



**TYPICAL CHARACTERISTICS REPORT
FOR
PEC-42-500M40G-20-12-292FF**

PMI Amplifier Model PEC-42-500M40G-20-12-292FF is a 500 MHz to 40 GHz Ultra-Wideband Low Noise Amplifier that provides typically 42 dB of gain with a noise figure of 5.5 dB at 20 GHz. The OP1dB is typically +19 dBm (1.0 to 18.0 GHz) and +17 dBm (18.0 to 40.0 GHz). The maximum input power rating is +17 dBm CW and the operating DC supply is 450 mA at +12 to +15 VDC. This unit is supplied in a package measuring 1.37" x 1.0" x 0.6" with 2.92 mm female connectors.



March 11, 2016

Designed By: PMI Engineering

Tested & Reported By: PMI Engineering

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DESCRIPTION

PMI MODEL: PEC-42-500M40G-20-12-292FF IS A 500 MHz TO 40 GHz LOW NOISE AMPLIFIER THAT HAS A TYPICAL GAIN OF 42 dB WHILE MAINTAINING A ± 2.5 dB FLATNESS. THIS SMALL 1.37" x 1.00" x 0.60" PACKAGE IS OUTFITTED WITH 2.92 mm FEMALE CONNECTORS.

SPECIFICATIONS

- FREQUENCY RANGE: _____ 500 MHz TO 40.0 GHz
- GAIN: _____ 42 dB TYP
- GAIN FLATNESS: _____ ± 2.5 dB TYP
- NOISE FIGURE: _____ 5.5 dB TYP (UP TO 26.5 GHz)
- OP1dB: _____ +19 dBm TYP (1.0 TO 18.0 GHz)
+17 dBm TYP (18.0 TO 40.0 GHz)
- PSAT: _____ +23 dBm TYP (1.0 TO 18.0 GHz)
+20 dBm TYP (18.0 TO 40.0 GHz)
- INPUT POWER HANDLING: _____ +17 dBm CW MAX
- VSWR (IN/OUT): _____ 2.0:1 / 2.5:1 MAX
- DC SUPPLY: _____ +12 TO +15 VDC @ 450 mA NOM
- SIZE: _____ 1.37" (L) x 1.00" (W) x 0.60" (H)
- CONNECTORS: _____ 2.92 mm FEMALE

ENVIRONMENTAL RATINGS

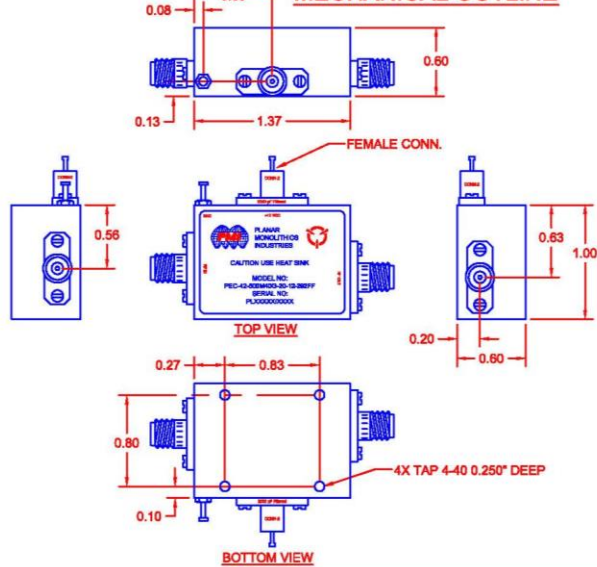
- TEMPERATURE: _____ -55 °C TO +85 °C (OPERATING)
-85 °C TO +117 °C (STORAGE)
- HUMIDITY: _____ MIL-STD-202, METHOD 103B COND. B
- SHOCK: _____ MIL-STD-202, METHOD 213B COND. B
- VIBRATION: _____ MIL-STD-202, METHOD 204D COND. B
- ALTITUDE: _____ MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE: _____ MIL-STD-202, METHOD 107D COND. A

