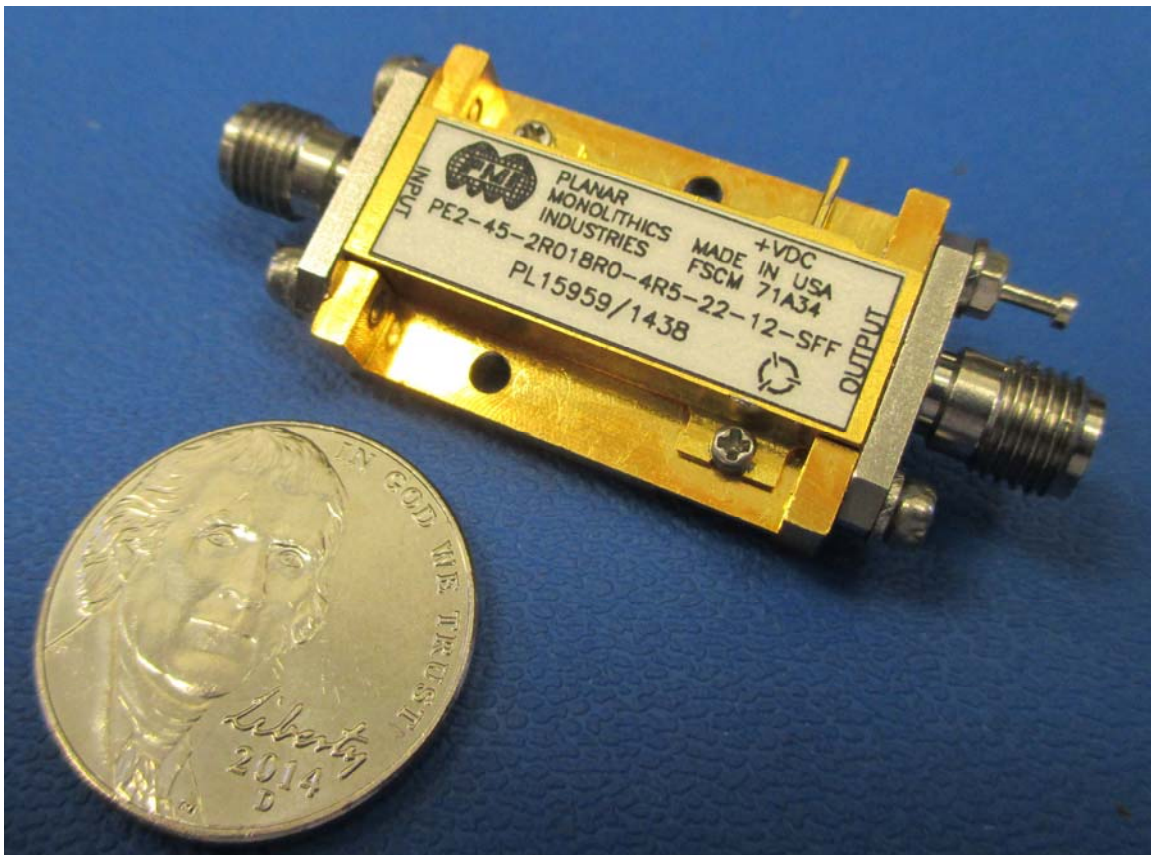




**Typical Characteristics
On
PE2-45-2R018R0-4R5-22-12-SFF**

PE2-45-2R018R0-4R5-022-12-SFF is a low noise amplifier designed for military and industrial applications. This amplifier is supplied in our standard PE2 housing that can be used as an SMA Connectorized or surface mount component. Other packages and connector types are available. This model provides the following performance.



October 9, 2014

Tested By: Harold Holvick
Reported By: Harold Holvick



Typical Characteristics On PE2-45-2R018R0-4R5-22-12-SFF

DESCRIPTION

LOW NOISE AMPLIFIER DESIGNED FOR MILITARY AND INDUSTRIAL APPLICATIONS. THIS AMPLIFIER IS SUPPLIED IN OUR STANDARD PE2 HOUSING THAT CAN BE USED AS AN SMA CONNECTORIZED OR A SURFACE MOUNT COMPONENT. OTHER PACKAGES AND CONNECTOR TYPES ARE AVAILABLE. THIS MODEL PROVIDES THE FOLLOWING PERFORMANCE. DATA IS AVAILABLE UPON REQUEST.

