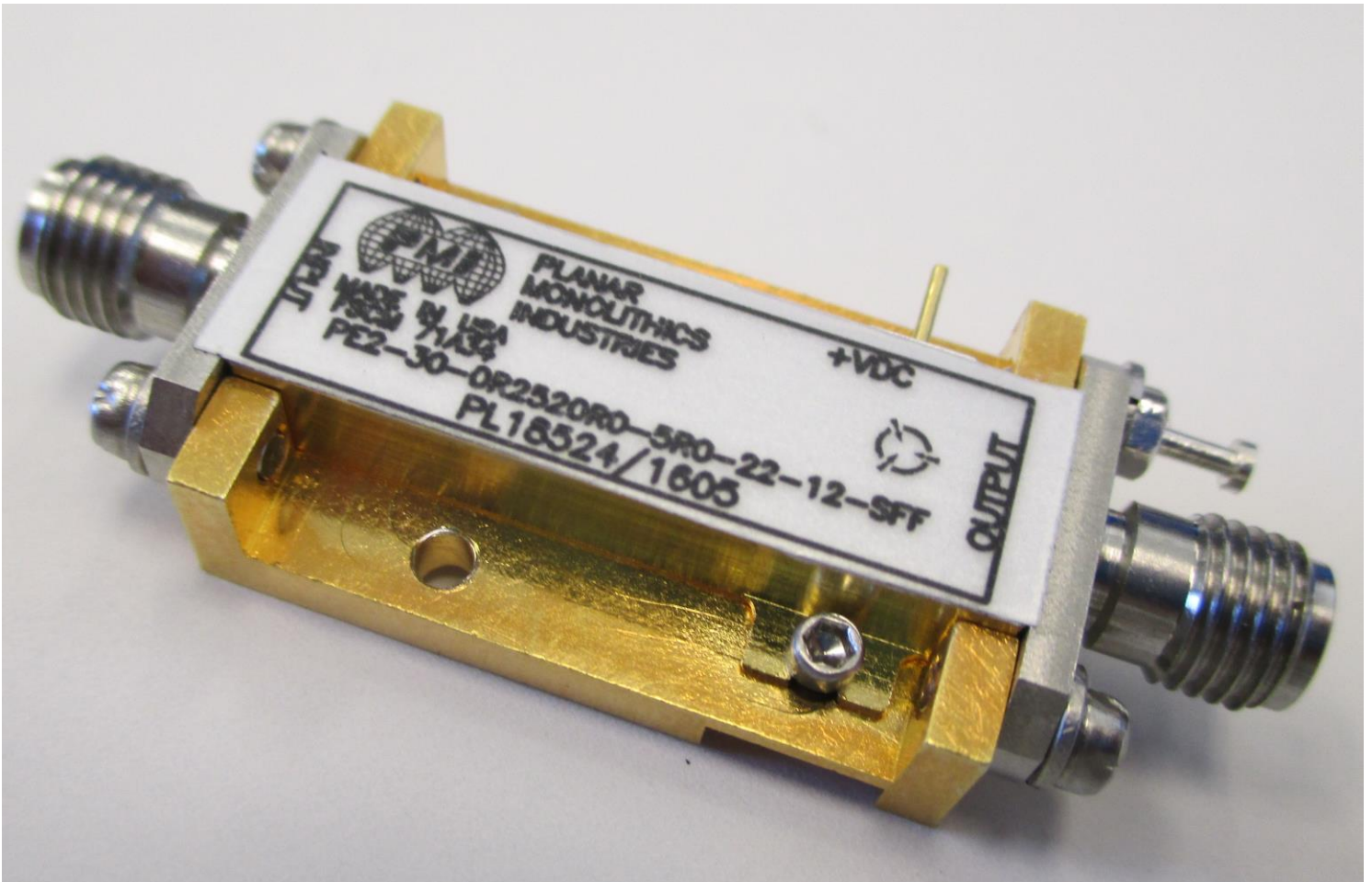




**Typical Characteristics**  
**On**  
**PE2-30-0R2520R-5R0-22-12-SFF**

**PMI Model Number: PE2-30-0R2520R0-5R0-22-12-SFF is a 0.25 to 20.0 GHz low noise amplifier. This amplifier is supplied in our standard PE2 housing that can be used as a SMA connectorized or a surface mount component.**



**January 31th, 2016**  
**Designed By: Sebastian Palacio**

**Reported & Tested By:**  
**Harold Holvick**

Page 1 of 12



# Typical Characteristics On PE2-30-0R2520R-5R0-22-12-SFF

## Description:

PMI Model Number: PE2-30-0R2520R0-5R0-22-12-SFF is a 0.25 to 20.0 GHz low noise amplifier. This amplifier is supplied in our standard PE2 housing that can be used as a SMA connectorized or a surface mount component.

## Specifications:

Frequency Range:	0.25 to 20.0 GHz
Gain:	30dB Typ
Gain Flatness:	±1.5dB Max
Noise Figure:	5.0dB Max (*)
OP1dB:	22dBm Min
VSWR Input/Output:	2.0:1 Max
DC Supply:	+12 to +15VDC @ 400mA Typ
Connectors In/Out:	SMA Female
Finish:	Gold Plated
(*) Noise figure only valid above 500 MHz	

## 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:

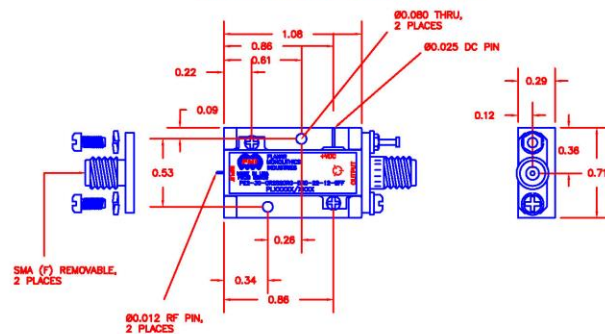
Temperature:	-40°C to + 85°C (Operating) -40°C to +100°C (Storage)
Humidity:	MIL-STD-202F, METHOD 103B COND B.
Shock:	MIL-STD-202F, METHOD 213B COND B.
Altitude:	MIL-STD-202F, METHOD 105C COND B.
Temperature Cycle:	MIL-STD-202F, METHOD 107D COND A

