TYPICAL CHARACTERISTICS
ON
PE2-25-200M18-3D5-25-SFF

PMI MODEL NUMBER PE2-25-200M18-3D5-25-SFF IS A 200 MHz TO 18 GHz AMPLIFIER. THIS AMPLIFIER IS SUPPLIED IN OUR STANDARD PE2 HOUSING THAT CAN BE USED AS A SMA CONNECTORIZED OR A SURFACE MOUNT COMPONENT.

March 25, 2025

Designed By:

Engineering Quantic PMI

Tested and Reported By:

Alfredo Lopez

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

TYPICAL CHARACTERISTICS ON PE2-25-200M18-3D5-25-SFF

Product Feature

DESCRIPTION:
PMI MODEL NUMBER PE2-25-200M18-3D5-25-SFF IS A 200 MHz TO 18 GHz AMPLIFIER. THIS AMPLIFIER IS SUPPLIED IN OUR STANDARD PE2 HOUSING THAT CAN BE USED AS A SMA CONNECTORIZED OR A SURFACE MOUNT COMPONENT.

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	6/30/2024	
	B1	ECN # 25-0091	3/26/2026	

SPECIFICATIONS:

- FREQUENCY RANGE: ..... 200 MHz TO 18.0 GHz
- GAIN: ..... 25 dB TYP, 23 dB MIN
- GAIN FLATNESS: ..... ±2.0 dB MAX
- NOISE FIGURE: ..... 9 dB MAX (0.2 to 0.5 GHz)
  5 dB MAX (0.5 to 18 GHz)
- OP1dB: ..... +25 dBm TYP, +23 dBm MIN
- VSWR (INPUT/OUTPUT): ..... 2.0:1 MAX
- DC VOLTAGE SUPPLY: ..... +12 TO +15 VDC
- DC CURRENT DRAW: ..... 400 mA MAX
- INPUT POWER: ..... +20 dBm MAX
- CONNECTORS: ..... SMA FEMALE
- FINISH: ..... GOLD PLATED

FEATURES:

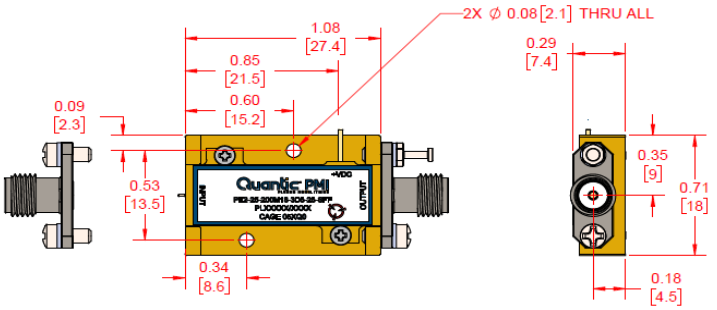
- INTERNAL VOLTAGE REGULATION
- UNCONDITIONAL STABILITY

ENVIRONMENTAL RATINGS:

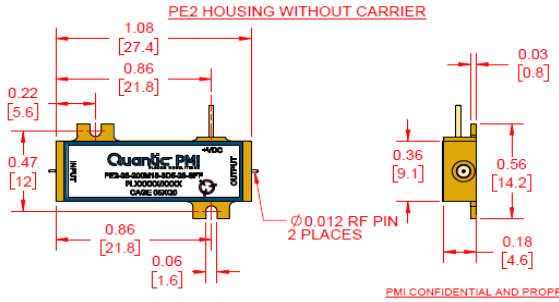
- TEMPERATURE: ..... -55°C TO +85°C (OPERATING)
  -65°C TO +125°C (STORAGE)
- HUMIDITY: ..... MIL-STD-202, METHOD 103B COND. B
- SHOCK: ..... MIL-STD-202, METHOD 213B COND. B
- ALTITUDE: ..... MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE: ..... MIL-STD-202, METHOD 107D COND. A
- VIBRATION: .....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

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

PE2 HOUSING WITH CARRIER



PE2 HOUSING WITHOUT CARRIER



PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS	DATE
DRAWN M.LAULIS	6/30/2024
REDRAWN	
ISSUED	

Quantic PMI
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
PE2-25-200M18-3D5-25-SFF

SIZE	FSCM NO.	DWG NO.	REV.
B	05XQ0	27049440	B1

SCALE 2:1 SHEET 1 OF 1

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

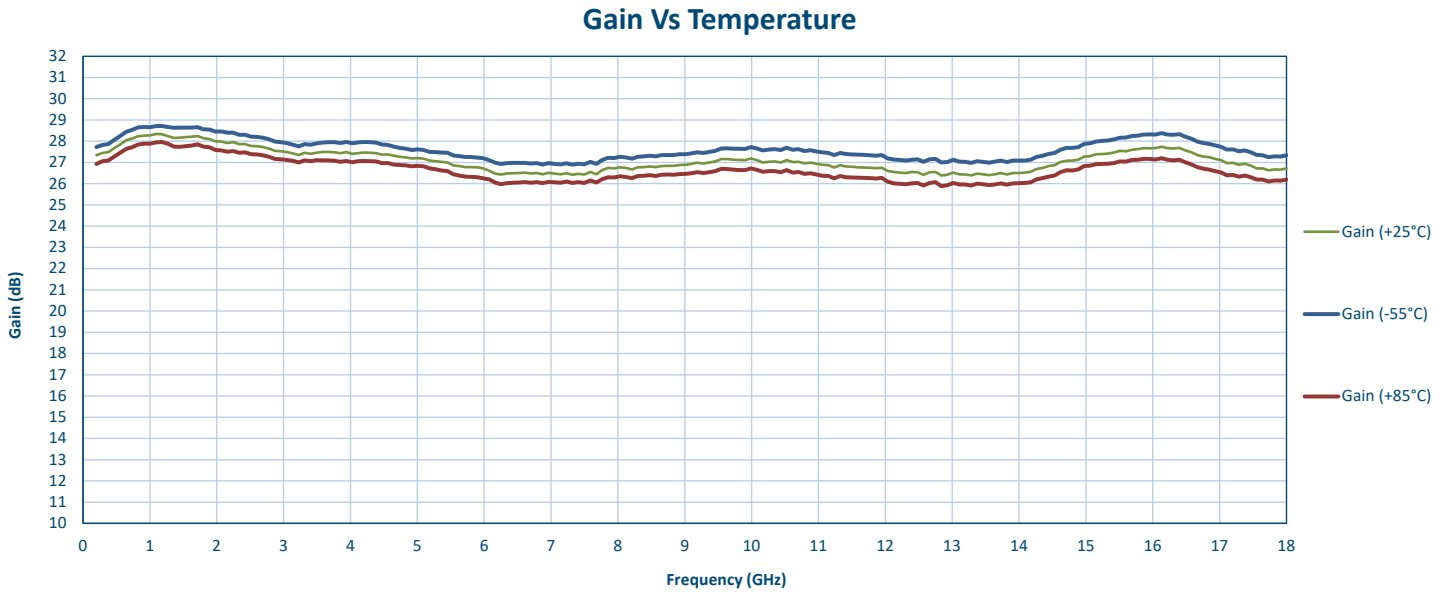
TYPICAL CHARACTERISTICS ON PE2-25-200M18-3D5-25-SFF

