



Typical Characteristics ON PA-46-0D5-SFF

PMI MODEL NO. PA-46-0D5-SFF IS A POWER AMPLIFIER THAT OPERATES OVER THE FREQUENCY RANGE OF 0.5 TO 3.0 GHz. IT HAS A TYPICAL SMALL SIGNAL GAIN OF 46 dB AND A MAXIMUM NOISE FIGURE OF 6.0 dB. THIS MODEL IS OUTFITTED WITH SMA FEMALE CONNECTORS.



November 29, 2021

Tested and Reported By:

Alfredo Lopez



Typical Characteristics ON PA-46-0D5-SFF

Outline Drawing

DESCRIPTION

PMI MODEL NO. PA-46-0D5-SFF IS A POWER AMPLIFIER THAT OPERATES OVER THE FREQUENCY RANGE OF 0.5 TO 3.0 GHz. IT HAS A TYPICAL SMALL SIGNAL GAIN OF 46 dB AND A MAXIMUM NOISE FIGURE OF 6.0 dB. THIS MODEL IS OUTFITTED WITH SMA FEMALE CONNECTORS.

SPECIFICATIONS

- FREQUENCY RANGE: 0.5 TO 3.0 GHz
- SMALL SIGNAL GAIN S21 (f = 1750 MHz): -44 dB MIN, 46 dB TYP
- GAIN FLATNESS: ±2.5 dB TYP, ±3.0 dB MAX
- OUTPUT POWER P_{OUT} @ $P_{IN} = -5$ dBm: +38 dBm MIN, +40 dBm TYP (f = 1750 MHz)
- OUTPUT IP3 (f = 1750 MHz): +49 dBm MIN, +51 dBm TYP
- REVERSE ISOLATION S12 (f = 1750 MHz): -65 dB MIN, -70 dB TYP
- NOISE FIGURE (f = 1750 MHz): 5.0 dB TYP, 6.0 dB MAX
- EFFICIENCY AT $P_{OUT} = +40$ dBm (f = 1750 MHz): 18% MIN, 20% TYP
- INPUT VSWR S11 (f = 1750 MHz): 1.7:1 TYP, 2.0:1 MAX
- DC POWER SUPPLY: +11 V MIN, +12 V TYP, +15 V MAX
- SUPPLY CURRENT QUIESCENT (NO RF): 3800 mA TYP, 4000 mA MAX
- SUPPLY CURRENT QUIESCENT @ $P_{OUT} = +40$ dBm: 5800 mA TYP, 6800 mA MAX
- SIZE (EXCLUDING CONNECTORS): 7.00" X 3.25" X 2.00"
- WEIGHT: 24 oz

ABSOLUTE MAXIMUM RATINGS

- SUPPLY VOLTAGE: +16 V
- RF INPUT POWER: +5 dBm
- OPERATING TEMPERATURE: -30°C TO +65°C
- STORAGE TEMPERATURE: -55°C TO +125°C

ENVIRONMENTAL RATINGS

- TEMPERATURE: -30 °C TO +65 °C (OPERATING)
-55 °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

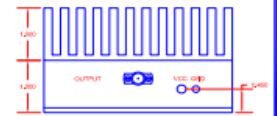
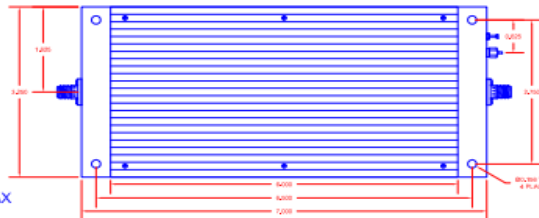
NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

PMI CONFIDENTIAL AND PROPRIETARY

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

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	11/9/2011	
	A2	ECN # 21-0190	11/22/2011	

MECHANICAL OUTLINE



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ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN	<i>GW</i>	12/20/10	PRODUCT FEATURE PA-46-0D5-SFF		
REDRAWN			REV. A	PSDM NO. 05XQ0	DWG NO. 27043120
ISSUED			SCALE: N:S	SHEET 1 OF 1	



