Typical Characteristics
ON
QSM-220-15-SFF

PMI MODEL NUMBER QSM-220-15-SFF IS A 2 TO 20 GHz AMPLIFIER. THIS AMPLIFIER IS SUPPLIED IN HOUSING THAT CAN BE USED AS A SMA CONNECTORIZED OR SURFACE MOUNT COMPONENT.



DESIGNED BY
Engineering PMI

TESTED AND REPORTED BY
I. Cossio

DATE
November 12, 2026

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Typical Characteristics
ON
QSM-220-15-SFF

Outline Drawing

DESCRIPTION:
PMI MODEL NUMBER QSM-220-15-SFF IS A 2 TO 20 GHz AMPLIFIER. THIS AMPLIFIER IS SUPPLIED IN OUR STANDARD PEAFS3 HOUSING THAT CAN BE USED AS A SMA CONNECTORIZED OR A SURFACE MOUNT COMPONENT.

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	6/21/2026	

SPECIFICATIONS:

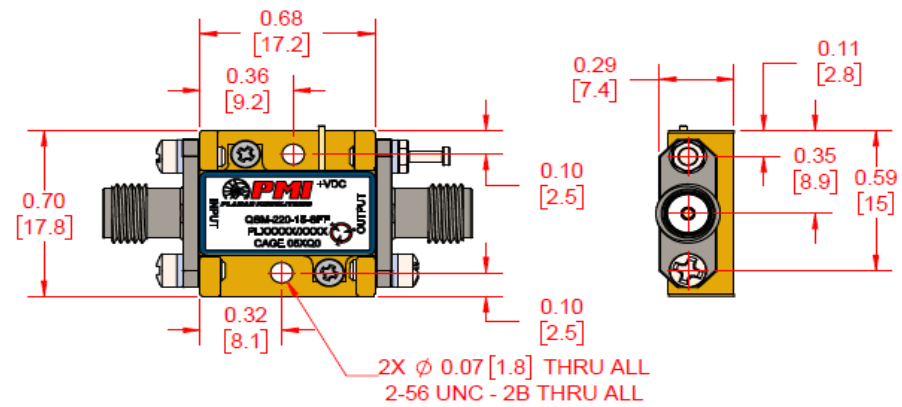
- FREQUENCY RANGE: ..... 2 TO 20 GHz
- GAIN: ..... 15 dB TYP, 12dB MIN
- GAIN FLATNESS: ..... ±1.5 dB MAX
- NOISE FIGURE: ..... 3 dB TYP, 5dB MAX
- OP1dB: ..... 14 dBm TYP, 11 dBm MIN
- Psat: ..... 16 dBm TYP, 14 dBm MIN
- HARMONICS: ..... -20 dBc MAX @-10dBm INPUT POWER
  -12 dBc MAX @0dBm INPUT POWER
  -10 dBc MAX @+10dBm INPUT POWER
- OIP3: ..... +19 dBm MIN
- MAX RF INPUT POWER: ..... +18 dBm CW MAX
- VSWR (INPUT/OUTPUT): ..... 2:1 MAX
- DC SUPPLY: ..... +12 to +15 VDC
  100 mA MAX (Idq)
  125 mA MAX (Psat)
- CONNECTORS: ..... SMA FEMALE
- FINISH: ..... GOLD PLATED

ENVIRONMENTAL RATINGS:

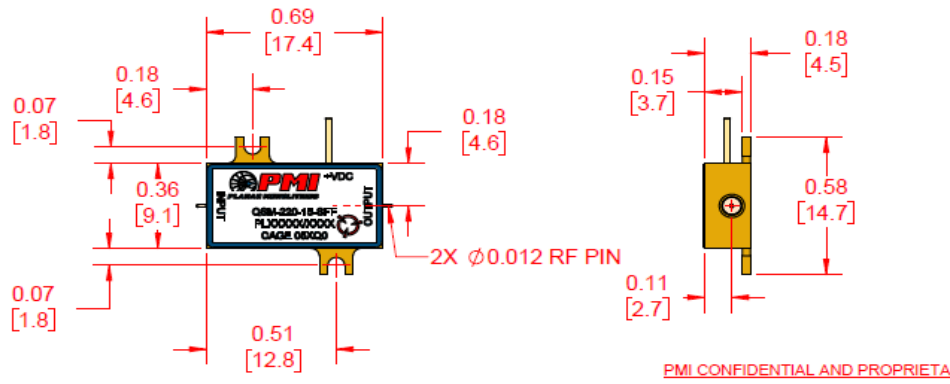
- TEMPERATURE: ..... -55°C TO +85°C (OPERATING)
  -65°C TO +125°C (STORAGE)
- HUMIDITY: ..... MIL-STD-202, METHOD 103 COND. B
- SHOCK: ..... MIL-STD-202, METHOD 213 COND. B
- VIBRATION: ..... MIL-STD-202, METHOD 204 COND. B
- ALTITUDE: ..... MIL-STD-202, METHOD 105 COND. B
- TEMPERATURE CYCLE: ..... MIL-STD-202, METHOD 107 COND. A

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

HOUSING WITH CARRIER



HOUSING WITHOUT CARRIER (SURFACE MOUNT)



PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS	DATE
DRAWN D. HOSCHAR	6/21/2026
REDRAWN	
ISSUED	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .XX ± 0.02 ± .XXX ± 0.01

PLANAR MONOLITHICS
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ISO 9001 CERTIFIED

TITLE: OUTLINE
QSM-220-15-SFF

SIZE	FSCM NO.	DWG NO.	REV.
B	05XQ0	27055040	A1

SCALE 2:1 SHEET 1 OF 1

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Typical Characteristics ON QSM-220-15-SFF

Technical Specifications

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results		
			-55°C	+25°C	+85°C
1	Frequency Range:	2 GHz to 20 GHz	**2 GHz to 20 GHz**	**2 GHz to 20 GHz**	**2 GHz to 20 GHz**
2	Gain:	15 dB Typ 12 dB Min	**+14.6 dB Min.** **+16.1 dB Max.** **See Graph**	**+13.6 dB Min.** **+15.6 dB Max.** **See Graph**	**+13.0 dB Min.** **+15.3 dB Max.** **See Graph**
3	Gain Flatness:	±1.5 dB Max	**± 0.8 dB Max.** **See Graph**	**± 1 dB Max.** **See Graph**	**± 1.1 dB Max.** **See Graph**
4	Noise Figure:	3 dB Typ 5 dB Max	**3.1 dB Max.** **See Graph**	**3.8 dB Max.** **See Graph**	**4.2 dB Max.** **See Graph**
5	OP1dB:	14 dBm Typ 11 dBm Min	**+12.2 dBm Min.** **See Graph**	**+12.2 dBm Min.** **See Graph**	**+12 dBm Min.** **See Graph**
6	Psat:	16 dBm Typ 14 dBm Min	**+15.0 dBm Min.** **See Graph**	**+15.4 dBm Min.** **See Graph**	**+15.4 dBm Min.** **See Graph**
7	Harmonics:	-20 dBc Max @-10dBm Input Power -12 dBc Max @0dBm Input Power -10 dBc Max @+10dBm Input Power	**2nd Harmonics:** **-22.1 dBc @-10 dBm** **-14.1 dBc @0 dBm** **-13.8 dBc @+10 dBm** **3rd Harmonics:** **-41.9 dBc @-10 dBm** **-29.7 dBc @0 dBm** **-13.2 dBc @+10 dBm** **See Graph**	**2nd Harmonics:** **-27.3 dBc @-10 dBm** **-17.7 dBc @0 dBm** **-13.7 dBc @+10 dBm** **3rd Harmonics:** **-56.7 dBc @-10 dBm** **-34.3 dBc @0 dBm** **-13.5 dBc @+10 dBm** **See Graph**	**2nd Harmonics:** **-27.7 dBc @-10 dBm** **-17.9 dBc @0 dBm** **-13.3 dBc @+10 dBm** **3rd Harmonics:** **-56.4 dBc @-10 dBm** **-34.4 dBc @0 dBm** **-13.7 dBc @+10 dBm** **See Graph**
8	OIP3:	+19 dBm Min	**+21.1 dBm Min.** **See Graph**	**+20.9 dBm Min.** **See Graph**	**+21 dBm Min.** **See Graph**
9	Max RF Input Power:	+18 dBm CW Max	**+18 dBm** **See Graph**	**+18 dBm** **See Graph**	**+18 dBm** **See Graph**
10	VSWR In:	2.0 :1 Max	**1.54 :1** **See Graph**	**1.58 :1** **See Graph**	**1.57 :1** **See Graph**
11	VSWR Out:	2.0 :1 Max	**1.8 :1** **See Graph**	**1.63 :1** **See Graph**	**1.61 :1** **See Graph**
12	DC Supply	+12 to +15 V @ 100 mA Max (Idq) 125mA Max (Psat)	**+12 to +15 V @** **75 mA Max (Idq)** **90 mA Max (Psat)**	**+12 to +15 V @** **79 mA Max (Idq)** **95 mA Max (Psat)**	**+12 to +15 V @** **80 mA Max (Idq)** **95 mA Max (Psat)**

