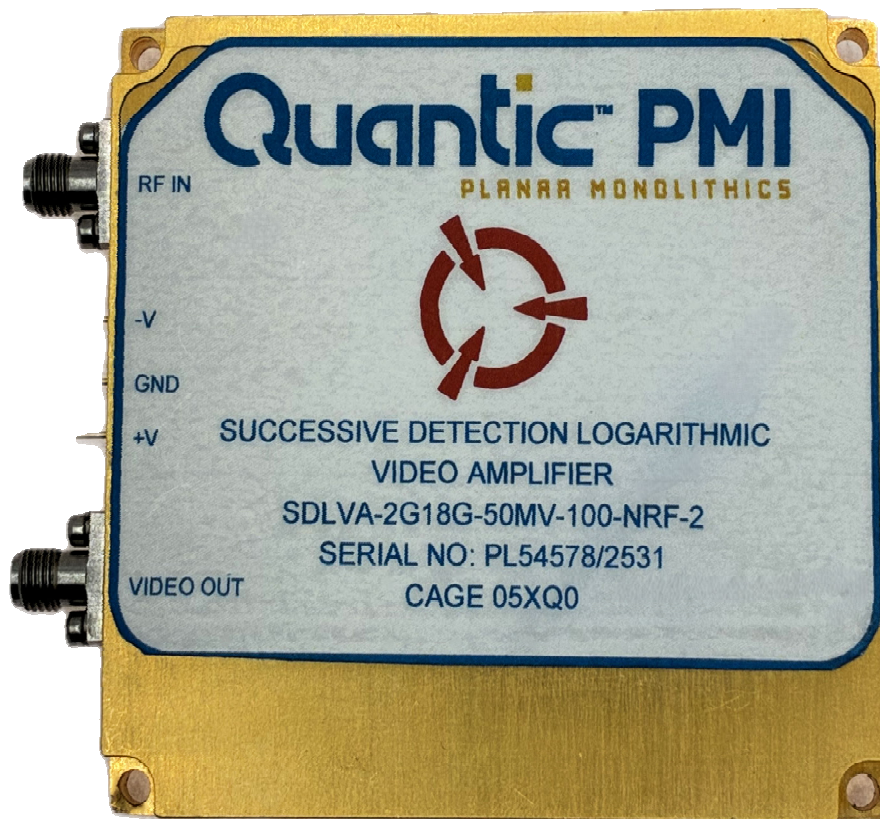


**TYPICAL CHARACTERISTICS
ON
SDLVA-2G18G-50MV-100-NRF-2**

QUANTIC PMI MODEL NUMBER SDLVA-2G18G-50MV-100-NRF-2 IS A SUCCESSIVE DETECTION LOGARITHMIC VIDEO AMPLIFIER (SDLVA) DESIGNED TO OPERATE OVER THE 2 GHz TO 18 GHz FREQUENCY RANGE. THIS MODEL IS DESIGNED FOR ULTRA HIGH SPEED APPLICATIONS WHILE MAINTAINING SUPERIOR LINEARITY, PRECISE ACCURACY, AND EXCELLENT FLATNESS OVER IT'S ENTIRE OPERATING RANGE.



August 4, 2025

Tested By: R. Combs

Reported By: J Escano

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Email: sales@quanticpmi.com

TYPICAL CHARACTERISTICS ON SDLVA-2G18G-50MV-100-NRF-2

OUTLINE

DESCRIPTION:

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER SDLVA-2G18G-50MV-100-NRF-2 IS A SUCCESSIVE DETECTION LOGARITHMIC VIDEO AMPLIFIER (SDLVA) DESIGNED TO OPERATE OVER THE 2 GHz TO 18 GHz FREQUENCY RANGE. THIS MODEL IS DESIGNED FOR ULTRA HIGH SPEED APPLICATIONS WHILE MAINTAINING FLATNESS AND ACCURACY.

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	10/10/2004	
	A2	ECN # 25-0225	06/03/08	

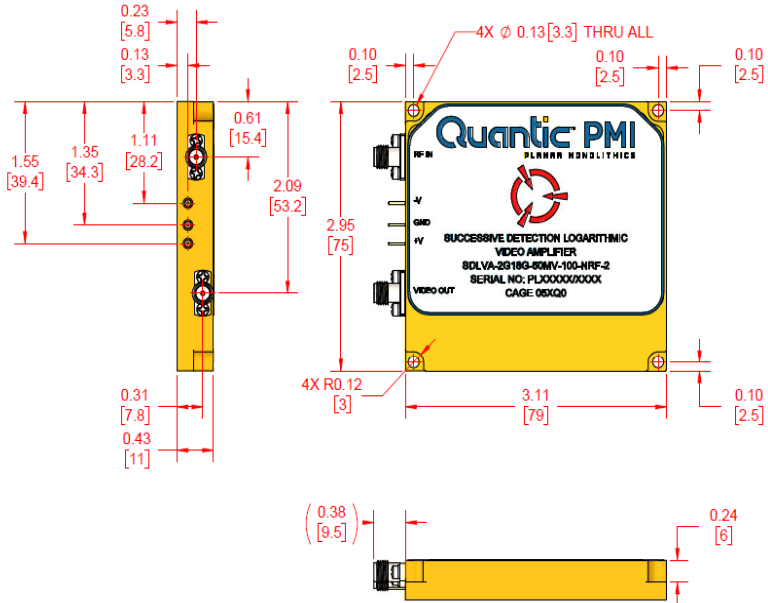
SPECIFICATIONS:

- FREQUENCY:..... 2.0 GHz TO 18.0 GHz
- FLATNESS:..... ± 2.0 dB MAX
- TSS:..... -69 dBm MIN
- VSWR:..... 2.0:1 MAX (RF INPUT)
- POWER INPUT:..... +17 dBm CW MAX
- LOG SLOPE:..... 50 mV/dB (± 1.5 mV) 100 Ω LOAD
- LOG RANGE:..... -67 TO +5 dBm
- LOG LINEARITY:..... ± 1.0 dB (25°C)
- LOG REF LINE:..... ± 1.35 dB (-30°C / +65°C)
FROM 200 mV @ -67 dBm TO
3800 mV @ +5 dBm, WITH A
50 mV/dB LOG SLOPE
- LOG OFFSET:..... 0 mV ± 100 mV
- PULSE RANGE:..... 30 ns TO CW
- RISE TIME:..... 10 ns MAX, 6 ns TYP
- FALL TIME:..... 40 ns TYP
- RECOVERY TIME:..... 60 ns TYP
- POWER SUPPLY:..... +15 V OR +12 V @ 350 mA NOM
-15 V OR -12 V @ 180 mA NOM
- CONNECTORS:..... SMA FEMALE
- SEALING:..... HARD CONDUCTIVE EPOXY
- FINISH:..... GOLD PLATED

ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -30°C TO +65°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 ATMOSPHERE:..... MIL-STD-202G, METHOD 101E COND. C
- FUNGUS:..... MIL-STD-810C, METHOD 508.2
- TEMPERATURE CYCLE:..... MIL-STD-202F, METHOD 107D, COND. A
- ELECTROMAGNETIC COMPATIBILITY:..... MODULE DESIGN SHALL BE BASED ON THE REQUIREMENTS STATED IN MIL-STD-461D CLASS A3 AND OPERATE IN THE ENVIRONMENT STATED IN THE REQUIREMENTS MIL-STD-462 (MEASUREMENT OF ELECTROMAGNETIC INTERFERENCE CHARACTERISTICS)