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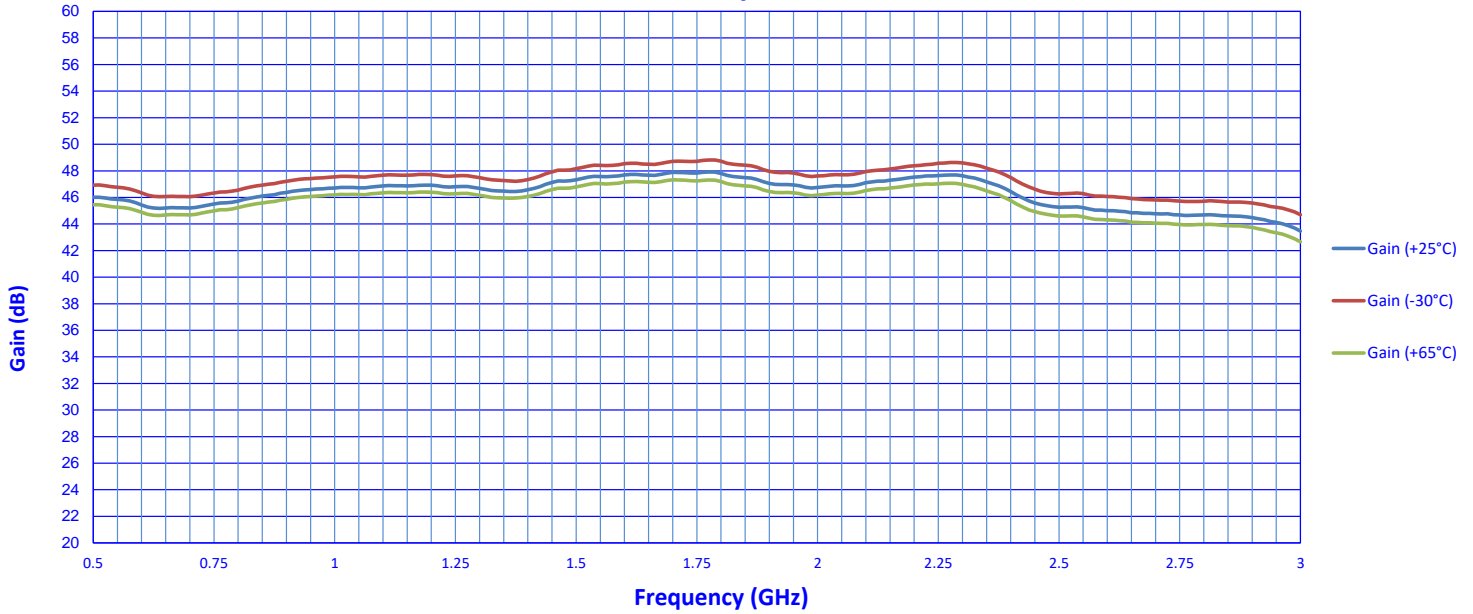
Technical Specifications

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results			QA QC
			+25°C	-30°C	+65°C	
1	Frequency Range:	0.5 to 3.0 GHz	0.5 to 3.0 GHz	0.5 to 3.0 GHz	0.5 to 3.0 GHz	
2	Small Signal Gain S21: (1750 MHz)	+44 dB Min. +46 dB Typ.	47.83 dB See Graph	48.71 dB See Graph	47.24 dB See Graph	
3	Gain Flatness:	±2.5 dB Typ. ±3.0 dB Max.	2.22 dB Max. -2.22 dB Min. See Graph	2.06 dB Max. -2.06 dB Min. See Graph	2.33 dB Max. -2.33 dB Min. See Graph	
4	Output Power: (Pout @ PIN -5dBm) (1750 MHz)	+38 dBm Min. +40 dBm Typ.	38.6 dBm See Graph	38.6 dBm See Graph	38.6 dBm See Graph	
5	Output IP3: (1750 MHz)	+49 dBm Min. +51 dBm Typ.	51.33 dBm See Plot	51.33 dBm See Plot	51.33 dBm See Plot	
6	Reverse Isolation S12: (1750 MHz)	-65 dB Min. -70 dB Typ.	-65.29 dB See Graph	-69.12 dB See Graph	-66.27 dB See Graph	
7	Noise Figure: (1750 MHz)	5 dB Typ. 6 dB Max.	5.41 dB See Plot	5.41 dB See Plot	5.41 dB See Plot	
8	Efficiency At Pout: (+40dBm @ 1750 MHz)	18% Min. 20% Typ.	18.85%	18.85%	18.85%	
9	Input VSWR S11: (1750 MHz)	1.7:1 Typ. 2.0:1 Max.	1.6 :1 See Graph	1.57 :1 See Graph	1.61 :1 See Graph	
10	DC Power Supply:	+11 VDC Min. +12 VDC Typ. +15 VDC Max.	Pass	Pass	Pass	
11	Supply Current Quiescent (No RF):	3800 mA Typ. 4000 mA Max.	3910 mA	3900 mA	3930 mA	
12	Supply Current Quiescent @ Pout = +40 dBm	5800 mA Typ. 6800 mA Max.	6600 mA	6500 mA	6700 mA	