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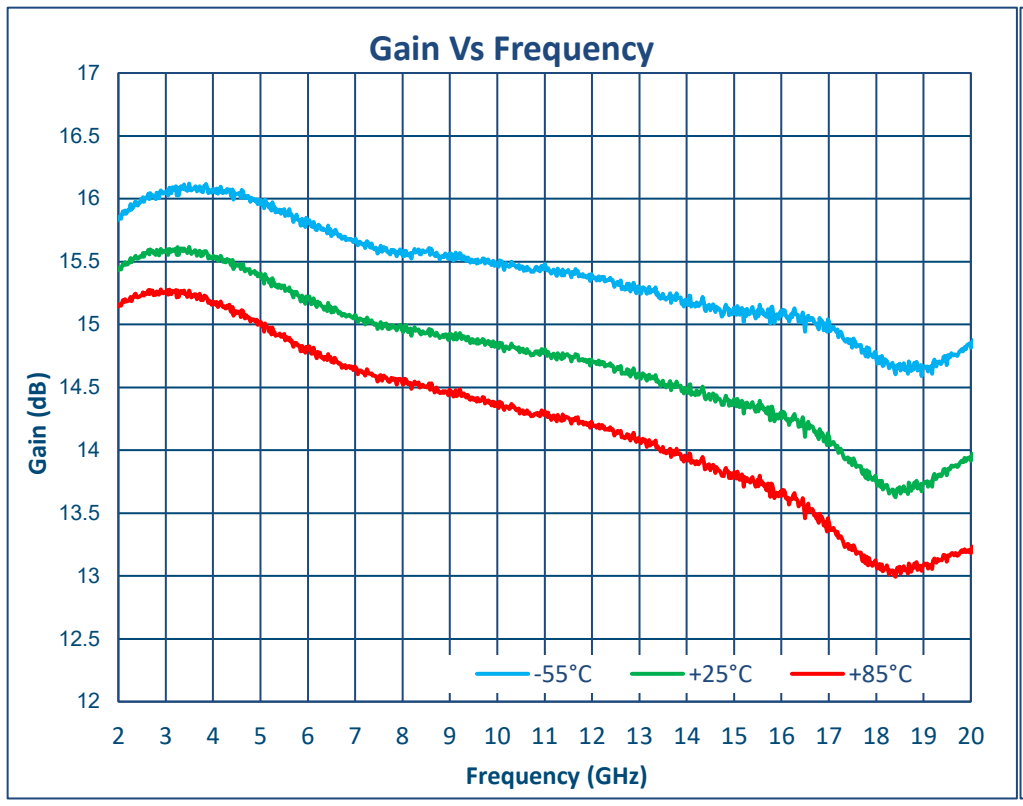