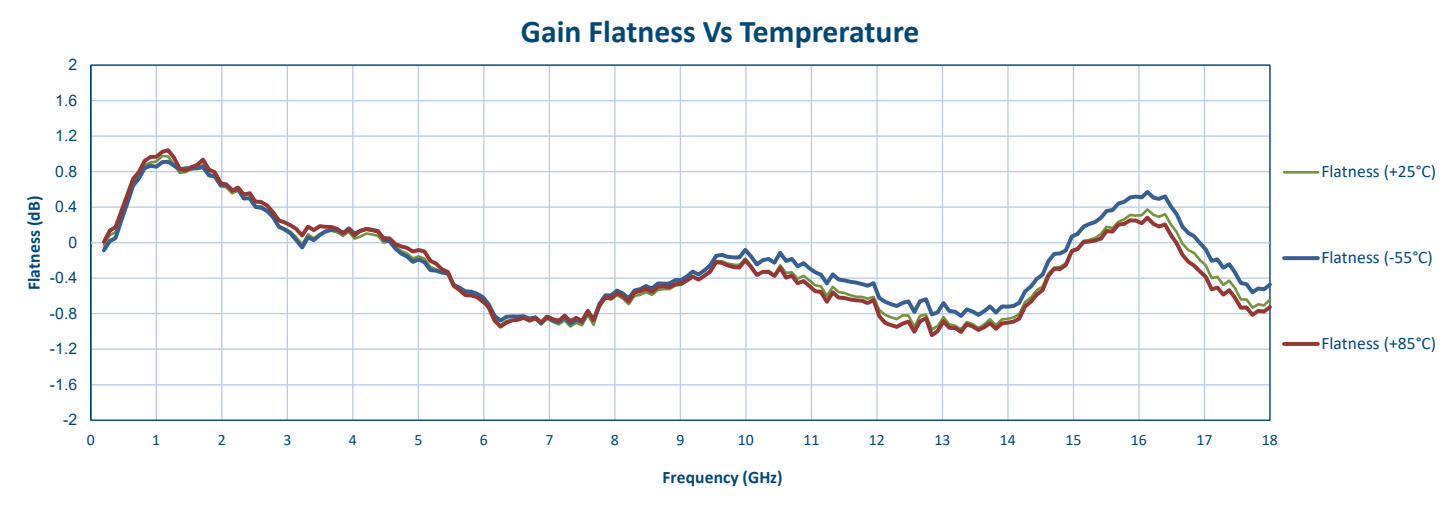
Technical Specifications

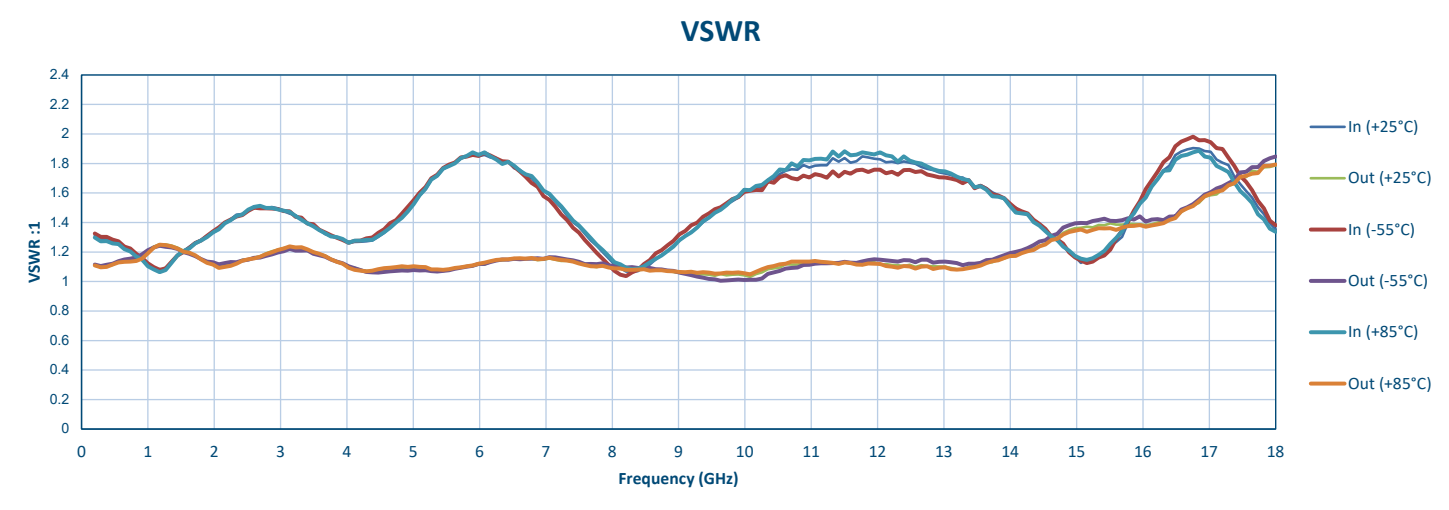
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	Test Results		
			+25°C	-55°C	+85°C
1	Frequency Range:	0.2 to 18 GHz	**0.2 to 18 GHz**	**0.2 to 18 GHz**	**0.2 to 18 GHz**
2	Gain:	+25 dB Typ, +23 dB Min.	**26.39 dB** **See Graph**	**26.9 dB** **See Graph**	**25.88 dB** **See Graph**
3	Gain Flatness:	±2.0 dB Max.	**±0.98 dB** **See Graph**	**±0.91 dB** **See Graph**	**±1.04 dB** **See Graph**
4	Noise Figure:	9 dB Max (0.2 to 0.5 GHz) 5 dB Max. (0.5 to 18 GHz)	**7.49 dB** **(0.2 to 0.5 GHz)**	**7.07 dB** **(0.2 to 0.5 GHz)**	**8.25 dB** **(0.2 to 0.5 GHz)**
			4.33 dB **(0.5 to 18 GHz)**	**4.07 dB** **(0.5 to 18 GHz)**	**4.63 dB** **(0.5 to 18 GHz)**
			See Graph	**See Graph**	**See Graph**
5	OP1dB:	+25 dBm Typ. +23 dBm Min.	**25.77 dBm Max.**	**26.31 dBm Max.**	**25.58 dBm Max.**
			24.01 dBm Min.	**24.1 dBm Min.**	**23.78 dBm Min.**
			See Graph	**See Graph**	**See Graph**
6	VSWR: (Input/Output)	2.0:1 Max.	**1.9:1 In**	**1.98:1 In**	**1.89:1 In**
			1.79:1 Out	**1.85:1 Out**	**1.79:1 Out**
			See Graph	**See Graph**	**See Graph**
7	Input Power:	20 dBm Max.	**Pass** **See Graphs**	**Pass** **See Graphs**	**Pass** **See Graphs**
8	DC Supply:	+12 V to +15 V @ 400 mA Max.	**+12 V to +15 V @ 348 mA.**	**+12 V to +15 V @ 337 mA.**	**+12 V to +15 V @ 360 mA.**

