



**TYPICAL CHARACTERISTICS REPORT
FOR
LNA-47-0R52-4-SFF**

PMI Model No. LNA-47-0R52-4-SFF is a Low Noise Amplifier that operates over the frequency range 500 MHz to 2.0 GHz. It has a gain window of 47 dB minimum and 53 dB maximum with a gain flatness of ± 1.25 dB. This model has an output P1dB of 20 dB and a maximum noise figure of 4 dB. Outfitted with SMA female connectors this amplifier is a form, fit, function equivalent to Loral 320456.



May 14, 2020

Designed By:
J. Mattsson-Boze

Tested & Reported By:
J. Mattsson-Boze



TYPICAL CHARACTERISTICS REPORT FOR LNA-47-0R52-4-SFF

Product Feature

DESCRIPTION

PMI MODEL NO. LNA-47-0R52-4-SFF IS A LOW NOISE AMPLIFIER THAT OPERATES OVER THE FREQUENCY RANGE OF 0.5 TO 2.0 GHz. IT HAS A MINIMUM GAIN OF 47 dB AND A NOISE FIGURE OF 4 dB. THIS MODEL IS OUTFITTED WITH SMA FEMALE CONNECTORS. THIS IS A FORM, FIT, FUNCTION TO LORAL 320456.

SPECIFICATIONS

- FREQUENCY RANGE: 0.5 TO 2.0 GHz
- OUTPUT POWER P1dB: 20 dBm
- GAIN: 47 dB MIN, 53 dB MAX
- GAIN FLATNESS: ± 1.25 dB
- NOISE FIGURE: 4 dB
- VSWR IN/OUT: 2:1
- MINIMUM THIRD ORDER INTERCEPT POINT: 30 dBm
- TYPICAL SATURATED OUTPUT POWER: 23 dBm
- HARMONICS: -12 dBc
- NON-HARMONIC SPURIOUS: -50 dBc
- STABILITY: UNCONDITIONAL
- COOLING: CONVECTION
- DC VOLTAGE: 15 V
- DC CURRENT: 600 mA
- FINISH: GOLD PLATED

ENVIRONMENTAL RATINGS

- TEMPERATURE: 0 °C TO +70 °C (OPERATING)
-65 °C TO +125 °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

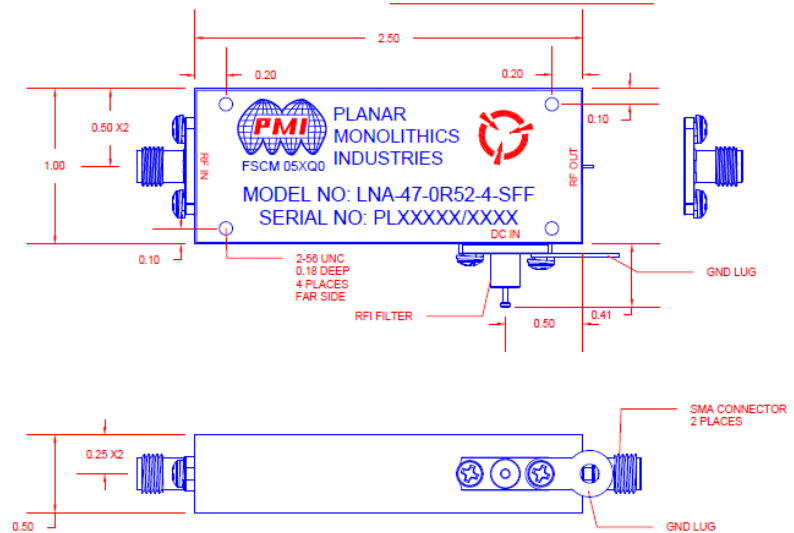
NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

PMI CONFIDENTIAL AND PROPRIETARY

ALL DIMENSIONS
ARE IN INCHES (mm)
TOLERANCES:
X.XX ± 0.020
X.XXX ± 0.010

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	PRELIMINARY	12/11/2010	

MECHANICAL OUTLINE



PLANAR MONOLITHICS INDUSTRIES, INC.
7311-F GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: (301)-662-5019, FAX: (301)-662-1731
WEB: www.pmi-rf.com, EMAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED