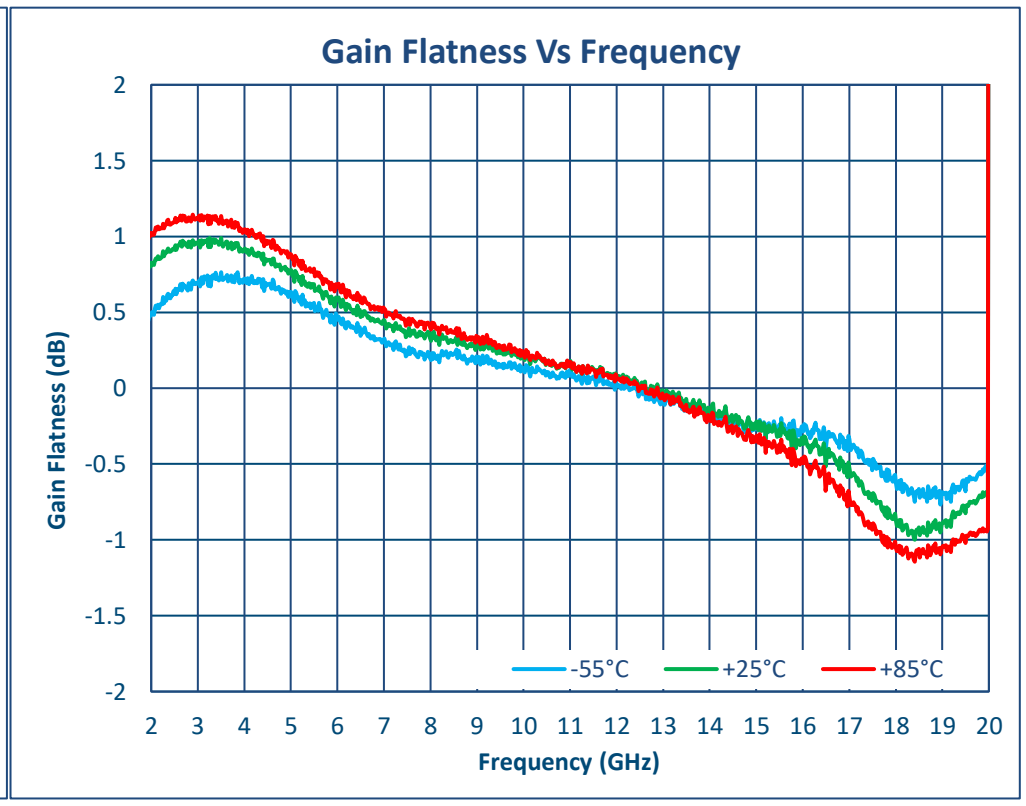

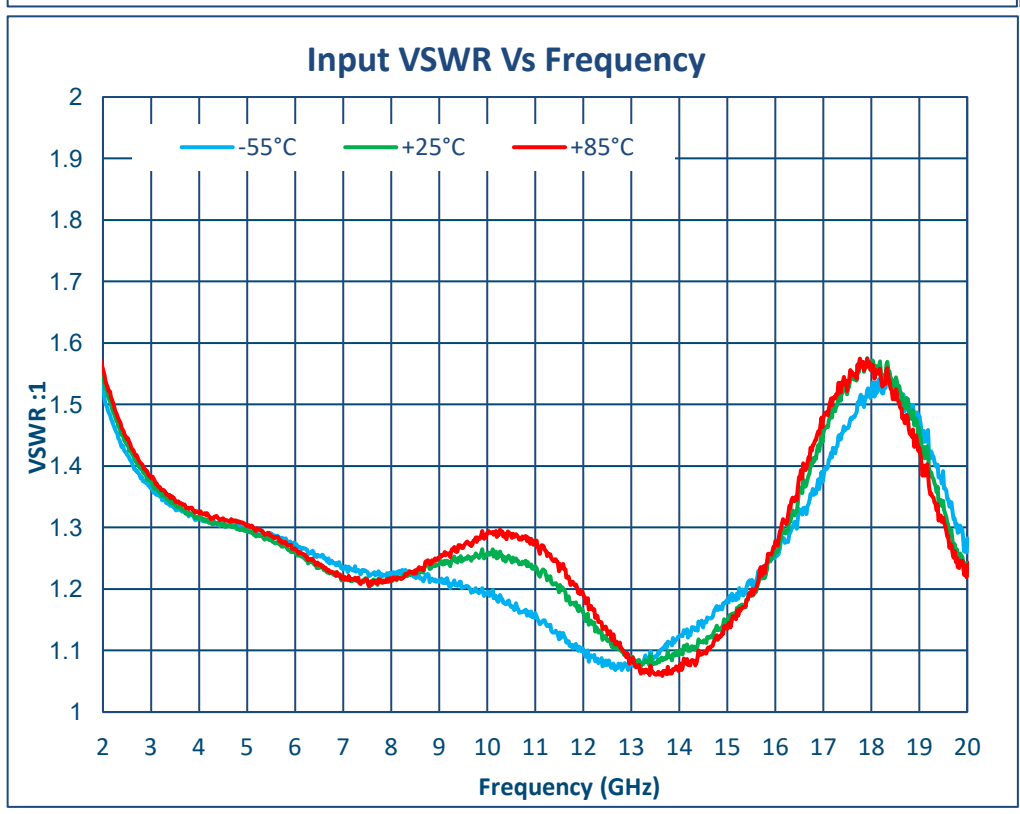

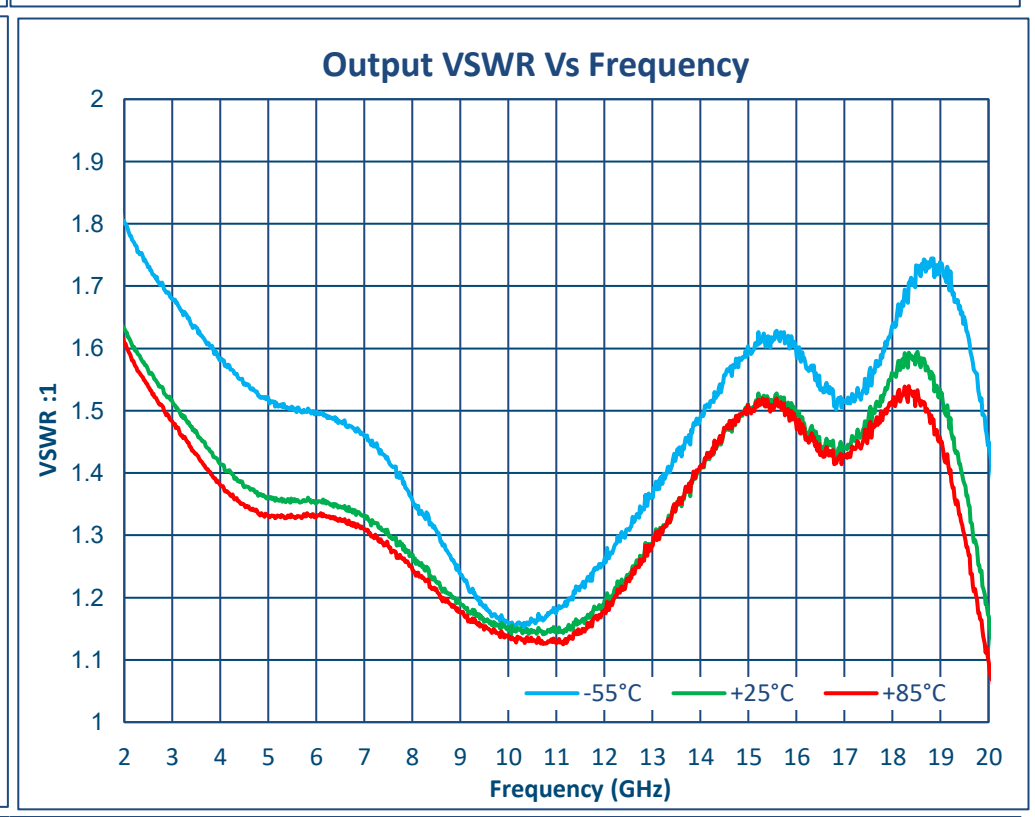

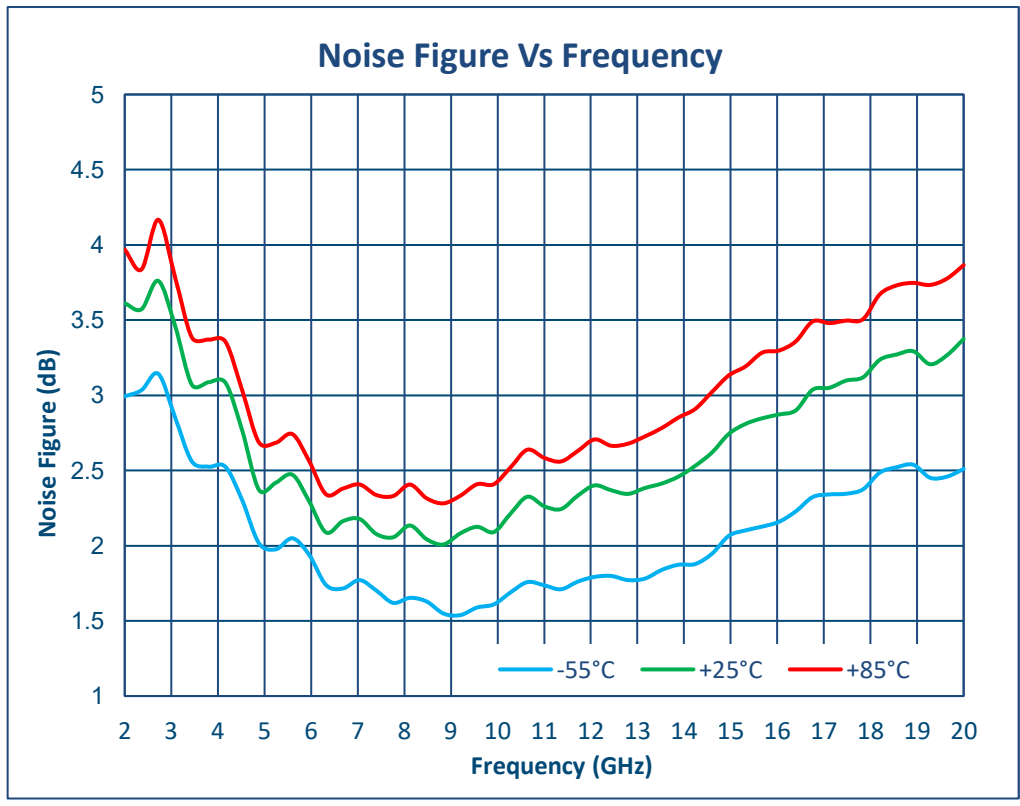

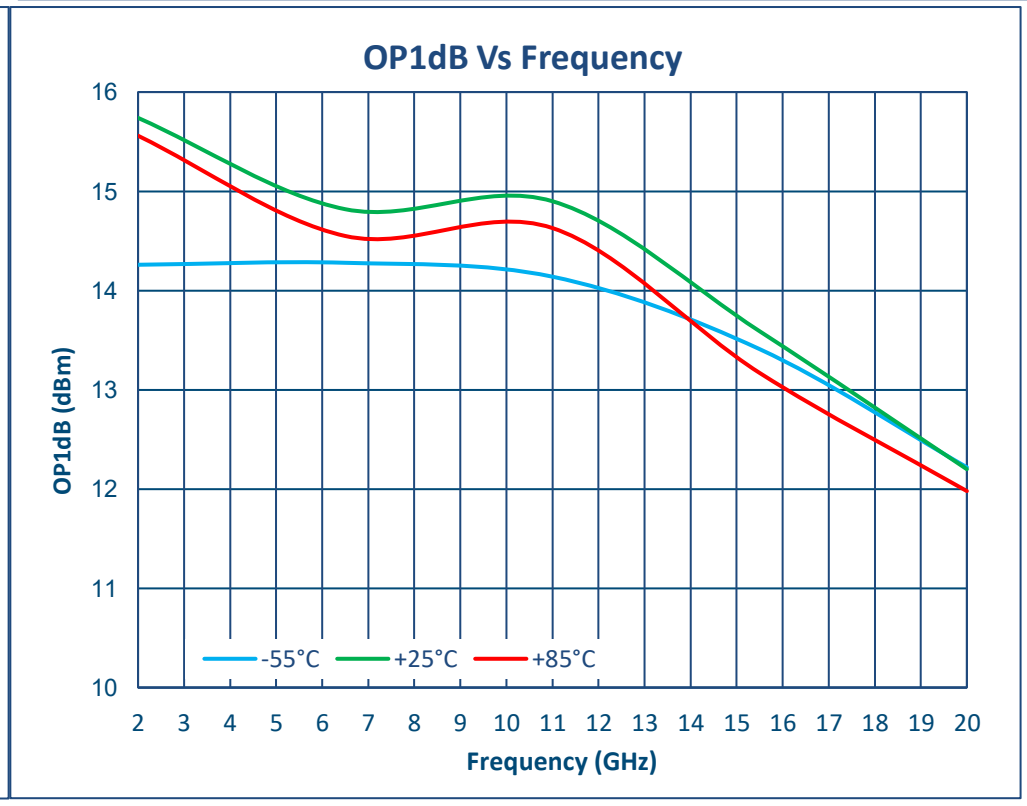

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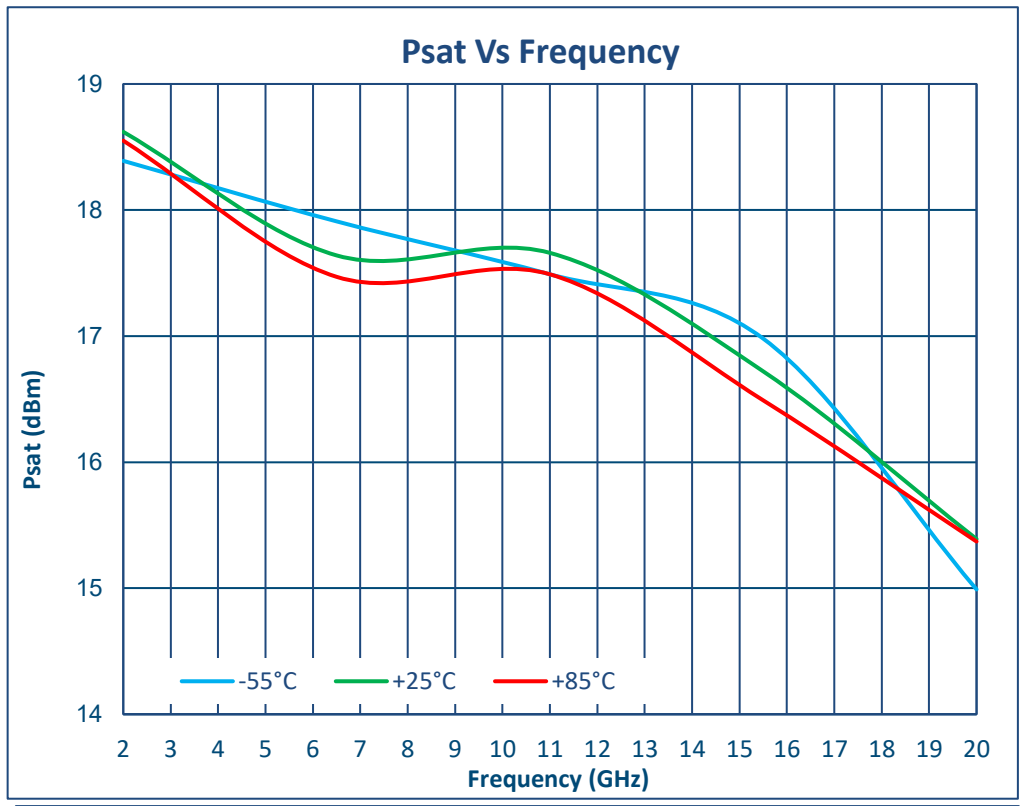

