P/N:DBLNA200300300B

QOTANA TECHNOLOGIES Ultra Wide Band Low Noise Amplifier 0.3GHz~3GHz

Features

- Gain: 15dB Typical
- Noise Figure: 1.5dB Typical
- P1dB Output Power: +21dBm Typical
- Supply Voltage: +5V



Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Fiber Optics

RF Microwave & VSAT
Test Instrument

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.3		1	1		2	2		3	GHz
Gain	12	15		10	13		6	9		dB
Gain Flatness		±0.8			±1.5			±1.5		dB
Gain Variation Over Temperature (-45 to +85)		±0.3			±0.3			±0.4		dB
Noise Figure		2.0	2.5		1.6	2.5		1.5	2.8	dB
Input Return Loss		5			8			13		dB
Output Return Loss		7			9			9		dB
Output 1dB Compression Point (P1dB)	20	21		20	21		20	21		dBm
Saturated Output Power (Psat)		23			23			23		dBm
Output Third Order Intercept (OIP3)		28			28			28		dBm
Supply Current (Idd) (Vcc=+5V)		90	110		90	110		90	110	mA
Isolation S12		-20			-18			-16		dB

Weight	0.35 ounces	Impedance	50 ohms
Input / Output Connectors	SMA-Female	Material	Aluminum
Finishing	Standard: Gold 40 micron; Nickel 220 micron thickness	Package Sealing	Epoxy Sealed (Standard)
	Option: Gold 80 micron; Nickel 180 micron thickness		Hermetically Sealed (Option with extra charge)

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Absolute Maximum Ratings

Operating Voltage	+6V
RF Input Power (RFIN)	15dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +5V biasing

Power OFF Procedure

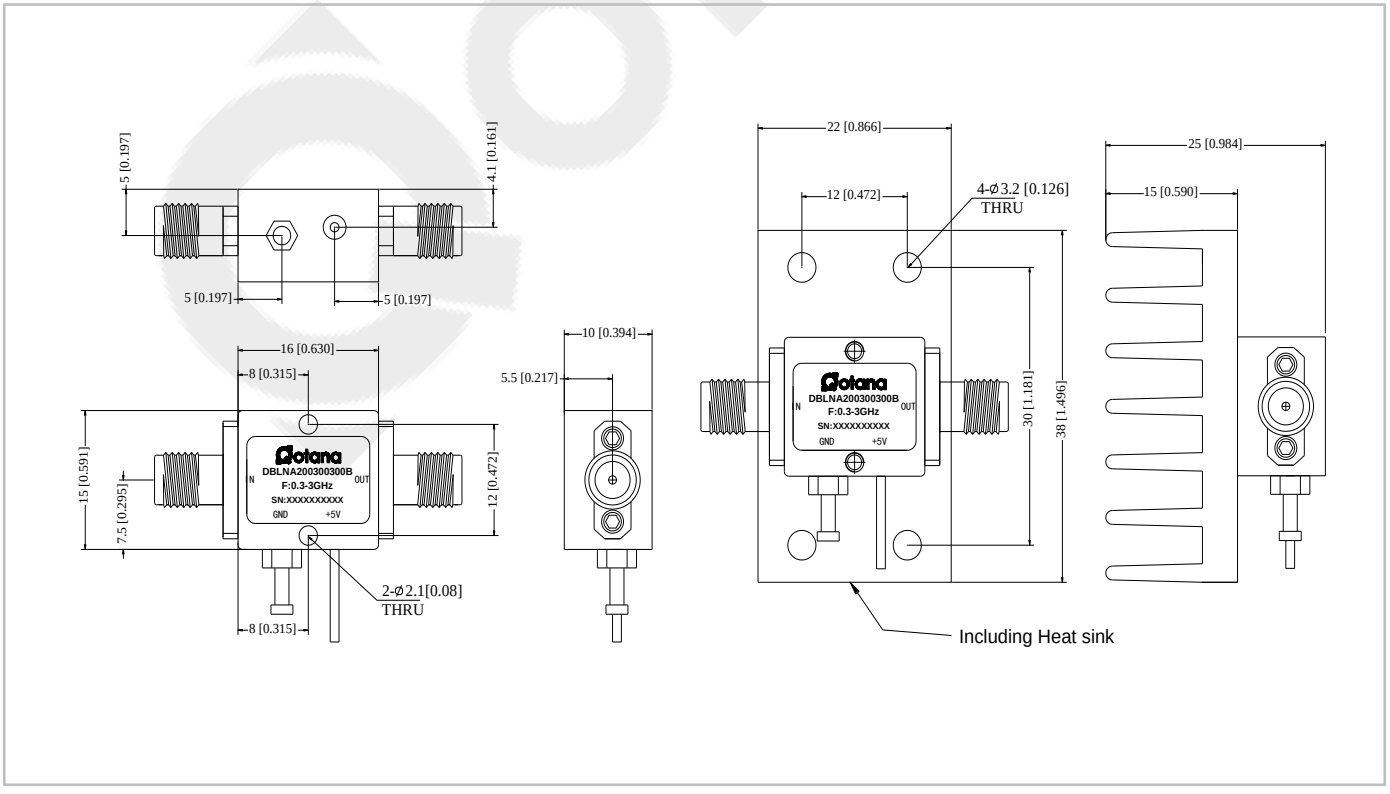
Step 1	Turn off +5V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

