TYPICAL CHARACTERISTICS
ON
PLNA-30-10M20-292FF-12V

PMI MODEL NUMBER PLNA-30-10M20-292FF-12V IS A 10 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.

February 12, 2026

Designed By:

Engineering PMI

Tested and Reported By:

Alfredo Lopez

TYPICAL CHARACTERISTICS ON PLNA-30-10M20-292FF-12V

Outline

DESCRIPTION:

PMI MODEL NUMBER PLNA-30-10M20-292FF-12V IS A 10 TO 20 GHz AMPLIFIER FEATURING A GAIN OF 26 dB MINIMUM, NOISE FIGURE OF 5.5 dB MAXIMUM, AND 2.92mm FEMALE CONNECTORS.

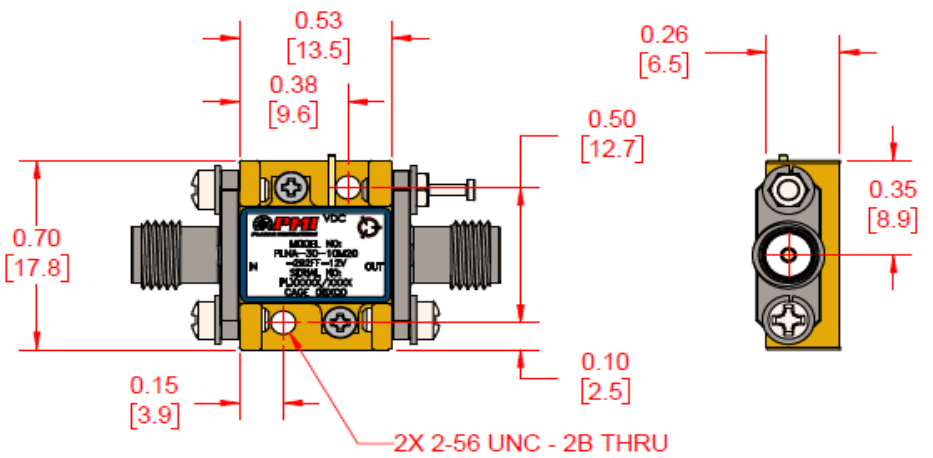
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	2/11/2026	

SPECIFICATIONS:

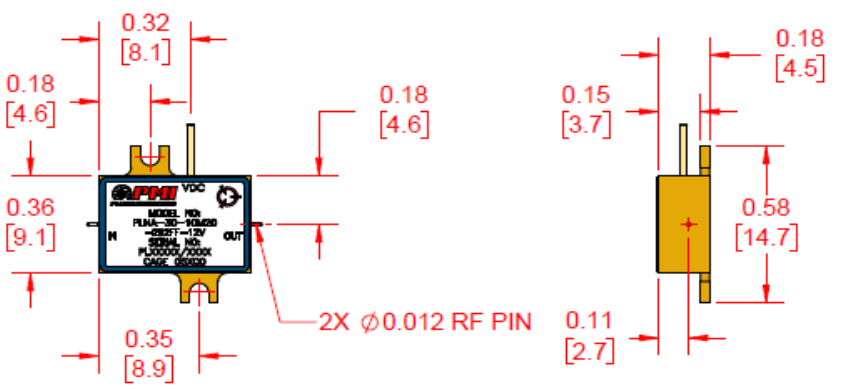
• FREQUENCY RANGE:	10 TO 20 GHz
• GAIN:	30 dB TYP, 26 dB MIN
• GAIN FLATNESS @ ANY OPERATING TEMP:	±2.2 dB MAX
• NOISE FIGURE: (SEE NOTE)	5.5 dB MAX (20 MHz TO 0.5 GHz) 3.5 dB MAX (0.5 TO 18 GHz) 3.75 dB MAX (18 GHz TO 20 GHz)
• OP1dB:	+14 dBm MIN(10 MHz TO 18 GHz) +13 dBm MIN (18 GHz TO 20 GHz)
• PSAT:	+15 dBm MIN (10 MHz TO 18 GHz) +14 dBm MIN (18 GHz TO 20 GHz)
• OIP3:	+25 dBm TYP, +23 dBm MIN
• VSWR (INPUT):	2.0:1 MAX (10 MHz TO 18 GHz) 2.4:1 MAX (18 GHz TO 20 GHz)
• VSWR (OUTPUT):	2.2:1 MAX (10 MHz TO 18 GHz) 2.5:1 MAX (18 GHz TO 20 GHz)
• SECOND HARMONIC	
-30 dBm INPUT POWER:	33 dBc MIN
@P1dB:	19 dBc MIN
@PSAT:	13 dBc MIN
• REVERSE ISOLATION:	36 dB MIN (10 MHz TO 18 GHz) 35 dB MIN (18 GHz TO 20 GHz)
• DC VOLTAGE SUPPLY:	12 VDC
• DC CURRENT DRAW:	140 mA MAX
• CONNECTORS:	2.92mm FEMALE REMOVABLE
• FINISH:	GOLD PLATED

NOTE: NOISE FIGURE ONLY VALID ABOVE 20 MHz

HOUSING WITH CARRIER



HOUSING WITHOUT CARRIER (SURFACE MOUNT)



ENVIRONMENTAL RATINGS:

• TEMPERATURE:	-54°C TO +85°C (OPERATING) -57°C TO +100°C (STORAGE)
• HUMIDITY:	MIL-STD-202, METHOD 103B COND. B
• SHOCK:	MIL-STD-202, METHOD 213B COND. B
• VIBRATION:	MIL-STD-202, METHOD 204D 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 G.MENDEZ	2/11/2026
REDRAWN	
ISSUED	

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

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

TITLE: OUTLINE
PLNA-30-10M20-292FF-12V

SIZE	FSCM NO.	DWG NO.	REV.
B	05XQ0	27054603	A1

SCALE 2:1 SHEET 1 OF 1

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Technical specifications

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results		
			+25°C	-54°C	+85°C
1	Frequency Range:	10 MHz to 20 GHz	**10 MHz to 20 GHz**	**10 MHz to 20 GHz**	**10 MHz to 20 GHz**
2	Gain:	30 dB Typ. 26 dB Min.	**26.74 dB** **See Graph**	**26.94 dB** **See Graph**	**26.06 dB** **See Graph**
3	Gain Flatness: (@ any Operating Temp.)	±2.2 dB Max.	**±1.78 dB** **See Graph**	**±1.99 dB** **See Graph**	**±1.62 dB** **See Graph**
4	Noise Figure: (See Note)*	5.5 dB Max. (20MHz to 0.5 GHz) 3.5 dB Max. (0.5 to 18 GHz) 3.75 dB Max. (18 to 20 GHz)	**4.26 dB** **2.9 dB** **2.99 dB** **See Graph**	**3.54 dB** **2.66 dB** **2.8 dB** **See Graph**	**5.01 dB** **3.24 dB** **3.42 dB** **See Graph**
5	OP1dB:	+14 dBm Min. (10MHz to 18 GHz) +13 dBm Min. (18 to 20 GHz)	**+16.36 dBm** **+14.1 dBm** **See Graph**	**+16.74 dBm** **+14.71 dBm** **See Graph**	**+15.55 dBm** **+13.61 dBm** **See Graph**
6	Psat	+15 dBm Min. (10MHz to 18 GHz) +14 dBm Min. (18 to 20 GHz)	**+17.44 dBm** **+15.53 dBm** **See Graph**	**+17.93 dBm** **+16.22 dBm** **See Graph**	**+17.16 dBm** **+14.82 dBm** **See Graph**
7	OIP3:	+25 dBm Typ. +23 dBm Min.	**±25.18 dBm** **See Graph**	**±25.7 dBm** **See Graph**	**±25 dBm** **See Graph**
8	VSWR Input	2.0:1 Max. (10MHz to 18 GHz) 2.4:1 Max. (18 to 20 GHz)	**1.89:1** **2.19:1** **See Graph**	**1.88:1** **2.29:1** **See Graph**	**1.89:1** **2.1:1** **See Graph**
9	VSWR Output:	2.2:1 Max. (10 MHz to 18 GHz) 2.5:1 Max. (18 GHz to 20 GHz)	**2.09:1** **2.37:1** **See Graph**	**2.18:1** **2.44:1** **See Graph**	**2:1** **2.17:1** **See Graph**
10	Second Harmonics: (@-30dBm Input Power) (@ P1dB) (@ PSat)	33 dBc Min. 19 dBc Min. 13 dBc Min.	**35.92 dBc** **20.22 dBc** **14.04 dBc** **See plots**		
11	Reverse Isolation:	36 dB Min. (10 MHz to 18 GHz) 35 dB Min. (18 to 20 GHz)	**37 dB** **37 dB** **See Graph**	**36 dB** **36 dB** **See Graph**	**37 dB** **36 dB** **See Graph**
12	DC Supply:	+12 VDC @ 140 mA Max. (Idq)	**+12V @114 mA (Idq)**	**+12V @112 mA (Idq)**	**12 V@116 mA (Idq)**