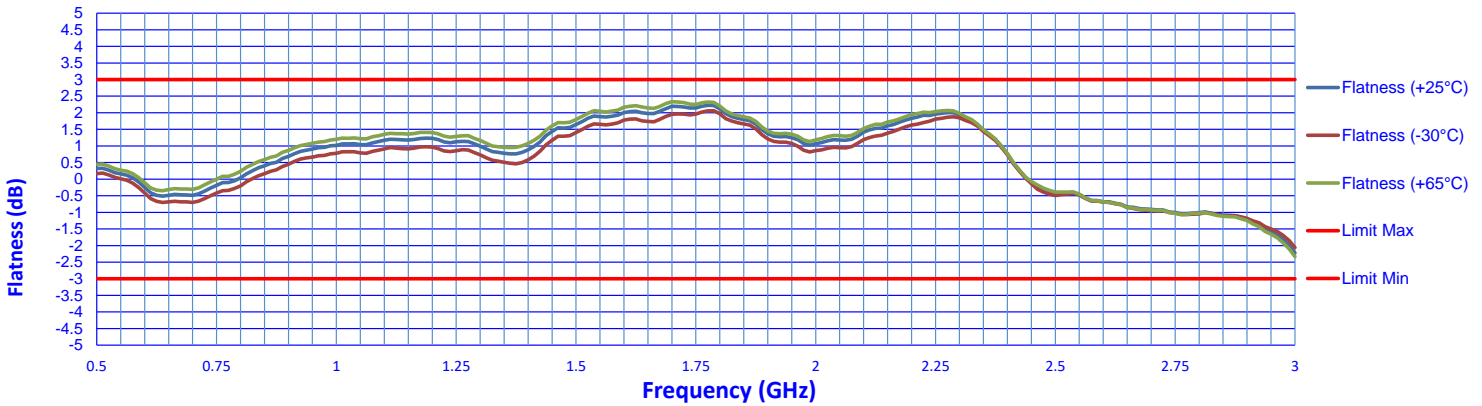


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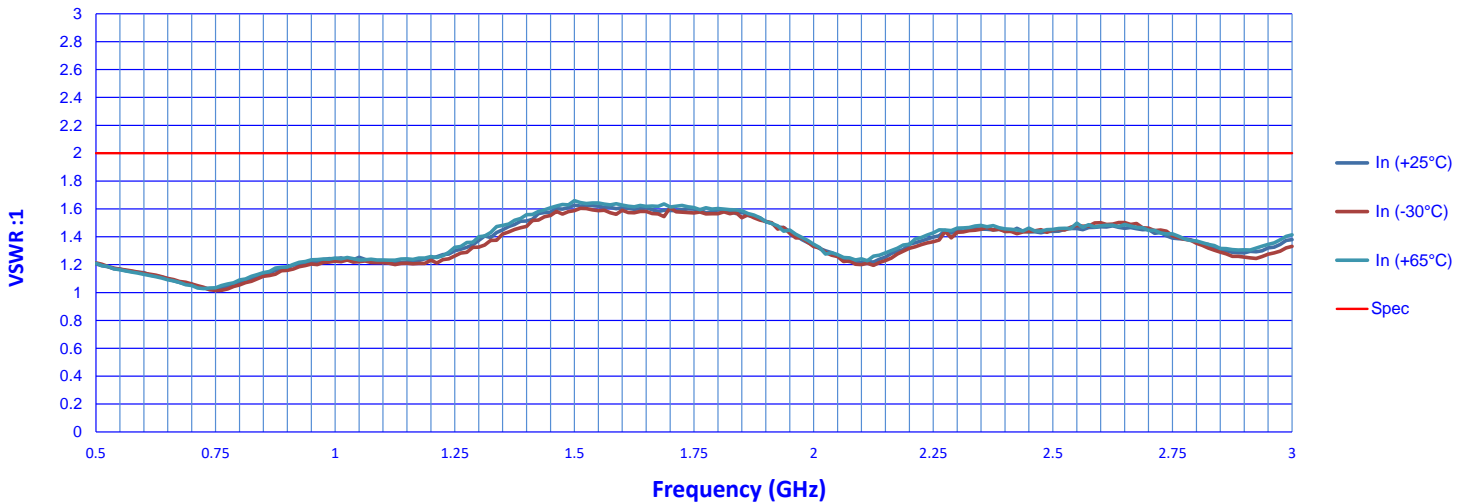
Gain Vs Temperature



