

TYPICAL CHARACTERISTICS
ON
DTA-2G18G-60-12-CD-1-20DBM

PMI MODEL NUMBER DTA-2G18G-60-12-CD-1-20DBM IS A NON REFLECTIVE 6 BIT PROGRAMMABLE 60 dB PIN DIODE ATTENUATOR WITH A STEP RESOLUTION OF 0.06 dB OVER THE FREQUENCY RANGE OF 2 GHz TO 18 GHz.



Tested By: E Kretz
Reported By: S Azhar
Date: Oct 24th 2024

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ON
DTA-2G18G-60-12-CD-1-20DBM**

OUTLINE

ZONE	REV.	DESCRIPTION	DATE	APPROVED
A1		ORIGINAL RELEASE	01/19/2024	
A2		ECN # 24-0300	06/26/2024	

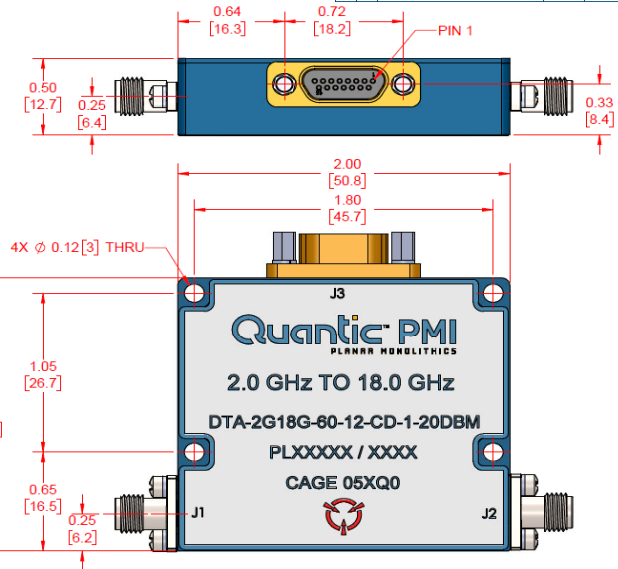
DESCRIPTION:

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER DTA-2G18G-60-12-CD-1-20DBM IS A NON-REFLECTIVE 12 BIT PROGRAMMABLE 60 dB PIN DIODE ATTENUATOR WITH STEP RESOLUTION AS LOW AS 0.016 dB OVER THE FREQUENCY RANGE OF 2.0 TO 18.0 GHz. THIS MODEL IS OFFERED IN A SLIM LINE HOUSING MEASURING ONLY 0.5" IN HEIGHT.

SPECIFICATIONS: @ +25°C

- FREQUENCY RANGE: 2.0 GHz TO 18.0 GHz
- MEAN ATTENUATION RANGE: 60 dB
- INSERTION LOSS: 4.8 dB MAX
- VSWR: 2.0 : 1 MAX
- FLATNESS UP TO
 - 20 dB: ±1.0 dB TYP, ±1.5 dB MAX
 - 40 dB: ±1.25 dB TYP, ±1.75 dB MAX
 - 60 dB: ±3.0 dB TYP, ±5.0 dB MAX
- ACCURACY OF ATTENUATION
 - 0 TO 20 dB: ±1.0 dB MAX
 - 20 TO 40 dB: ±1.5 dB MAX
 - 40 TO 60 dB: ±2.0 dB MAX
- MINIMUM ATTENUATION STEP: 0.016 dB
- OPERATING POWER: +20 dBm MAX
- SURVIVAL POWER: 1W AVERAGE FROM -65°C TO +25°C
- SWITCHING TIME
 - ON TIME: 1.0 us MAX
 - OFF TIME: 0.5 us MAX
- DC POWER SUPPLY: +12 TO +15V @ 150 mA MAX
- CONNECTORS: 2 SMA FEMALE & 15 PIN MICRO-D FEMALE
SHIPPED WITH MATING MICRO-D MALE
- WEIGHT: 3.0 oz (85 gm) APPROXIMATE
- FINISH: PAINTED BLUE
- LOGIC INPUT:
 - LOGIC "0" (BIT OFF): -0.3 TO +0.8V
 - LOGIC "1" (BIT ON): +2.0 TO +5.0

PIN NO.	J3 FUNCTION
1	2 dB
2	1 dB
3	0.5 dB
4	0.25 dB
5	GND
6	0.13 dB
7	0.06 dB
8	GND
9	0.03 dB
10	0.016 dB (LSB)
11	+VDC
12	32 dB (MSB)
13	16 dB
14	8 dB
15	4 dB



ENVIRONMENTAL RATINGS:

- TEMPERATURE: -40°C TO +85°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
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107