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

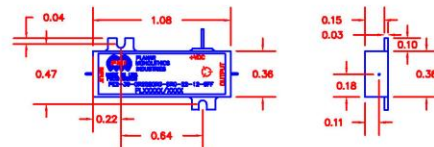
ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
XXX ±0.020  
X.XXX ±0.010

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	12/14/15	
	2	REVISED NF, & DC CURRENT SPEC	01/30/16	

### 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](http://www.pmi-rf.com)  
E-MAIL: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)  
ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN	<i>B. Thomas</i>	12/14/15	PRODUCT FEATURE		
CHECKED			SIZE	FSDM NO.	DWG NO.
ISSUED			A	05X00	27028561
			SCALE	N:S	SHEET 1 OF 1
			REV. 1		



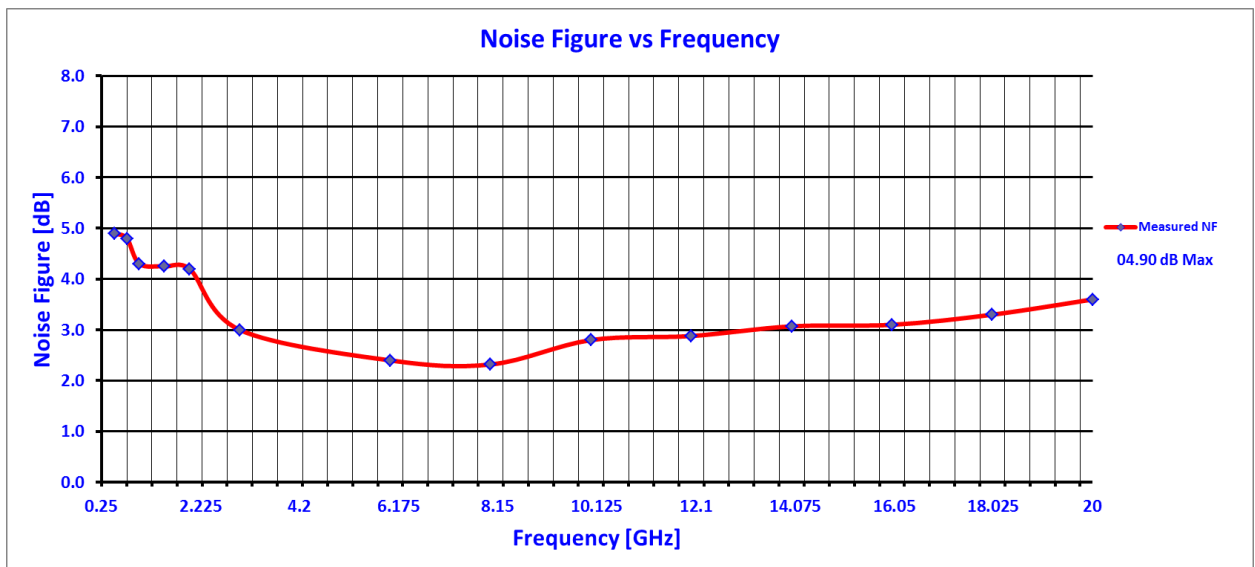
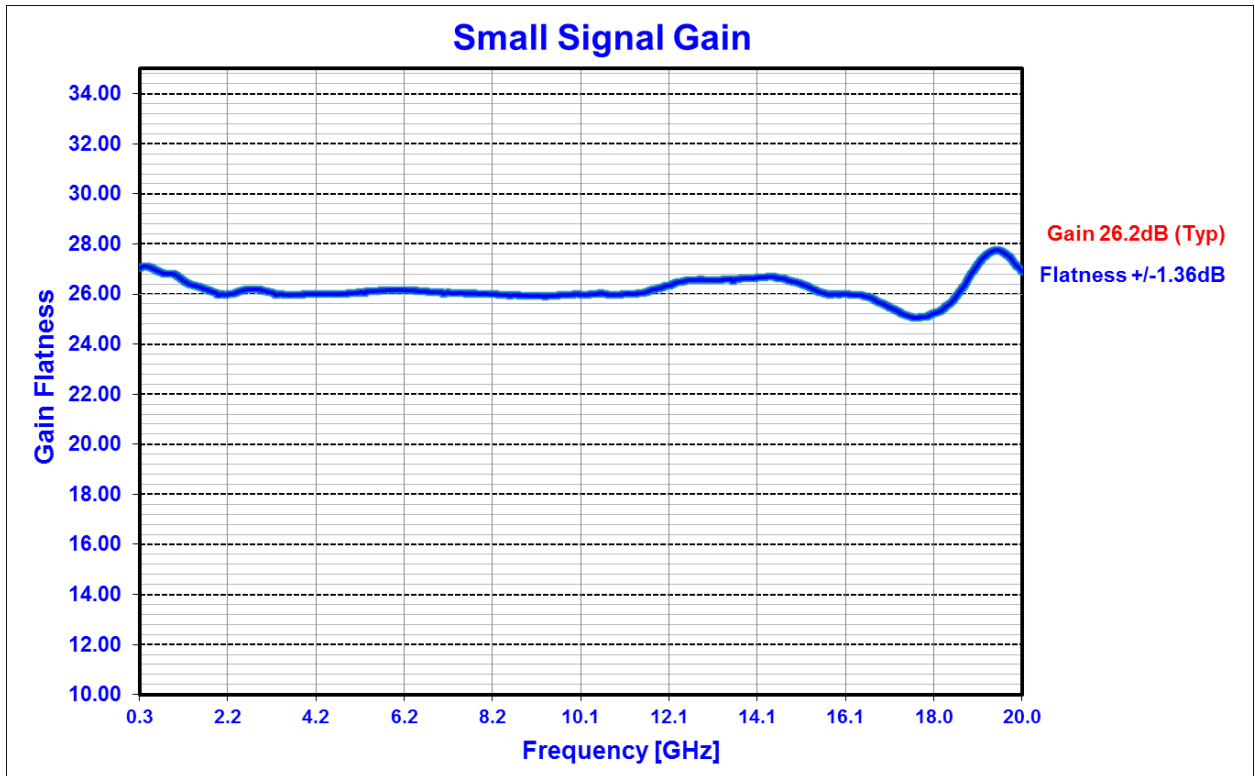
## Typical Characteristics On PE2-30-0R2520R-5R0-22-12-SFF