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

TYPICAL CHARACTERISTICS ON PE2-25-200M18-3D5-25-SFF

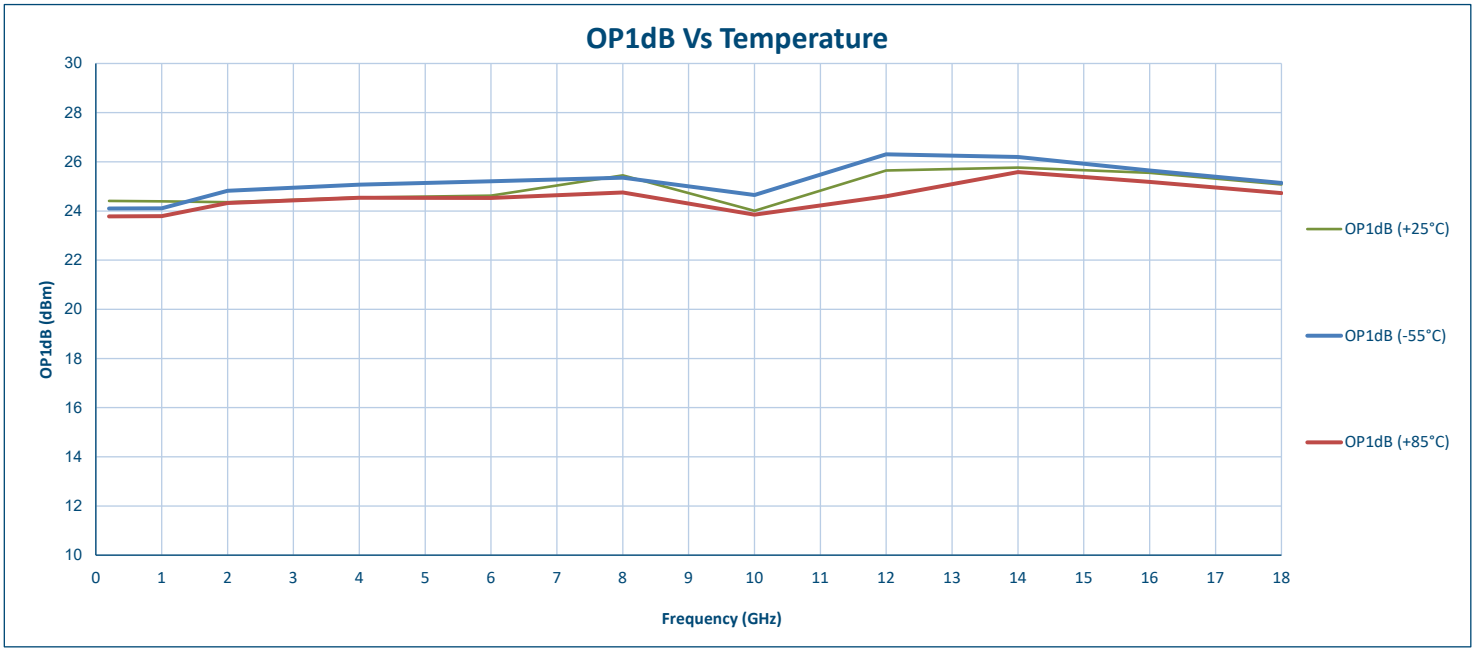


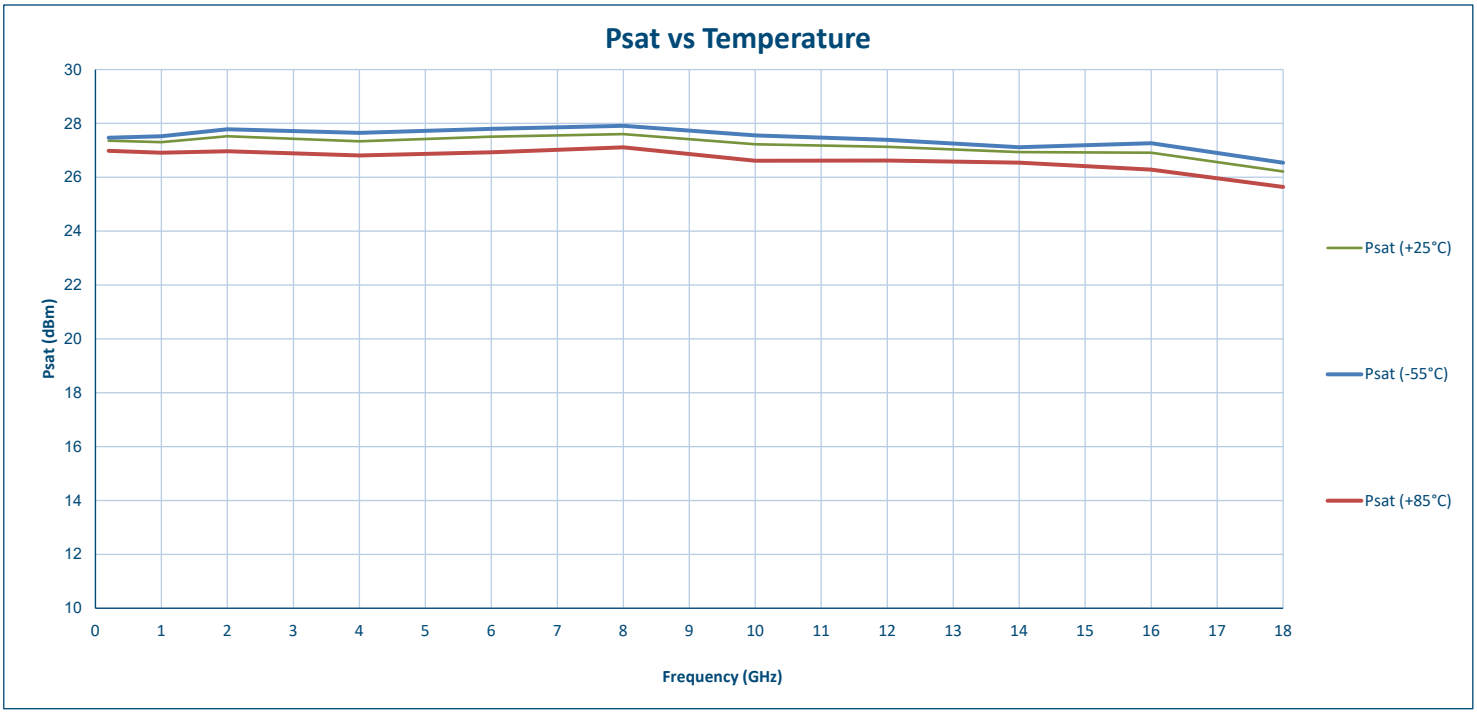




7309-A Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
Email: sales@pmi-rf.com

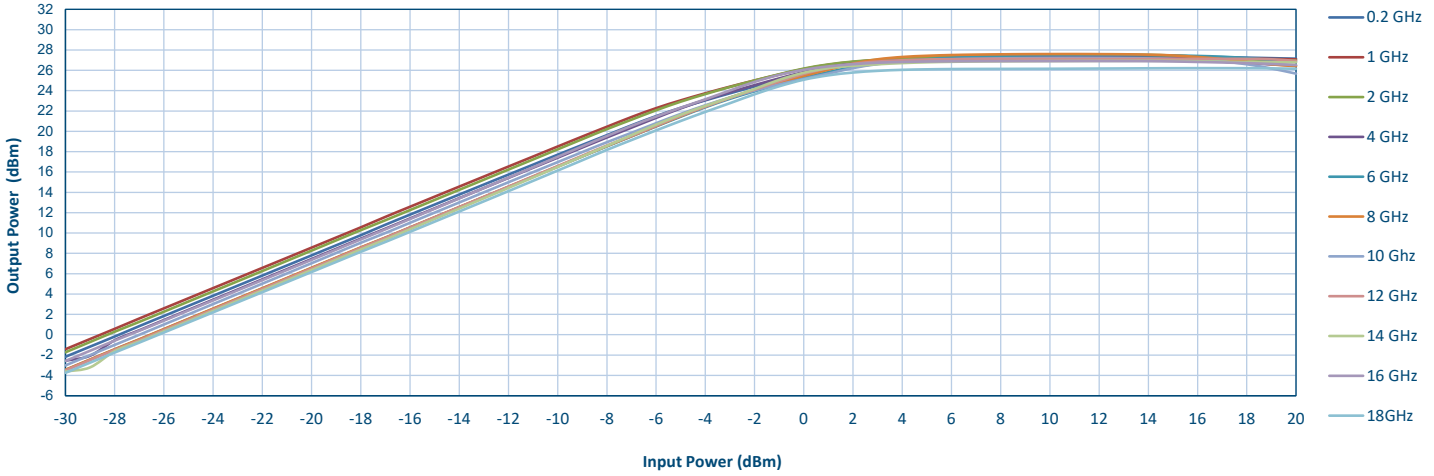
TYPICAL CHARACTERISTICS ON PE2-25-200M18-3D5-25-SFF