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

PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS		DATE	TITLE	
DESIGN	S AZHAR	01/19/2024	OUTLINE	
ISSUED			DTA-2G18G-60-12-CD-1-20DBM	
			REV: B	REV: A2
			DWG NO: 27048840	
			SCALE: 1:1	SHEET 1 OF 1



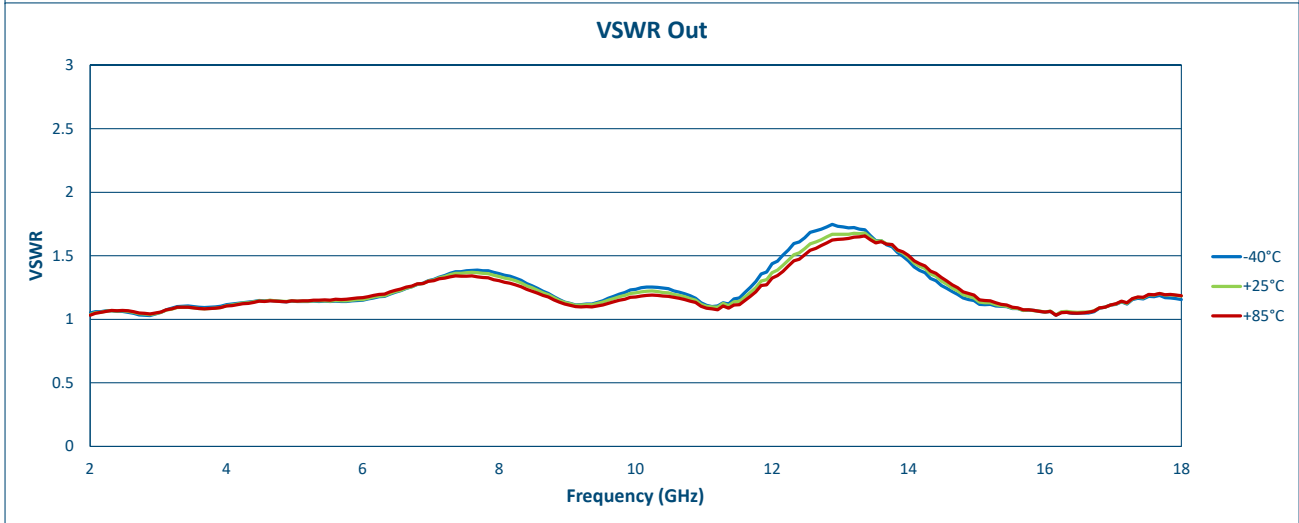
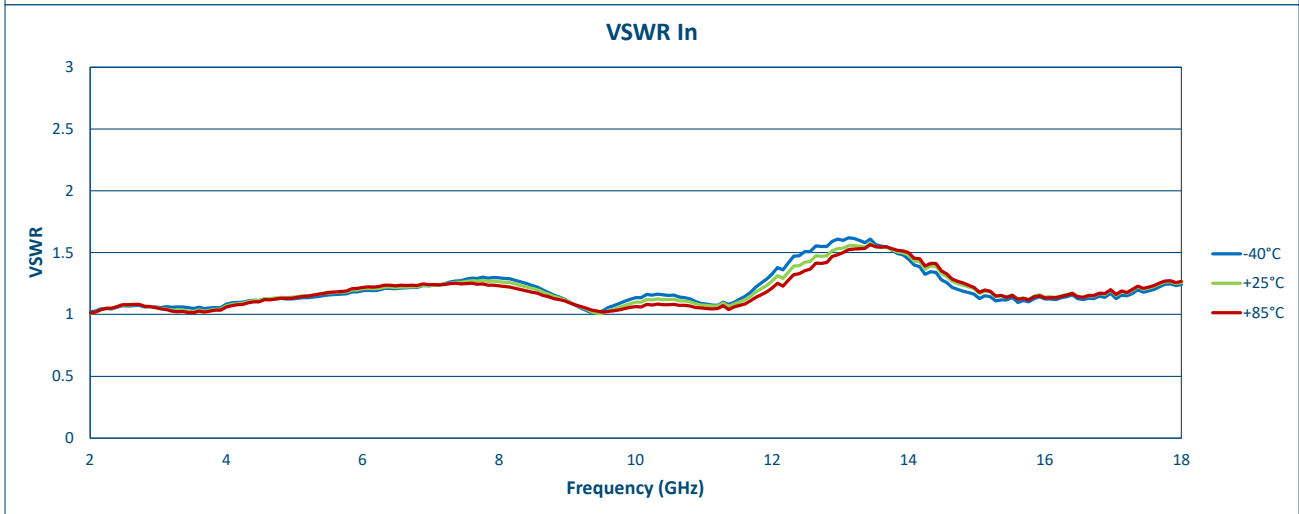
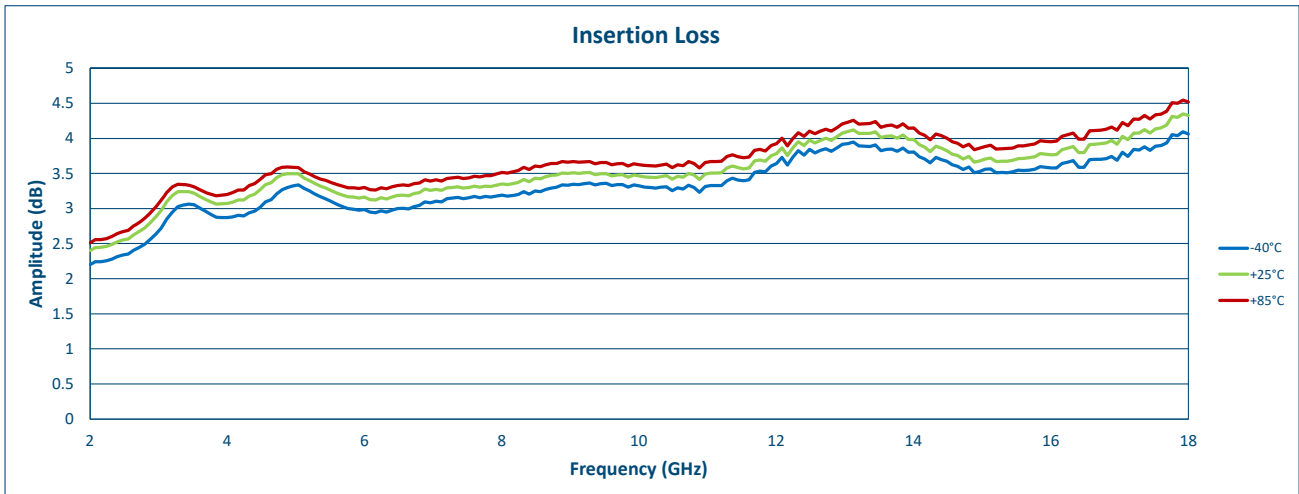
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TEST. ITEM NO	PARAMETERS	SPECIFIED VALUES @25°C	RESULTS		
			-40°C	+25°C	+85°C
1	Frequency Range:	2 GHz – 18 GHz	2 GHz – 18 GHz	2 GHz – 18 GHz	2 GHz – 18 GHz
2	Insertion Loss:	4.8 dB Max.	4.1 dB	4.4 dB	4.5 dB
3	VSWR:	2.0:1 Max.	1.75:1	1.68:1	1.66:1
4	Flatness to 20 dB:	± 1.0 dB Typ. ± 1.5 dB Max.	±0.95 dB	±0.54 dB	±0.52 dB
