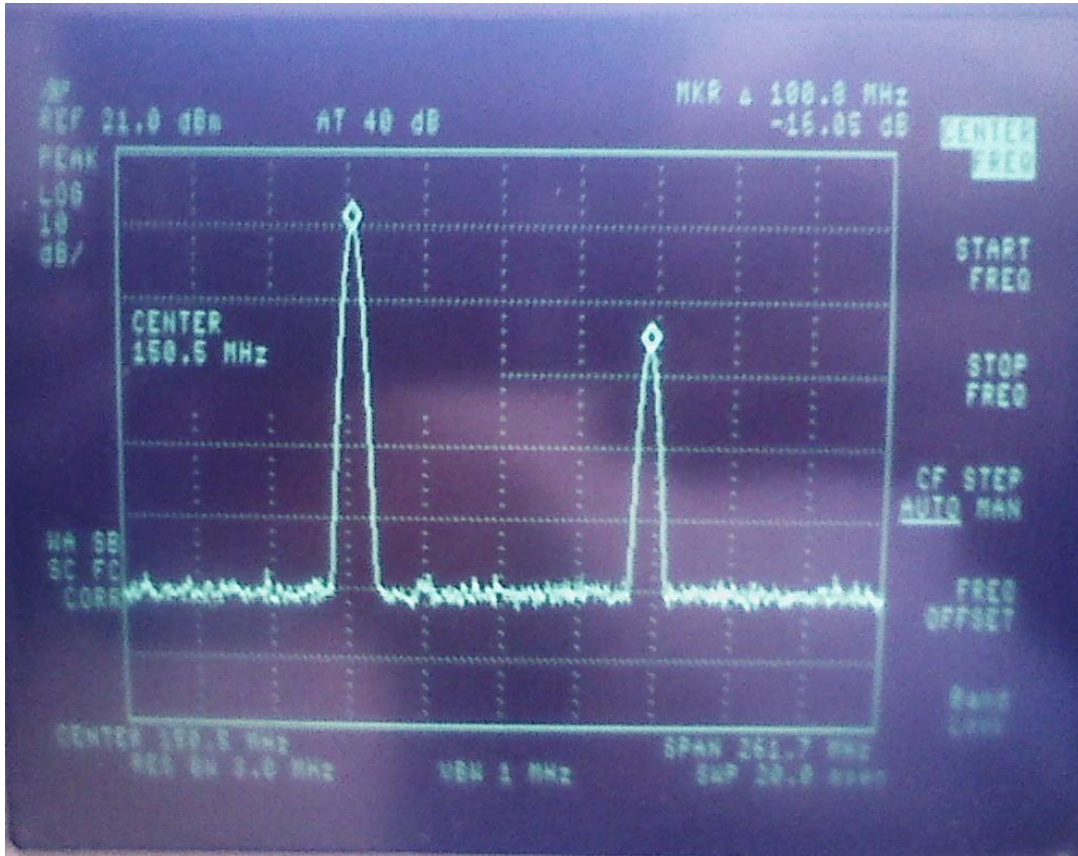
Tangential Signal Sensitivity (TSS), 3GHz, -73.2dBm @ +75°C





**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

RF Output 2nd Harmonic @ +25°C



RF Input Power Level -31.5dBm (worst case level)

