

**TYPICAL CHARACTERISTICS
FOR
DTA-200M18G-60-CD-EXT**

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER DTA-200M18G-60-CD-EXT IS A 10-BIT DIGITALLY TUNED ATTENUATOR DESIGNED FOR THE 200 MHz TO 18 GHz FREQUENCY RANGE USING AN EXTERNAL LATCH TO SET THE ATTENUATION LEVEL.



Reported By: Dylan Hoschar

Tested By: Eric Kretz

3/21/2025

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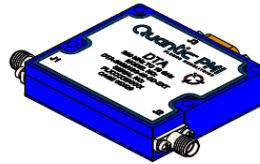
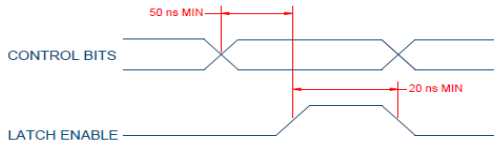
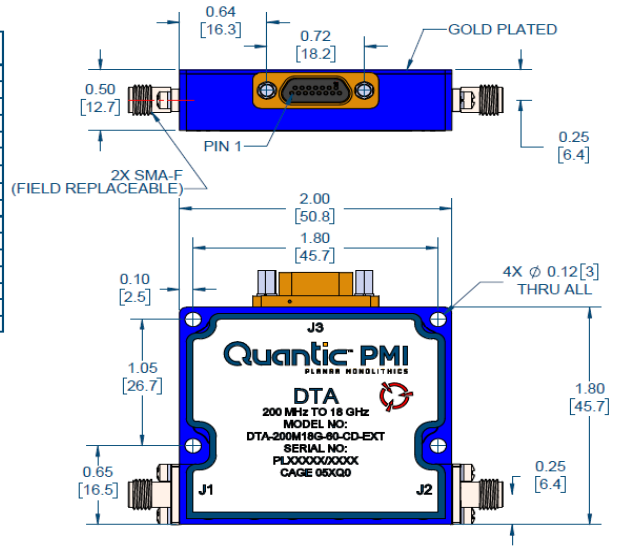
DESCRIPTION:

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER DTA-200M18G-60-CD-EXT IS A 10-BIT DIGITALLY TUNED ATTENUATOR DESIGNED FOR THE 200 MHz TO 18 GHz FREQUENCY RANGE USING AN EXTERNAL LATCH TO SET THE ATTENUATION LEVEL.

SPECIFICATIONS:

- FREQUENCY RANGE: 0.2 TO 18.0 GHz
- RF OPERATING INPUT POWER LEVEL: +20 dBm MAXIMUM
- SURVIVAL INPUT POWER LEVEL: 1 WATT CW
- INSERTION LOSS: 5 dB MAXIMUM
- INPUT / OUTPUT V SWR: 2:1 TYPICAL, 2.4:1 MAXIMUM
- ATTENUATION RANGE: 60 dB MINIMUM
- CONTROL BITS: 10 BIT TTL
- LATCH: EXTERNAL TTL
(SEE TIMING DIA GRAM BELOW)
- ATTENUATION FLATNESS: UP TO 20 dB: ±1 dB TYPICAL
UP TO 40 dB: ±1.25 dB TYPICAL
UP TO 60 dB: ±1.5 dB TYPICAL
- ATTENUATION ACCURACY: UP TO 20 dB: ±1 dB TYPICAL
UP TO 40 dB: ±1.25 dB TYPICAL
UP TO 60 dB: ±1.5 dB TYPICAL
- MINIMUM ATTENUATION STEP: 0.0625 dB NOMINAL
- SWITCHING SPEED: ON: 1 μs MAXIMUM
OFF: 0.5 μs MAXIMUM
- CONNECTORS: RF IN/ RF OUT: SMA(F)
POWER AND CONTROL: 15-PIN MICRO-D FEMALE
- POWER SUPPLIES: +8VDC @ 350 mA MAXIMUM
- FINISH: PAINTED BLUE
(BOTTOM IS GOLD PLATED)