12	DC Supply.	+12 VDC @ 140 mA Max (Idq)	(Idq) 127 mA (Psat)	(Idq) 125 mA (Psat)	128 mA (Psat)

Note : Noise figure only valid above 20 MHz

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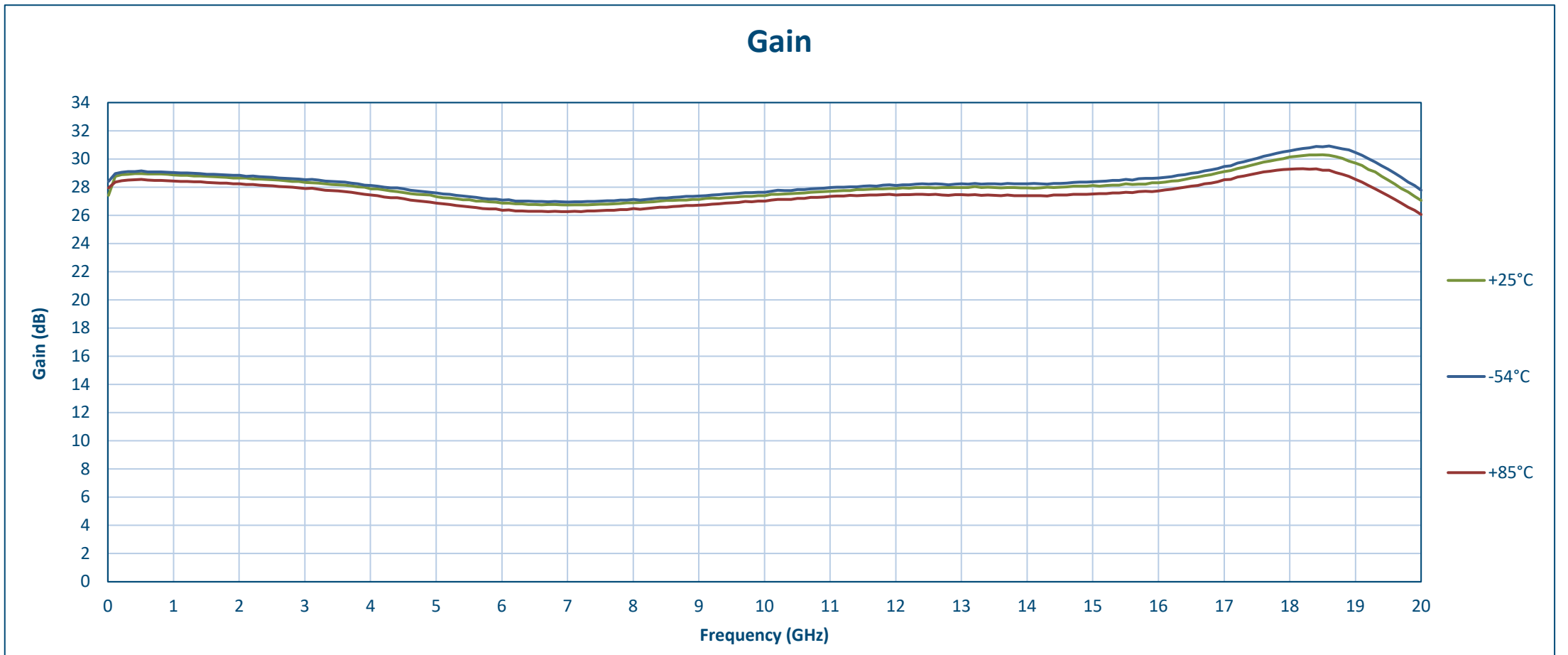

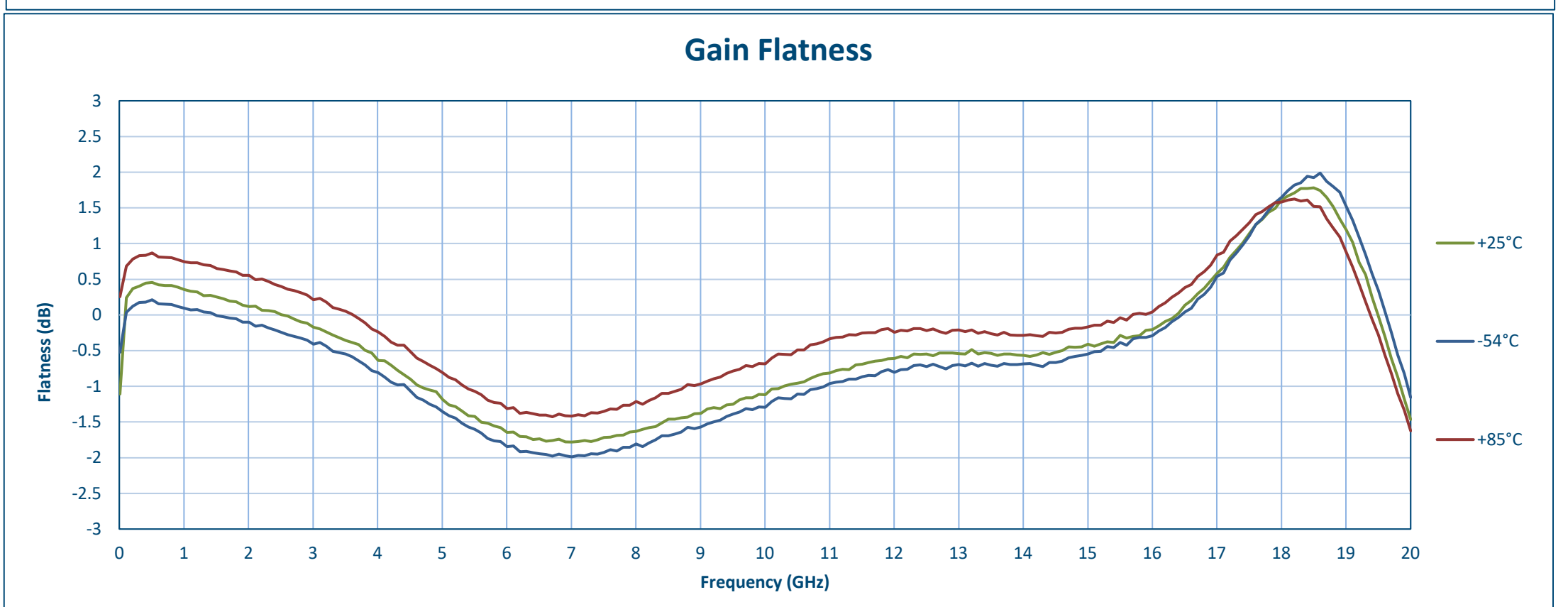

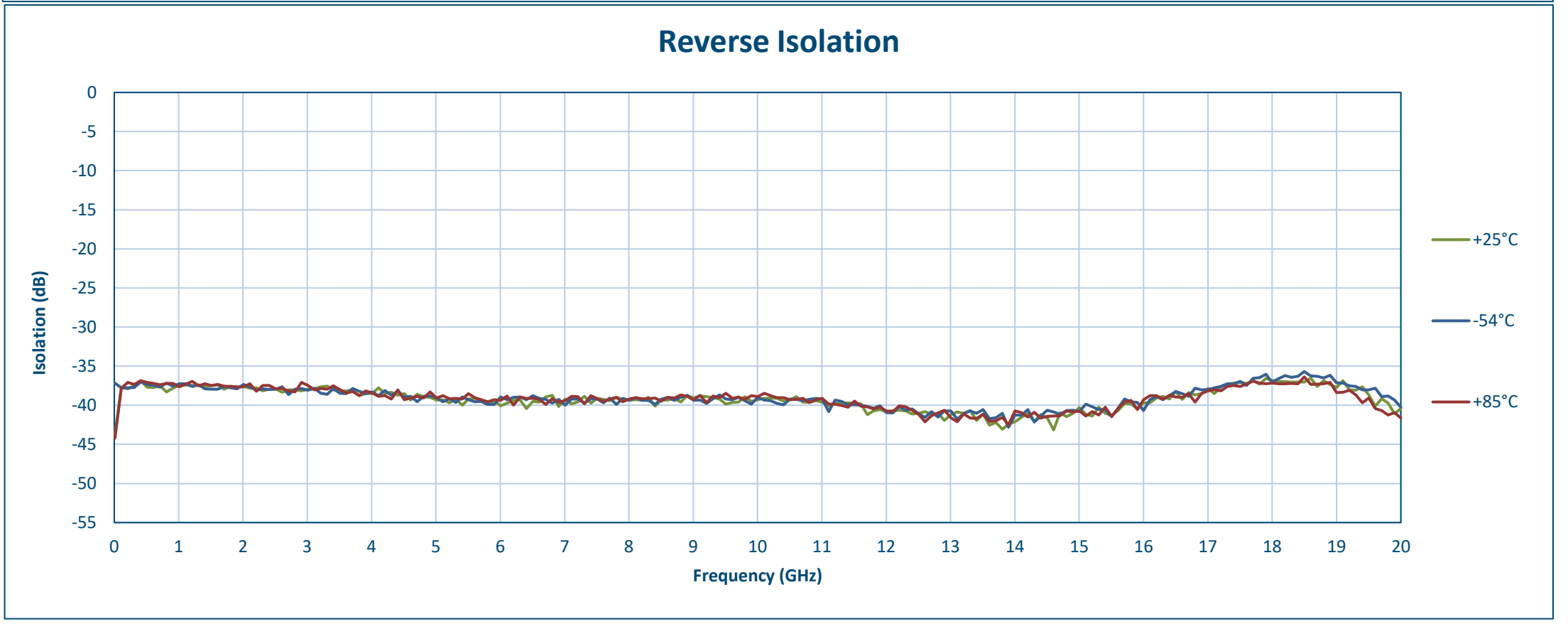

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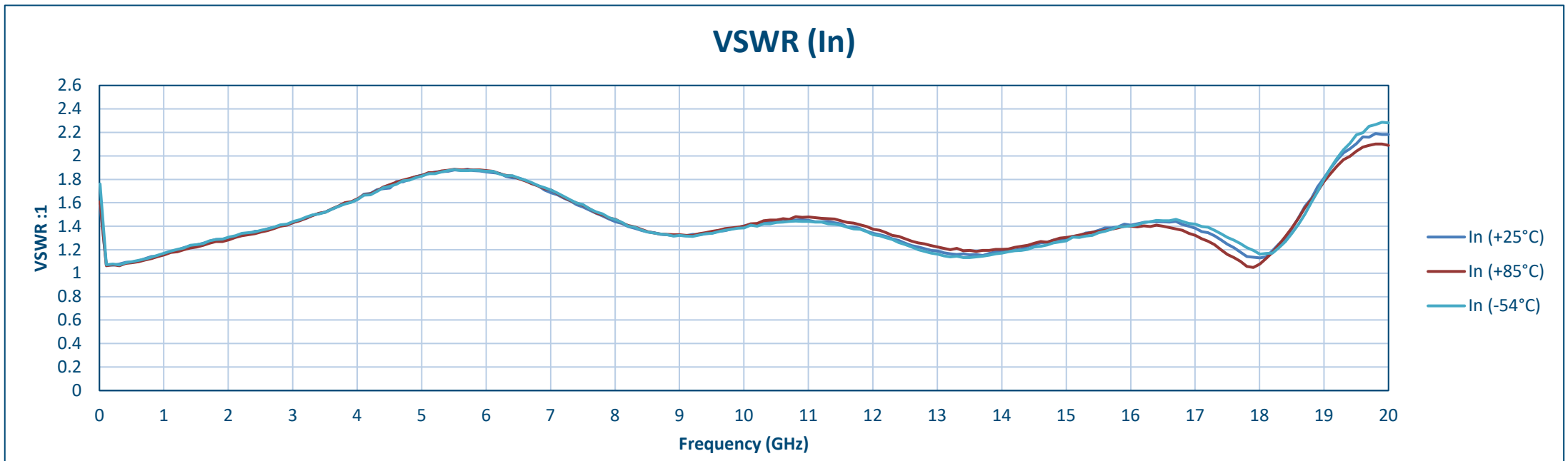

