Typical Characteristics
ON
QSM-520-22-4-17-SFF

PMI MODEL NUMBER QSM-520-22-4-17-SFF IS A 5 TO 20 GHz AMPLIFIER. THIS AMPLIFIER IS SUPPLIED IN OUR STANDARD PE2 HOUSING THAT CAN BE USED AS A SMA CONNECTORIZED OR SURFACE MOUNT COMPONENT.

DATE
July 17, 2025

Designed By:
BRIAN WALL

Tested and Reported By:
BRIAN WALL

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

Typical Characteristics ON QSM-520-22-4-17-SFF

Outline Drawing

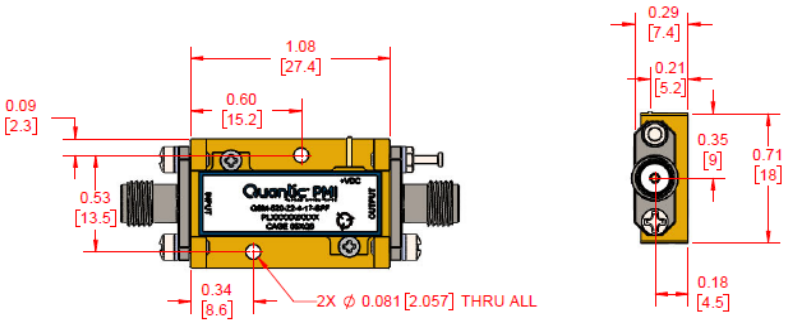
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	7/16/2025	

DESCRIPTION:
PMI MODEL NUMBER QSM-520-22-4-17-SFF IS A 5 TO 20 GHz AMPLIFIER. THIS AMPLIFIER IS SUPPLIED IN OUR STANDARD PE2 HOUSING THAT CAN BE USED AS A SMA CONNECTORIZED OR A SURFACE MOUNT COMPONENT.

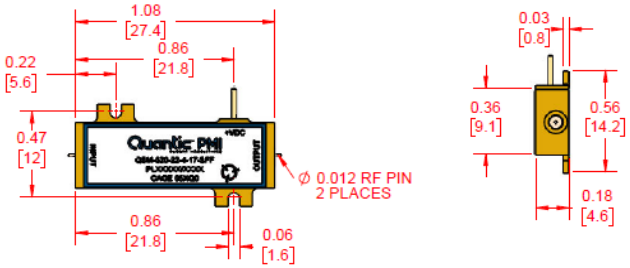
SPECIFICATIONS:

- FREQUENCY RANGE: 5 TO 20 GHz
- GAIN: 26 dB TYP, 22 dB MIN
- GAIN FLATNESS: ±2.75 dB TYP, ±3.00 dB MAX
- NOISE FIGURE: 4 dB MAX
- OP1dB: 14 dBm MIN
- VSWR (INPUT/OUTPUT): 2.2:1 MAX
- MAX INPUT POWER: 23 dBm MAX
- DC VOLTAGE SUPPLY: +12 TO +15 VDC
- DC CURRENT DRAW: 100 mA MAX
- CONNECTORS: SMA FEMALE
- FINISH: GOLD PLATED

PE2 HOUSING WITH CARRIER



PE2 HOUSING WITHOUT CARRIER



ENVIRONMENTAL RATINGS:

- TEMPERATURE: -40°C TO +85°C (OPERATING), -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: B.WALL	7/16/2025
REDRAWN	
ISSUED	

TITLE: OUTLINE
QSM-520-22-4-17-SFF
SIZE: B | FSCM NO.: 05XQ0 | DWG NO.: 27052500 | REV.: A1
SCALE: 2:1 | SHEET 1 OF 1

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Typical Characteristics ON QSM-520-22-4-17-SFF

Technical Specifications

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results		
			+25°C	-55°C	+85°C
1	Frequency Range:	5 TO 20 GHz	**5 TO 20 GHz**	**5 TO 20 GHz**	**5 TO 20 GHz**
2	Gain:	26 dB TYP 22 dB MIN	**+23.42 dB Min.**	**+24.47 dB Min.**	**+22.82 dB Min.**
			+29.03 dB Max.	**+29.83 dB Max.**	**+28.49 dB Max.**
			See graph	**See graph**	**See graph**
3	Gain Flatness:	±2.75 dB TYP ±3.00 dB MAX	**±2.81 dB**	**±2.68 dB**	**±2.84 dB**
4	Noise Figure:	4 dB MAX	**3.33 dB See Graph**	**2.84 dB See Graph**	**3.89 dB See Graph**
5	OP1dB:	14 dBm MIN	**14.26 dBm See Graph**	**14.87 dBm See Graph**	**14.34 dBm See Graph**
6	VSWR In/Out:	2.2:1 MAX	**2.2 :1 See Graph**	**2.2 :1 See Graph**	**2.2 :1 See Graph**
7	DC Supply:	5 VDC @ 100 mA MAX	**+5 VDC @ 89 mA**	**+5 VDC @ 87 mA**	**+5 VDC @ 89 mA**

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Typical Characteristics
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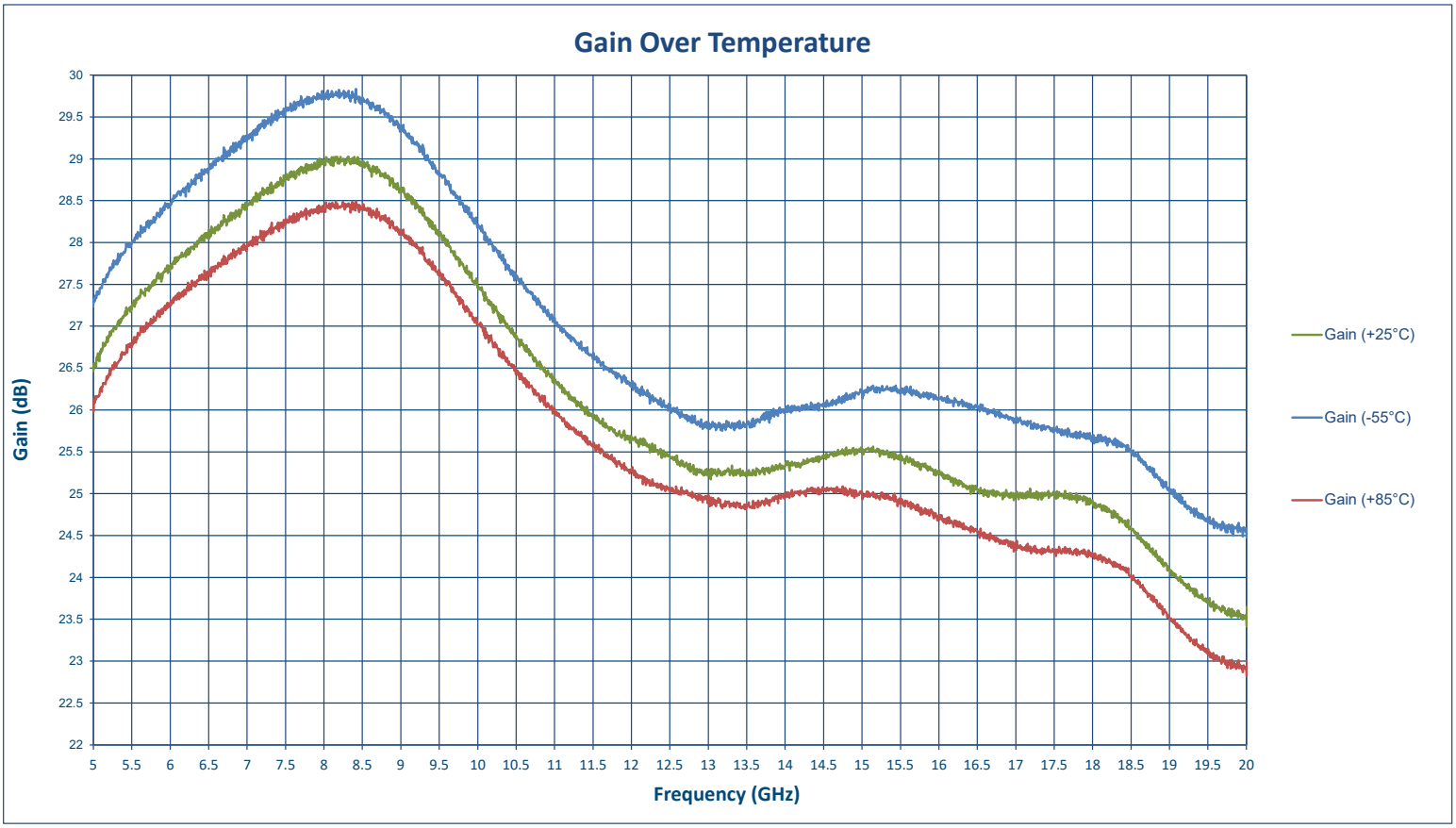

