

# Typical Characteristics ON PEC3-40-30M26R5G-6R0-12-12-SFF Rev. B

PMI MODEL NUMBER PEC3-40-30M26R5G-6R0-12-12-SFF REV. B IS A 0.03 TO 26.5 GHz LOW NOISE AMPLIFIER. THIS AMPLIFIER CAN BE USED AS A 2.92mm CONNECTORIZED OR A SURFACE MOUNT COMPONENT.



**October 14, 2022**

**Designed By:**

**Engineering PMI**

**Drawings By:**

**Matthew Laulis**

**Tested and Reported By:**

**Alfredo Lopez**

# Typical Characteristics ON PEC3-40-30M26R5G-6R0-12-12-SFF Rev. B

## Product Feature

**DESCRIPTION:**

PMI MODEL NUMBER PEC3-40-30M26R5G-6R0-12-12-SFF REV. B IS A 0.03 TO 26.5 GHz LOW NOISE AMPLIFIER. THIS AMPLIFIER CAN BE USED AS A 2.92mm CONNECTORIZED OR A SURFACE MOUNT COMPONENT.

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	8/28/87	
	A2	ECN # 14-0097	7/3/94	
	B1	ECN # 22-0098	8/1/02	
	C1	ECN # 22-0127	10/1/02	

**SPECIFICATIONS:**

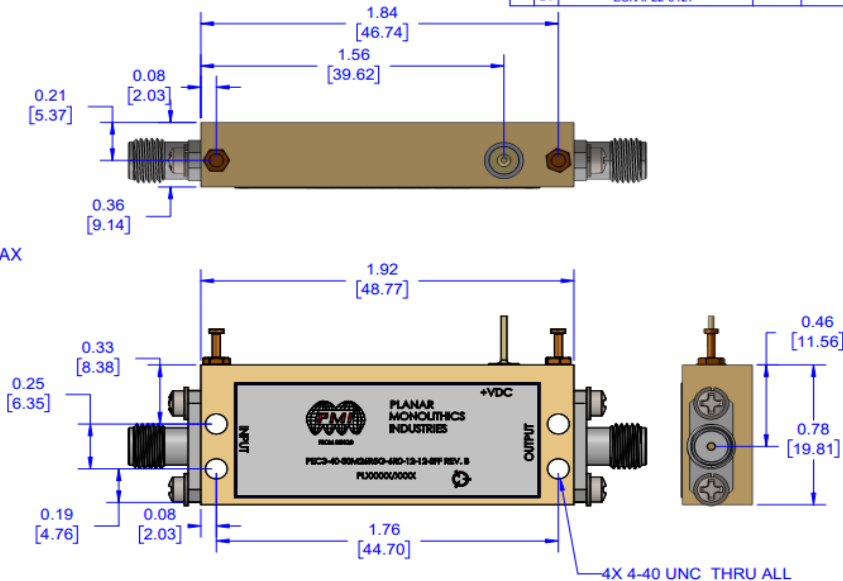
- FREQUENCY RANGE:..... 0.03 TO 26.5 GHz
- GAIN:..... +35 dB MIN
- GAIN FLATNESS:..... ±3.5 dB MAX
- NOISE FIGURE:..... 6.0 dB TYP,  
7.5 dB MAX
- OP1dB:..... +12 dBm TYP  
+11 dBm MIN
- VSWR (INPUT/OUTPUT):..... 2.5:1 MAX
- DC VOLTAGE SUPPLY:..... +12 TO +15 VDC @ 400 mA MAX
- CONNECTORS:..... 2.92mm FEMALE
- FINISH:..... GOLD PLATED

**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



**ENVIRONMENTAL RATINGS:**

- TEMPERATURE:..... -54°C TO +95°C (OPERATING)  
-65°C TO +125°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: SPECIFICATIONS WILL VARY OVER TEMPERATURE  
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

PMI CONFIDENTIAL AND PROPRIETARY

<b>PLANAR MONOLITHICS INDUSTRIES, INC.</b> <small>2314 GROVE ROAD FREDERICK, MARYLAND 21704 USA TEL: (301)662-5019 FAX: (301)662-1731 WEB: www.pmi-rf.com EMAIL: sales@pmi-rf.com ISO 9001 CERTIFIED</small>																			
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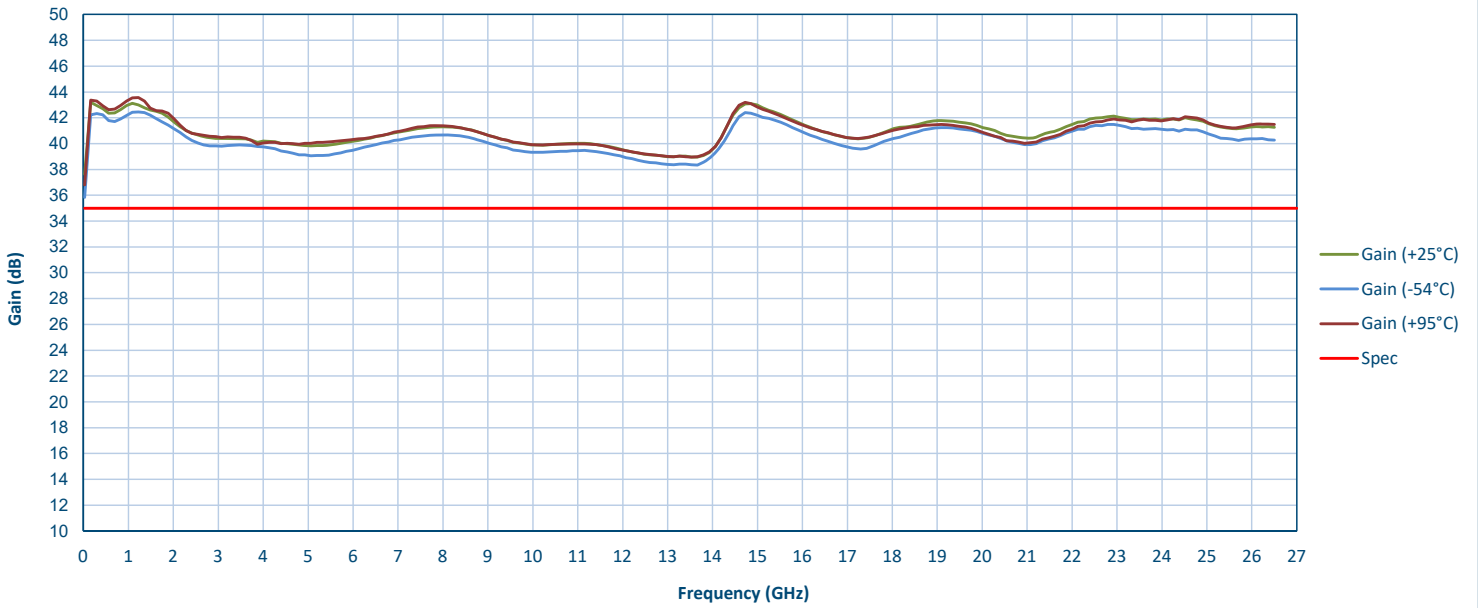
**PEC3-40-30M26R5G-6R0-12-12-SFF Rev. B**