NOTE: SPECIFICATIONS WILL VARY OVER TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS		DATE	TITLE	
DESIGNED BY	J ESCANO	10/10/2004	OUTLINE	
DESIGNED BY	REWORKED		REV	REV
DESIGNED BY			B	A2
DESIGNED BY			SCALE: 1:1	SHEET 1 OF 1

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TYPICAL CHARACTERISTICS ON SDLVA-2G18G-50MV-100-NRF-2

TECHNICAL SPECIFICATIONS

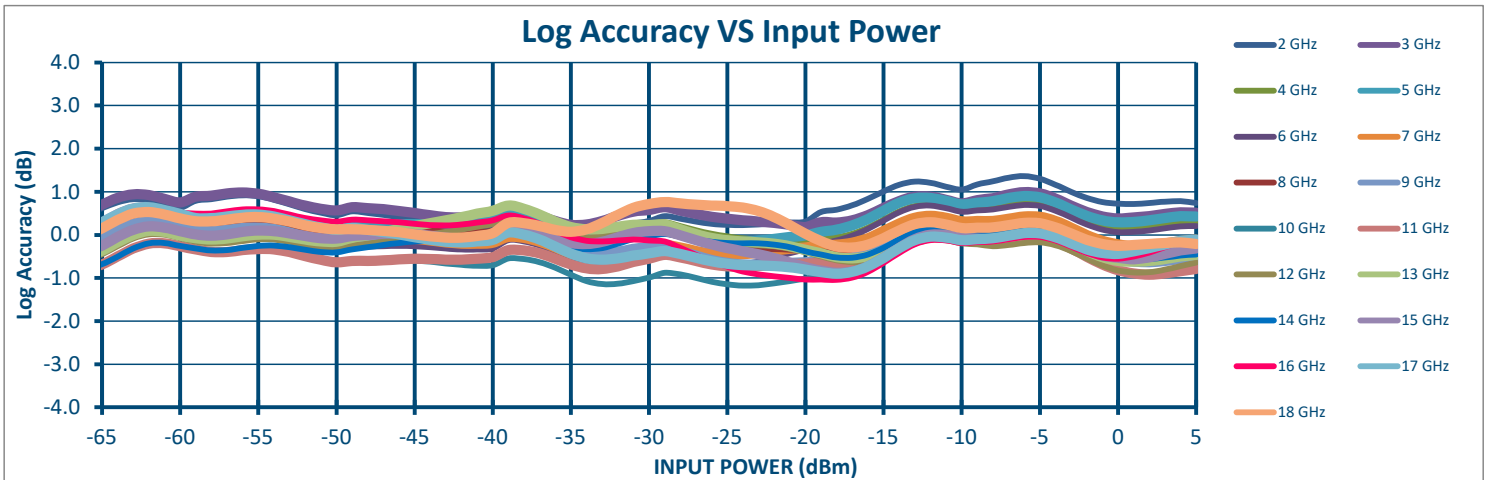
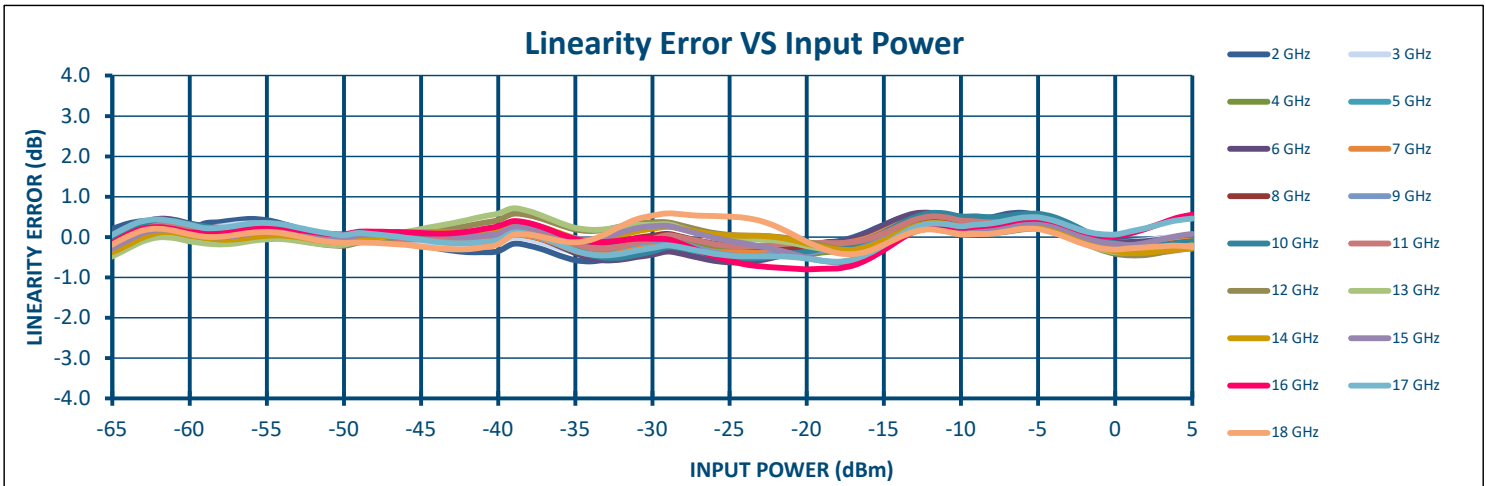
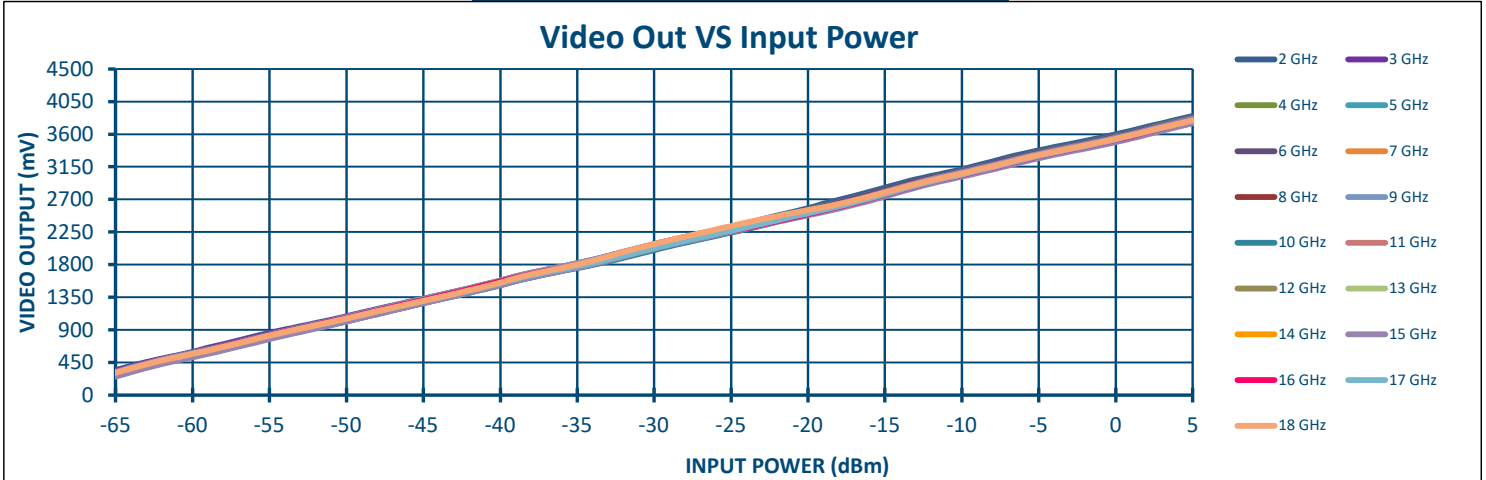
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS		
			+65°C	+25°C	-30°C
1	Frequency lower	2GHz	2 GHz	2 GHz	2 GHz
	Frequency upper	18GHz	18 GHz	18 GHz	18 GHz
2	Frequency Flatness max	±2dB	±0.99 dB	±0.91 dB	±1.16 dB
3	Input VSWR 50Ω System	50 Ohms	50 Ohms	50 Ohms	50 Ohms
4	TSS	-69 dBm Minimum	-74.9 dBm	-72.1 dBm	-75.6 dBm
5	VSWR	2.0:1 (Input)	1.26:1	1.26:1	1.25:1
6	Power Input	+17 dBm CW Maximum	+17 dBm CW		
7	Logging range Top	5dBm	5 dBm	5 dBm	5 dBm
	Logging range Bottom	-67dBm	-67 dBm	-67 dBm	-67 dBm
8	Log slope Max	51.5 mV/dB	50.5 mV/dB	50.5 mV/dB	50.8 mV/dB
	Log slope Min	48.5 mV/dB	49.6 mV/dB	49.2 mV/dB	49.1 mV/dB
9	Min step slope	> 20 mV/dB	> 20 mV/dB	> 20 mV/dB	> 20 mV/dB
10	Log Linearity max*	±1.35 dB (±1dB AMB)	±0.84 dB	±0.8 dB	±0.93 dB
11	Output load	100Ω	100Ω	100Ω	100Ω
12	Log Offset	±100mV	28 mV	-49 mV	-38 mV
13	Pulse Range	30 ns to CW	30 ns to CW	30 ns to CW	30 ns to CW
14	Recovery Time	60 ns Typical	50 ns	48 ns	52 ns
15	Rise Time	10 ns (6 ns Typical)	7.8 ns	7.8 ns	8.3 ns
16	Fall Time	40 ns Typical	44.3 ns	42.3 ns	48.3 ns
17	DC Supply	+15V or +12V @ 350 mA	281 mA	268 mA	236 mA
		-15V or -12V @ 180 mA	109 mA	100 mA	87 mA
18	Output Voltage Avg @ -67 dBm	200±100mV	215 mV	187 mV	193 mV
	Output Voltage Avg @ +5 dBm	3800±100mV	3807 mV	3792 mV	3810 mV