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

RF Output 2nd Harmonic @ -40°C



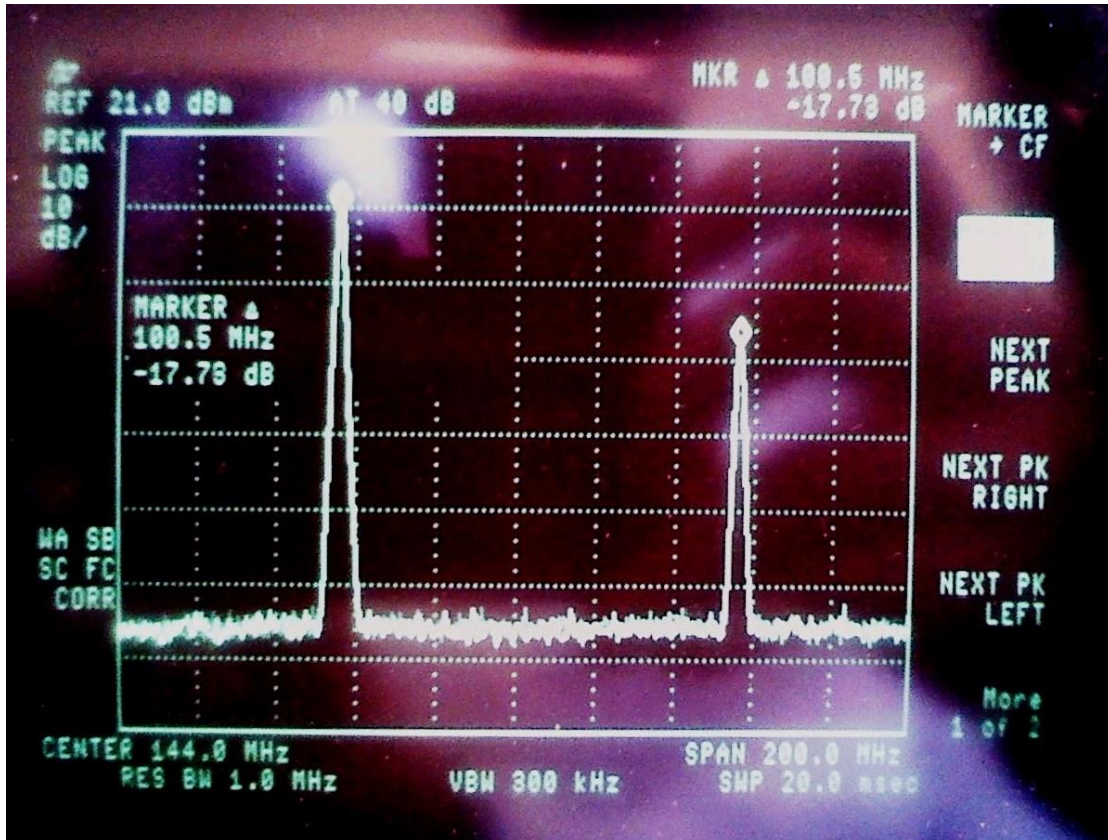
RF Input Power Level -30dBm (worst case level)

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

RF Output 2nd Harmonic @ +75°C



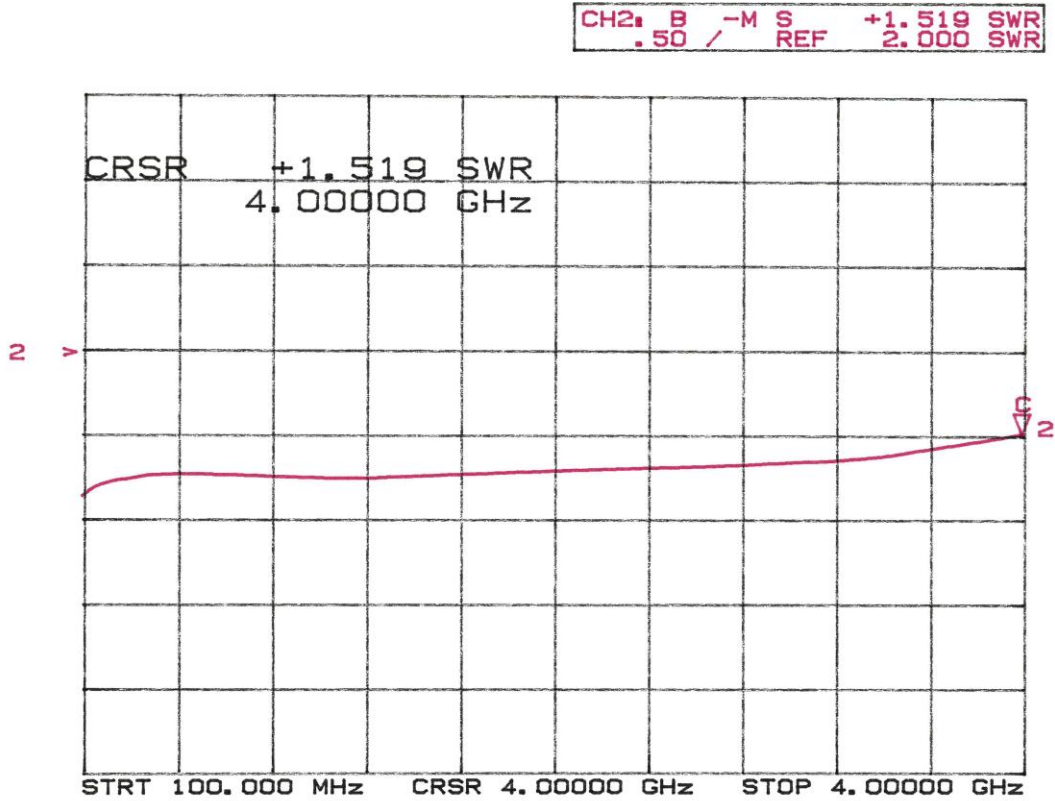
RF Input Power Level -30.2dBm (worst case level)