**Technical Specifications**

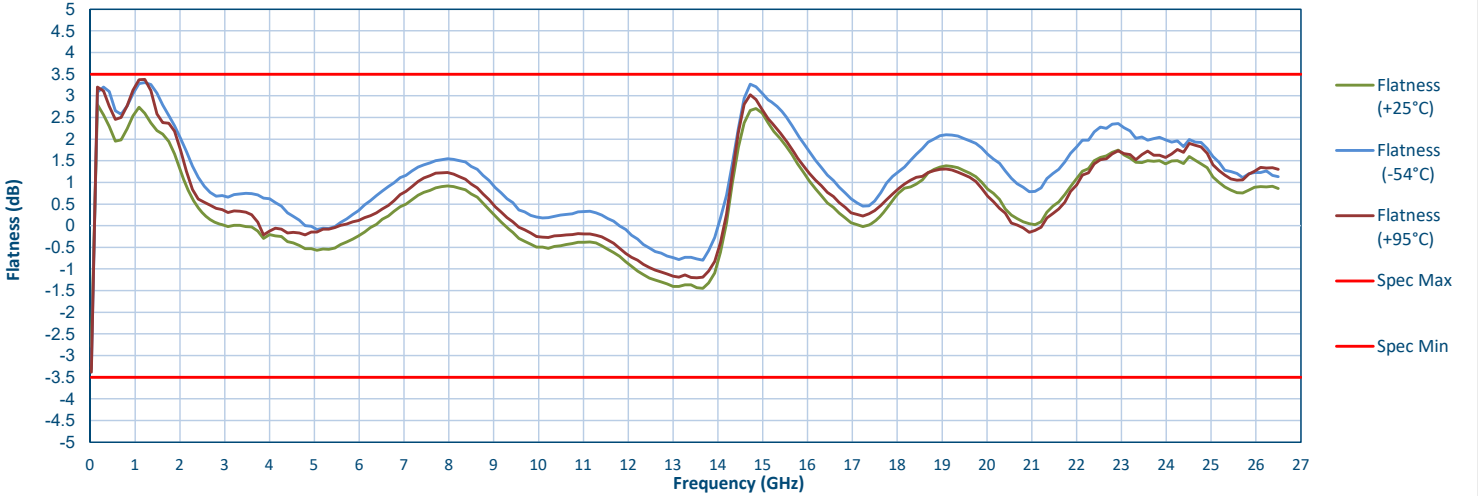
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	Test Results			QA QC
			+25°C	-54°C	+95°C	
1	Frequency Range:	0.03 to 26.5 GHz	<b>0.03 to 26.5 GHz</b>	<b>0.03 to 26.5 GHz</b>	<b>0.03 to 26.5 GHz</b>	
2	Gain:	+35 dB Min	<b>+37.6 dB See Graph</b>	<b>+35.83 dB See Graph</b>	<b>+36.79 dB See Graph</b>	
3	Gain Flatness:	±3.5 dB Max	<b>2.79 dB See Graph</b>	<b>3.31 dB See Graph</b>	<b>3.38 dB See Graph</b>	
4	VSWR:	2.5:1 Max.	<b>2.25 :1 See Graph</b>	<b>2.29 :1 See Graph</b>	<b>2.17 :1 See Graph</b>	
5	Noise Figure:	6.0 dB Typ. 7.5 dB Max.	<b>6.33 dB See Graph</b>	<b>5.02 dB See Graph</b>	<b>6.3 dB See Graph</b>	
6	Pout @ 1dB Compression	+12 dBm Typ. +11 dBm Min.	<b>+12.38 dBm See Graph</b>	<b>+12.25 dBm See Graph</b>	<b>+12.1 dBm See Graph</b>	
7	DC Supply:	+12 to + 15 VDC @400mA Max.	<b>+12 to + 15 VDC @221mA</b>	<b>+12 to + 15 VDC @189mA</b>	<b>+12 to + 15 VDC @256mA</b>	