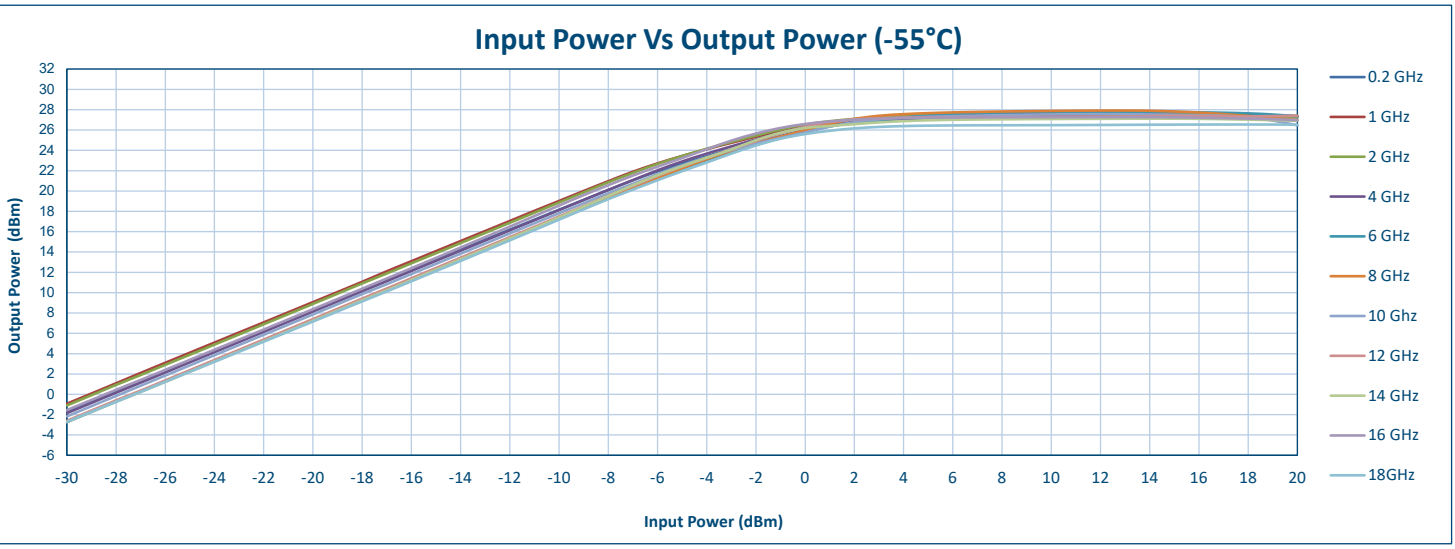


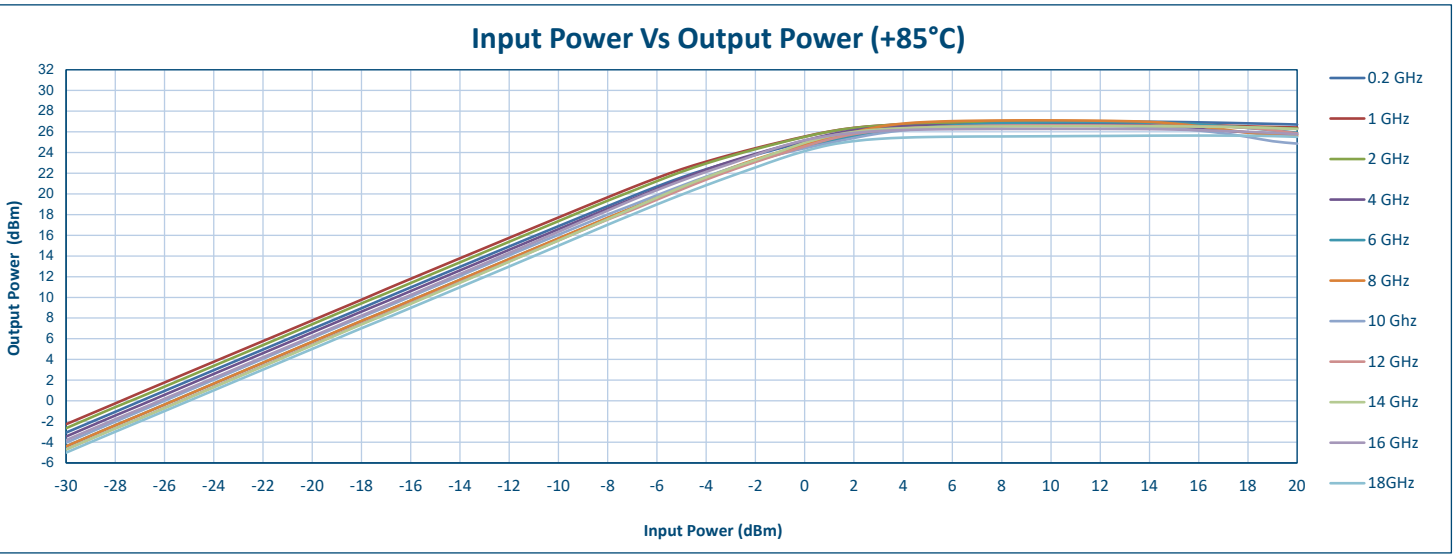


7309-A Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
Email: sales@pmi-rf.com