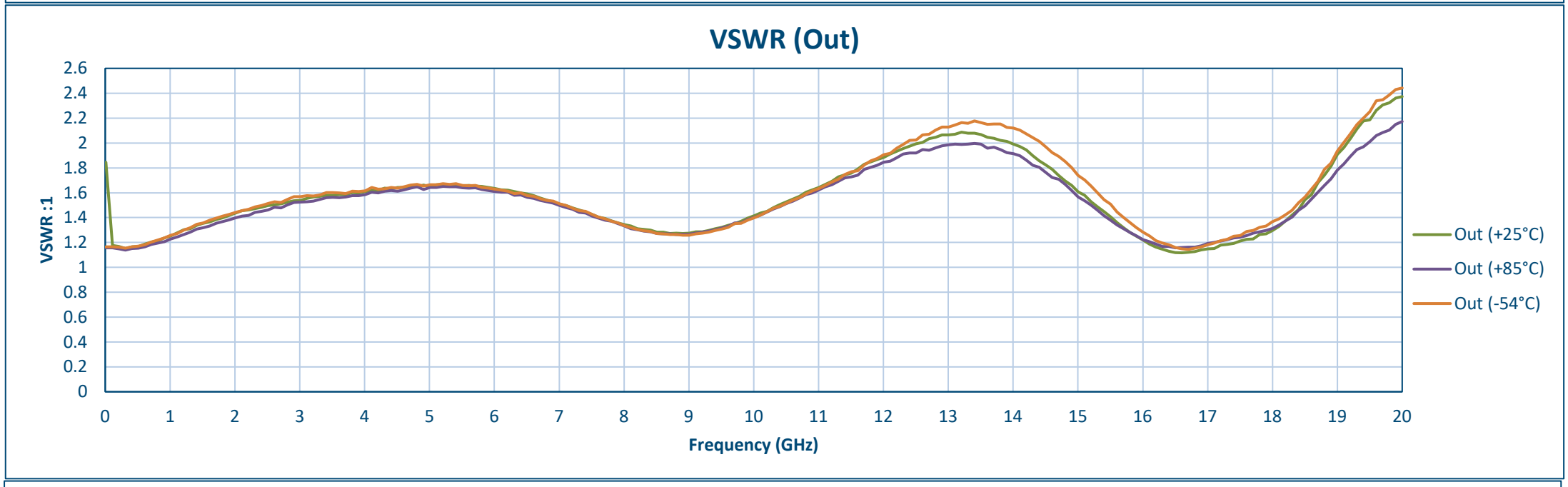

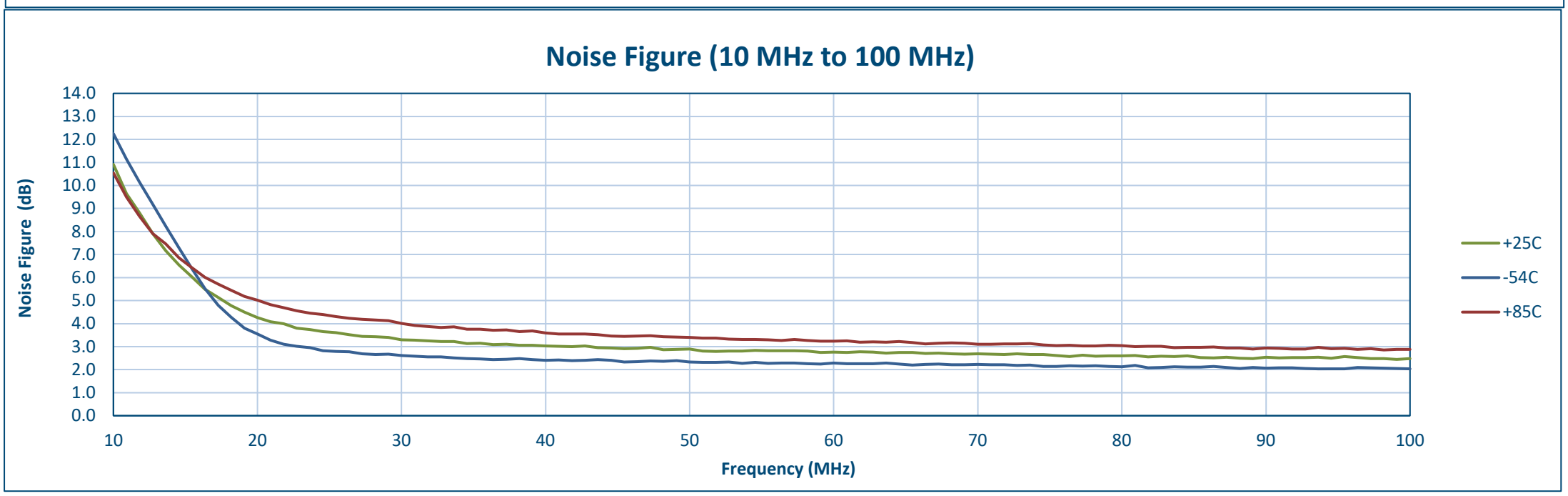

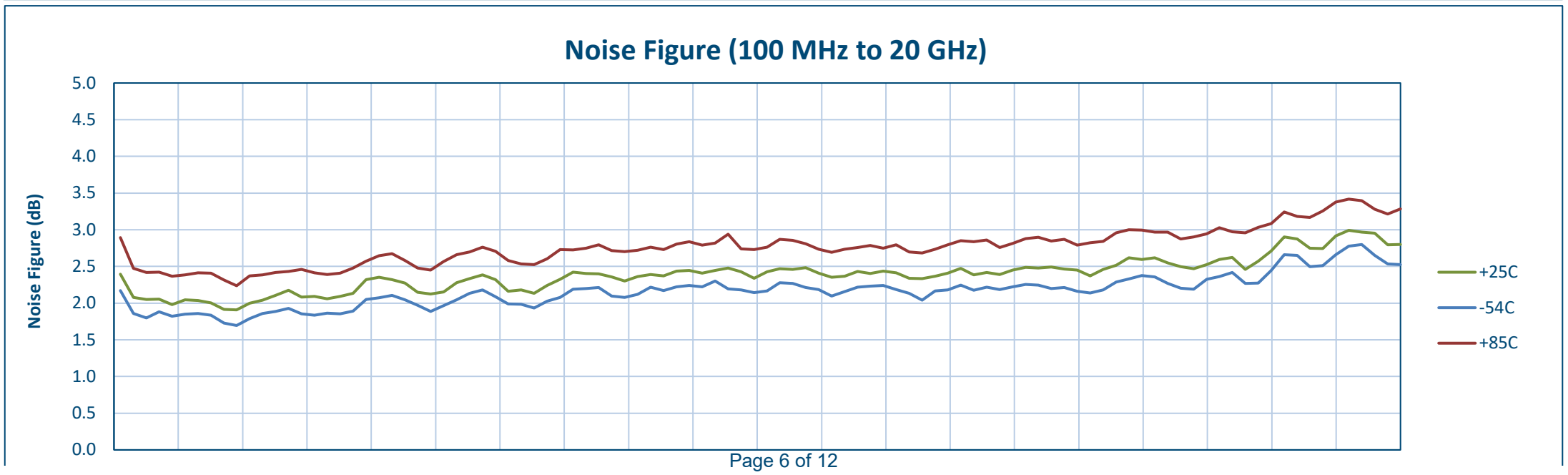

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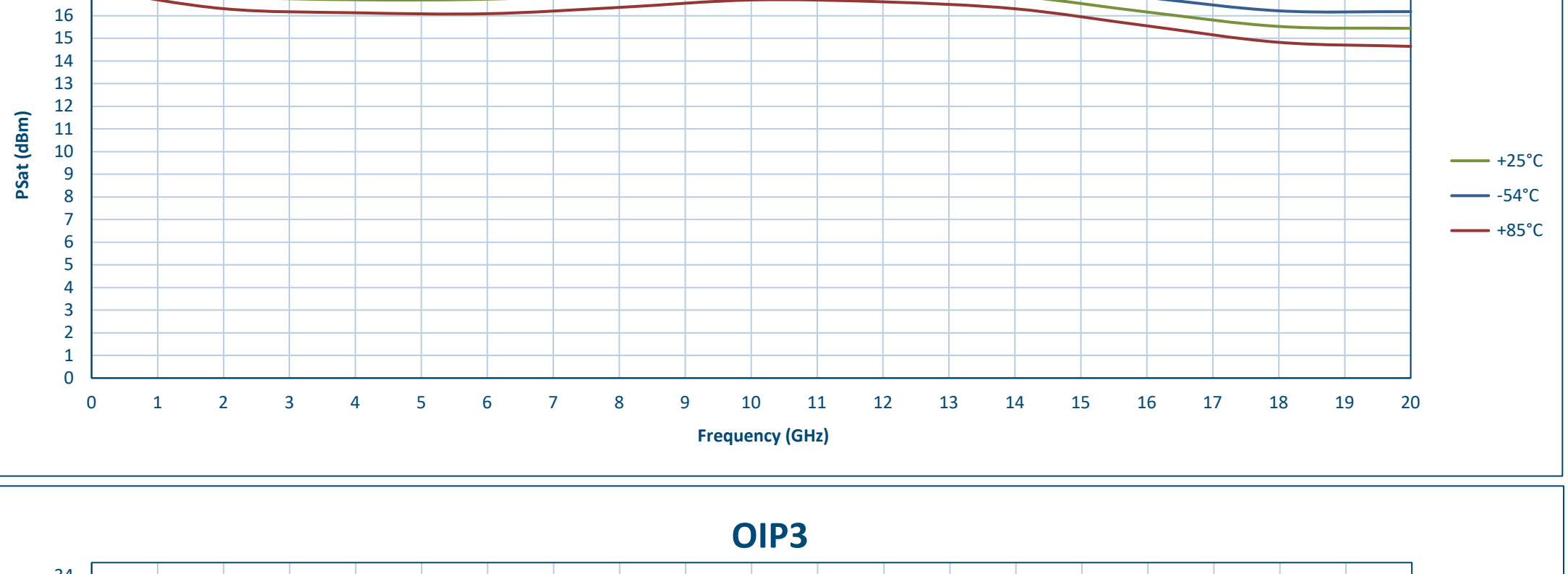
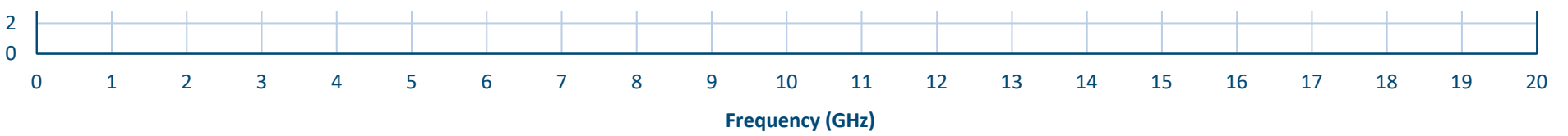
OP1dB



