



**TYPICAL CHARACTERISTICS
ON
DTA-200M18G-100-CD-EXT**

Planar Monolithics Industries Model Number DTA-200M18G-100-CD-EXT is an 8-Bit Digitally Tuned Attenuator Designed for the 200 MHz to 18 GHz Frequency Range. It has a 100dB Attenuation Range and is Externally Latched.



August 28, 2019

Designed By: PMI Engineering

Tested By: Randy L Combs



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TYPICAL CHARACTERISTICS ON DTA-200M18G-100-CD-EXT

Product Outline Drawing with Specifications

DESCRIPTION:
PLANAR MONOLITHICS INDUSTRIES' MODEL NUMBER DTA-200M18G-100-CD-EXT IS AN 8-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:..... 0.2 TO 18 GHz
- RF OPERATING INPUT POWER LEVEL:..... +20 dBm MAXIMUM
- SURVIVAL INPUT POWER LEVEL:..... 1 WATT CW, 10 WATTS PEAK, 1 us PULSE WIDTH, 1% DUTY CYCLE
- INSERTION LOSS:..... 12 dB MAXIMUM
- INPUT / OUTPUT VSWR:..... 2.4 : 1 MAXIMUM
- ATTENUATION RANGE:..... 100 dB MINIMUM
- CONTROL BITS:..... 8 BIT TTL
- LATCH:..... EXTERNAL TTL (SEE TIMING DIAGRAM 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
UP TO 80 dB: ±2 dB TYPICAL
UP TO 100 dB: ±3 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
UP TO 80 dB: ±2 dB TYPICAL
UP TO 100 dB: ±3 dB TYPICAL
- MINIMUM ATTENUATION STEP:..... 0.5 dB
- TEMPERATURE STABILITY:..... ±0.25 dB OVER OPERATING TEMPERATURE
- SWITCHING SPEED:..... ON: 1 us MAXIMUM
OFF: 0.5 us MAXIMUM
- CONNECTORS:..... RF IN / OUT: SMA (F)
POWER AND CONTROL: 15-PIN MICRO-D FEMALE
- POWER SUPPLIES:..... +8VDC @ 700 mA MAXIMUM
- FINISH:..... PAINTED BLUE (BOTTOM IS GOLD PLATED)

J3 15-PIN CONNECTOR PIN-OUT

PIN	FUNCTION
1	4 dB
2	2 dB
3	1 dB
4	LATCH
5	GND
6	N/C
7	N/C
8	GND
9	0.5 dB (LSB)
10	N/C
11	+8VDC
12	64 dB (MSB)
13	32 dB
14	16 dB
15	8 dB

TIMING DIAGRAM

ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... +55°C + 1°C (OPERATING)
-45°C TO +85°C (STORAGE)

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

PMI CONFIDENTIAL AND PROPRIETARY

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APPROVALS:	DATE:	TITLE:	OUTLINE
WALTER M. MANKEN		DTA-200M18G-100-CD-EXT	
REVISION:		SCALE: 1:1	
DESIGNER:	DATE:	ISSUED:	REV:
	05/00	27037240	1.0
			SHEET 1 OF 1