J3: 15-PIN CONNECTOR PIN-OUT	
PIN	FUNCTION
1	2 dB
2	1 dB
3	0.5 dB
4	0.25 dB
5	GND
6	0.125 dB
7	0.0625 dB (LSB)
8	GND
9	LATCH
10	N/C
11	+8VDC
12	32 dB (MSB)
13	16 dB
14	8 dB
15	4 dB



ENVIRONMENTAL RATINGS:

- TEMPERATURE: +35°C ± 1°C (OPERATING)
-54°C TO +85°C (STORAGE)

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

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	8/19/04	

APPROVALS		DATE	TITLE		
DESIGN	D. HOSCHAR	8/19/04	DTA-200M18G-60-CD-EXT		
TESTED			OUTLINE		
<small>ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN INCHES DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED TOLERANCES ARE: X .125 X .005 X .010</small>		SIZE	FORM NO.	DRG NO.	REV
		B	05XQ0	27049480	A1
		SHEET 5		SHEET 1 OF 1	

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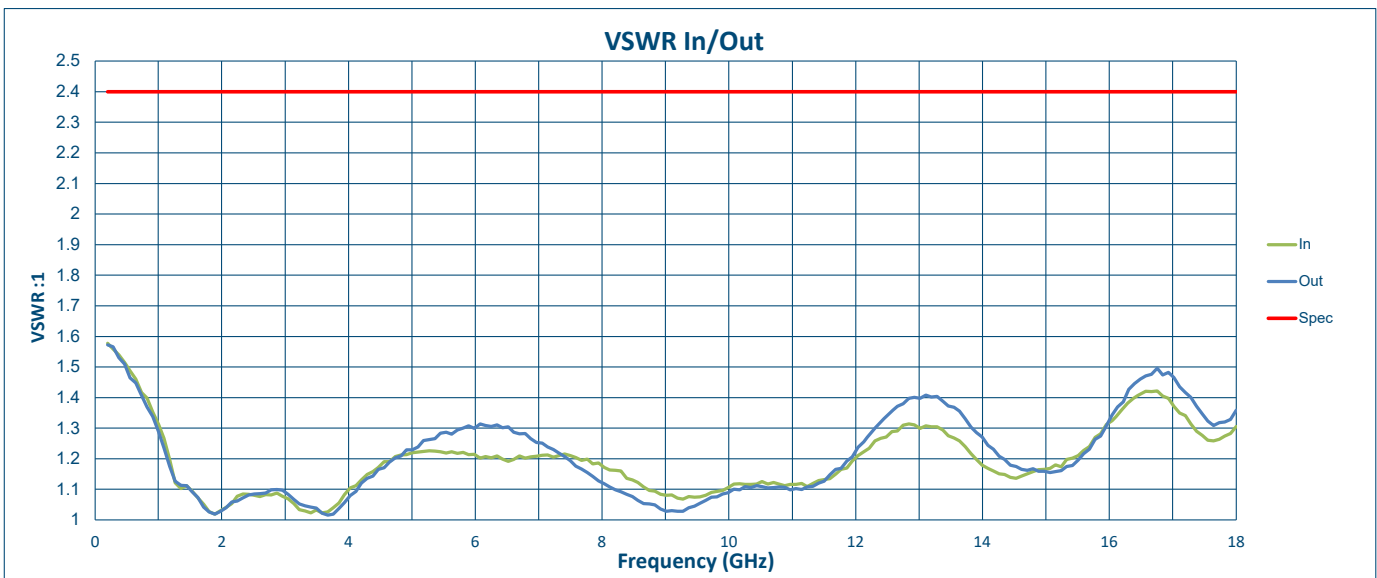
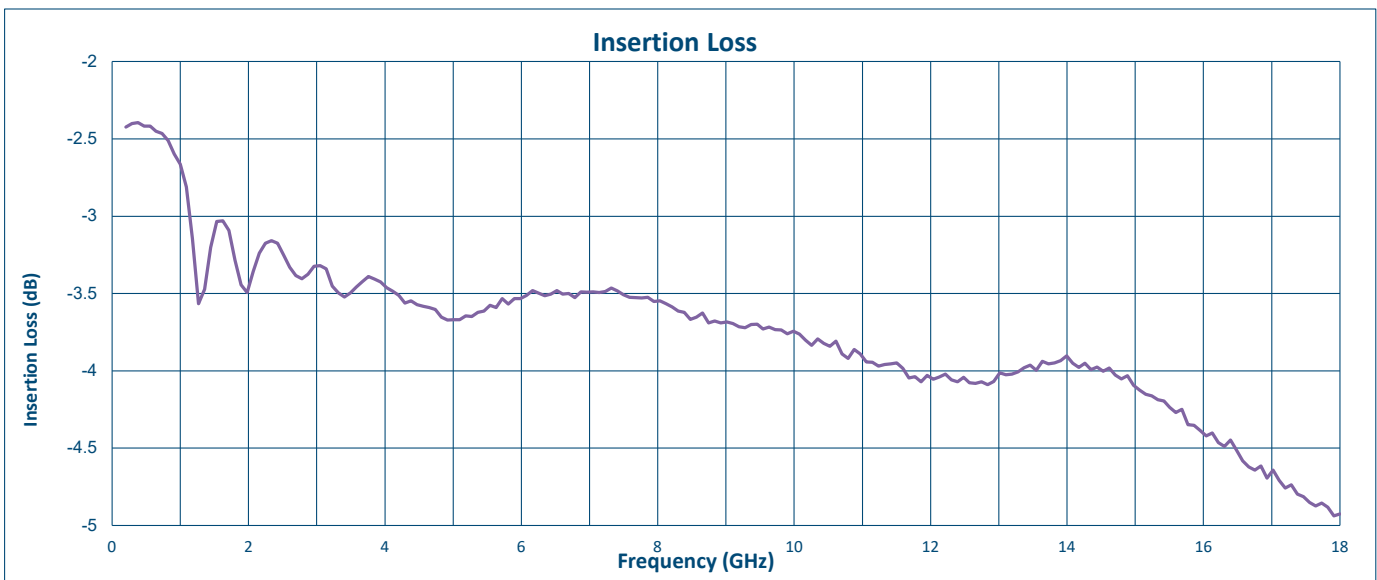
TEST DATA