TYPICAL CHARACTERISTICS ON PE2-25-200M18-3D5-25-SFF



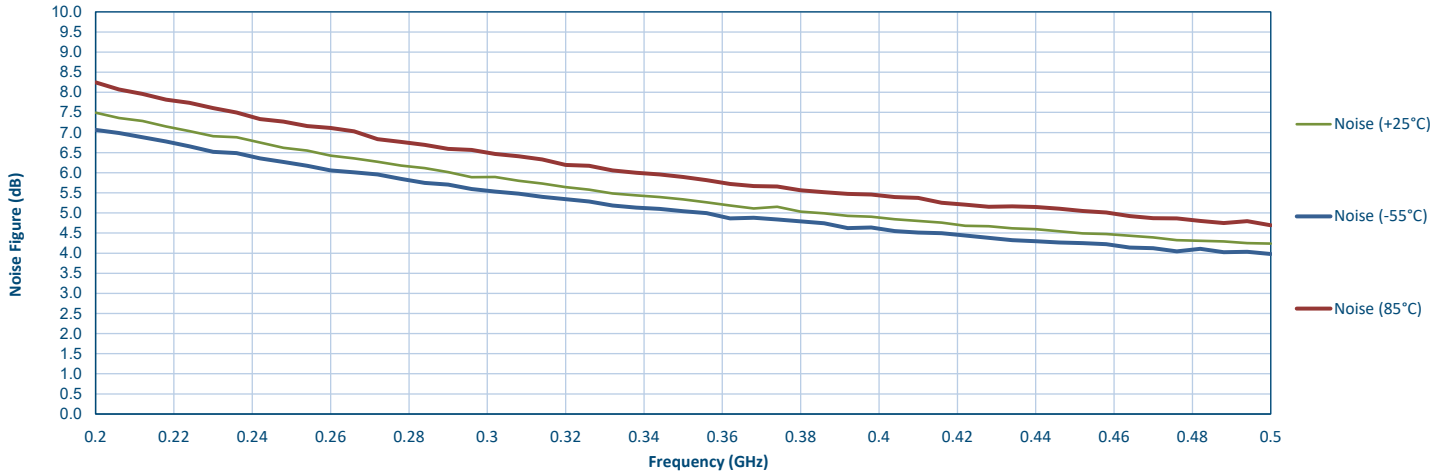




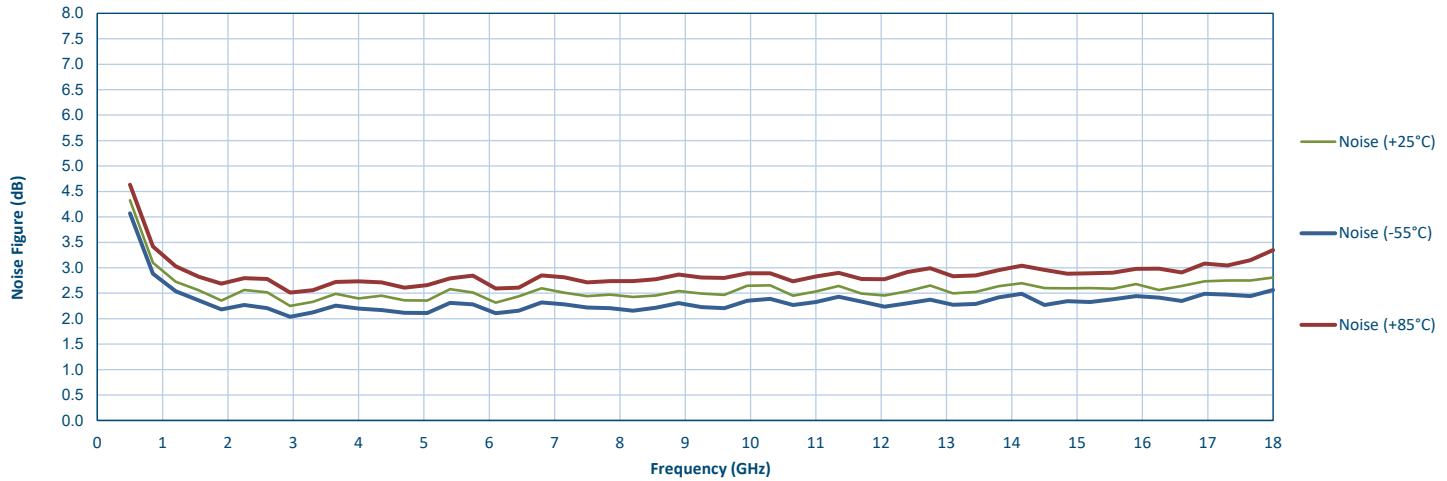
7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
Email: sales@pmi-rf.com

TYPICAL CHARACTERISTICS ON PE2-25-200M18-3D5-25-SFF

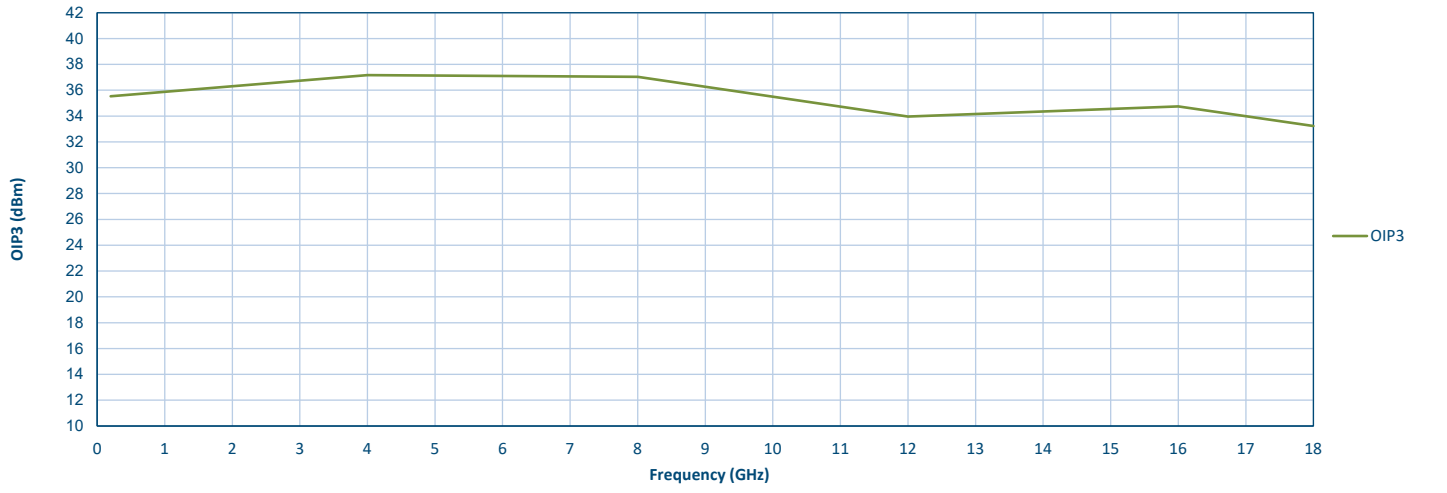
Noise Figure Vs Temperature (200 MHz to 500 MHz)



Noise Figure Vs Temperature (0.5 to 18 GHz)



OIP3



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

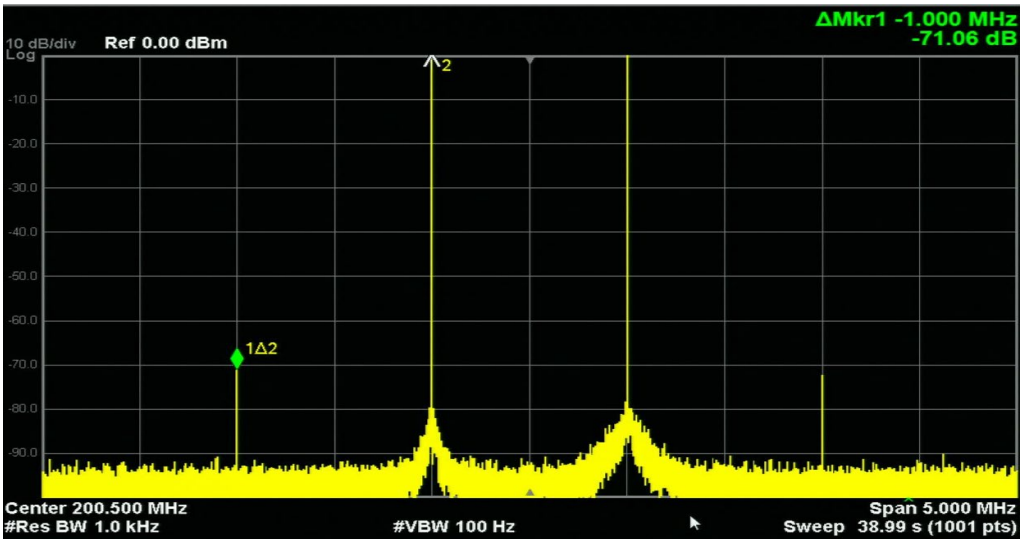
TYPICAL CHARACTERISTICS ON PE2-25-200M18-3D5-25-SFF