# Typical Characteristics ON PEC3-40-30M26R5G-6R0-12-12-SFF Rev. B

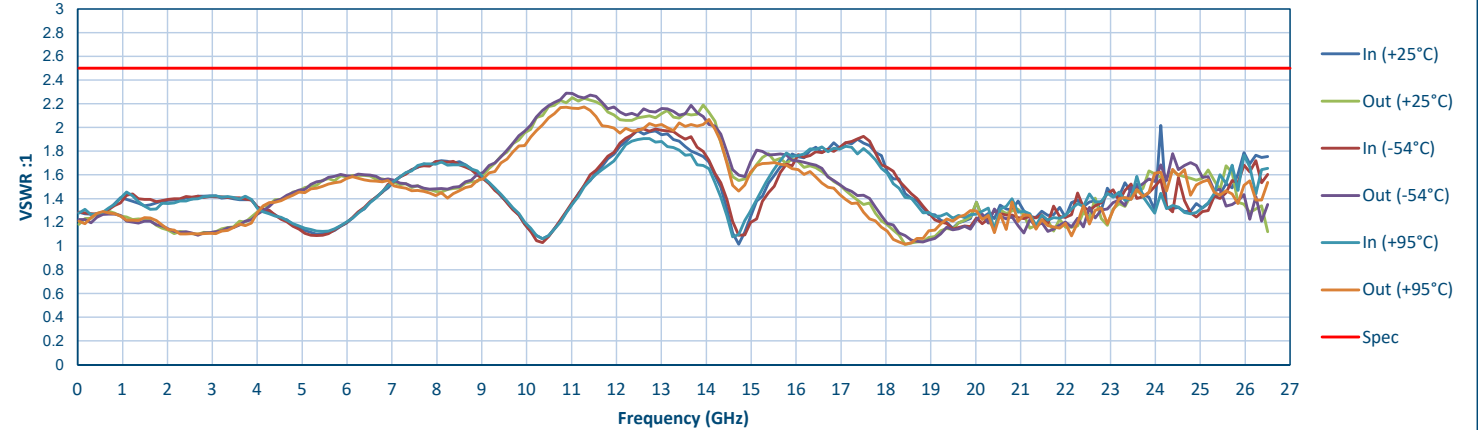
### Gain Vs Temperature



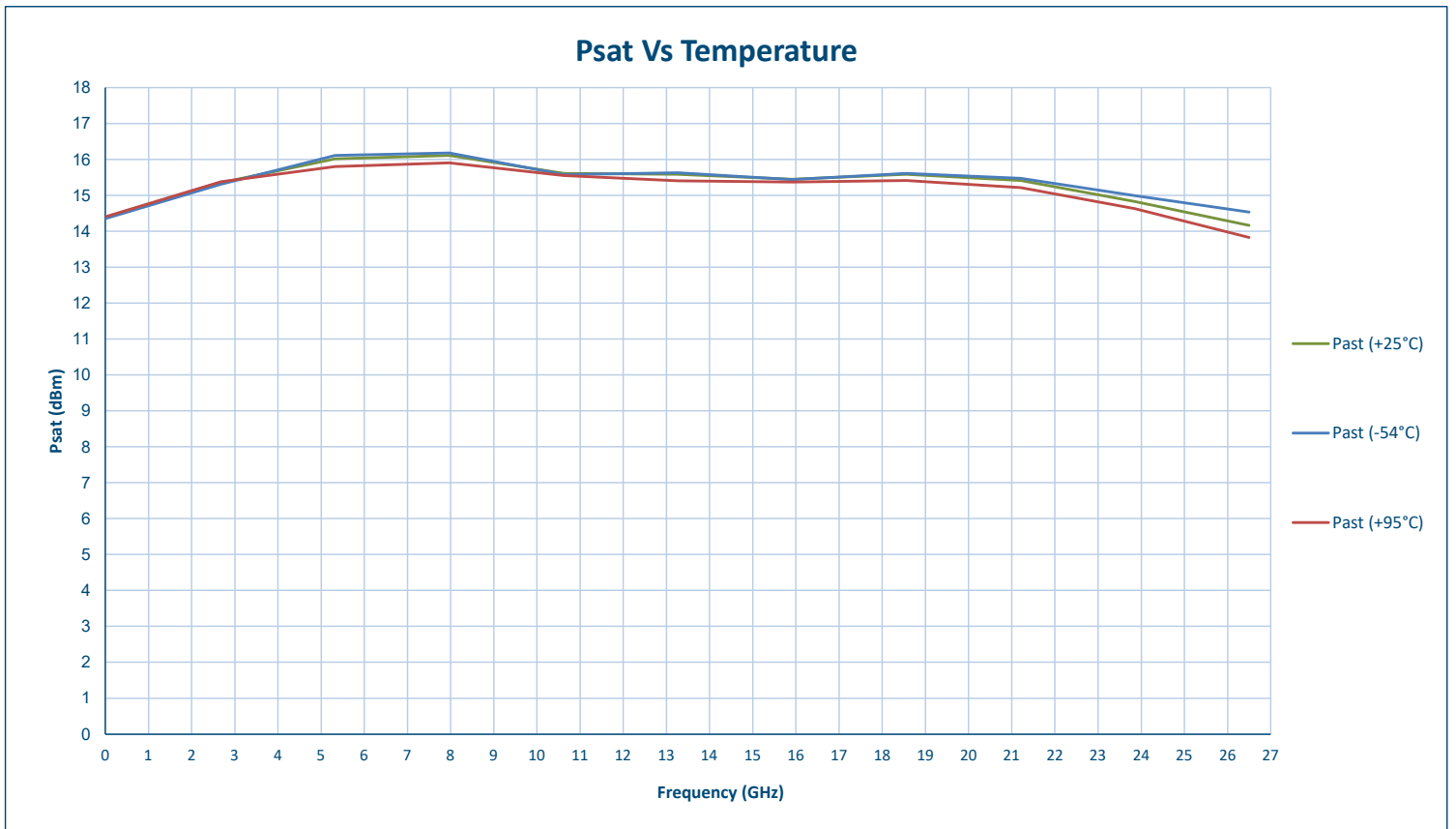
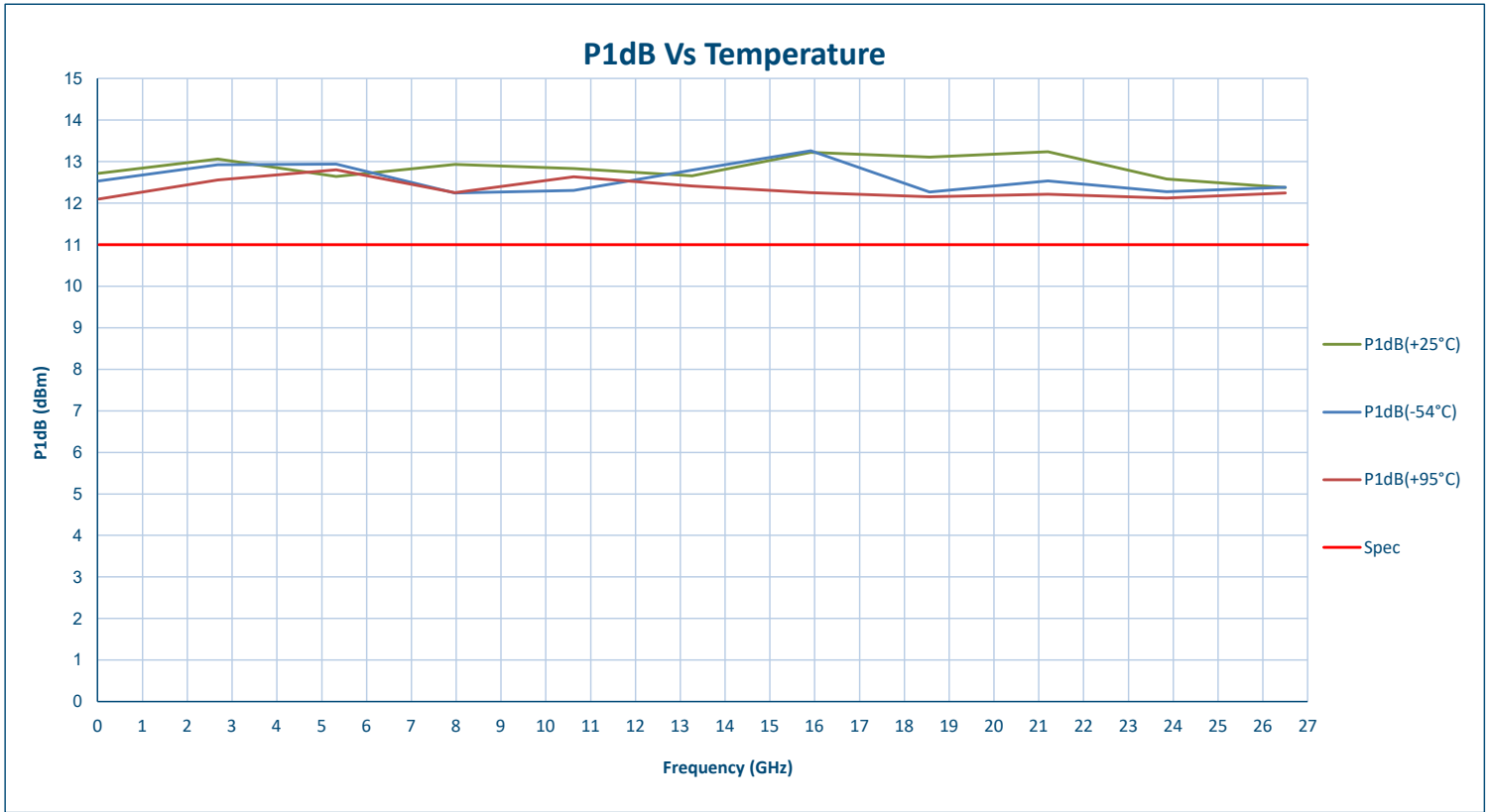
### Gain Flatness Vs Temperature



