TYPICAL CHARACTERISTICS

ON

P1T-DC40G-65-T-292FF-1NS-OPT10M20G

PMI MODEL P1T-DC40G-65-T-292FF-1NS-OPT10M20G IS AN ABSORPTIVE, SINGLE POLE, SINGLE THROW FET SWITCH THAT OPERATES FROM 10 MHz TO 20 GHz. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.

3/13/2025

Reported By

S. LANGE

7309-A Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
Email: sales@quanticpmi.com

TYPICAL CHARACTERISTICS

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P1T-DC40G-65-T-292FF-1NS-OPT10M20G

PRODUCT FEATURE

DESCRIPTION:

PMI MODEL P1T-DC40G-65-T-292FF-1NS-OPT10M20G IS AN ABSORPTIVE, SINGLE POLE, SINGLE THROW FET SWITCH THAT OPERATES FROM 10 MHz TO 20 GHz. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	9/3/24	

SPECIFICATIONS:

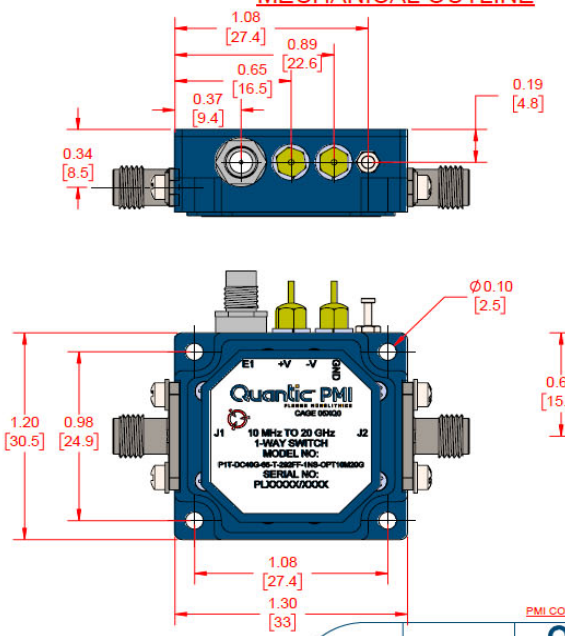
- FREQUENCY RANGE:..... 10 MHz TO 20 GHz
- ISOLATION:..... 60 dB Typical, 50 dB Min.
- INSERTION LOSS:..... 4.5 dB Typical, 5.0 dB Max.
- VSWR (ON/OFF):..... 2.0:1 Typical, 2.2:1 Max.
- INPUT POWER:..... +17 dBm CW Max.
- SWITCHING SPEED:..... 6 ns Typical, 7 ns Max.
- RISE/FALL TIME:..... 1 ns Typical, 2 ns Max.
- CONTROL SIGNAL:..... TTL"1" = ON
- VIDEO TRANSIENTS :..... 300 MHz BW (2-18 GHz) : 85mV P-P
  20 MHz BW (2-18 GHz) : 20mV P-P
- DC VOLTAGE:..... +8 to +15V @ 15mA Max.
  -8 to -15V @ 40mA Max.
- CONNECTORS IN/OUT:..... SMA FEMALE CONNECTORS
- FINISH:..... PAINTED BLUE
- SIZE:..... 1.2" X 1.3" x 0.5"

ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -40°C TO +85°C (OPERATING)
  -55°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

MECHANICAL OUTLINE



PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS	DATE
DRAWN SL.	9/3/24
REDRAWN	
ISSUED	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRACTIONS ± DECIMALS .XX ± 0.03 .XXX ± 0.01 ANGLES ±

Quantic PMI PLANAR MONOLITHICS
7309-A GROVE ROAD FREDERICK, MARYLAND 21704 USA
TEL: (301) 662-5019 FAX: (301) 662-1731
WEB: WWW.QUANTICPMI.COM EMAIL: SALES@QUANTICPMI.COM
ISO 9001 CERTIFIED

