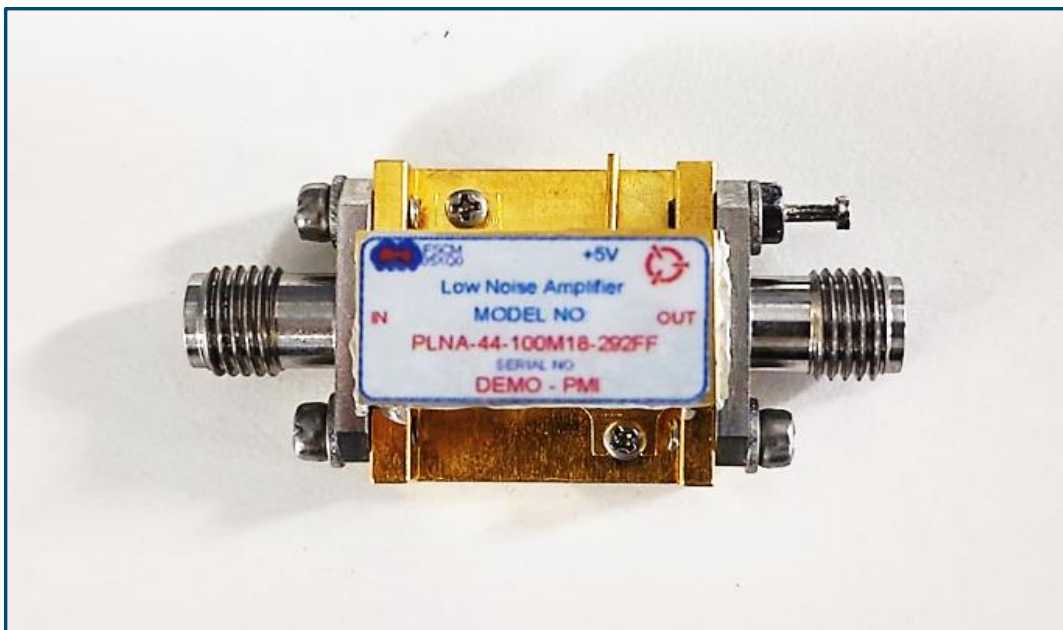


Typical Characteristics ON PLNA-44-100M18-292FF

PMI MODEL NUMBER: PLNA-44-100M18-292FF IS A VERY LOW NOISE AMPLIFIER WITH WORKING FREQUENCY RANGE OF 100MHZ TO 18GHZ. THIS AMPLIFIER IS SUPPLIED IN A HOUSING THAT CAN BE USED AS A 2.92MM SURFACE MOUNT OR CONNECTORIZED COMPONENT.



August 15, 2021

Designed By:

Engineering - PMI

Tested and Reported By:

Alfredo Lopez

Typical Characteristics ON PLNA-44-100M18-292FF

Outline Drawing

DESCRIPTION:

PMI MODEL NUMBER: PLNA-44-100M18-292FF IS A VERY LOW NOISE AMPLIFIER WITH WORKING FREQUENCY RANGE OF 100MHZ TO 18GHZ, THIS AMPLIFIER IS SUPPLIED IN A HOUSING THAT CAN BE USED AS A 2.92MM SURFACE MOUNT OR CONNECTORIZED COMPONENT.

SPECIFICATIONS:

Frequency Range: 100 MHz to 18 GHz

Gain: +38 dB Min.

Gain Flatness: ± 2.5 dB Typ.

Noise Figure: 3.5 dB Typ.

OP1dB: +12 dBm Min.

PSat: +13 dBm Typ.

Input Power: +20 dBm Max.

VSWR Input: 2.0:1 Max.

VSWR Output: 2.1:1 Max.

Reverse Isolation: 45 dB Min.

DC Supply: +5 VDC @ 170 mA Max.

Connectors In/Out: 2.92mm Female

Finish: Gold Plated

SPECIFICATIONS:

2nd Harmonic:
(-30dBm Input Power) 25 dBc Typ.
(-20dBm Input Power) 22 dBc Typ.
(0 dBm Input Power) 18 dBc Typ.
(At P1dB) 16 dBc Typ.
(+15dBm Input Power) 12 dBc Typ.

ENVIRONMENTAL RATINGS:

Temperature: -40°C to + 85°C (Operating)
-40°C to +100°C (Storage)

Humidity: MIL-STD-202F, METHOD 103B COND B.

Shock: MIL-STD-202F, METHOD 213B COND B.

Altitude: MIL-STD-202F, METHOD 105C COND B.

Temperature Cycle: MIL-STD-202F, METHOD 107D COND A

Note: The above specifications are subject to change or revision.

Specifications will vary over operating temperature.

FEATURES:

Internal Voltage Regulation
Unconditional Stability

AVAILABLE OPTIONS:

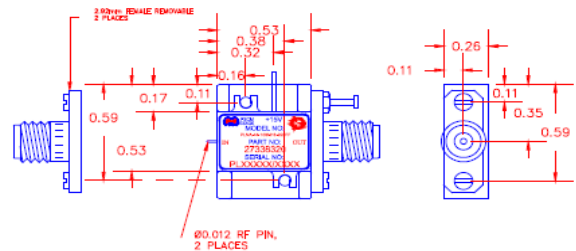
Various Package types
Various Connector types
Temperature Compensation
Gain and Phase Matching
MIL-STD-883 Screening Available

ALL DIMENSIONS ARE IN INCHES

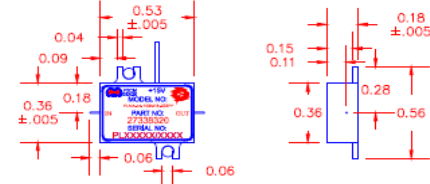
TOLERANCES:
X.XXX ± 0.020
X.XXXX ± 0.010

REVISIONS			
ZONE	REV.	DESCRIPTION	DATE
	A1	ORIGINAL RELEASE	08/24/21

HOUSING WITH CARRIER



HOUSING WITHOUT CARRIER (SURFACE MOUNT)



PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.