SPECIFICATIONS

- FREQUENCY RANGE: 2.0 to 18.0 GHz
 - GAIN: 45dB TYPICAL
 - GAIN FLATNESS: ±1.5dB MAXIMUM
 - NOISE FIGURE: 4.5dB TYPICAL
 - OP1dB: +20dBm MINIMUM
 - VSWR (IN/OUT): 2.0:1 MAXIMUM
 - CONNECTORS: SMA (F) REMOVABLE
 - DC SUPPLY: +12 TO +15VDC @ 385mA NOMINAL
 - SIZE: (L) 1.08" X (W) 0.71" X (H) 0.29"
 - FINISH: GOLD PLATED
- *EXCLUDING CONNECTORS*

FEATURES

- INTERNAL VOLTAGE REGULATION
- UNCONDITIONAL STABILITY

AVAILABLE OPTIONS

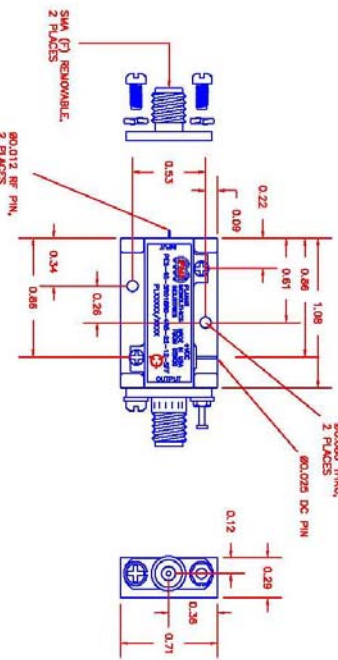
- VARIOUS PACKAGE TYPES
- VARIOUS CONNECTOR TYPES
- TEMPERATURE COMPENSATION
- GAIN AND PHASE MATCHING
- MIL-STD-883 SCREENING AVAILABLE

ENVIRONMENTAL RATINGS

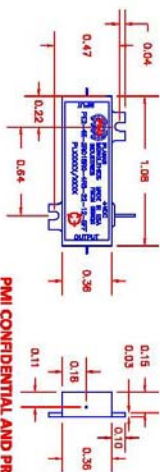
- TEMPERATURE: -54°C TO + 85°C (OPERATING)
-65°C TO +125°C (STORAGE)
 - HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
 - SHOCK: MIL-STD-202F, METHOD 213B COND. B
 - ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
 - TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A
- NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

REVISONS		DATE	APPROVED
ZONE REV	DESCRIPTION		
1	ORIGINAL RELEASE	8/1/98	

MECHANICAL OUTLINE PE2 HOUSING WITH CARRIER



PE2 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	SIZE (FROM REV.)	DATE	REV.
APPROVED: <i>JCL</i>	8/1/98	PRODUCT FEATURE	PE2-45-2R018R0-4R5-22-12-SFF		
DRAWN: <i>KCC</i>			05X00	27023801	1
CHECKED: <i>KCC</i>					
SCALE: N/S					1 OF 1



**Typical Characteristics
On
PE2-45-2R018R0-4R5-22-12-SFF**

Typical Data @ 25°C

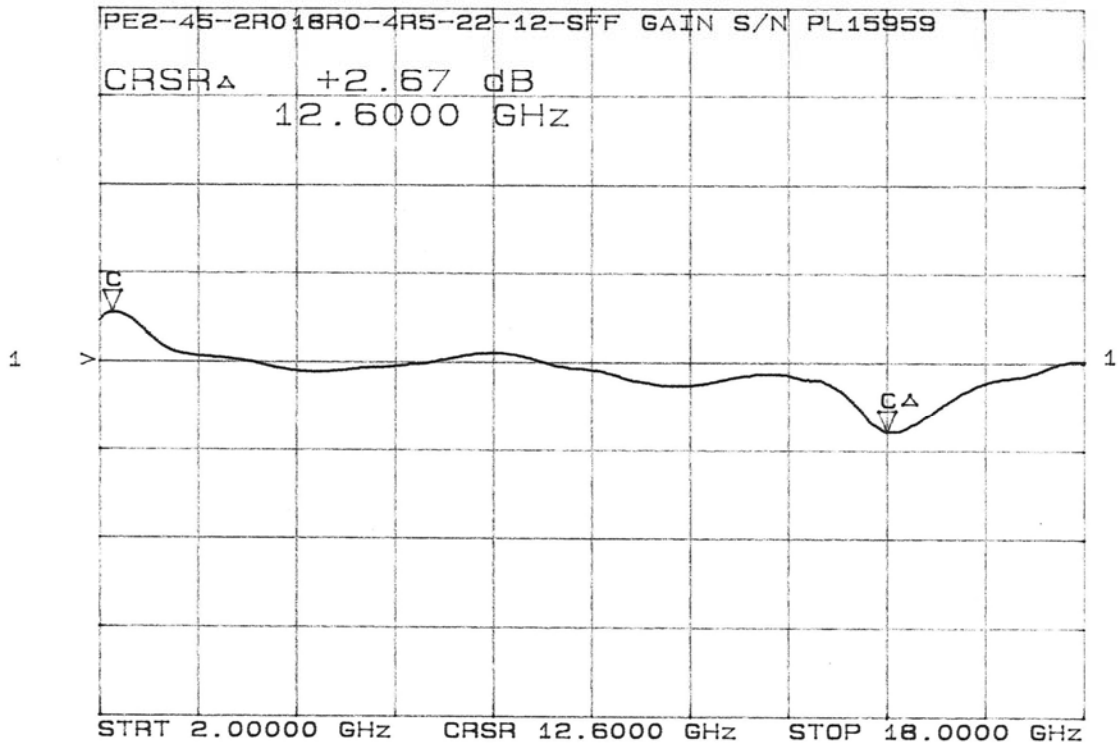
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	2 GHz – 18 GHz	2 GHz – 18 GHz See Plot	
2	Gain:	45dB Typ	41.3 dB min See Plot	
3	Gain Flatness:	±1.5dB Max	±1.34 dB See Plot	
4	Noise Figure:	4.5dB Typ	3.73 dB max See plot	
5	OP1dB:	+20dBm Min.	20.4 dBm min see plot	
6	VSWR: (Input/Output)	2.0:1 Max	1.417:1 1.625:1 See Plots	
7	DC Supply:	+12V to +15VDC @ 385mA Nominal	+12V to +15VDC 301 @ mA	