Environmental Specifications

Operational Temperature	-45ºC~+85ºC
Storage Temperature	-55ºC~+125ºC
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40ºc
Shock	20G for 11msec half sine wave,3 axis both directions

Outline Drawing:

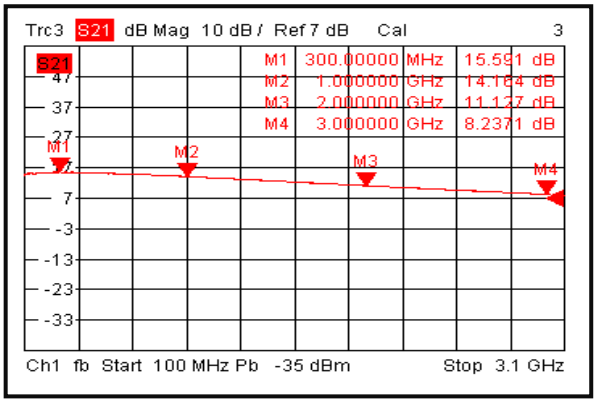
All Dimensions in mm (inches) Heat Sink required during operation(Sold Seperately)



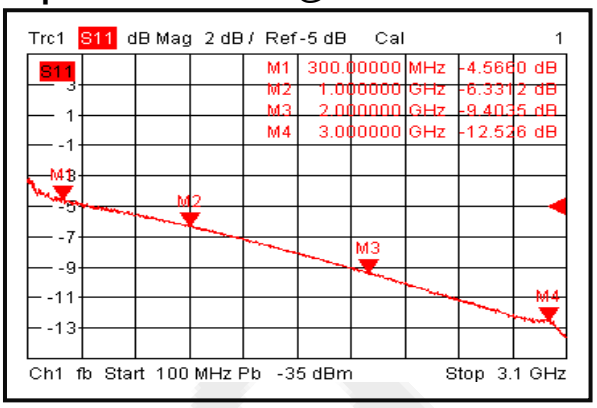
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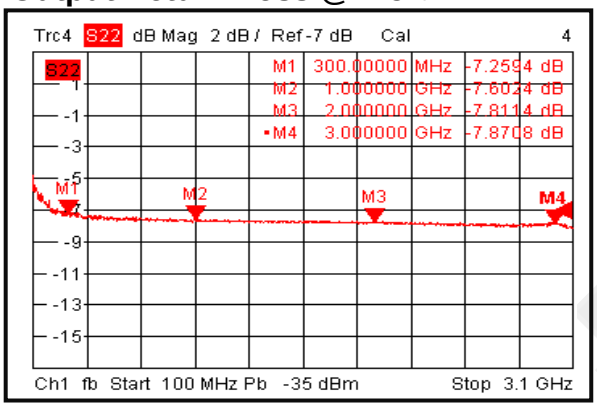
Gain @+25℃