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results
			+35°C
1	Frequency Range:	0.2 to 18.0 GHz	0.2 to 18.0 GHz
2	Insertion Loss:	5 dB Max.	4.9 dB See Graph
3	Survival Input Power:	1 W CW	Pass See Graph
4	VSWR: (Input/Output)	2.0:1 Typ. 2.4:1 Max.	1.6:1 See Graph
5	Attenuation Range:	60 dB Min.	60 dB
6	Attenuation Flatness: (Up to 20 dB)	±1 dB Typ.	±0.57 dB See Graph
7	Attenuation Flatness: (Up to 40 dB)	±1.25 dB Typ.	±0.72 dB See Graph
8	Attenuation Flatness: (Up to 60 dB)	±1.5 dB Typ.	±0.96 dB See Graph
9	Attenuation Accuracy: (Up to 20 dB)	±1 dB Typ.	±0.2 dB See Graph
10	Attenuation Accuracy: (Up to 40 dB)	±1.25 dB Typ.	±0.4 dB See Graph
11	Attenuation Accuracy: (Up to 60 dB)	±1.5 dB Typ.	±0.91 dB See Graph
12	Minimum Attenuation Step:	0.0625 dB	0.0625 dB
13	Switching Speed:	ON: 1 us Max. OFF: 0.5 us Max.	ON: 977.5 ns OFF: 240 ns See Graph
14	DC Power Supply:	+8 VDC	+8 VDC
15	DC Current:	350 mA Max.	303 mA

