



**SUMMARY TEST DATA
ON
SDLVA-8G8G-70dB-100dB**

**PMI MODEL NUMBER SDLVA-8G18G-70DB-100DB
IS A SDLVA (SUCCESSIVE DETECTION LOGARITHMIC VIDEO AMPLIFIER)
DESIGNED TO OPERATE OVER THE 8GHZ TO 18GHZ FREQUENCY RANGE.
THIS MODEL IS DESIGNED FOR ULTRA HIGH SPEED APPLICATIONS WHILE
MAINTAINING FLATNESS AND ACCURACY.**



April 15, 2016

**Tested By: S.Baughman
Designed by: Paul Kuhn**

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SUMMARY TEST DATA ON SDLVA-8G8G-70dB-100dB

REVISIONS				
REV.	DESCRIPTION	DATE	APPROVED	
1	ORIGINAL RELEASE	12/9/18		

DESCRIPTION:
 PMI MODEL NUMBER SDLVA-8G18G-70dB-100R IS A SUCCESSIVE DETECTION LOGARITHMIC VIDEO AMPLIFIER (SDLVA) DESIGNED TO OPERATE OVER THE 8 GHz TO 18 GHz FREQUENCY RANGE. THIS MODEL IS DESIGNED FOR ULTRA HIGH SPEED APPLICATIONS WHILE MAINTAINING FLATNESS AND ACCURACY.

SPECIFICATIONS:

- FREQUENCY: 8.0 GHz TO 18.0 GHz
- RF GAIN (SMALL SIGNAL): 55 dB Typ
- FREQUENCY FLATNESS: ± 2 dB Max
- TSS: -73 dB Typ, -71 dB Max
- VSWR (50 Ohm): 2.0:1 Max (RF IN, RF OUT)
- PSAT: +13 dBm Typ
- POWER INPUT: +17 dBm CW Max
- LOG SLOPE: 25 mV/dB Typ, 100 Ω LOAD
- LOG RANGE: -70 to 0 dBm
- LOG LINEARITY: ±2.5 dB (-40°C TO +75°C)
- DC OFFSET: 50 ± 50 mV
- PULSE RANGE: 30 ns to CW
- RISE TIME: 10 ns Max (5 ns Typ)
- RECOVERY TIME: 60 ns Max (40 ns Typ)
- POWER SUPPLY: +15V or +12V @ 350 mA NOMINAL
-15V or -12V @ 180 mA NOMINAL
- CONNECTORS: SMA FEMALE CONNECTORS
- SIZE: 3.2" X 1.8" X 0.4"
- FINISH: GOLD

ENVIRONMENTAL RATINGS:

- TEMPERATURE: -40°C TO +75°C (OPERATING)
-65°C TO +125°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
- SALT FOG: MIL-STD-202F, METHOD 107D COND. A
- FUNGUS: MIL-STD-810C, METHOD 508.2
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

MECHANICAL OUTLINE

PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.

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 ISO 9001 CERTIFIED

APPROVALS		DATE	TITLE	
DRAWN	<i>M. Barry</i>	12/9/18	PRODUCT FEATURE SDLVA-8G18G-70dB-100R	
CHECKED			REV. A	REV. 1
ISSUED			PART NO. 05XQ0	DWB NO. 27028181
			SCALE N:S	SHEET 1 OF 1

ALL DIMENSIONS ARE IN INCHES
 TOLERANCES:
 X.XX ±0.005
 X.XXX ±0.010

Summary Test Data @ 25°C

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**SUMMARY TEST DATA
ON
SDLVA-8G8G-70dB-100dB**

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	QA QC
1	Frequency Range:	8 GHz to 18 GHz	8 GHz to 18 GHz	
2	Pulse Range:	30 ns to CW	30 ns to CW	
3	Input Power:	+17 dBm CW Max.	+17 dBm CW Max.	
4	Flatness:	± 2.0 dB Max.	± 1.1 dB	
5	Log Linearity	± 2.5 dB Max.	± 1.1 dB	
6	Log Range:	-70 to 0 dBm	-70 to 0 dBm	
7	Log Slope	25mV/dB Typ (±5%)	25.1 mV/dB	
8	VSWR:	2.0:1 Max.	1.68 :1 , 1.88 :1	
9	Rise Time:	10 ns Max.	9.1 ns	
10	Recovery Time:	60 ns Max.	55.0 ns	
11	TSS:	-73 dBm Typ.	-73 dBm	
12	DC Supply:	+15VDC @ 350 mA -15VDC @ 180 mA	+15 VDC @ 277 mA -15 VDC @ 96 mA	

Summary Test Data @ -40°C

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**SUMMARY TEST DATA
ON
SDLVA-8G8G-70dB-100dB**

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	QA QC
1	Frequency Range:	8 GHz to 18 GHZ	8 GHz to 18 GHZ	
2	Pulse Range:	30 ns to CW	30 ns to CW	
3	Input Power:	+17 dBm CW Max.	+17 dBm CW Max.	
4	Flatness:	± 2.5 dB Max.	± 1.2 dB	
5	Log Linearity	± 2.5 dB Max.	± 1.4 dB	
6	Log Range:	-70 to 0 dBm	-70 to 0 dBm	
7	Log Slope	25mV/dB Typ (±5%)	23.8 mV/dB	
8	VSWR:	2.0:1 Max.	1.79 :1 , 1.93 :1	
9	Rise Time:	10 ns Max.	8.1 ns	
10	Recovery Time:	60 ns Max.	55.0 ns	
11	TSS:	-73 dBm Typ.	-73 dBm	
12	DC Supply:	+15VDC @ 350 mA -15VDC @ 180 mA	+15 VDC @ 206 mA -15 VDC @ 80 mA	

Summary Test Data @ 75°C

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**SUMMARY TEST DATA
ON
SDLVA-8G8G-70dB-100dB**

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	PASS FAIL	QA QC
1	Frequency Range:	8 GHz to 18 GHz	8 GHz to 18 GHz	
2	Pulse Range:	30 ns to CW	30 ns to CW	
3	Input Power:	+17 dBm CW Max.	+17 dBm CW Max.	
4	Flatness:	± 2.5 dB Max.	± 2.1 dB	
5	Log Linearity	± 2.5 dB Max.	± 1.4 dB	
6	Log Range:	-70 to 0 dBm	-70 to 0 dBm	
7	Log Slope	25mV/dB Typ (±5%)	24.2 mV/dB	
8	VSWR:	2.0:1 Max.	1.87 :1 , 1.93 :1	
9	Rise Time:	10 ns Max.	8.3 ns	
10	Recovery Time:	60 ns Max.	55.0 ns	
11	TSS:	-73 dBm Typ.	-73 dBm	
12	DC Supply:	+15VDC @ 350 mA -15VDC @ 180 mA	+15 VDC @ 326 mA -15 VDC @ 110 mA	