**Typical Characteristics
On
PE2-45-2R018R0-4R5-22-12-SFF**

Gain Plot

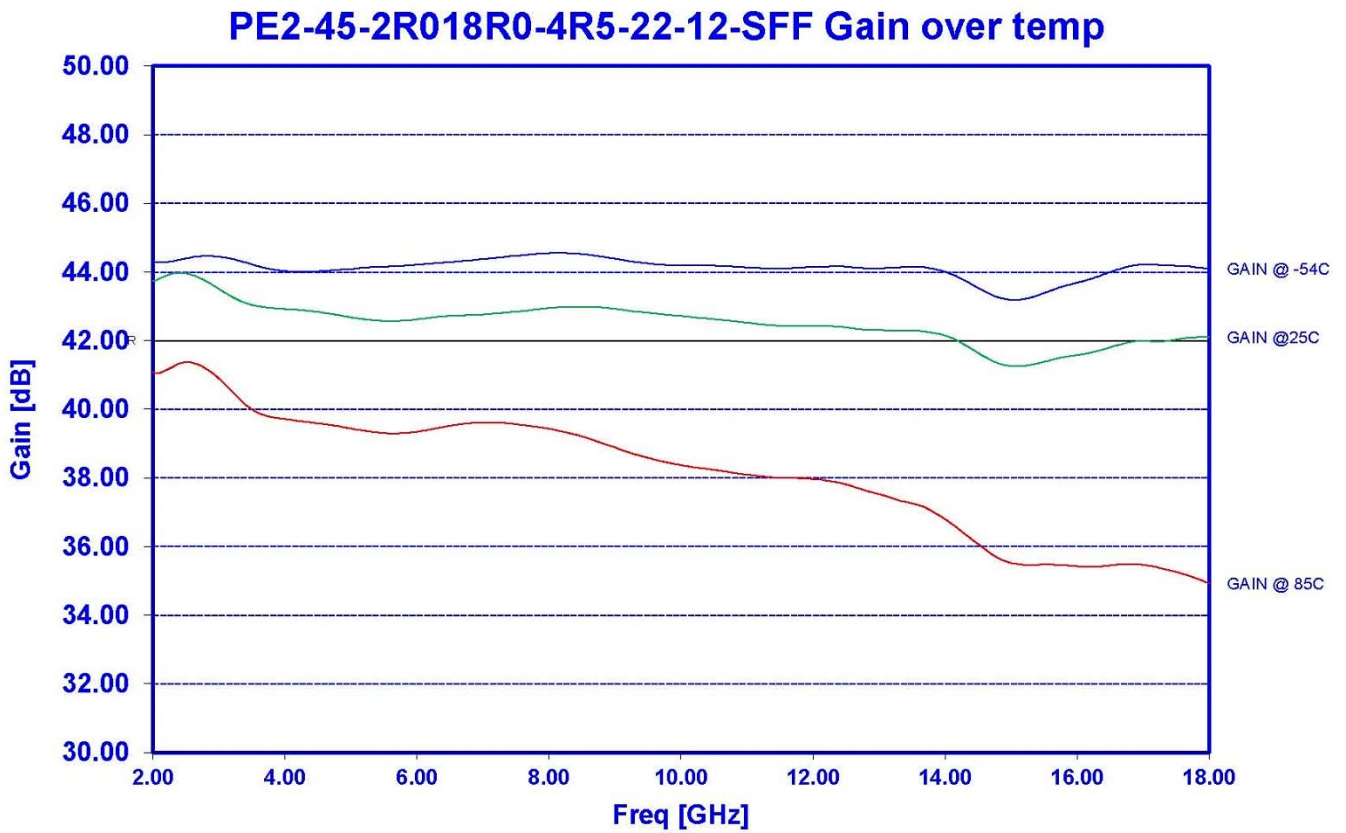
CH1: B	-M	+2.67 dB
2.0 dB/	REF	43.00 dB





**Typical Characteristics
On
PE2-45-2R018R0-4R5-22-12-SFF**

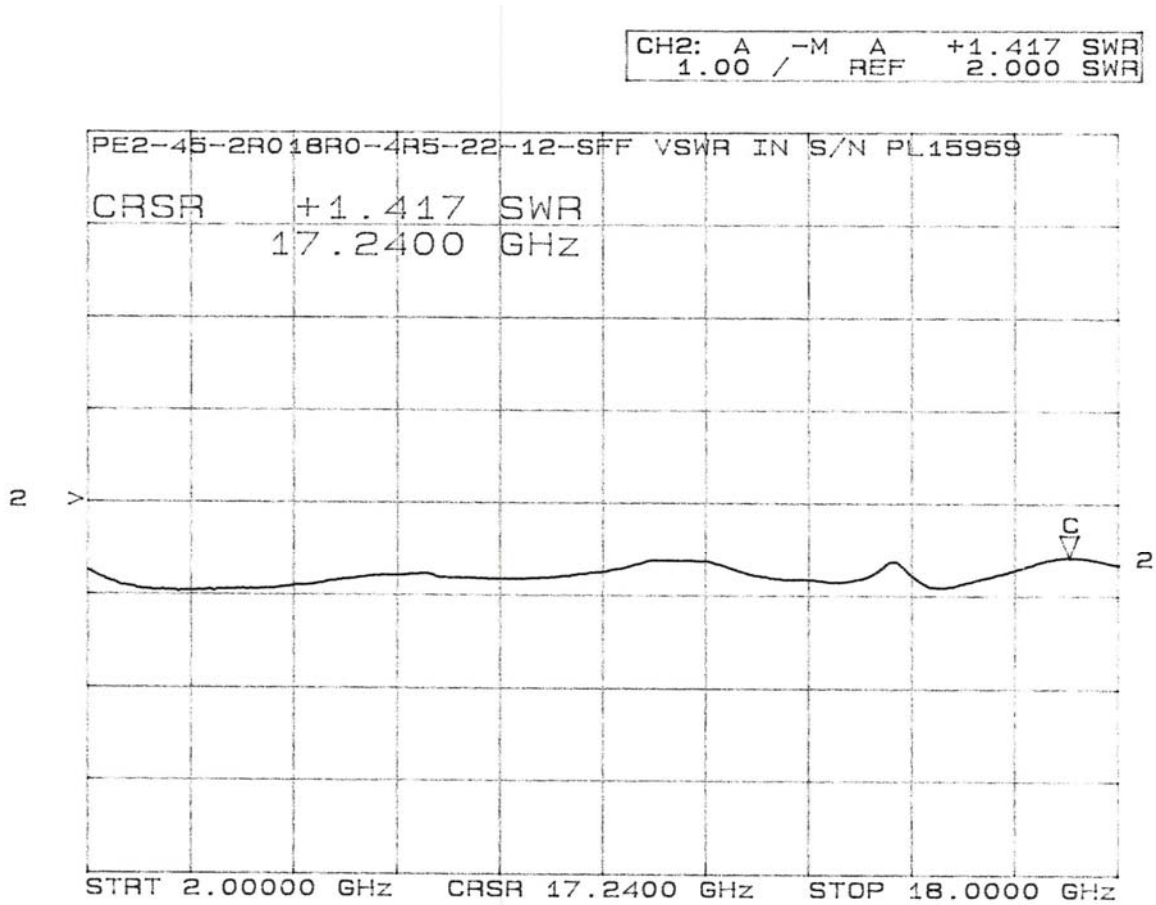