Psat

OIP3



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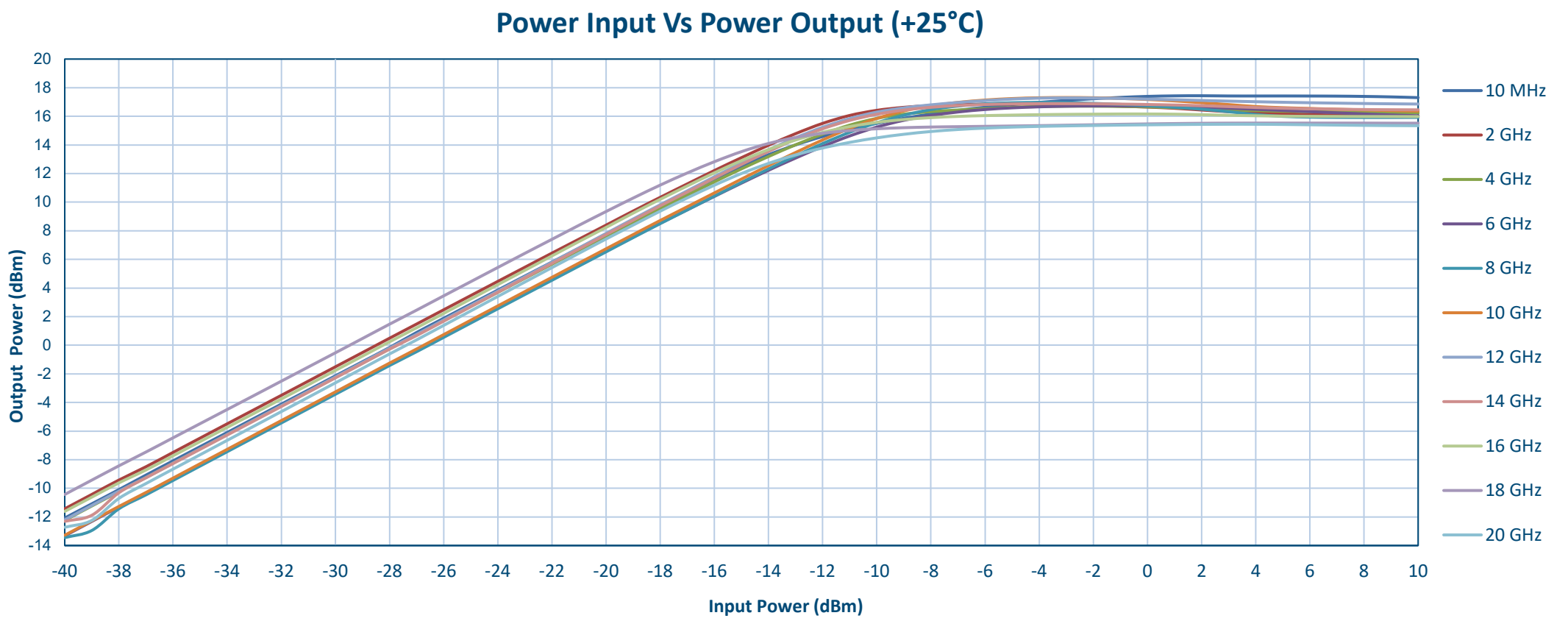