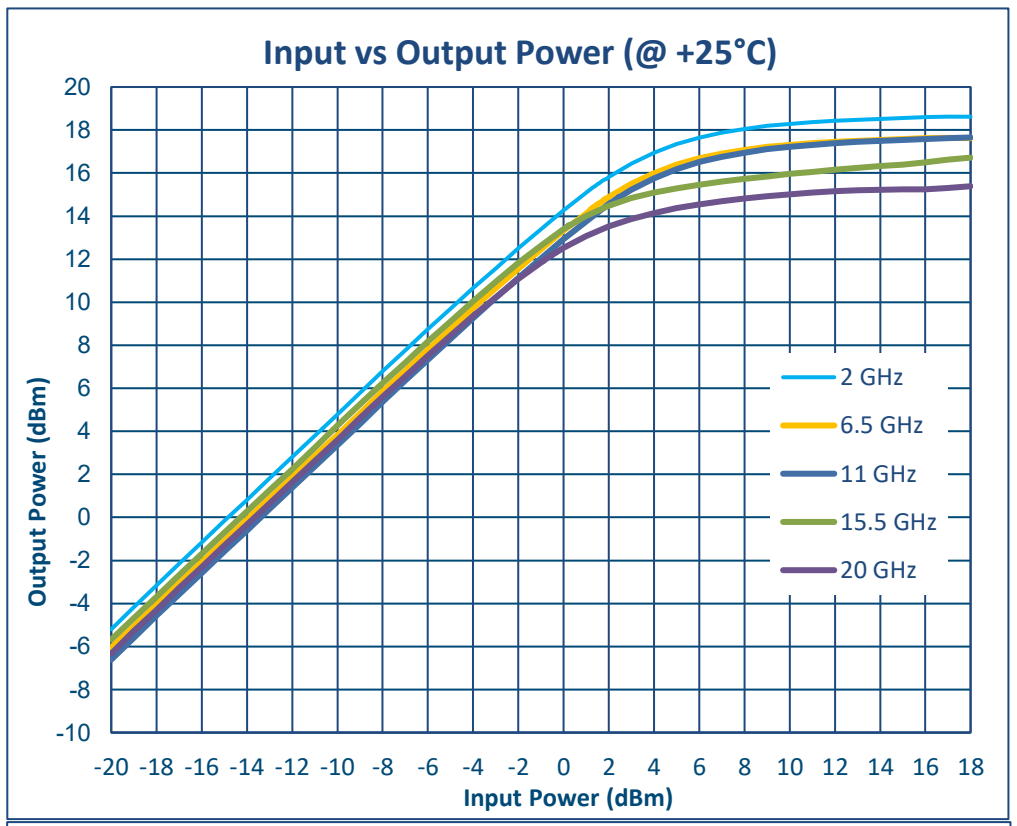

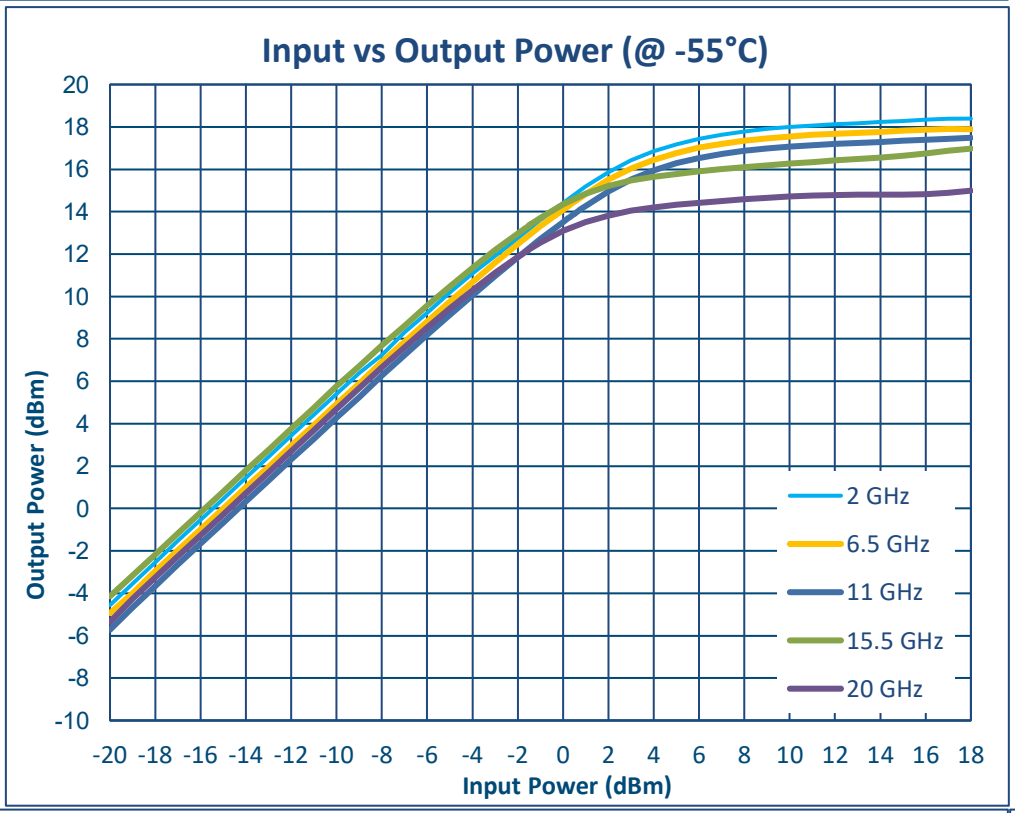

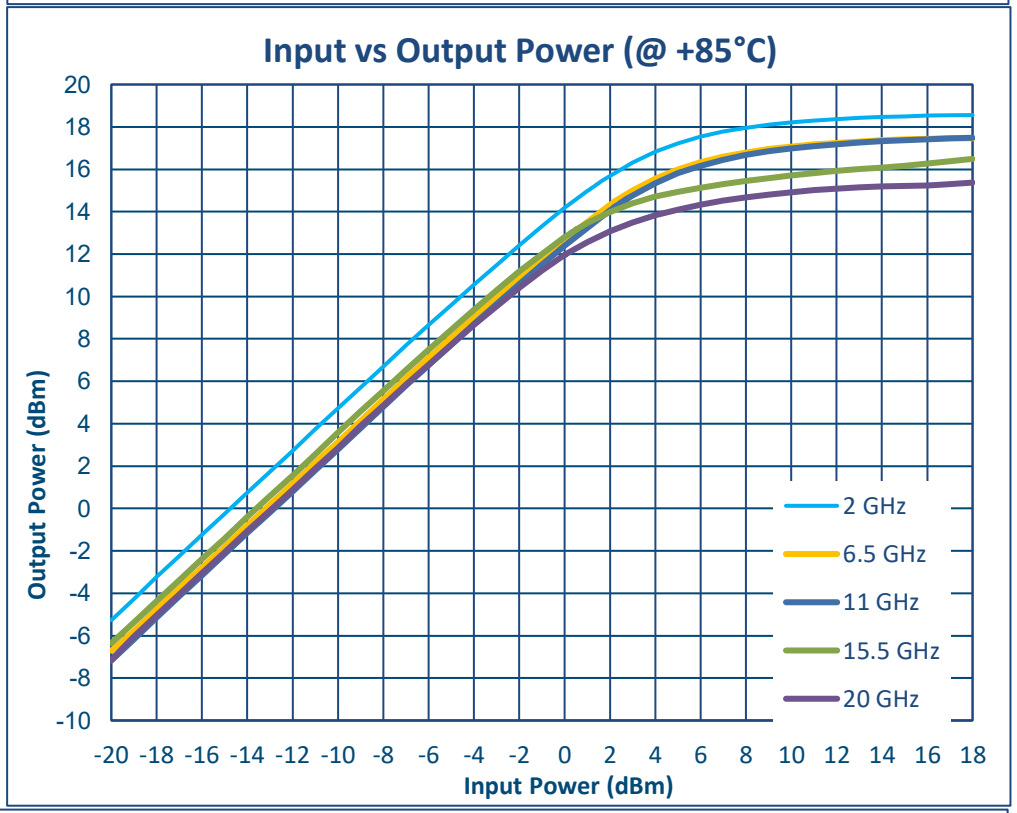

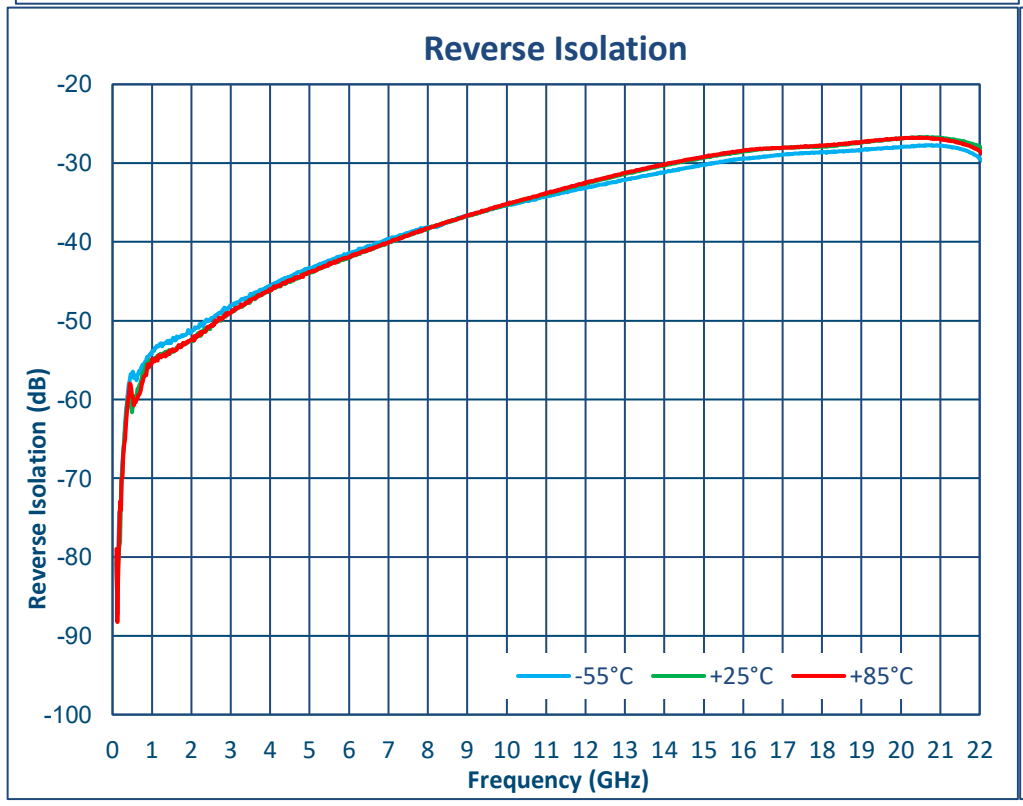