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Tabulated Data

Test Item No:	Parameters	Specified Value	Measured Value @ +55 Deg C	QA QC
1	Frequency Range:	200 MHz to 18 GHz	200 MHz to 18 GHz	
2	Insertion Loss:	12 dB Max.	11.8 dB See Plot	
3	VSWR:	2.5:1 Max.	IN: 2.2:1 OUT: 2.2:1 See Plot	
4	Flatness to 20 dB:	±1.0 dB Typ.	±0.44 dB See Plot	
5	Flatness to 40 dB:	±1.25 dB Typ.	±0.83 dB See Plot	
6	Flatness to 60 dB:	±1.5 dB Typ.	±0.97 dB See Plot	
7	Flatness to 80 dB:	±2.0 dB Typ.	±0.98 dB See Plot	
9	Accuracy of Attenuation: 0 to 20 dB	±1.0 dB Typ.	±0.21 dB See Plot	
10	Accuracy of Attenuation: 20 to 40 dB	±1.25 dB Typ.	±0.53 dB See Plot	
11	Accuracy of Attenuation: 40 to 60 dB	±1.5 dB Typ.	±0.73 dB See Plot	
12	Accuracy of Attenuation: 60 to 80 dB	±2.0 dB Typ.	±0.89 dB See Plot	
13	Accuracy of Attenuation: 80 to 100 dB	±3.0 dB Typ.	±0.92 dB See Plot	
14	Switching Speed:	ON: 1.0 µs Max. OFF: 0.5 µs Max.	ON: <0.704 µs OFF: <0.140 µs	
15	DC Supply:	+8 VDC @ 700 mA	637 mA	

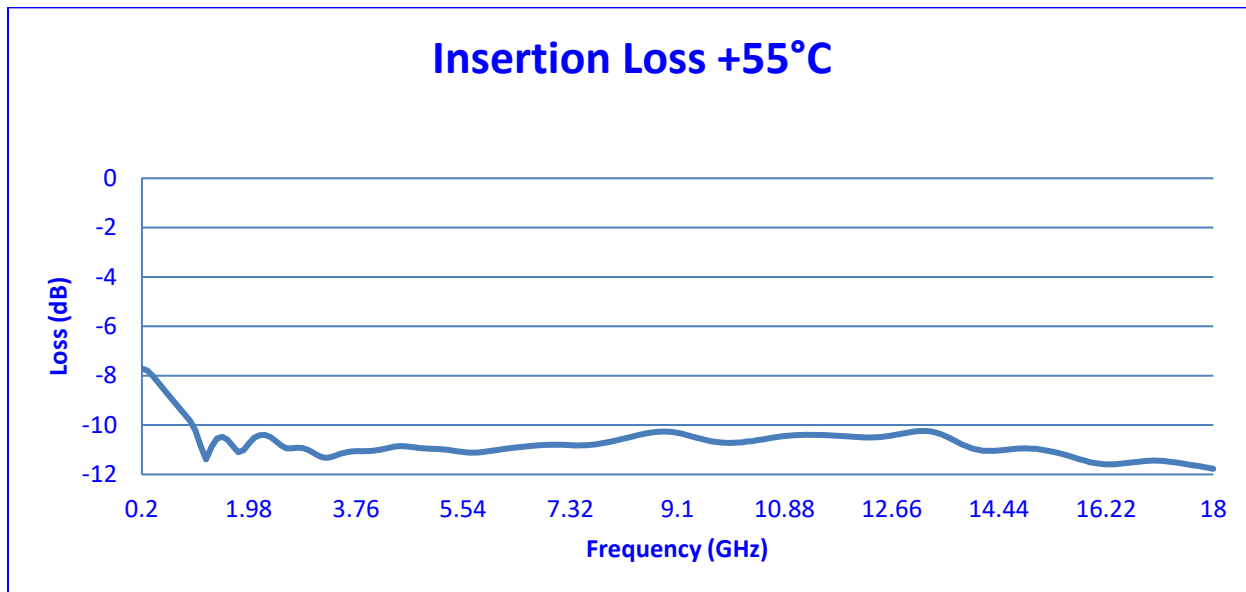


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Tabulated Accuracy & Flatness