APPROVALS		DATE		TITLE	
DRAWN	GW	DATE	6/26/10	PRODUCT FEATURE	
REDESIGNED	LUB	DATE	12/11/10	LNA-47-0R52-4-SFF	
ISSUED		DATE			
SIZE		FSCM NO.		DWG NO.	
A		05XQ0		27037680	
SCALE		N:S		SHEET	
				1 OF 1	

7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731

Email: sales@pmi-rf.com

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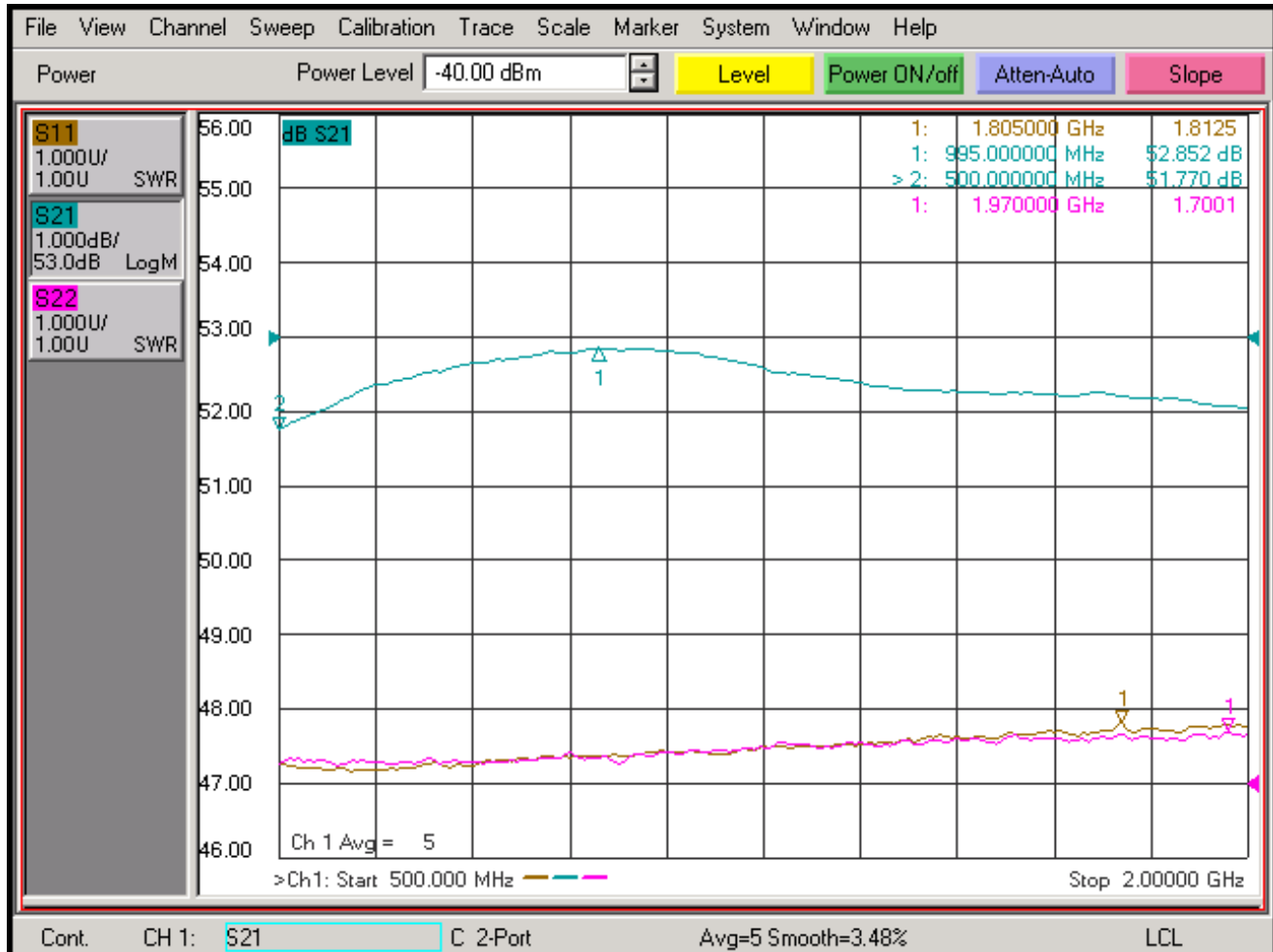
Technical Specifications @ +25C

