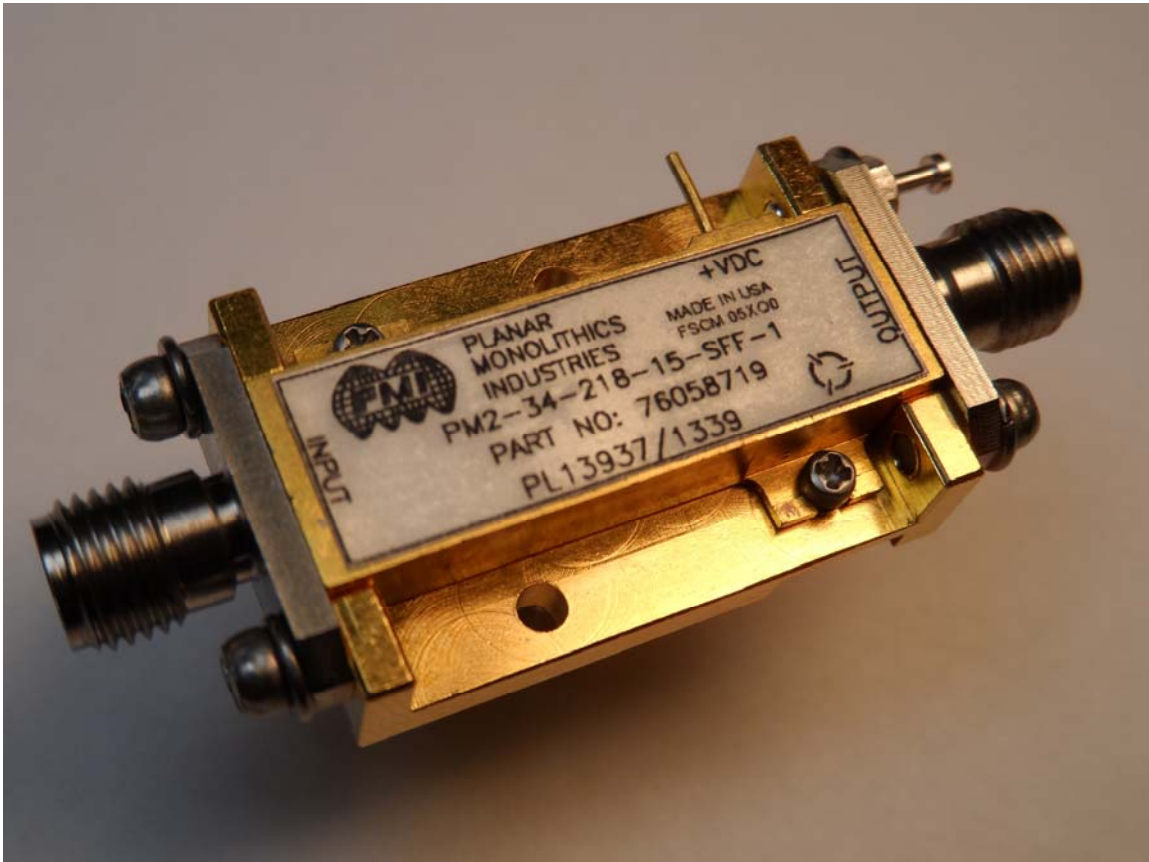




**Typical Characteristics
On
PM2-34-218-15-SFF-1**

PL13937/1339

PMI Model Number PM2-34-218-15-SFF-1 is a 2.5 to 18.0 GHz low noise amplifier that has the following specifications.



January, 09 2014

Designed By: Kevin Mason

**Reported & Tested By:
Hugo Gonzales**



Typical Characteristics On PM2-34-218-15-SFF-1

PL13937/1339

Description:
PMI Model Number PM2-34-218-15-SFF-1 is a 2.5 to 18.0 GHz low noise amplifier that has the following specifications.

- Specifications:**
- 1.1 Frequency Range: 2.5 to 18.0 GHz
 - 1.2 Gain Window: 32.0 to 36.0dB @ -40°C - +95°C
32.0 to 37.0dB @ -54°C - +95°C
 - 1.3 Gain Flatness: +/- 1.5dB Max.
 - 1.4 Noise Figure: 4.7dB Max.
 - 1.5 OP1dB: +16dBm Min.
 - 1.6 Max Input Power: +15dBm CW Max.
 - 1.7 VSWR Input/Output: 2.0:1 Max.
 - 1.8 DC Voltage Supply: +15VDC +/-10%
 - 1.9 DC Current Draw: 350mA Max.
 - 2.0 Connectors In/Out: RF Pins
Gold Plated

NOTE: See FIGURE 1 For Definition For Para. 1.2 and 1.3
All specifications to be met over the operating temperature range.