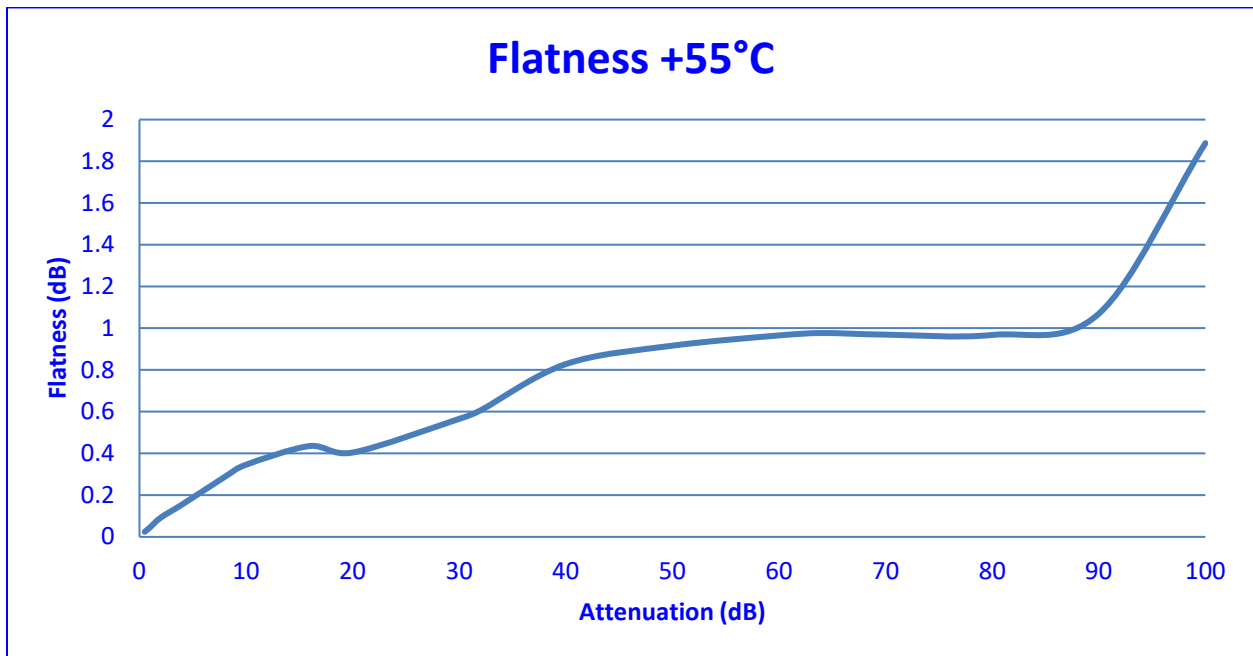
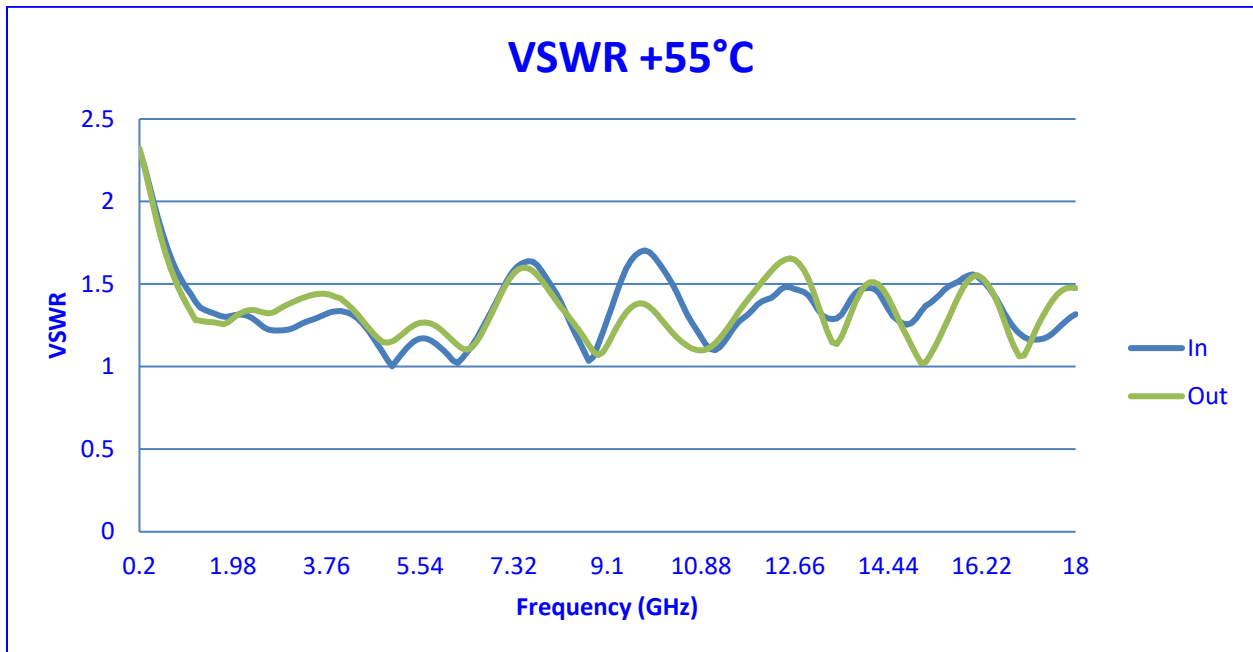
Programmed Attenuation	Measured Average	Accuracy	Flatness (±)
0.5	0.51	0.01	0.02
1	1.00	0.00	0.05
2	2.03	0.03	0.09
4	4.01	0.01	0.15
8	7.93	-0.07	0.29
16	15.90	-0.10	0.44
32	31.59	-0.41	0.61
64	63.20	-0.80	0.98
100	100.11	0.11	1.89