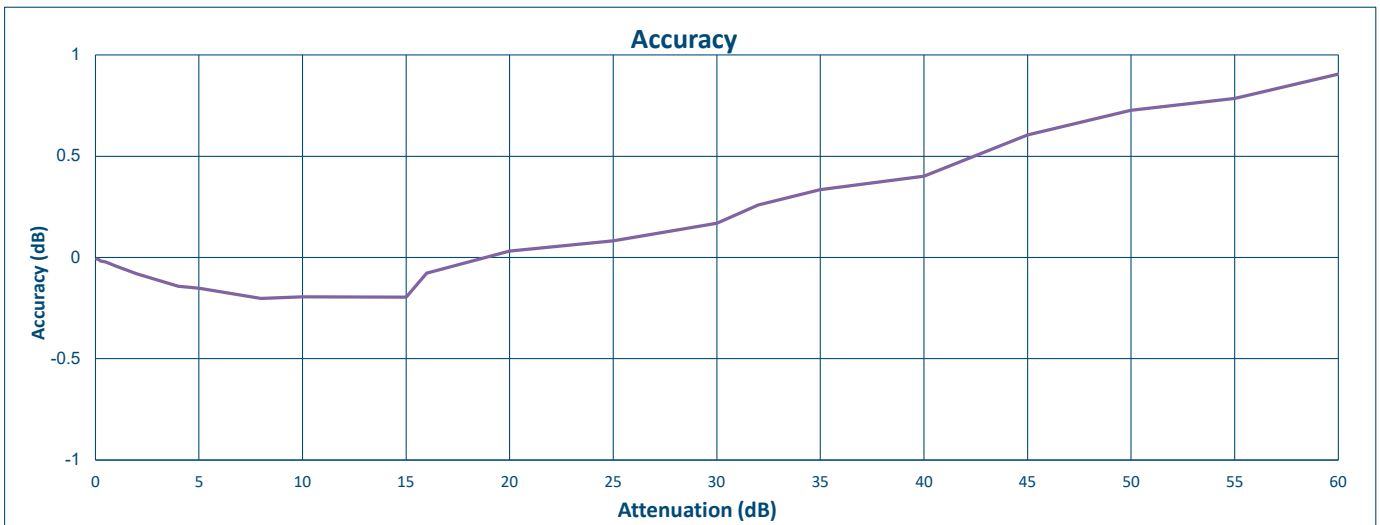
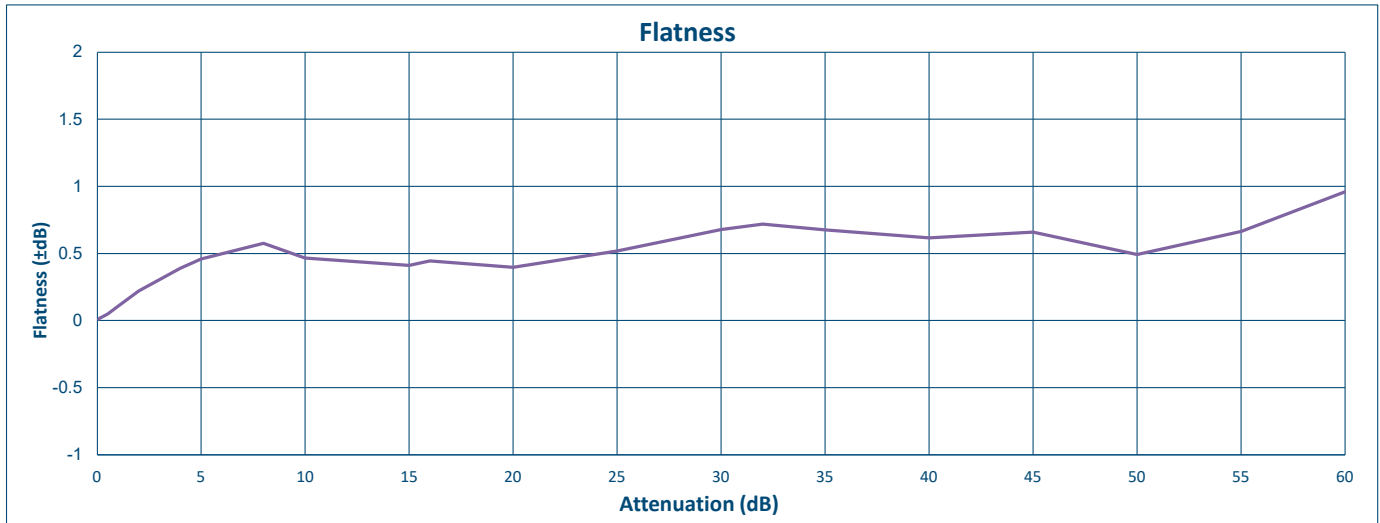
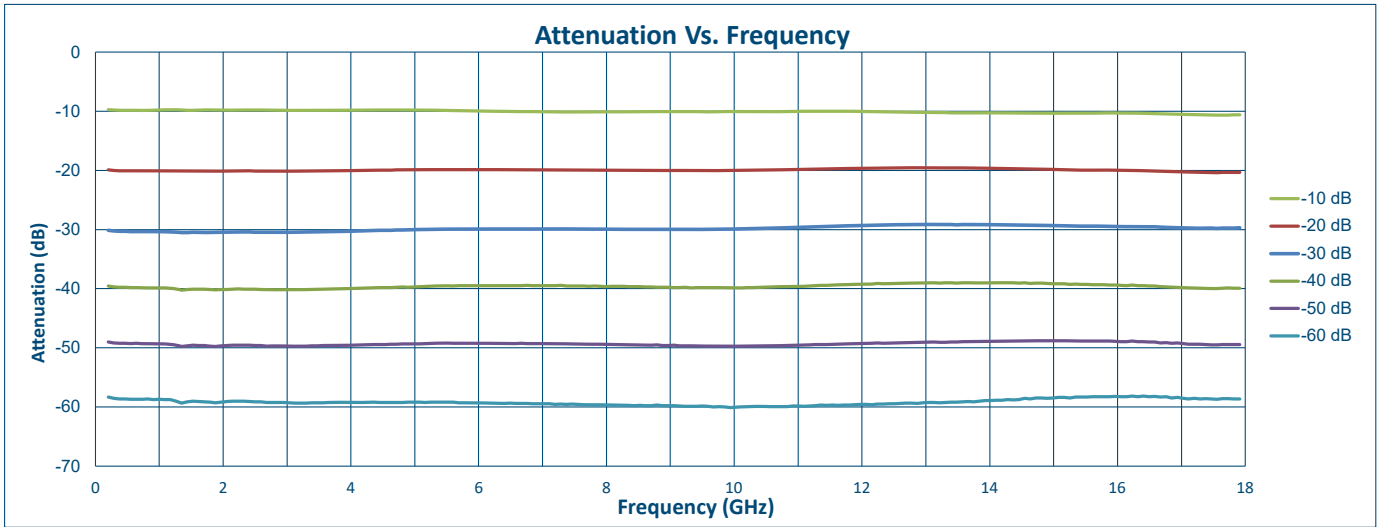
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Programmed Attenuation	Attenuation	Accuracy of Attenuation	Flatness
dB	dB	dB	±dB
0.0625	0.07	-0.01	0.01
0.125	0.13	-0.01	0.02
0.25	0.27	-0.02	0.03
0.50	0.52	-0.02	0.05
1.00	1.04	-0.04	0.10
2.00	2.08	-0.08	0.22
4.00	4.14	-0.14	0.39
8.00	8.20	-0.20	0.57
16.00	16.08	-0.08	0.44
32.00	31.74	0.26	0.72
62.00	60.96	1.04	1.09
63.94	62.85	1.08	1.52