7311-F GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: 301-662-5019 FAX: 301-662-1731
WEBSITE: www.pmi-rf.com
E-MAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED



APPROVALS		DATE		TITLE			
DRAWN		08/24/2021		PRODUCT FEATURE			
REDRAWN		ALC		PLNA-44-100M18-292FF			
ISSUED				SIZE	PSOM NO.	DWG NO.	REV.
				A		PRELIMINARY	A1
				SCALE	N:S	SHEET	1 OF 2

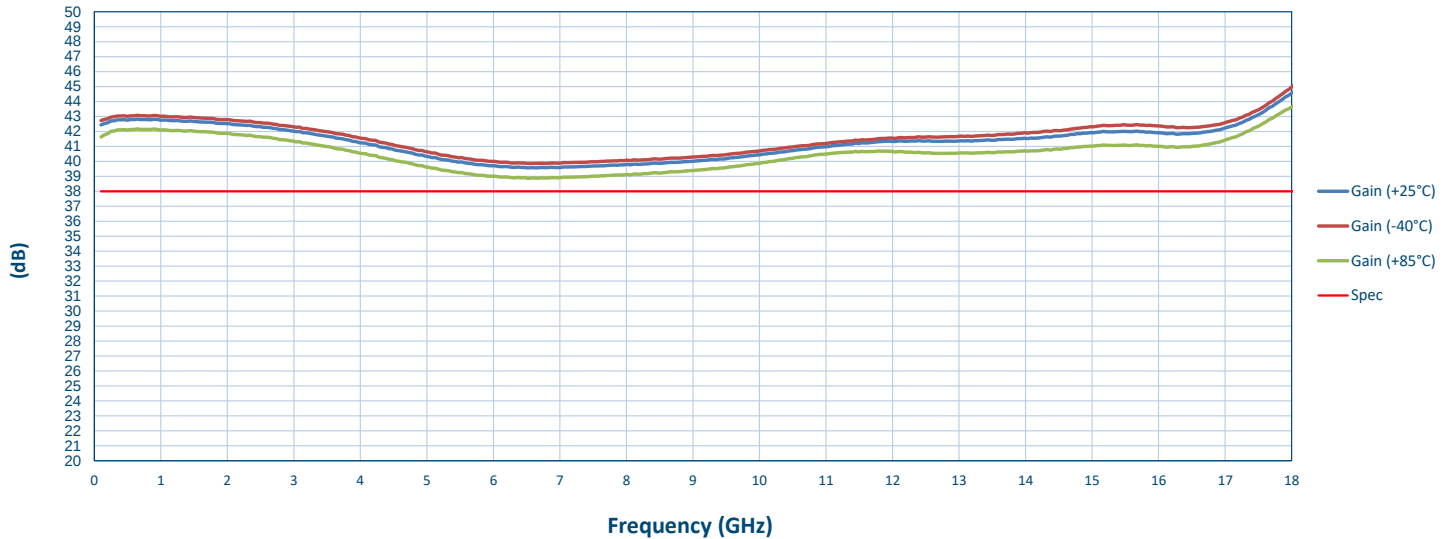
Typical Characteristics ON PLNA-44-100M18-292FF

Technical Specifications

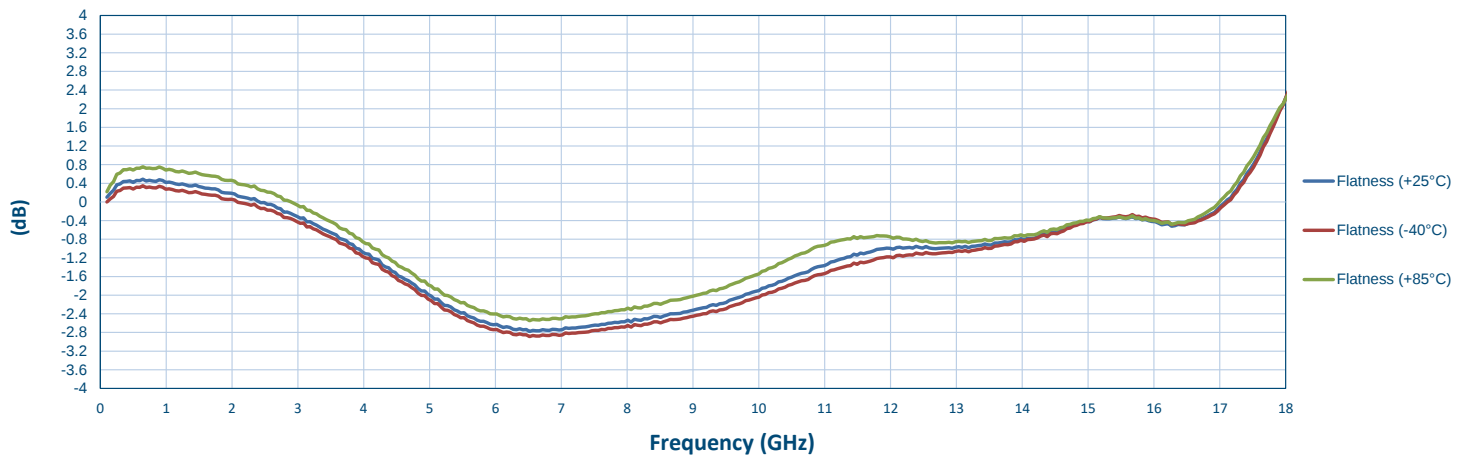
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results			QA QC
			+25°C	-40°C	+85°C	
1	Frequency Range:	100MHz to 18GHz	100MHz to 18GHz	100MHz to 18GHz	100MHz to 18GHz	
2	Gain:	38 dB Min.	44.6 dB Max.	45.01 dB Max.	43.66 dB Max.	
			39.56 dB Min.	39.85 dB Min.	38.87 dB Min.	
			See Graphs	See Graphs	See Graphs	
3	Gain Flatness:	± 2.5 dB Typ.	2.26 dB / -2.78dB See Graphs	2.27 dB / -2.89dB See Graphs	2.24 dB / -2.55dB See Graphs	
4	Noise Figure:	3.5 dB Max.	3.19 dB See Graphs	3.08 dB See Graphs	3.53 dB See Graphs	
5	OP1dB:	12 dBm Min.	13.08 dBm See Graphs	13.48 dBm See Graphs	12.56 dBm See Graphs	
			See Graphs	See Graphs	See Graphs	
6	Psat:	13 dBm Typ.	13.21 dBm See Graphs	13.73 dBm See Graphs	12.65 dBm See Graphs	
			See Graphs	See Graphs	See Graphs	
7	Input Power:	+20 dBm Max.	Pass See Graphs	Pass See Graphs	Pass See Graphs	
8	Second Harmonic	2nd Harmonic -30dBm Input Power 25 dBc Typ.	24.62 dBc	24.62 dBc	24.62 dBc	
		2nd Harmonic -20 dBm Input Power 22 dBc Typ.	21.88 dBc	21.88 dBc	21.88 dBc	
		2nd Harmonic 0 dbm Input Power 18 dBc Typ.	18.45 dBc	18.45 dBc	18.45 dBc	
		2nd Harmonic at P1dB 16 dBc Typ.	16.59 dBc	16.59 dBc	16.59 dBc	
		Harmonic +15 dBm Input Power 15 dBc Typ.	20.60 dBc	20.60 dBc	20.60 dBc	
			See Graphs	See Graphs	See Graphs	
9	VSWR Input:	2.0:1 Max.	1.97 :1 (See Graphs)	2 :1 (See Graphs)	1.93 :1 (See Graphs)	
10	VSWR Output:	2.1:1 Max.	2.01 :1 (See Graphs)	2.1 :1 (See Graphs)	1.9 :1 (See Graphs)	
11	Reverse Isolation:	45 dB Min.	49.06 dB (See Graphs)	47.17 dB (See Graphs)	45.75 dB (See Graphs)	
12	DC Supply:	+5 VDC @ 170 mA Max.	+5 VDC @ 138 mA	+5 VDC @ 133 mA	+5 VDC @ 146 mA	