Programmed Attenuation	Measured Average	Accuracy	Flatness (±)
10	9.79	-0.21	0.35
20	19.79	-0.21	0.40
30	29.47	-0.53	0.57
40	39.69	-0.31	0.83
50	49.48	-0.52	0.92
60	59.27	-0.73	0.97
70	69.11	-0.89	0.97
80	79.18	-0.82	0.97
90	89.08	-0.92	1.07



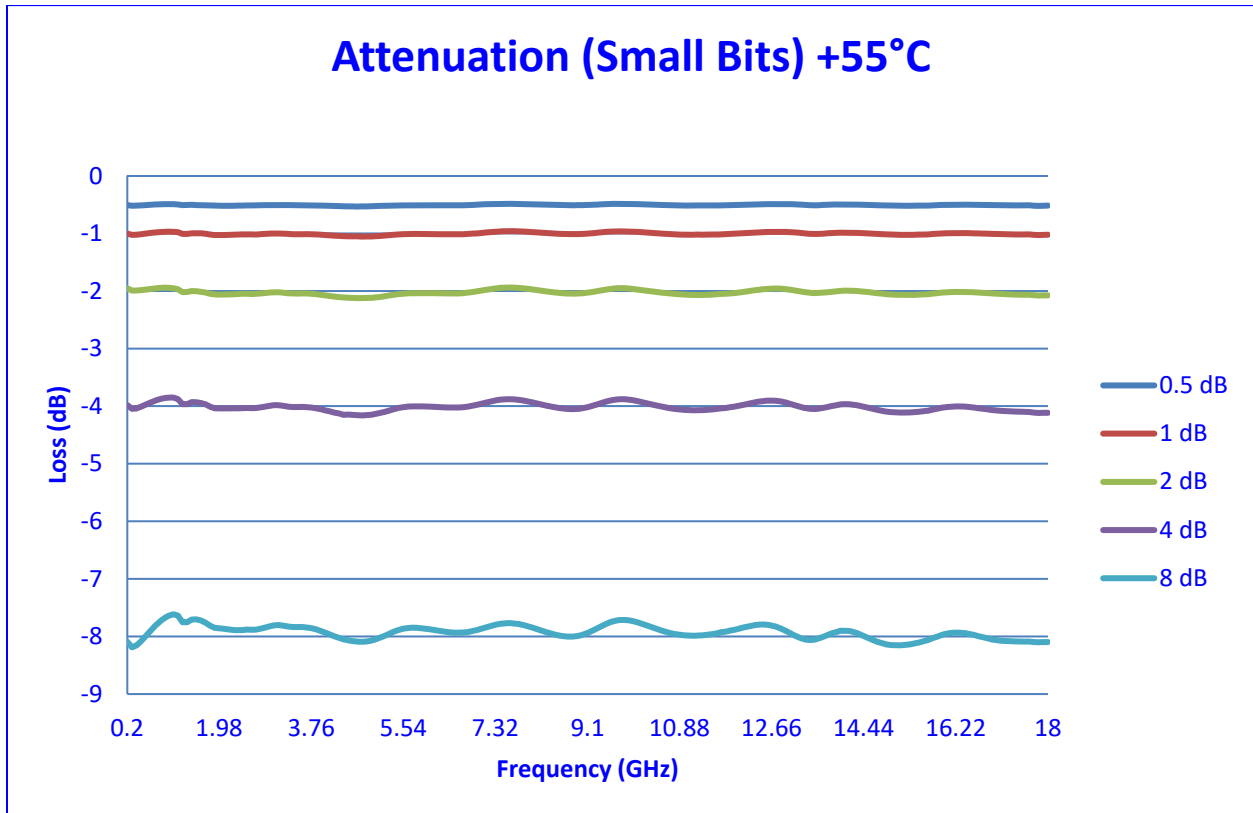
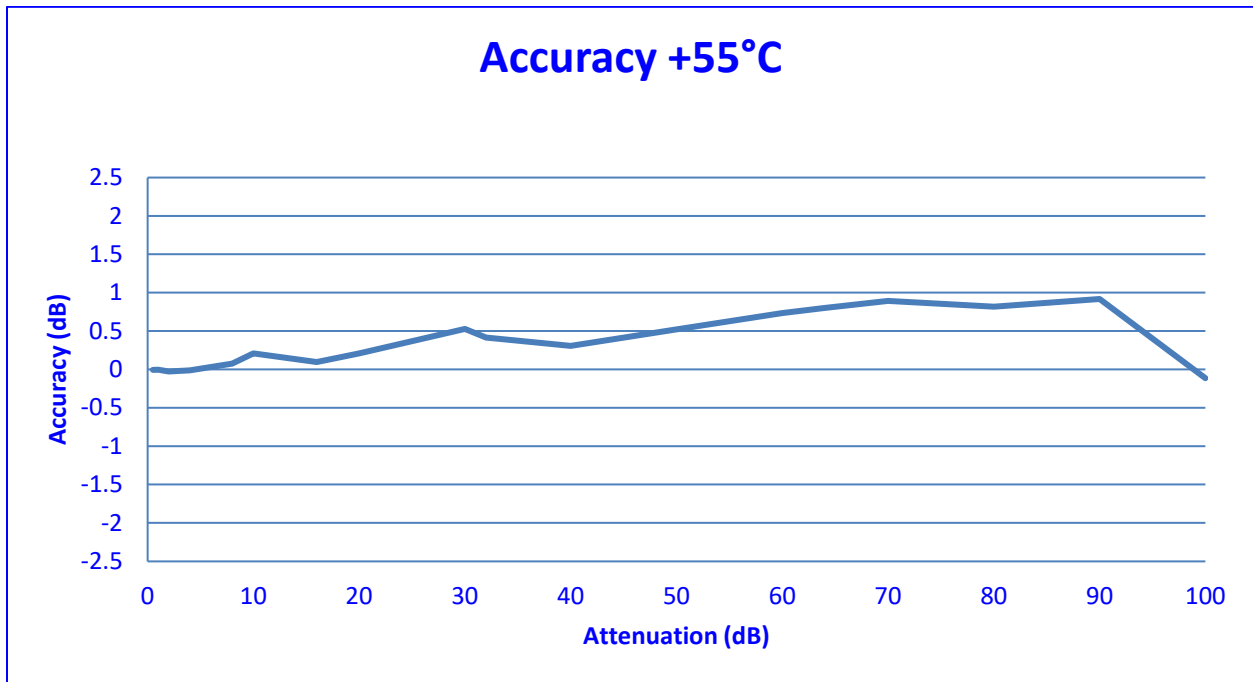


