TYPICAL CHARACTERISTICS
ON
PLNA-30-10M20-SFF-DCSMA

PMI MODEL NUMBER: PLNA-30-10M20-SFF-DCSMA IS A VERY LOW NOISE AMPLIFIER WITH A WORKING FREQUENCY RANGE OF 10MHz TO 20 GHz.

May 15, 2023

Tested By: E. Kretz

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Product Feature

DESCRIPTION:
PMI MODEL NUMBER PLNA-30-10M20-SFF-DCSMA IS A VERY LOW NOISE AMPLIFIER WITH A WORKING FREQUENCY RANGE OF 10MHz TO 20 GHz.

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	12/4/2023	
	B1	ECN # 23-0093	5/16/2023	

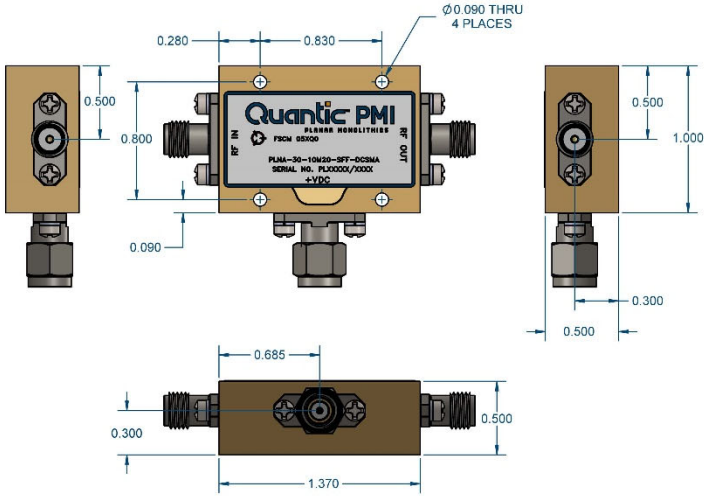
SPECIFICATIONS:

- FREQUENCY RANGE:..... 10 MHz TO 20.0 GHz
- GAIN:..... +26 dB MIN (10MHz to 18GHz)
  +28 dB MIN (18GHz to 20GHz)
- GAIN FLATNESS:..... ±2.0 dB MAX (10MHz to 18GHz)
- NOISE FIGURE:..... 3.5 dB MAX (0.1GHz to 0.5GHz)
  3.5 dB MAX (0.5GHz to 18GHz)
  4 dB MAX (18GHz to 20GHz)
- OP1dB:..... +14 dBm MIN (10MHz to 18GHz)
  +13 dBm MIN (18GHz to 20GHz)
- Psat:..... +15 dBm MIN (10MHz to 18GHz)
  +14 dBm MIN (18GHz to 20GHz)
- OIP3:..... +20 dBm MIN (10MHz to 18GHz)
  +20 dBm MIN (18GHz to 20GHz)
- VSWR INPUT:..... 2.0 : 1 MAX (10MHz to 18GHz)
  2.2 : 1 MAX (18GHz to 20GHz)
- VSWR OUTPUT:..... 2.1 : 1 MAX (10MHz to 18GHz)
  2.4 : 1 MAX (18GHz to 20GHz)
- SECOND HARMONICS:
  (-30dBm Input Power)..... 40 dBc TYP, 30 dBc MIN
  (at P1dB ot P1dB + 10dBm)..... 12 dBc MIN
  (+15dBm Over P1dB)..... 10 dBc MIN
- REVERSE ISOLATION:..... 36 dB MIN (10MHz to 18GHz)
  35 dB MIN (18GHz to 20GHz)
- DC SUPPLY:..... SMA Connector (Male)
  +5 VDC @ 150 mA MAX
- CONNECTOR IN/OUT:..... SMA Connector (Female)
- FINISH:..... Gold Plated

ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -40°C TO +85°C (OPERATING)
  -55°C TO +85°C (AVAILABLE)
  -65°C TO +125°C (STORAGE)
- HUMIDITY:..... MIL-STD-202, METHOD 103B COND. B
- SHOCK:..... MIL-STD-202, METHOD 213B COND. B
- ALTITUDE:..... MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE:..... MIL-STD-202, METHOD 107D COND. A

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



PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS	DATE
DRAWN M.LAULIS	1/24/2023
RECHKWN	
ISSUED	

Quantic PMI PLANAR MONOLITHICS
7309-A GROVE ROAD FREDERICK, MARYLAND 21704 USA
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SALES@PMI-RF.COM WWW.PMI-RF.COM