Gain Flatness Vs Temperature



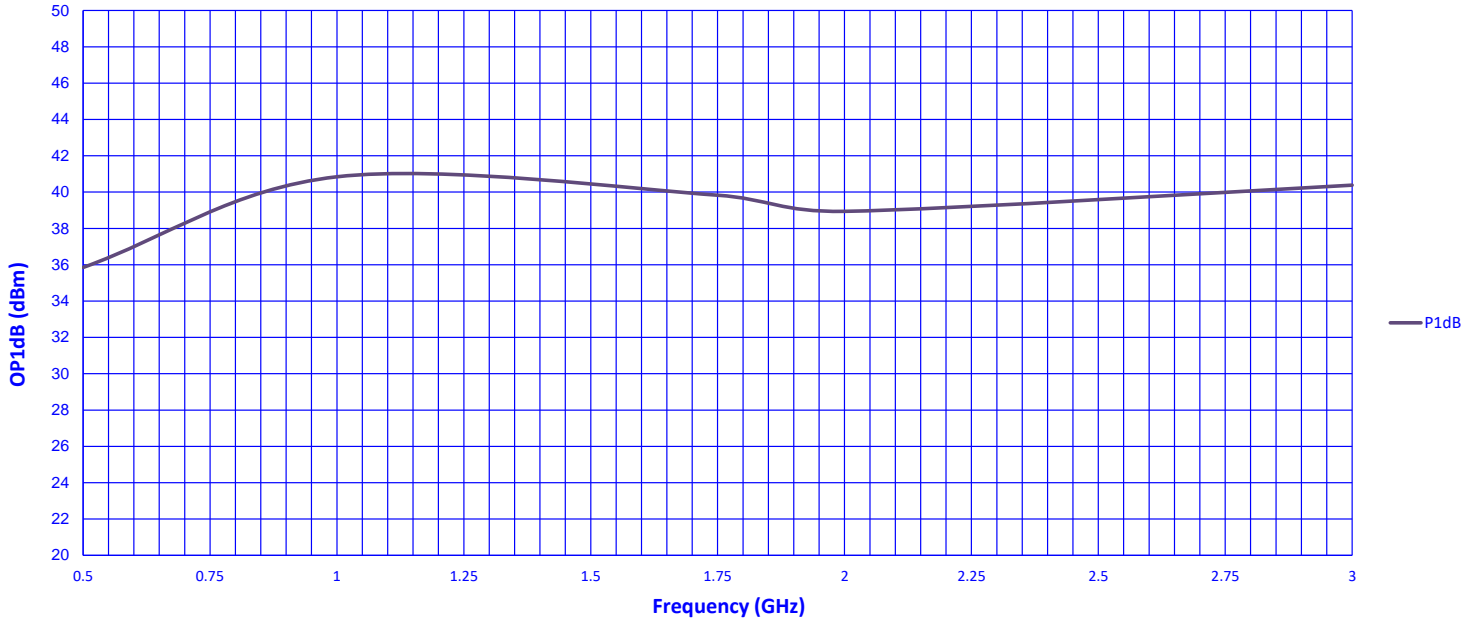
VSWR (In) Vs Temperature