5	Flatness to 40 dB:	± 1.25 dB Typ. ± 1.75 dB Max.	±2.93 dB	±0.94 dB	±0.84 dB
6	Flatness to 60 dB:	± 3.0 dB Typ. ± 5.0 dB Max.	±6.28 dB	±3.02 dB	±1.98 dB
7	Accuracy of Attenuation 0 to 20 dB:	± 1.0 dB Max.	+0.91 dB -1.32 dB	+0.44 dB -0.33 dB	+0.32 dB -0.23 dB
8	Accuracy of Attenuation 20 to 40 dB:	± 1.5 dB Max.	+2.29 dB 0 dB	+0.67 dB -0.76 dB	+0.39 dB -1.4 dB
9	Accuracy of Attenuation 40 to 60 dB:	± 2.0 dB Max.	+3.98 dB 0 dB	+0.1 dB -0.96 dB	+0 dB -2.55 dB
10	Operating Power:	+20 dBm Max.	+20 dBm	+20 dBm	+20 dBm
11	Survival Power:	1 W Avg. from -65°C to +25°C	1 W	1 W	1 W
12	Switching Speed:	On Time: 1.0 µs Max. Off Time: 0.5 µs Max.	-	On: 0.45 µs Off: 0.31 µs	-
13	DC Supply:	+12 to +15 V @ 150 mA Max.	120 mA	120 mA	120 mA