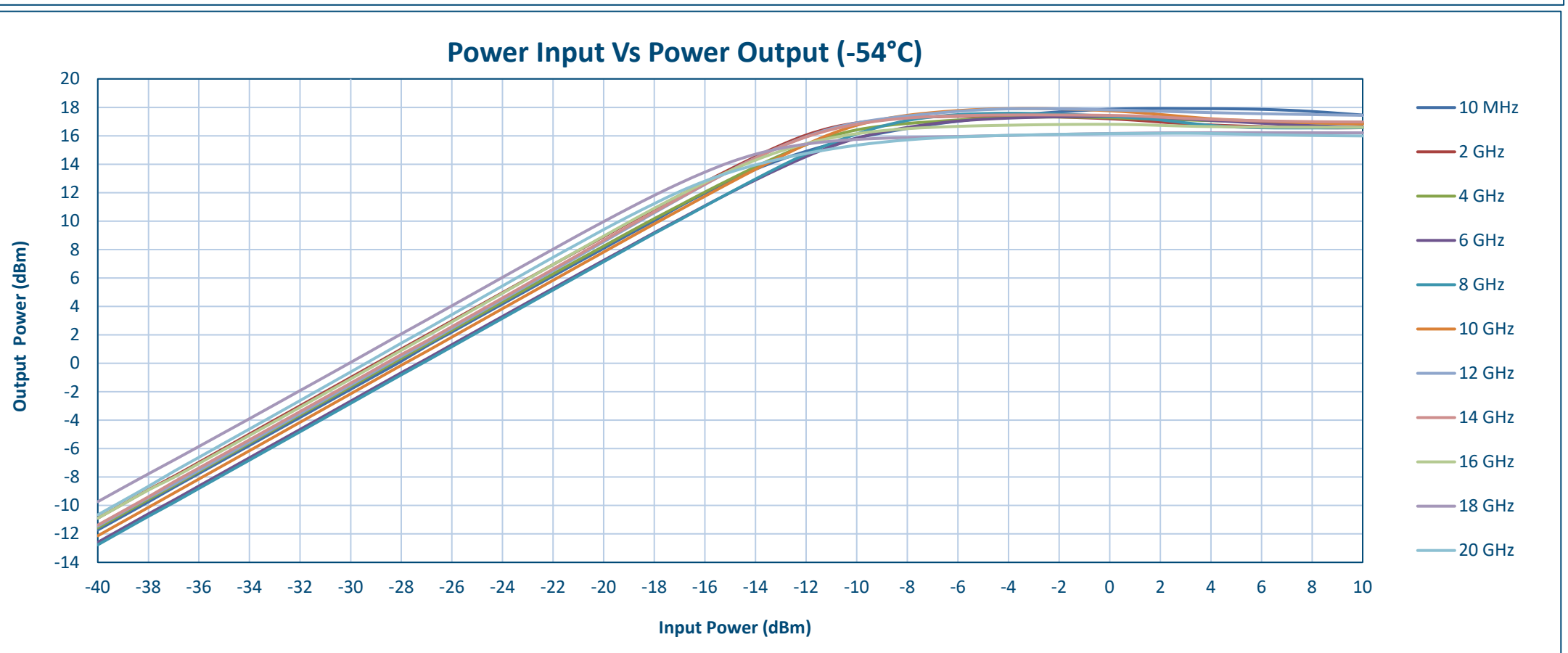

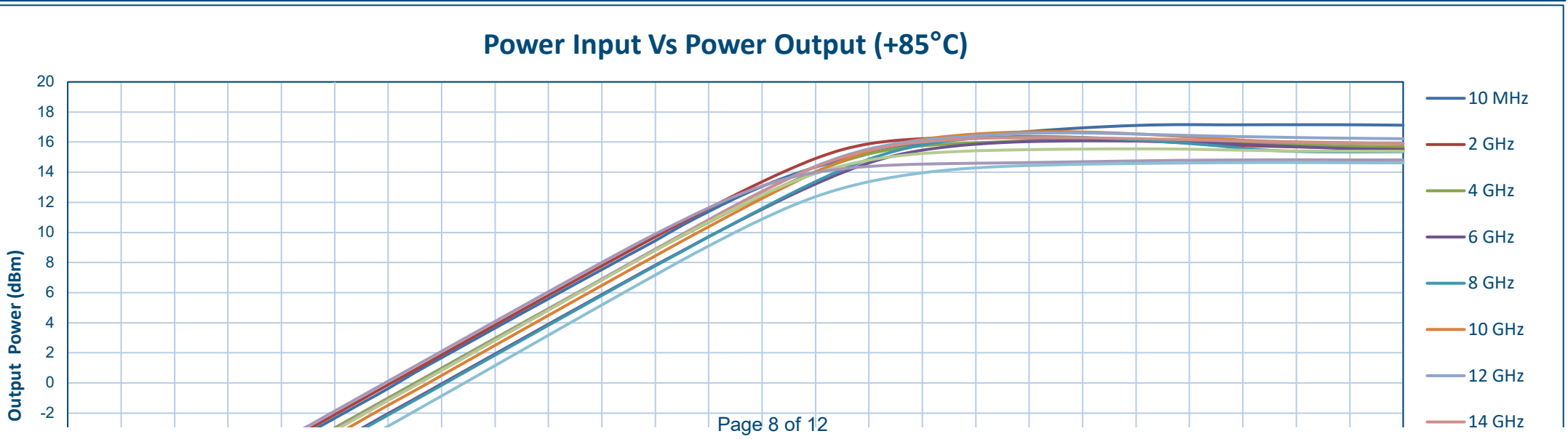

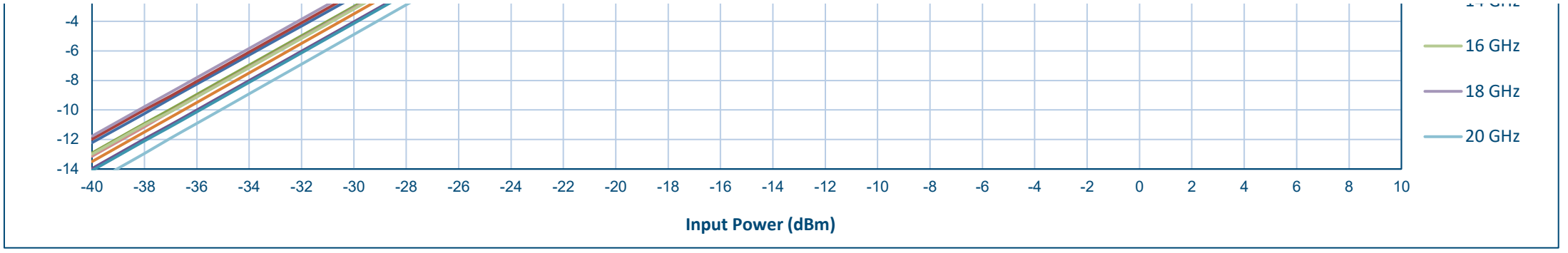

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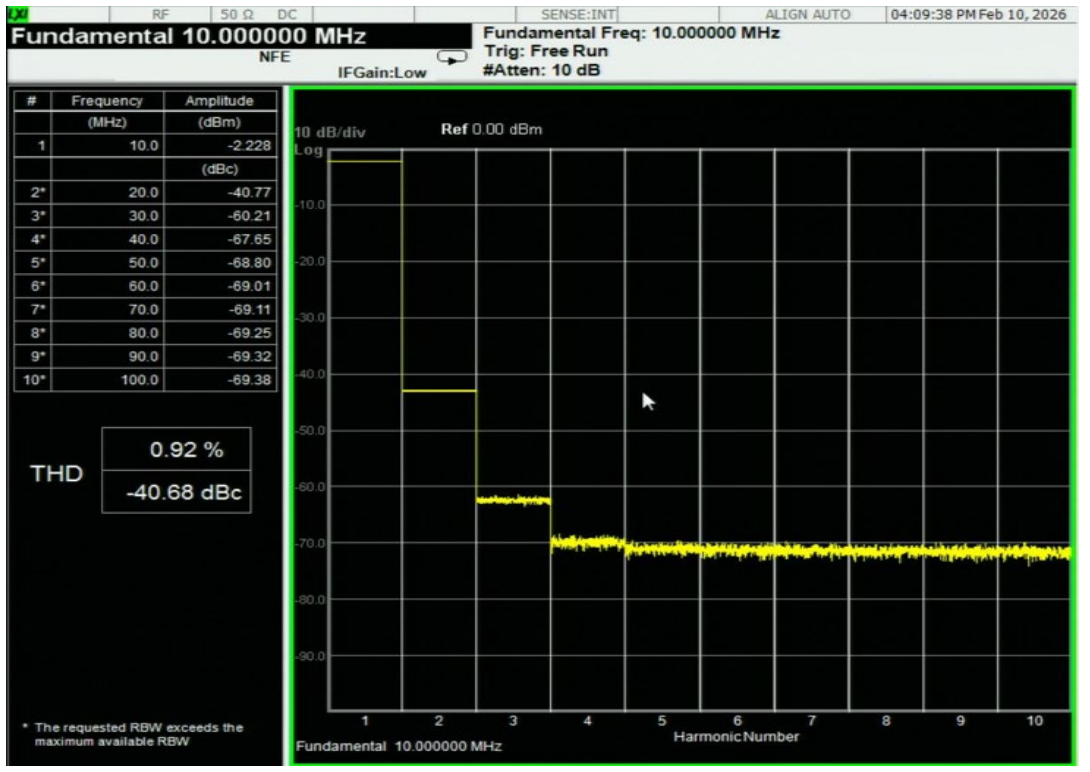
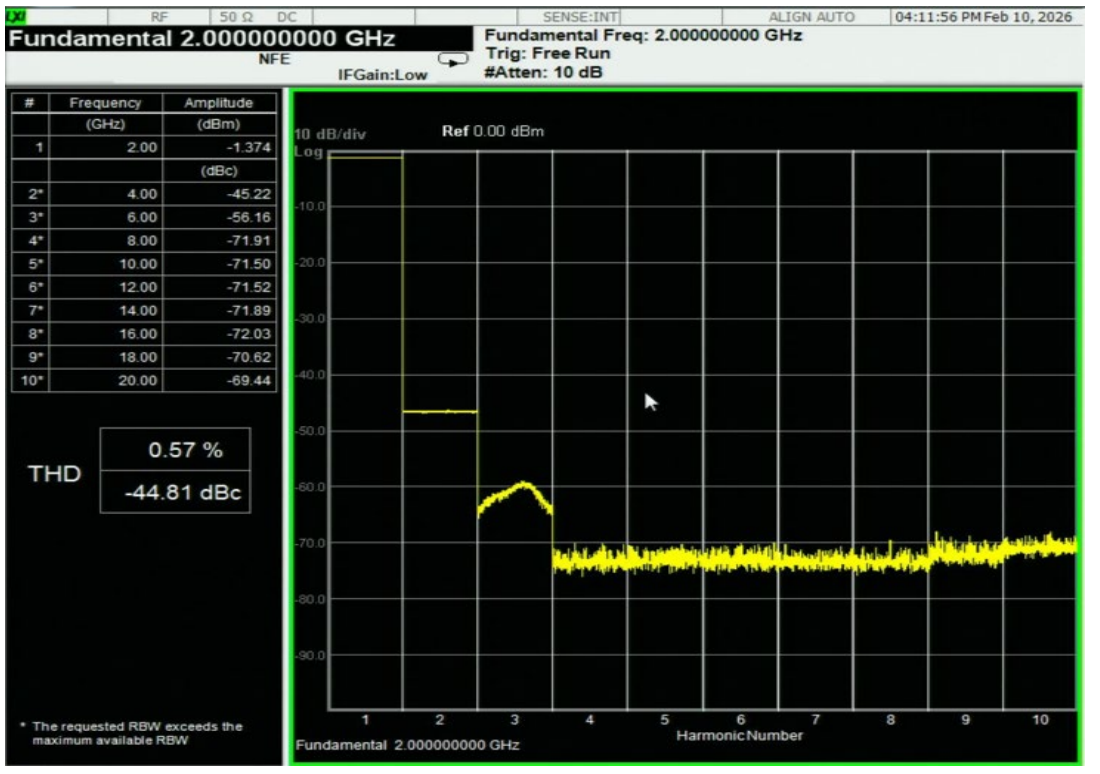
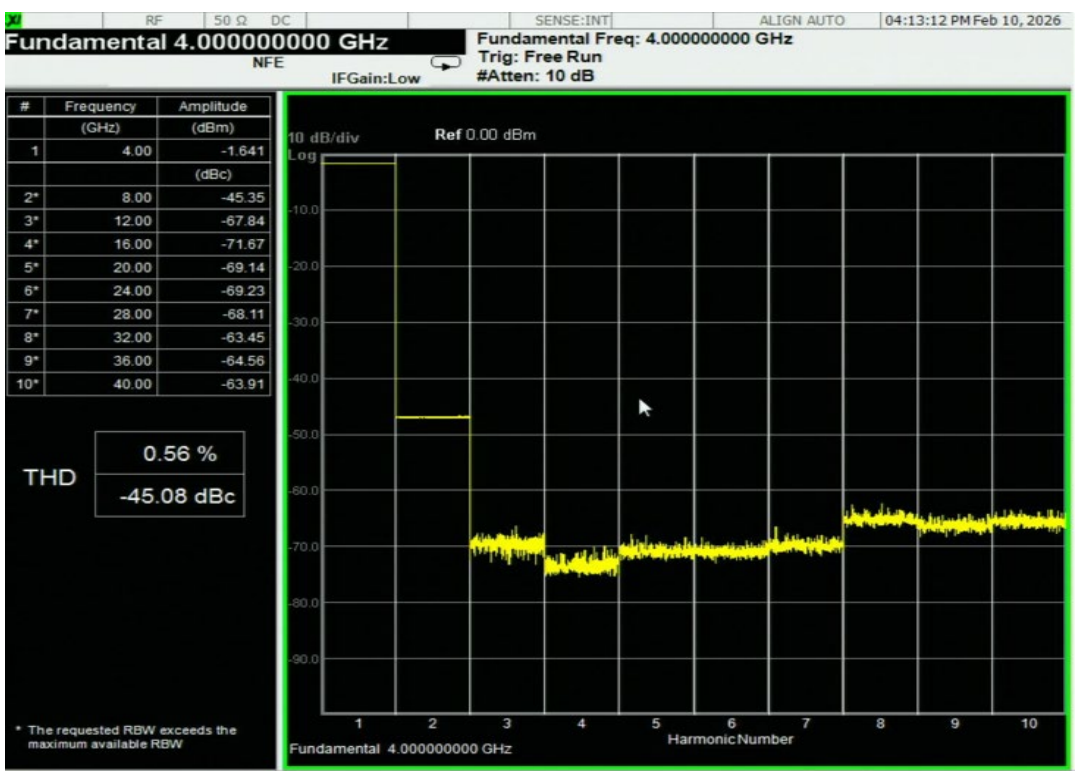
Second Harmonics Vs Frequency @ -30 dBm Input Power Fundamental 10 MHz