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

Input Return Loss @ +25°C



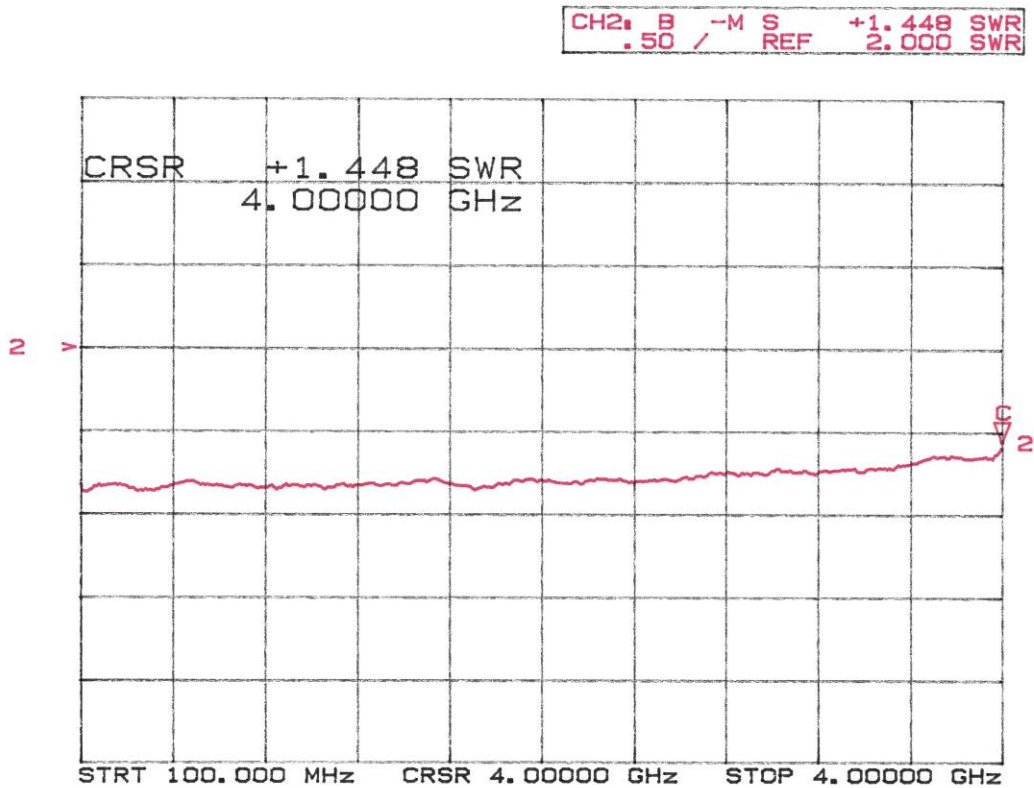
RF Input Power Level -20dBm

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

Input Return Loss @ -40°C



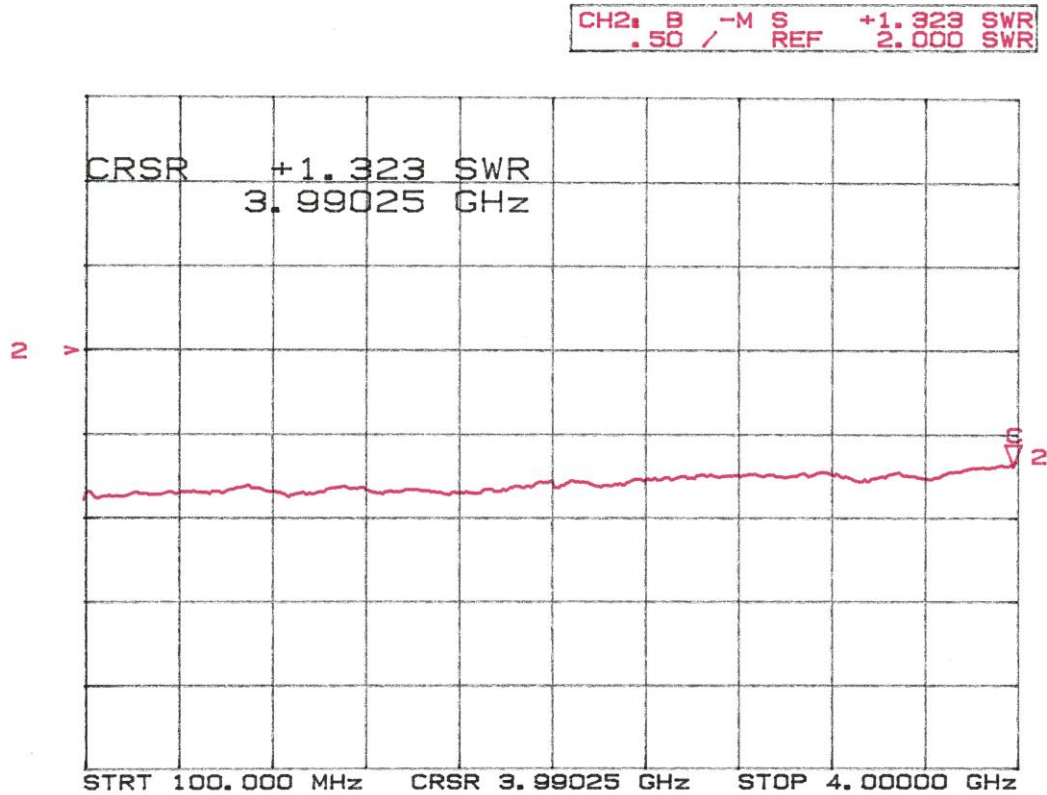