Gain
-54°C to +85°C





**Typical Characteristics
On
PE2-45-2R018R0-4R5-22-12-SFF**

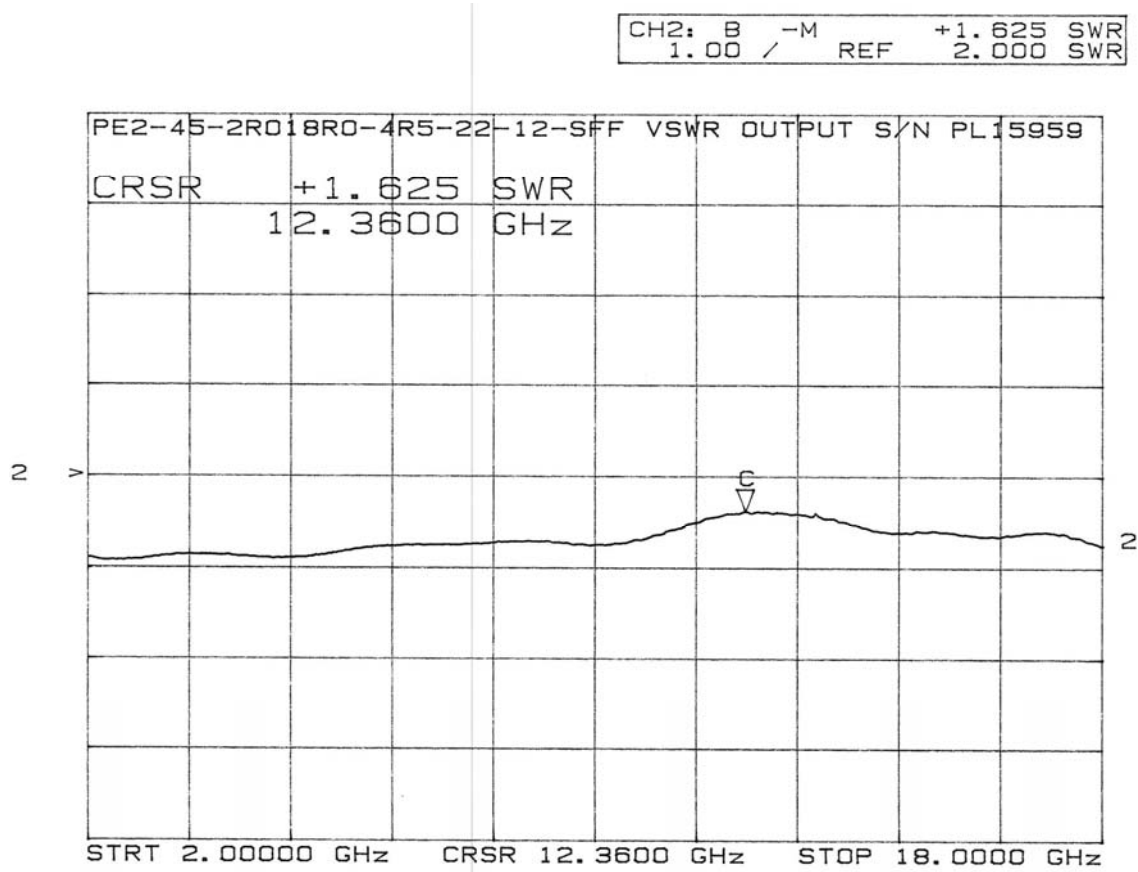
Input Return Loss plot





**Typical Characteristics
On
PE2-45-2R018R0-4R5-22-12-SFF**