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	0.25 to 20.0 GHz	<b>0.25 to 20.0 GHz</b> See Plot	
2	Gain:	30dB Typ	<b>26.2 dB</b> See Plot	
3	Gain Flatness:	±1.5dB Max	<b>±1.36 dB</b> See Plot	
4	Noise Figure:	5.0dB Max (*)	<b>4.9 dB</b> See Plot	
5	OP1dB:	22dBm Min	<b>23.15 dBm</b> See Plot	
6	VSWR (Input/Output):	2.0:1 Max	<b>1.84:1/1.88:1</b> See Plot	
7	DC Supply	+12 to +15VDC @ 400 mA Typ	<b>400 mA</b>	

(\*) Noise figure only valid above 500 MHz

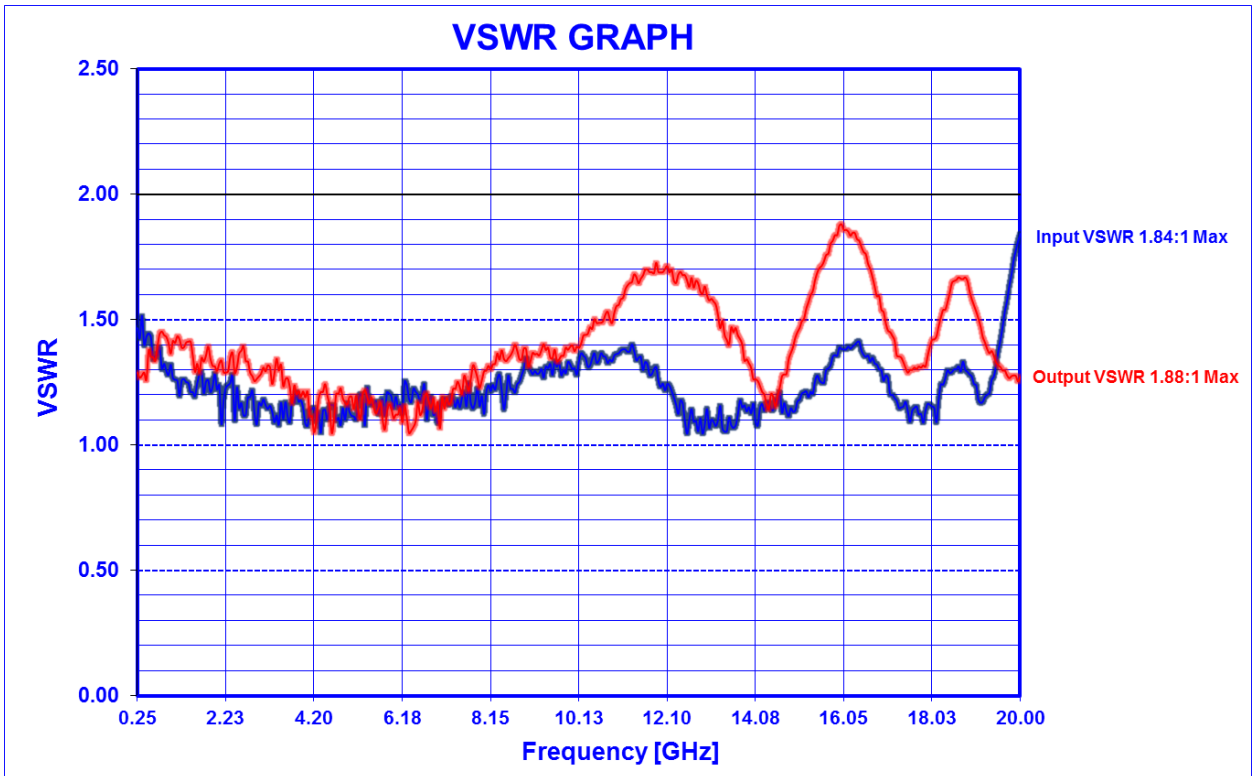
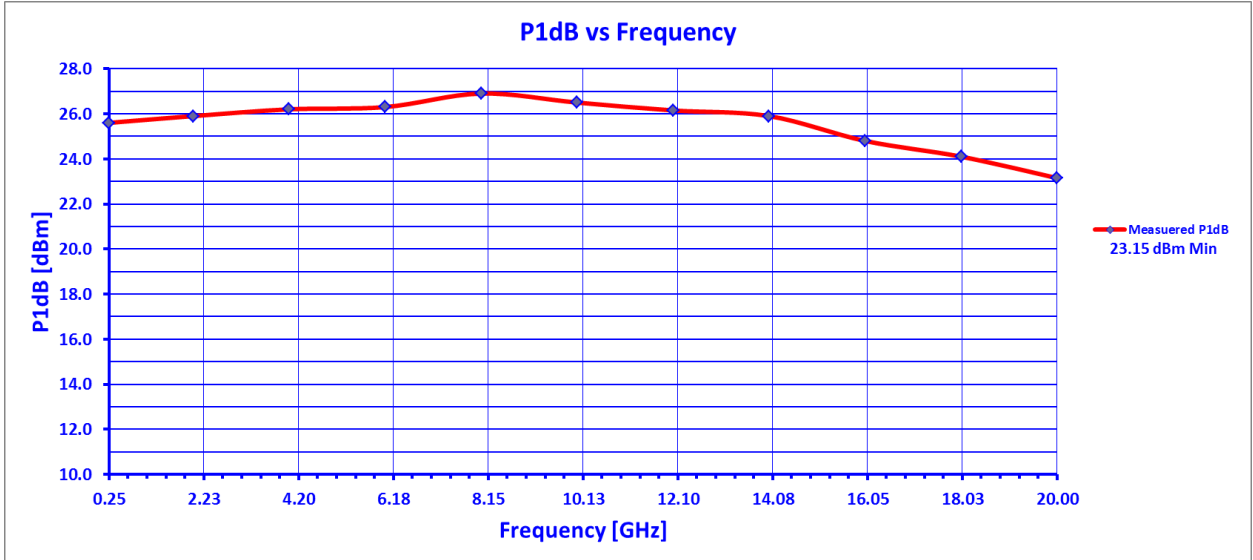