TITLE: OUTLINE
P1T-DC40G-65-T-292FF-1NS-OPT10M20G

SIZE	FSCM NO.	DWG NO.	REV.
B	05XQ0	27049560	A1

SCALE 2:1 SHEET 1 OF 1

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Test Results

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS		
			25°C	-40°C	85°C
1	Frequency Range	10 MHz to 20 GHz	10 MHz to 20 GHz		
2	Insertion Loss	5 dB Max. 4.5 dB Typ.	3.97 dB Max 3.1 dB Typ	3.77 dB Max 3.06 dB Typ	4.17 dB Max 3.23 dB Typ
3	VSWR Input/Output	2.2:1 Max. 2.0:1 Typ.	1.56 :1 Max 1 :1 Typ	1.86 :1 Max 1.04 :1 Typ	1.58 :1 Max 1.01 :1 Typ
4	Isolation	50 dB Min. 60 dB Typ.	60.77 dB Min 73.36 dB Typ	60.61 dB Min 72.92 dB Typ	59.13 dB Min 72.75 dB Typ
5	Switching Speed	7 ns Max. 6 ns Typ.	5.15 ns See Graphs		
6	Rise/Fall Time	2 ns Max. 1 ns Typ.	1.12 ns See Graphs		
7	Operating Power CW	17 dBm Max	See Graphs		
8	Control Signal	TTL LOGIC '1' : Insertion Loss '0' : Isolation	Pass		
9	Video Transients	85mV P-P @ 300MHz BW 2-18 GHz 20mV P-P @ 20MHz BW 2-18 GHz	41.51 mV @ 300 MHz BW 16.44 mV @20 MHz BW See Graphs		
10	DC Supply	+8 to +15 V @ 15 mA Max -8 to -15 V @ 40 mA Max	+15 V @ 10 mA -15 V @ 30 mA		

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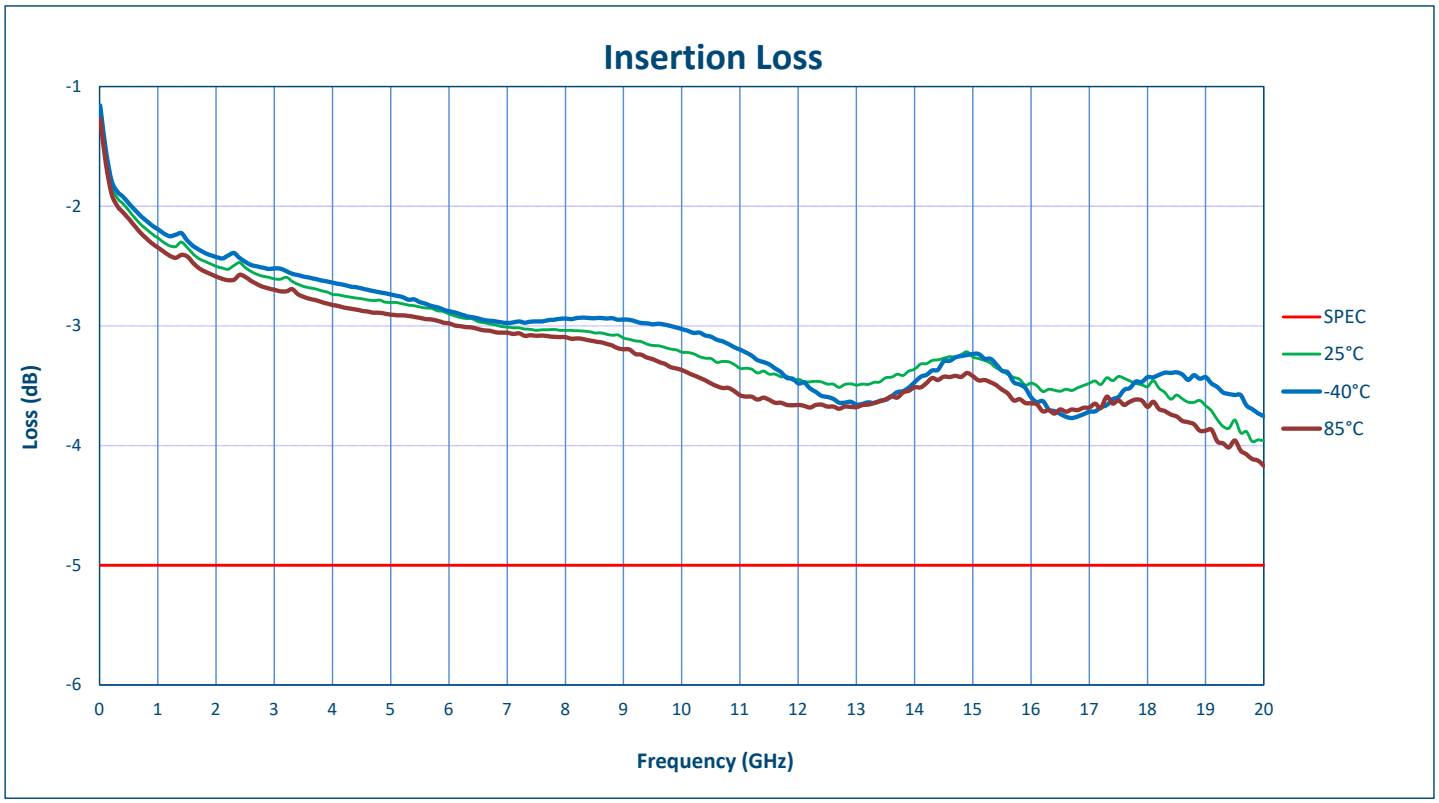