Test Data Requirements:

- The following test data shall be provided:
- 1. At +25°C
Para. 1,2,1.3, 1.5, 1.8 and 1.9
 - 2. At +95°C
Para. 1,2, 1.3, 1.4 and 1.9
 - 3. At -54°C
Para. 1,2, 1.3 and 1.9
 - 4. At -40°C
Para. 1,2 and 1.3

Table 1-1: Temperature Shock (Real Condition)

Condition (Real Step)	Temp (°C)	Time (Exposure (Min))
1	+25	30Min
2	+95	30Min
3	-54	30Min
4	-40	30Min

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

Environmental Ratings:

- Temperature: -54 to +95 Deg. C (Operating), MIL-E-5400K TABLE I, CLASS 3, COLUMN 1, -62 to +125 Deg. C (Storage), MIL-E-5400K TABLE I, CLASS 3 COLUMN IX
Altitude: 70,000 ft. MIL-STD-202F, METHOD 105C TEST COND C
Vibration: MIL-STD-202F, METHOD 214A, Table 214-1, TEST COND H
Shock: MIL-STD-202F, METHOD 2138 TEST COND A.
Humidity: MIL-STD-202F, METHOD 2138 TEST COND A.
Temperature Shock: MIL-STD-202F, METHOD 107G
-Test Condition as follows: Number of Cycles = 10

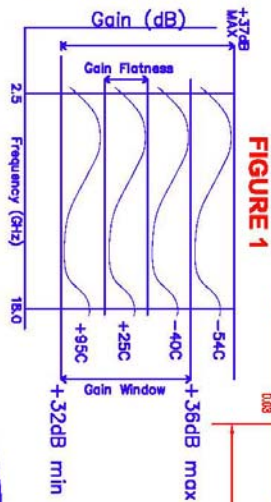
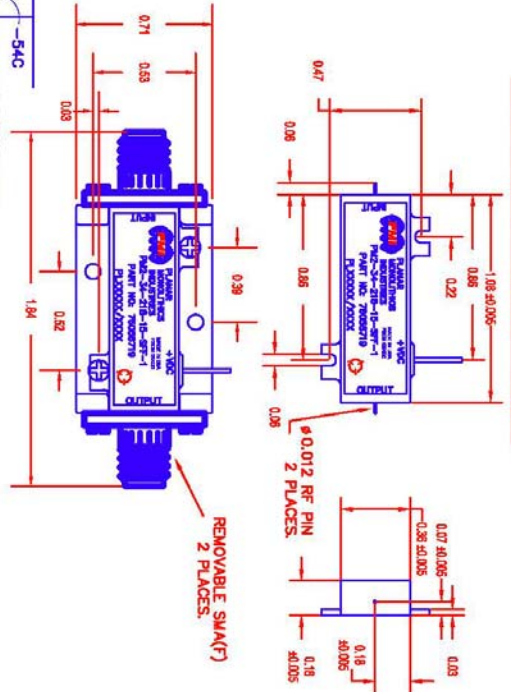


FIGURE 1



MECHANICAL OUTLINE

REVISIONS		DATE	APPROVED
ZONE	REV	DESCRIPTION	
	1	ORIGINAL RELEASE	7/18/18

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

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 9001:2008 CERTIFIED

PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS	DATE	TITLE
DESIGNED	07/14/18	PRODUCT FEATURE
MODIFIED		PM2-34-218-15-SFF-1
SCALE N: S	SHEET 1 OF 1	REV 1