# Typical Characteristics On PE2-30-0R2520R-5R0-22-12-SFF





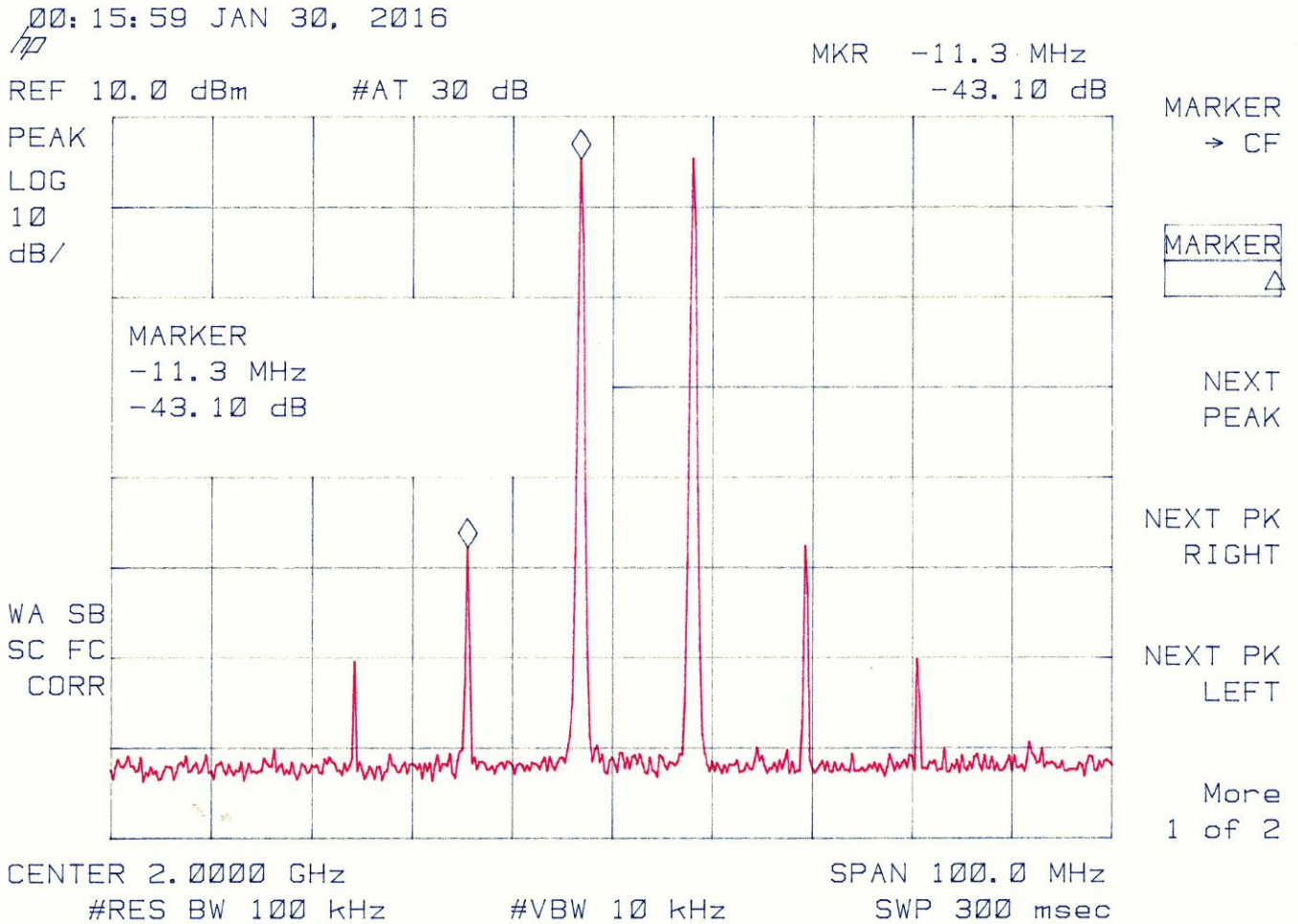
# Typical Characteristics On PE2-30-0R2520R-5R0-22-12-SFF





# Typical Characteristics On PE2-30-0R2520R-5R0-22-12-SFF

## OIP3 @ 2 GHz



$$\begin{aligned} \text{OIP3} &= P_{\text{out}} + \text{dBC}/2 \\ +31.55 \text{ dBm} &= +10 + (43.1/2) \end{aligned}$$