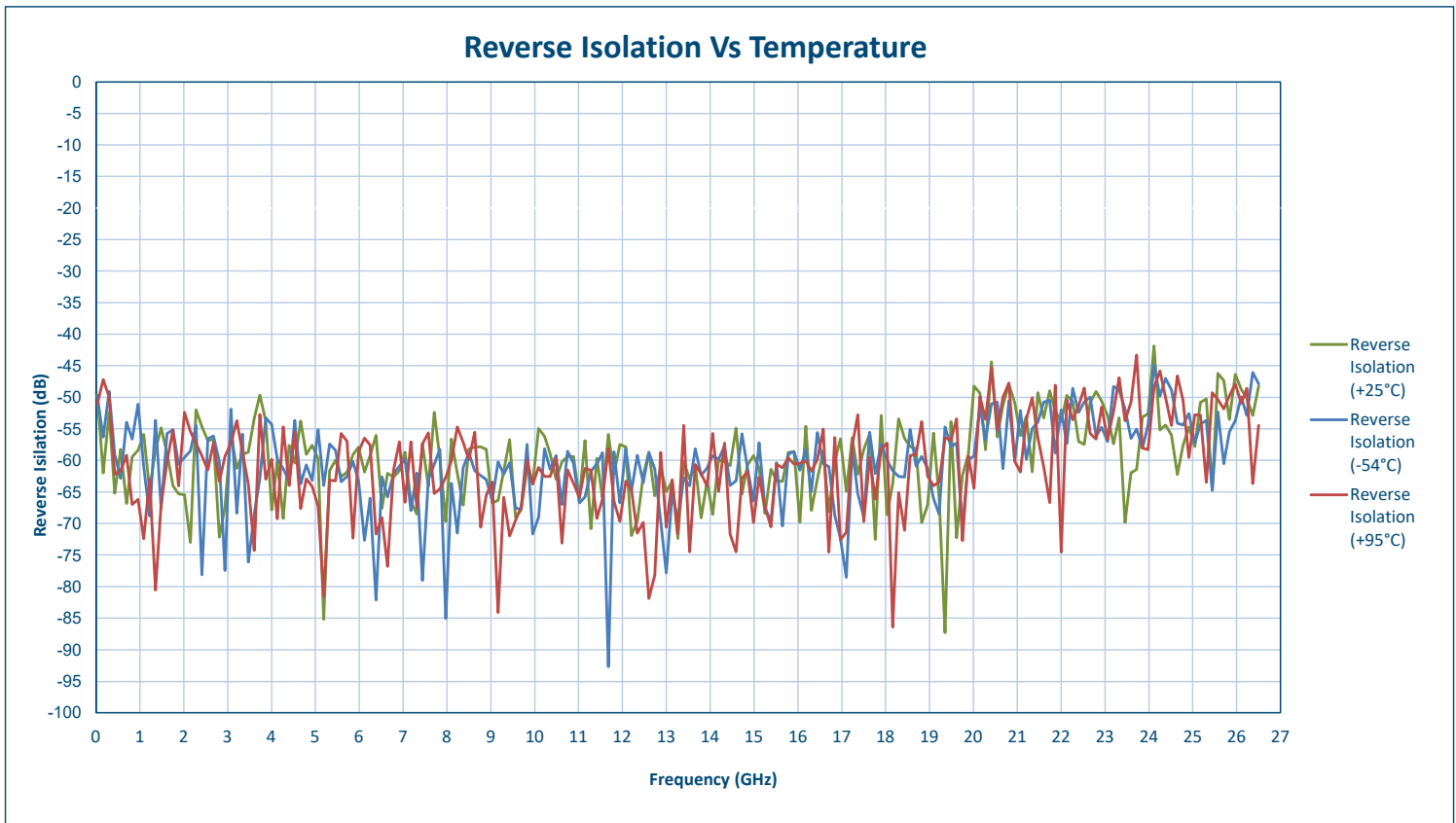
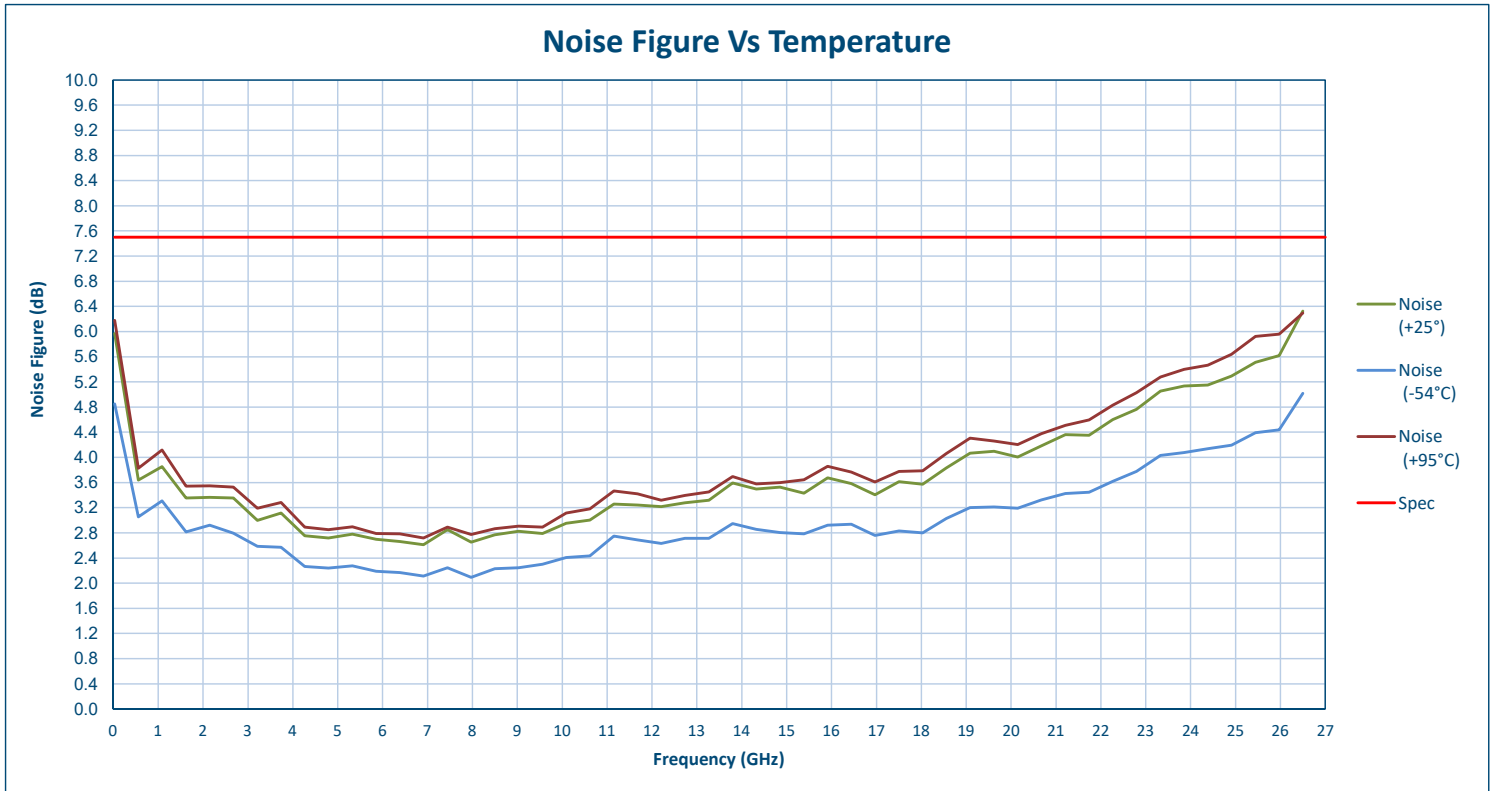
### VSWR Vs Temperature