*Log reference line calculated with Output Voltage average for each Frequency

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TYPICAL CHARACTERISTICS ON SDLVA-2G18G-50MV-100-NRF-2

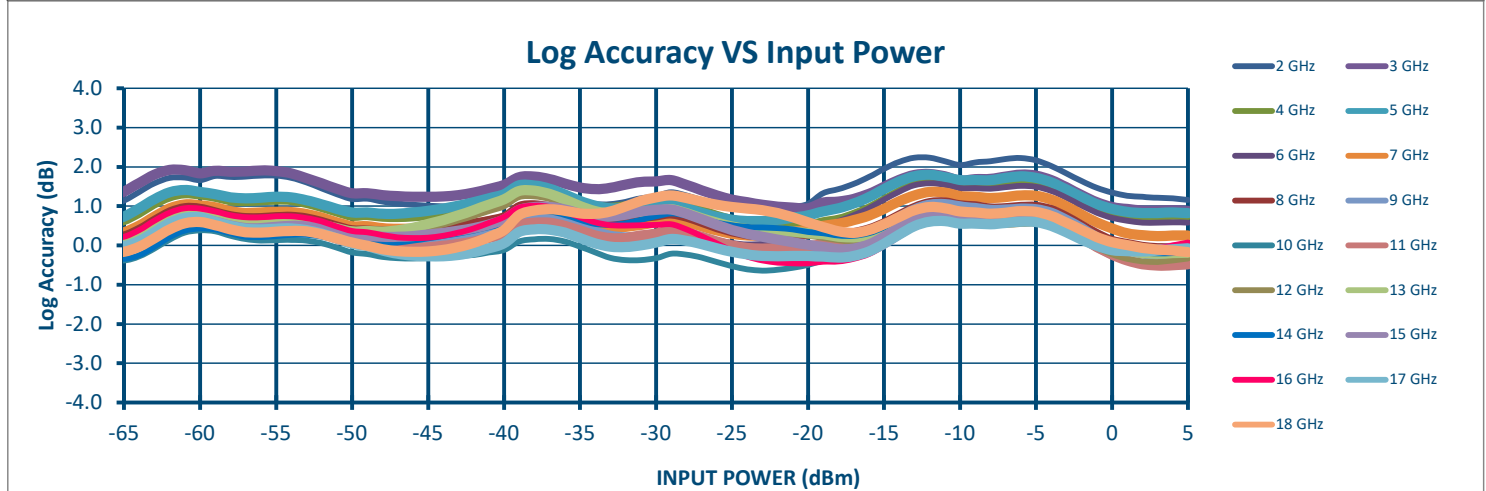
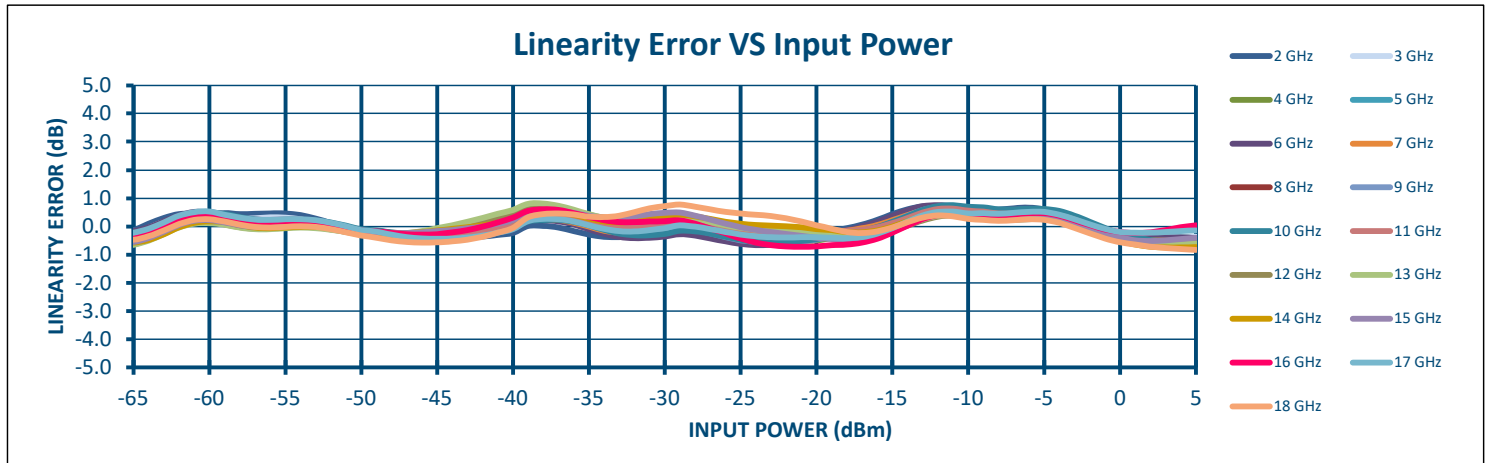
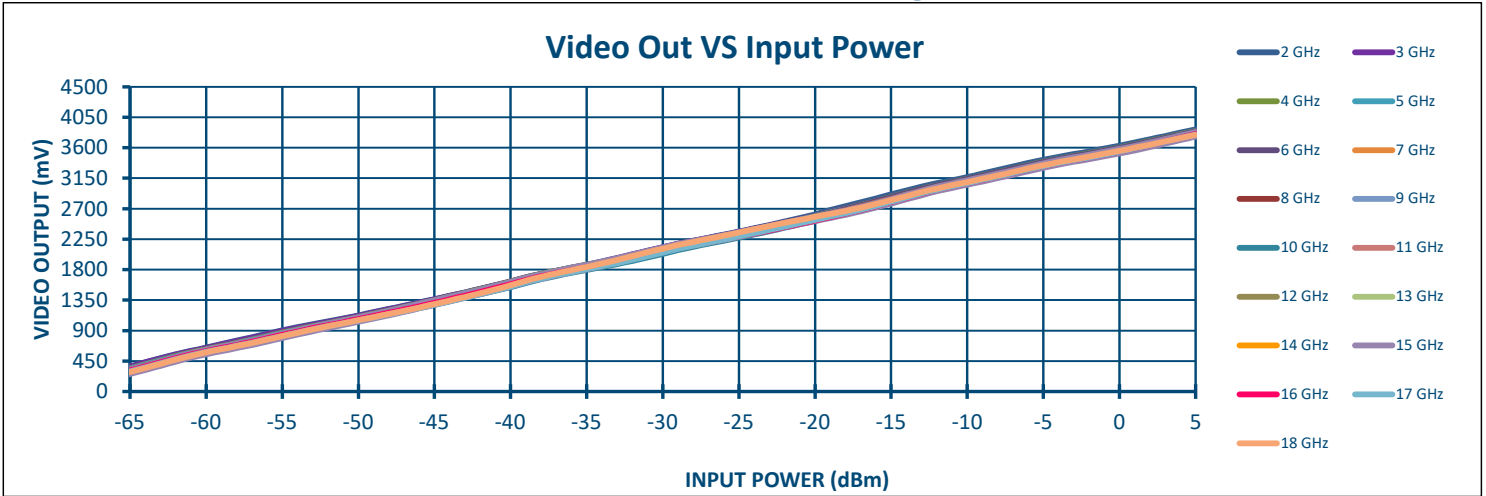
TYPICAL TRANSFER FUNCTION @ +25°C