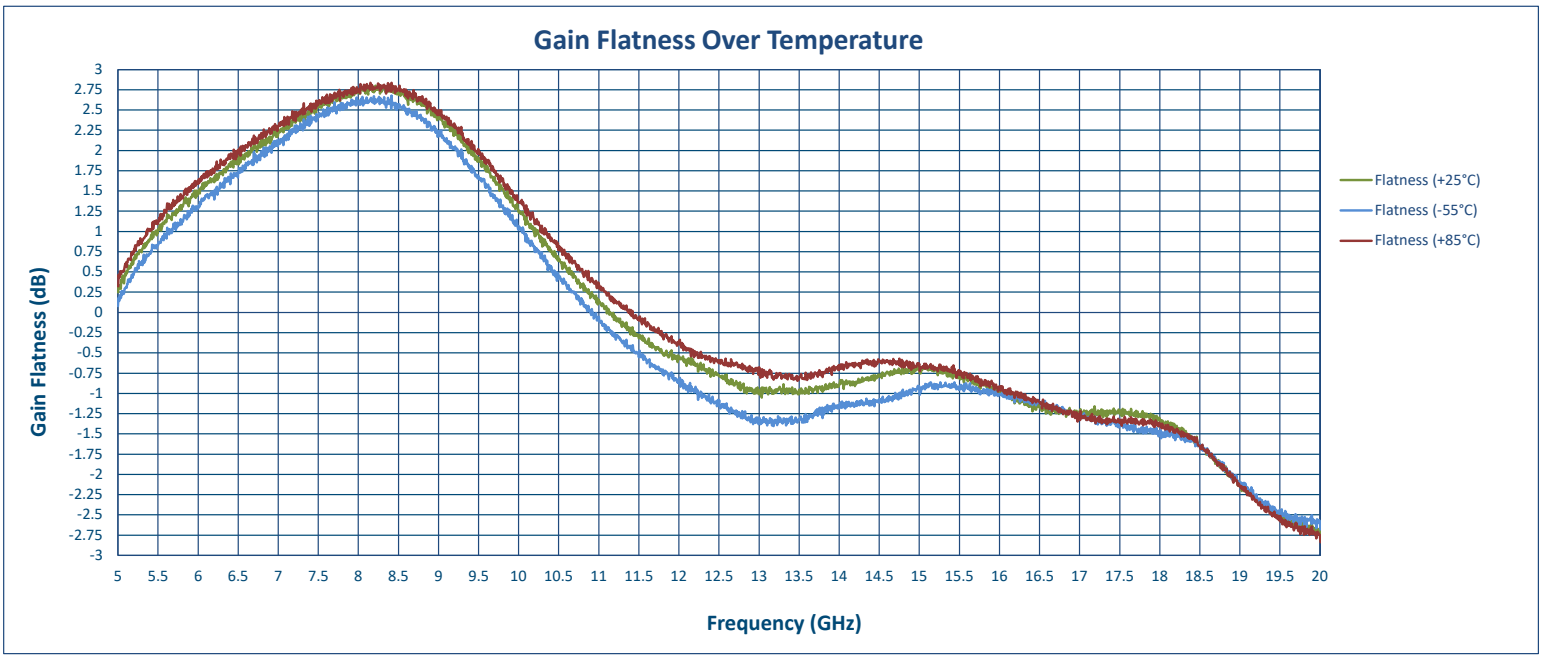

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Typical Characteristics
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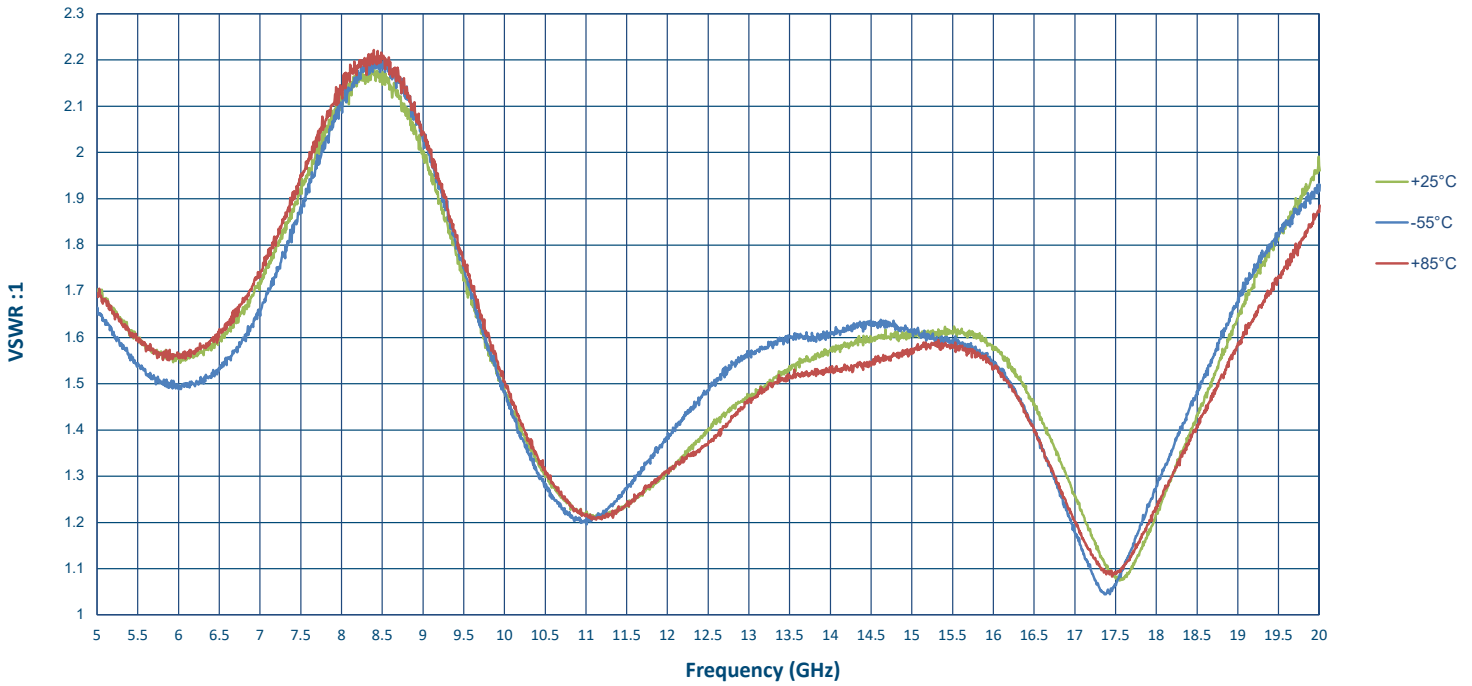
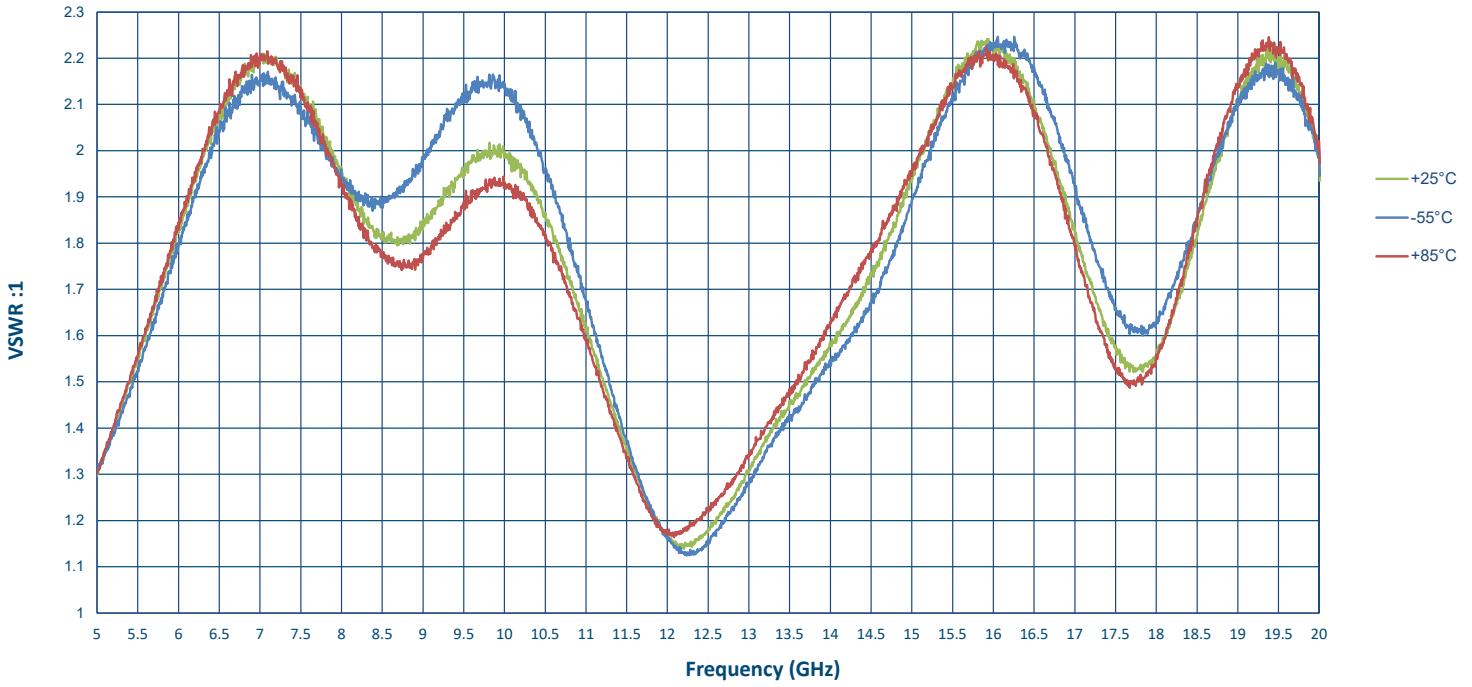