Typical Characteristics On PM2-34-218-15-SFF-1

PL13937/1339

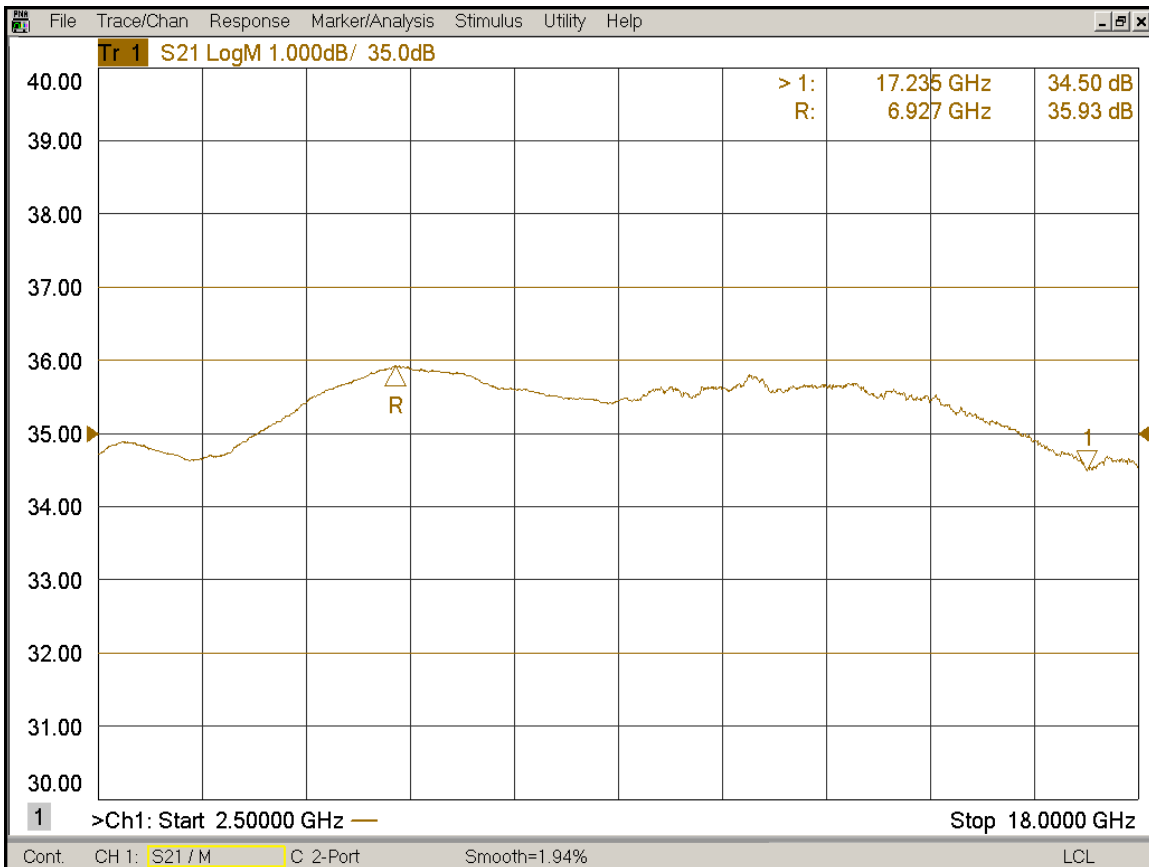
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	2.5 GHz – 18.0 GHz	2.5 GHz – 18.0 GHz See Plot	
2	Gain Window:	+32dB to +36dB Max.	35.93dB -54°C 35.79dB -40°C 35.62dB +25°C 33.71dB +95°C See Plots	
3	Gain Flatness:	±1.5dB Max.	±0.7dB -54°C ±0.6dB -40°C ±0.6dB +25°C ±0.7dB +95°C See Plots	
4	Noise Figure:	4.7dB Max.	4.4dB @ 2.5 GHz +95°C See Plot	
5	Op1dB:	+16dBm Min.	≥ 16dBm +25°C Pass	
6	VSWR: (Input/Output)	2.0:1 Max	Input 1.30:1 +25°C Output 1.68:1 +25°C See Plot	
7	DC Supply:	+15VDC ±10% @ 350mA Max.	+15V ±10% @ 235mA -54°C +15V ±10% @ 275mA +25°C +15V ±10% @ 296mA +95°C	