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TYPICAL CHARACTERISTICS ON SDLVA-2G18G-50MV-100-NRF-2

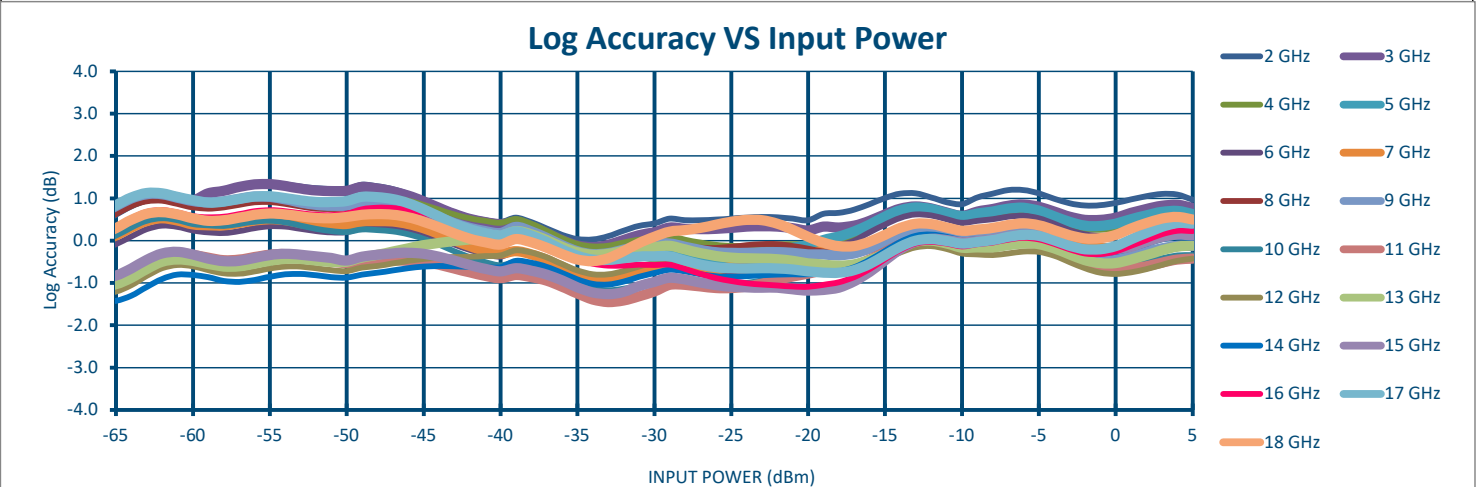
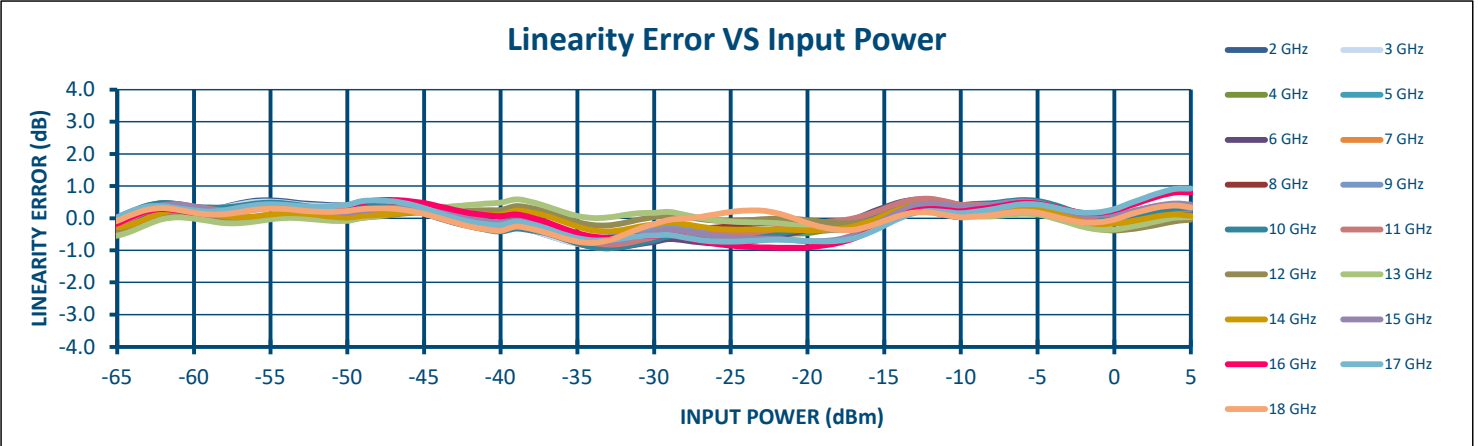
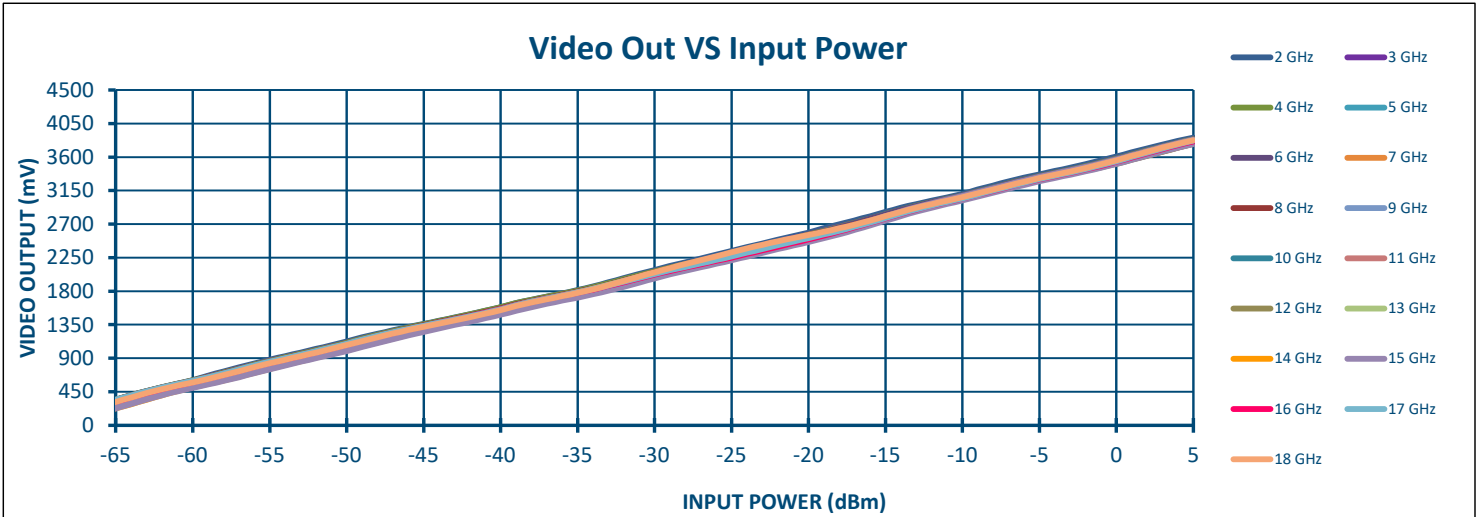
TYPICAL TRANSFER FUNCTION @ +65°C