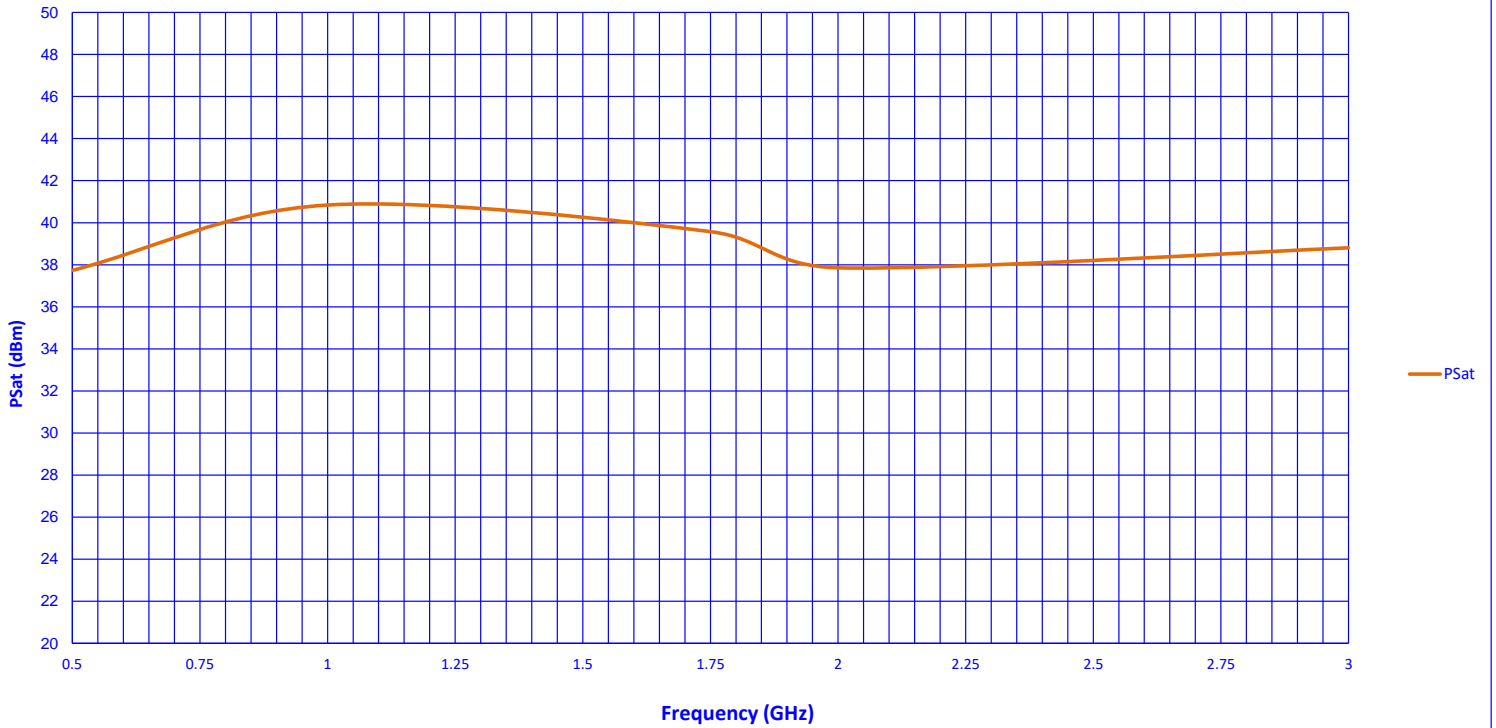


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OP1dB



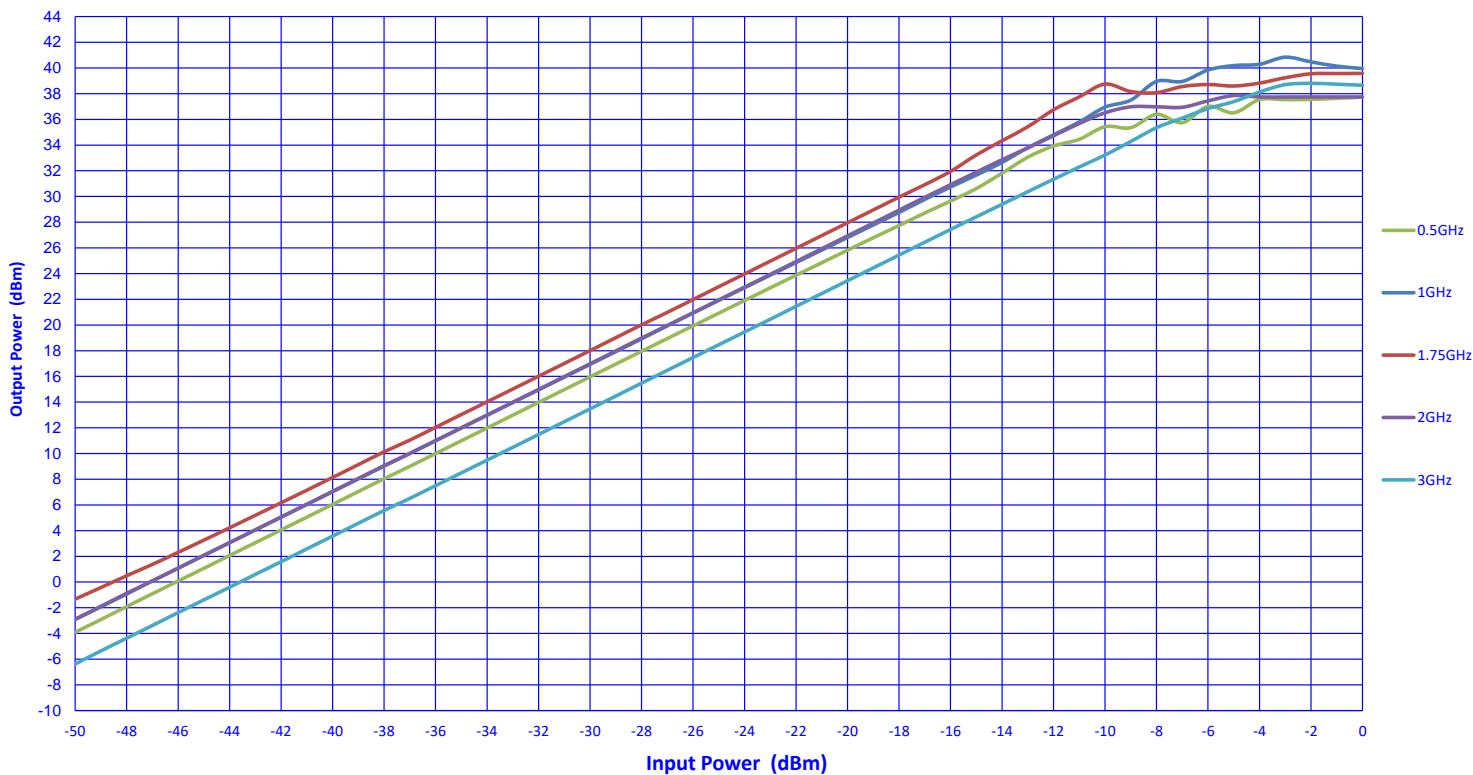