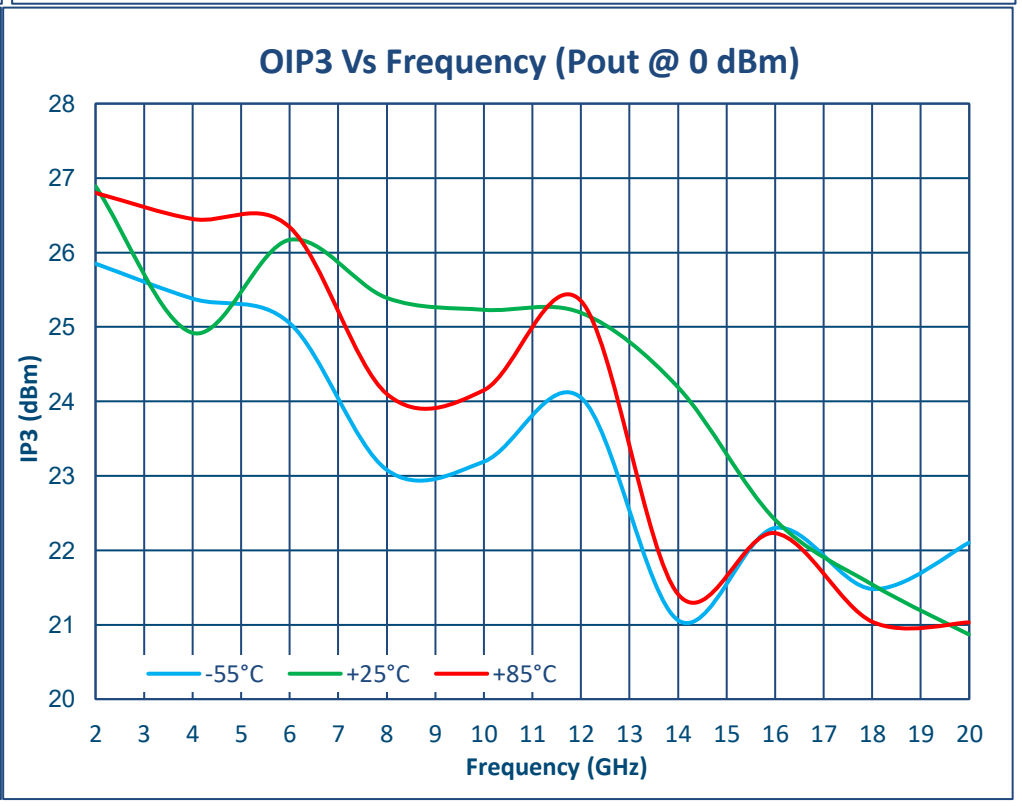

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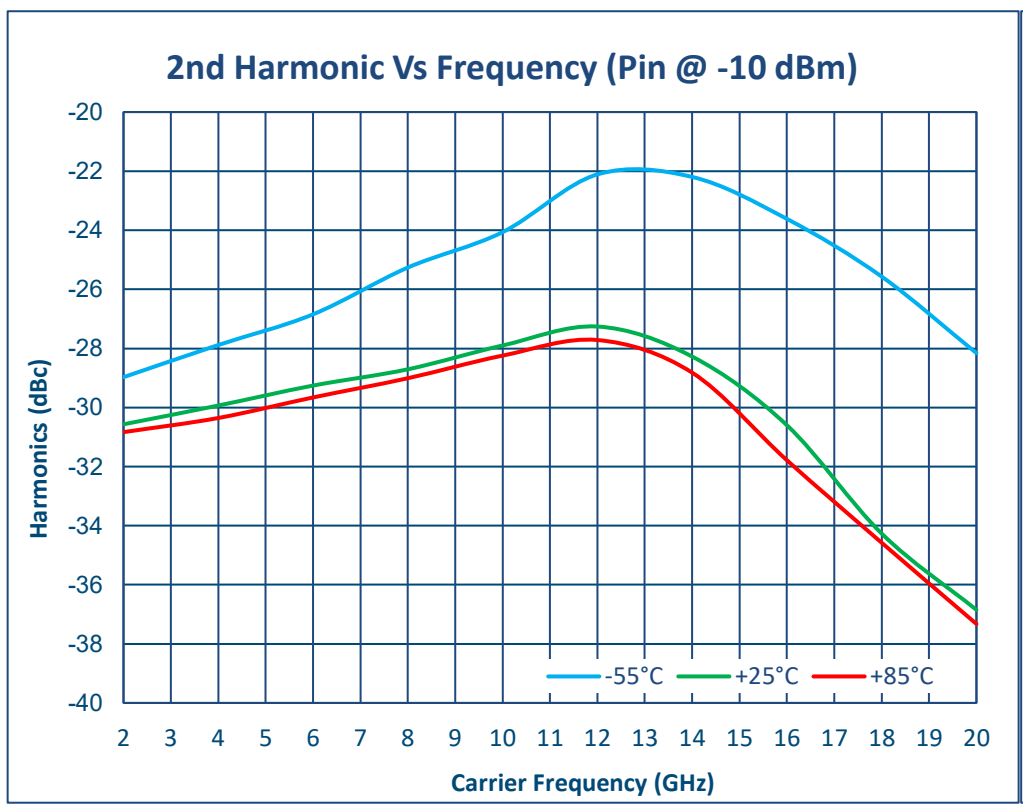