Typical Characteristics ON PLNA-44-100M18-292FF

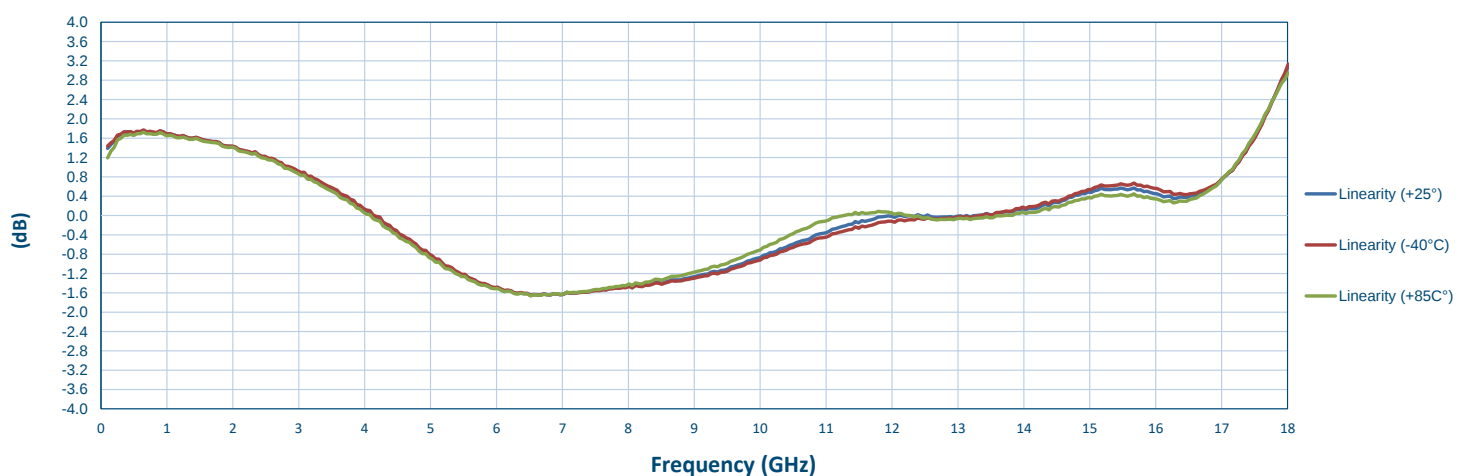
Gain Vs Temperature



Gain Flatness Vs Temperature

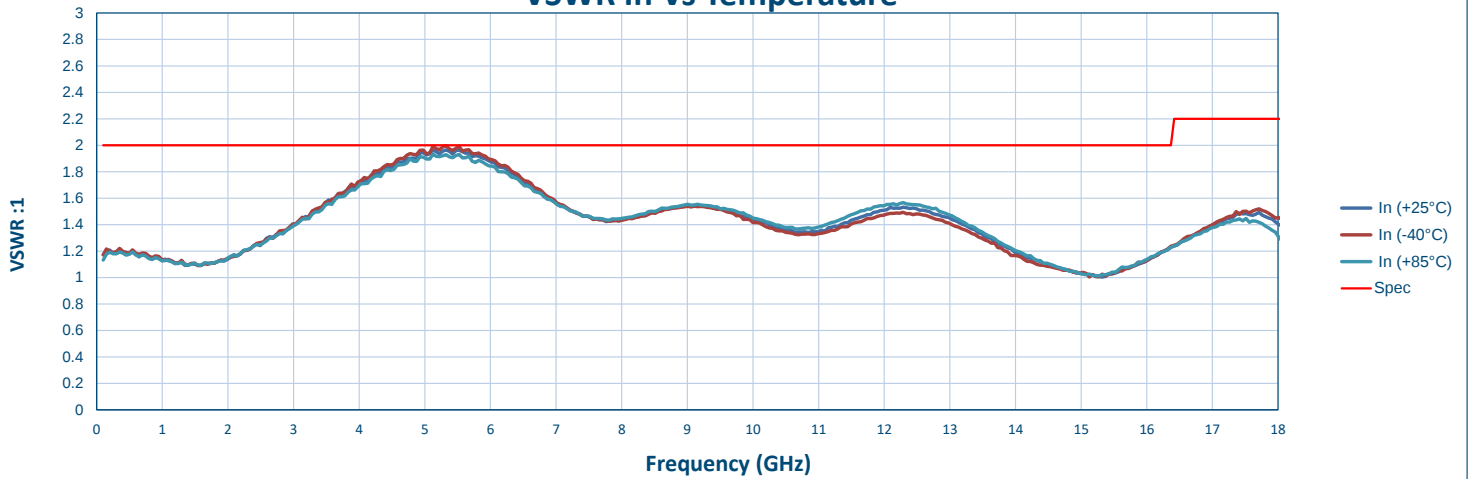


Linearity (Variation from a Best Fit Straight Line)