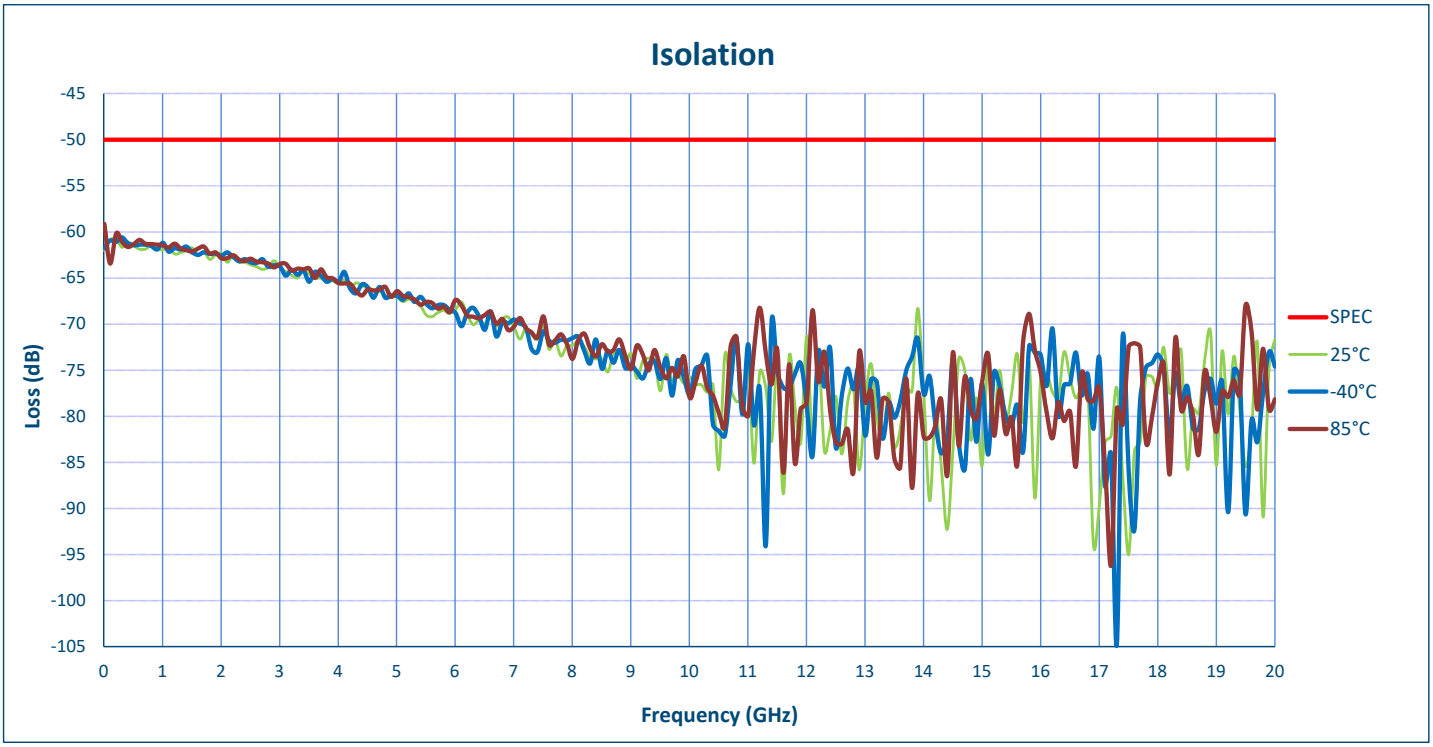

