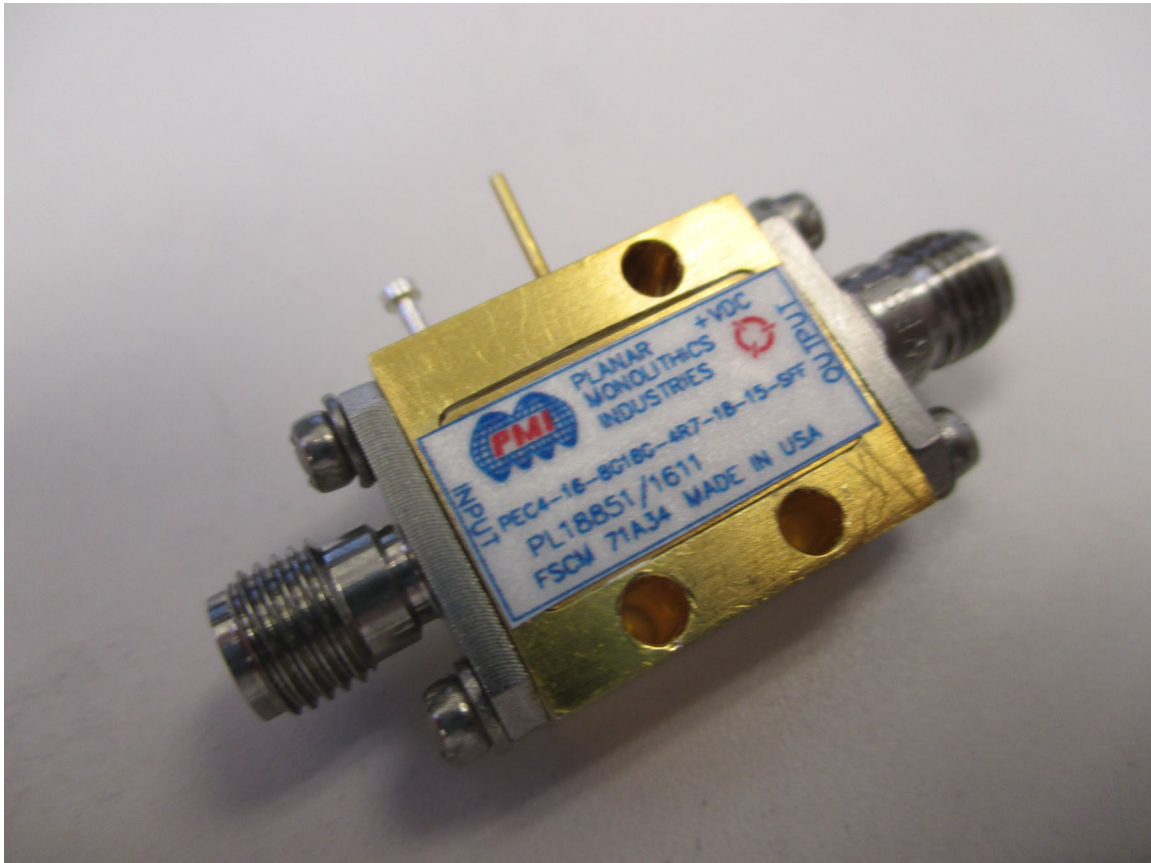




**TYPICAL CHARACTERISTIC REPORT  
ON  
PEC4-16-8G18G-4R7-18-15-SFF**

**PMI MODEL PEC4-16-8G18G-4R7-18-15-SFF IS AN 8.0 TO 18.0 GHz COMPACT AMPLIFIER WITH AN INPUT PROTECTION LIMITER. THIS AMPLIFIER PROVIDES 15 dB OF TYPICAL GAIN WITH A TYPICAL OP1dB OF +18.0 dBm.**



February 23, 2017

Designed by: John Merriner  
Tested & Reported by: Harold Holvick



# TYPICAL CHARACTERISTIC REPORT ON PEC4-16-8G18G-4R7-18-15-SFF

**Description:**

PMI Model Number: PEC4-16-8G18G-4R7-18-15-SFF is a 8.0 to 18.0 GHz compact amplifier with input protection limiter. This amplifier is supplied in our standard PEC4 housing. This model provides the following performance. Data is available upon request.