SDLVA-8G18G-70dB-100dB @ +25°C

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SUMMARY TEST DATA ON SDLVA-8G8G-70dB-100dB

LOG TRANSFER WITH FREQUENCY
 MODEL: SDLVA-0R5G4G-70dB-100R
 TESTED BY: S.Baughman
 TEST DATE: 03/30/2016
 SERIAL NO: PL18889
 TEST TEMP: +25C

Saturday, April 16, 2016
 2:08 PM



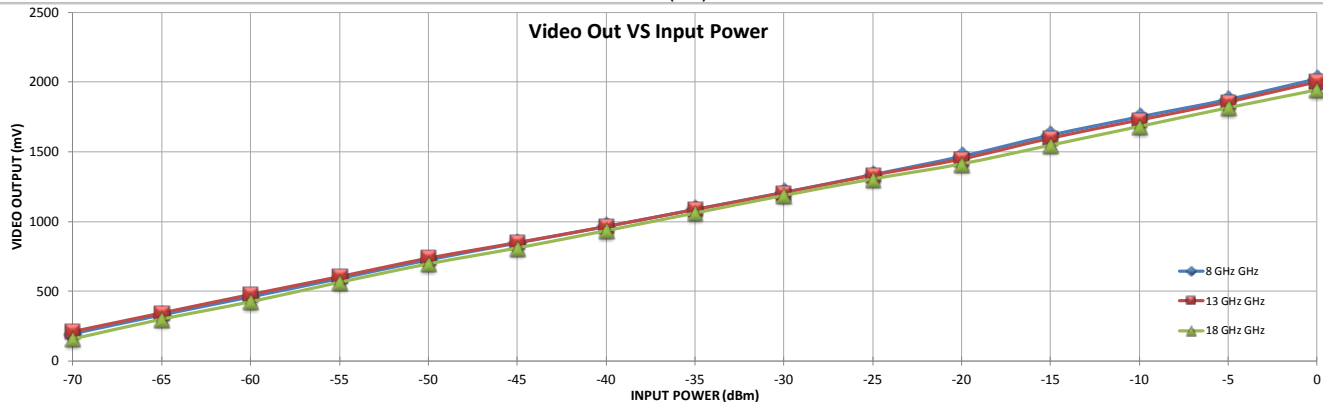
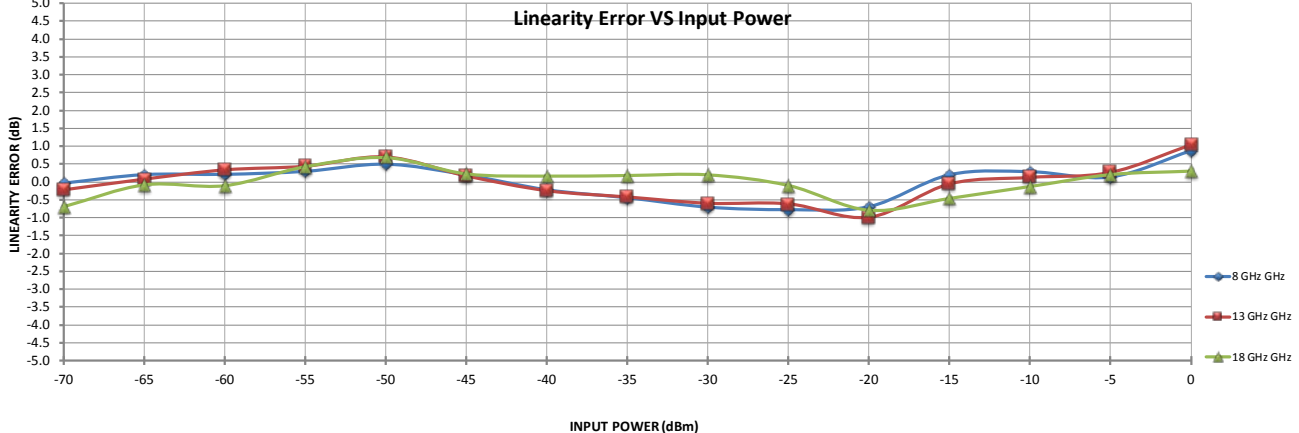
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Frequency

		-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
8 GHz	INTERCEPT (mV)	2001															Measured Value (mV)
	SLOPE (mV/dB)	25.8															Error (mV)
		197	332	461	592	726	847	965	1088	1210	1337	1468	1620	1751	1876	2024	LINEARITY ERROR (dB)
		-1	5	5	8	13	5	-6	-12	-18	-20	-18	5	7	4	23	
		-0.04	0.20	0.21	0.30	0.50	0.19	-0.22	-0.45	-0.71	-0.78	-0.70	0.20	0.29	0.14	0.88	
13 GHz	INTERCEPT (mV)	1975															Measured Value (mV)
	SLOPE (mV/dB)	25.1															Error (mV)
		213	346	478	606	738	850	965	1086	1207	1332	1448	1597	1727	1856	2001	LINEARITY ERROR (dB)
		-6	2	8	11	18	4	-6	-11	-15	-16	-25	-1	3	7	26	
		-0.22	0.08	0.34	0.44	0.70	0.17	-0.25	-0.43	-0.60	-0.62	-1.00	-0.06	0.13	0.27	1.05	
18 GHz	INTERCEPT (mV)	1935															Measured Value (mV)
	SLOPE (mV/dB)	25.1															Error (mV)
		160	301	426	565	697	811	935	1061	1187	1305	1413	1547	1681	1815	1943	LINEARITY ERROR (dB)
		-6	-2	-3	11	17	6	4	5	5	-3	-20	-12	-3	5	8	
		-0.70	-0.08	-0.11	0.43	0.69	0.22	0.16	0.18	0.20	-0.10	-0.80	-0.47	-0.13	0.21	0.30	

Flatness +/-dB

1.1	0.9	1	0.8	0.8	0.8	0.6	0.5	0.5	0.6	1.1	1.5	1.4	1.2	1.6
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SDLVA-8G18G-70dB-100dB @ -40C

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SUMMARY TEST DATA ON SDLVA-8G8G-70dB-100dB