# Typical Characteristics On PE2-30-0R2520R-5R0-22-12-SFF

## OIP3 @ 4 GHz

00:13:07 JAN 30, 2016

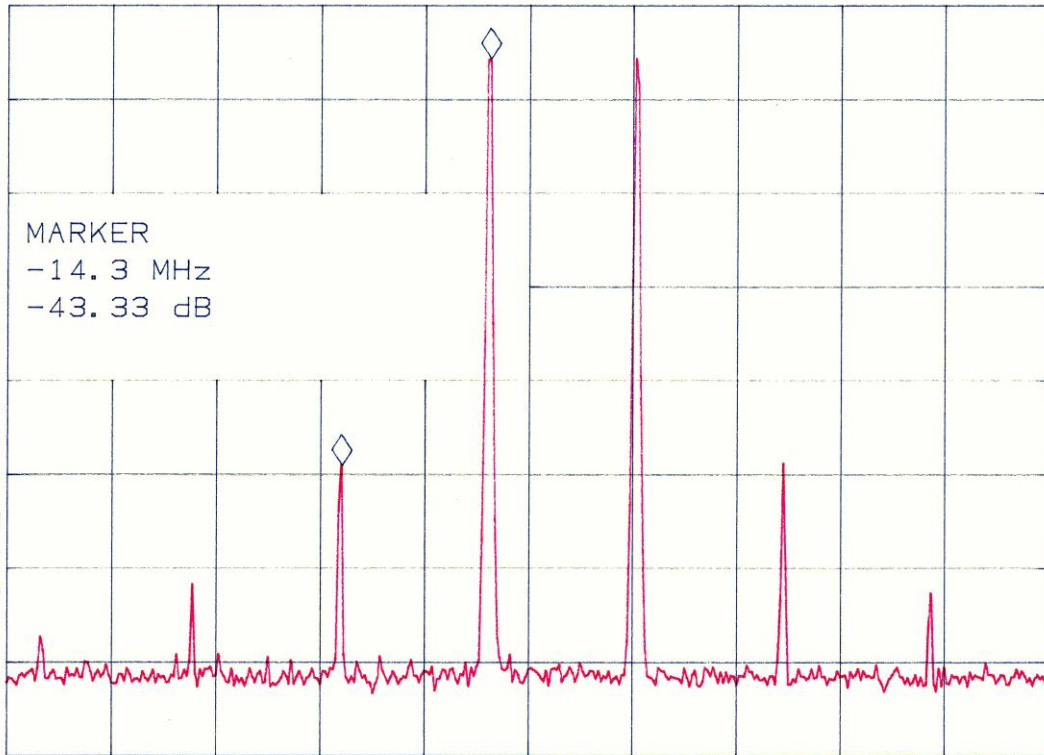
REF 10.0 dBm

#AT 30 dB

MKR -14.3 MHz

-43.33 dB

PEAK  
LOG  
10  
dB/



MARKER  
→ CF

MARKER  
△

NEXT  
PEAK

NEXT PK  
RIGHT

NEXT PK  
LEFT

More  
1 of 2

CENTER 4.0000 GHz

SPAN 100.0 MHz

#RES BW 100 kHz

#VBW 10 kHz

SWP 300 msec

$$\begin{aligned} \text{OIP3} &= P_{\text{out}} + \text{dBc}/2 \\ +31.67 \text{ dBm} &= +10 + (43.33/2) \end{aligned}$$