**Specifications:**

Frequency Range: 8.0 to 18.0 GHz  
 Gain: +13 dB Min., 16 dB Max.  
 Gain Flatness: ± 1.50 dB Max  
 Noise Figure: 4.7 dB Max.  
 OP1dB: +18 dBm Typ.  
 VSWR Input: 1.67:1 Max  
 VSWR Output: 2.25:1 Max  
 DC Voltage Supply: +12.5 to +28VDC  
 DC Current Draw: 250 mA Typ.  
 Connectors In/Out: SMA Female  
 Maximum Input: +30 dBm CW

**Features:**

Internal Voltage Regulation  
 Unconditional Stability  
 Input Limiter

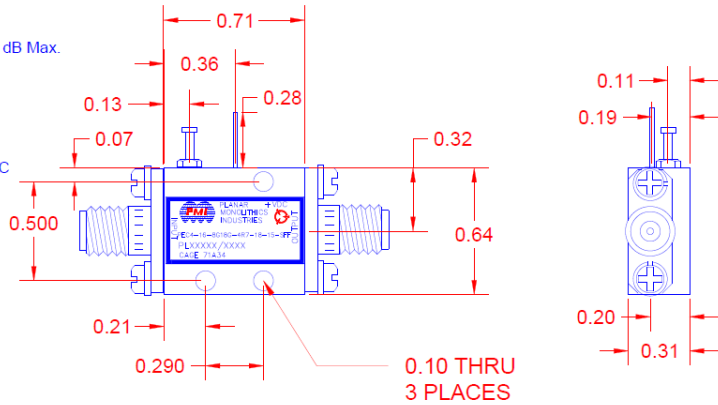
**Available Options:**

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

**Environmental Ratings:**

Temperature: -40°C to +75°C (Operating)  
 -65°C +110°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.



ZONE	REV	DESCRIPTION	DATE	APPROVE
	1	ORIGINAL RELEASE	06/24/16	
	A1	ECN # 16-0082	06/24/16	

PMI CONFIDENTIAL AND PROPRIETARY

**PLANAR MONOLITHICS INDUSTRIES, INC.**  
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 EL DORADO HILLS, CALIFORNIA 95762  
 TEL: 916-542-1401 FAX: 916-265-2597  
 WEBSITE: [www.pmi-rf.com](http://www.pmi-rf.com)  
 E-MAIL: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)  
 ISO 9001 CERTIFIED



APPROVALS	DATE	TITLE
		PRODUCT FEATURE
DRAWN: <i>ylk</i>	06/24/16	PEC4-16-8G18G-4R7-18-15-SFF
DESIGNED:		SIZE: FORM NO. 71A34
ETCHED:		DWG NO. 27028812
		SCALE: N/S
		SHEET 1 OF 1

ALL DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 XXXX ±0.020  
 XXXX ±0.010