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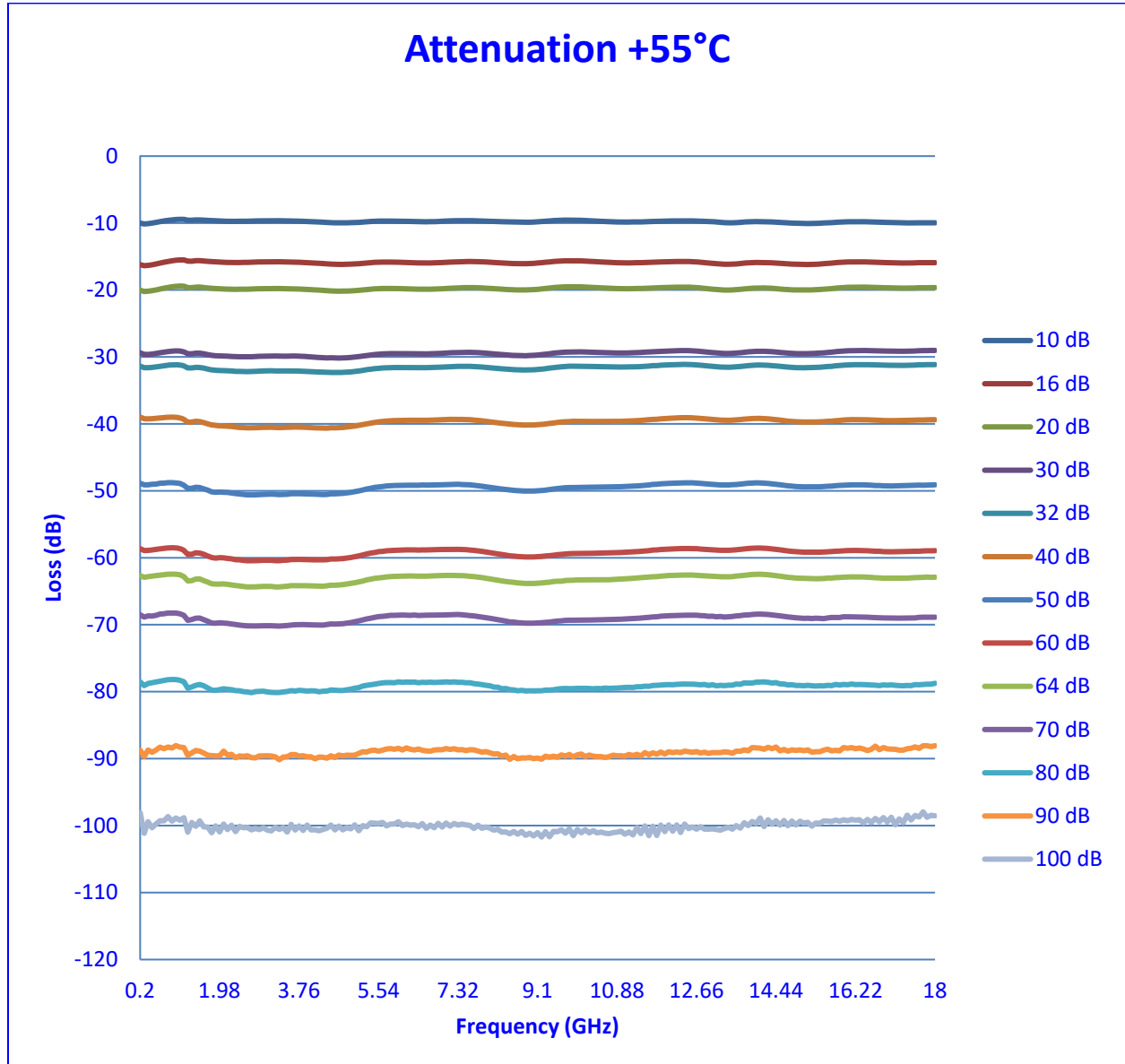