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	Test Results	QA QC
1	Frequency Range:	0.5 GHz - 2 GHz	0.5 GHz - 2 GHz	
2	Gain:	47 dB Min, 53 dB Max	52.9 dB Max 51.8 dB Min See Plot	
3	Gain Flatness:	±1.25 dB Max	±0.5 dB See Plot	
4	Noise Figure:	4 dB Max	1.6 dB See Plot	
5	Third Order Intercept Point:	+30 dBm Min	+33.2 dBm Min See Plot	
6	Output Power P1dB:	+20 dBm Min	+22.1 dBm See Plot	
7	Saturated Output Power:	+23 dBm Min	+25.3 dBm See Plot	
8	Harmonics:	-12dBc Max	-29.5 dBc	
9	Non-Harmonic Spurious:	-50 dBc Max	<-60 dBc	
10	VSWR: (Input/Output)	2.0:1 Max	1.8:1 In 1.7:1 Out See Plot	
11	DC Supply:	+15 VDC @ 600 mA Typ.	+15 VDC @ 650 mA	



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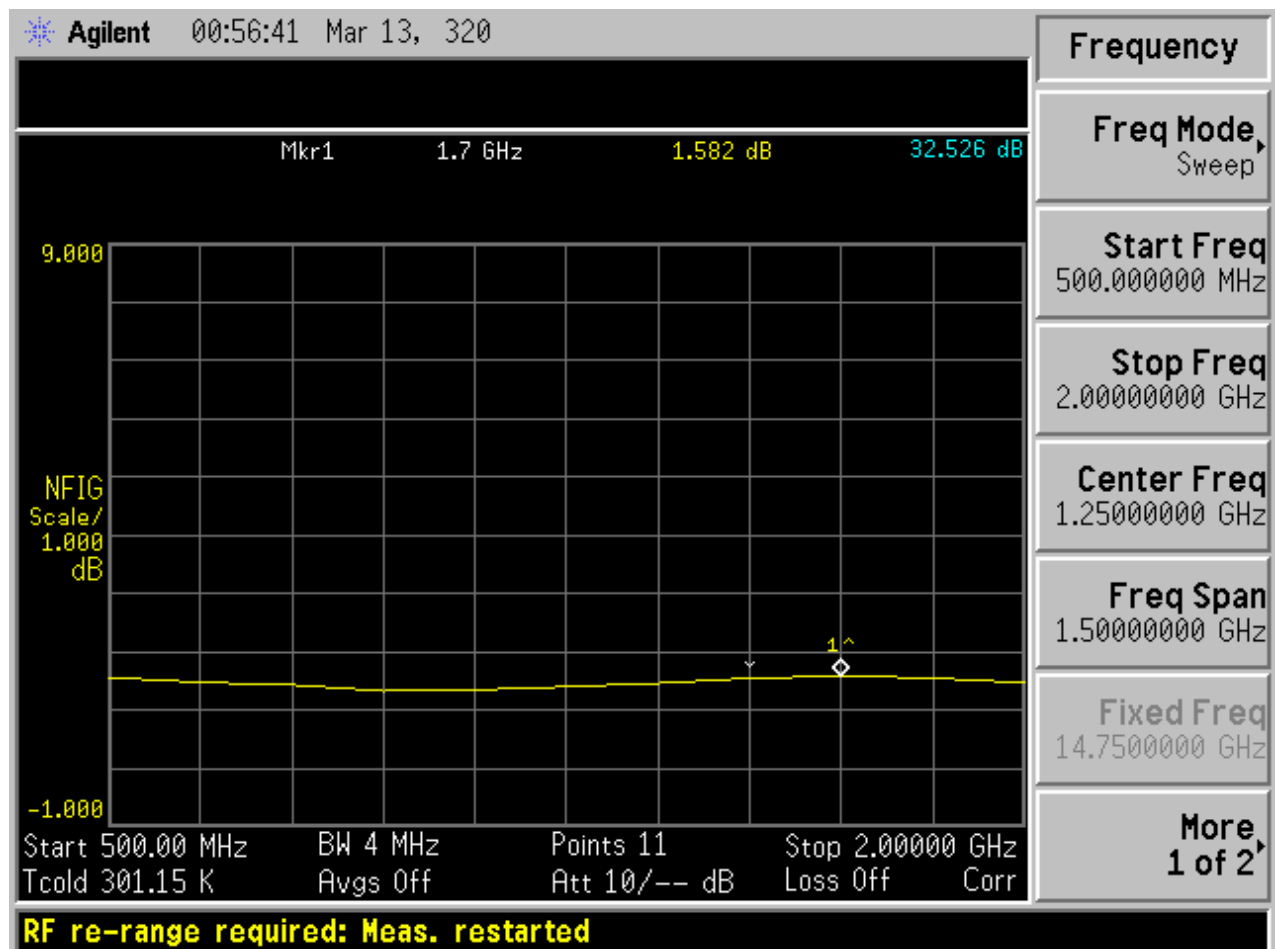
Gain and Flatness @+25C