Typical Characteristics On PM2-34-218-15-SFF-1

PL13937/1339

Gain & Return Loss -54°C

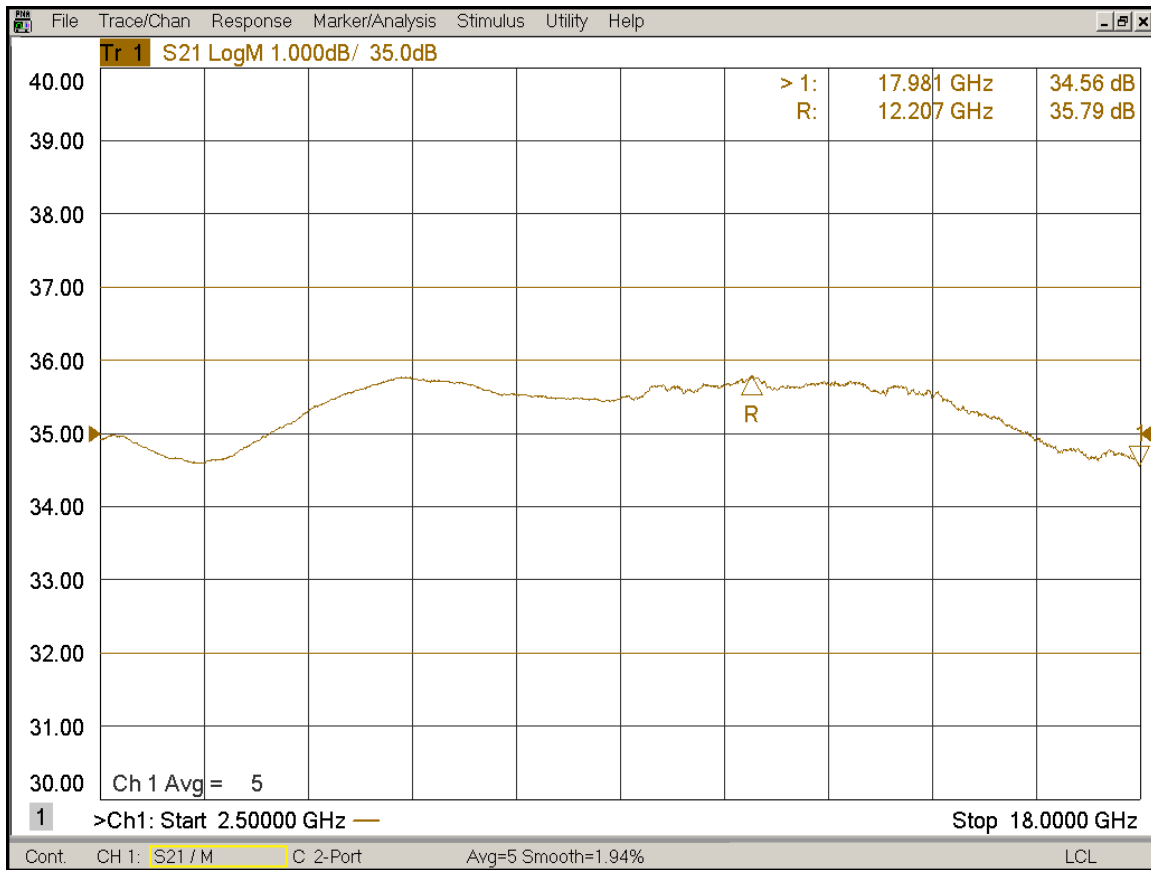




Typical Characteristics On PM2-34-218-15-SFF-1

PL13937/1339

Gain & Return Loss -40°C