# Typical Characteristics On PE2-30-0R2520R-5R0-22-12-SFF

## OIP3 @ 8 GHz

00:07:35 JAN 30, 2016

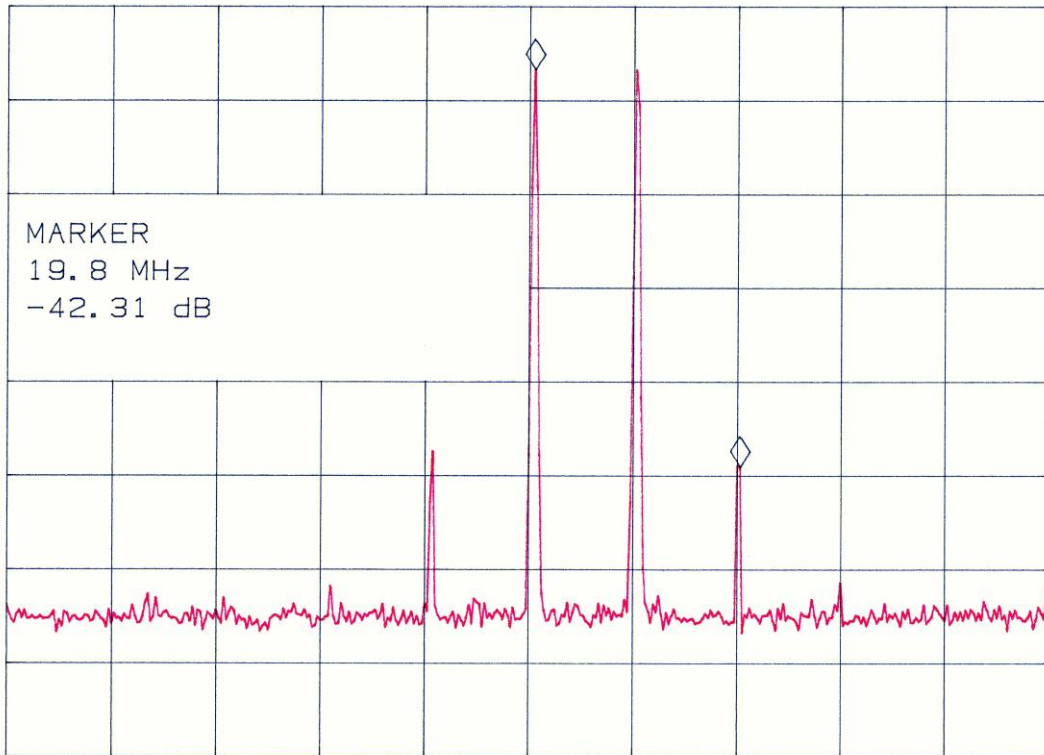
REF 10.0 dBm

#AT 30 dB

MKR 19.8 MHz

-42.31 dB

PEAK  
LOG  
10  
dB/



MARKER  
→ CF

MARKER  
△

NEXT  
PEAK

NEXT PK  
RIGHT

NEXT PK  
LEFT

More  
1 of 2

CENTER 8.0000 GHz

#RES BW 100 kHz

#VBW 10 kHz

SPAN 100.0 MHz

SWP 300 msec

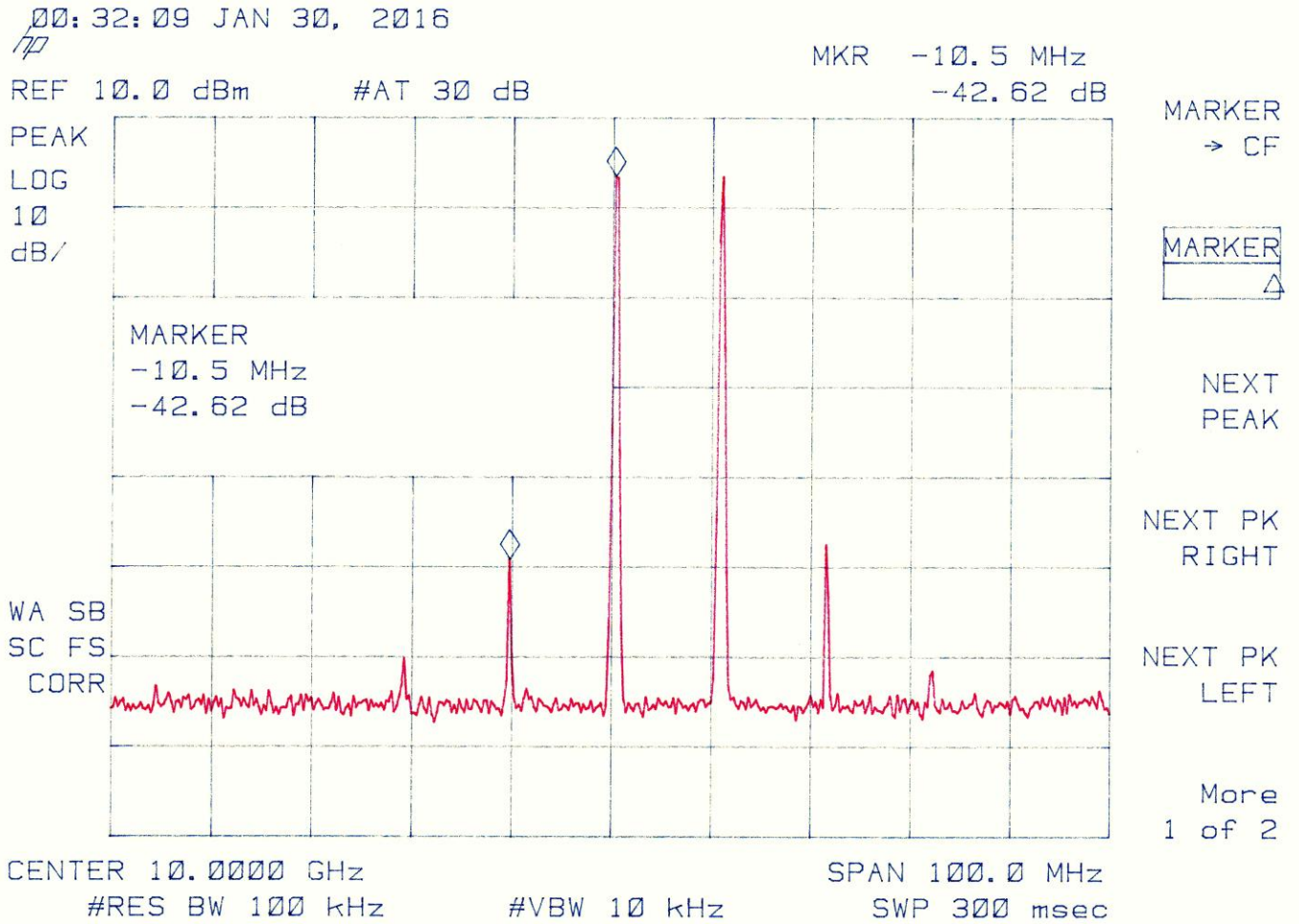
$$\begin{aligned} \text{OIP3} &= P_{\text{out}} + \text{dBc}/2 \\ +31.16 \text{ dBm} &= 10 + (42.31/2) \end{aligned}$$