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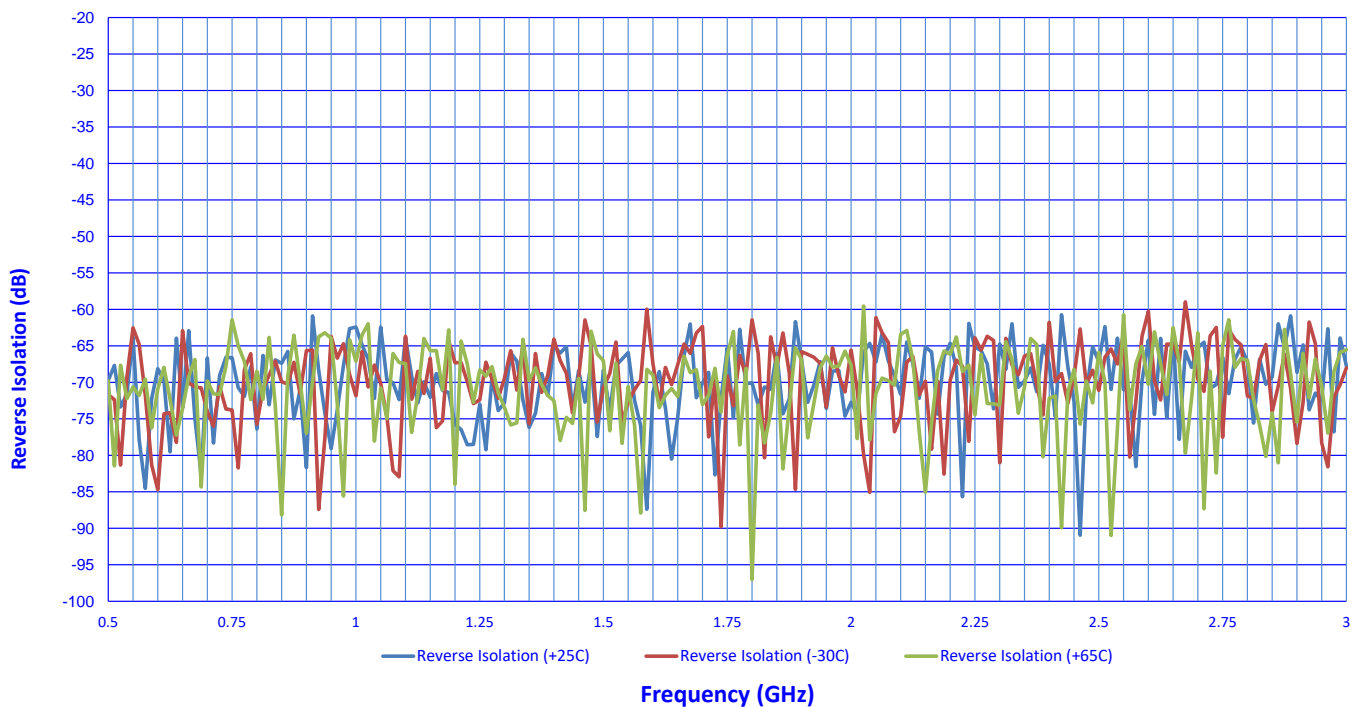