TITLE: OUTLINE
PLNA-30-10M20-SFF-DCSMA

SIZE	FSCM NO.	DWG NO.	REV.
B	05XQ0	27045100	B1

SCALE 1:1 SHEET 1 OF 1

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TYPICAL CHARACTERISTICS ON PLNA-30-10M20-SFF-DCSMA

Test Data
25° C

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results
1	Frequency Range:	0.01 to 20.0 GHz	**0.01 to 20.0 GHz**
2	Gain:	26 dB Min (10 MHz to 18 GHz) 28 dB Min (18 to 20 GHz)	**+26.99 dB Min.** **+29.3 dB Min.** **See Plot**
3	Gain Flatness:	±2 dB MAX. (10 MHz to 20 GHz)	**±1.3 dB** **See Plot**
4	Noise Figure:	3.5 dB MAX (0.1 GHz to 0.5 GHz) 3.5 dB MAX (0.5 GHz to 18 GHz) 4.0 dB MAX (18 to 20 GHz)	**2.45 @ 0.1 GHz to 0.5 GHz** **2.64 @ 0.5 to 18 GHz** **3.04 @ 18 to 20 GHz**
5	OP1dB:	14 dB MIN. (10 MHz to 18 GHz) 13 dB MIN (18 to 20 GHz)	**+15.5 dBm (10 MHz to 18 GHz)** **+15 dBm (18 to 20 GHz)**
6	VSWR Input	2.0:1 MAX. (10 MHz to 18 GHz) 2.2:1 MAX (18 to 20 GHz)	**1.9:1 (10 MHz to 18 GHz)** **1.9:1 (18 to 20 GHz)** **See Plot**
7	VSWR Output:	2.1:1 MAX. (10 MHz to 18 GHz) 2.4:1 MAX (18 to 20 GHz)	**2:1 (10 MHz to 18 GHz)** **1.9:1 (18 to 20 GHz)** **See Plot**
8	DC Supply:	+5 @ VDC 150 mA MAX.	**+5 @ VDC @ 124 mA**

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TYPICAL CHARACTERISTICS ON PLNA-30-10M20-SFF-DCSMA

85° C

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results
1	Frequency Range:	0.01 to 20.0 GHz	**0.01 to 20.0 GHz**
2	Gain:	26 dB Min (10 MHz to 18 GHz) 28 dB Min (18 to 20 GHz)	**+26.67 dB Min.** **+28.62 dB Min.** **See Plot**
3	Gain Flatness:	±2 dB MAX. (10 MHz to 20 GHz)	**±1.3 dB** **See Plot**
4	Noise Figure:	3.5 dB MAX (0.1 GHz to 0.5 GHz) 3.5 dB MAX (0.5 GHz to 18 GHz) 4.0 dB MAX (18 to 20 GHz)	**3.18 @ 0.1 GHz to 0.5 GHz** **2.94 @ 0.5 to 18 GHz** **3.3 @ 18 to 20 GHz**
5	OP1dB:	14 dB MIN. (10 MHz to 18 GHz) 13 dB MIN (18 to 20 GHz)	**+15.3 dBm (10 MHz to 18 GHz)** **+14.7 dBm (18 to 20 GHz)**
6	VSWR Input	2.0:1 MAX. (10 MHz to 18 GHz) 2.2:1 MAX (18 to 20 GHz)	**2:1 (10 MHz to 18 GHz)** **1.8:1 (18 to 20 GHz)** **See Plot**
7	VSWR Output:	2.1:1 MAX. (10 MHz to 18 GHz) 2.4:1 MAX (18 to 20 GHz)	**1.9:1 (10 MHz to 18 GHz)** **1.9:1 (18 to 20 GHz)** **See Plot**
8	DC Supply:	+5 @ VDC 150 mA MAX.	**+5 @ VDC @ 122 mA**

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TYPICAL CHARACTERISTICS ON PLNA-30-10M20-SFF-DCSMA

-40° C

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results
1	Frequency Range:	0.01 to 20.0 GHz	**0.01 to 20.0 GHz**
2	Gain:	26 dB Min (10 MHz to 18 GHz) 28 dB Min (18 to 20 GHz)	**+27.25 dB Min.** **+29.83 dB Min.** **See Plot**
3	Gain Flatness:	±2 dB MAX. (10 MHz to 20 GHz)	**±1.3 dB** **See Plot**
4	Noise Figure:	3.5 dB MAX (0.1 GHz to 0.5 GHz) 3.5 dB MAX (0.5 GHz to 18 GHz) 4.0 dB MAX (18 to 20 GHz)	**2.16 @ 0.1 GHz to 0.5 GHz** **2.33 @ 0.5 to 18 GHz** **2.64 @ 18 to 20 GHz**
5	OP1dB:	14 dB MIN. (10 MHz to 18 GHz) 13 dB MIN (18 to 20 GHz)	**+15.6 dBm (10 MHz to 18 GHz)** **+15 dBm (18 to 20 GHz)**
6	VSWR Input	2.0:1 MAX. (10 MHz to 18 GHz) 2.2:1 MAX (18 to 20 GHz)	**1.9:1 (10 MHz to 18 GHz)** **1.9:1 (18 to 20 GHz)** **See Plot**
7	VSWR Output:	2.1:1 MAX. (10 MHz to 18 GHz) 2.4:1 MAX (18 to 20 GHz)	**2:1 (10 MHz to 18 GHz)** **1.9:1 (18 to 20 GHz)** **See Plot**
8	DC Supply:	+5 @ VDC 150 mA MAX.	**+5 @ VDC @ 126 mA**