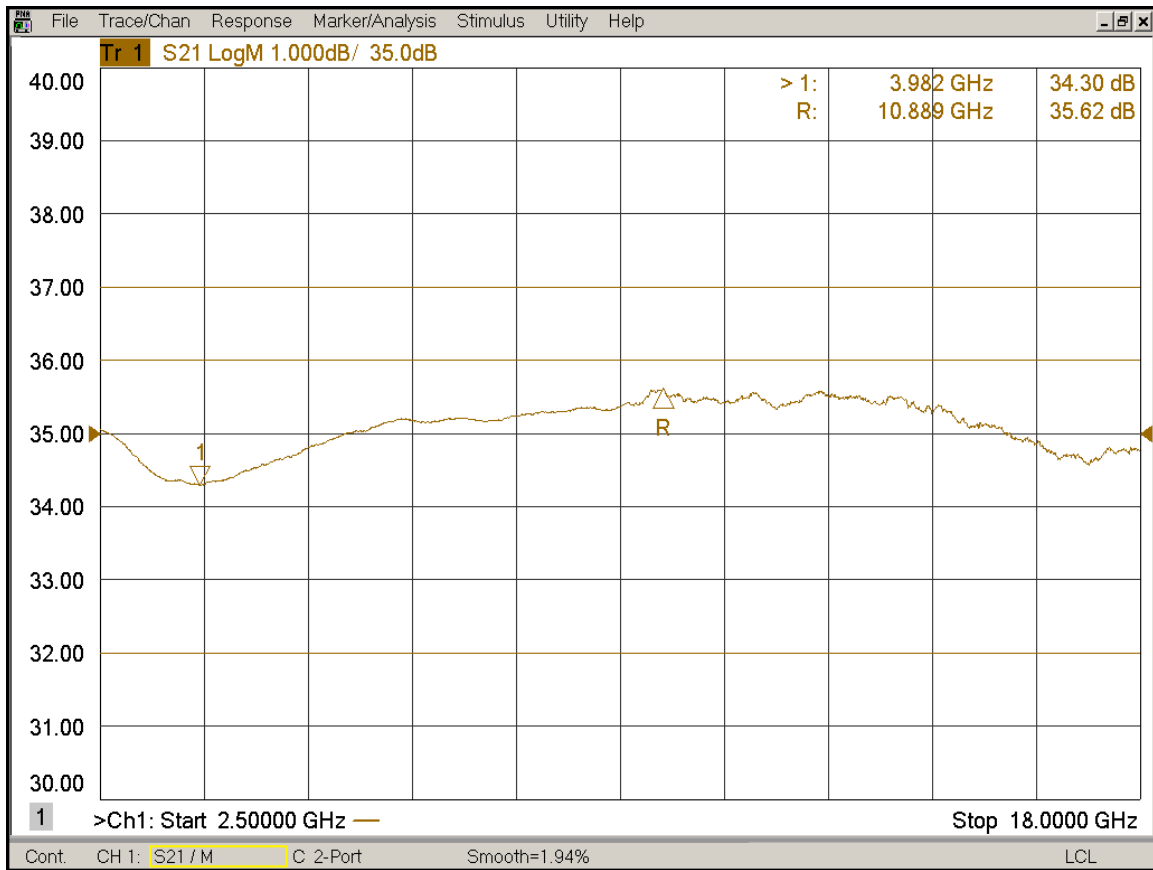




Typical Characteristics On PM2-34-218-15-SFF-1

PL13937/1339

Gain & Return Loss +25°C

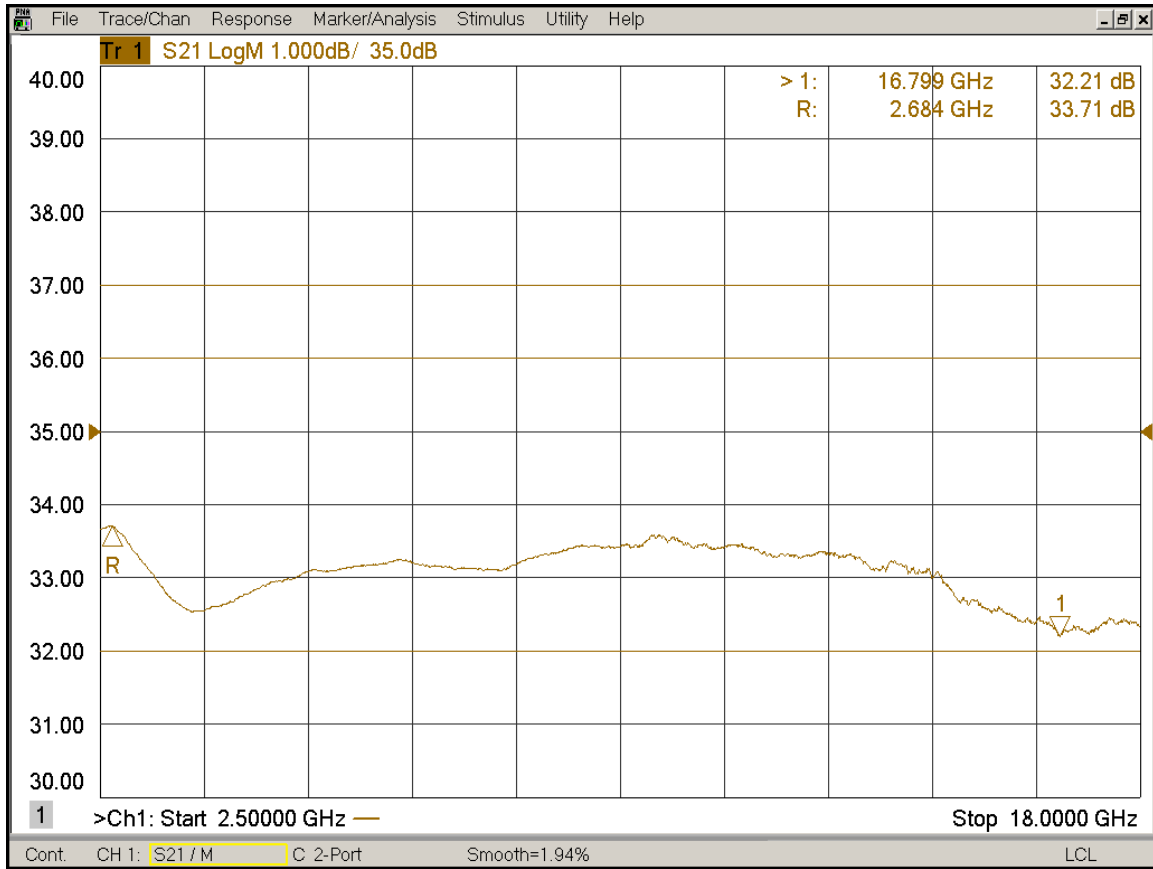




Typical Characteristics On PM2-34-218-15-SFF-1