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

PMI CONFIDENTIAL AND PROPRIETARY

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	1/11/2014	
	A1	ECN # 15-0055	6/18/2015	
	A2	ECN # 16-0047	3/9/2016	

MECHANICAL OUTLINE



PLANAR MONOLITHICS INDUSTRIES, INC.
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ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN: <i>M. Berry</i>		02/02/16	PRODUCT FEATURE PEC-42-500M40G-20-12-292FF		
CHECKED:			SIZE: A	FORM NO. 05XQ0	DWG NO. 27023501
ISSUED:			SCALE: N:S		REV. A2
					SHEET 1 OF 1

ALL DIMENSIONS
ARE IN INCHES (mm)
TOLERANCES:
X.00 ±0.050
X.00X ±0.010



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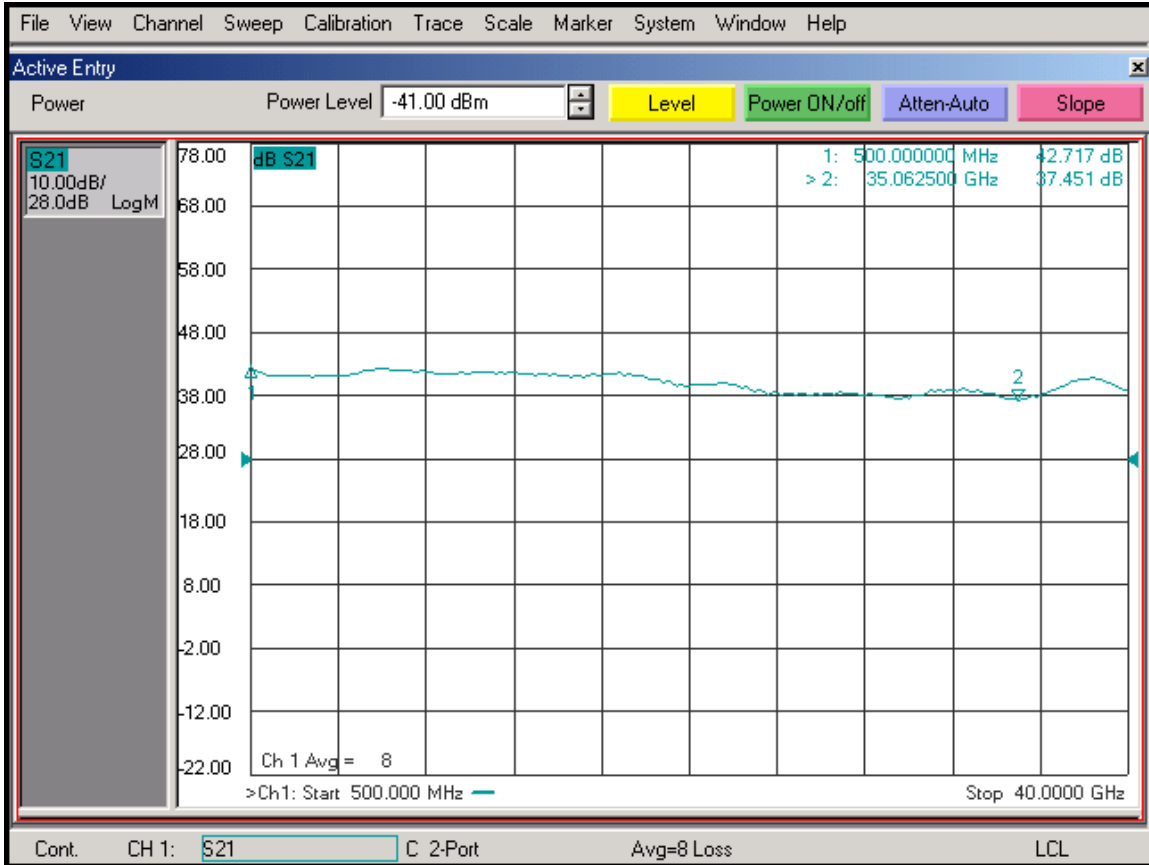
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range	500 MHz – 40 GHz	500 MHz – 40 GHz (See Plot)	
2	Gain	42 dB Typ	40.08 dB (See Plot)	
3	Gain Flatness	±2.5 dB Typ	±2.633 dB (See Plot)	
4	*Noise Figure	5.5 dB Typ	3.85 dB (See Plot)	
5	Pout @ 1dB Compression	+19 dBm Typ 1-18 GHz +17 dBm Typ 18-40 GHz	+19.66 dBm 1-18 GHz 16.04 dBm 18-40 GHz	
6	Psat	+23 dBm Typ 1-18 GHz +20 dBm Typ 18-40 GHz	+23.06 dBm 1-18 GHz 20.45 dBm 18-40 GHz	
7	VSWR In	2.0:1 Max	1.85:1 (See Plot)	
8	VSWR Out	2.5:1 Max	2.32:1 (See Plot)	
9	Input Power Handling	+17 dBm CW Max	Pass	
10	DC Supply	+12 to +15 VDC @ 450 mA Typ	+12 to +15 VDC @ 450 mA	