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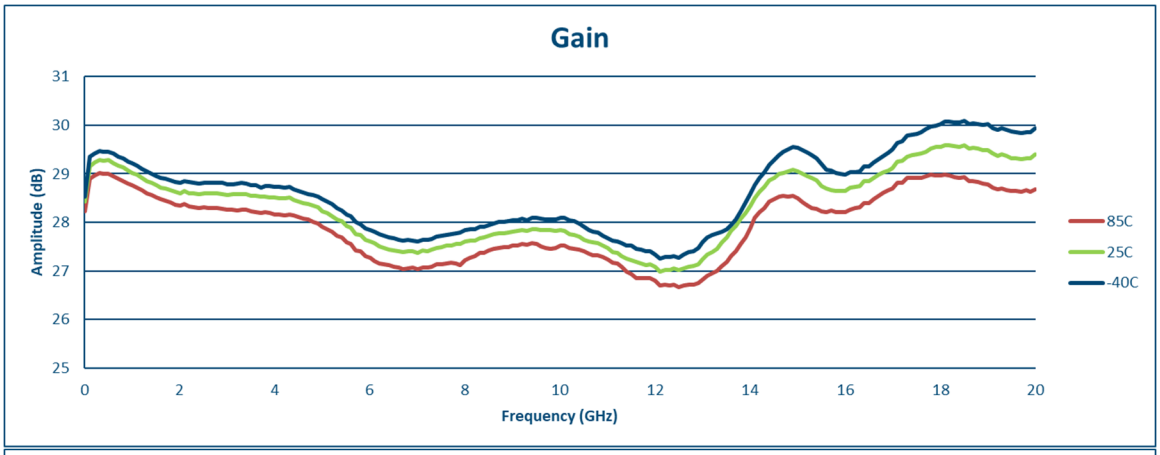