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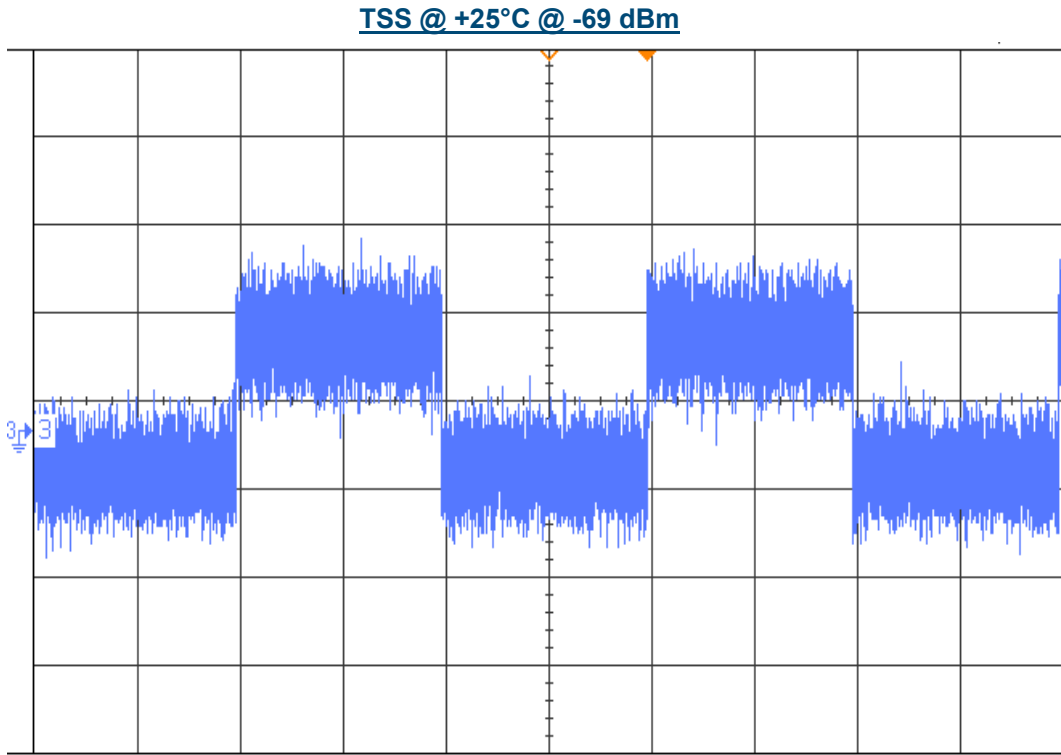
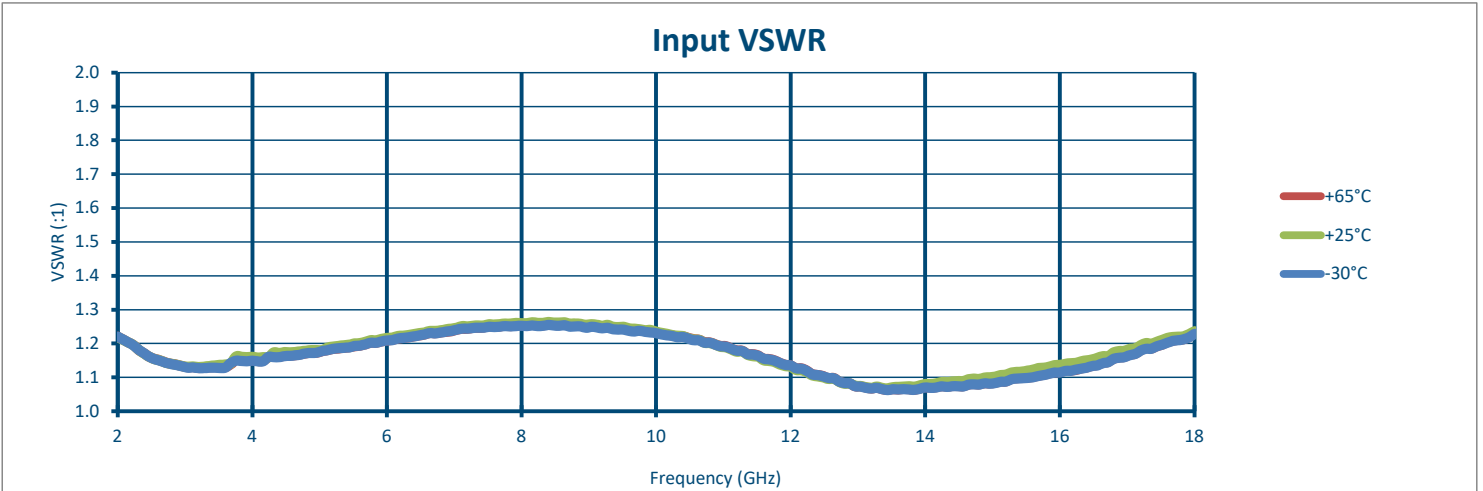
TYPICAL CHARACTERISTICS ON SDLVA-2G18G-50MV-100-NRF-2