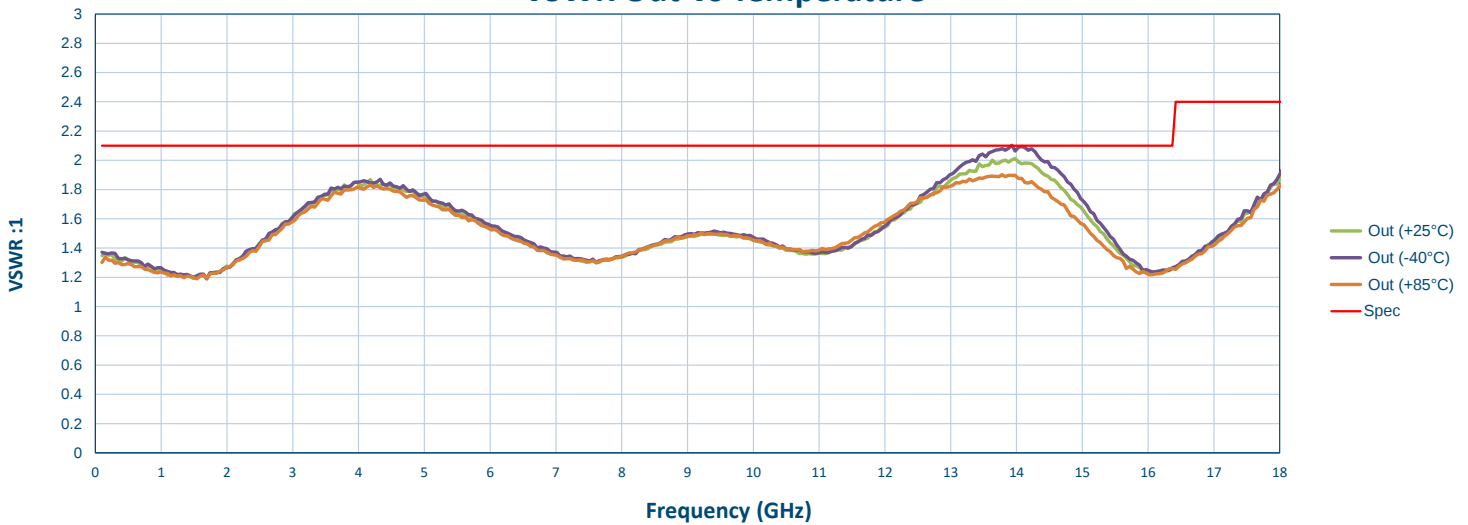


Typical Characteristics ON PLNA-44-100M18-292FF

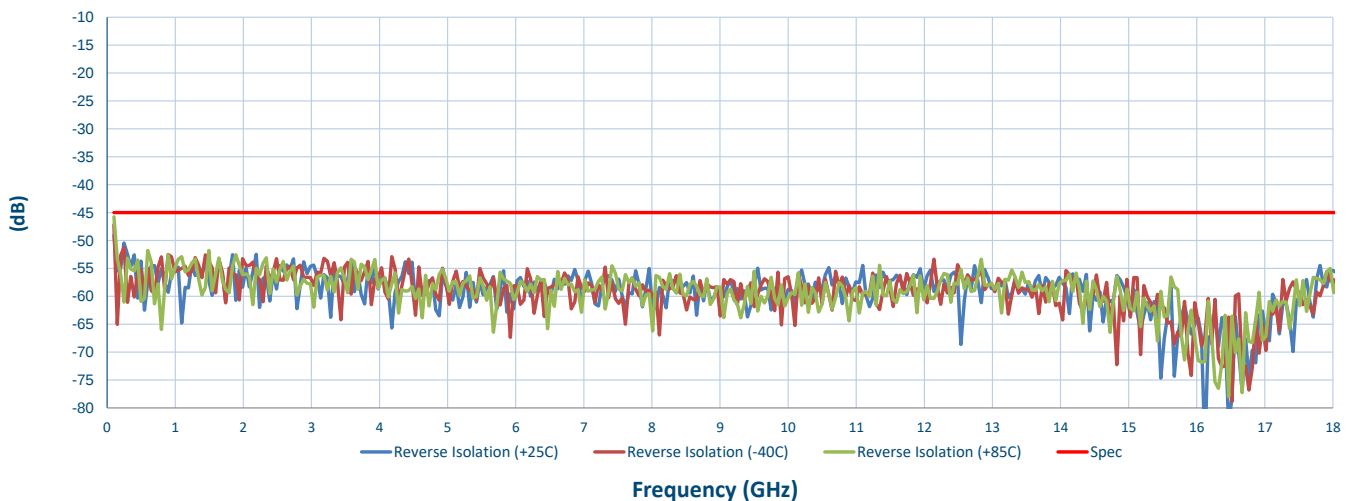
VSWR In Vs Temperature



VSWR Out Vs Temperature

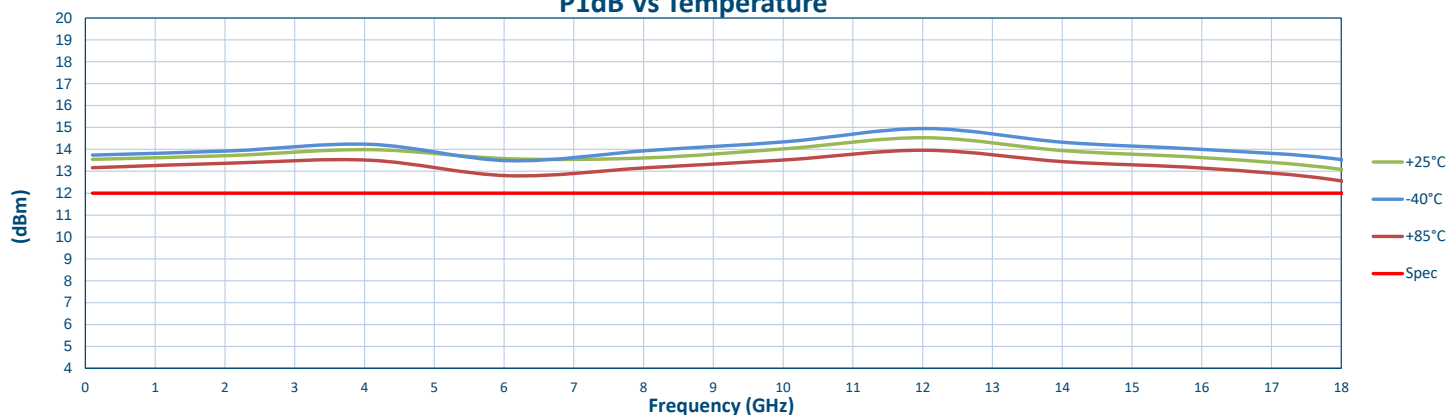


Reverse Isolation Vs Temperature

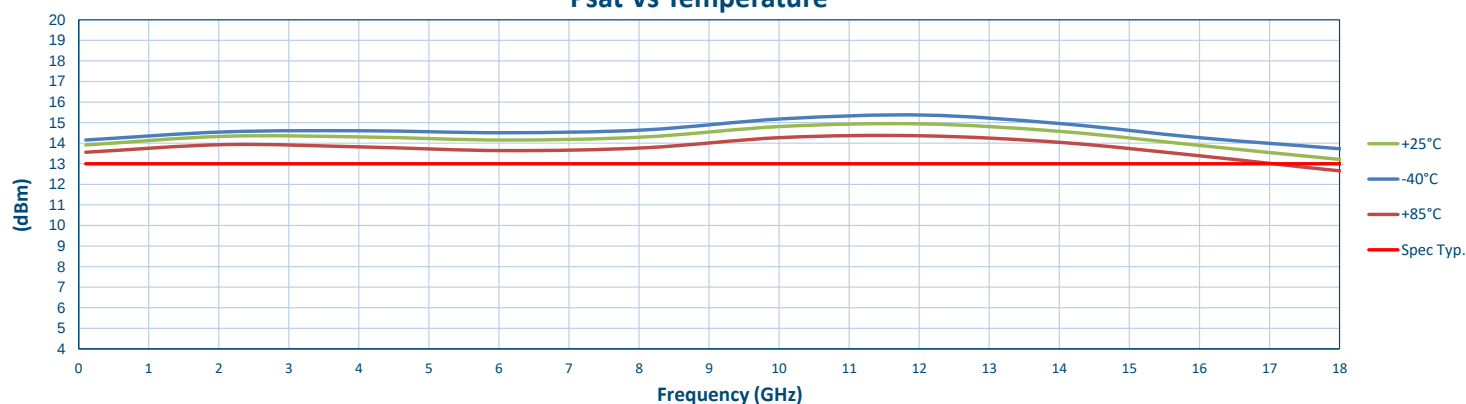