LOG TRANSFER WITH FREQUENCY
 MODEL: SDLVA-0R5G4G-70dB-100R
 TESTED BY: S.Baughman
 TEST DATE: 03/29/2016
 SERIAL NO: PL18889
 TEST TEMP: -40C

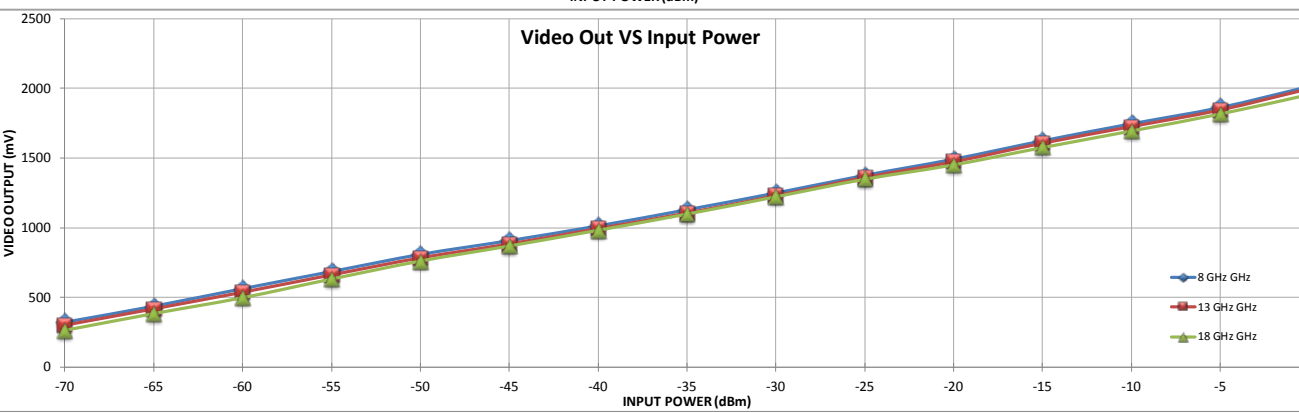
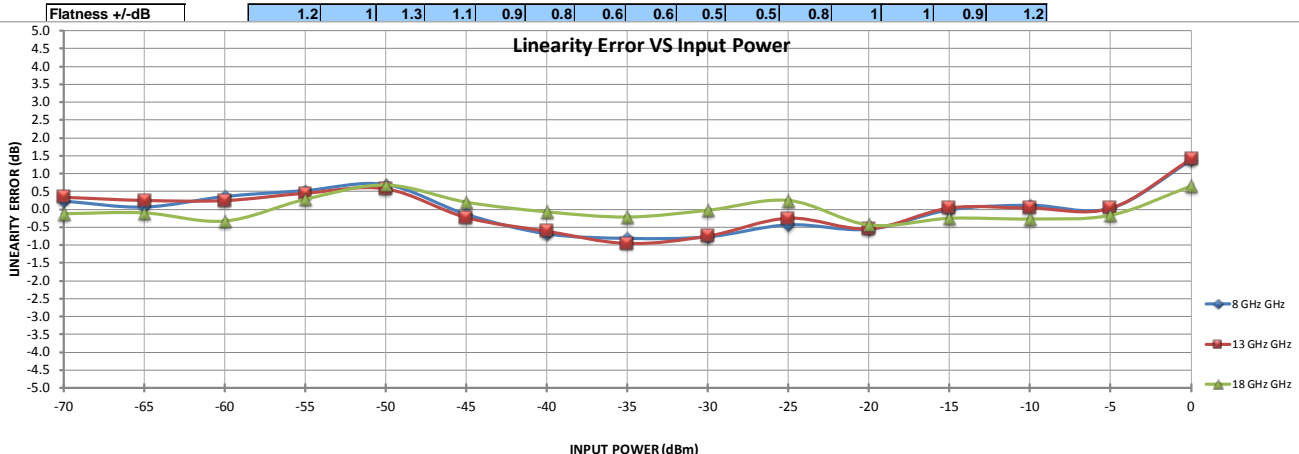
Saturday, April 16, 2016
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Frequency

		-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
8 GHz	INTERCEPT (mV)	1981															Measured Value (mV)
	SLOPE (mV/dB)	23.8															Error (mV)
		321	436	562	685	808	907	1013	1129	1249	1376	1492	1624	1746	1863	2014	LINEARITY ERROR (dB)
		6	2	9	13	17	-3	-16	-19	-18	-10	-13	0	3	1	33	
		0.23	0.07	0.36	0.53	0.70	-0.14	-0.69	-0.81	-0.77	-0.43	-0.56	-0.01	0.12	0.03	1.38	
13 GHz	INTERCEPT (mV)	1961															Measured Value (mV)
	SLOPE (mV/dB)	23.8															Error (mV)
		302	419	538	662	784	884	994	1105	1229	1360	1472	1605	1724	1843	1995	LINEARITY ERROR (dB)
		8	6	6	11	14	-6	-15	-23	-18	-6	-13	1	1	1	34	
		0.33	0.25	0.24	0.45	0.57	-0.23	-0.61	-0.95	-0.75	-0.25	-0.55	0.04	0.03	0.03	1.41	
18 GHz	INTERCEPT (mV)	1941															Measured Value (mV)
	SLOPE (mV/dB)	23.9															Error (mV)
		266	386	500	634	763	871	984	1100	1224	1350	1453	1577	1696	1818	1957	LINEARITY ERROR (dB)
		-3	-3	-8	7	16	5	-2	-5	-1	6	-11	-6	-7	-4	16	
		-0.13	-0.10	-0.33	0.28	0.67	0.19	-0.08	-0.22	-0.03	0.24	-0.45	-0.26	-0.27	-0.17	0.65	
Flatness +/-dB		1.2	1	1.3	1.1	0.9	0.8	0.6	0.6	0.5	0.5	0.8	1	1	0.9	1.2	



SDLVA-8G18G-70dB-100dB @ +75C

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SUMMARY TEST DATA ON SDLVA-8G8G-70dB-100dB

LOG TRANSFER WITH FREQUENCY
 MODEL: SDLVA-0R5G4G-70dB-100R
 TESTED BY: S.Baughman
 TEST DATE: 03/29/2016
 SERIAL NO: PL18889
 TEST TEMP: +75C