OIP3

Frequency - 200 MHz
Output Power - 0 dBm

(OIP3 = Pout+dBc/2)

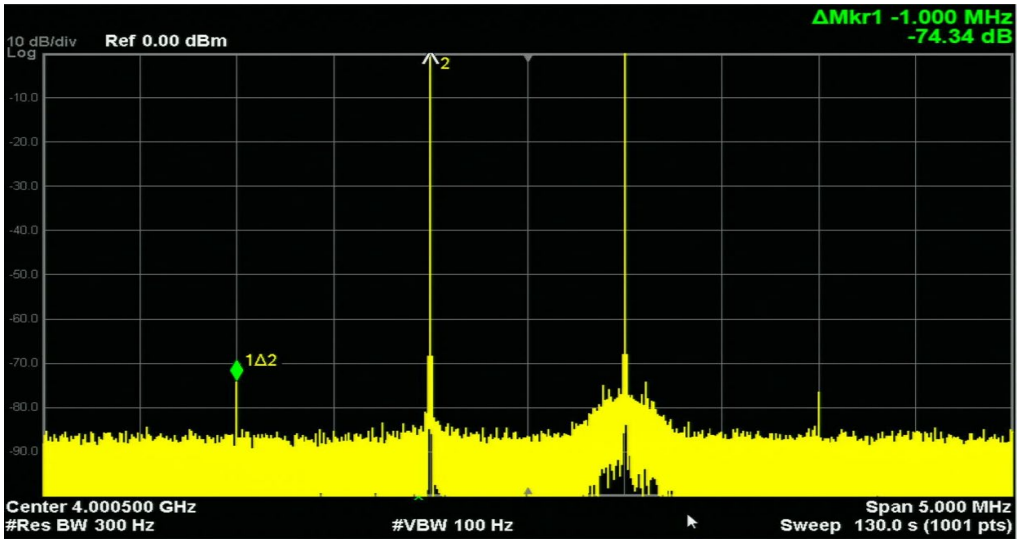
Measured Value - 35.53 dBm



Frequency - 4 GHz
Output Power - 0 dBm

(OIP3 = Pout+dBc/2)

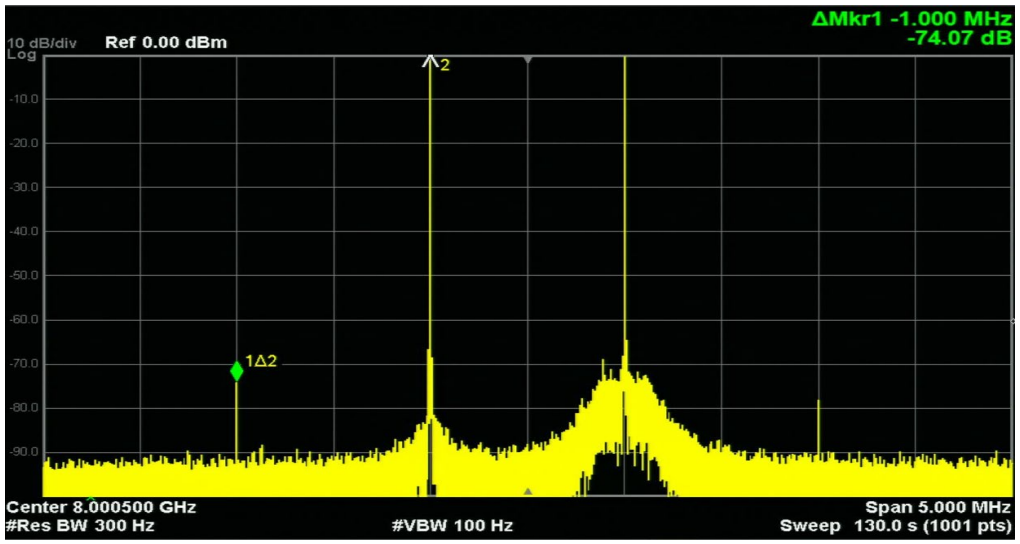
Measured Value - 37.17 dBm



Frequency - 8 GHz
Output Power - 0 dBm

(OIP3 = Pout+dBc/2)

Measured Value - 37.04 dBm



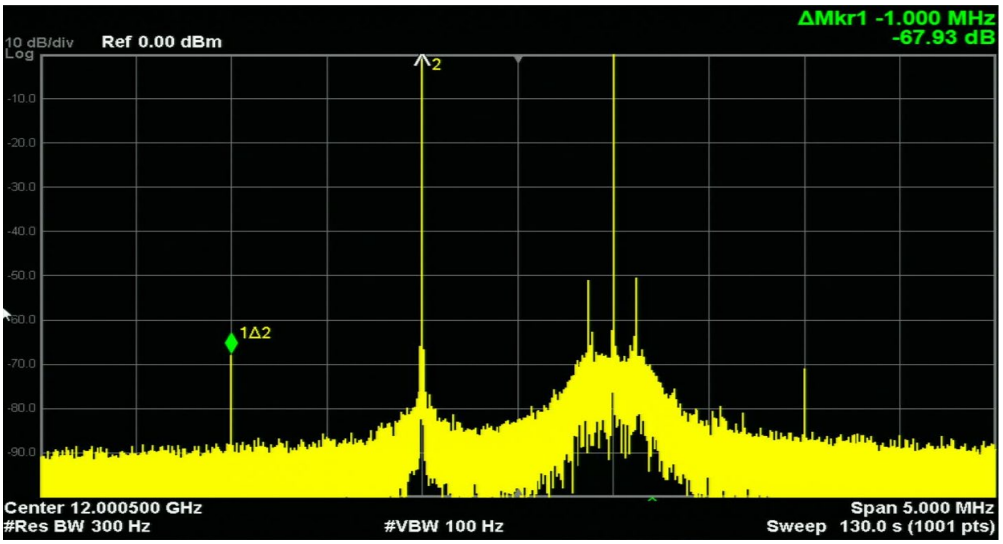
7309-A Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
Email: sales@pmi-rf.com

TYPICAL CHARACTERISTICS ON PE2-25-200M18-3D5-25-SFF

Frequency - 12 GHz
Output Power - 0 dBm

(OIP3 = Pout+dBc/2)