*Up To 26.5 GHz



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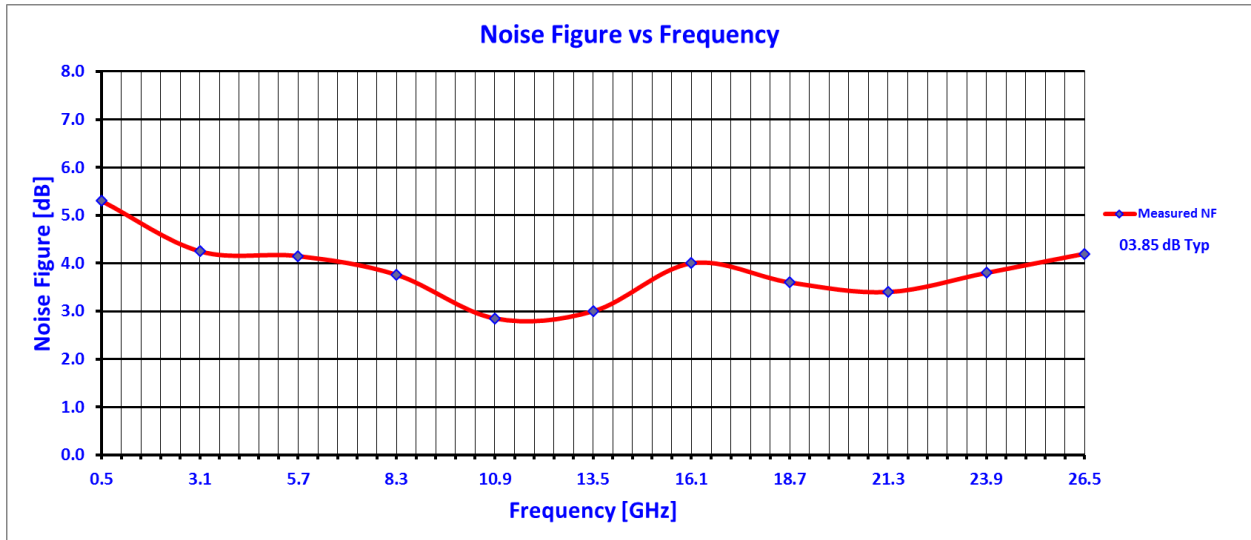
VNA Gain Plot