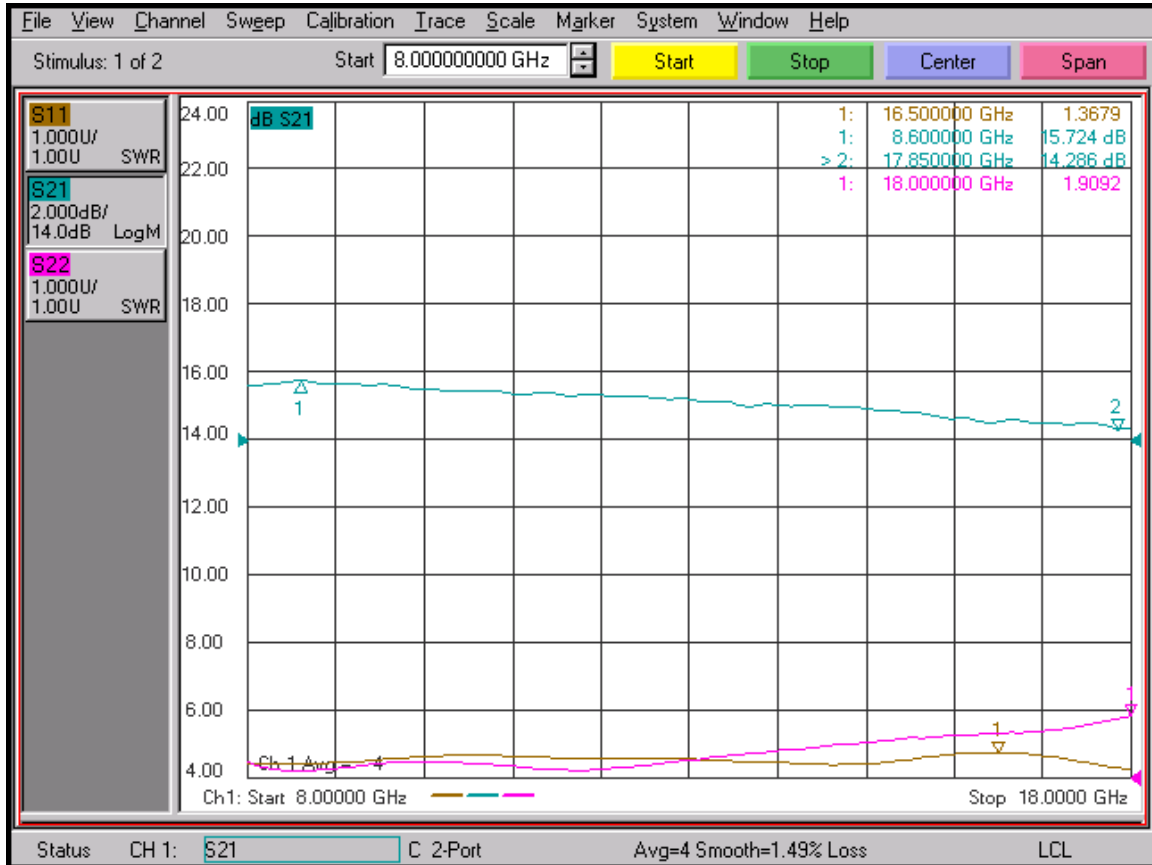
**TYPICAL CHARACTERISTIC REPORT  
ON  
PEC4-16-8G18G-4R7-18-15-SFF**

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	8.0 to 18.0 GHz	8.0 to 18.0 GHz	
2	Gain:	13 dB Min, 16 dB Max	14.3 / 15.7 dB (See Plot)	
3	Gain Flatness:	±1.50 dB Max	±0.72 dB (See Plot)	
4	Noise Figure:	4.7 dB Max	4.3 dB (See Plot)	
5	OP1dB:	+18 dBm Typ	18.8 dBm (See Plot)	
6	VSWR Input:	1.67:1 Max	1.37:1 (See Plot)	
7	VSWR Output:	2.25:1 Max	1.91:1 (See Plot)	
8	Maximum Input:	+30 dBm CW	Pass	
9	DC Supply:	+12.5 to +28 VDC @ 250 mA Typ	201 mA	