Typical Characteristics ON PLNA-44-100M18-292FF

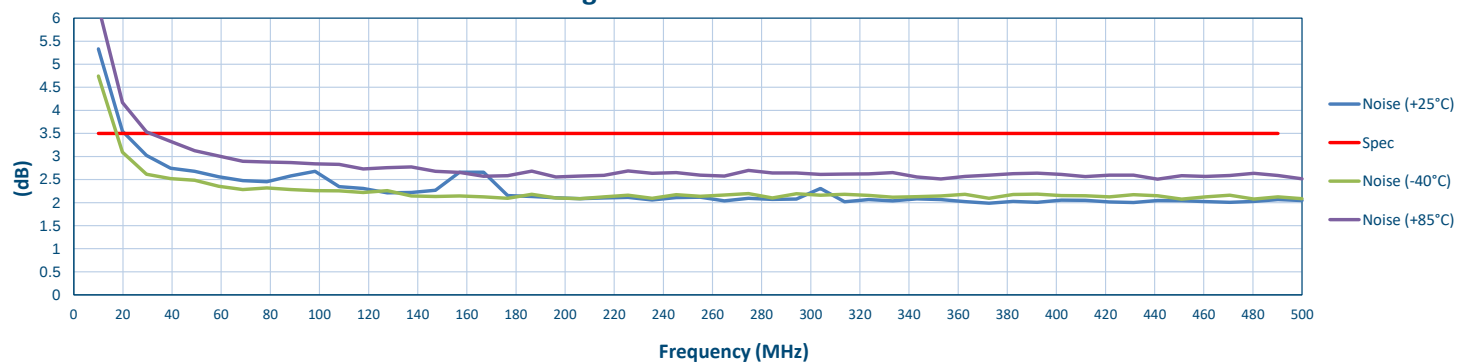
P1dB Vs Temperature



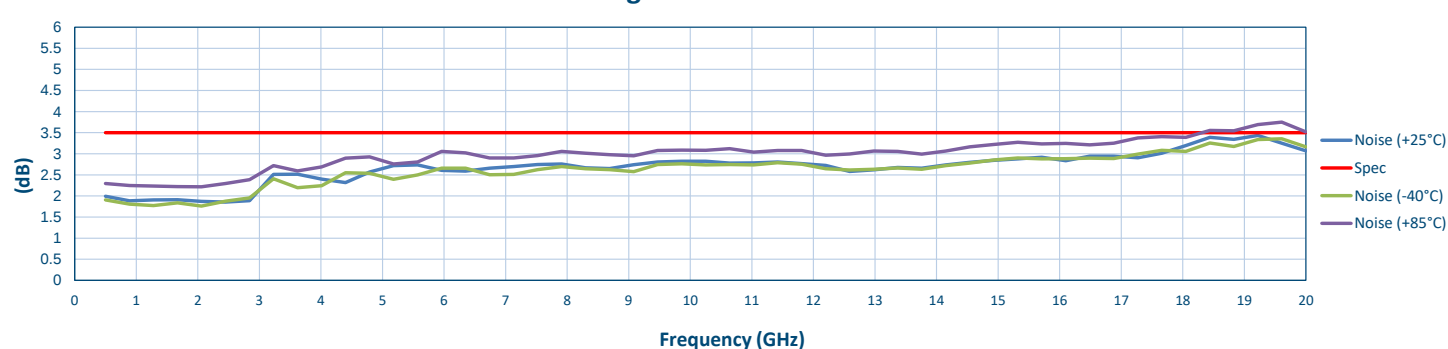
Psat Vs Temperature



Noise Figure 10MHz to 0.5 GHz

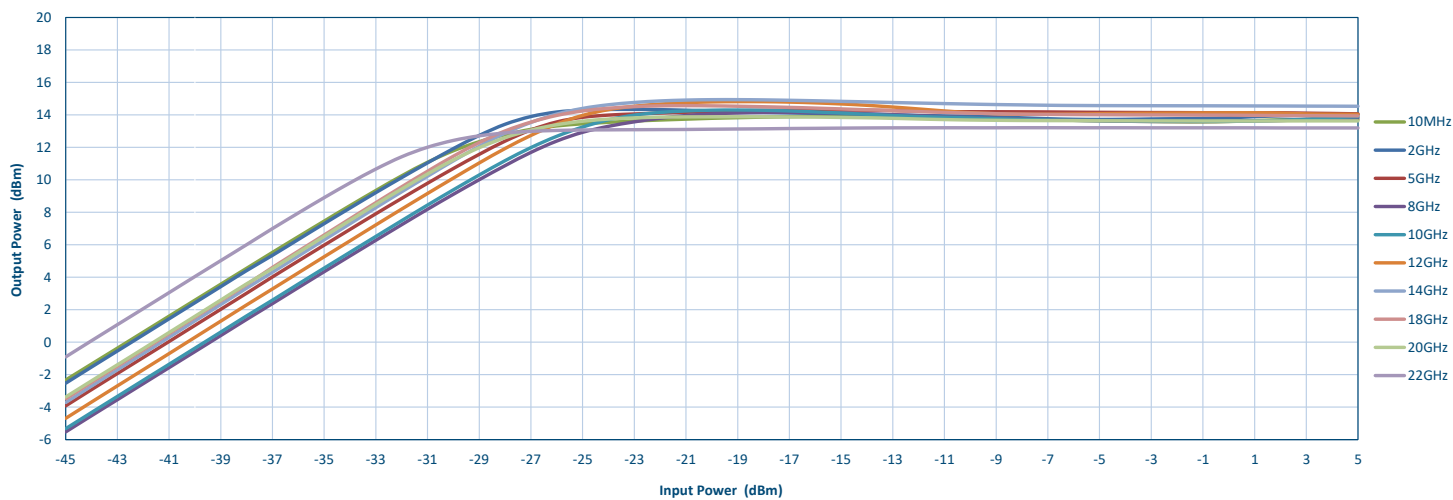


Noise Figure 0.5 to 18 GHz