TYPICAL TRANSFER FUNCTION @ -30°C



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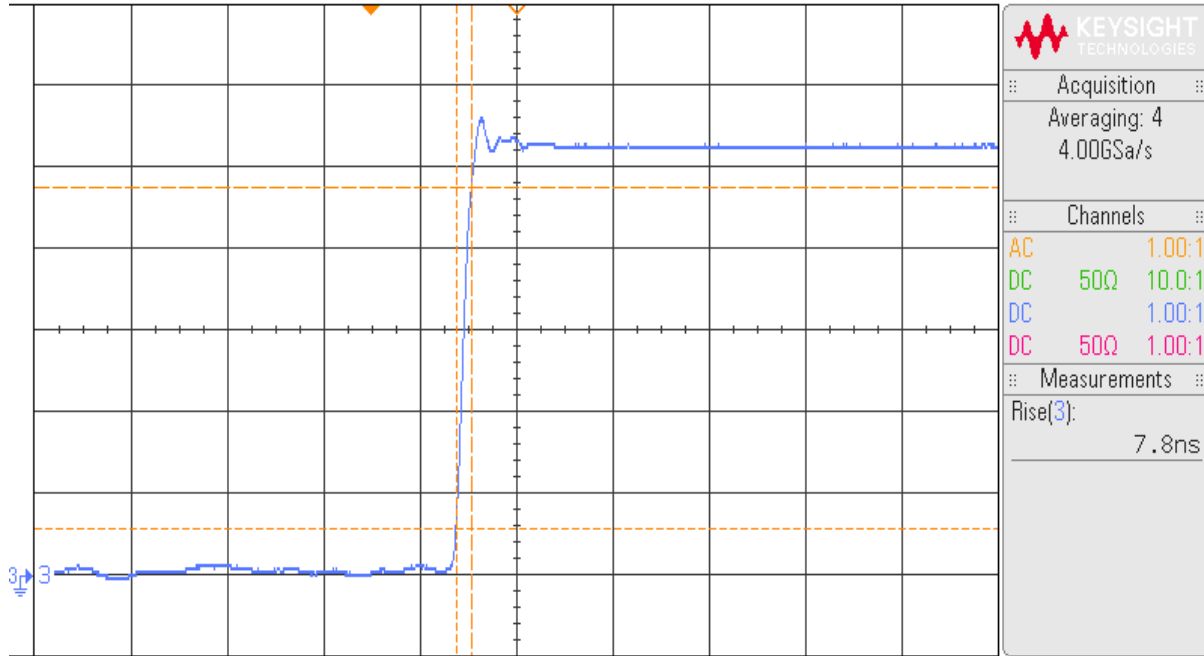
**TYPICAL CHARACTERISTICS
ON
SDLVA-2G18G-50MV-100-NRF-2**



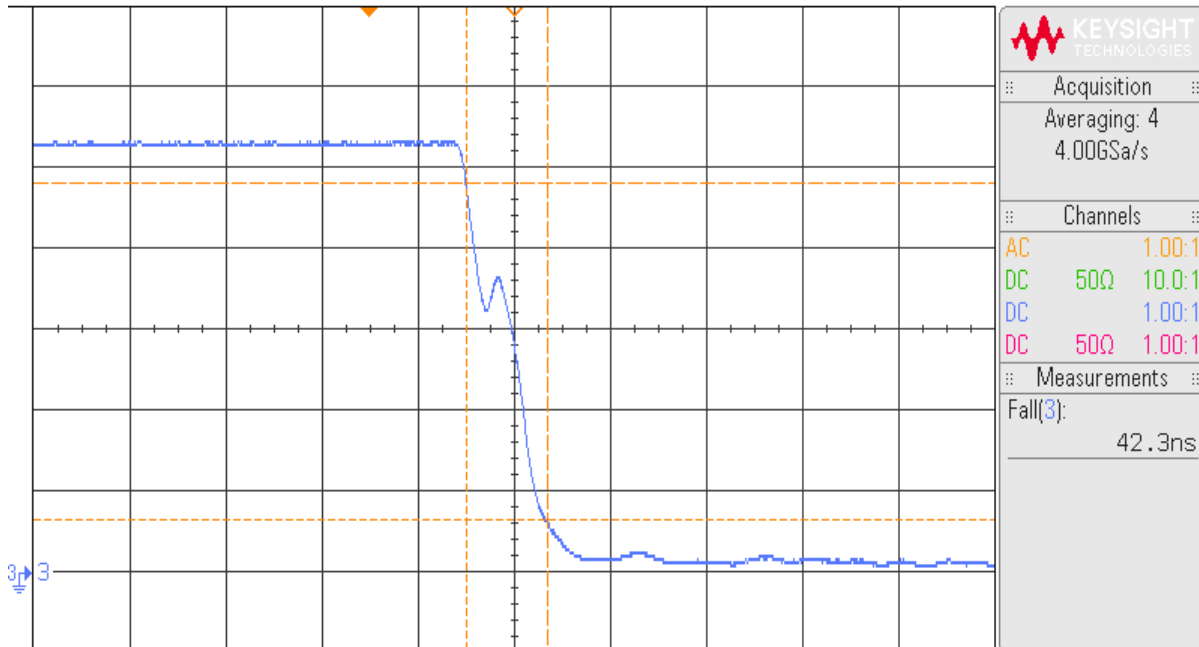
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**TYPICAL CHARACTERISTICS
ON
SDLVA-2G18G-50MV-100-NRF-2**