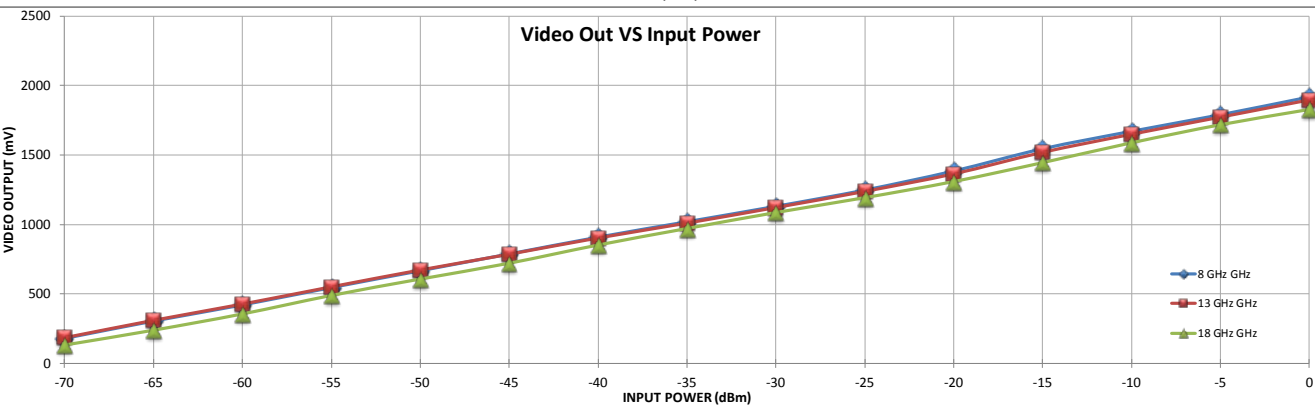
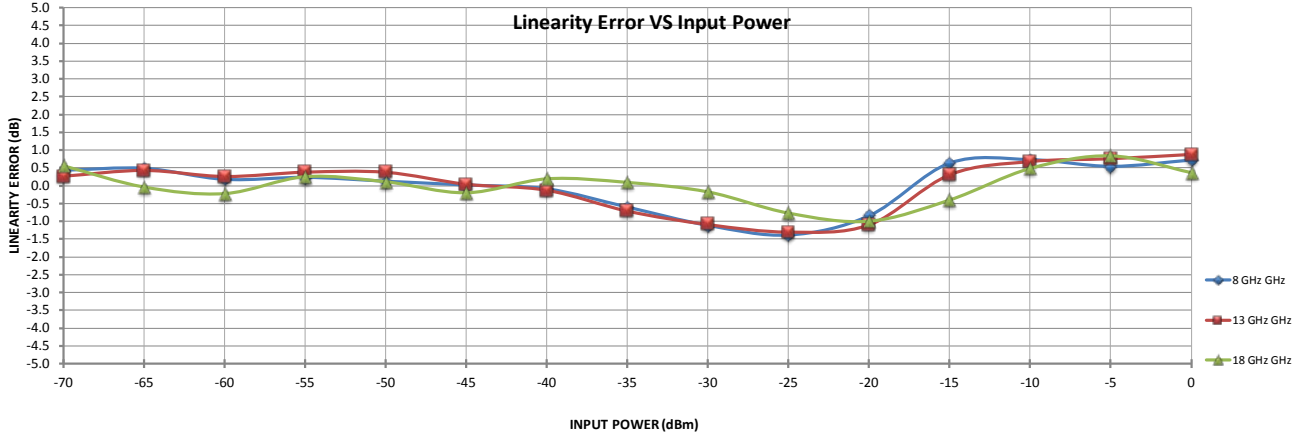
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Frequency

		-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
8 GHz	INTERCEPT (mV)	1900															Measured Value (mV)
	SLOPE (mV/dB)	24.7															Error (mV)
		180	305	421	546	667	788	909	1020	1131	1248	1385	1545	1671	1790	1918	LINEARITY ERROR (dB)
		0.43	0.48	0.17	0.23	0.12	0.01	-0.09	-0.60	-1.11	-1.38	-0.84	0.63	0.72	0.54	0.71	
13 GHz	INTERCEPT (mV)	1875															Measured Value (mV)
	SLOPE (mV/dB)	24.2															Error (mV)
		186	311	428	552	673	786	903	1010	1122	1238	1364	1519	1649	1772	1896	LINEARITY ERROR (dB)
		6	10	6	9	9	1	-3	-17	-26	-31	-27	7	16	18	21	
		0.26	0.42	0.26	0.38	0.37	0.04	-0.13	-0.71	-1.09	-1.30	-1.10	0.30	0.67	0.75	0.87	
18 GHz	INTERCEPT (mV)	1817															Measured Value (mV)
	SLOPE (mV/dB)	24.3															Error (mV)
		130	237	354	487	605	719	850	969	1084	1191	1307	1443	1586	1716	1826	LINEARITY ERROR (dB)
		13	-1	-6	6	3	-5	5	2	-4	-19	-24	-10	12	20	9	
		0.55	-0.04	-0.23	0.25	0.10	-0.20	0.19	0.09	-0.18	-0.78	-1.00	-0.41	0.48	0.83	0.36	
Flatness +/-dB		1.2	1.5	1.5	1.3	1.4	1.4	1.2	1.1	1	1.2	1.6	2.1	1.8	1.5	1.9	