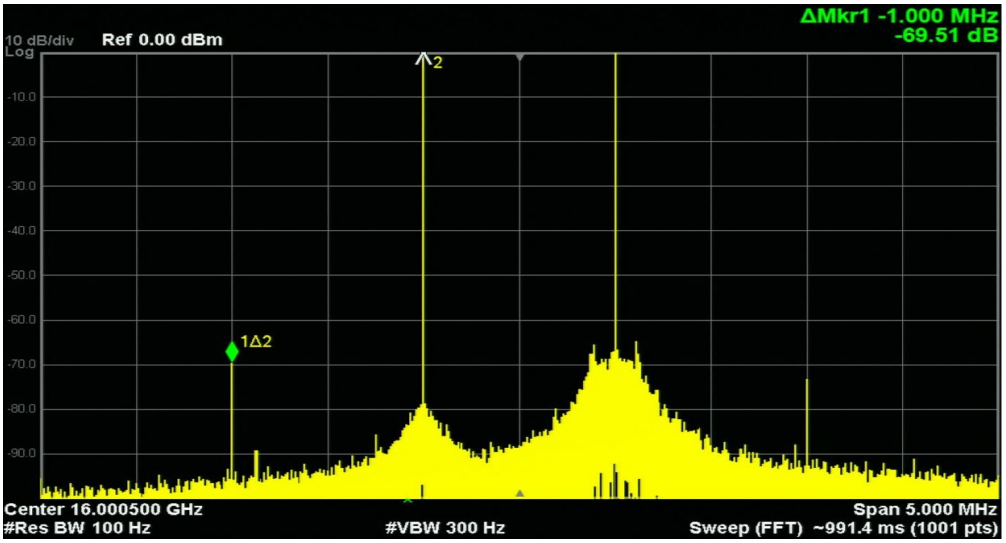
Measured Value - 33.97 dBm



Frequency - 16 GHz
Output Power - 0 dBm

(OIP3 = Pout+dBc/2)

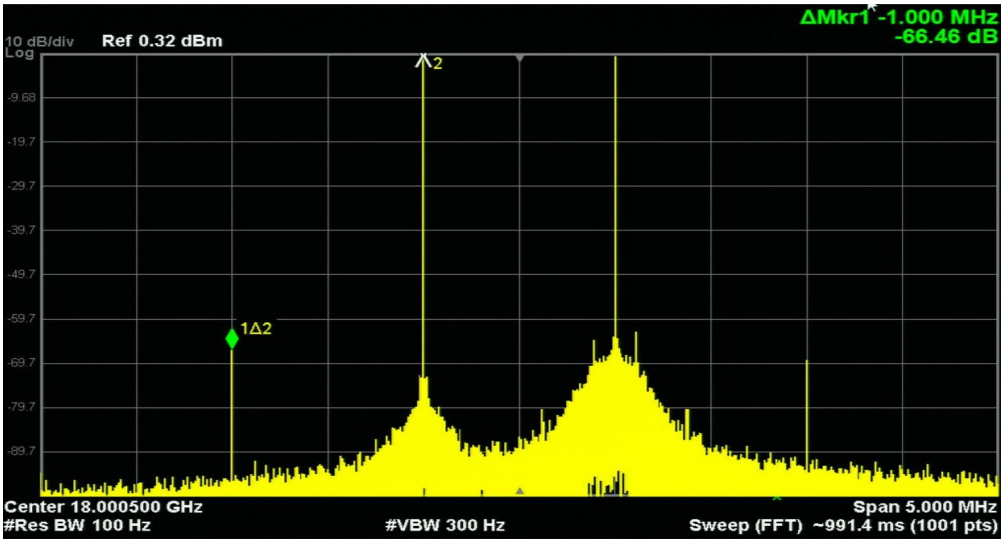
Measured Value - 34.76 dBm



Frequency - 18 GHz
Output Power - 0 dBm

(OIP3 = Pout+dBc/2)

Measured Value - 33.23 dBm



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

TYPICAL CHARACTERISTICS ON PE2-25-200M18-3D5-25-SFF

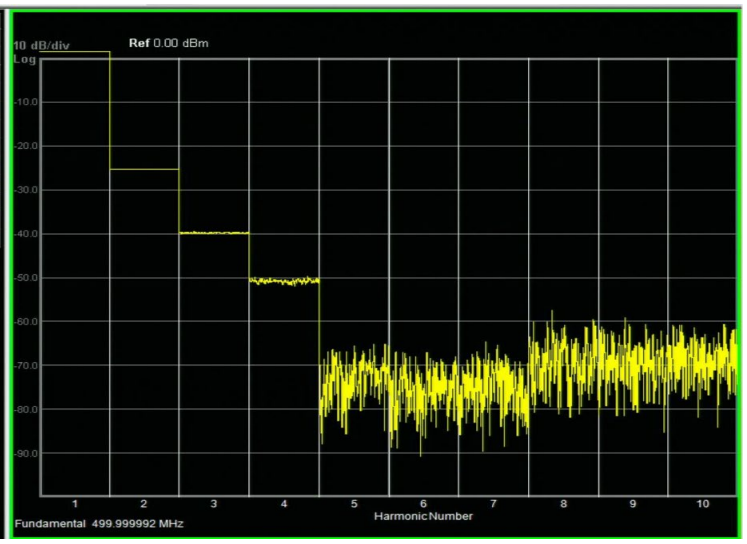
Second Harmonics

Fundamental 0.5 GHz
Output Power +15 dBm

Second Harmonic -40.34 dBc

#	Frequency (MHz)	Amplitude (dBm)
1	500	15.05
		(dBc)
2	1000	-40.34
3	1500	-54.86
4	2000	-65.98
5	2500	-86.43
6	3000	-88.65
7	3500	-88.08
8	4000	-81.89
9	4500	-82.61
10	5000	-82.06

THD 0.98 % / -40.18 dBc

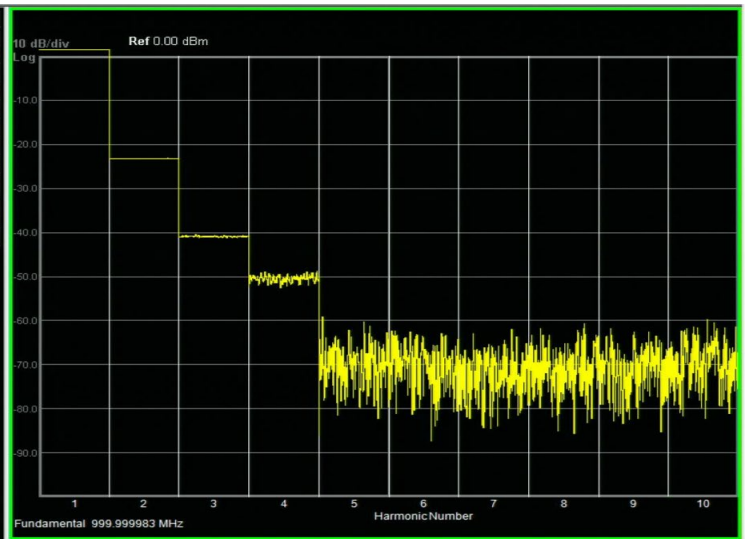


Fundamental 1 GHz
Output Power +15 dBm

Second Harmonic -38.18 dBc

#	Frequency (MHz)	Amplitude (dBm)
1	1000	15.00
		(dBc)
2	2000	-38.18
3	3000	-55.90
4	4000	-65.26
5	5000	-82.11
6	6000	-83.94
7	7000	-84.79
8	8000	-83.85
9	9000	-83.16
10	10000	-82.41