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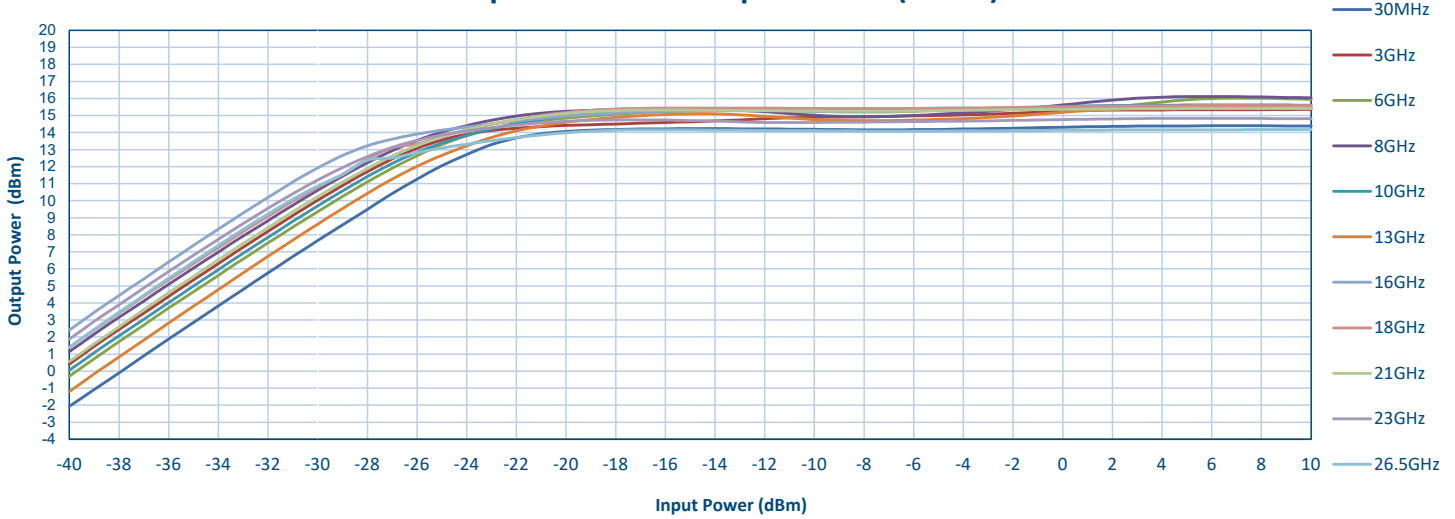


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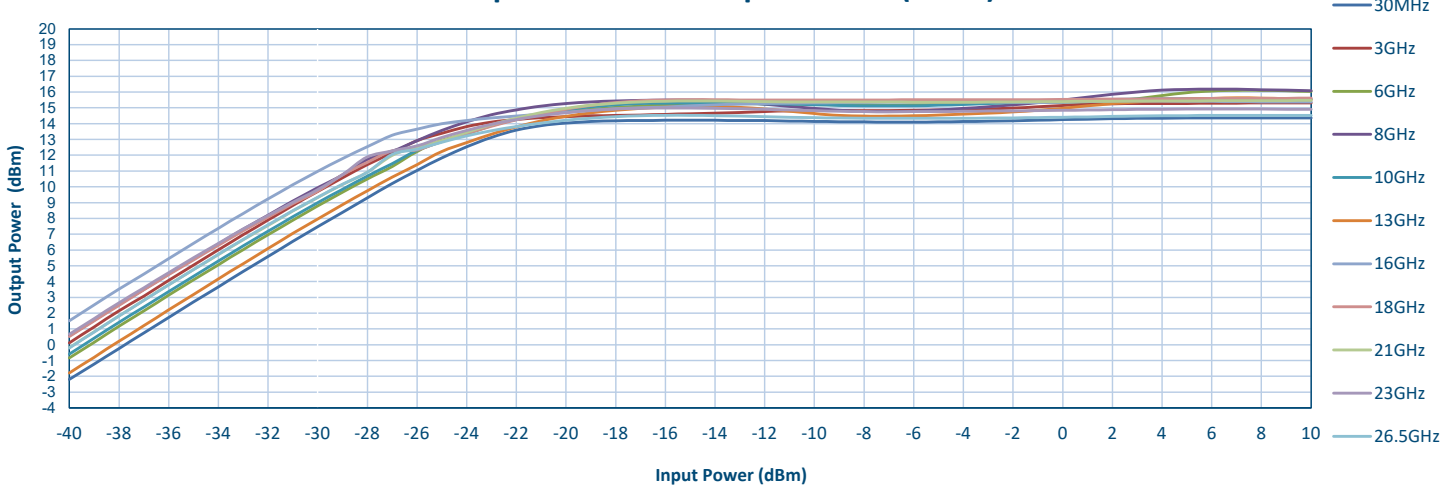


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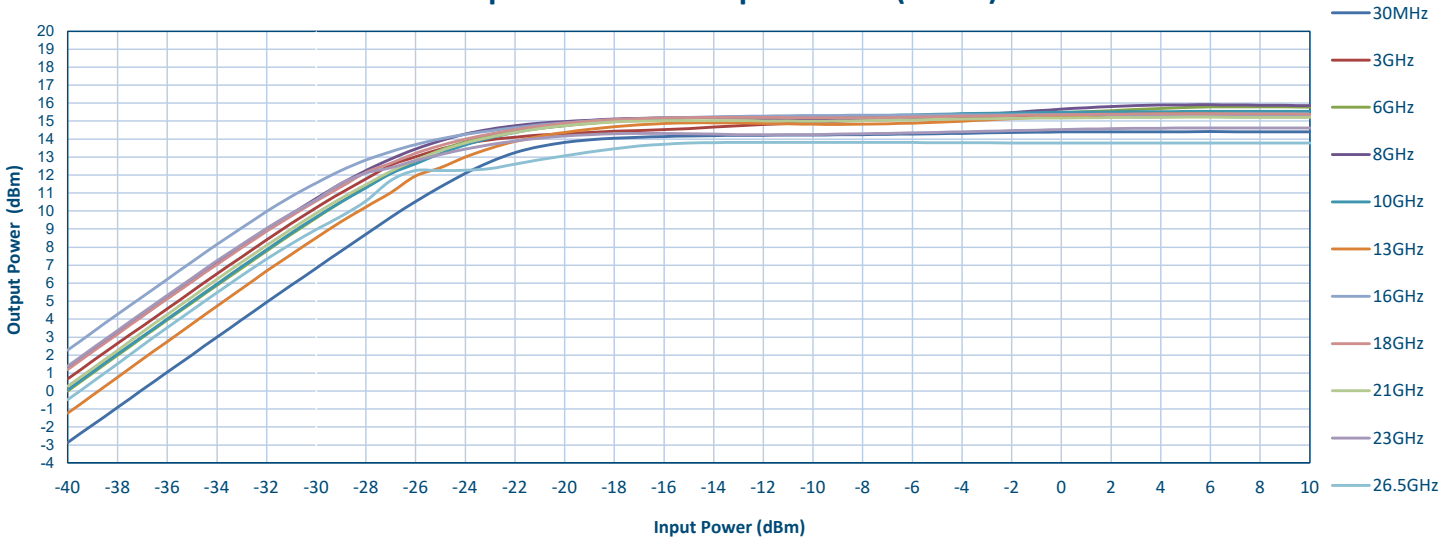
### Input Power Vs Output Power (+25°C)