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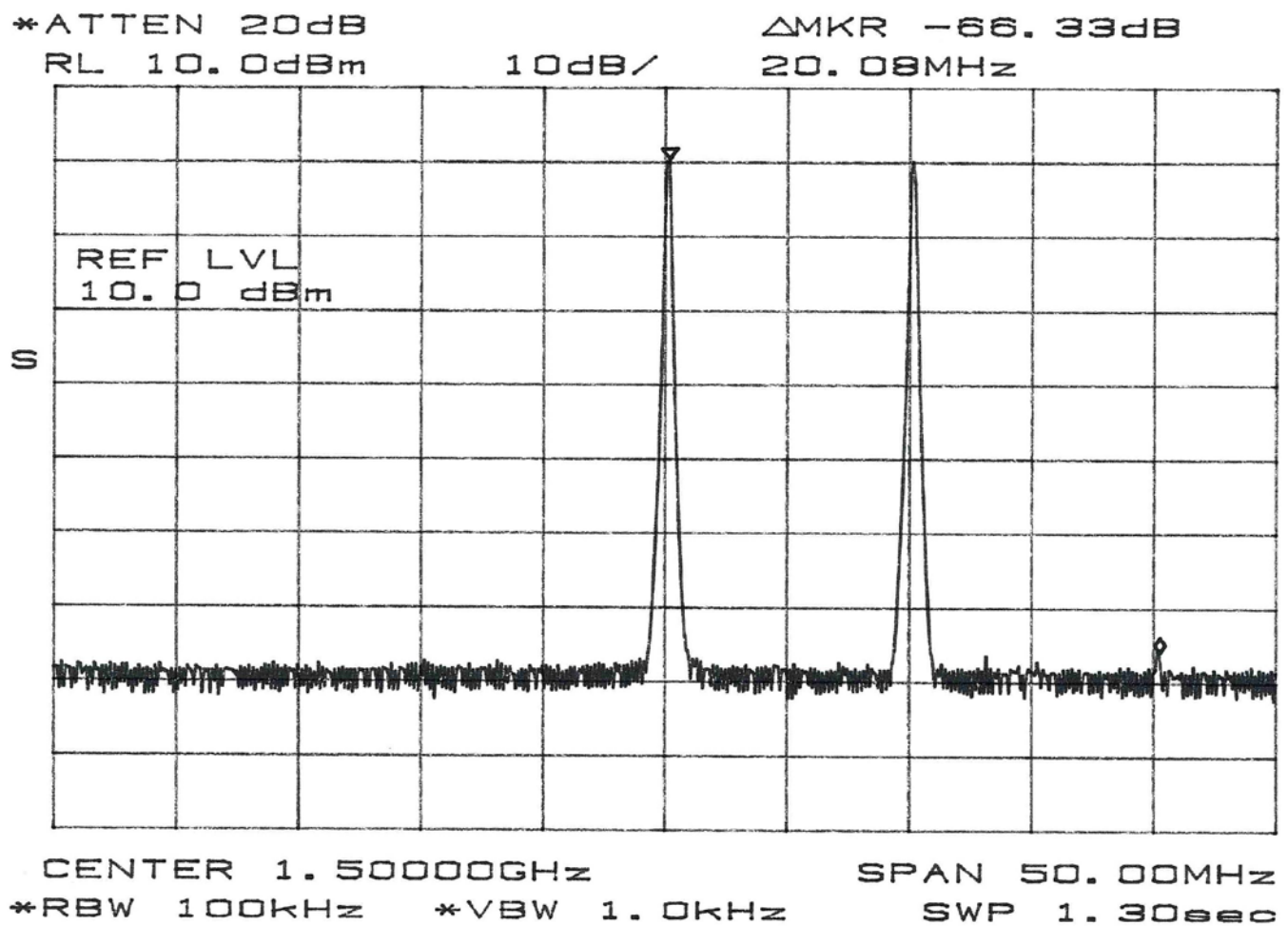
Noise Figure @+25C