PL13937/1339

Gain Return Loss +95°C

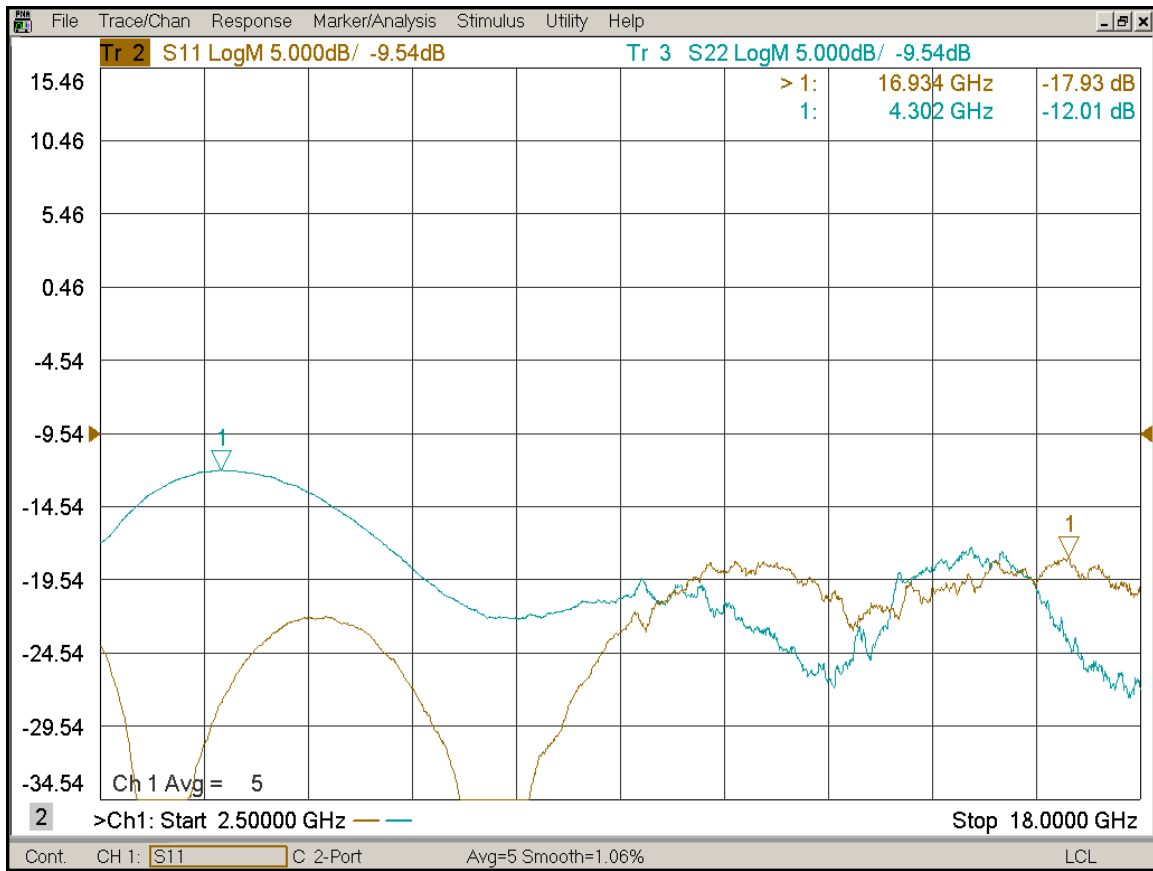




Typical Characteristics On PM2-34-218-15-SFF-1

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Input & Output Return Loss +25°C