# Typical Characteristics On PE2-30-0R2520R-5R0-22-12-SFF

## OIP3 @ 10 GHz

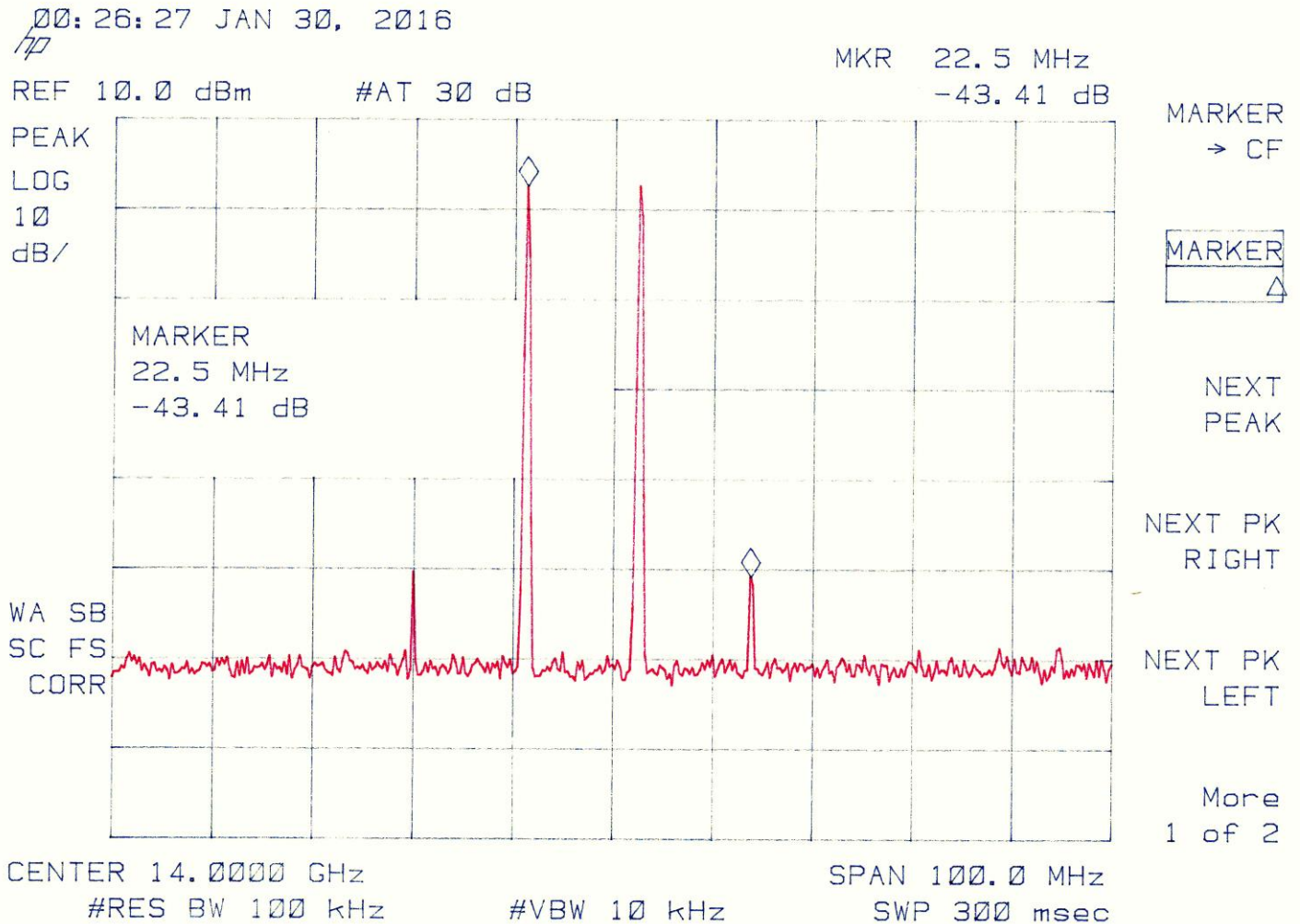


$$\begin{aligned} \text{OIP3} &= P_{\text{out}} + \text{dBc}/2 \\ +31.31 \text{ dBm} &= 10 + (42.62/2) \end{aligned}$$