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Third Order Intercept Point @+25C

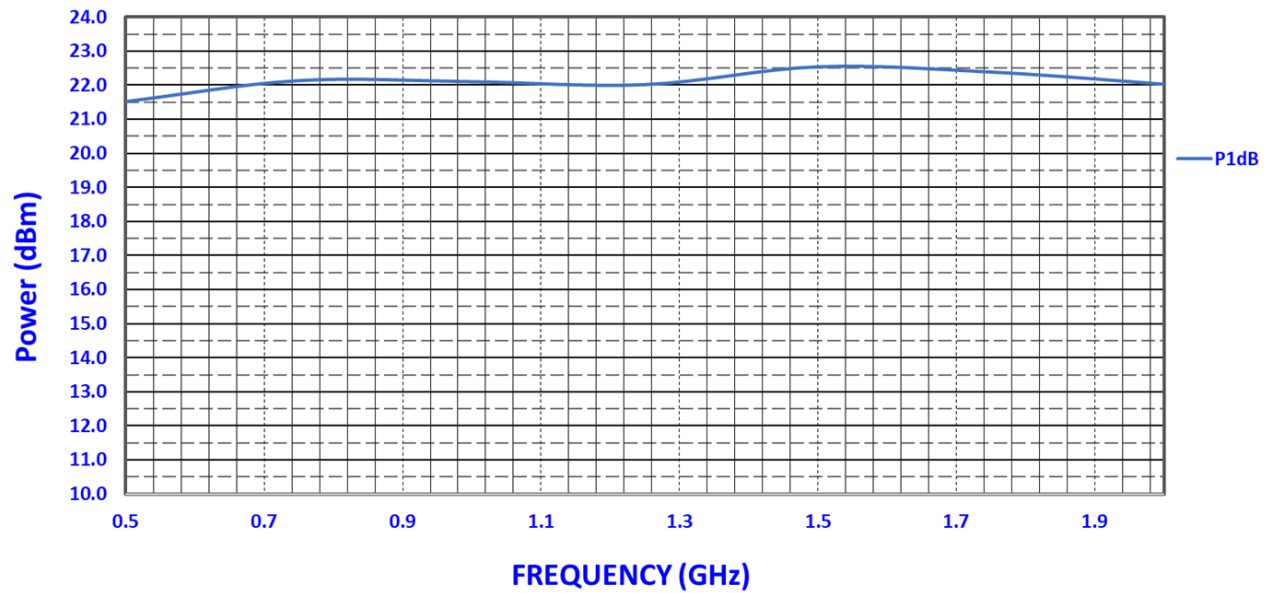




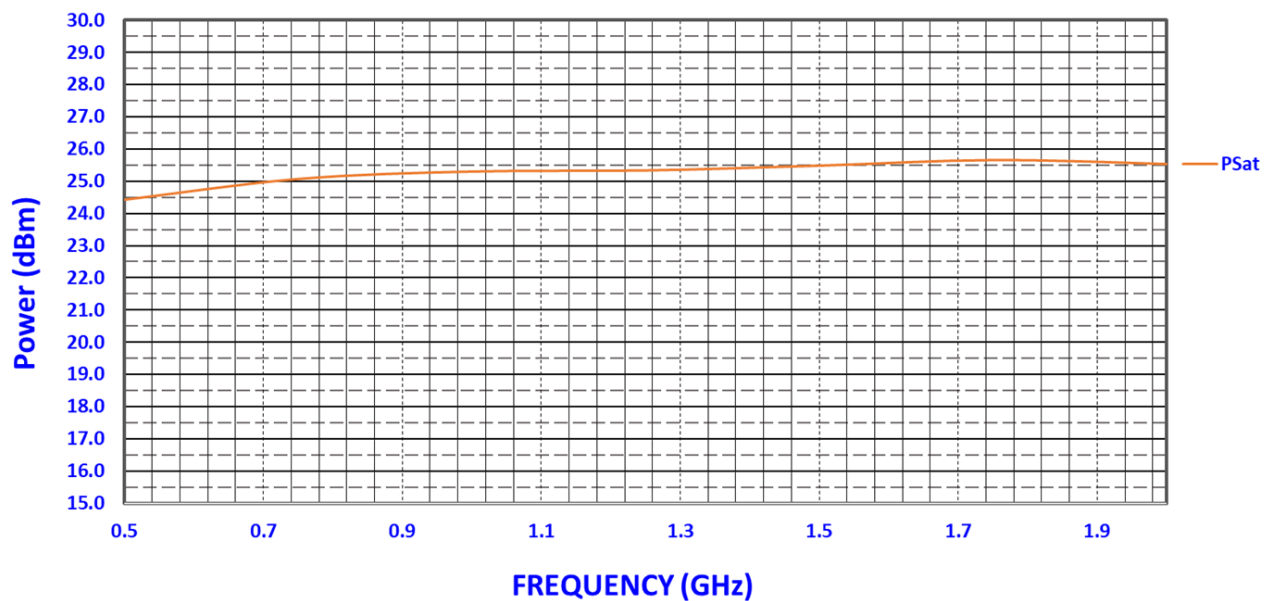
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OP1dB and PSAT @+25C