### Input Power Vs Output Power (-54°C)



### Input Power Vs Output Power (+95°C)

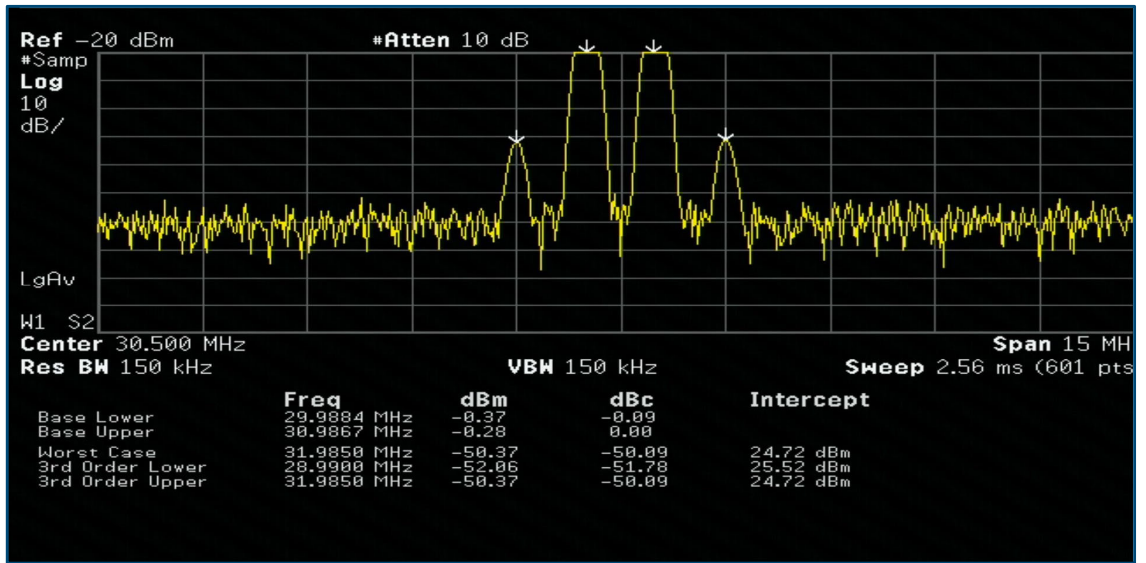


# Typical Characteristics ON PEC3-40-30M26R5G-6R0-12-12-SFF Rev. B

**OIP3 @ 30 MHz**  
Tones  
F1 = 30 MHz  
F2 = 31 MHz  
Pout = 0 dBm

$OIP3 = Pout + dBc/2$

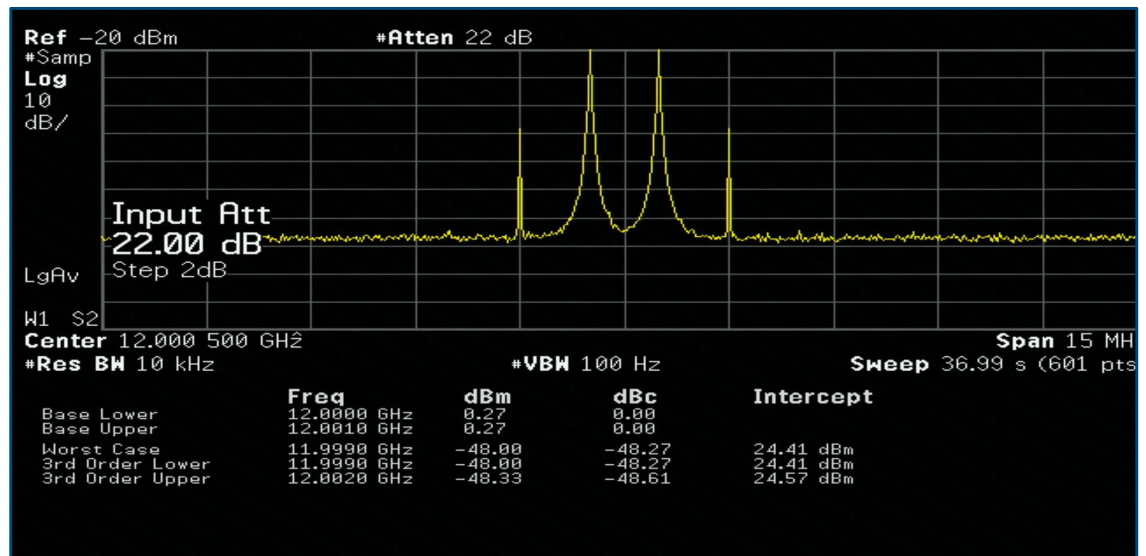
**Measured value = 25.19 dBm**



**OIP3 @ 12 GHz**  
Tones  
F1 = 12,000 MHz  
F2 = 12,001 MHz  
Pout = 0 dBm

$OIP3 = Pout + dBc/2$

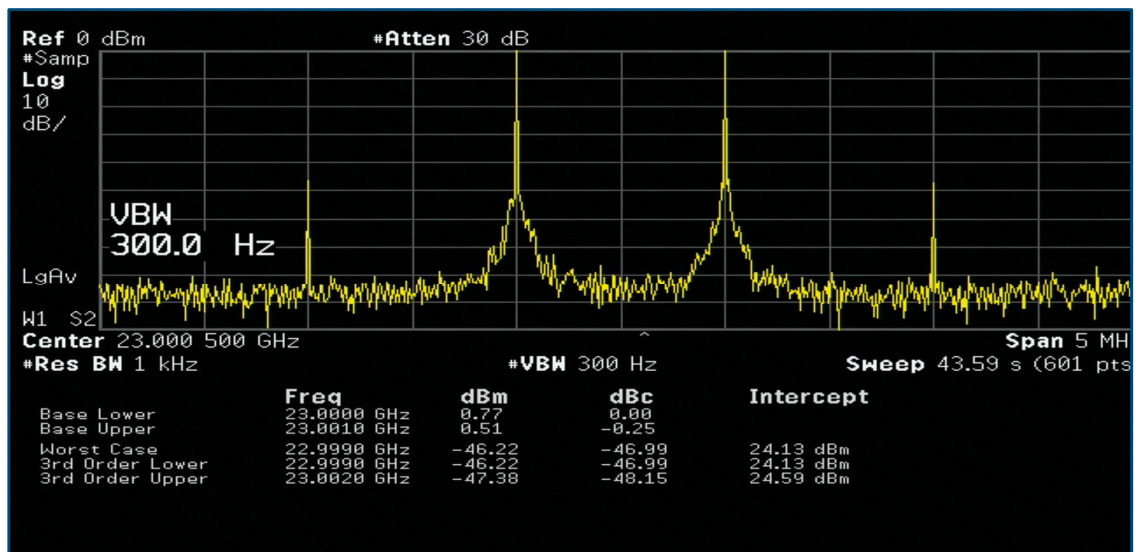
**Measured value = 24.13 dBm**



**OIP3 @ 23 GHz**  
Tones  