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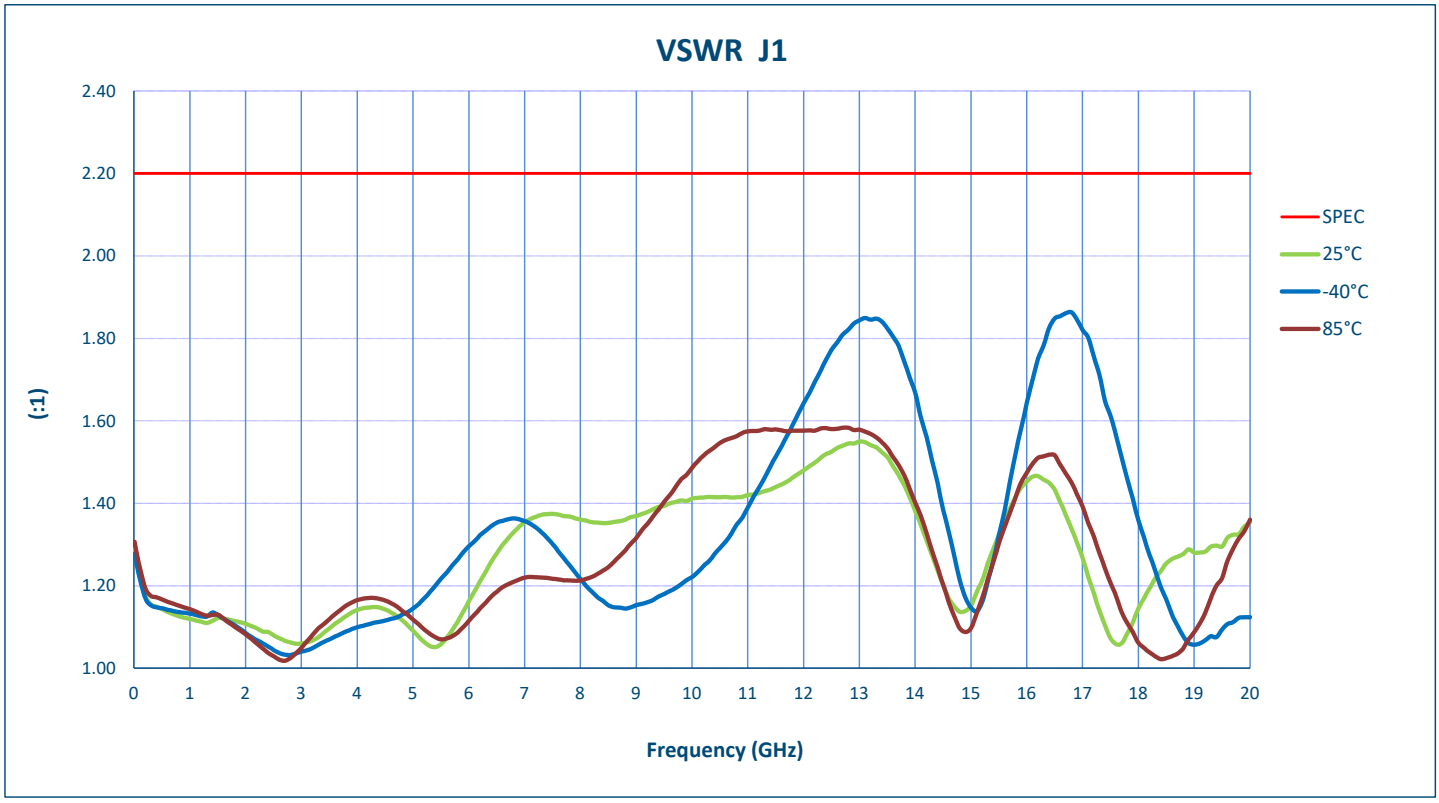