Programmed Attenuation	Attenuation	Accuracy of Attenuation	Flatness
dB	dB	dB	±dB
5.00	5.15	-0.15	0.46
10.00	10.20	-0.20	0.47
15.00	15.20	-0.20	0.41
20.00	19.97	0.03	0.40
25.00	24.92	0.08	0.52
30.00	29.83	0.17	0.68
35.00	34.66	0.34	0.68
40.00	39.60	0.40	0.61
45.00	44.40	0.60	0.66
50.00	49.27	0.73	0.49
55.00	54.21	0.79	0.66
60.00	59.09	0.91	0.96



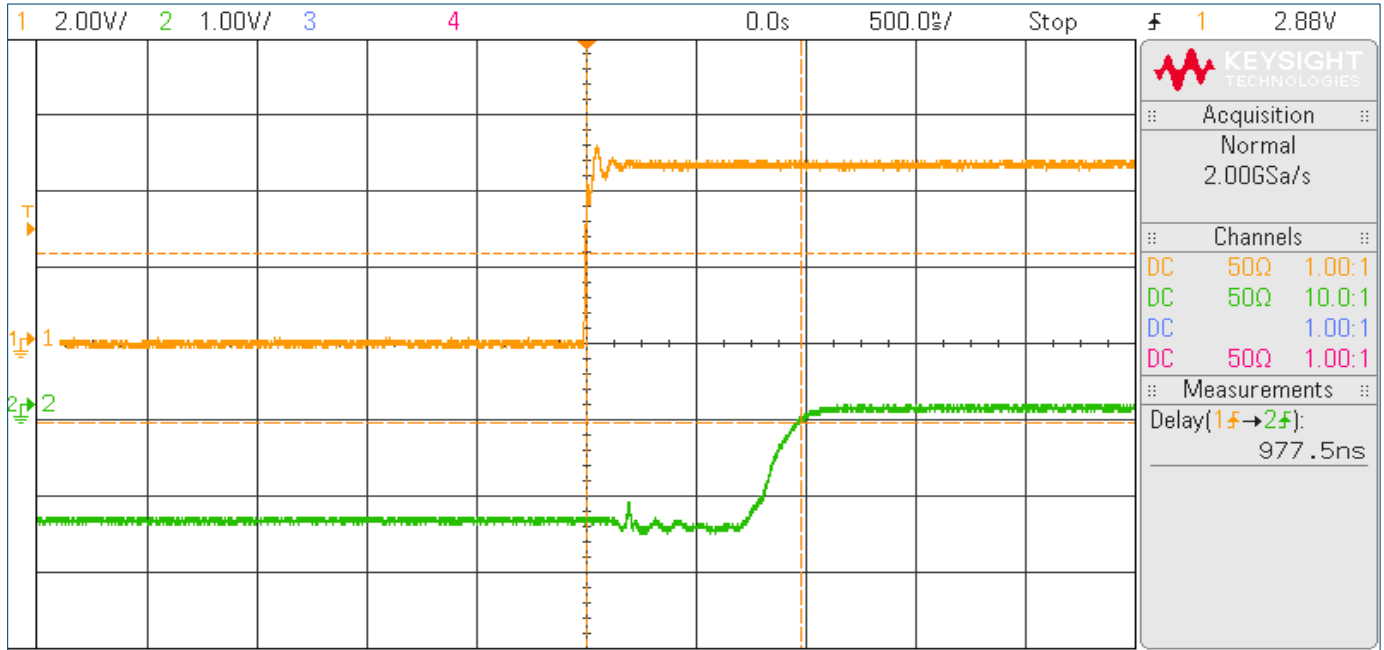
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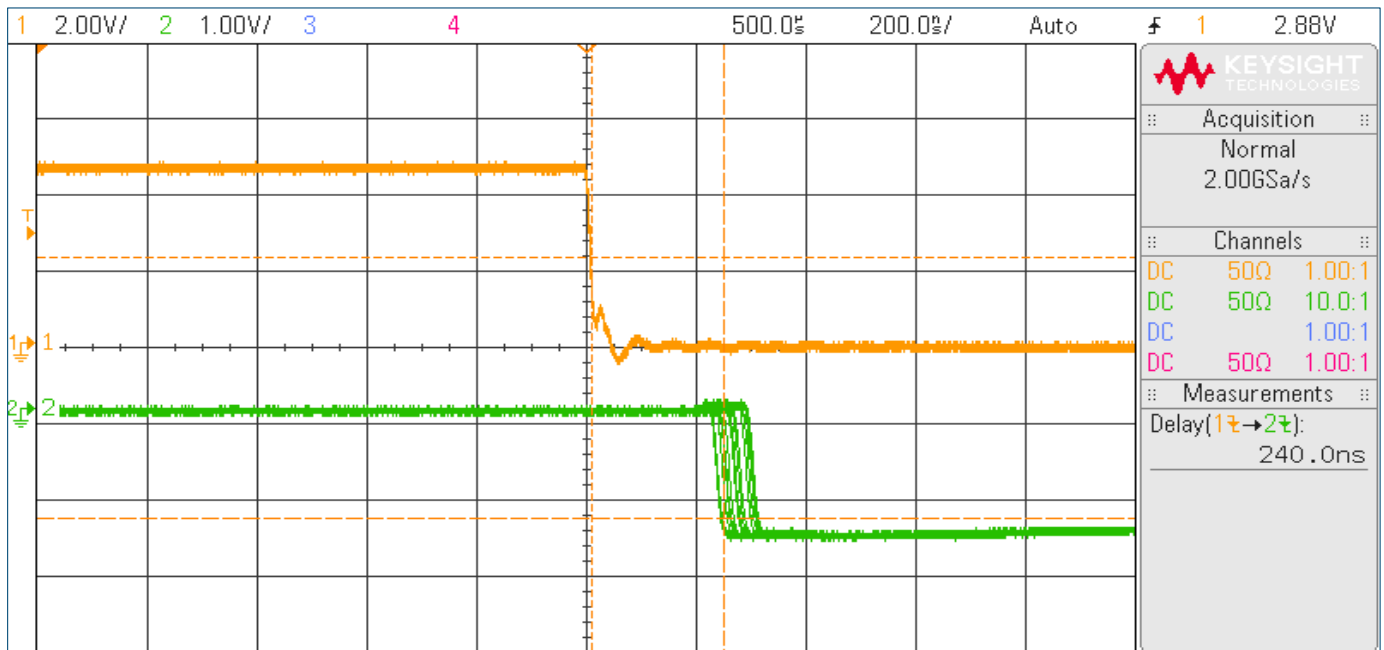
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Switching Speed