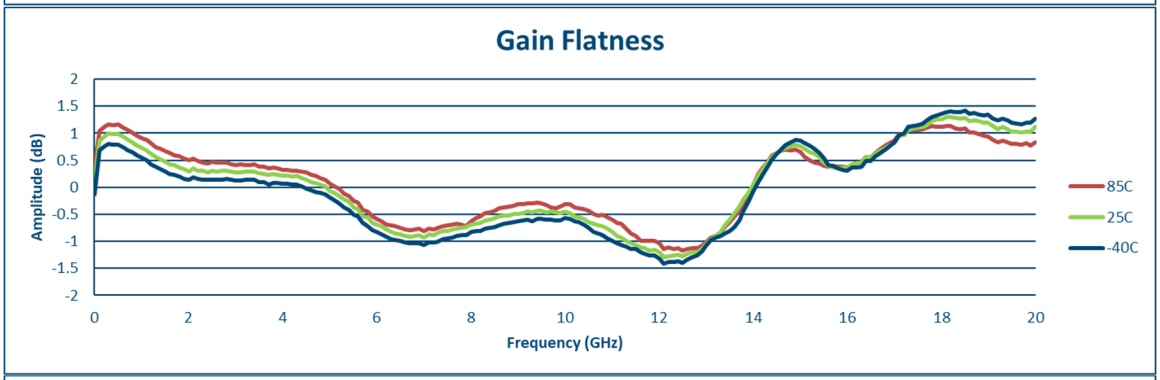

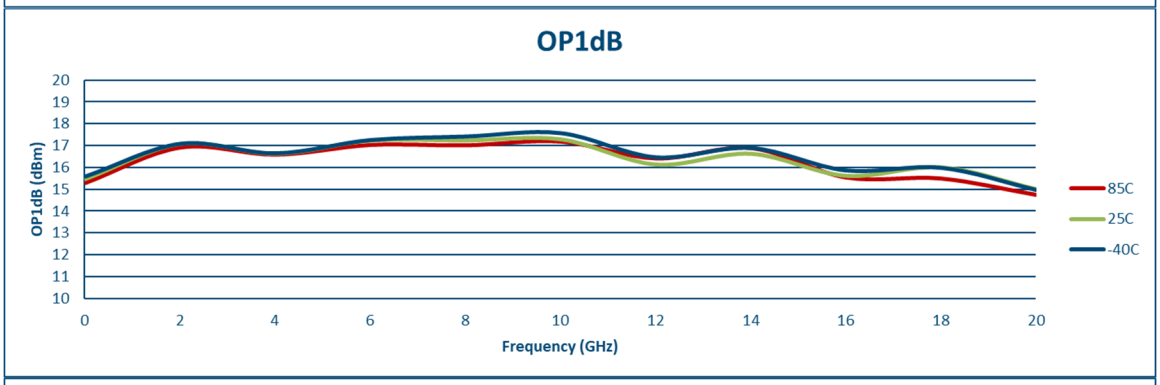

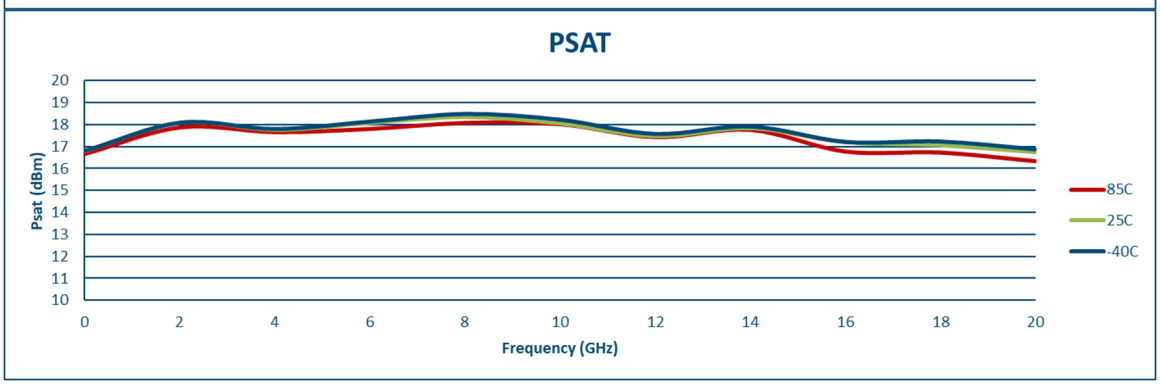

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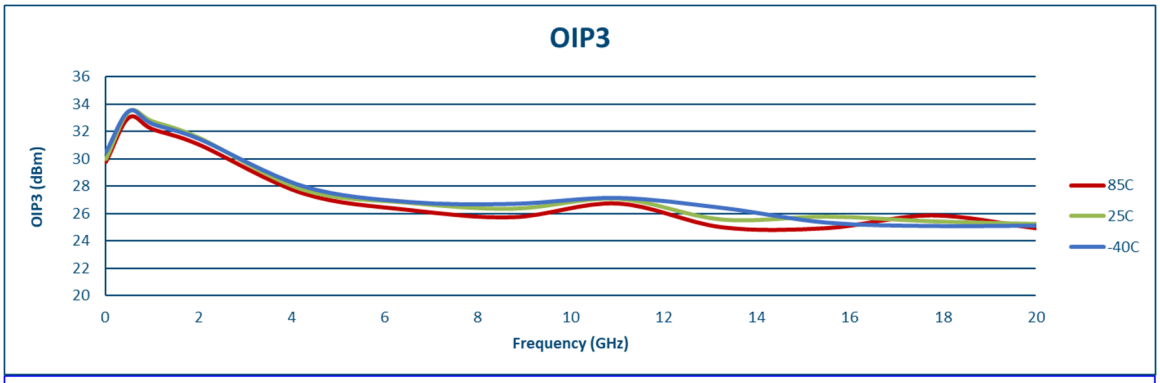