RF Input Power Level -20dBm

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

Input Return Loss @ +75°C



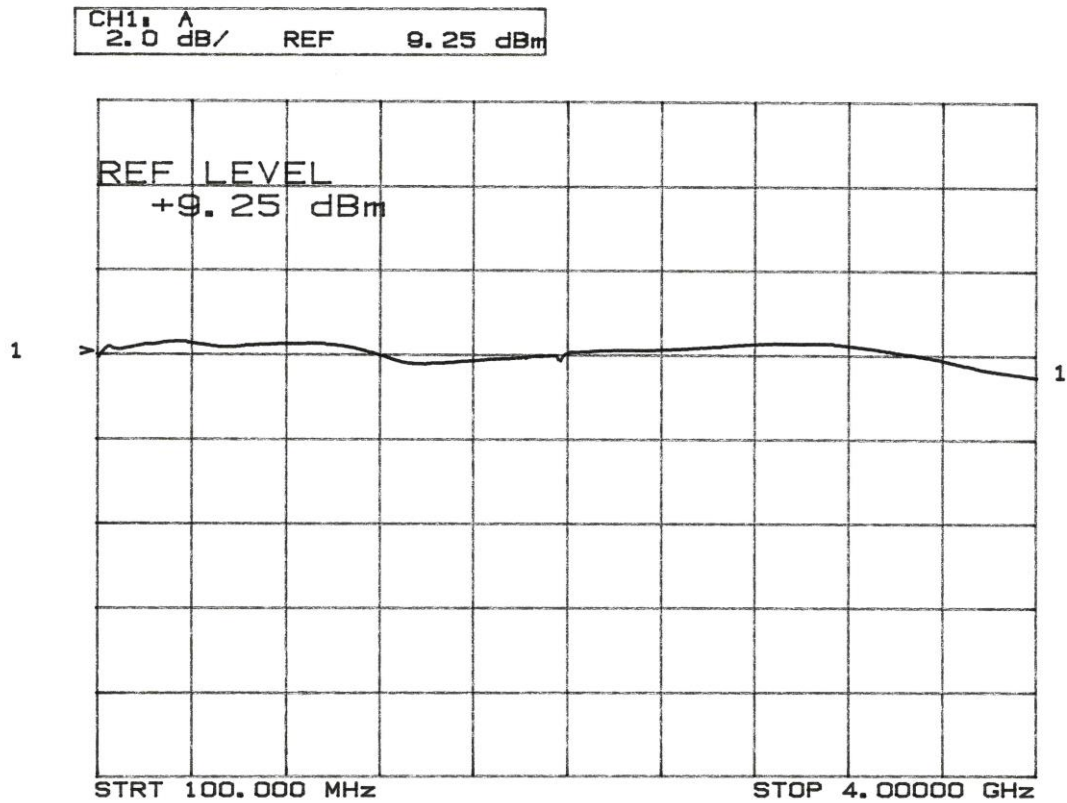
RF Input Power Level -20dBm

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**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