F1 = 23,000 MHz  
F2 = 23,001 MHz  
Pout = 0 dBm

$OIP3 = Pout + dBc/2$

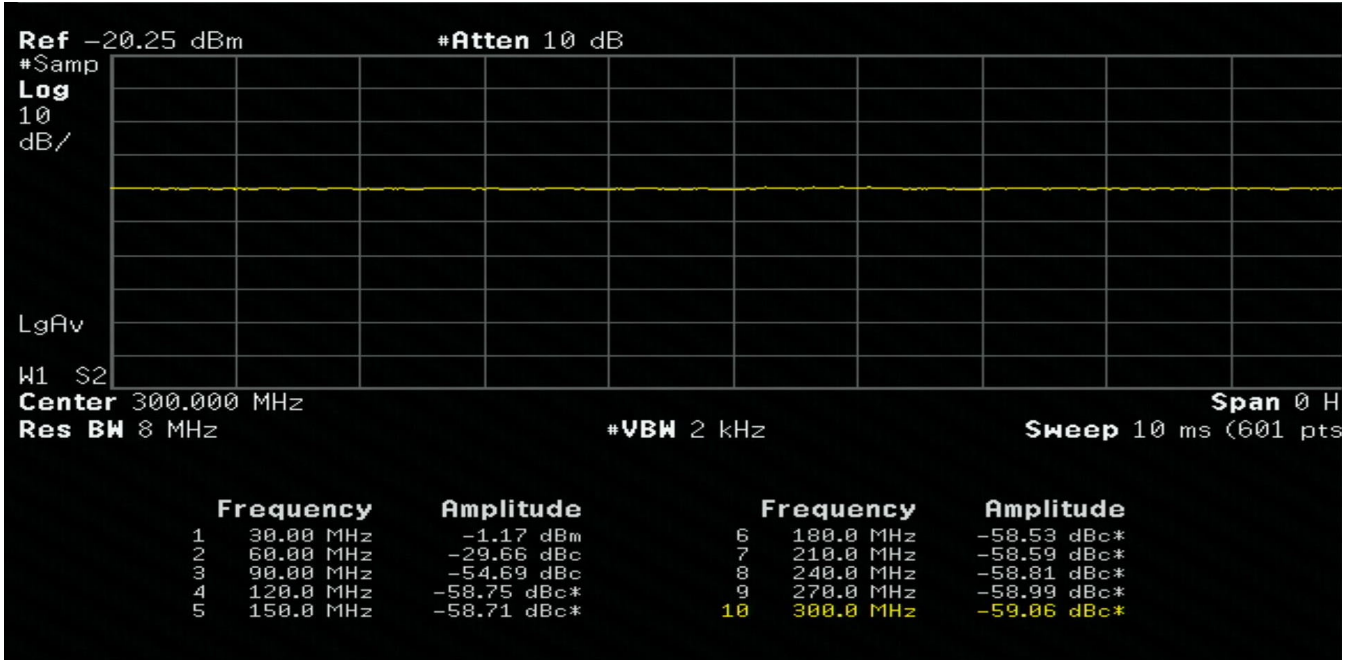
**Measured value = 23.49 dBm**



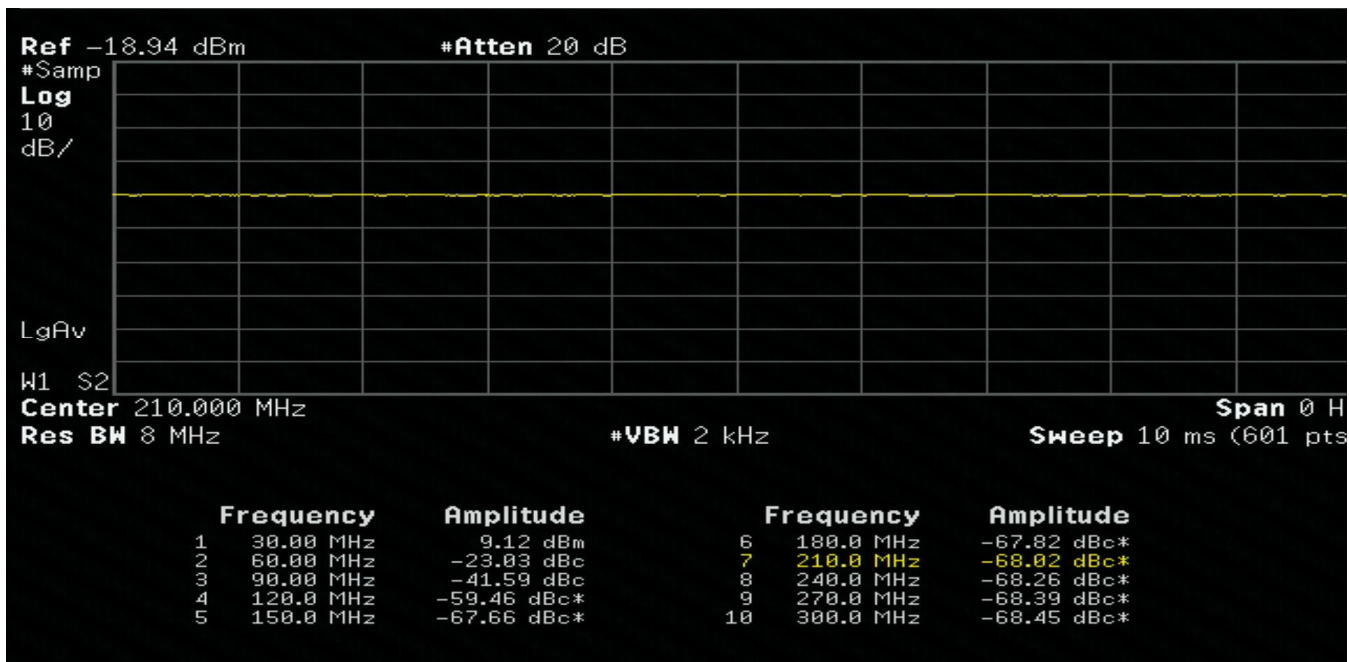


# Typical Characteristics ON PEC3-40-30M26R5G-6R0-12-12-SFF Rev. B

**Second Harmonic @ Pout = 0 dBm**  
**Fundamental = 30 MHz**  
*Measured value = 29.66 dBc*

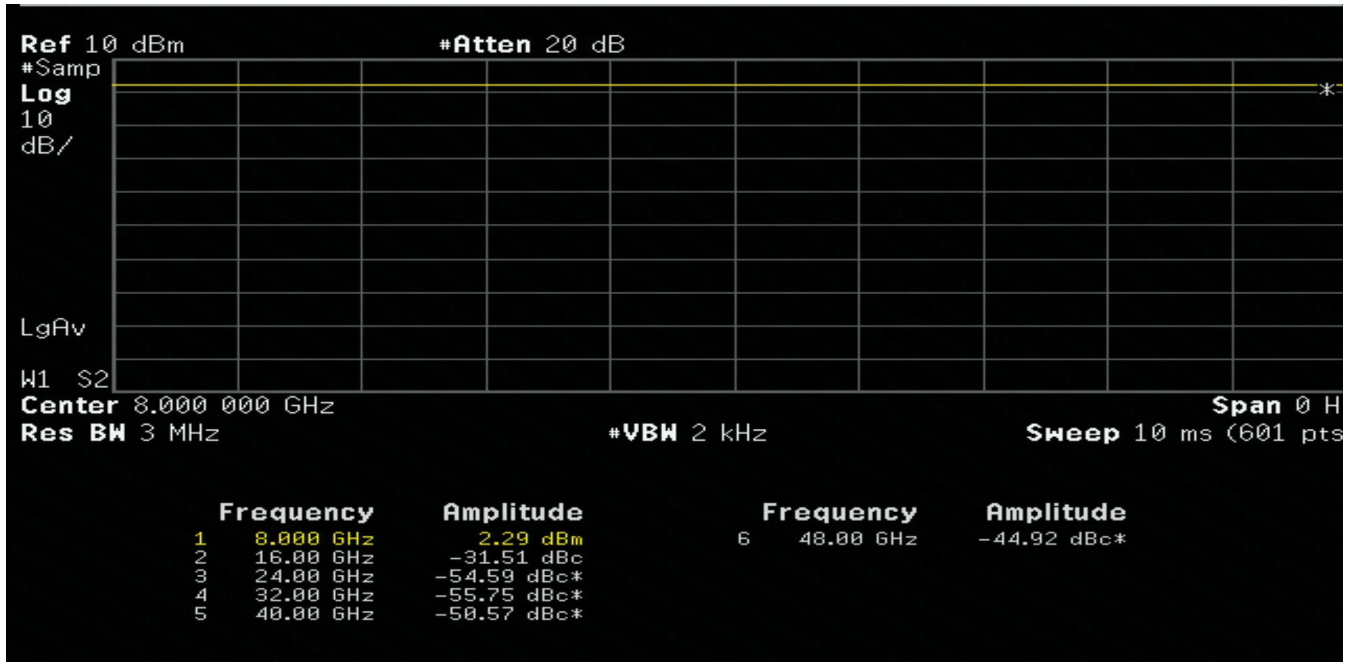


**Second Harmonic @ Pout = +10 dBm**  
**Fundamental = 30 MHz**  
*Measured value = 23.03 dBc*

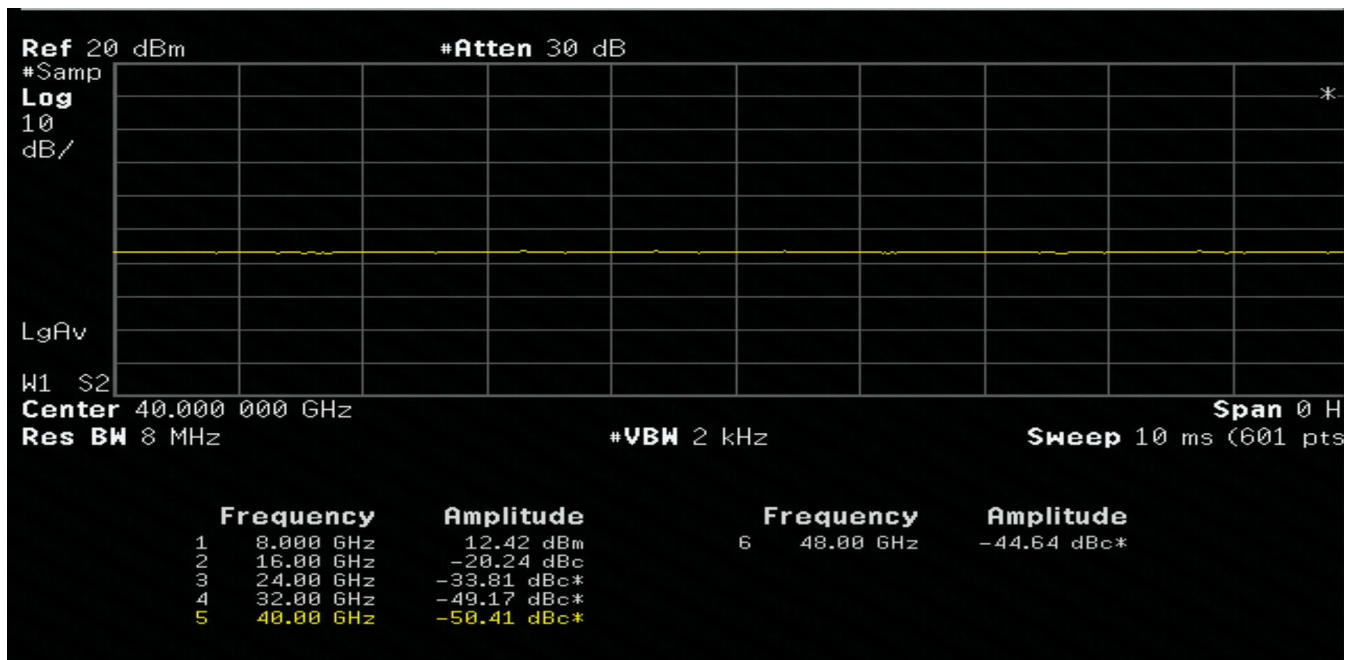