VSWR In Over Temperature



VSWR Out Over Temperature



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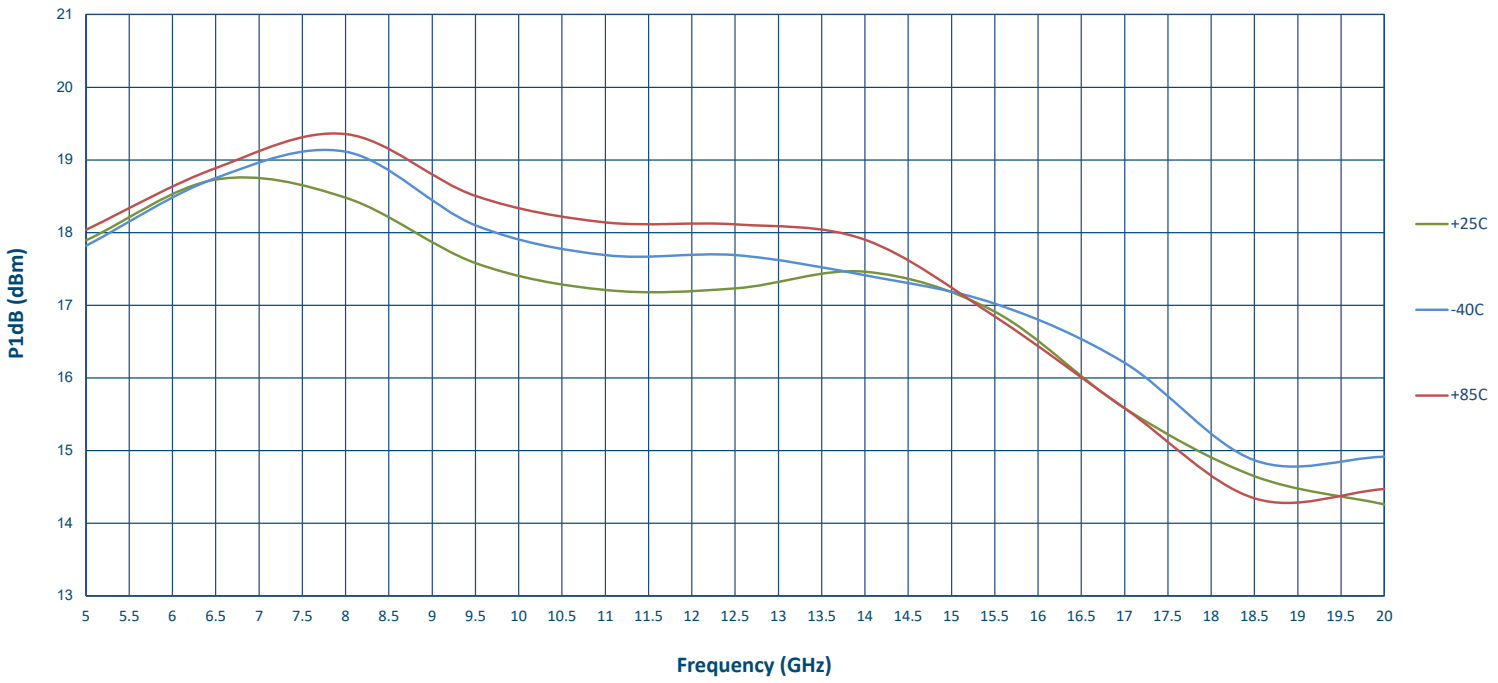
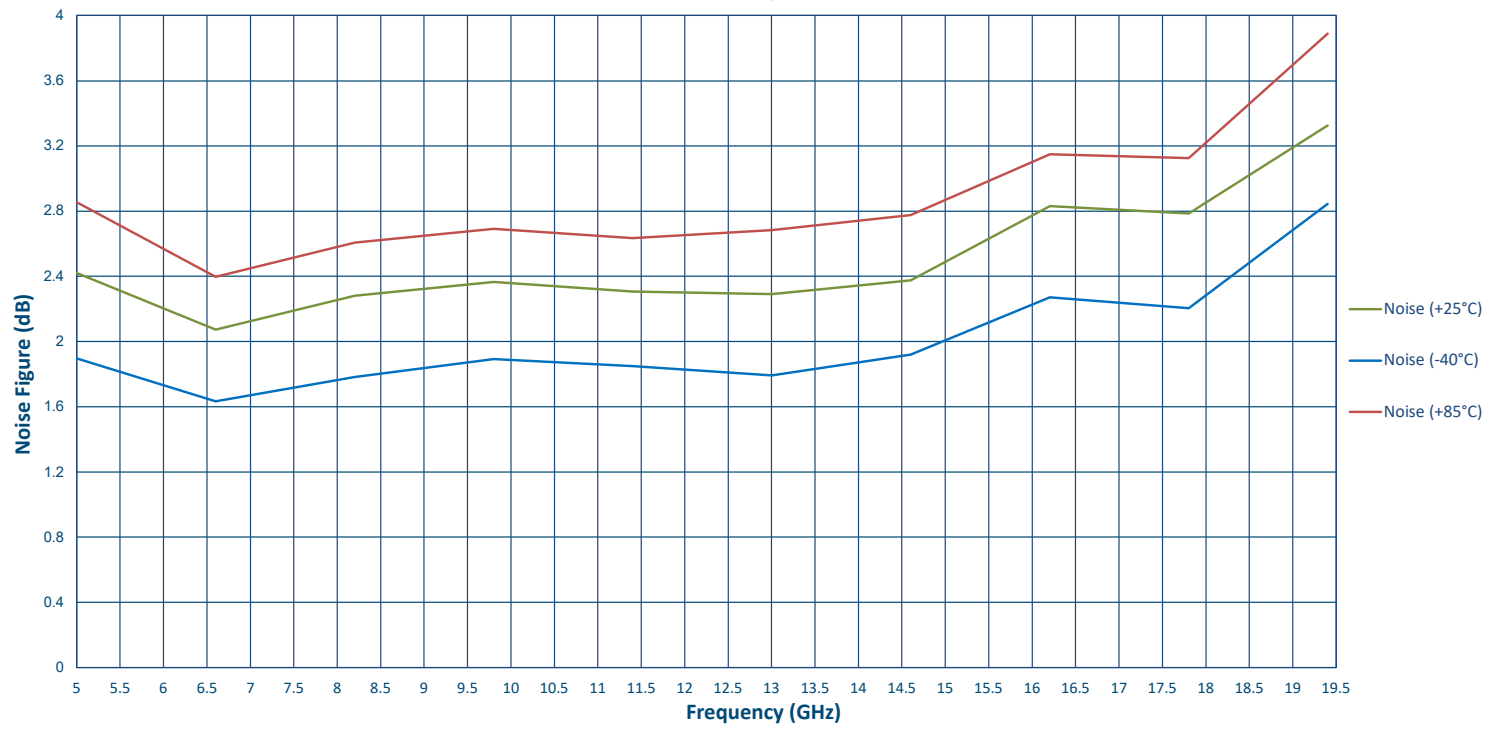
Typical Characteristics ON QSM-520-22-4-17-SFF