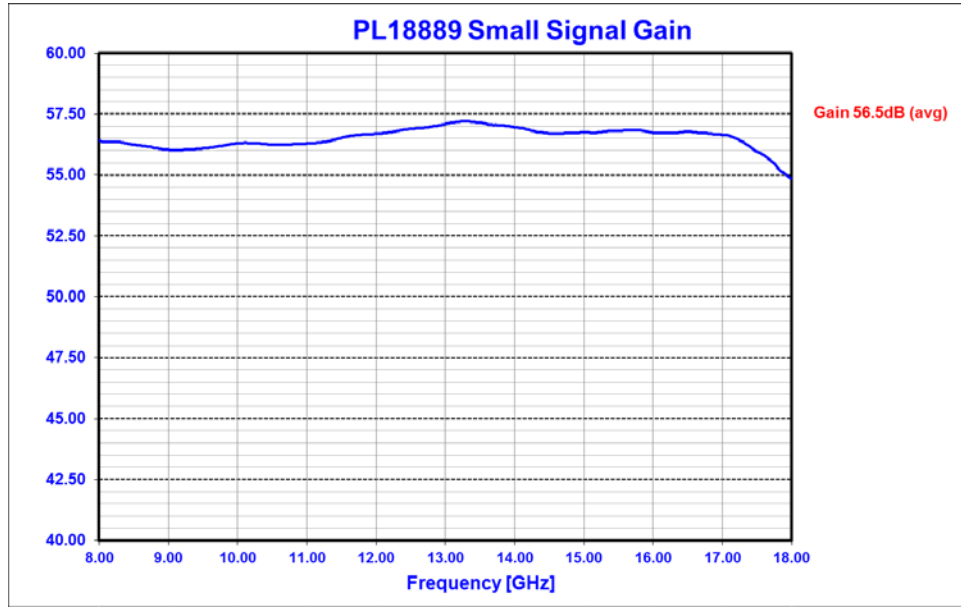


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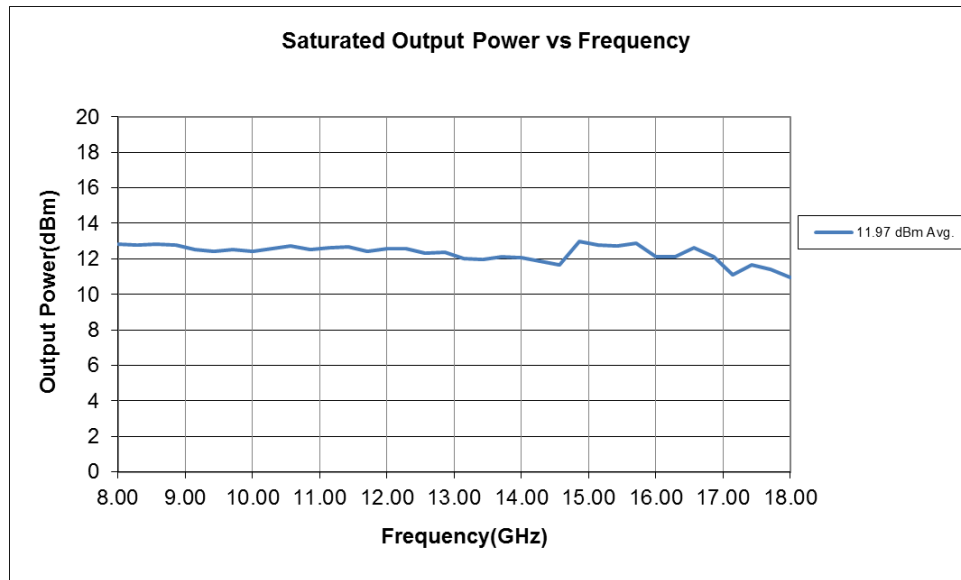


**SUMMARY TEST DATA
ON
SDLVA-8G8G-70dB-100dB**

GAIN @ 25C



SATURATED POWER @ 25C

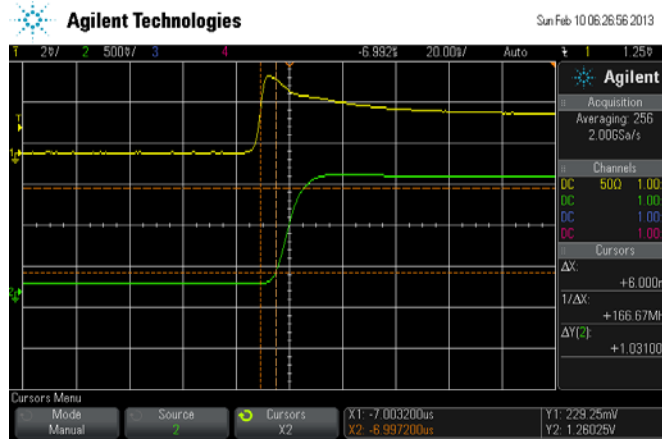


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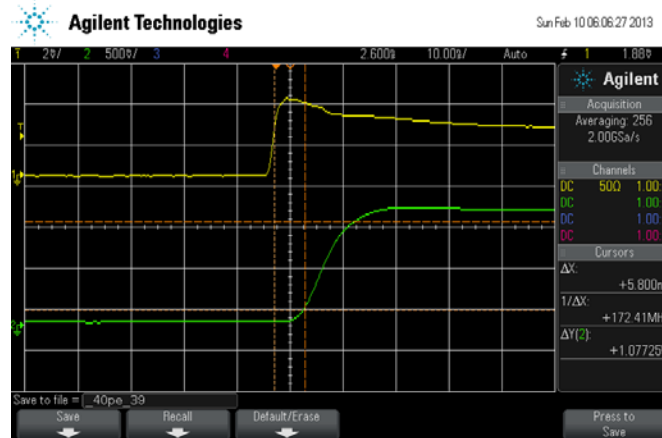


SUMMARY TEST DATA ON SDLVA-8G8G-70dB-100dB

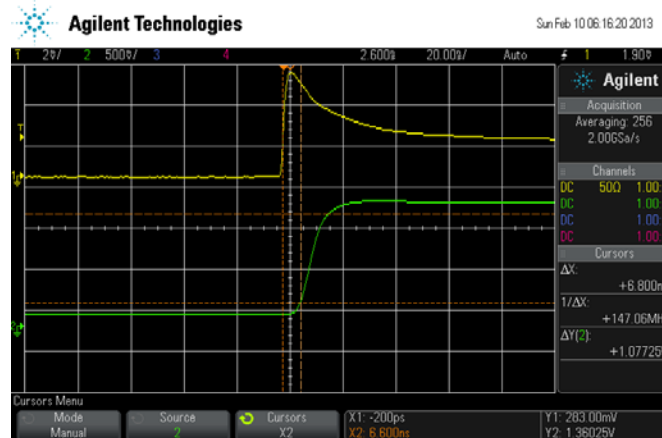
Delay Time (50%RF to 10%Video), 18GHz @ 25°C