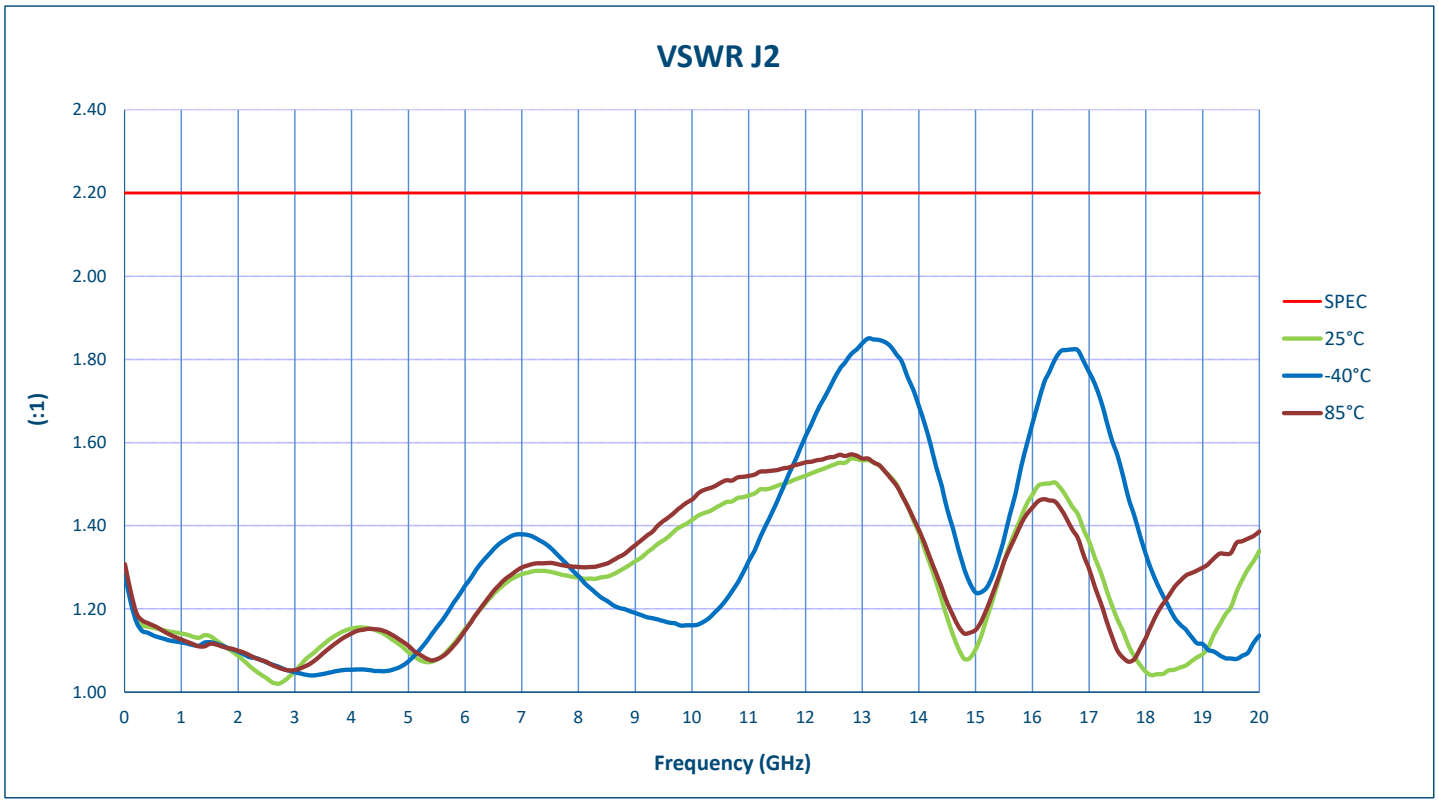

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Switching Speed

Attenuation On
Delay: 4.03 ns
Rise Time: 1.12 ns
TTL: Green
RF: Orange

Attenuation Off
Delay: 3.4 ns
Rise Time: 0.89 ns
TTL: Green
RF: Orange

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TYPICAL CHARACTERISTICS

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P1T-DC40G-65-T-292FF-1NS-OPT10M20G