OP1dB Over Temperature



Noise Figure



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Typical Characteristics
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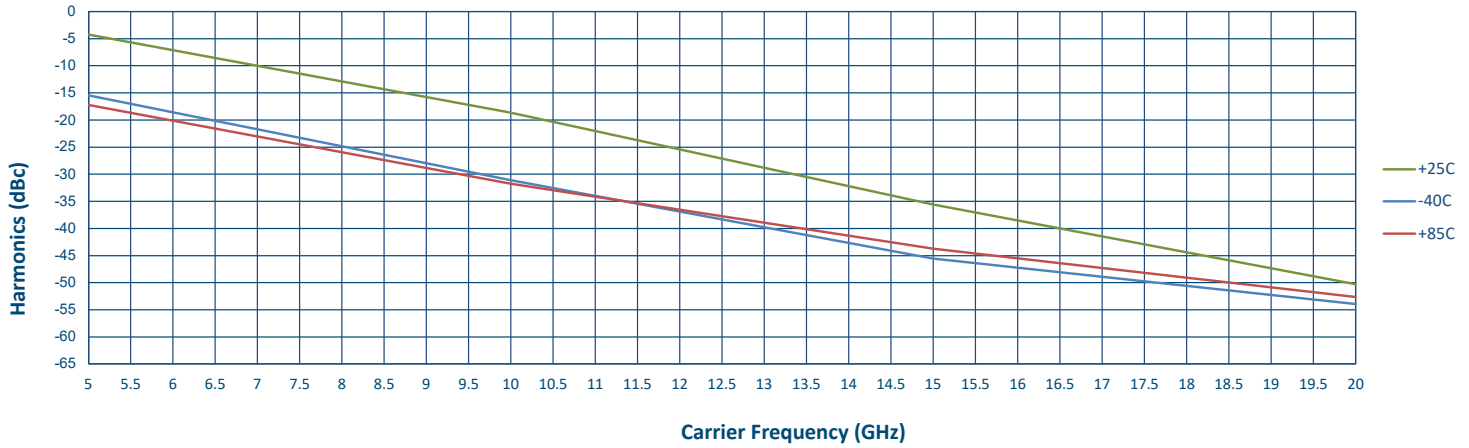
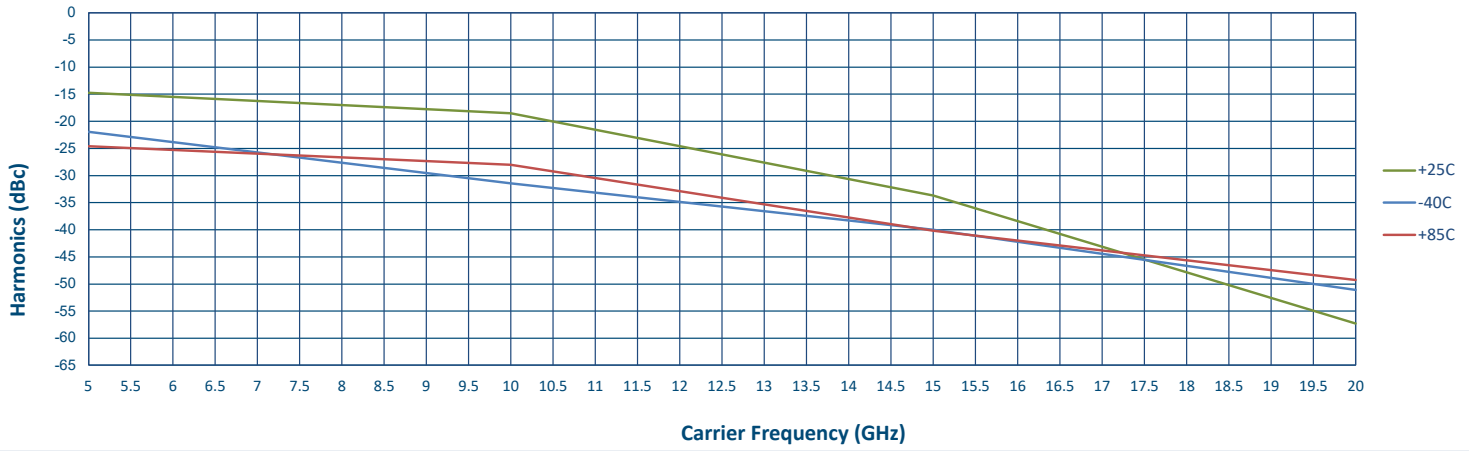
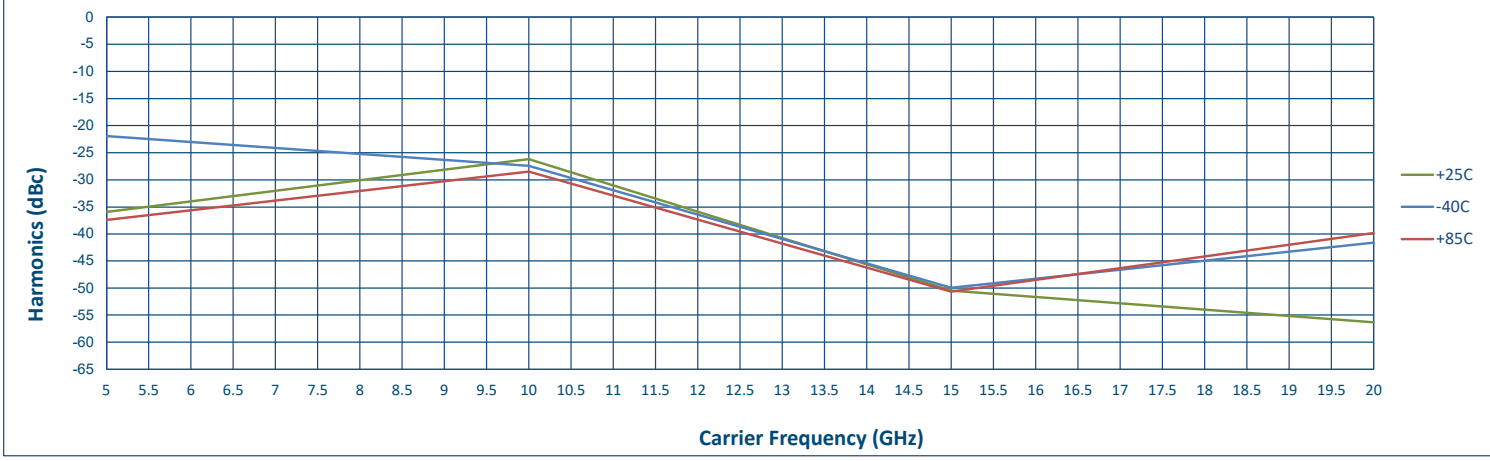
2nd Harmonic @ -5 dBm Input Power