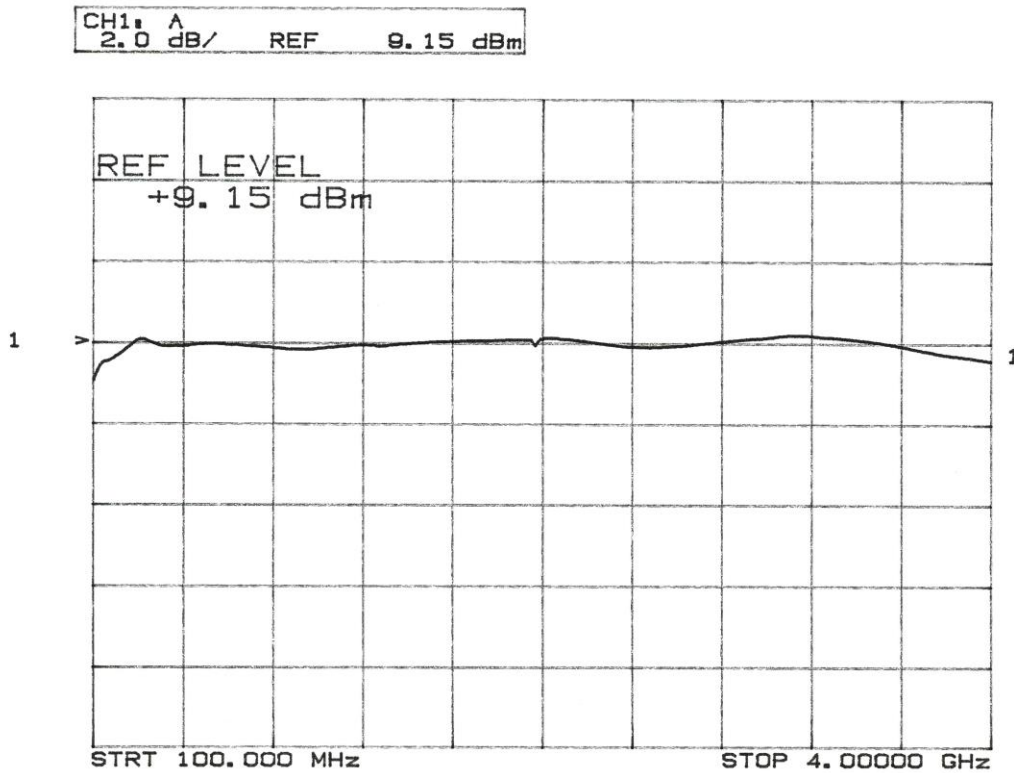
PSAT @ 25°C





**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

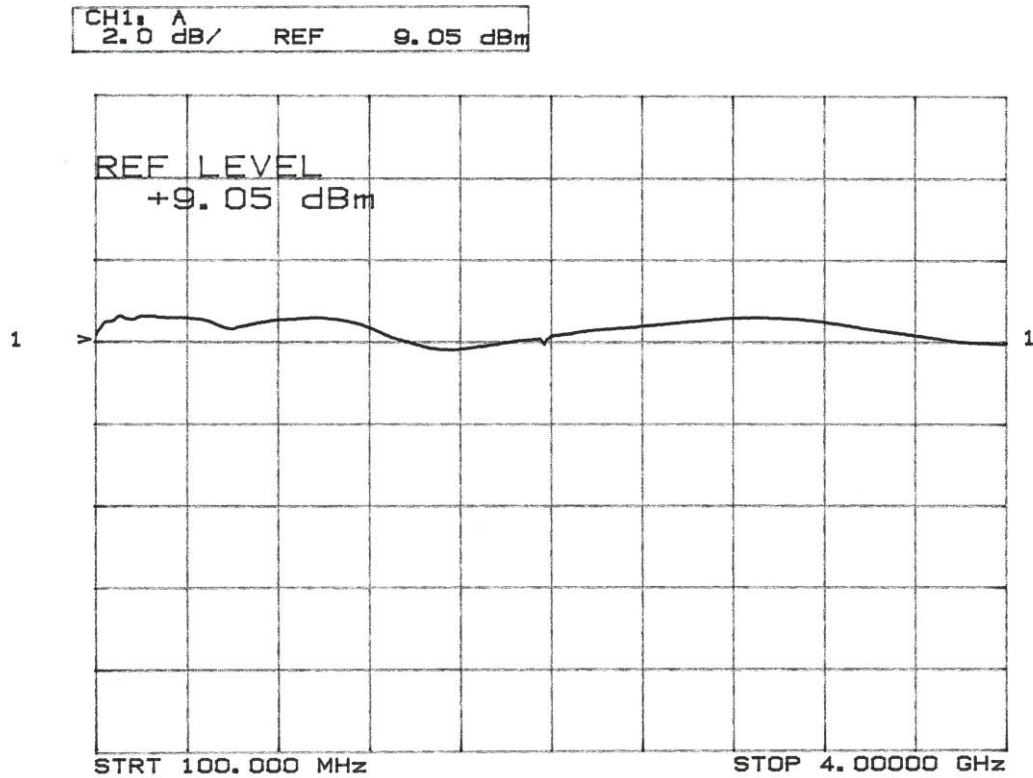
PSAT @ -40°C





**TYPICAL CHARACTERISTICS
ON
SDLVA-100M4G-CD-2**

PSAT @ +75°C





TYPICAL CHARACTERISTICS ON SDLVA-100M4G-CD-2

DESCRIPTION:
PMI MODEL NUMBER SDLVA-100M4G-CD-2 IS A SDLVA (SUCCESSIVE DETECTION LOGARITHMIC VIDEO AMPLIFIER) DESIGNED TO OPERATE OVER THE 100MHz TO 4GHz FREQUENCY RANGE. THIS MODEL IS DESIGN FOR ULTRA HIGH SPEED APPLICATIONS WHILE MAINTAINING FLATNESS AND ACCURACY.

REVISIONS

ZONE	REV.	DESCRIPTION	DATE	APPROVED
A		ORIGINAL RELEASE	7/12/13	
B				
C				
D				

SPECIFICATIONS:

- FREQUENCY: 100MHz TO 4.0 GHz
- RF GAIN (SMALL SIGNAL): 55 dB Typ
- VIDEO FLATNESS OVER FREQUENCY: ± 50mV Max
- TSS: -73 dB Typ, -71dB MAX
- VSWR: 2.0:1
- PSAT: +13dBm Typ
- HARMONICS(2): 15dBc MIN (-70 to 0dBm J1 Input) (EXCLUDING ODD HARMONICS)
- POWER INPUT: +17 dBm CW Max
- LOG SLOPE:25 mV/dB Typ, 50 Ω LOAD
- LOG RANGE: -70 to 0 dBm
- LOG LINEARITY: ±2.5 dB (-40°C - +75°C)
- DC OFFSET: 50 ± 50mV
- PULSE RANGE: 100 ns to CW