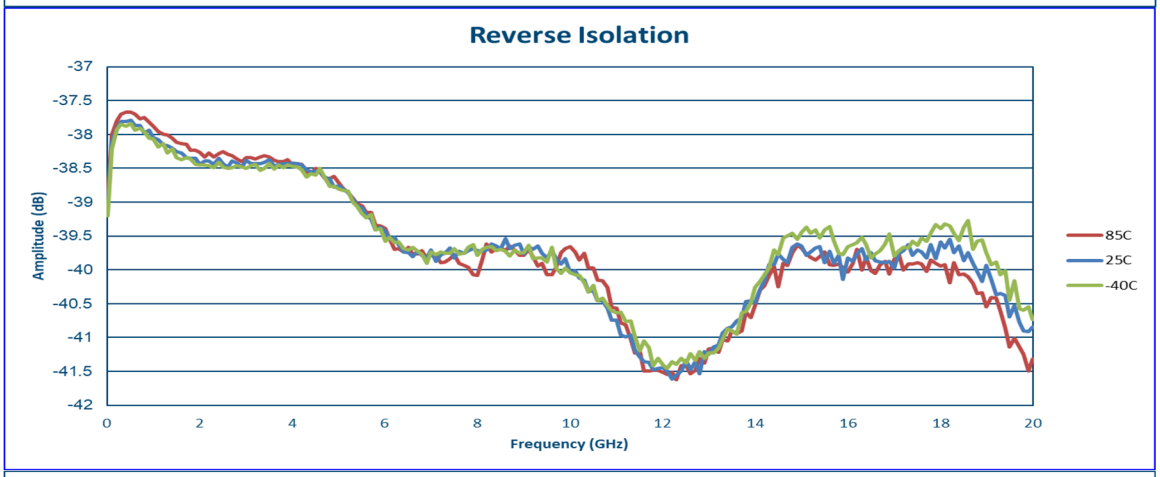

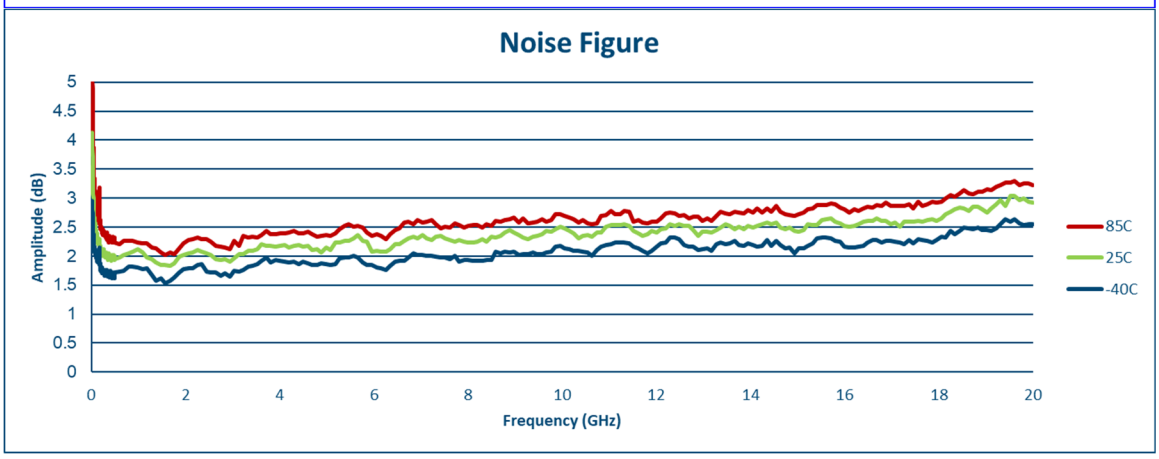

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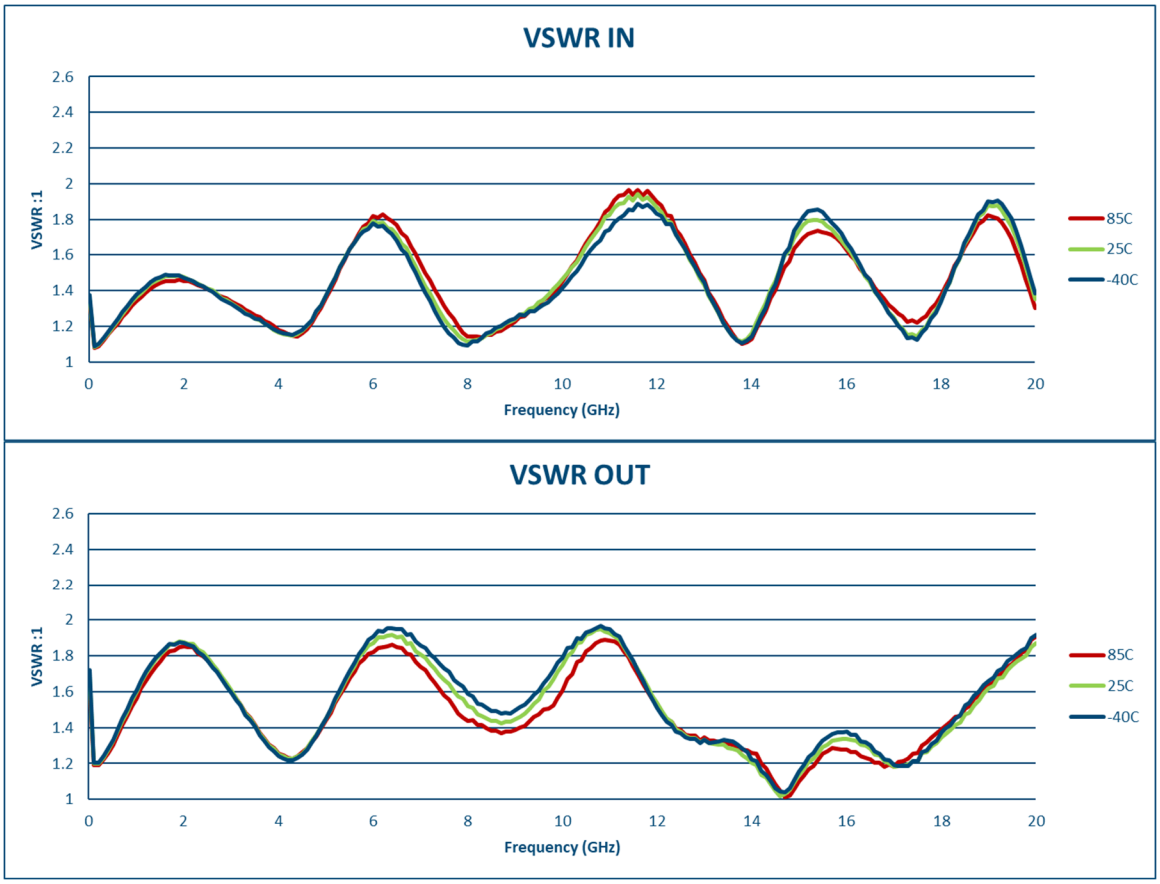