2nd Harmonic @ -10 dBm Input Power



2nd Harmonic @ -20 dBm Input Power



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Typical Characteristics
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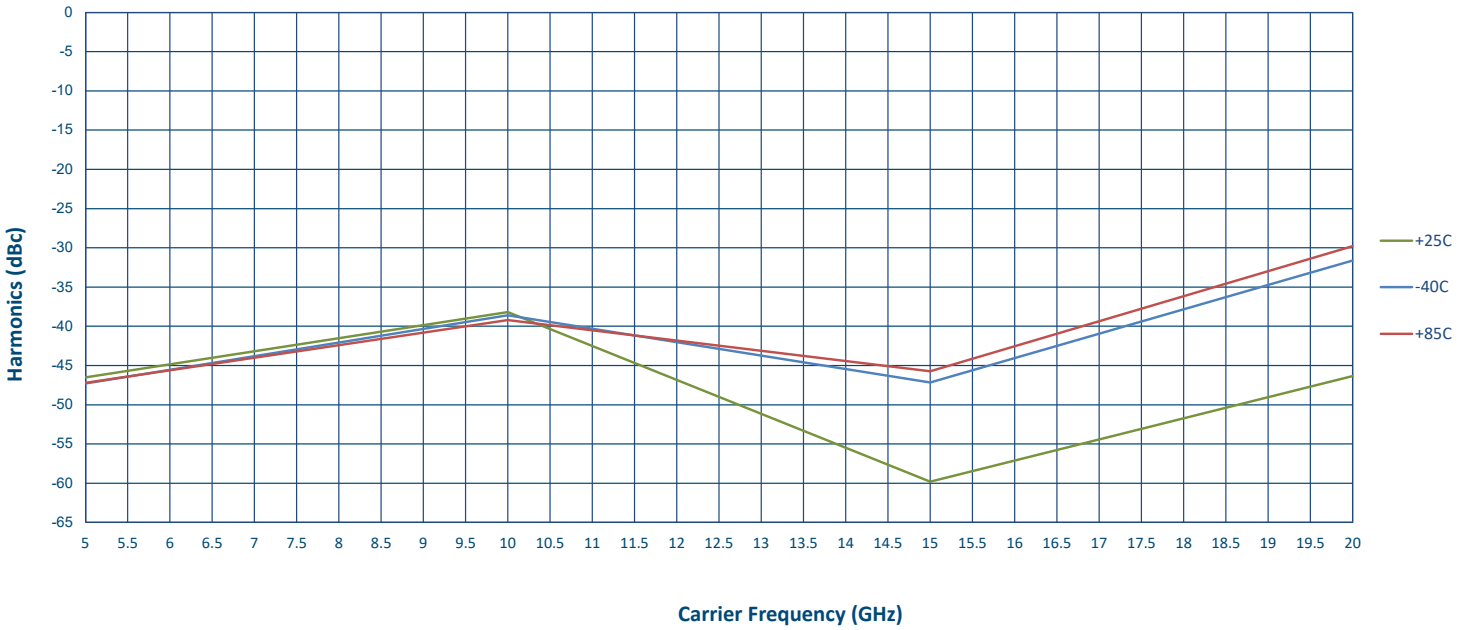
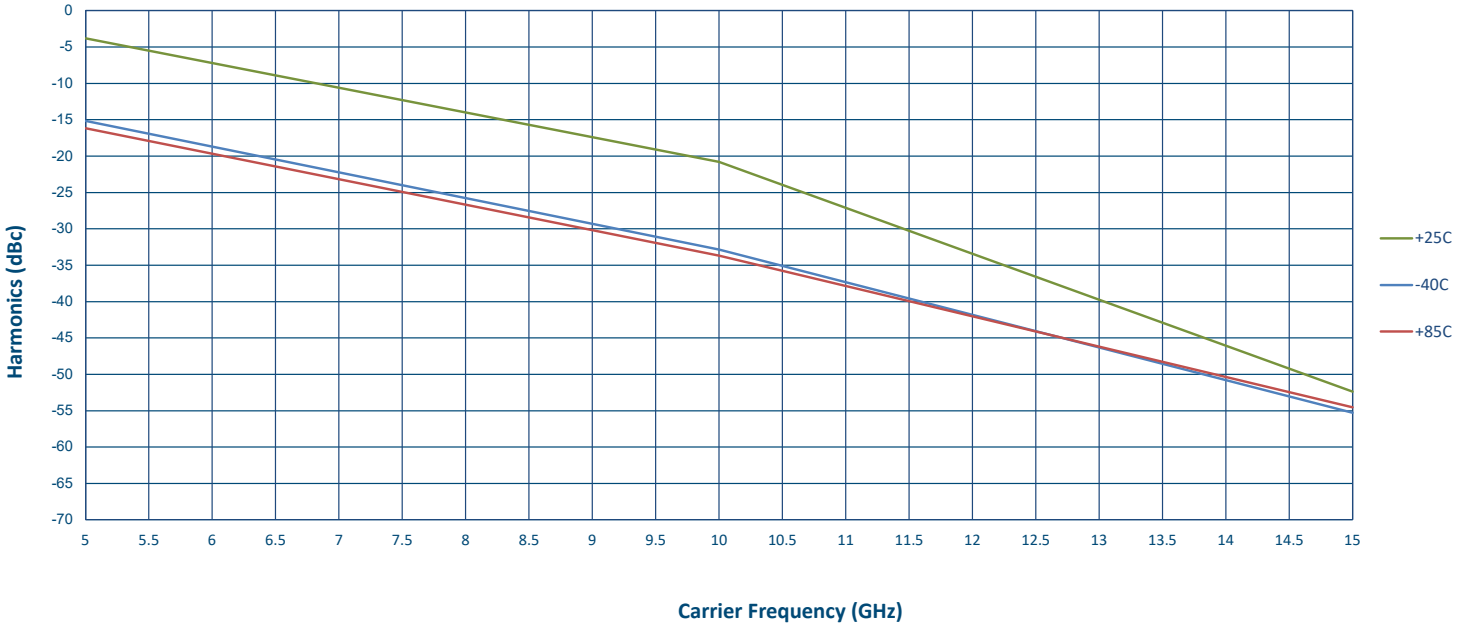
2nd Harmonic @ -30 dBm Input Power