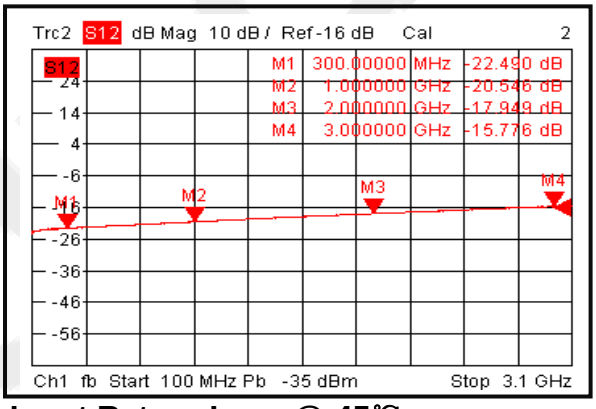
Input Return Loss @+25℃



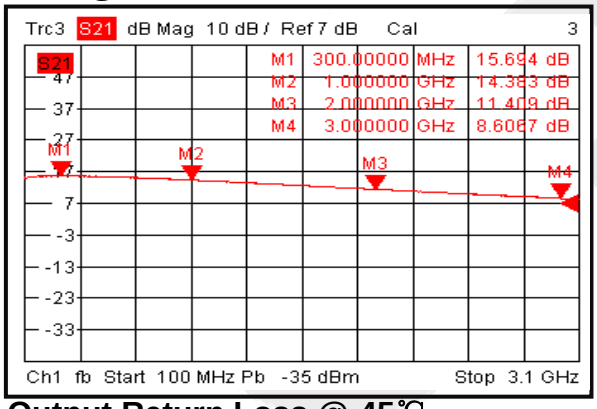
Output Return Loss @+25℃



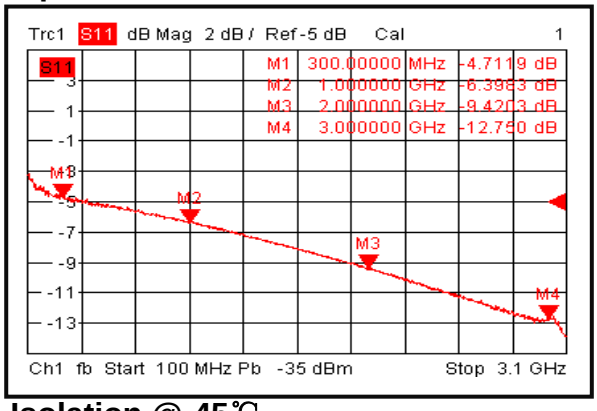
Isolation @+25℃



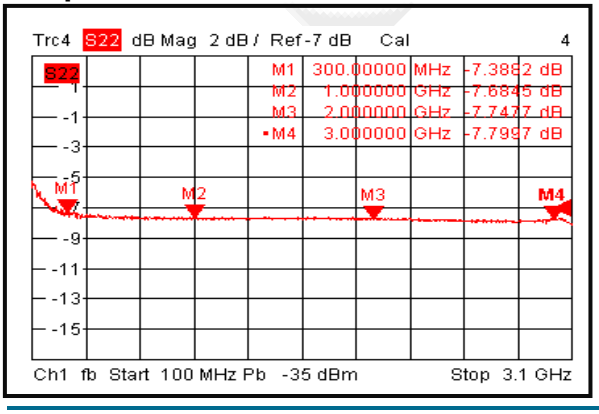
Gain @-45℃



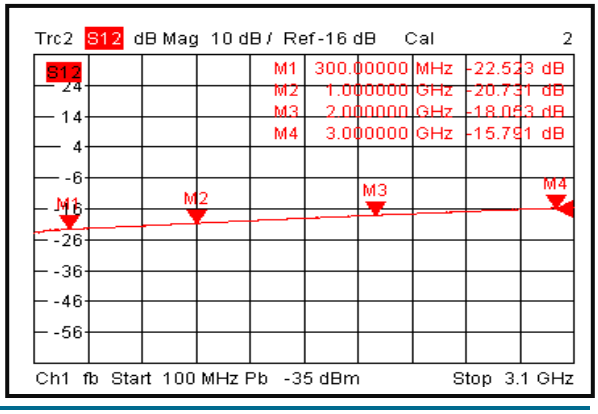
Input Return Loss @-45℃



Output Return Loss @-45℃



Isolation @-45℃

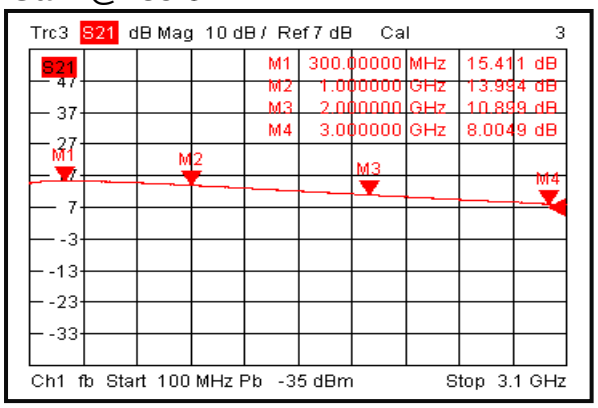