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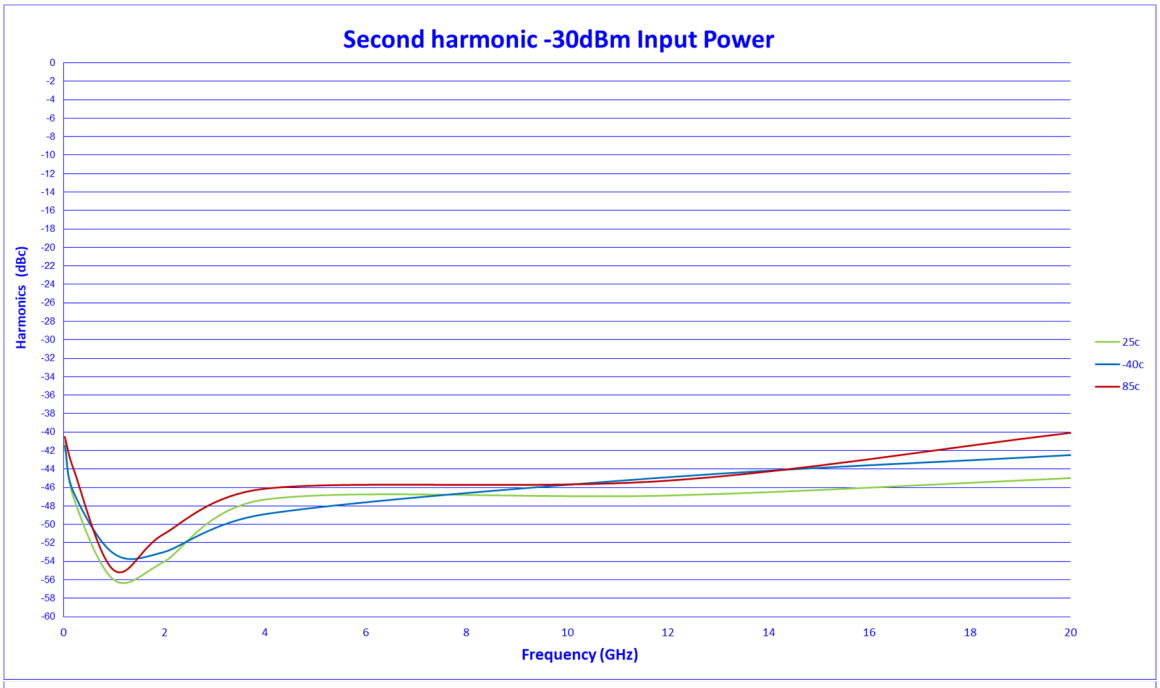