P1dB Vs Frequency



PSAT Vs Frequency



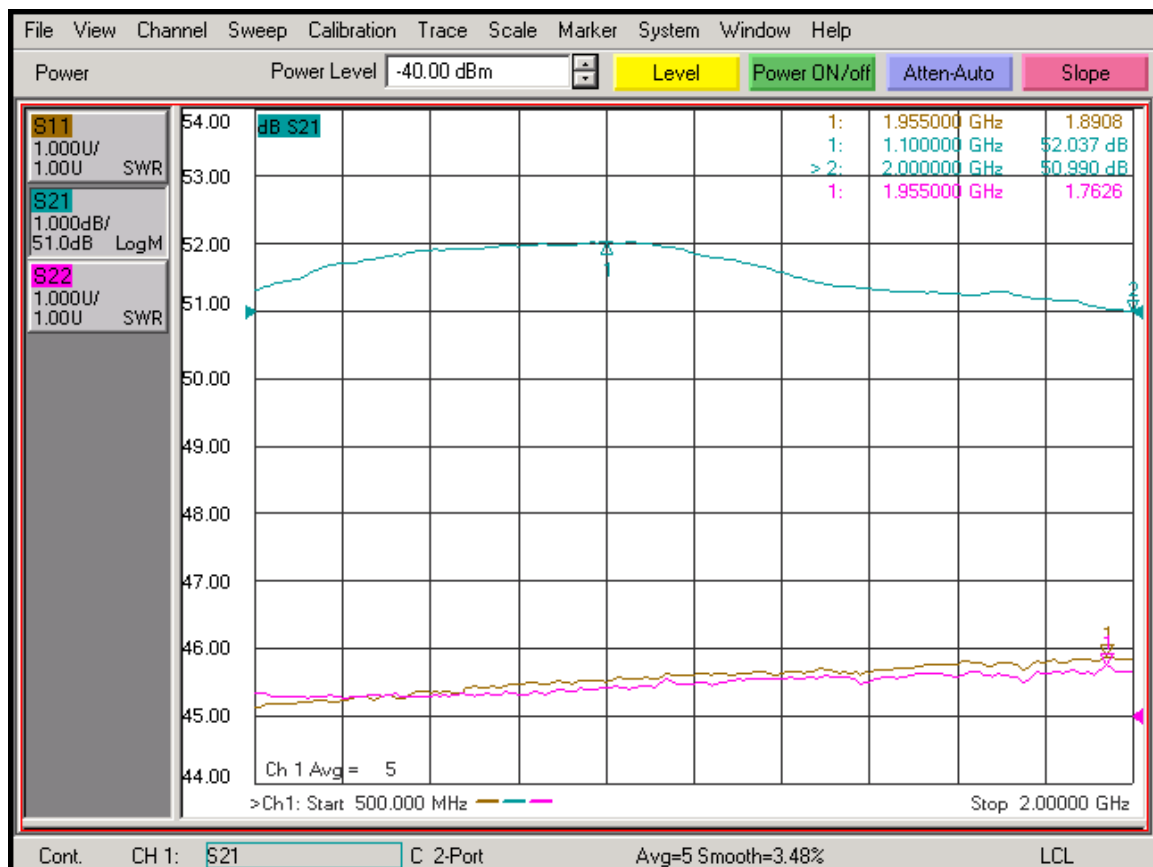


TYPICAL CHARACTERISTICS REPORT **FOR** **LNA-47-0R52-4-SFF**

Temperature Data +85°C

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	Test Results	QA QC
1	Frequency Range:	0.5 GHz - 2 GHz	0.5 GHz - 2 GHz	
2	Gain:	47 dB Min, 53 dB Max	52.0 dB Max 51.0 dB Min See Plot	
3	VSWR: (Input/Output)	2.0:1 Max	1.9:1 In 1.8:1 Out See Plot	
4	Output Power P1dB:	+20 dBm Min	+22.6 dBm See Plot	