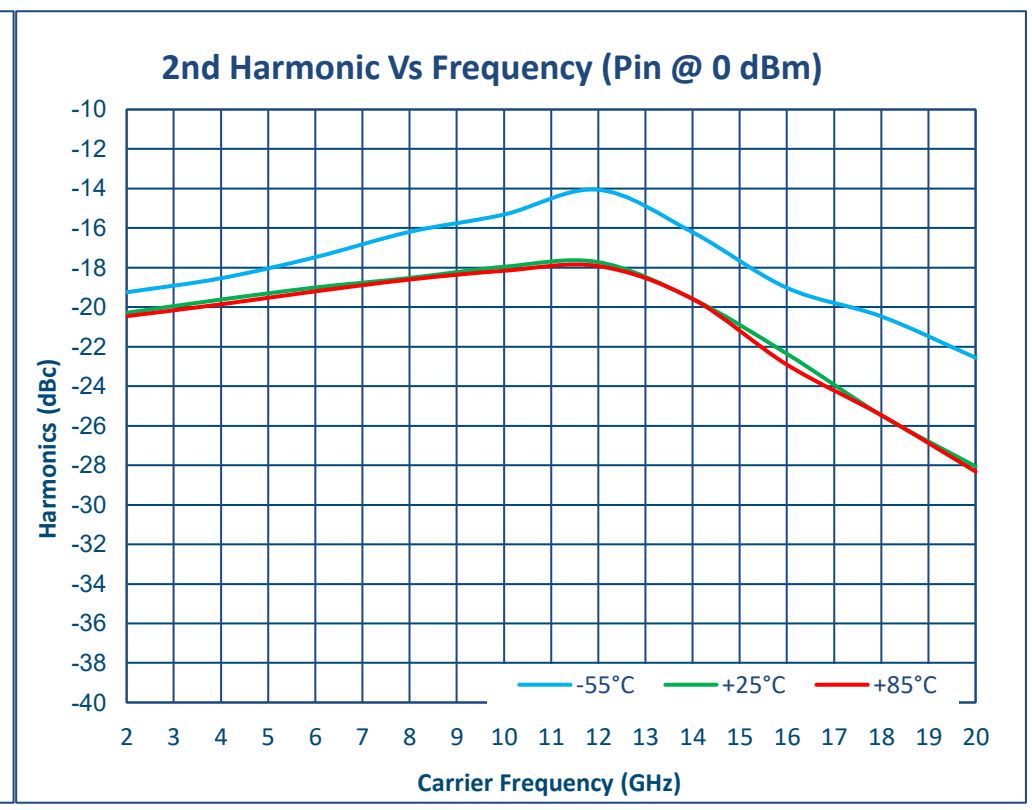

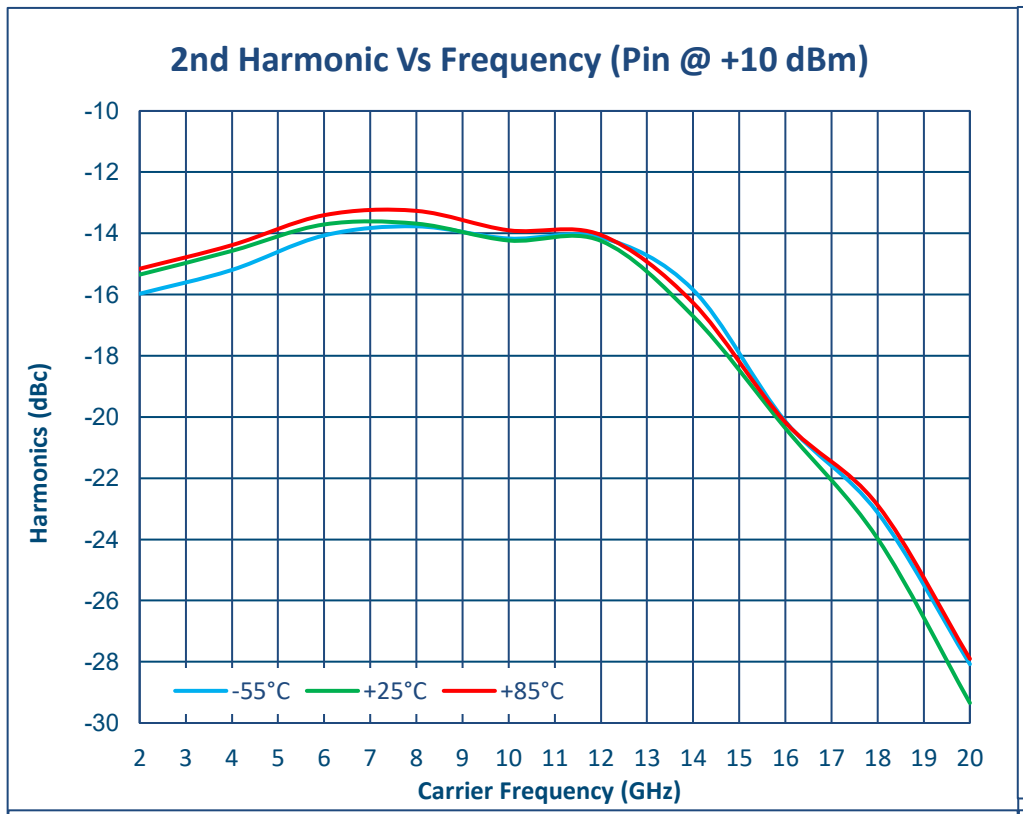

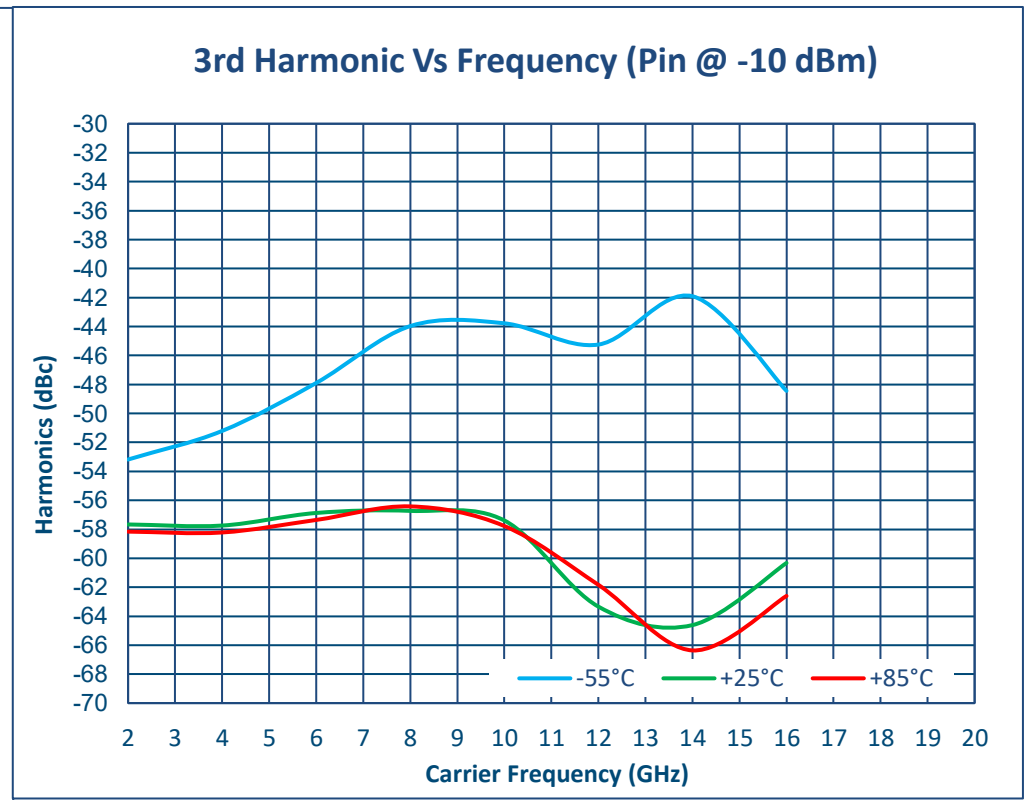

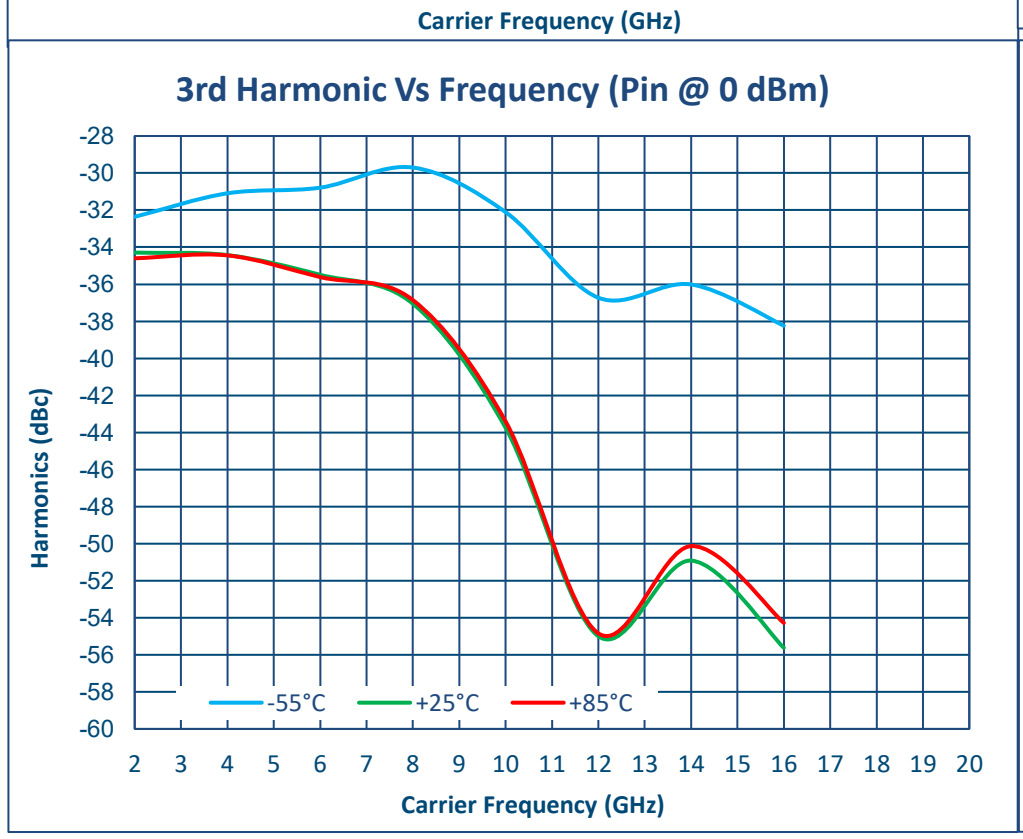