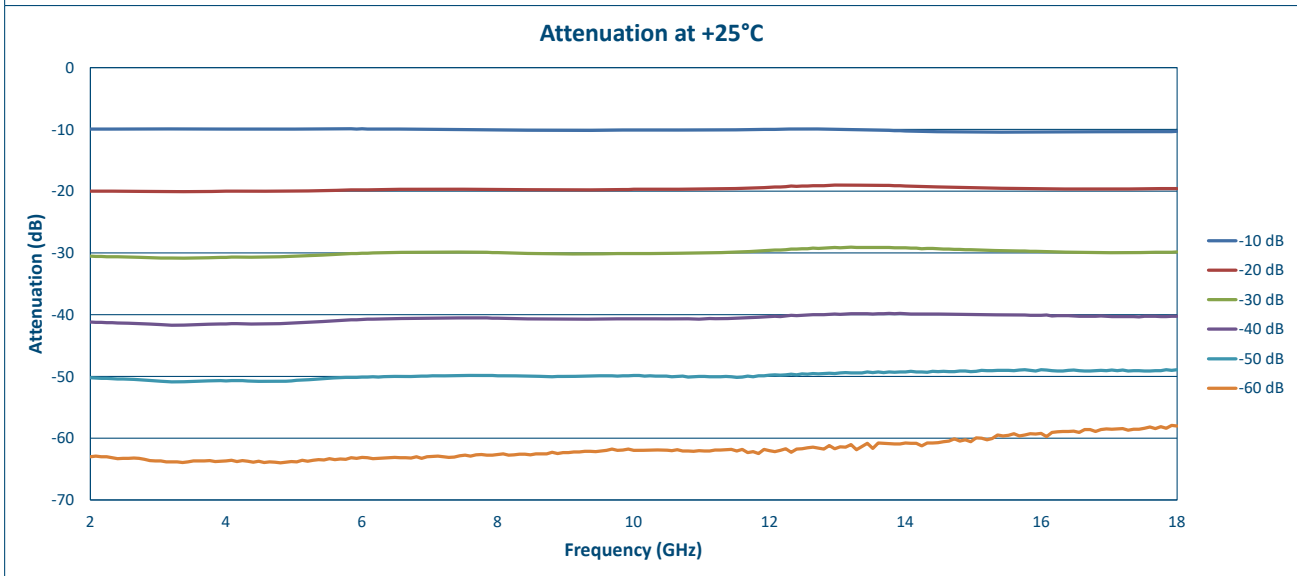
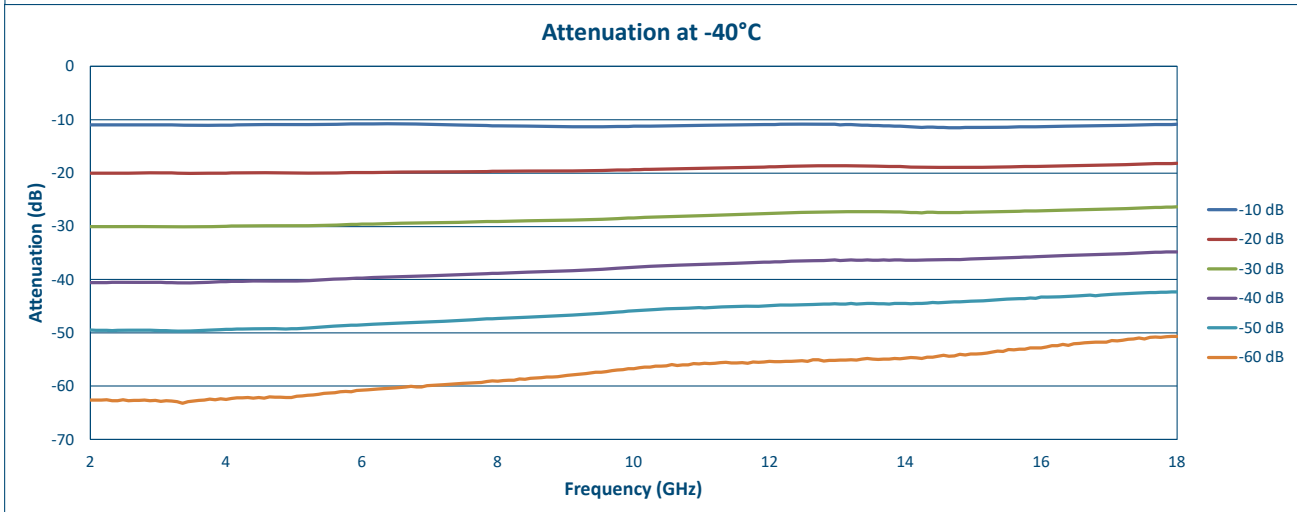
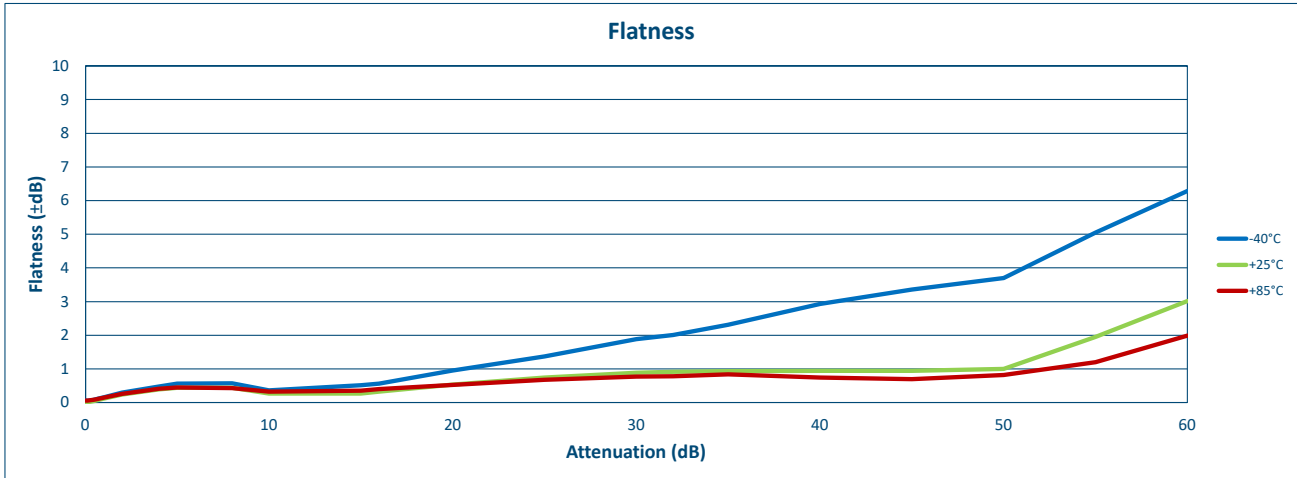
Programed Attenuation dB	Attenuation dB	Accuracy of Attenuation dB	Flatness dB ±dB
0.0156	0.0272	-0.01	0.01
0.0313	0.0447	-0.01	0.01
0.0625	0.0750	-0.01	0.01
0.125	0.140	-0.02	0.01
0.25	0.29	-0.04	0.02
0.50	0.58	-0.08	0.05
1.00	1.14	-0.14	0.11
2.00	2.25	-0.25	0.24
4.00	4.31	-0.31	0.39
8.00	8.26	-0.26	0.44
16.00	15.72	-0.03	0.33
32.00	32.03	-0.03	0.91