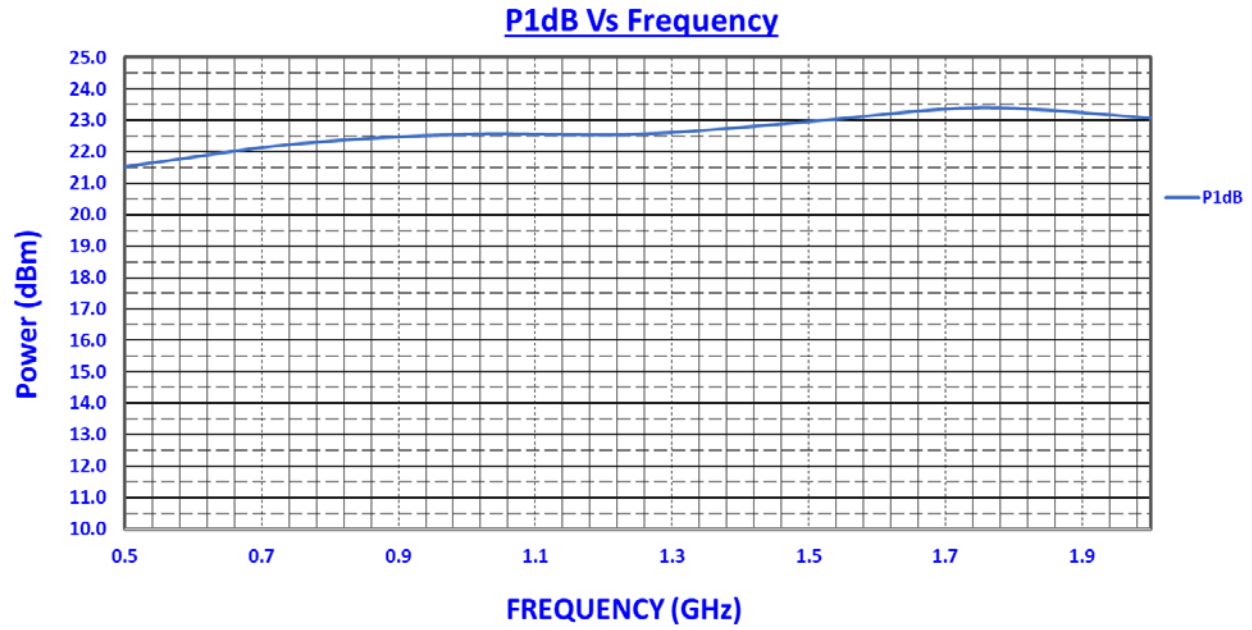
Gain and VSWR Plot +85°C





**TYPICAL CHARACTERISTICS REPORT
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OP1dB Plot +85°C



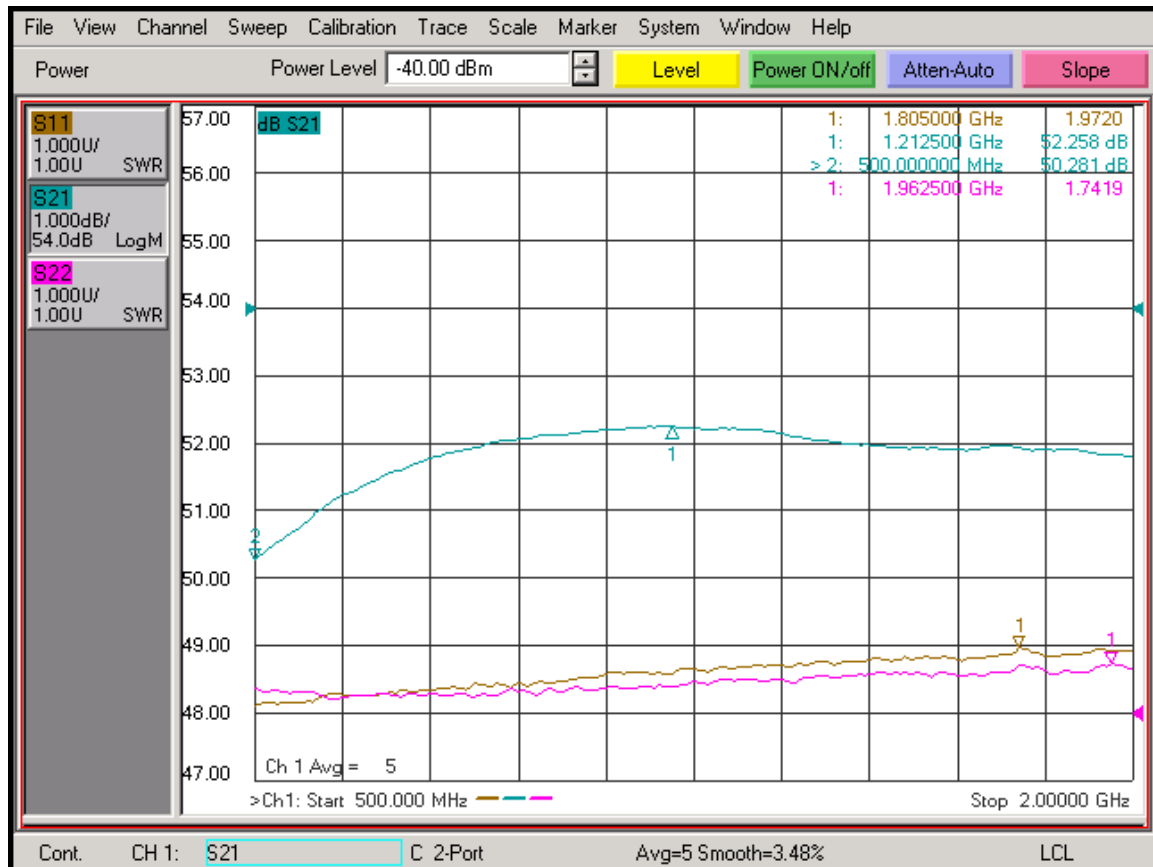


TYPICAL CHARACTERISTICS REPORT FOR LNA-47-0R52-4-SFF

Temperature Data -55°C

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	Test Results	QA QC
1	Frequency Range:	0.5 GHz - 2 GHz	0.5 GHz - 2 GHz	
2	Gain:	47 dB Min, 53 dB Max	52.3 dB Max 50.3 dB Min See Plot	
3	VSWR: (Input/Output)	2.0:1 Max	2.0:1 In 1.7:1 Out See Plot	
4	Output Power P1dB:	+20 dBm Min	+20.8 dBm See Plot	

Gain and VSWR Plot -55°C





**TYPICAL CHARACTERISTICS REPORT
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OP1dB Plot -55°C