**TYPICAL CHARACTERISTIC REPORT  
ON  
PEC4-16-8G18G-4R7-18-15-SFF**

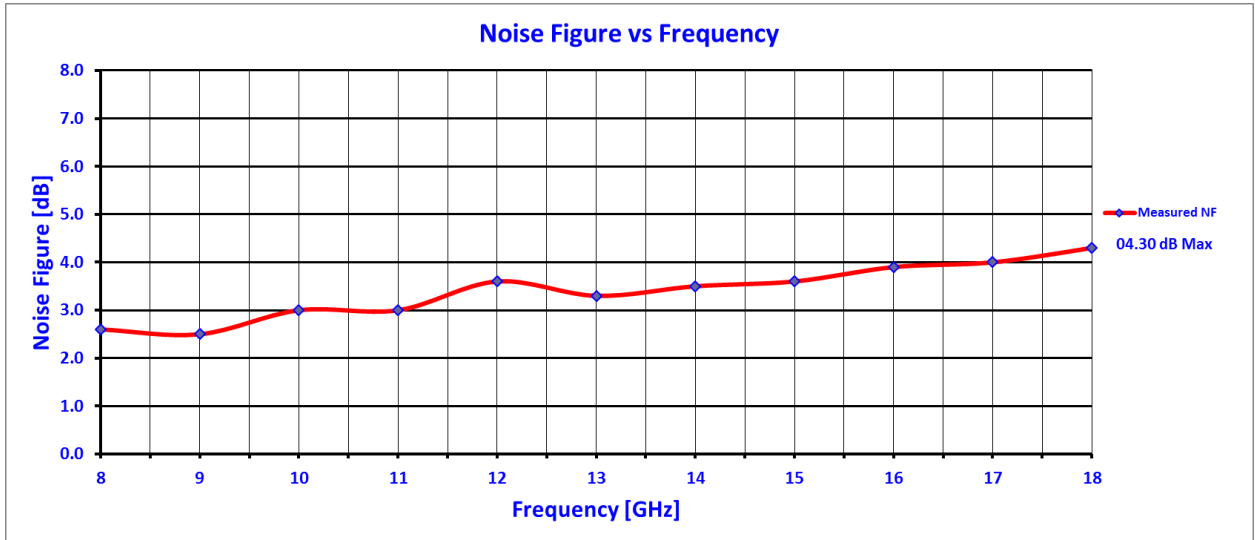
**GAIN & VSWR PLOT**



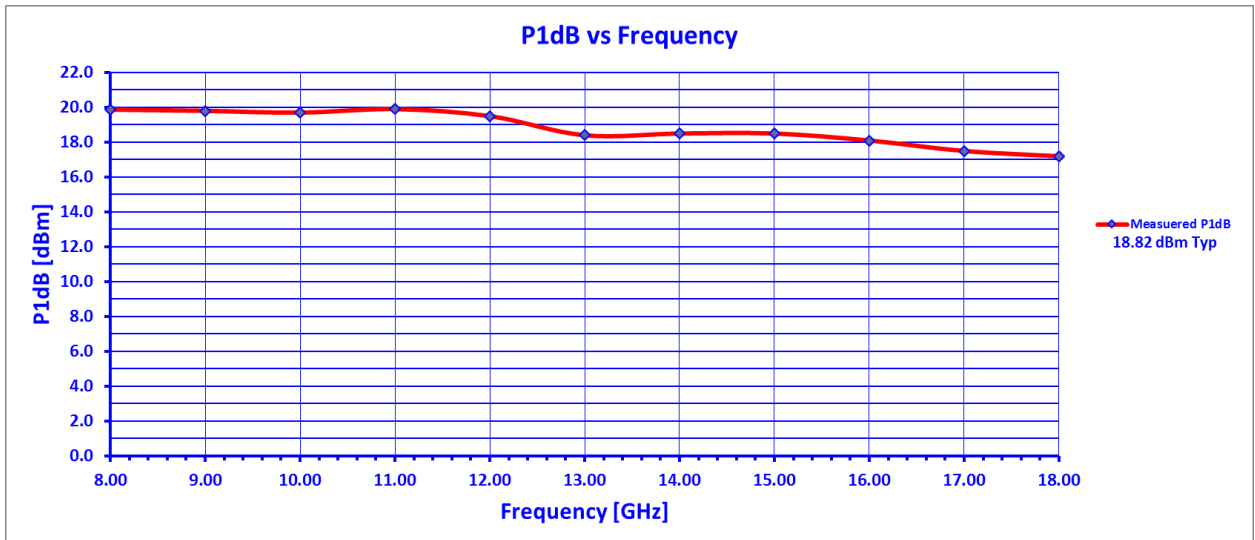


**TYPICAL CHARACTERISTIC REPORT  
ON  
PEC4-16-8G18G-4R7-18-15-SFF**

**NOISE FIGURE PLOT**



**P1dB PLOT**

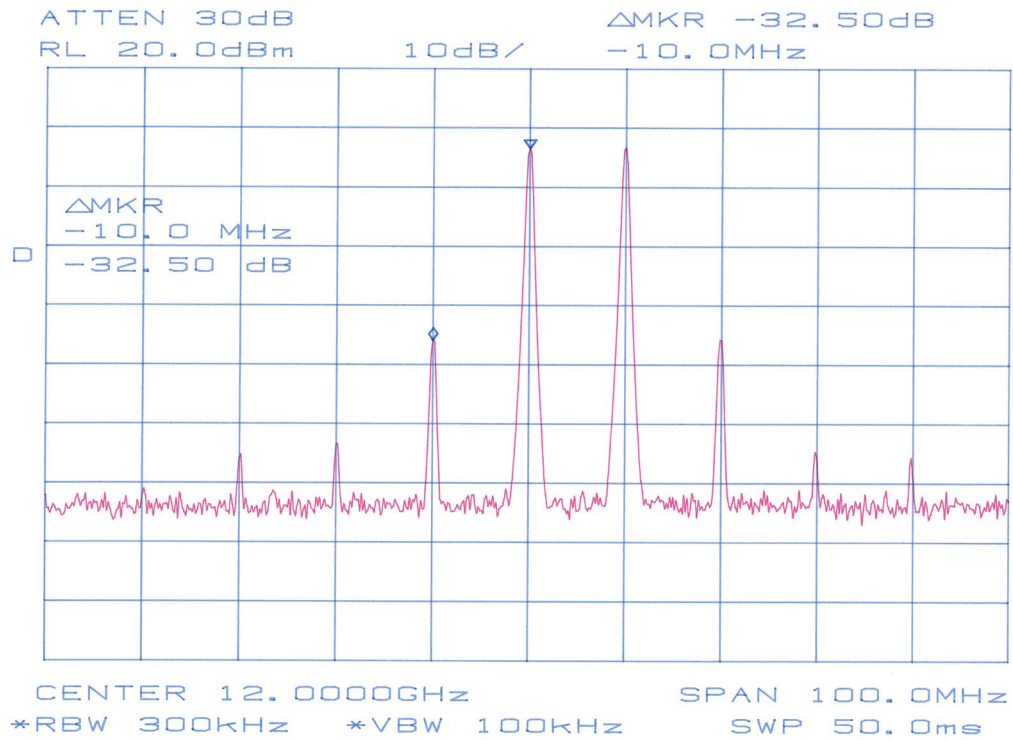






**TYPICAL CHARACTERISTIC REPORT  
ON  