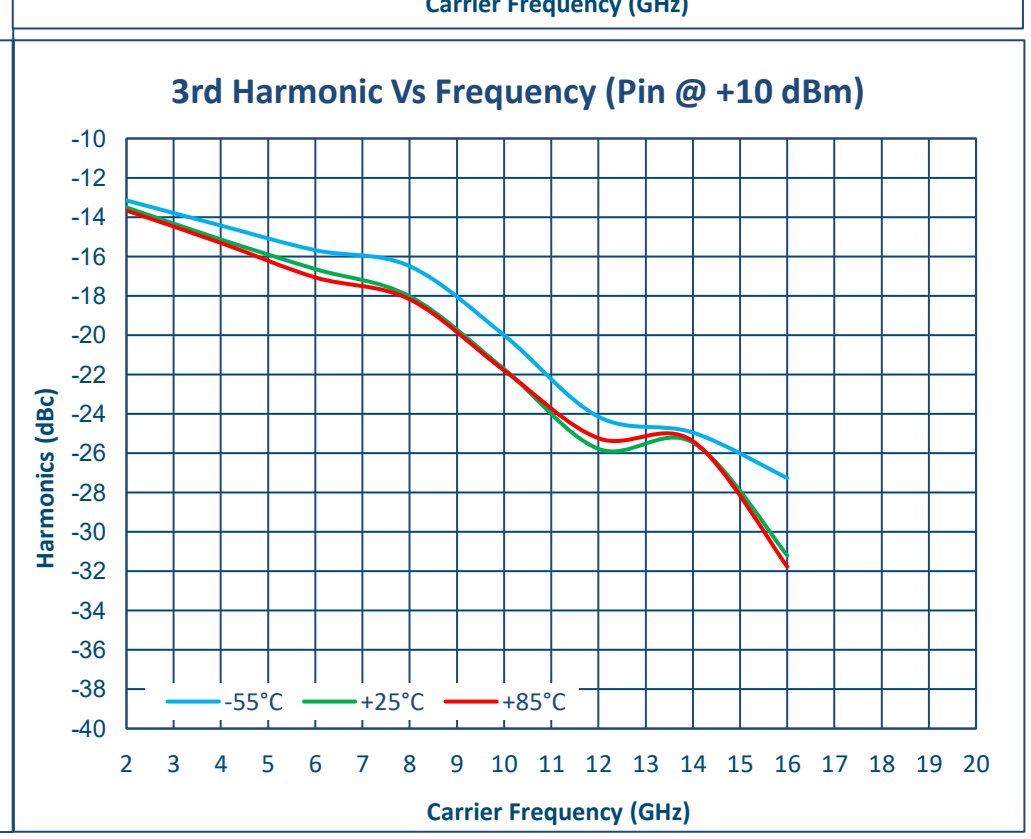

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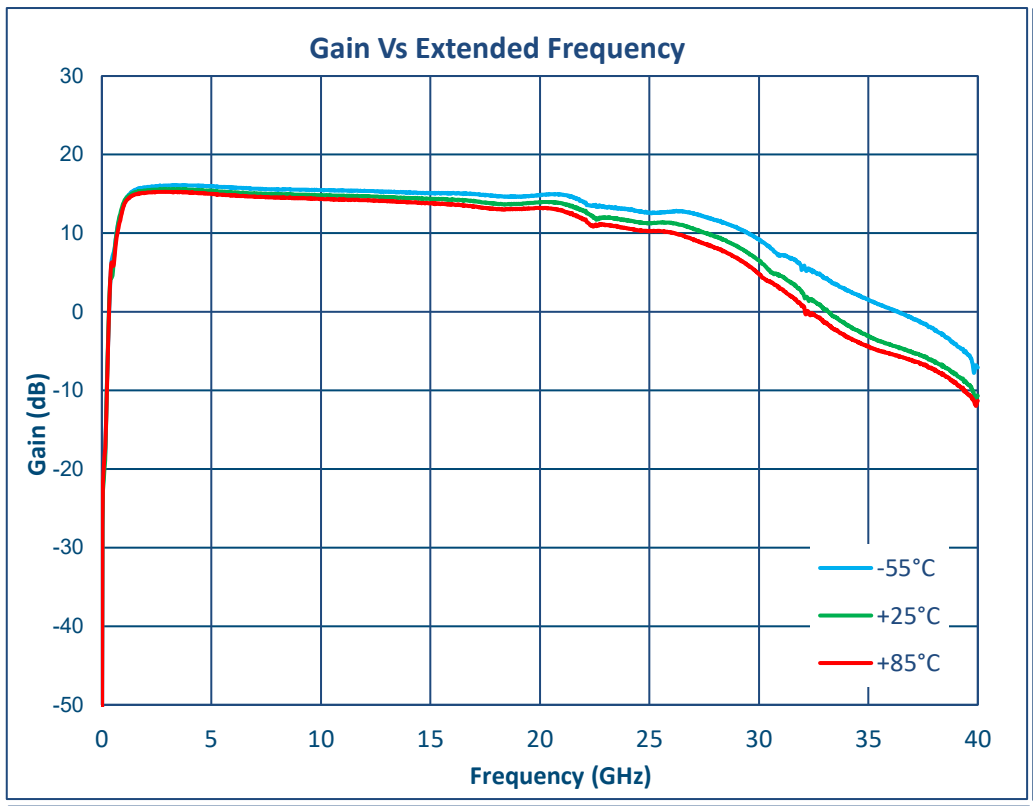