# Typical Characteristics On PE2-30-0R2520R-5R0-22-12-SFF

## OIP3 @ 14 GHz

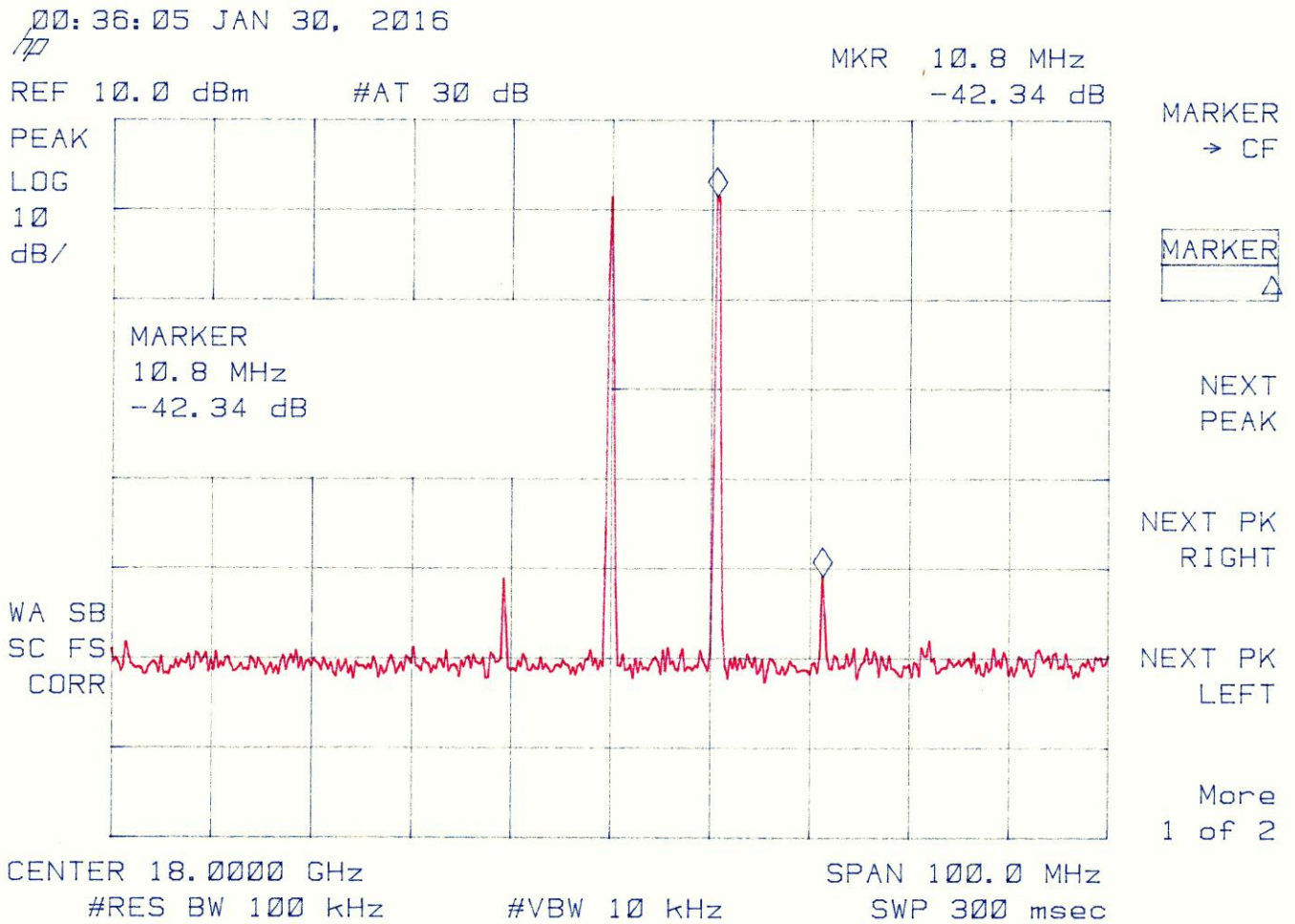


$$\begin{aligned} \text{OIP3} &= P_{\text{out}} + \text{dBc}/2 \\ +31.71 \text{ dBm} &= 10 + (43.41/2) \end{aligned}$$



# Typical Characteristics On PE2-30-0R2520R-5R0-22-12-SFF

## OIP3 @ 18 GHz

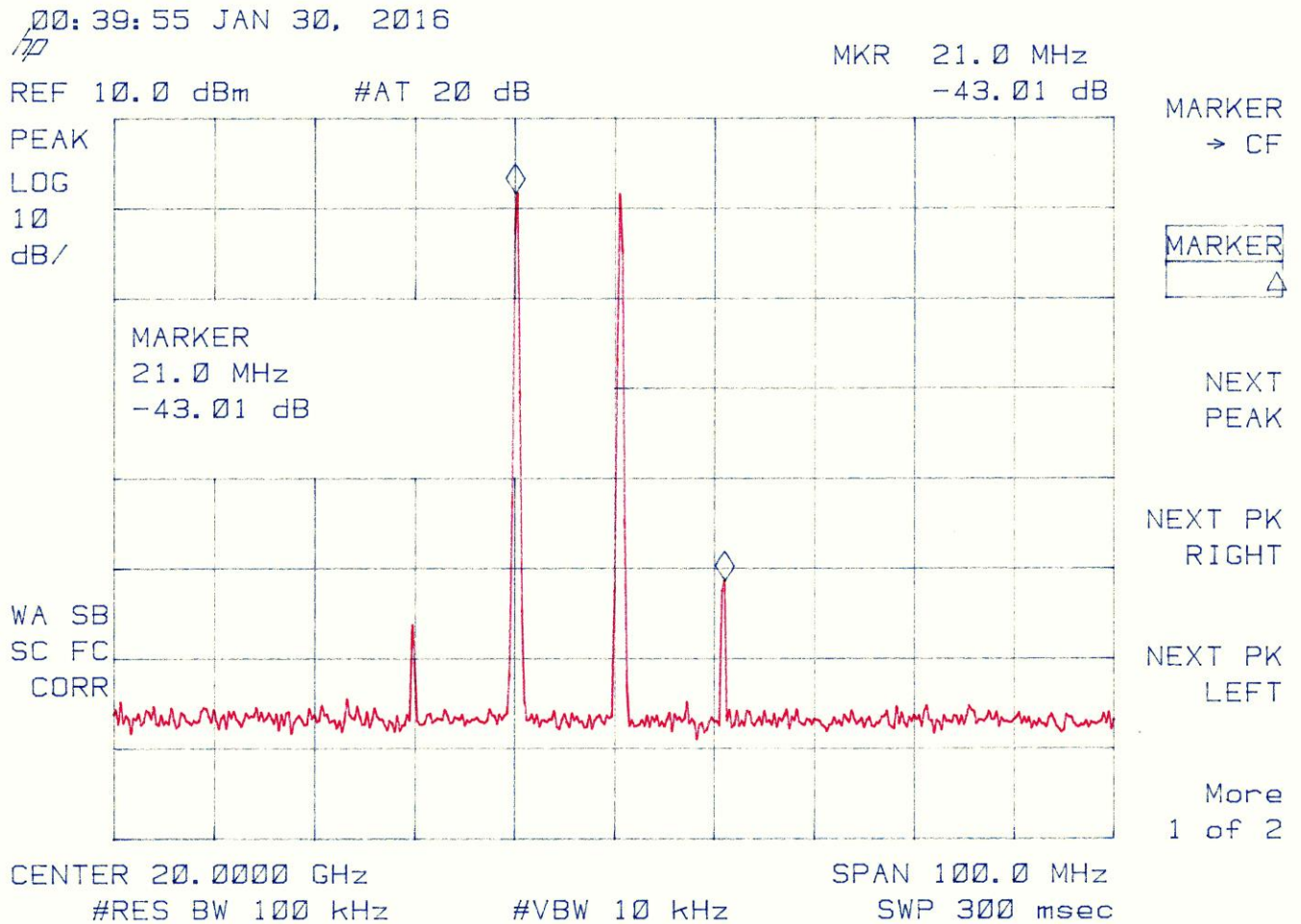


$$\begin{aligned} \text{OIP3} &= P_{\text{out}} + \text{dBC}/2 \\ +31.17 \text{ dBm} &= 10 + (42.34/2) \end{aligned}$$



# Typical Characteristics On PE2-30-0R2520R-5R0-22-12-SFF

## OIP3 @ 20 GHz



$$\begin{aligned} \text{OIP3} &= \text{Pout} + \text{dBc}/2 \\ +31.01 \text{ dBm} &= 10 + (42.01/2) \end{aligned}$$