Delay Time (50%RF to 10%Video), 18GHz @ -40°C



Delay Time (50%RF to 10%Video), 18GHz @ 75°C

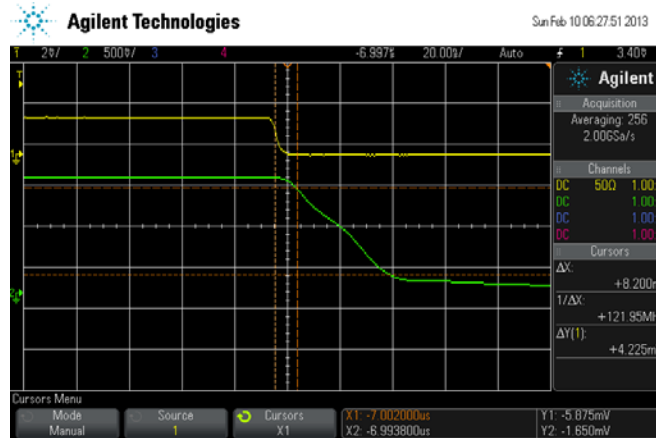


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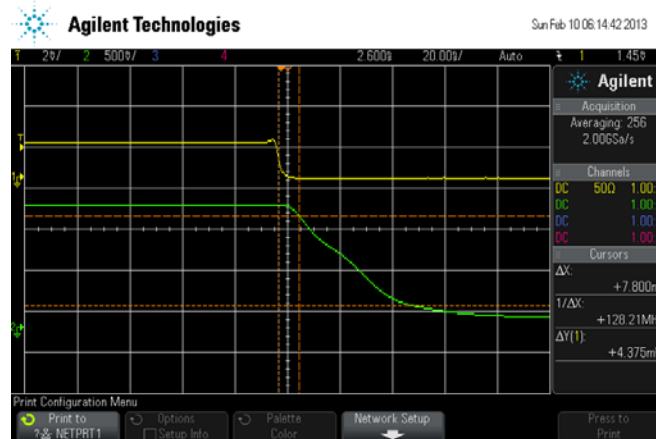


SUMMARY TEST DATA ON SDLVA-8G8G-70dB-100dB

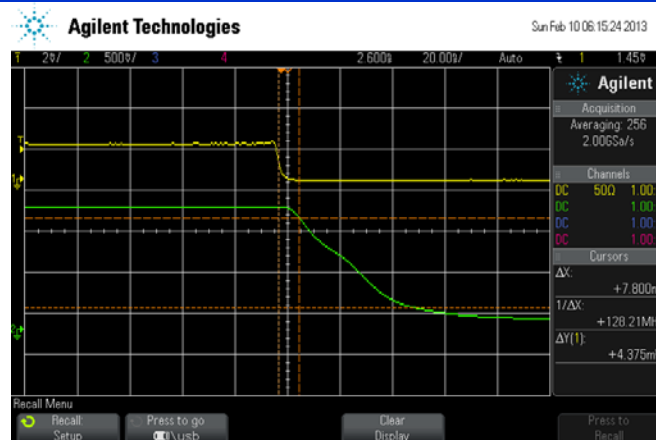
Delay Time (50%RF to 90%Video), 18GHz @ 25°C



Delay Time (50%RF to 90%Video), 18GHz @ -40°C



Delay Time (50%RF to 90%Video), 18GHz @ 75°C

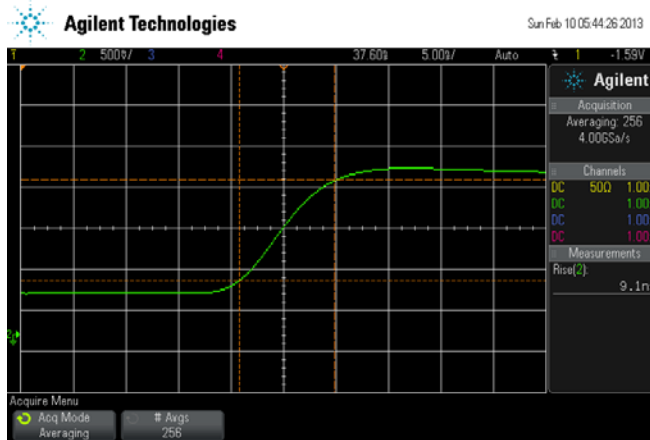


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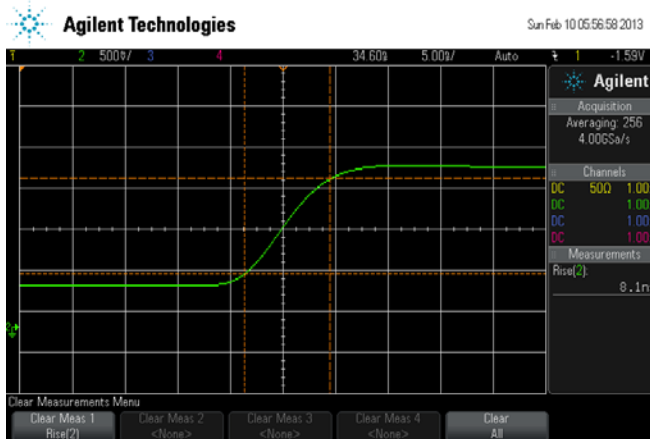


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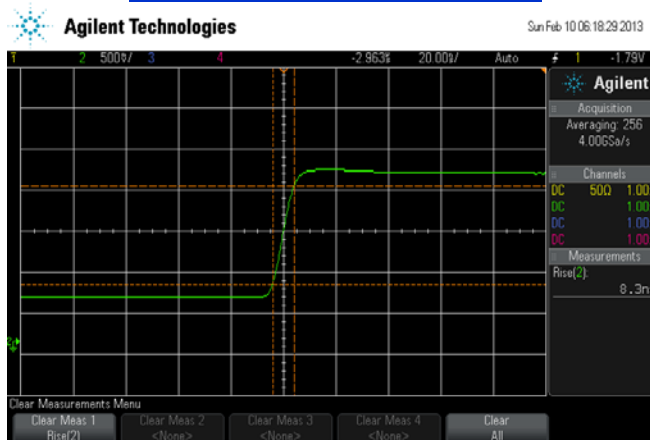
Rise Time, 18GHz @ 25°C