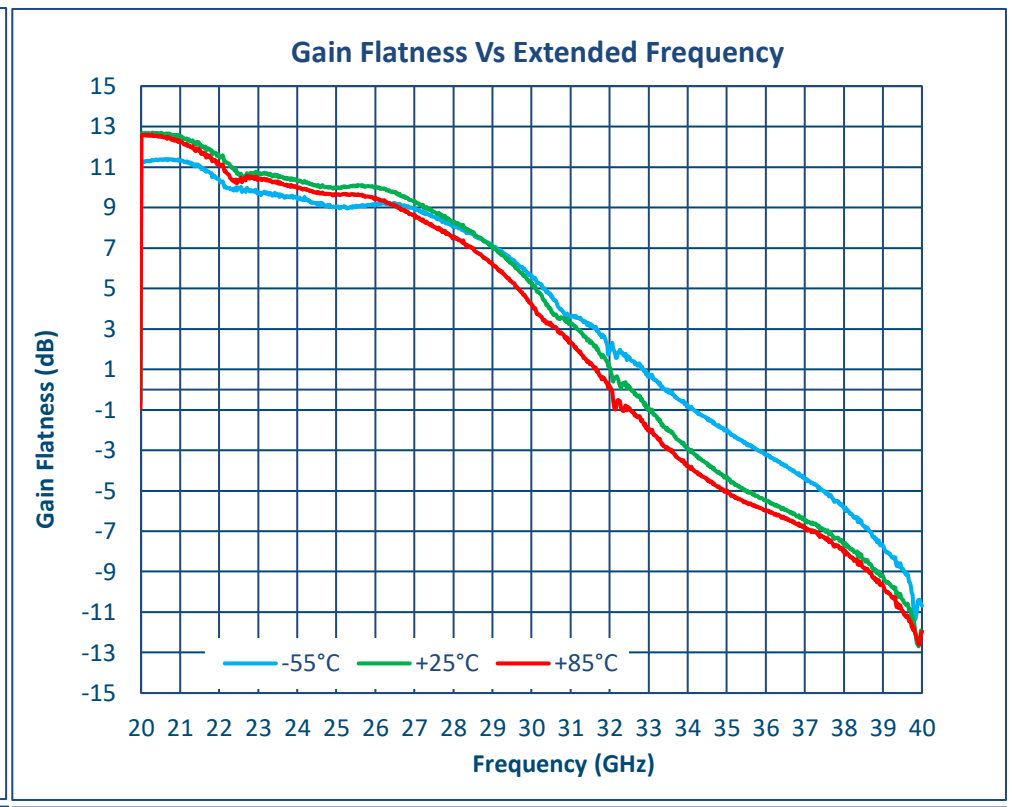

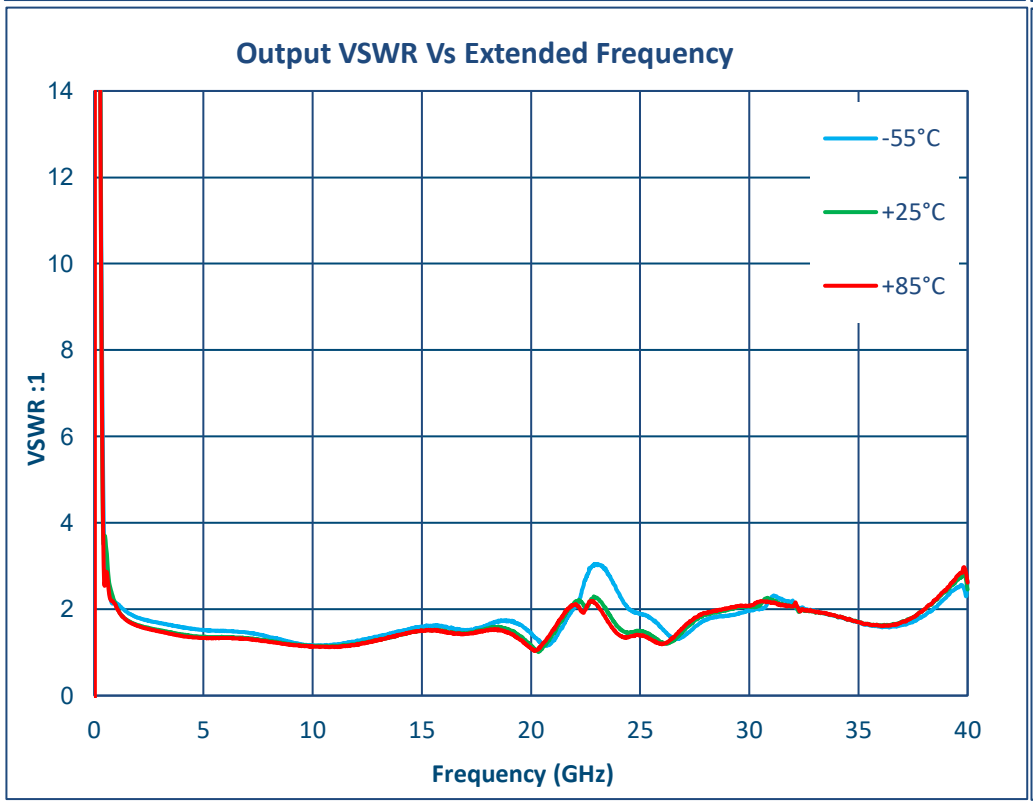

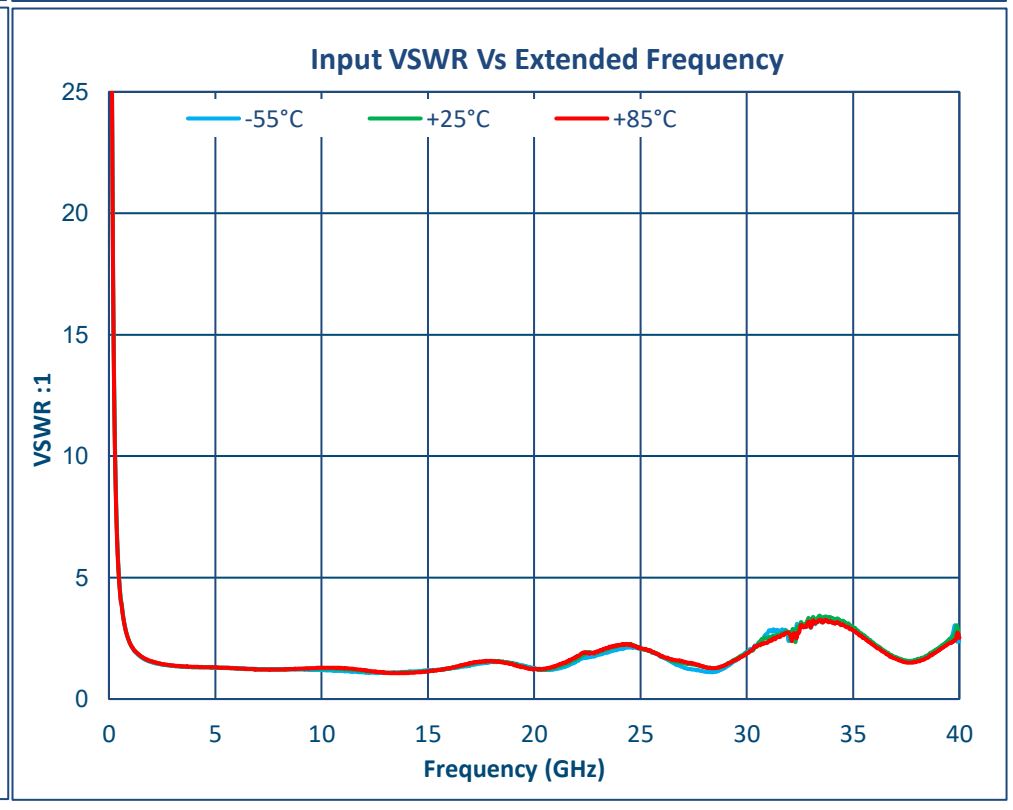

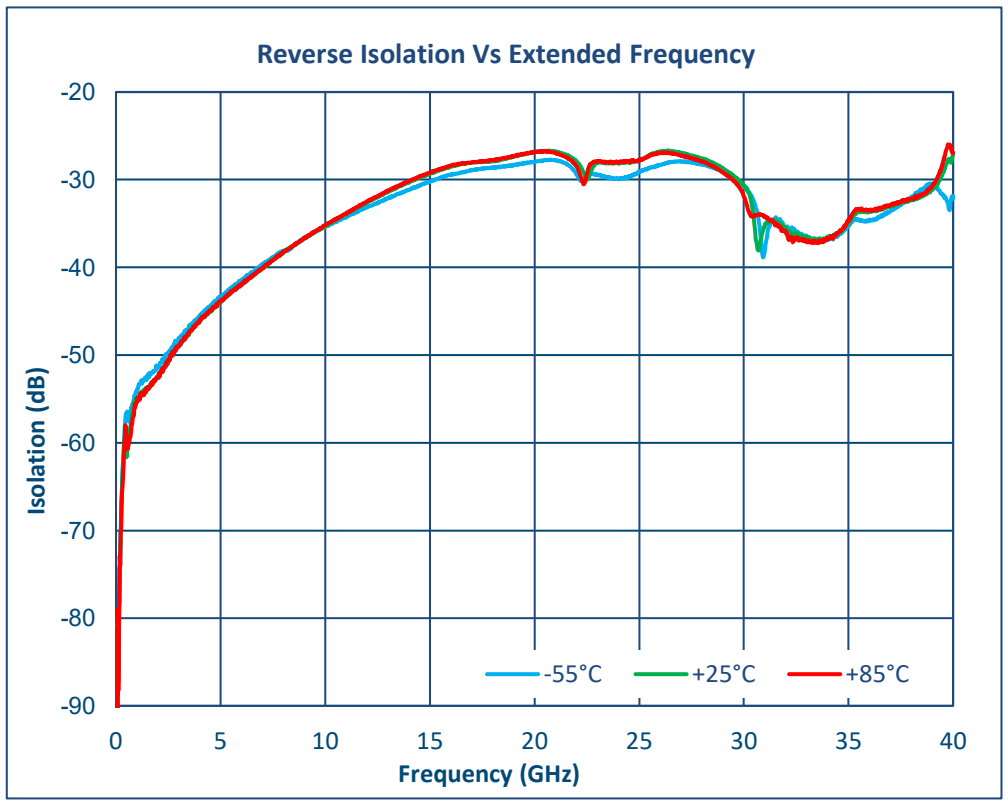

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