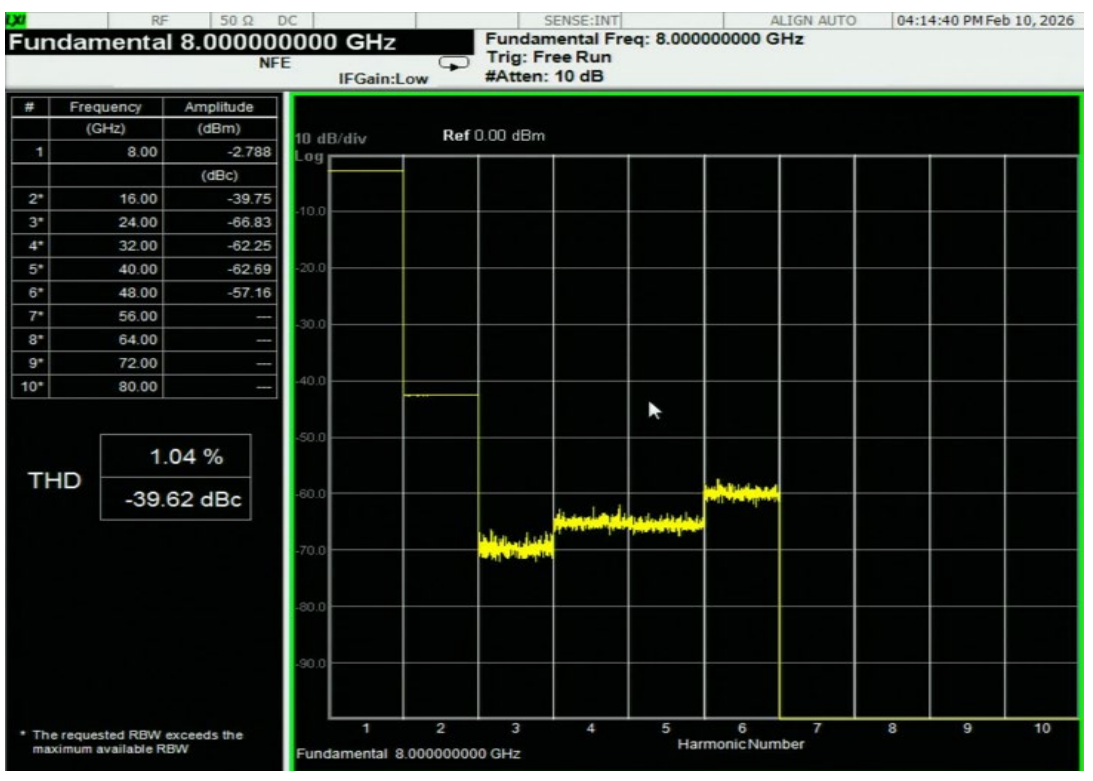
Second Harmonics Vs Frequency @ -30 dBm Input Power Fundamental 2 GHz



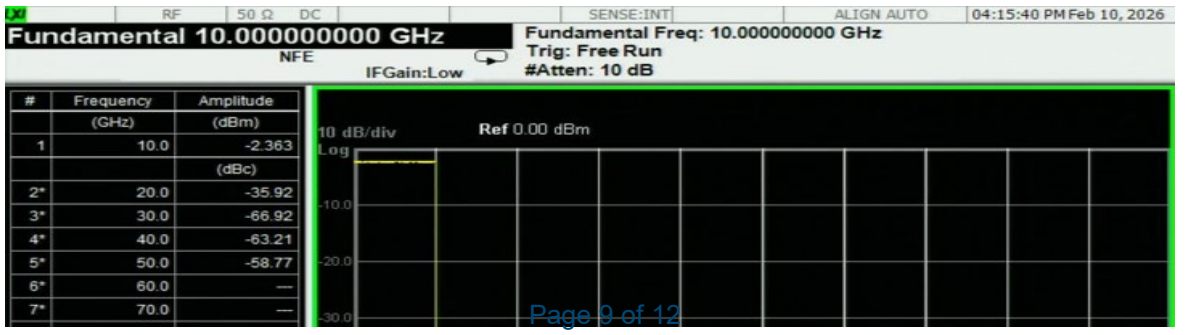
Second Harmonics Vs Frequency @ -30 dBm Input Power Fundamental 4 GHz

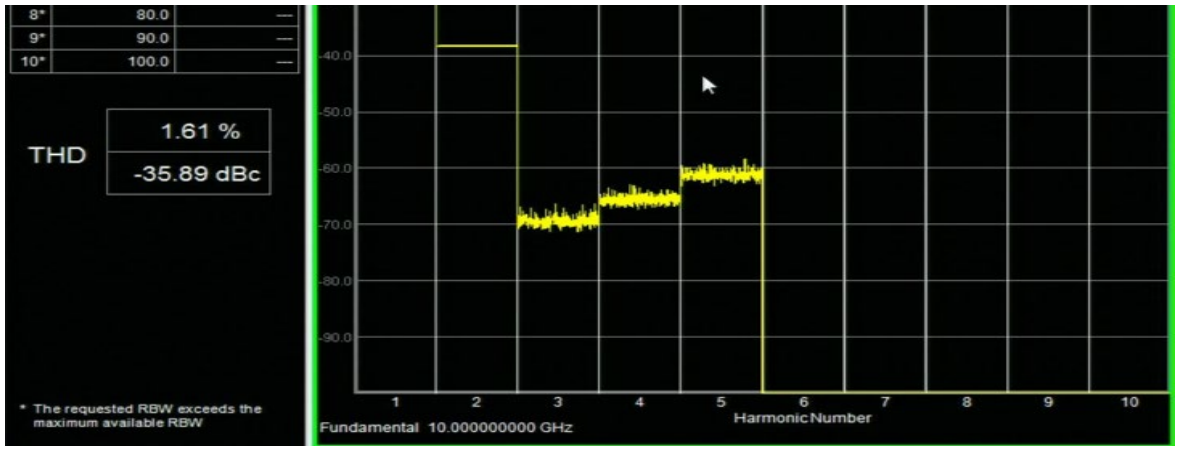


Second Harmonics Vs Frequency @ -30 dBm Input Power Fundamental 8 GHz



Second Harmonics Vs Frequency @ -30 dBm Input Power Fundamental 10 GHz





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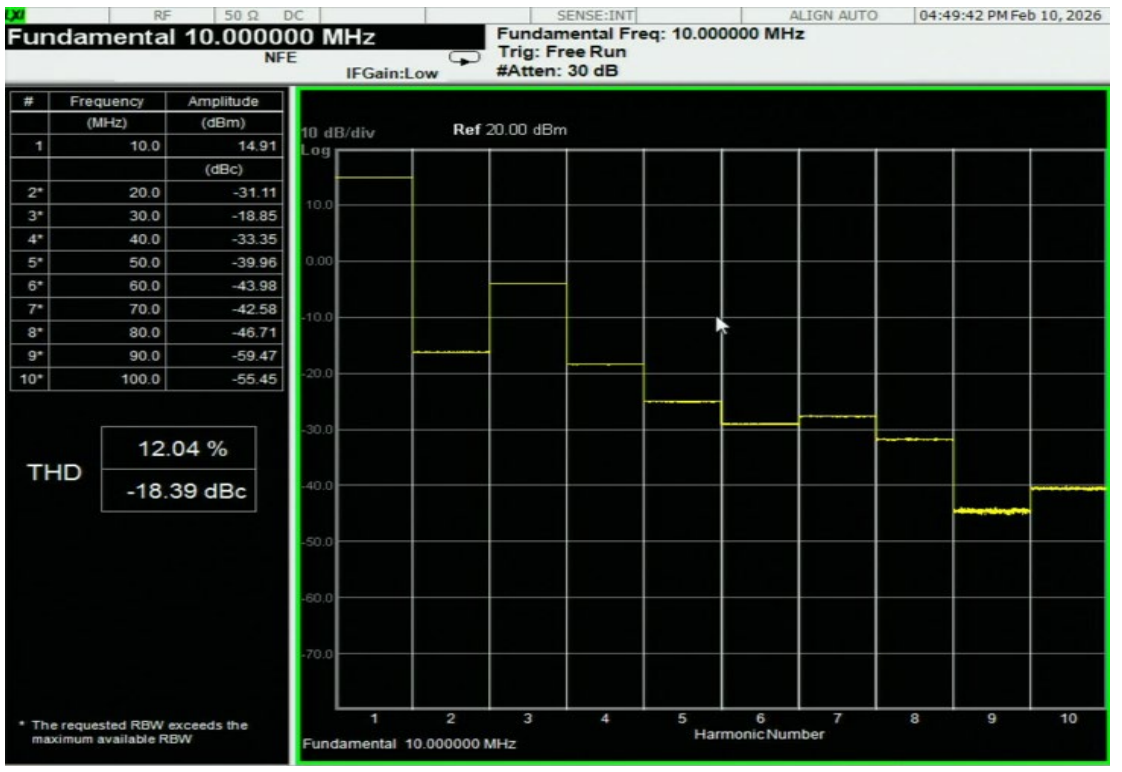
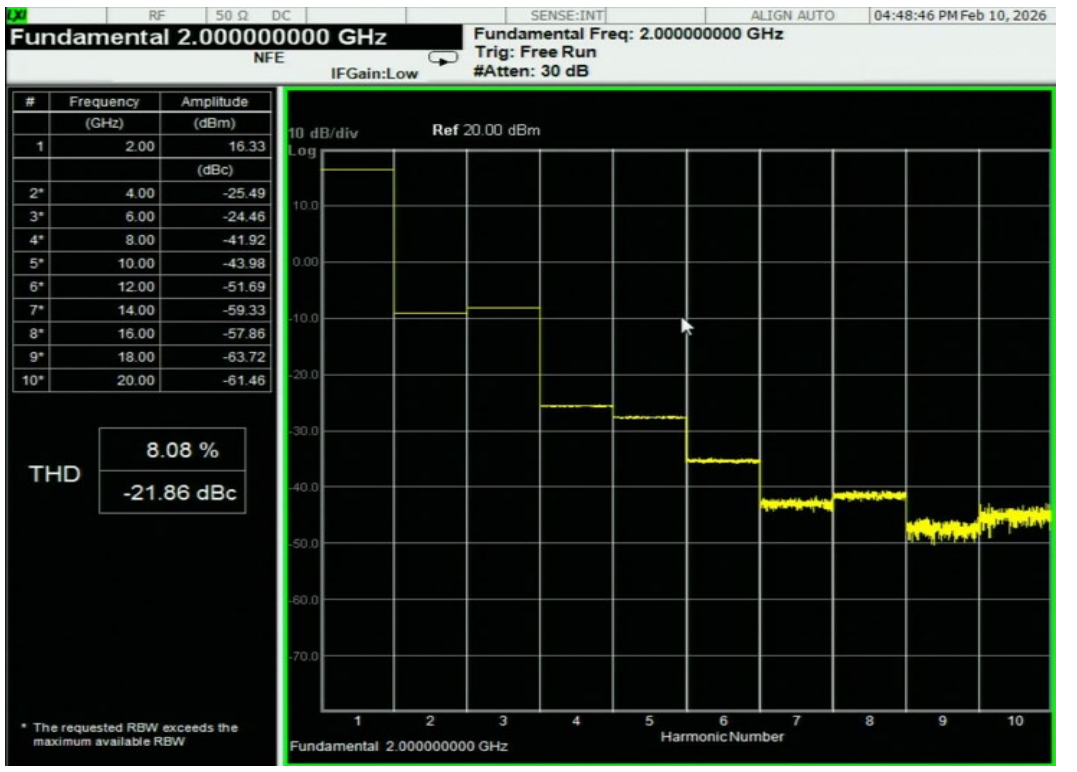
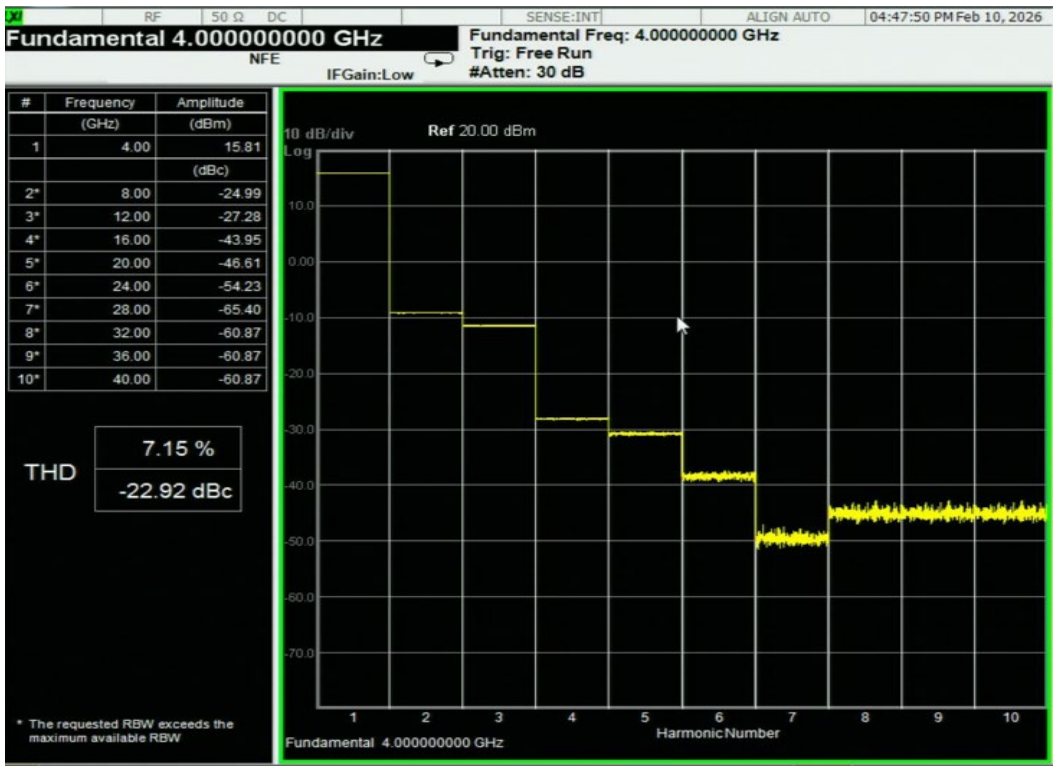
Second Harmonics Vs Frequency @ P1dB
Fundamental 10 MHz