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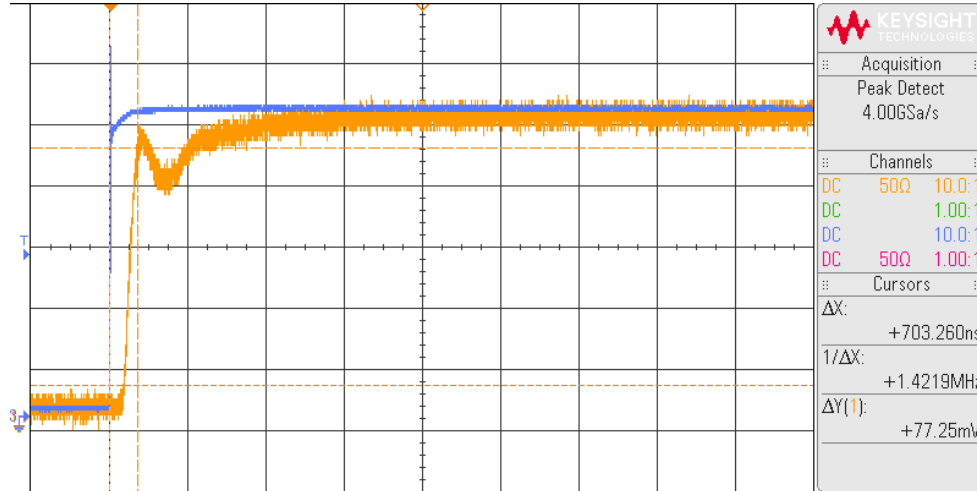
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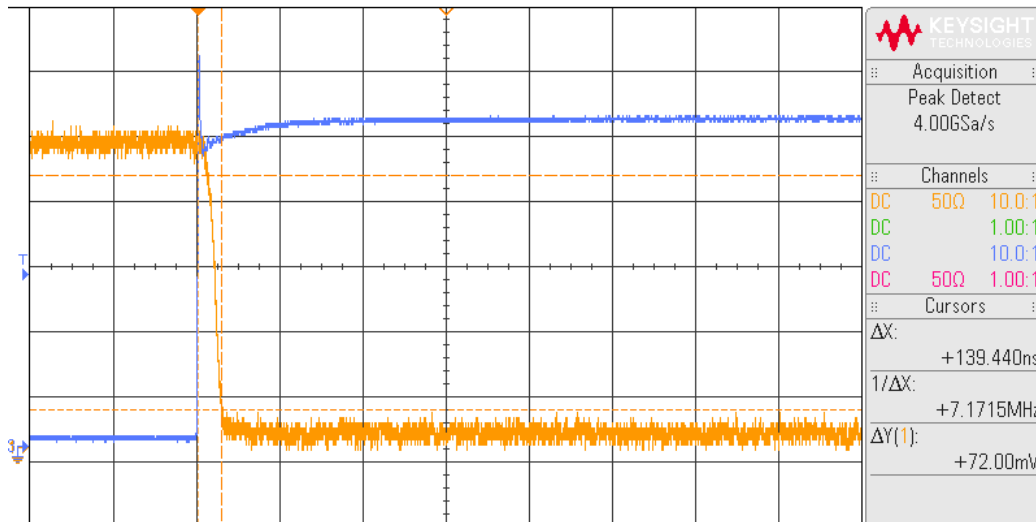
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Switching Speed



Off Time

Blue = TTL
Orange = RF



On Time

Blue = TTL
Orange = RF