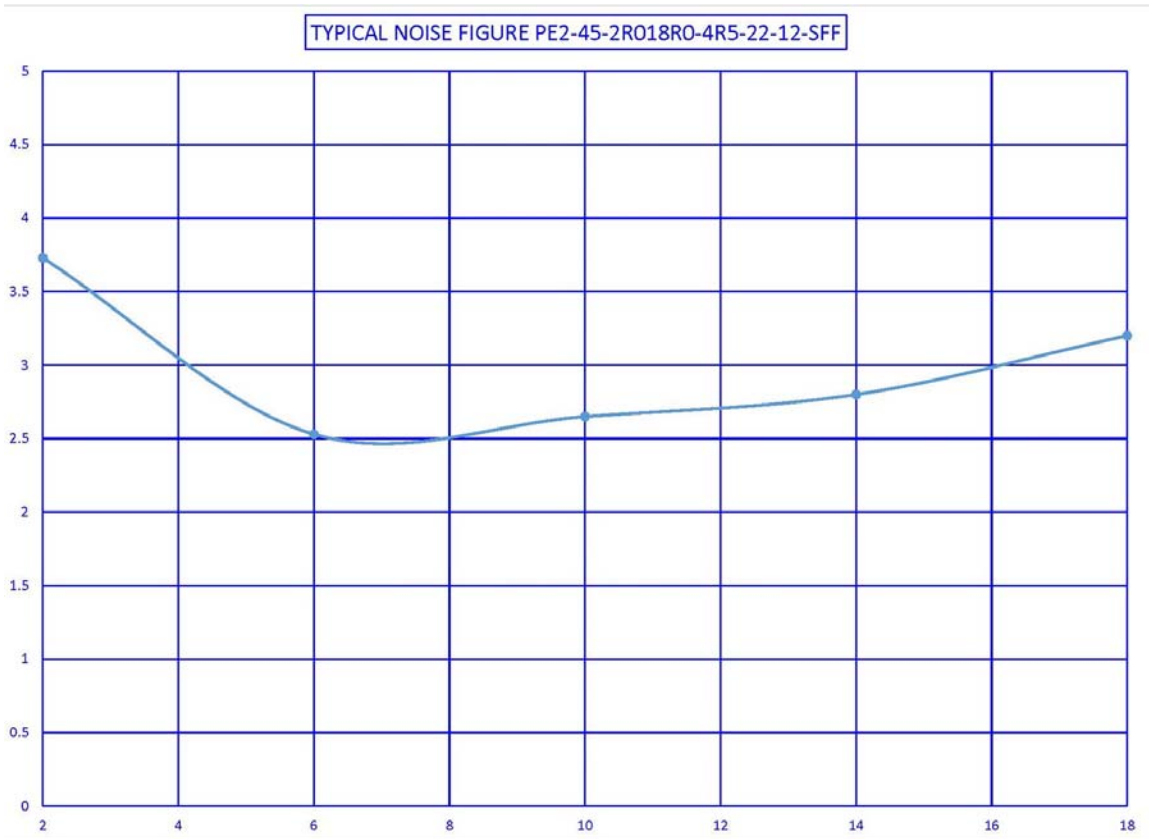
Output Return Loss plot





**Typical Characteristics
On
PE2-45-2R018R0-4R5-22-12-SFF**

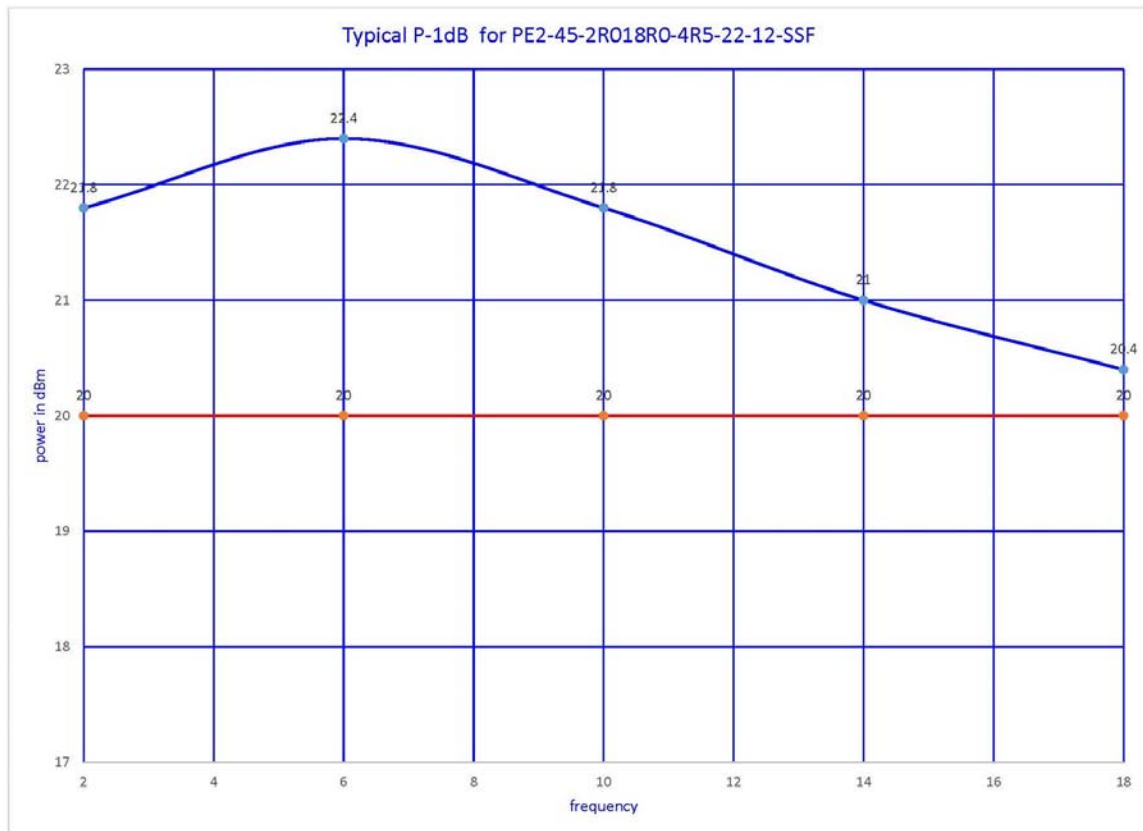
Noise Figure Plot





**Typical Characteristics
On
PE2-45-2R018R0-4R5-22-12-SFF**