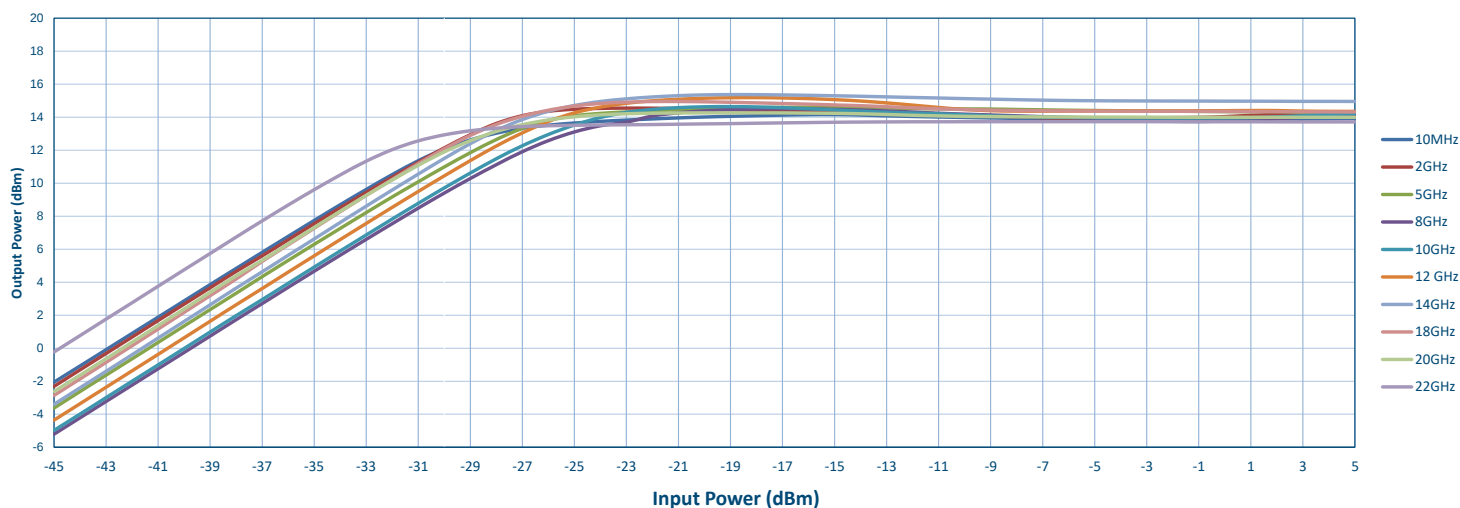


Typical Characteristics ON PLNA-44-100M18-292FF

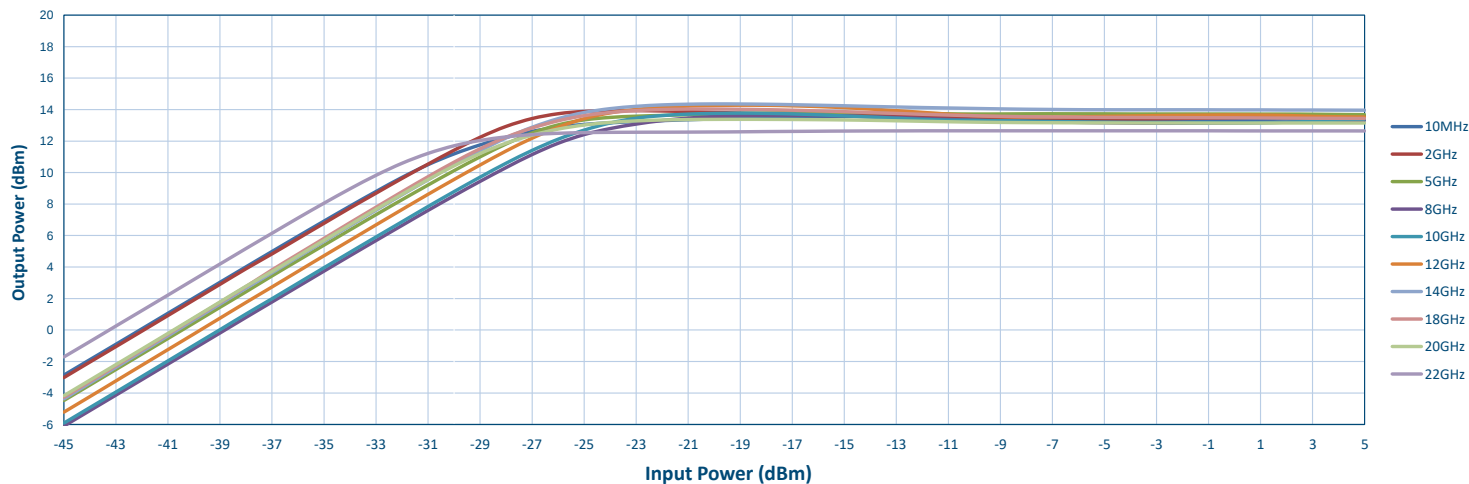
Input Power Vs Output Power (+25°C)



Input Power Vs Output Power (-40°C)



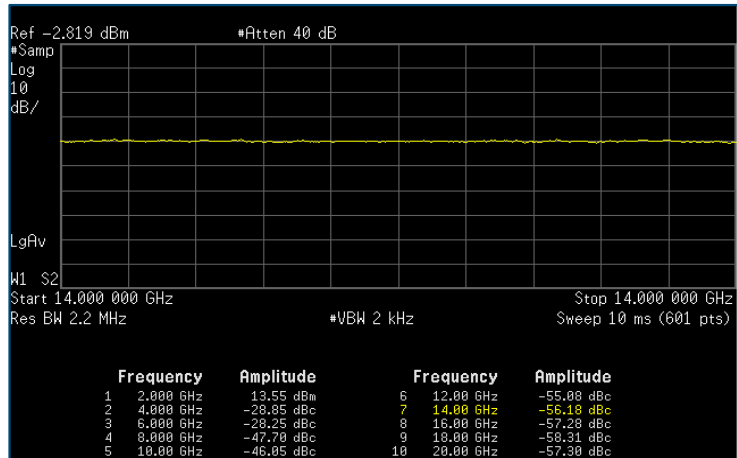
Input Power Vs Output Power