Rise Time, 18GHz @ -40°C



Rise Time, 18GHz @ 75°C

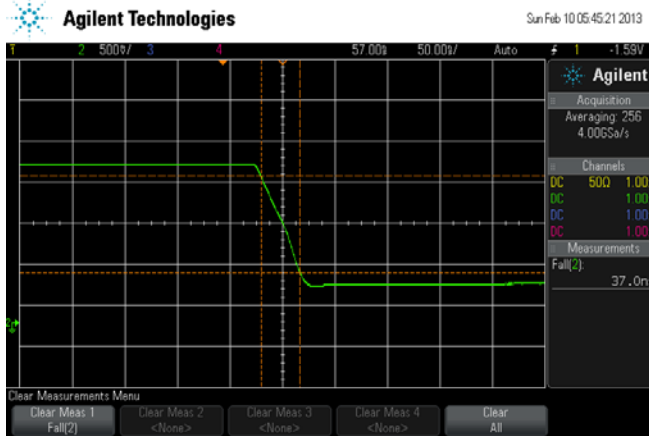


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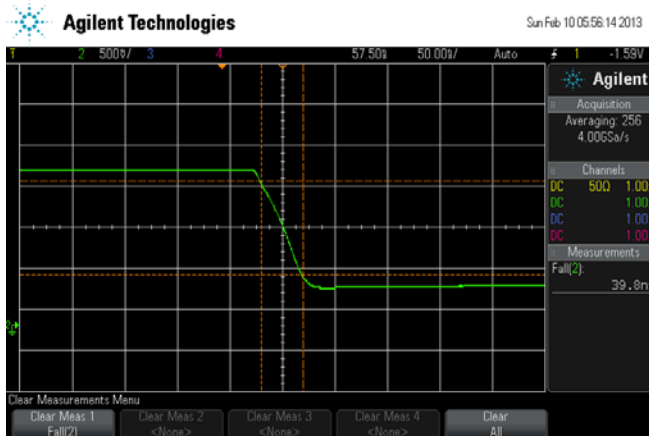


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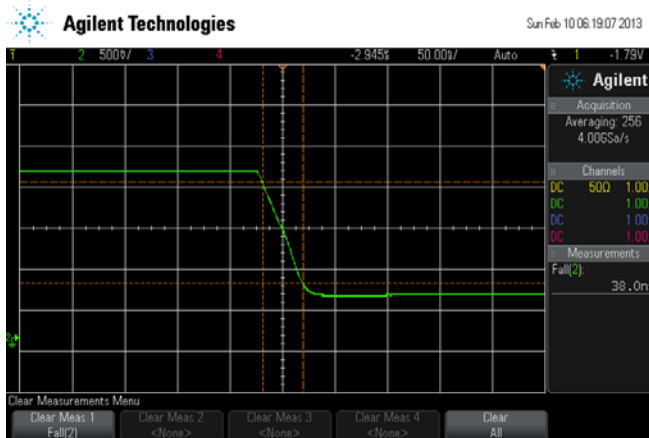
Fall & Recovery Time, 18GHz @ 25°C



Fall & Recovery Time, 18GHz @ -40°C



Fall & Recovery Time, 18GHz @ 75°C

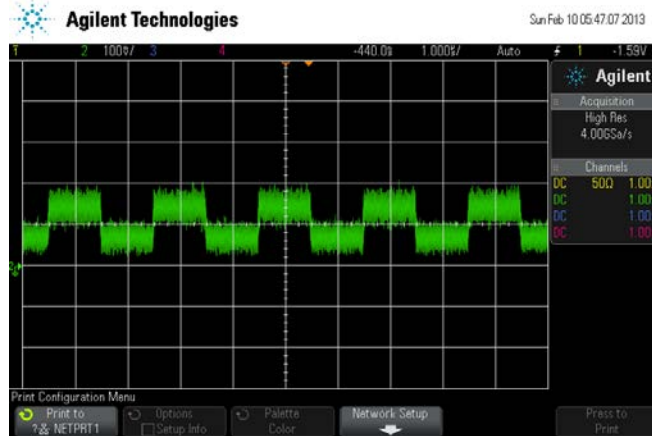


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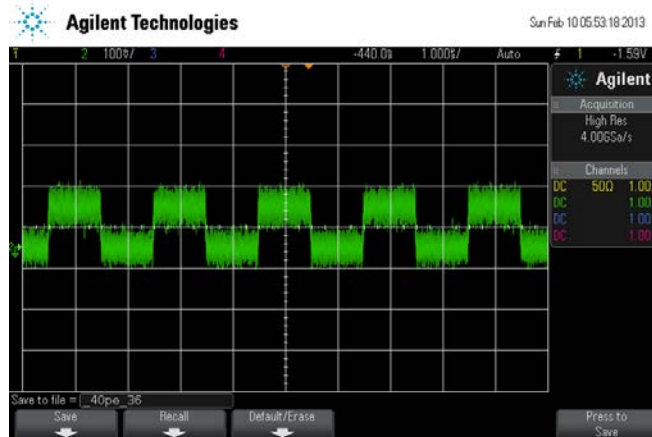


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SDLVA-8G8G-70dB-100dB**

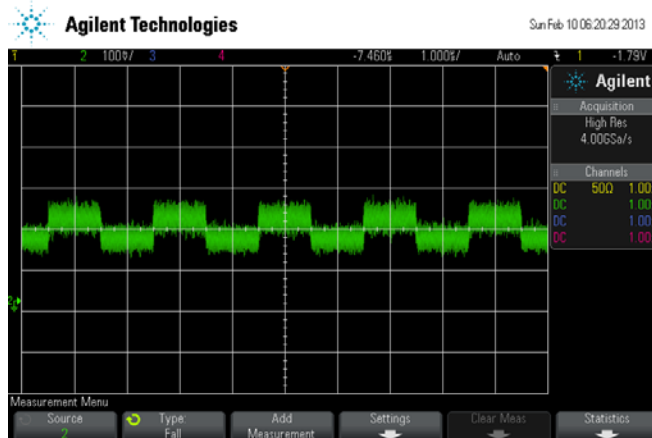
Tangential Signal Sensitivity (TSS), 18GHz, -73dBm @ 25°C