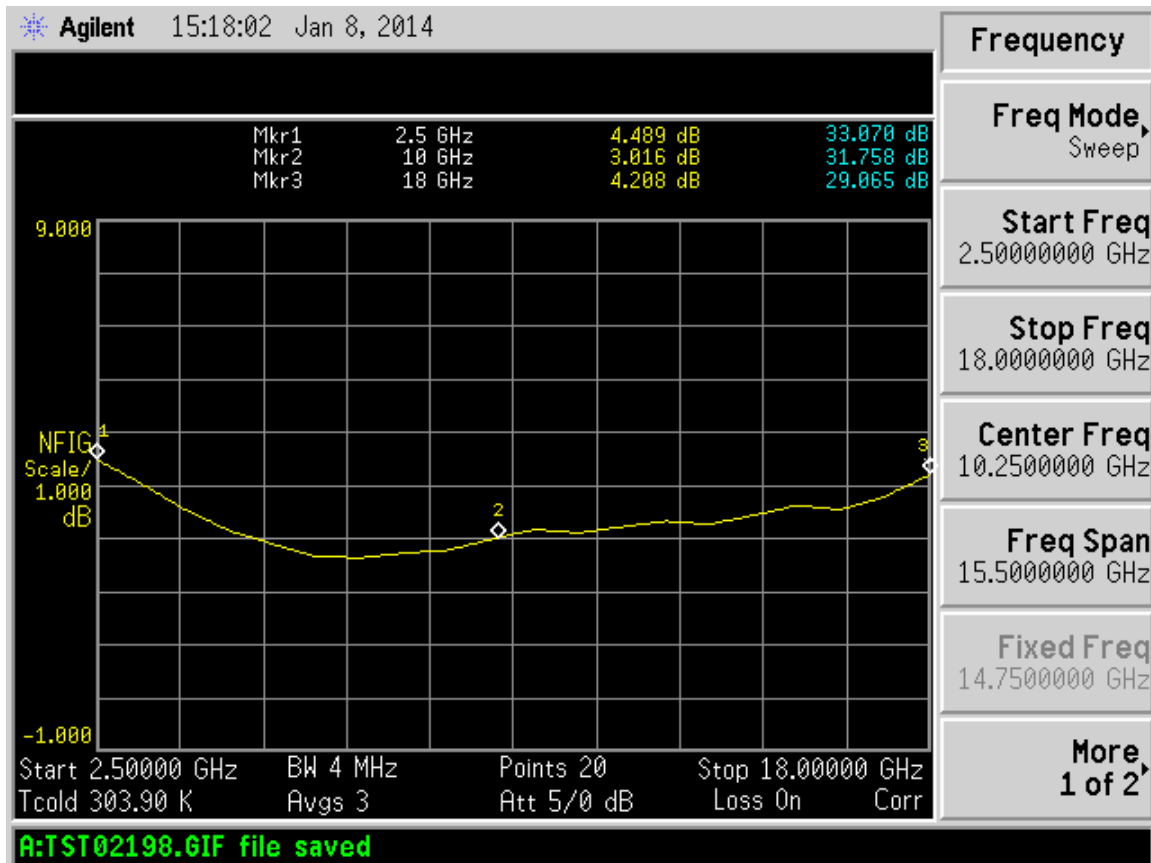




Typical Characteristics On PM2-34-218-15-SFF-1

PL13937/1339

Noise Figure +95°C

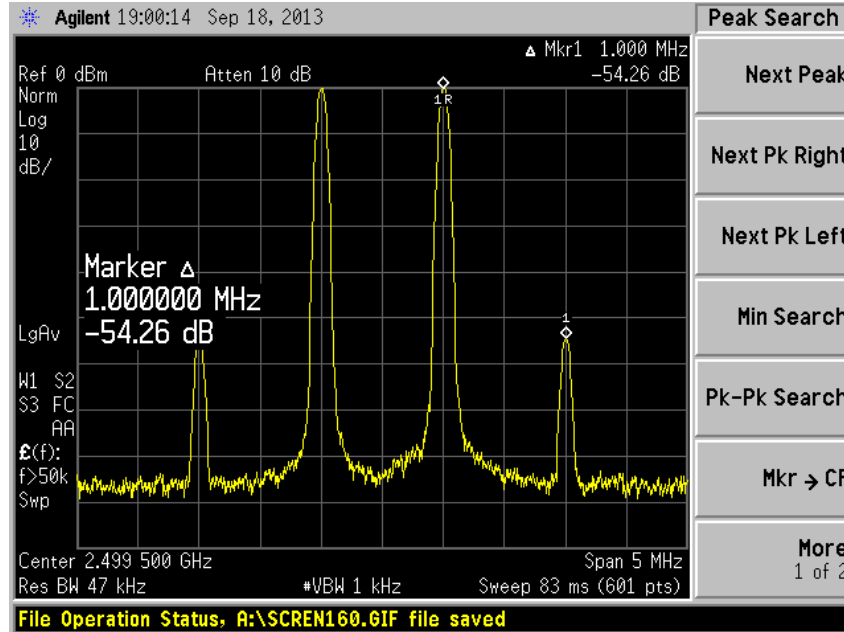




Typical Characteristics On PM2-34-218-15-SFF-1

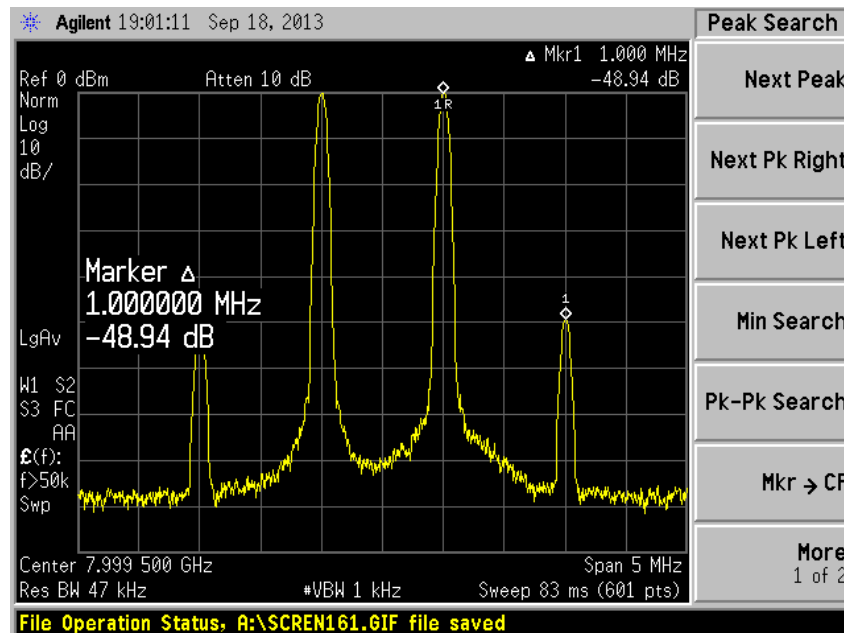
PL13937/1339

OIP3 @ 2.5 GHz



$$\text{OIP3} = \text{Pout} + \text{dBc}/2 + 27.13\text{dBm} = 0 + (54.26/2)$$

OIP3 @ 8 GHz



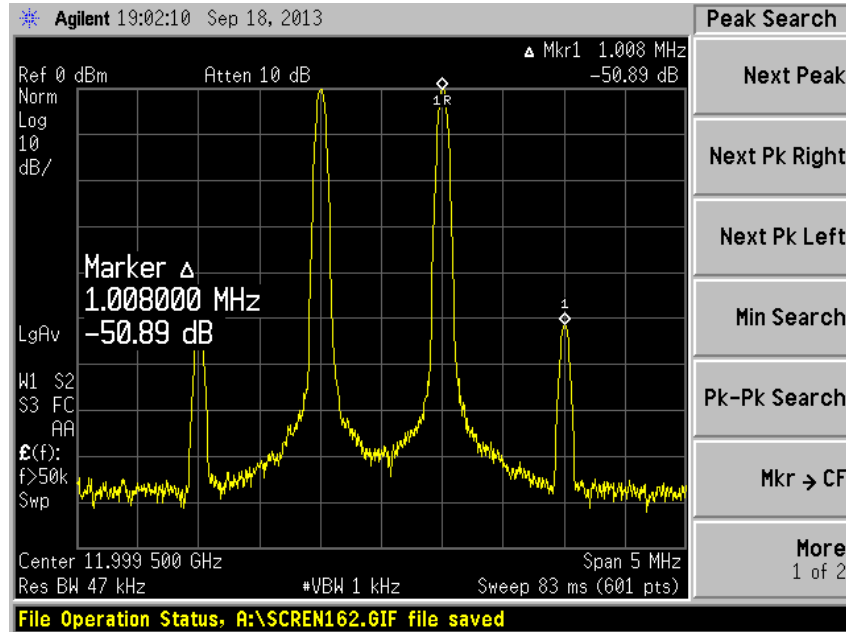