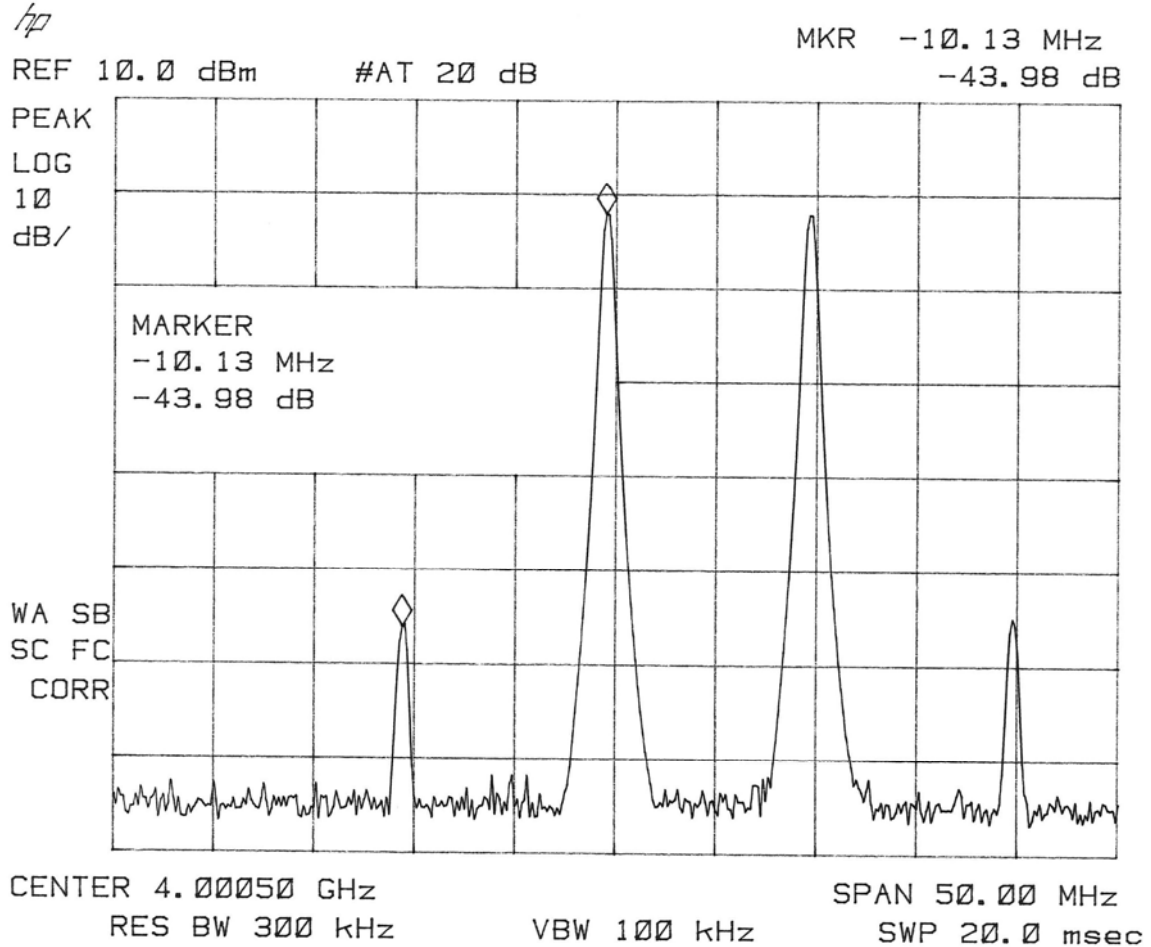
P-1dB Compression Plot





**Typical Characteristics
On
PE2-45-2R018R0-4R5-22-12-SFF**

OIP3 @ 4 GHz

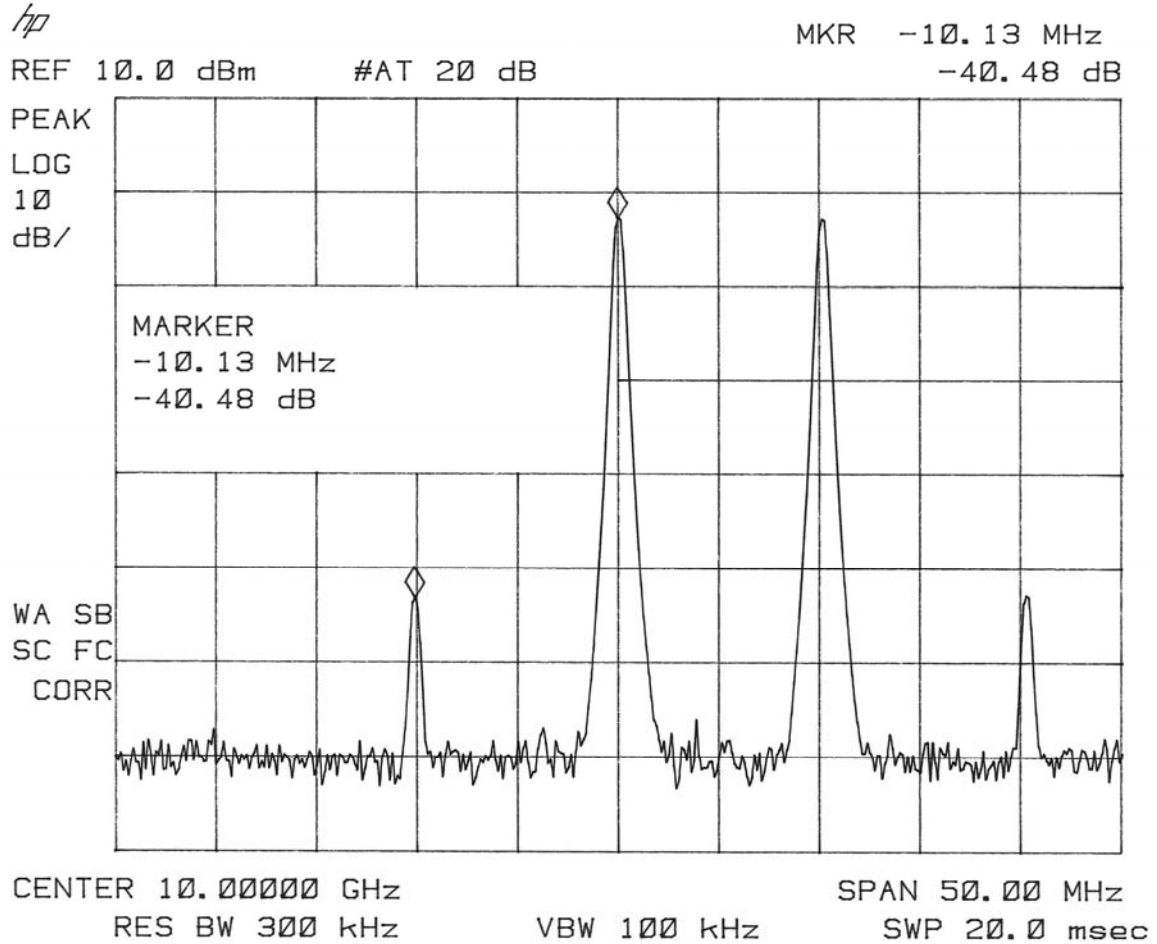


$$\begin{aligned} \text{OIP3} &= P_{\text{out}} + \text{dBc}/2 \\ +31.99 \text{ dBm} &= 10 + (43.98/2) \end{aligned}$$



**Typical Characteristics
On
PE2-45-2R018R0-4R5-22-12-SFF**

OIP3 @ 10 GHz

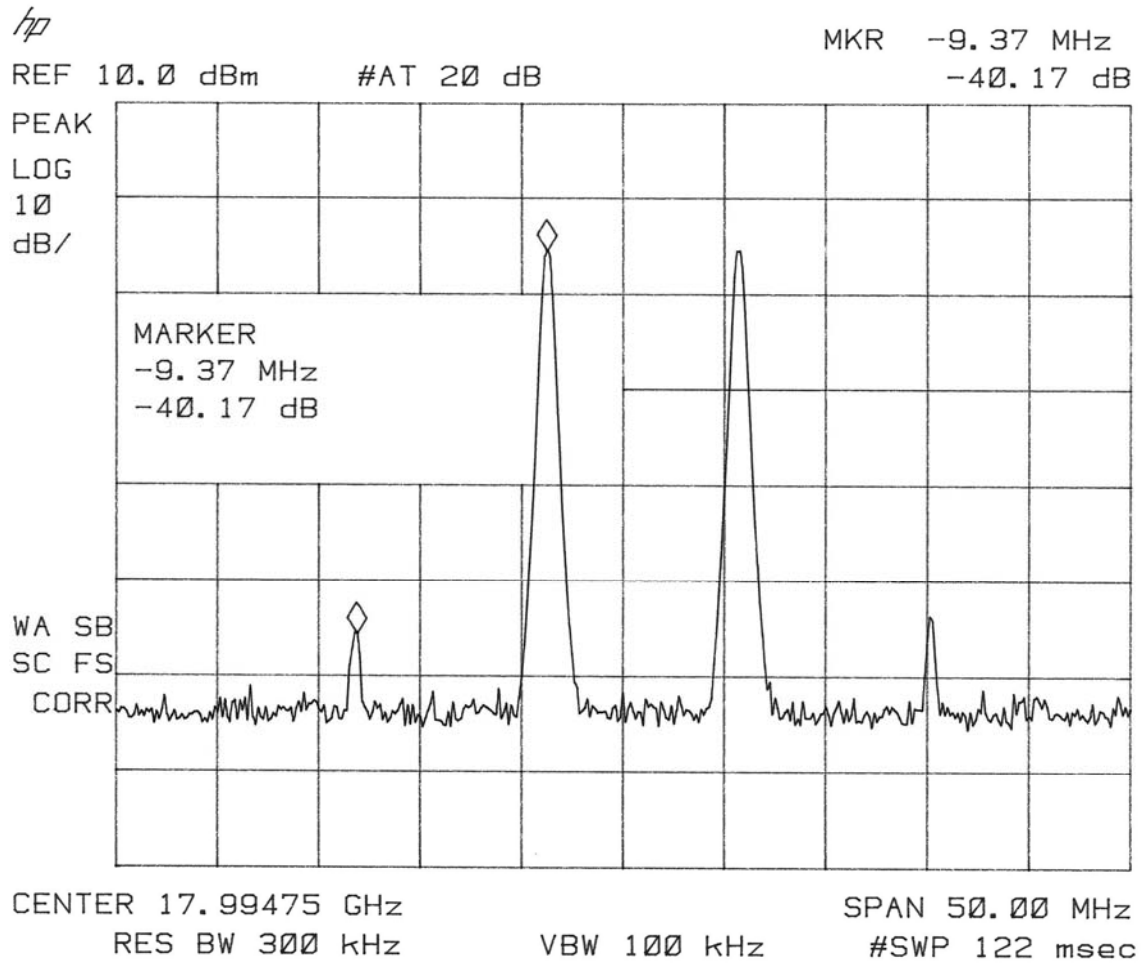


$$\begin{aligned} \text{OIP3} &= P_{\text{out}} + \text{dBc}/2 \\ +30.24\text{dBm} &= 10 + (40.48/2) \end{aligned}$$



**Typical Characteristics
On
PE2-45-2R018R0-4R5-22-12-SFF**

OIP3 @ 18 GHz



$$\begin{aligned} \text{OIP3} &= \text{Pout} + \text{dBC}/2 \\ +30.09\text{dBm} &= 10 + (40.17/2) \end{aligned}$$