3rd Harmonic @ -5 dBm Input Power



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Typical Characteristics
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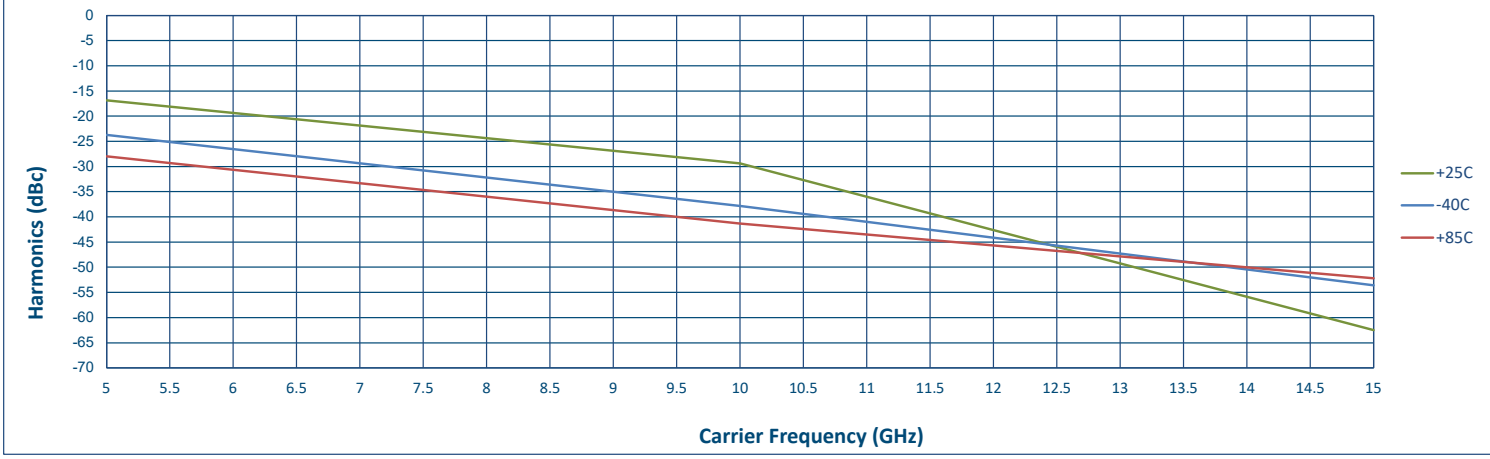
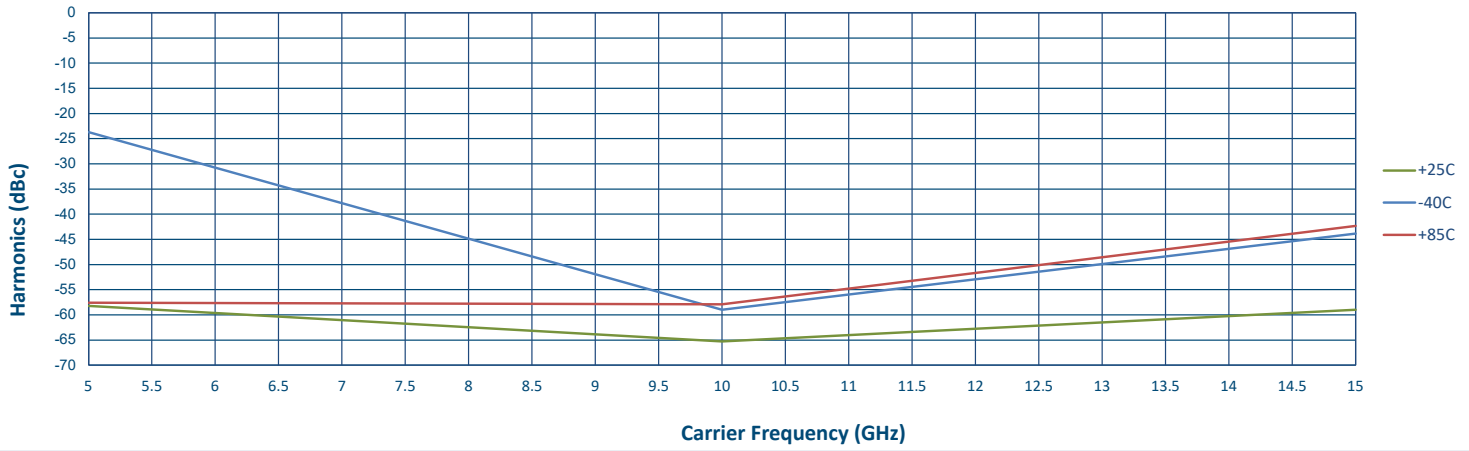
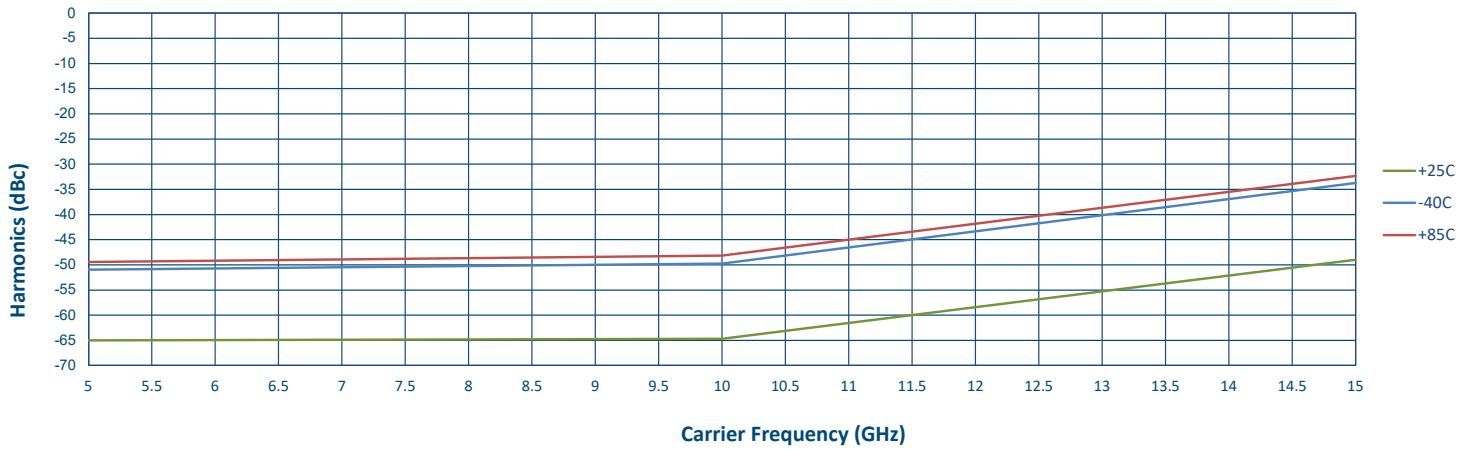
3nd Harmonic @ -10 dBm Input Power