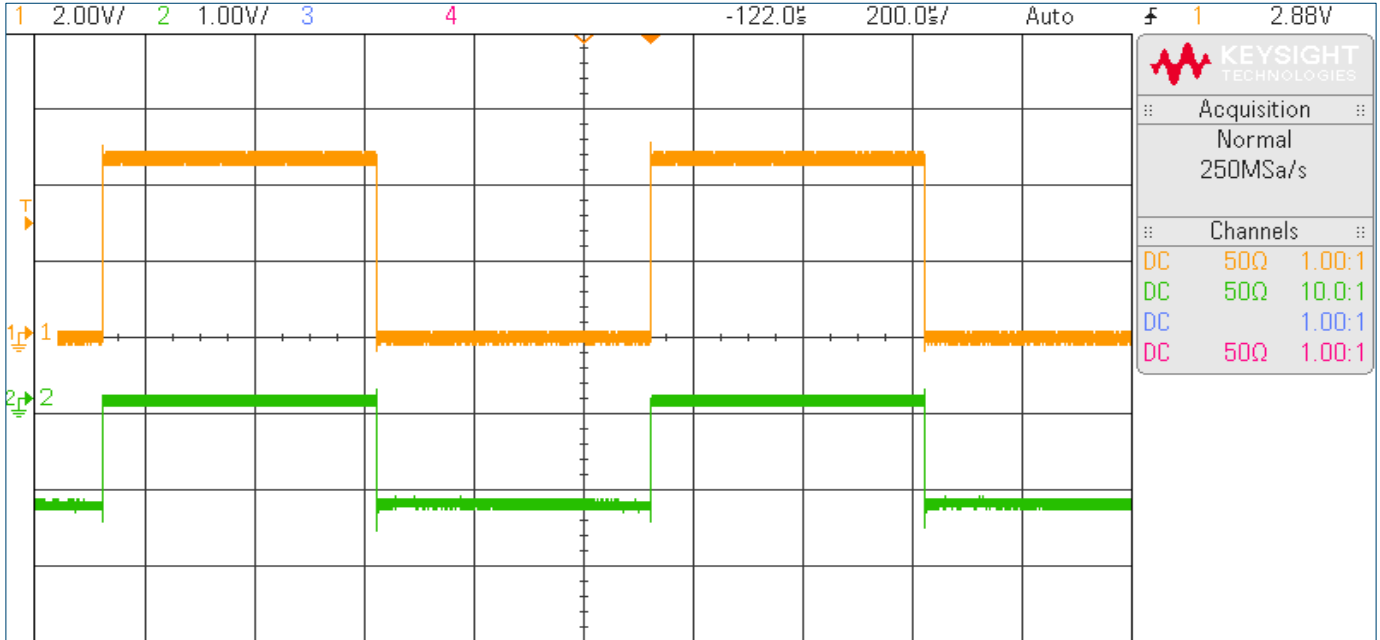
ON



OFF



Full Pulse



Input vs Output Power