RISE TIME @ +25°C



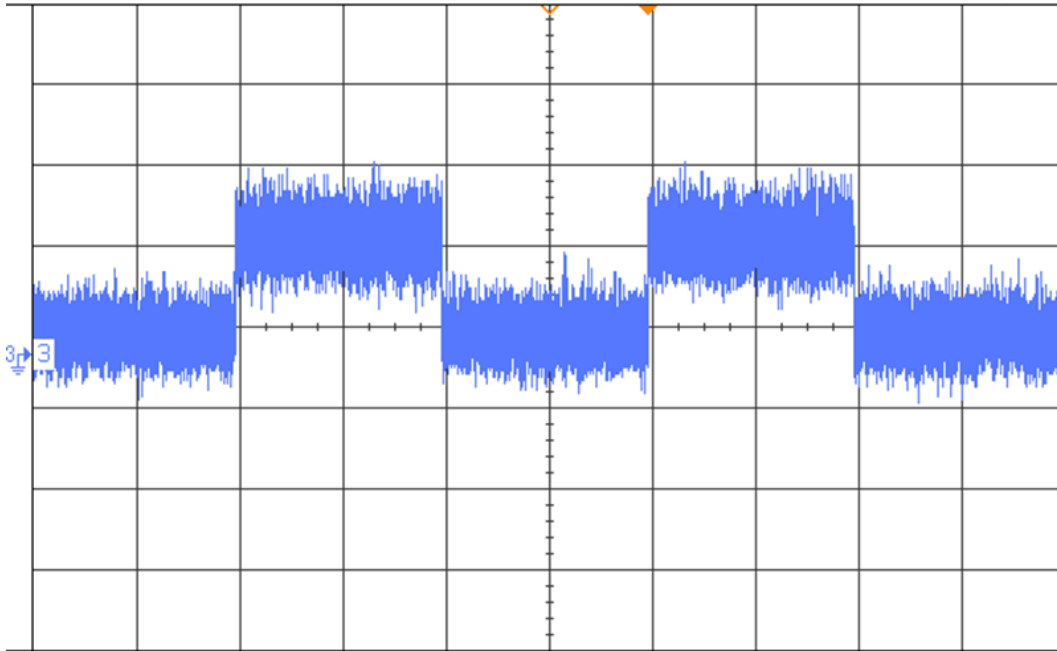
FALL TIME @+25°C



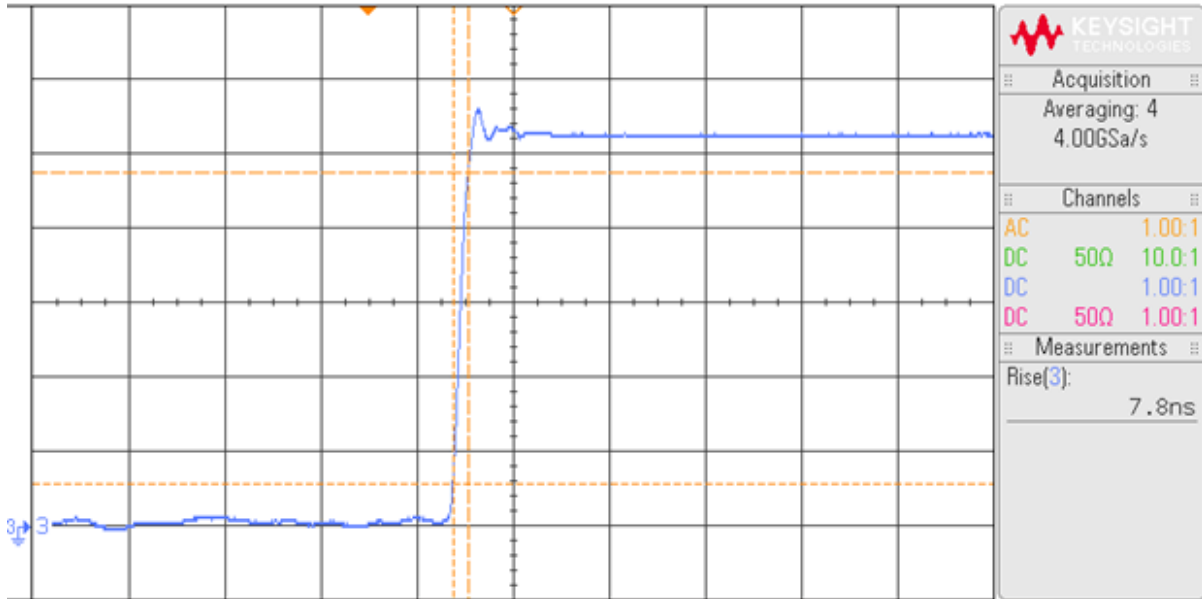
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**TYPICAL CHARACTERISTICS
 ON
 SDLVA-2G18G-50MV-100-NRF-2**