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Input Power Vs Output Power



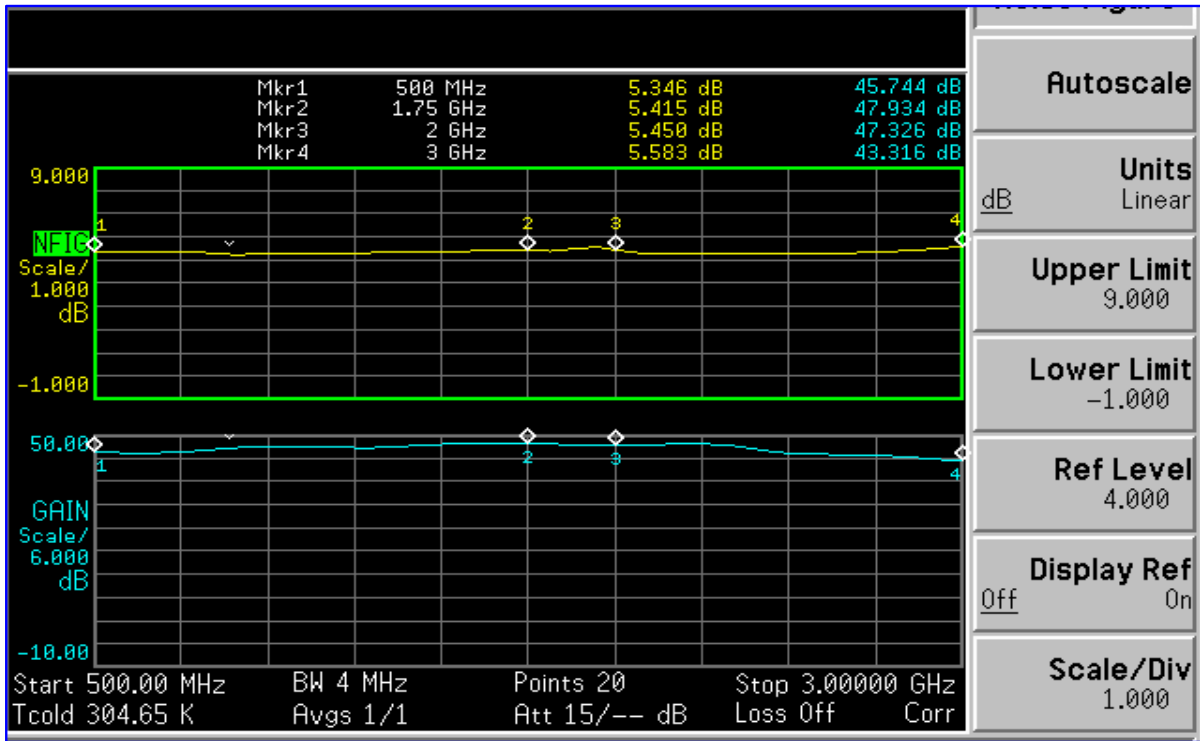
Reverse Isolation Vs Temperature





Typical Characteristics ON PA-46-0D5-SFF

Noise Figure



Output IP3