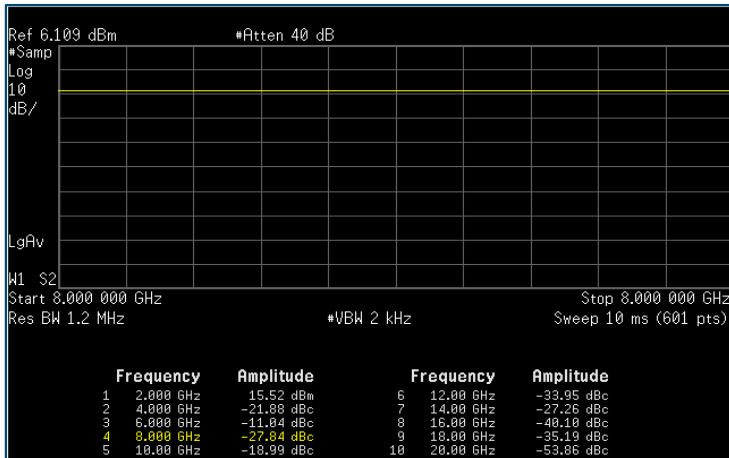
Typical Characteristics ON PLNA-44-100M18-292FF

2nd Harmonics Fundamental (2GHz)

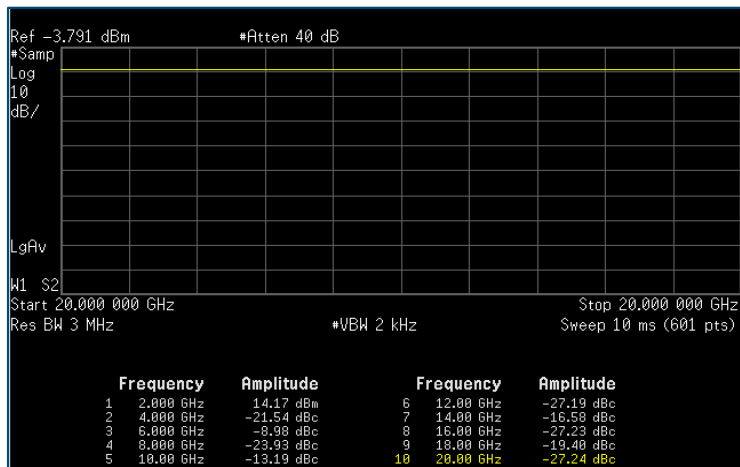
Input Power -30 dBm
Measured value (28.85 dBc)



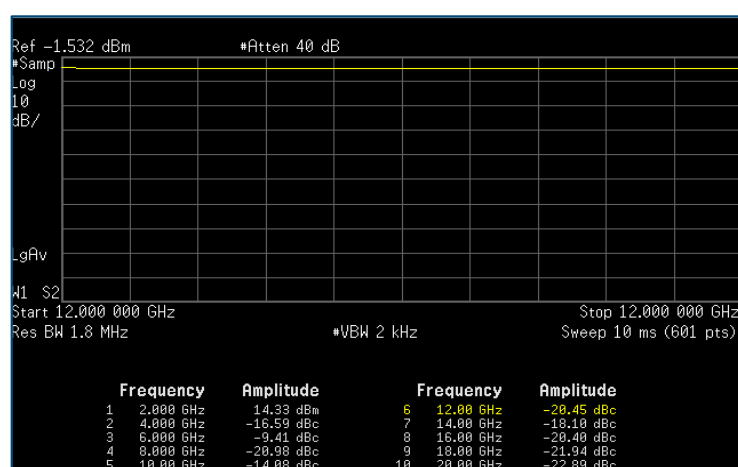
Input Power -20 dBm
Measured value (21.88 dBc)