TSS @ +65°C @ -69 dBm



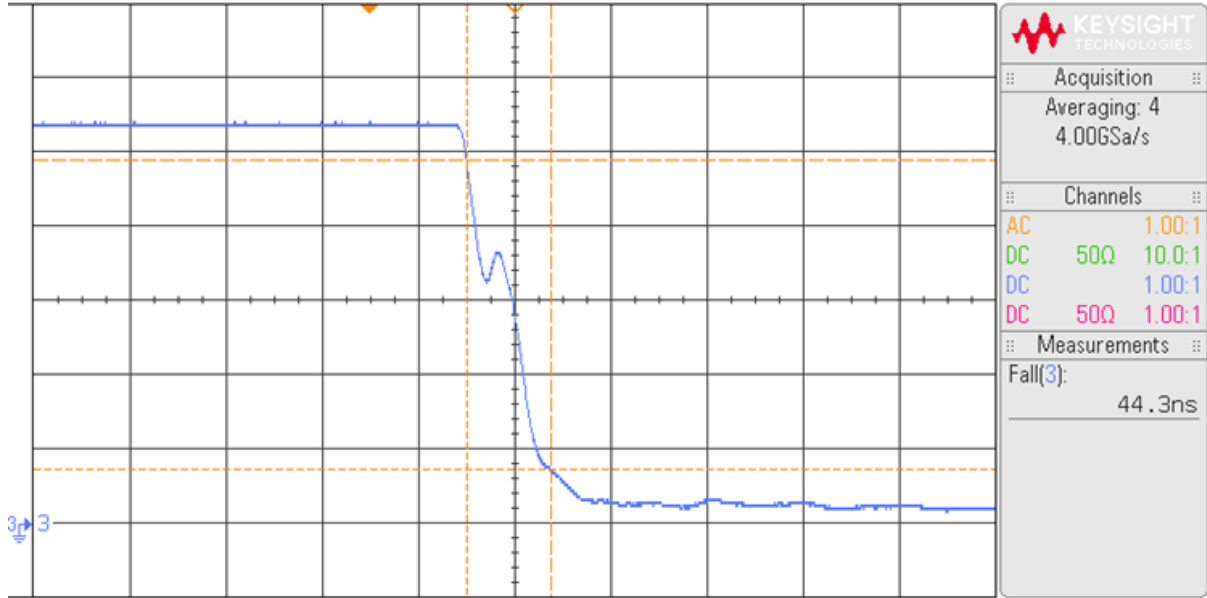
RISE TIME @ +65°C



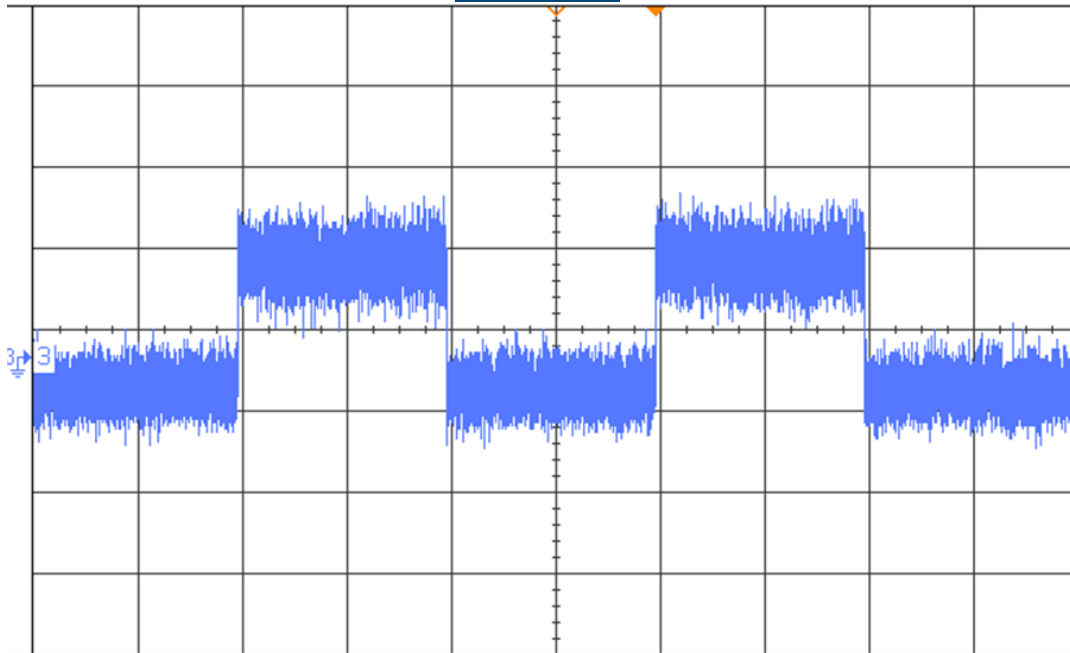
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**TYPICAL CHARACTERISTICS
ON
SDLVA-2G18G-50MV-100-NRF-2**

FALL TIME @+65°C @ -69 dBm



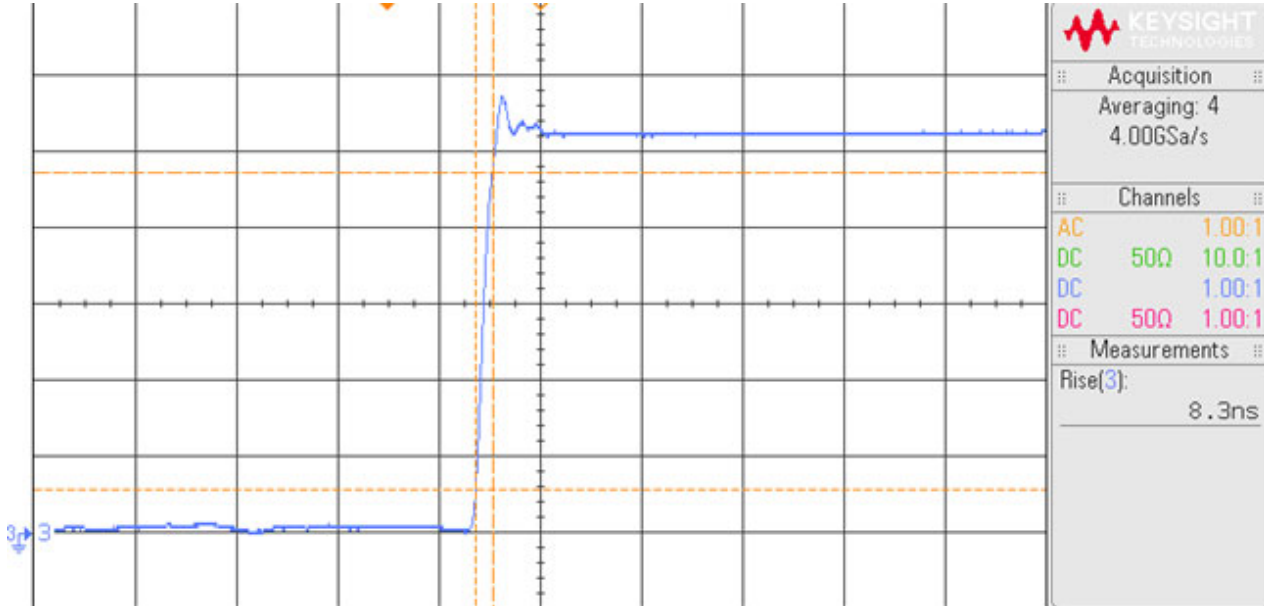
TSS @ -30°C



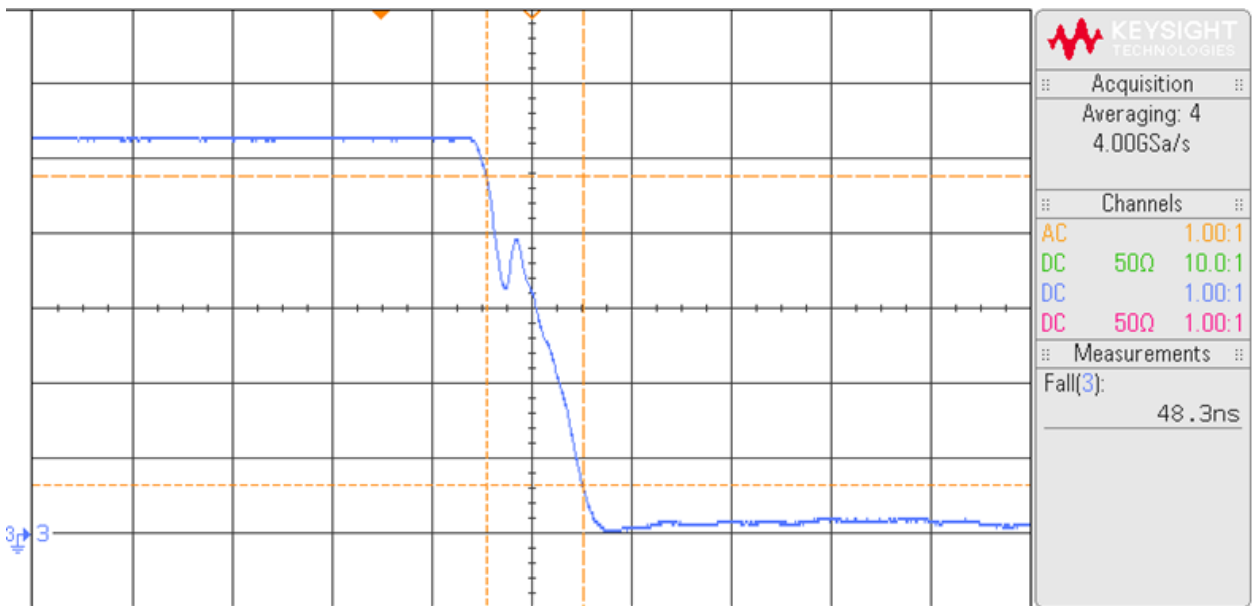
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**TYPICAL CHARACTERISTICS
ON
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RISE TIME @ -30°C



FALL TIME @ -30°C



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