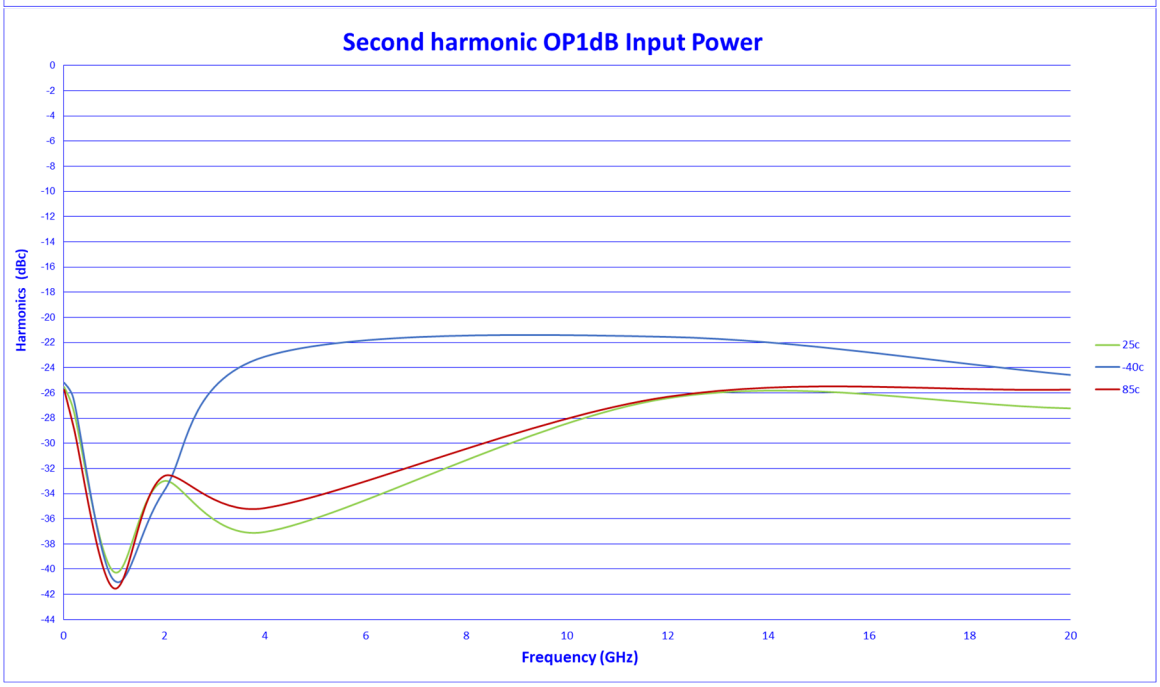

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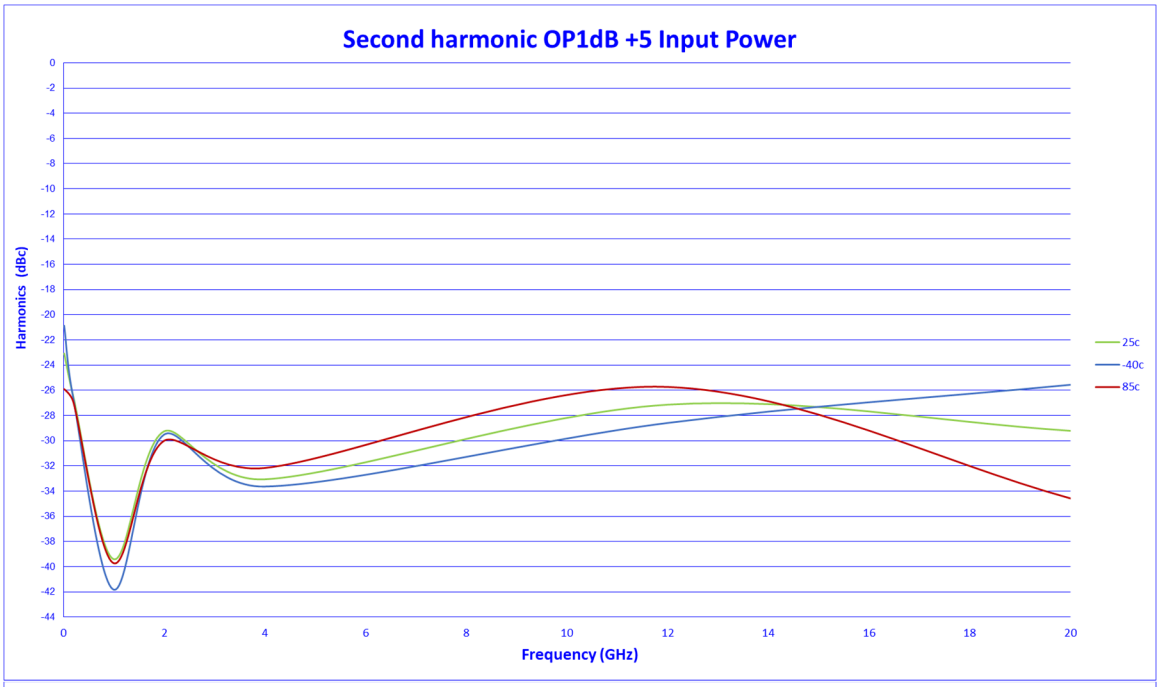