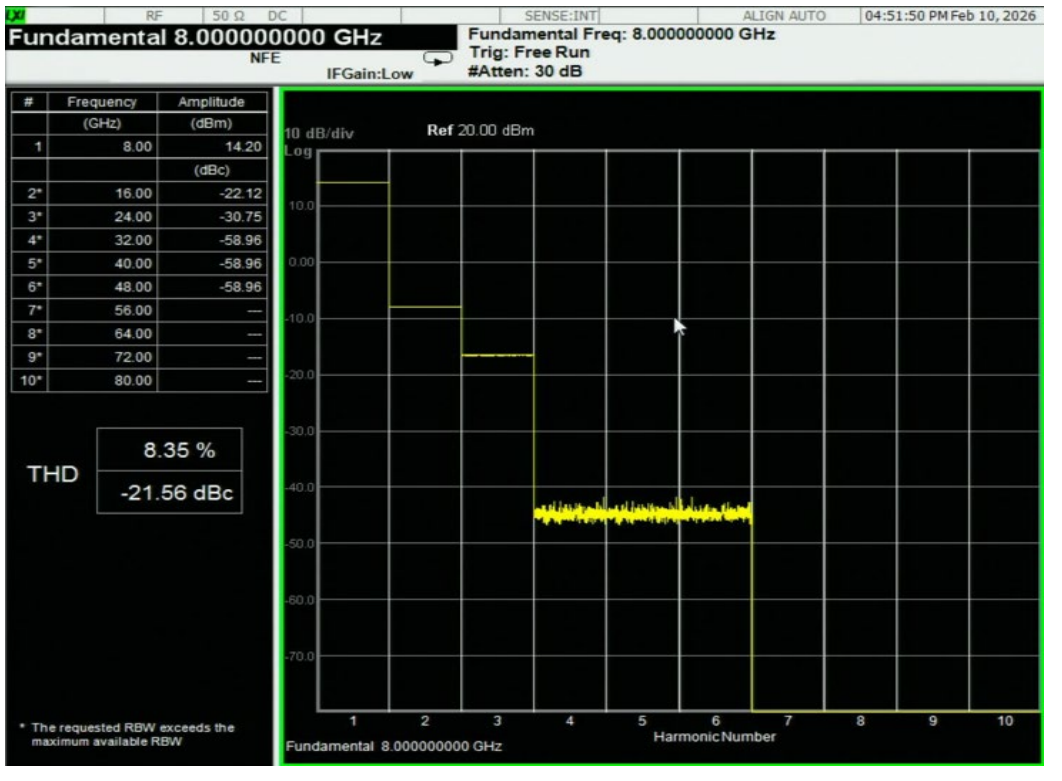
Second Harmonics Vs Frequency @ P1dB
Fundamental 2 GHz



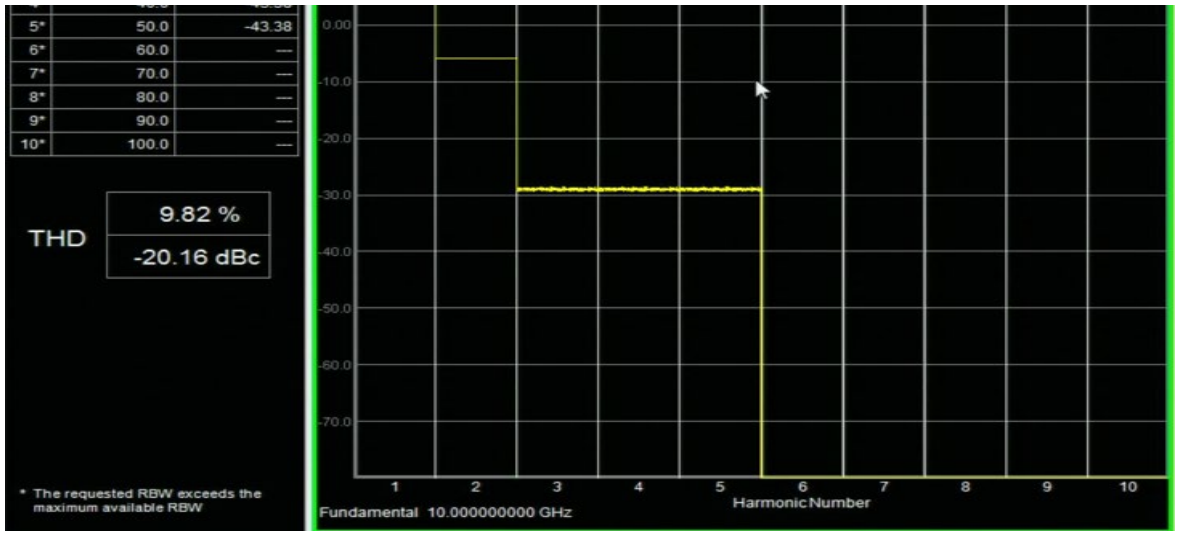
Second Harmonics Vs Frequency @ P1dB
Fundamental 4 GHz