# Typical Characteristics ON PEC3-40-30M26R5G-6R0-12-12-SFF Rev. B

**Second Harmonic @ Pout = 0 dBm**  
**Fundamental = 8 GHz**  
*Measured value = 31.51 dBc*

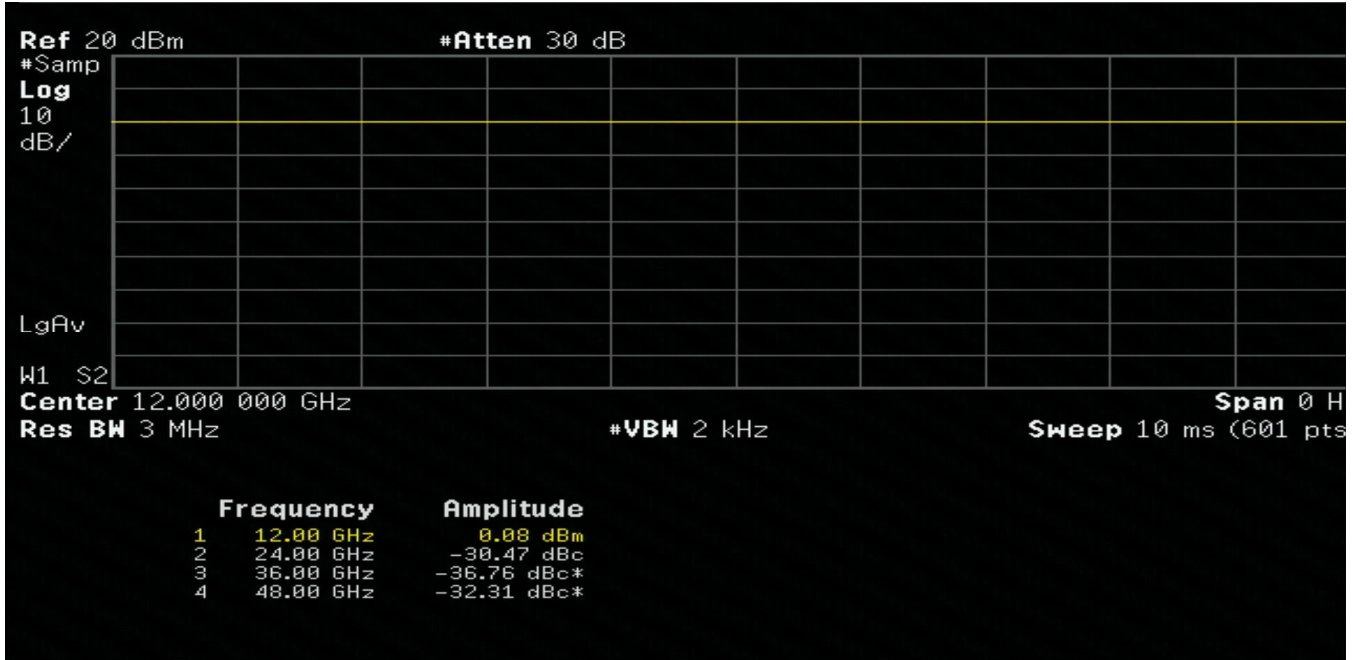


**Second Harmonic @ Pout = +12 dBm**  
**Fundamental = 8 GHz**  
*Measured value = 20.24 dBc*



# Typical Characteristics ON PEC3-40-30M26R5G-6R0-12-12-SFF Rev. B

**Second Harmonic @ Pout = 0 dBm**  
**Fundamental = 12 GHz**  
*Measured value = 30.47 dBc*



**Second Harmonic @ Pout = +10 dBm**  
**Fundamental = 12 GHz**  
*Measured value = 19.48 dBc*