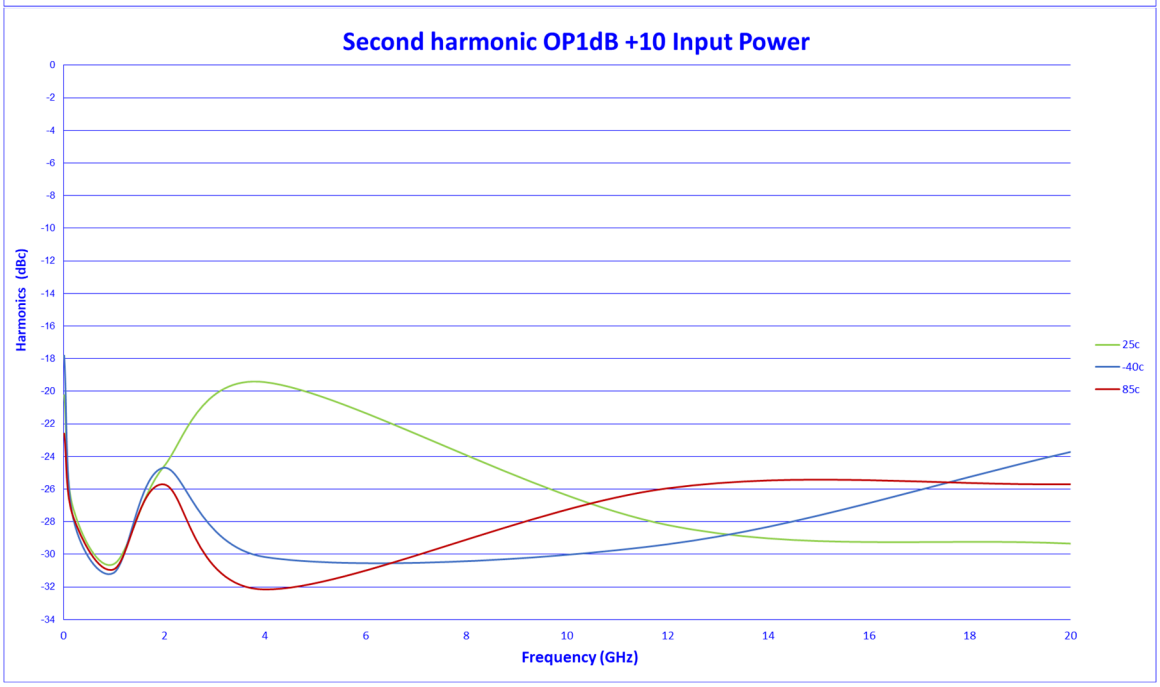

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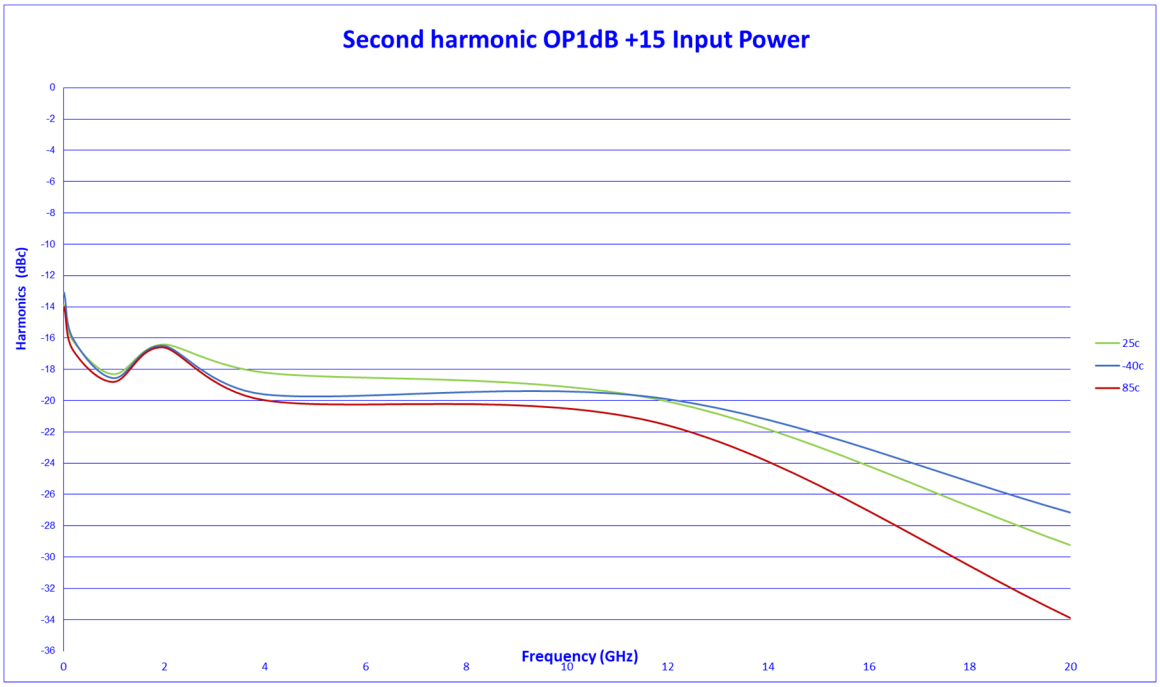

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