THD 1.24 % / -38.10 dBc

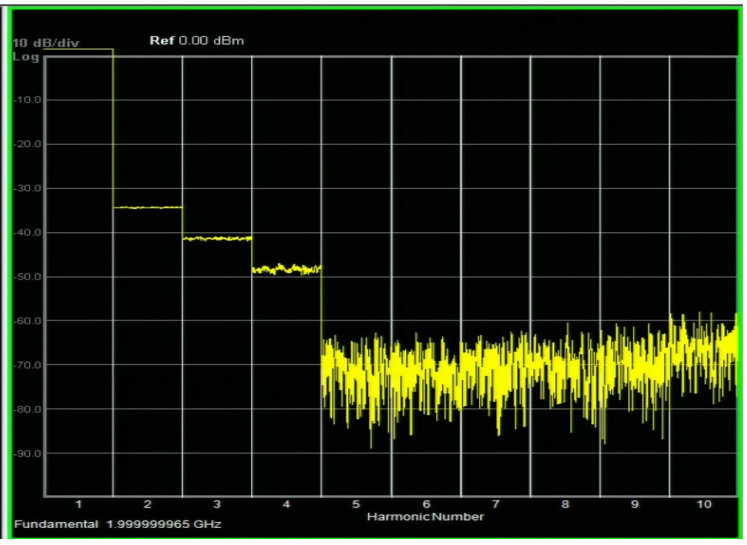


Fundamental 2 GHz
Output Power +15 dBm

Second Harmonic -49.33 dBc

#	Frequency (GHz)	Amplitude (dBm)
1	2.00	14.97
		(dBc)
2	4.00	-49.33
3	6.00	-56.37
4	8.00	-63.33
5	10.00	-84.21
6	12.00	-85.04
7	14.00	-83.80
8	16.00	-83.71
9	18.00	-82.88
10	20.00	-79.74

THD 0.38 % / -48.40 dBc



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

TYPICAL CHARACTERISTICS ON PE2-25-200M18-3D5-25-SFF

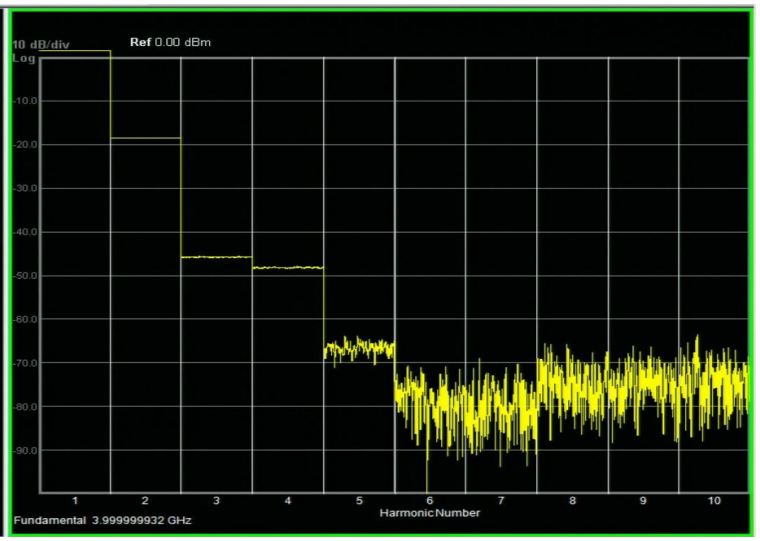
Second Harmonics

Fundamental 4 GHz
Output Power +15 dBm

Second Harmonic -33.56 dBc

#	Frequency (GHz)	Amplitude (dBm)
1	4.00	14.97
		(dBc)
2	8.00	-33.56
3	12.00	-60.76
4	16.00	-63.18
5	20.00	-81.46
6	24.00	-91.68
7	28.00	-91.34
8	32.00	-88.83
9	36.00	-88.51
10	40.00	-87.36

THD 2.10 %
-33.54 dBc

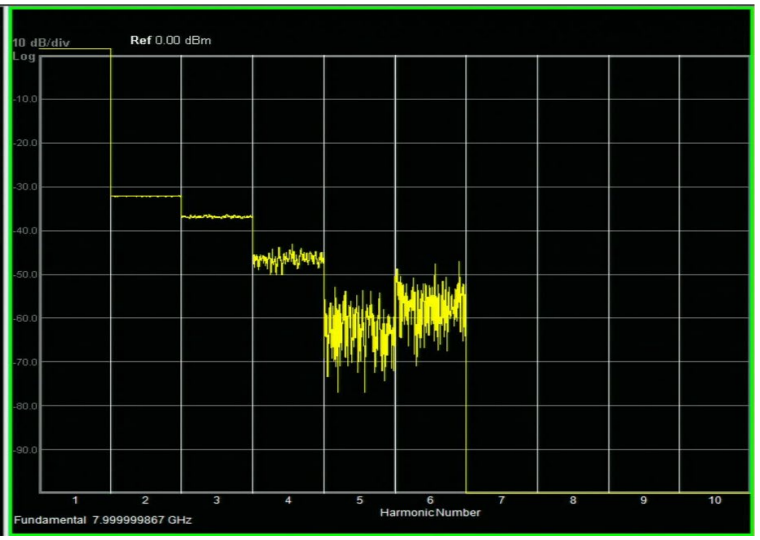


Fundamental 8 GHz
Output Power +15 dBm

Second Harmonic -47.15 dBc

#	Frequency (GHz)	Amplitude (dBm)
1	8.00	14.98
		(dBc)
2	16.00	-47.15
3	24.00	-51.84
4	32.00	-61.36
5	40.00	-75.43
6	48.00	-70.32
7	56.00	---
8	64.00	---
9	72.00	---
10	80.00	---

THD 0.52 %
-45.74 dBc

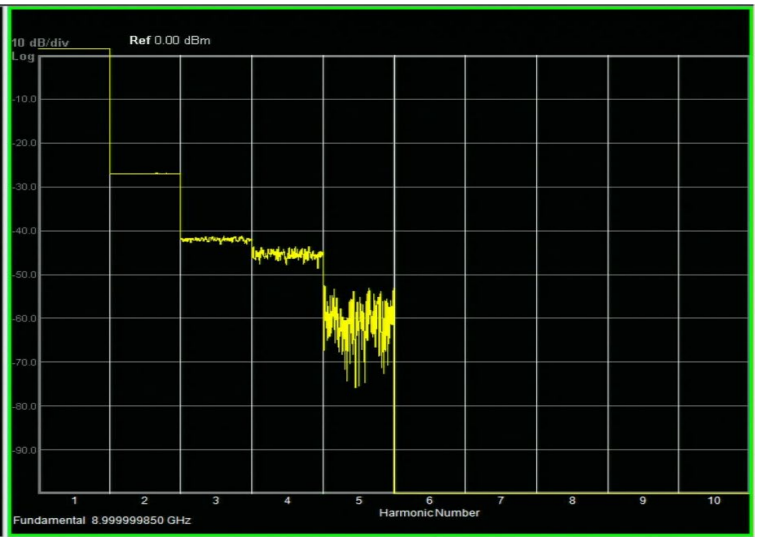


Fundamental 9 GHz
Output Power +15 dBm

Second Harmonic -41.97 dBc

#	Frequency (GHz)	Amplitude (dBm)
1	9.00	14.96
		(dBc)
2	18.00	-41.97
3	27.00	-56.97
4	36.00	-60.05
5	45.00	-73.91
6	54.00	---
7	63.00	---
8	72.00	---
9	81.00	---
10	90.00	---

THD 0.82 %
-41.77 dBc



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