Programed Attenuation dB	Attenuation dB	Accuracy of Attenuation dB	Flatness dB ±dB
5.00	5.33	-0.33	0.44
10.00	10.19	-0.19	0.27
15.00	14.69	0.31	0.27
20.00	19.56	0.44	0.54
25.00	24.33	0.67	0.75
30.00	29.98	0.02	0.89
35.00	35.13	-0.13	0.93
40.00	40.76	-0.76	0.94
45.00	44.96	0.04	0.95
50.00	49.90	0.10	1.00
55.00	55.67	-0.67	1.95
60.00	60.96	-0.96	3.02

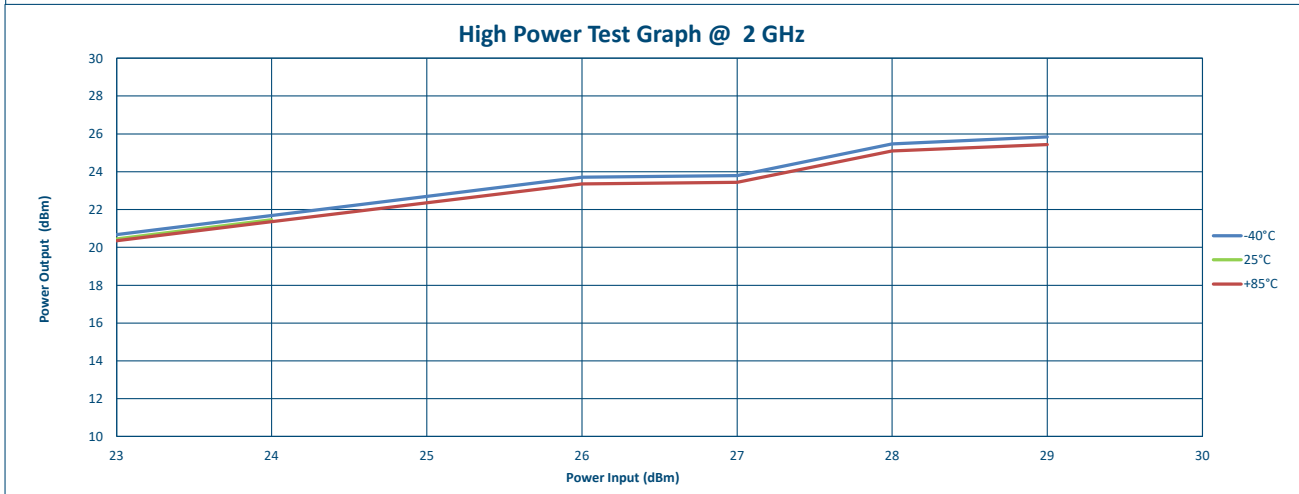
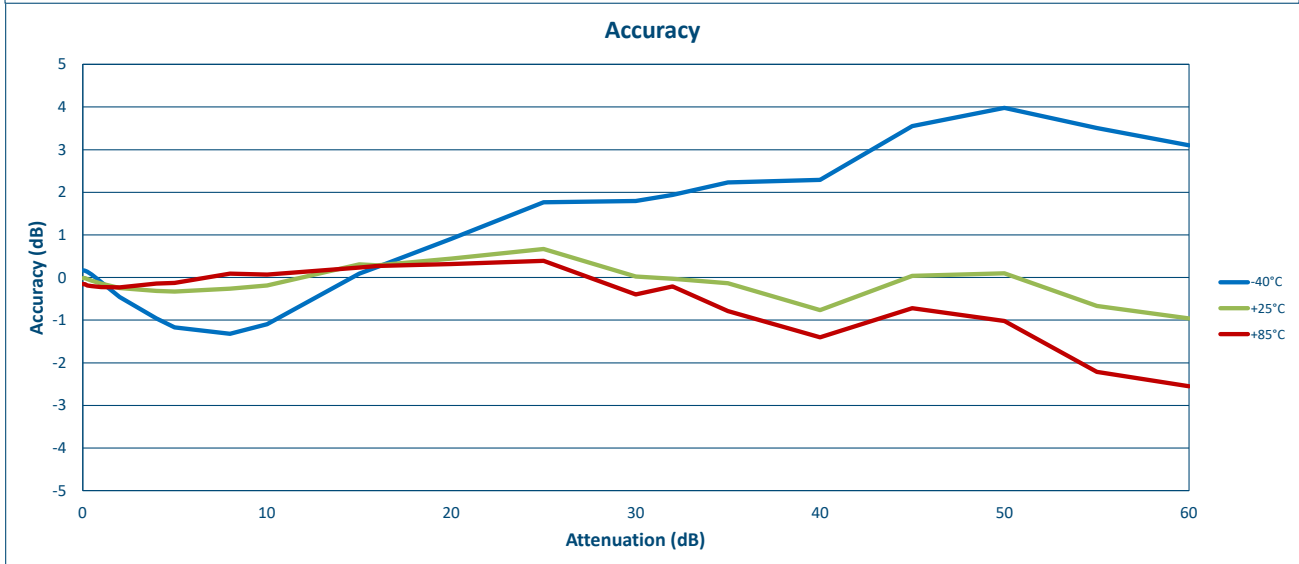
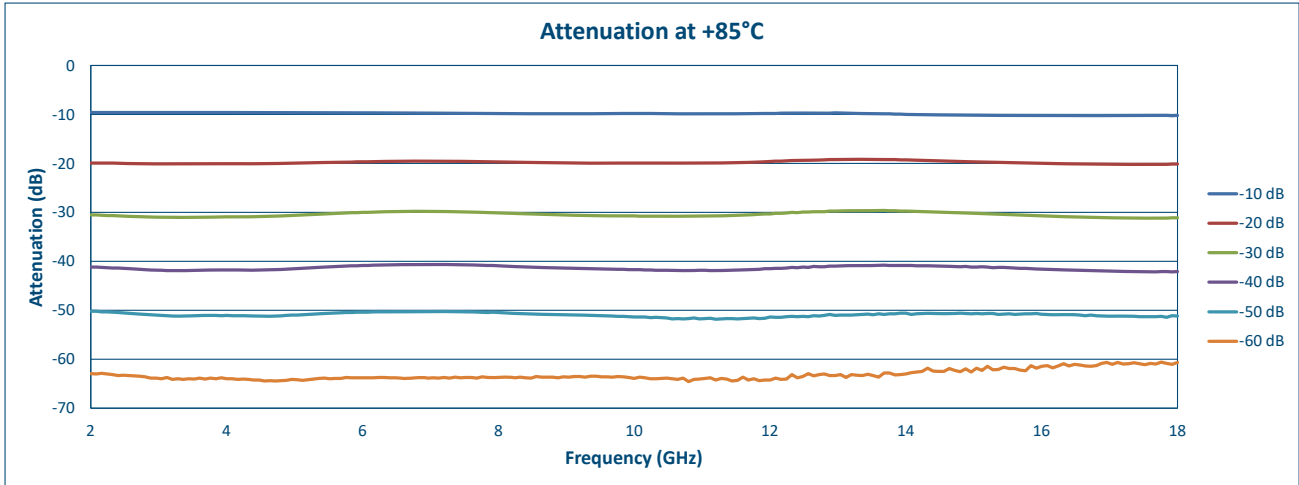
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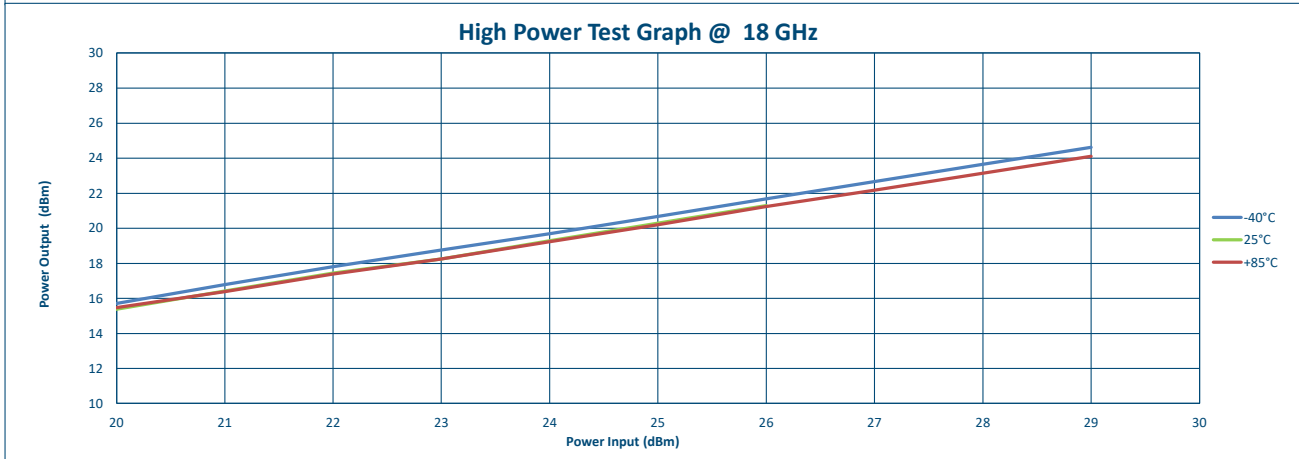
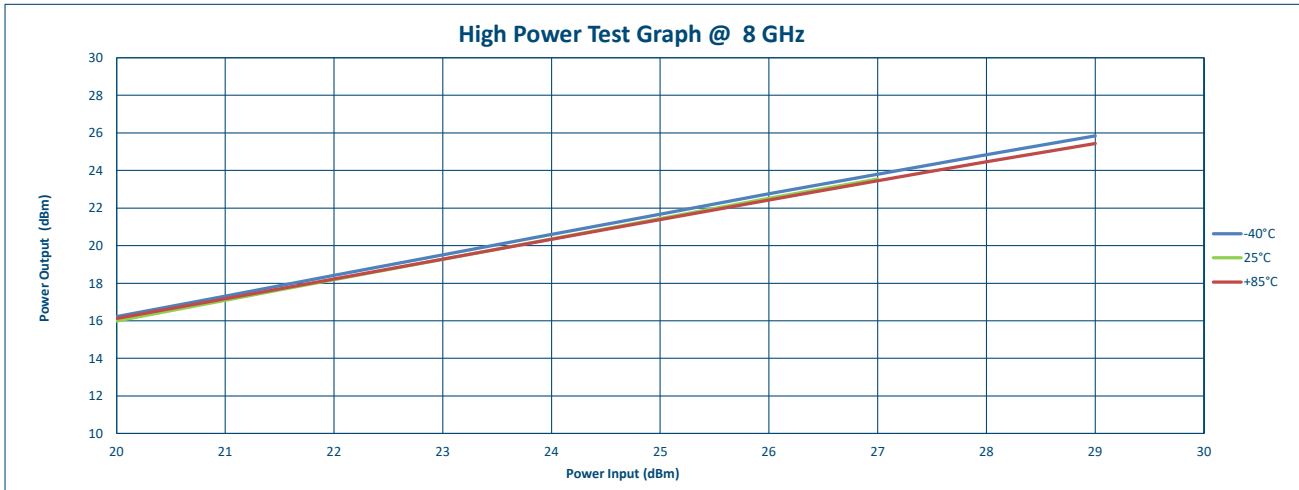