Transient at 20 MHz BW

Transient On
Range: 16.44 mV
TTL: Green
RF: Orange

Transient Off
Range: 4.80 mV
TTL: Green
RF: Orange

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TYPICAL CHARACTERISTICS

ON

P1T-DC40G-65-T-292FF-1NS-OPT10M20G

Transient at 300 MHz BW

Transient On
Range: 41.51 mV

Transient Off
Range: 22.47 mV

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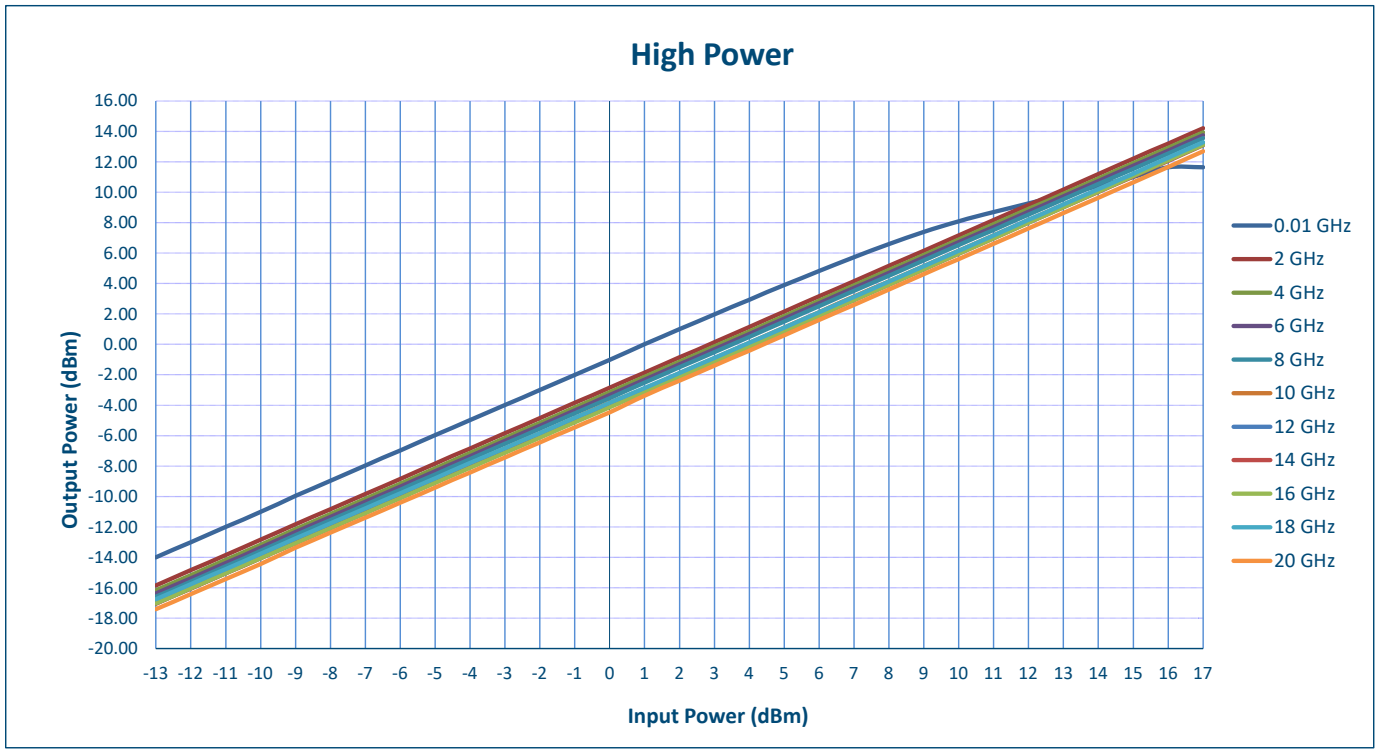

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