PEC4-16-8G18G-4R7-18-15-SFF**

**OIP3 @ 12 GHz**

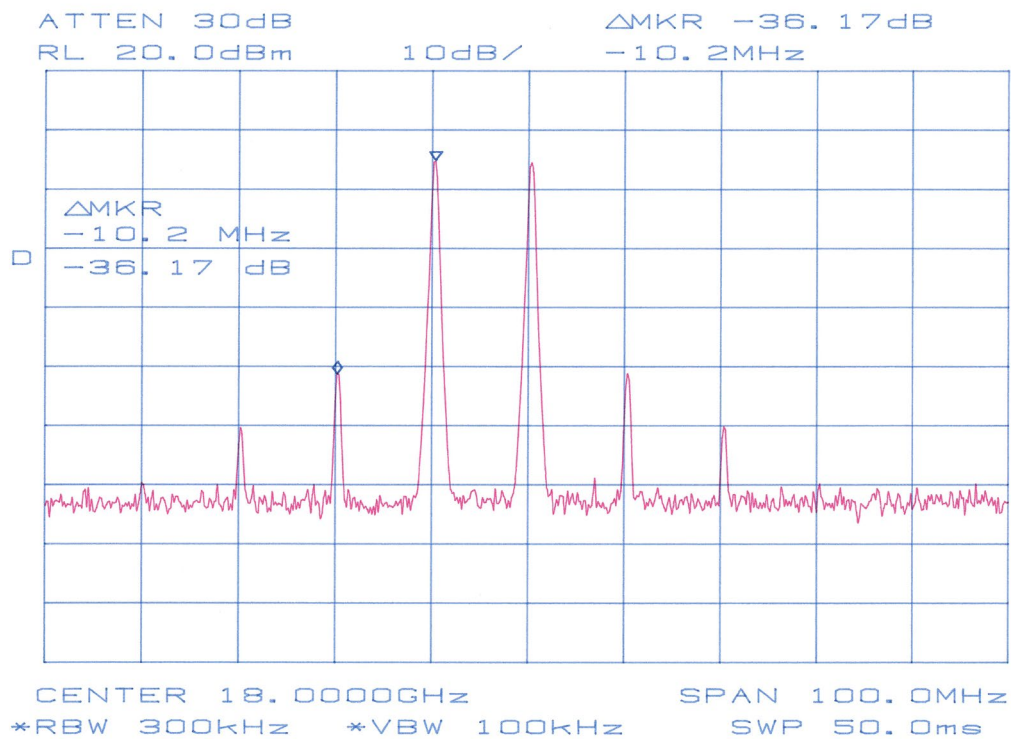


$$\text{OIP3} = \text{Pout} + \text{dBc}/2$$
$$+26.25 \text{ dBm} = 10 + (32.50/2)$$



**TYPICAL CHARACTERISTIC REPORT  
ON  
PEC4-16-8G18G-4R7-18-15-SFF**

**OIP3 @ 18 GHz**



$$\begin{aligned} \text{OIP3} &= \text{Pout} + \text{dBc}/2 \\ &+28.09 \text{ dBm} = 10 + (36.17/2) \end{aligned}$$