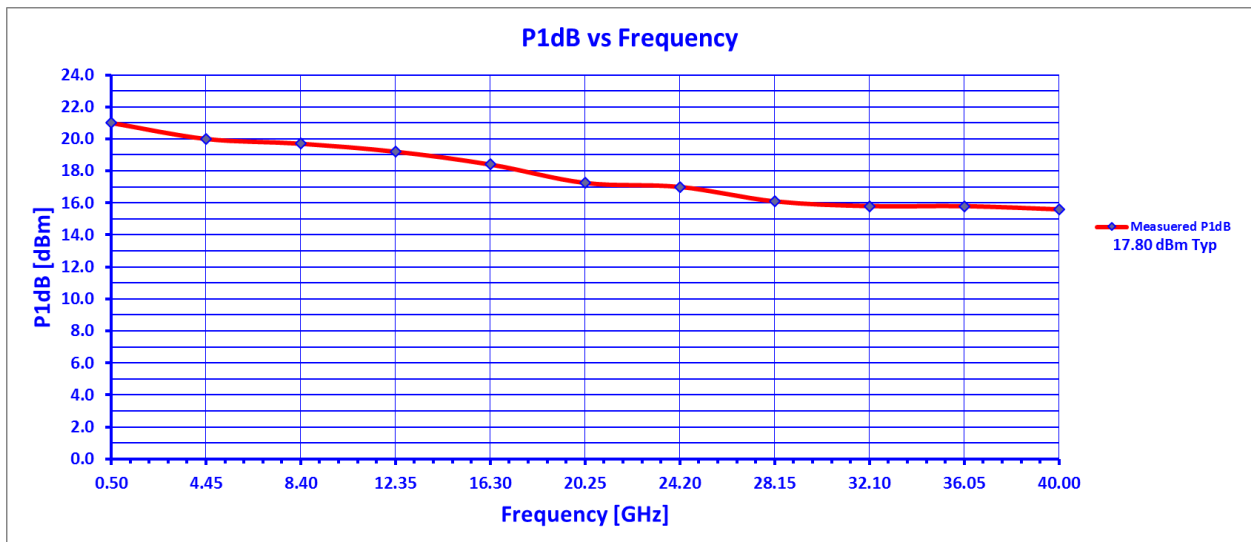


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Noise Figure Plot



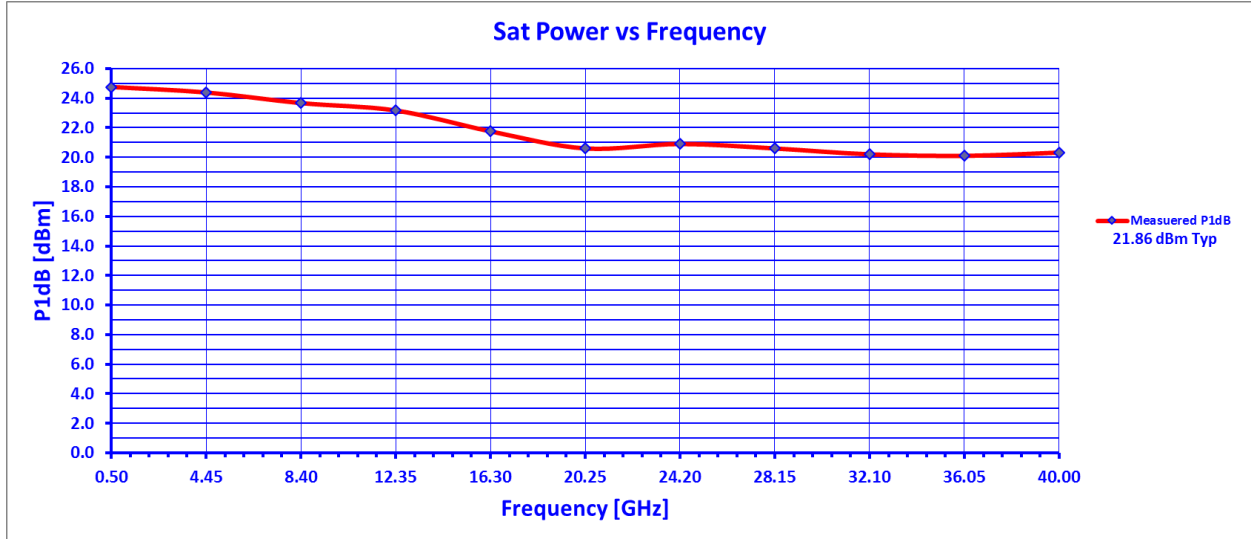
OP1dB Plot





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Psat Plot



VNA VSWR Plot