3rd Harmonic @ -20 dBm Input Power



3rd Harmonic @ -30 dBm Input Power



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Typical Characteristics
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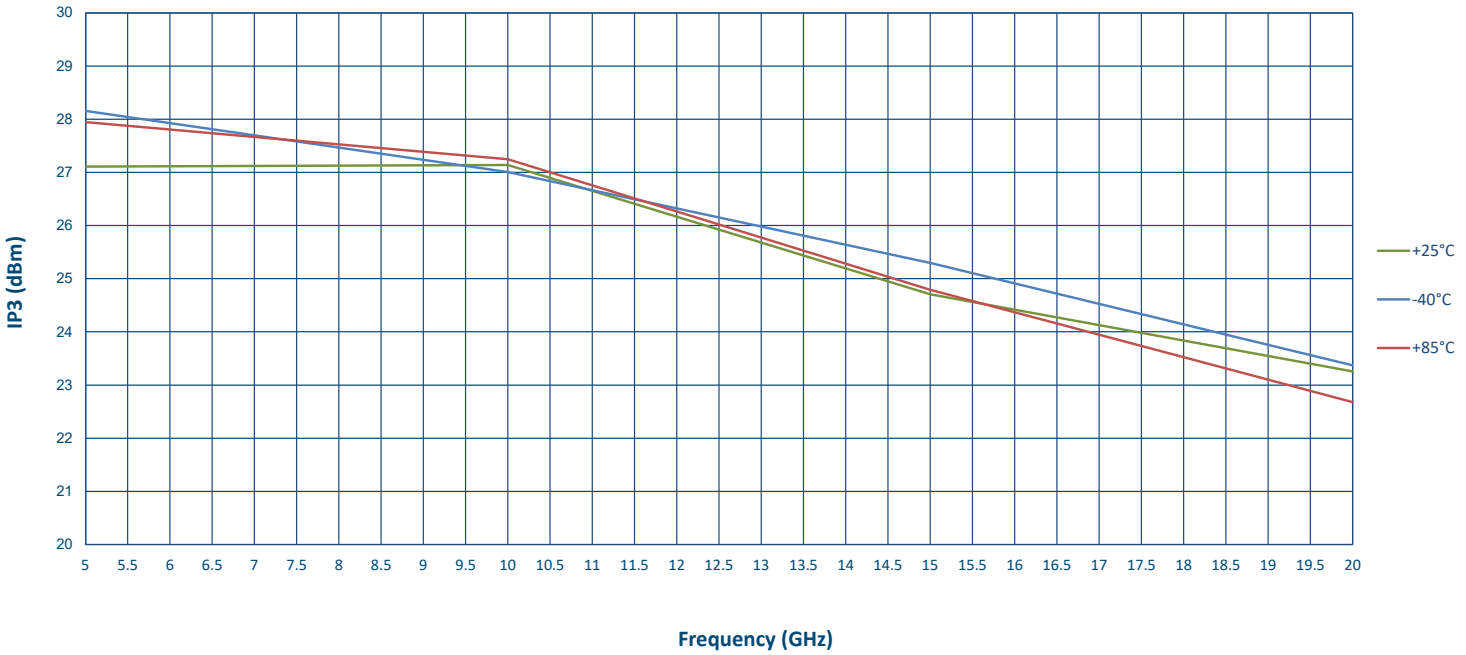
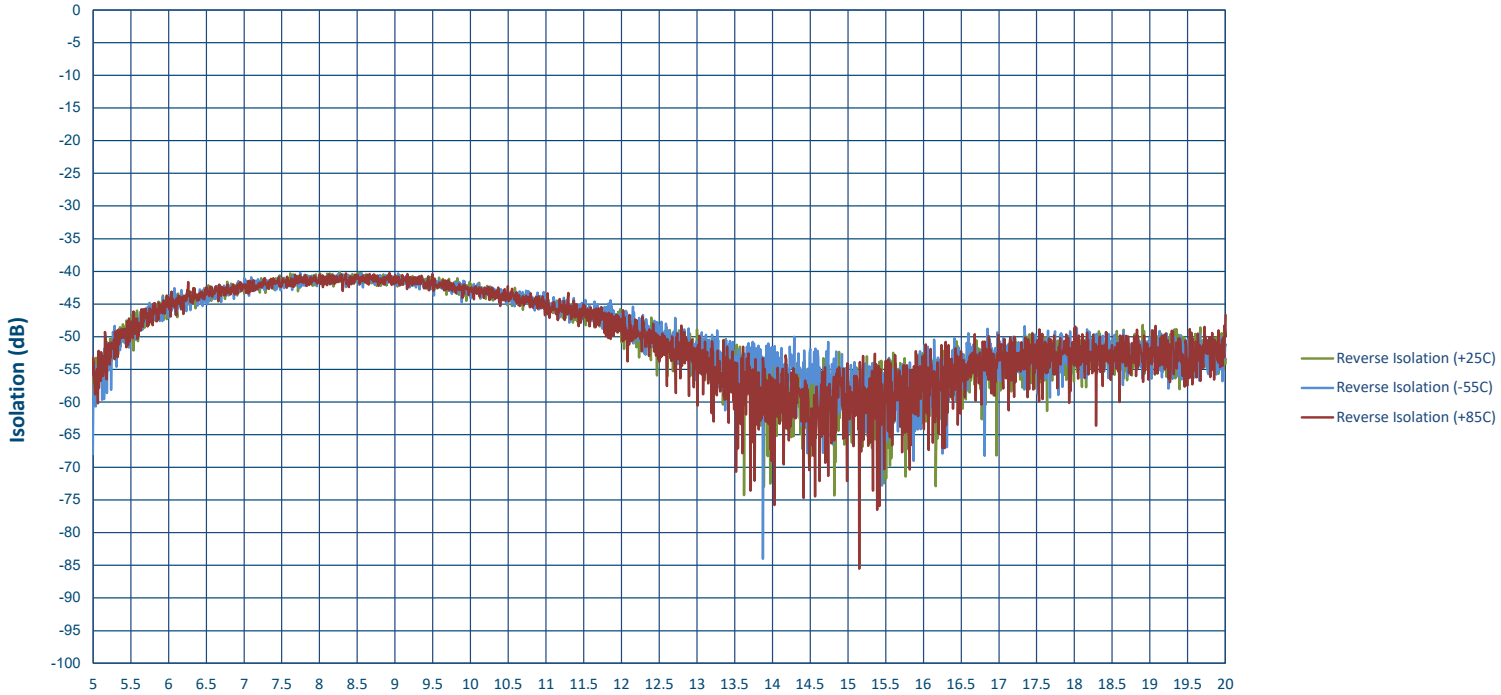
IP3 Over Temperature