Second Harmonics Vs Frequency @ P1dB
Fundamental 8 GHz



Second Harmonics Vs Frequency @ P1dB
Fundamental 10 GHz



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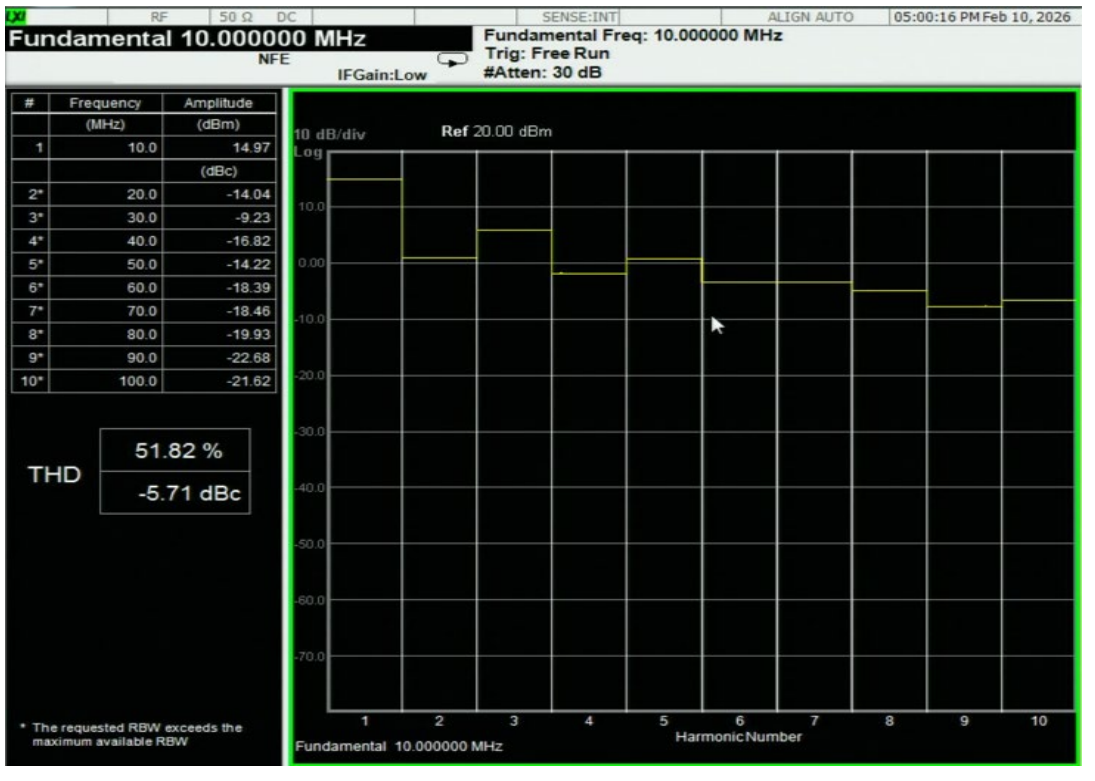
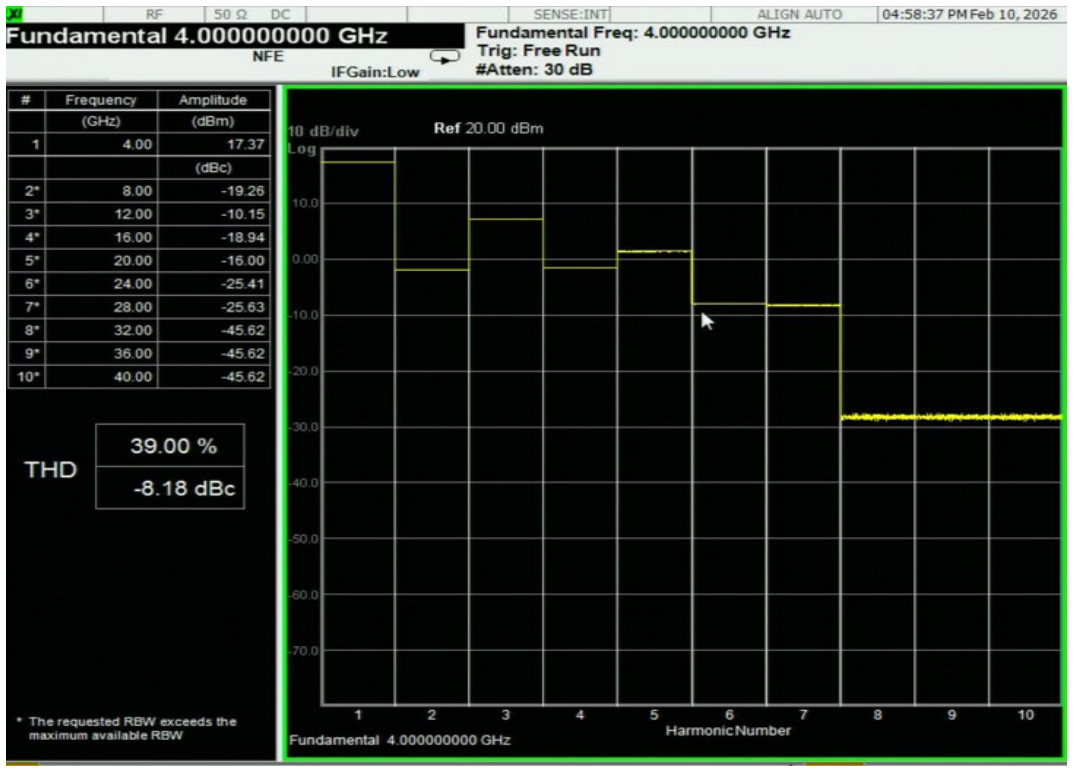
Second Harmonics Vs Frequency @ Psat
Fundamental 10 MHz

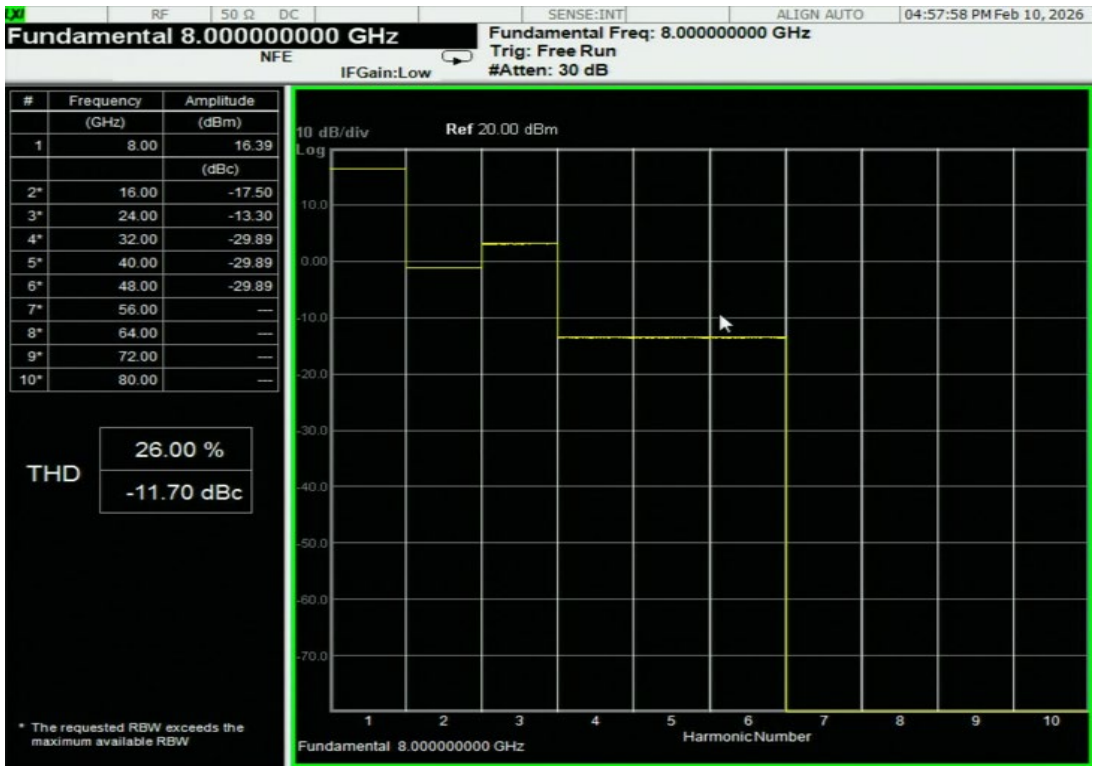


Second Harmonics Vs Frequency @ Psat
Fundamental 2 GHz

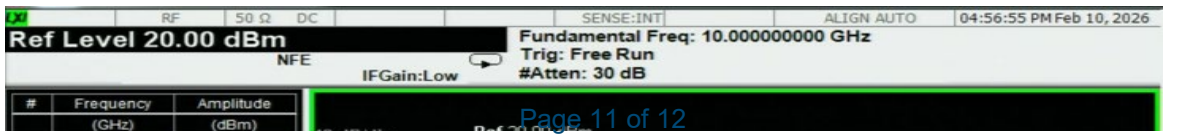
Second Harmonics Vs Frequency @ Psat
Fundamental 4 GHz

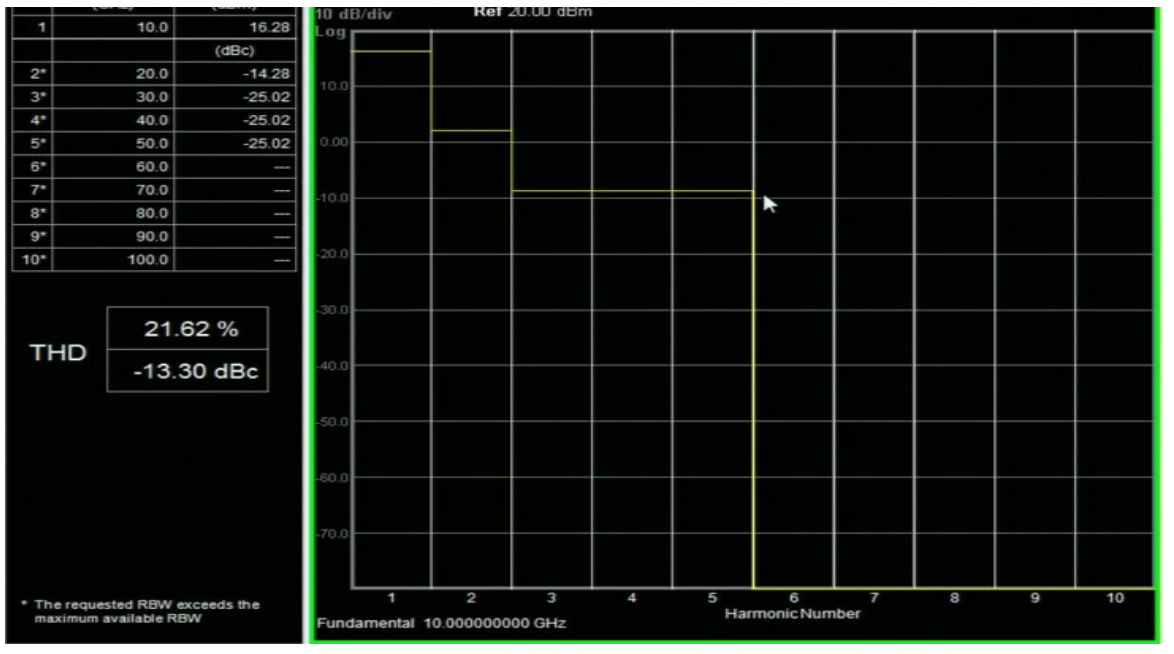


Second Harmonics Vs Frequency @ Psat
Fundamental 8 GHz



Second Harmonics Vs Frequency @ Psat
Fundamental 10 GHz





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