- RISE TIME: 30 ns (MAX)
- RECOVERY TIME: 200 ns (MAX)
- POWER SUPPLY: +15V or +12V @ 350 mA NOMINAL
- CONNECTORS: -15V or -12V @ 180 mA NOMINAL SMA FEMALE CONNECTORS
- FINISH: GRAY EPOXY POLIIMIDE COATING IAW MIL-C-22750, TYPE I OVER, EPOXY POLIIMIDE PRIMER IAW MIL-P-23377, TYPE I, CLASS 1 OR 3. MOUNTING SURFACE SHALL HAVE GOLD PLATING AND FREE OF PAINT.

ENVIRONMENTAL RATINGS:

- TEMPERATURE: -40°C TO +75°C (OPERATING)
- HUMIDITY: -65°C TO +125°C (STORAGE)
- SHOCK: MIL-STD-202F, METHOD 103B COND. B
- VIBRATION: MIL-STD-202F, METHOD 213B COND. B
- ALTITUDE: MIL-STD-202F, METHOD 204D COND. B
- SALT FOG: MIL-STD-202F, METHOD 105C COND. B
- FUNGUS: MIL-STD-202F, METHOD 107D COND. A
- TEMPERATURE CYCLE: MIL-STD-810C, METHOD 508.2
- MIL-STD-202F, METHOD 107

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

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E-MAIL: sales@pmi-rf.com
ISO 9001:2008 CERTIFIED

APPROVALS

DATE	PRODUCT FEATURE
1/11/13	SDLVA-100M4G-CD-2

SIZE FROM NO. A 05X00
DWG NO. 27019922
SCALE N/S
SHEET 1 OF 1

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