Reverse Isolation Over Temperature



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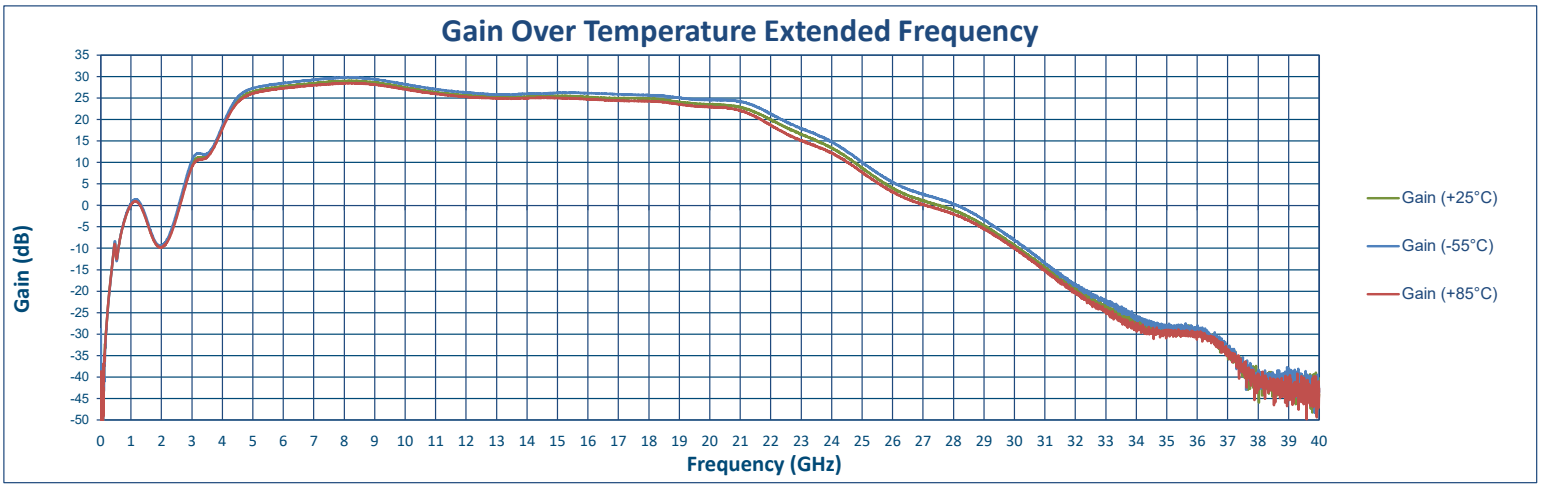
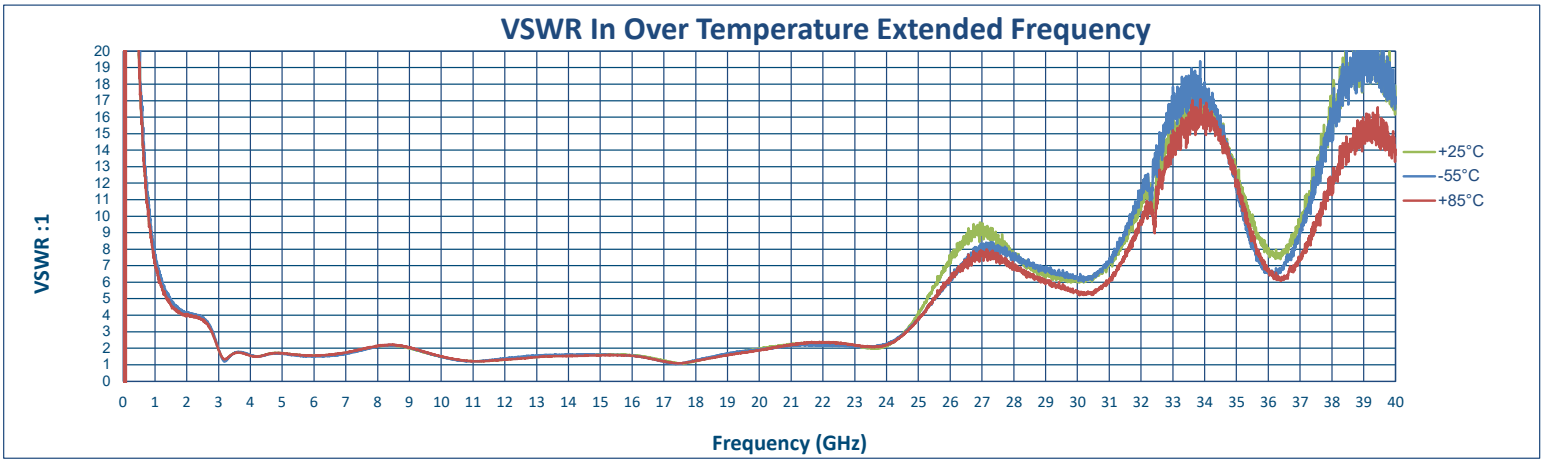
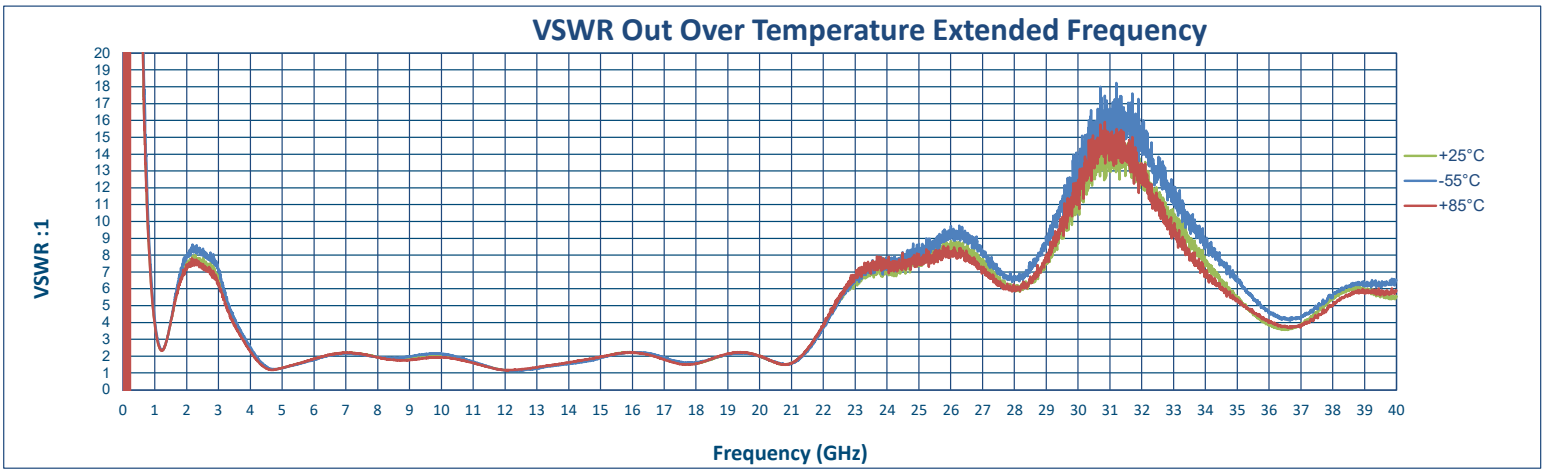
TYPICAL CHARACTERISTICS
ON
QSM-520-22-4-17-SFF
EXTRA GRAPHS







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