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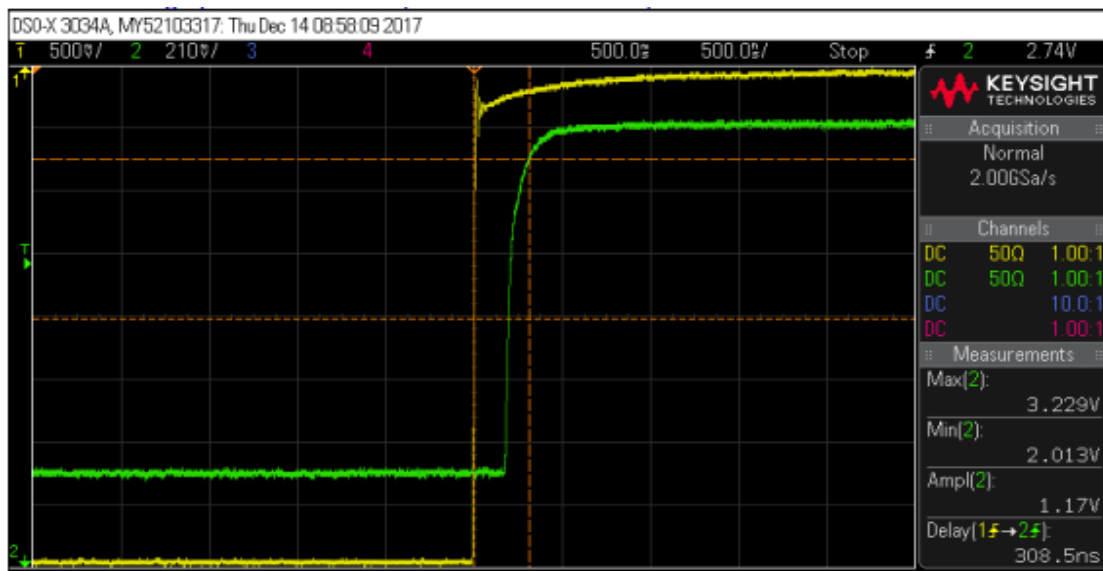
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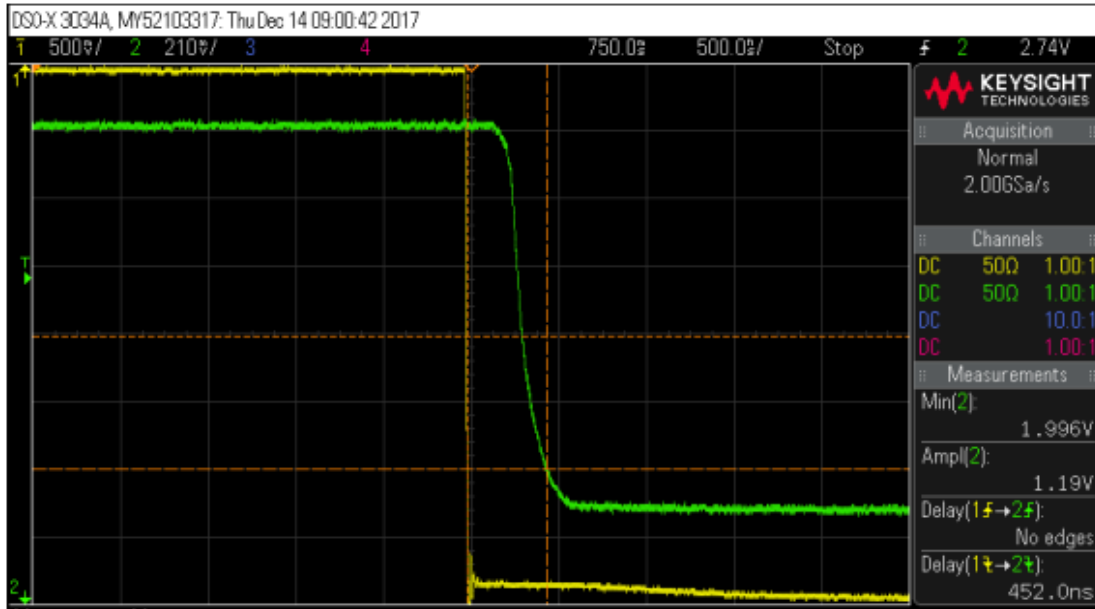
Switching Speed ff



308.5 ns
TTL - YELLOW
RF - GREEN

TYPICAL CHARACTERISTICS ON DTA-2G18G-60-12-CD-1-20DBM

Switching Speed On



452.0 ns
TTL - YELLOW
RF - GREEN