$$\text{OIP3} = \text{Pout} + \text{dBc}/2 + 24.47\text{dBm} = 0 + (48.94/2)$$



Typical Characteristics On PM2-34-218-15-SFF-1

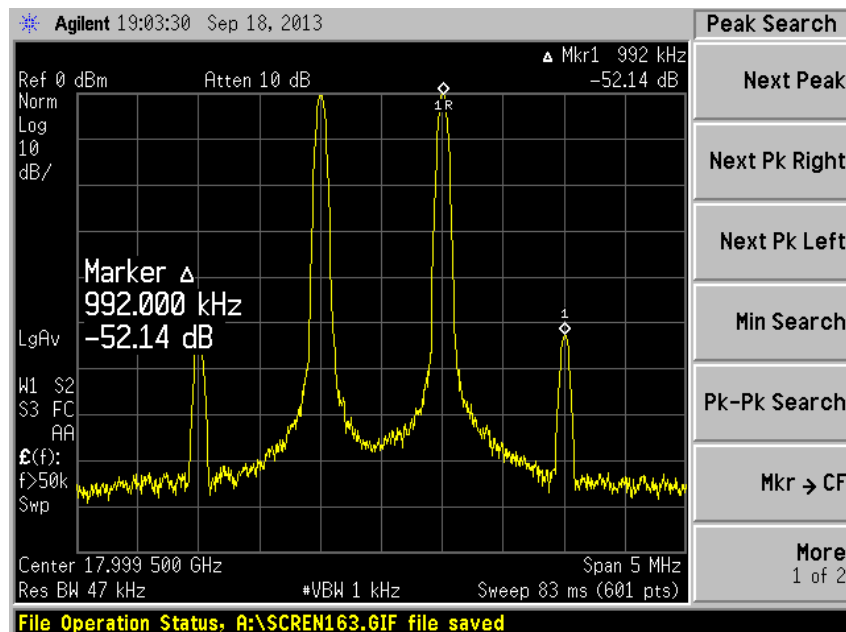
PL13937/1339

OIP3 @ 12 GHz



$$\begin{aligned} \text{OIP3} &= \text{Pout} + \text{dBc}/2 \\ &+ 25.44\text{dBm} = 0 + (50.89/2) \end{aligned}$$

OIP3 @ 18 GHz



$$\begin{aligned} \text{OIP3} &= \text{Pout} + \text{dBc}/2 \\ &+ 26.07\text{dBm} = 0 + (52.14/2) \end{aligned}$$