Tangential Signal Sensitivity (TSS), 18GHz, -73dBm @ -40°C



Tangential Signal Sensitivity (TSS), 18GHz, -73dBm @ 75°C



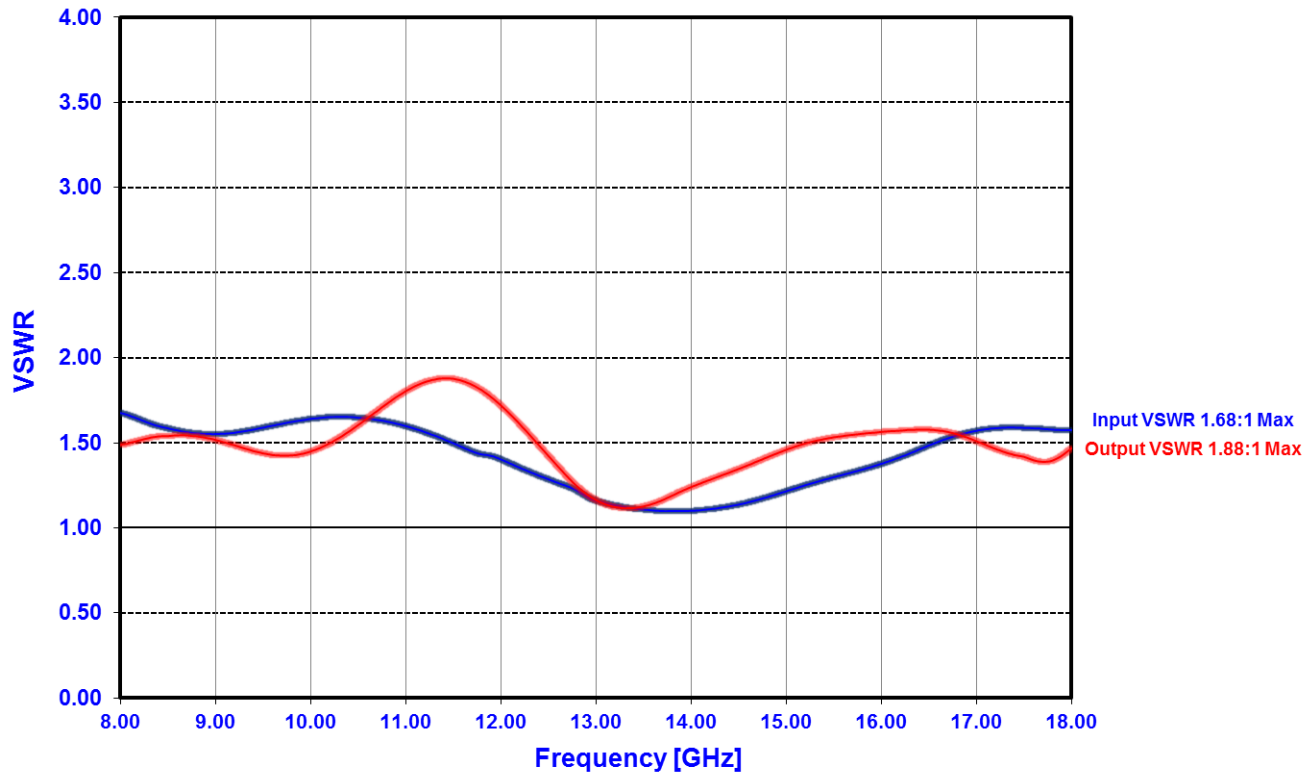
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Email: sales@pmi-rf.com Web: www.pmi-rf.com



**SUMMARY TEST DATA
ON
SDLVA-8G8G-70dB-100dB**

Return Loss @ 25°C

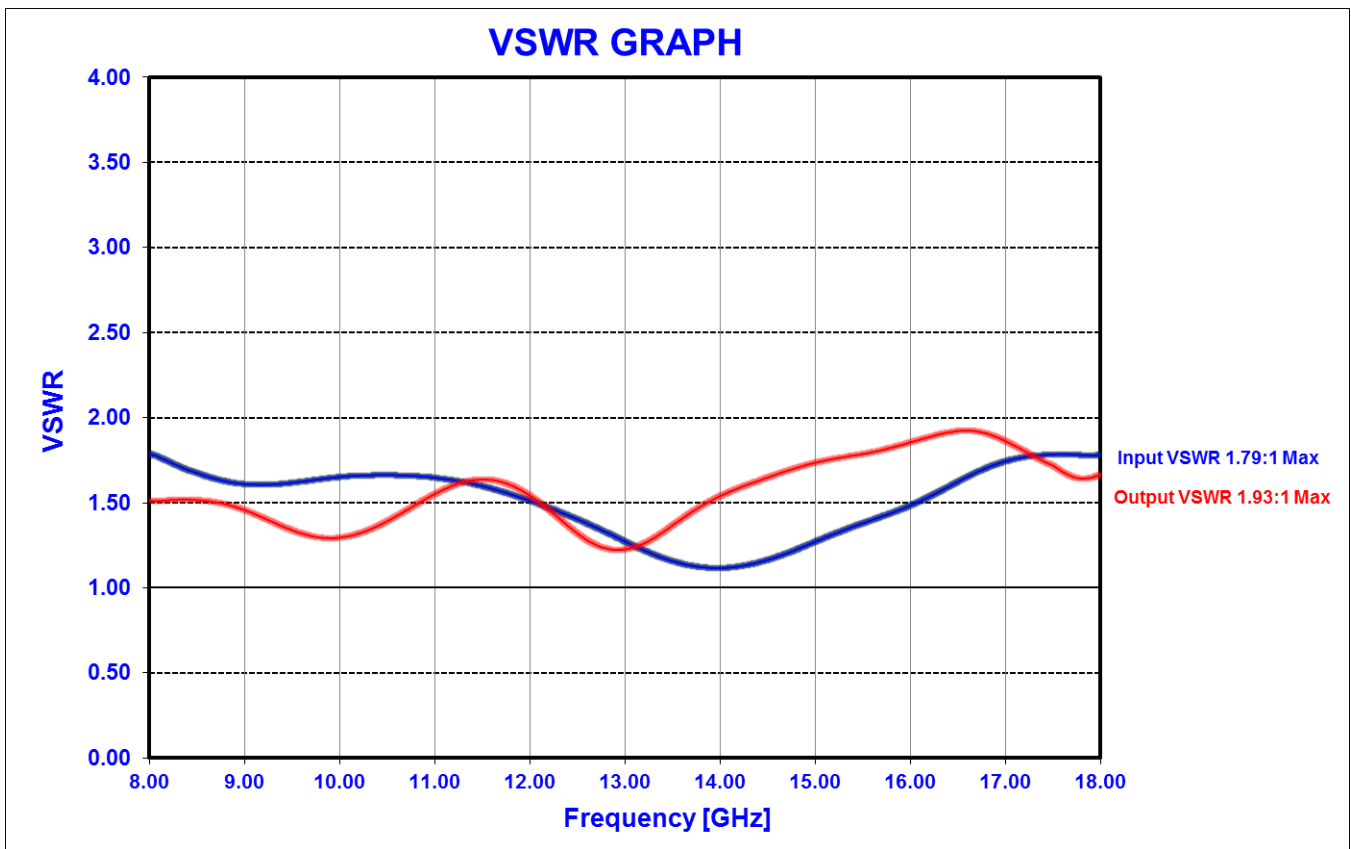
VSWR GRAPH





**SUMMARY TEST DATA
ON
SDLVA-8G8G-70dB-100dB**

Return Loss @ -40°C





**SUMMARY TEST DATA
ON
SDLVA-8G8G-70dB-100dB**

Return Loss @ +75°C