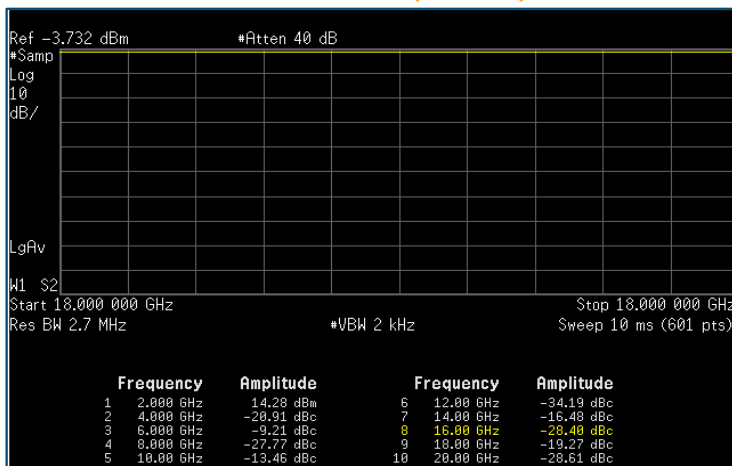
Input Power 0 dBm
Measured value (21.54 dBc)



Input Power at P1dB
Measured value (16.59 dBc)



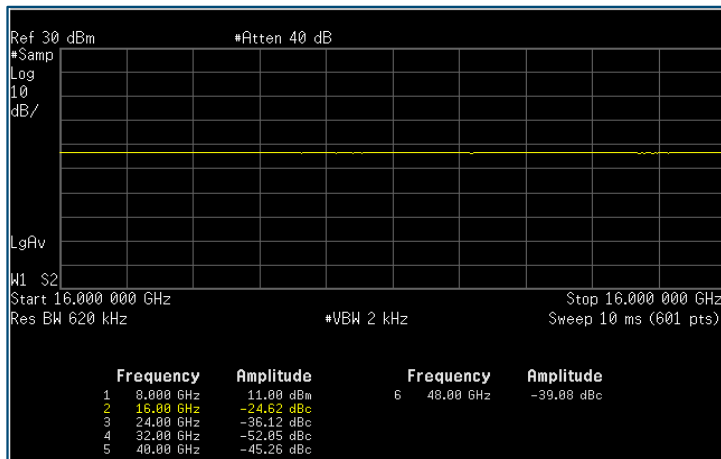
Input Power +15 dBm
Measured value (20.91 dBc)



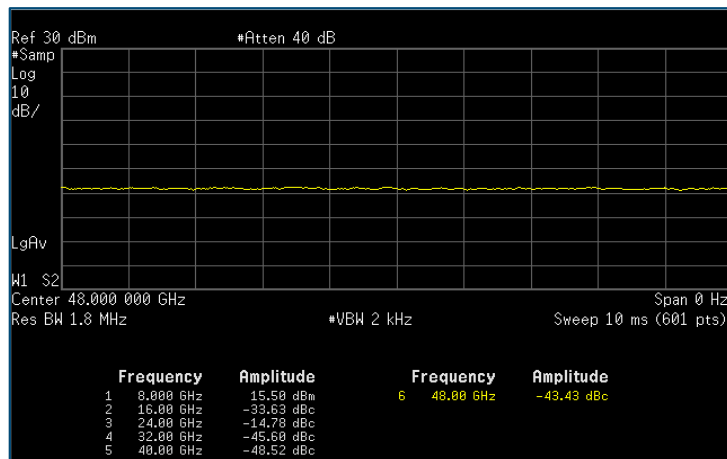
Typical Characteristics ON PLNA-44-100M18-292FF

2nd Harmonics Fundamental (8GHz)

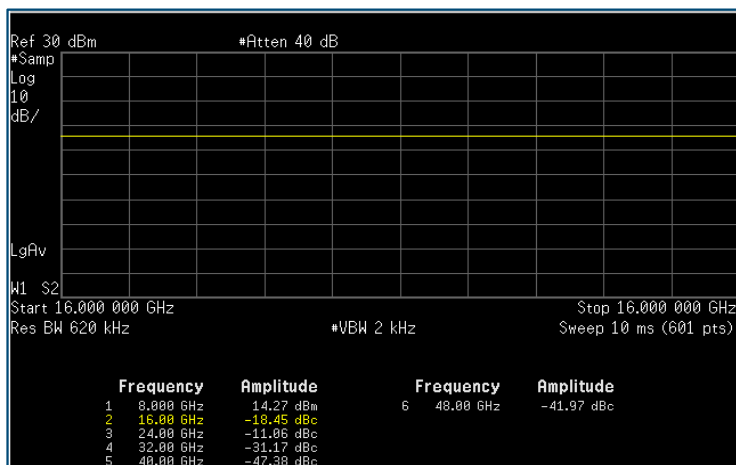
Input Power -30 dBm
Measured value (24.62 dBc)



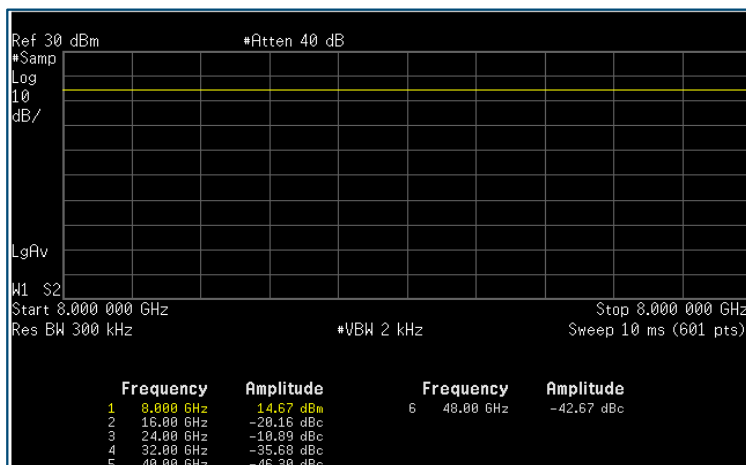
Input Power -20 dBm
Measured value (33.63 dBc)



Input Power 0 dBm
Measured value (18.45 dBc)



Input Power at P1dB
Measured value (20.16 dBc)



Input Power +15 dBm
Measured value (20.60 dBc)