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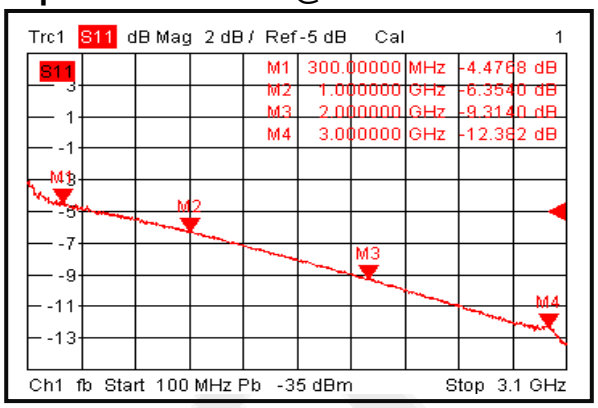
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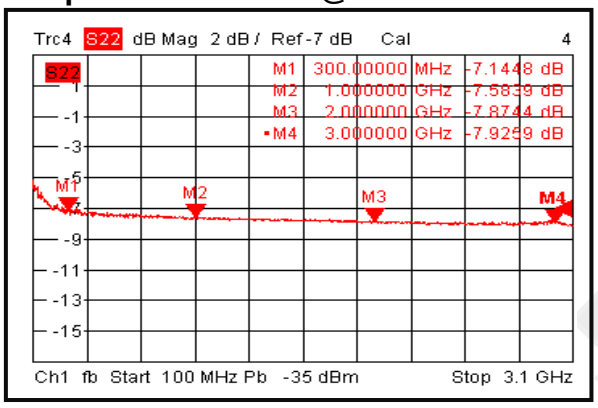
Gain @+85℃



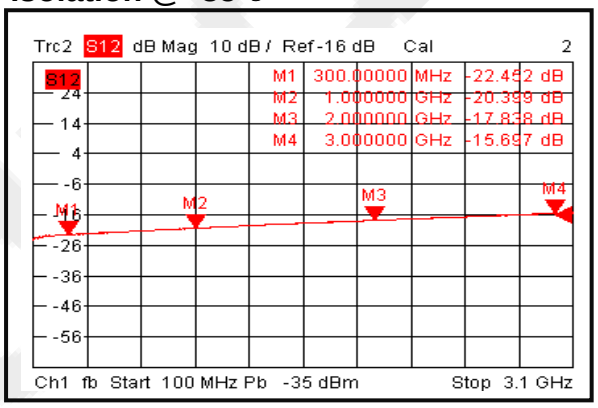
Input Return Loss @+85℃



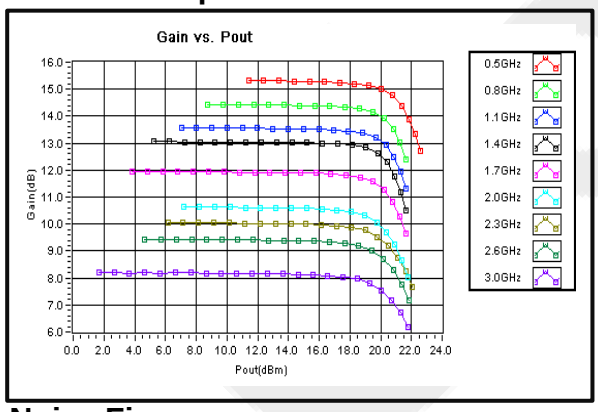
Output Return Loss @+85℃



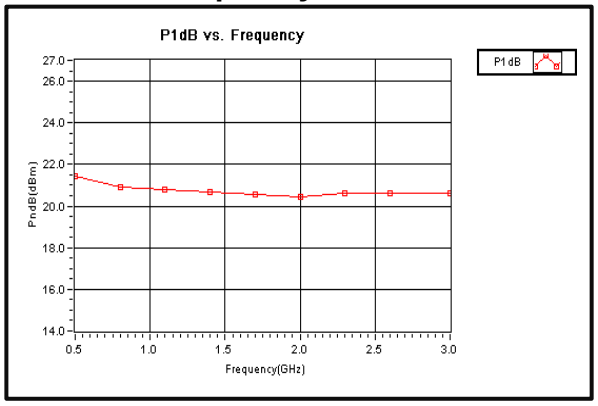
Isolation @+85℃



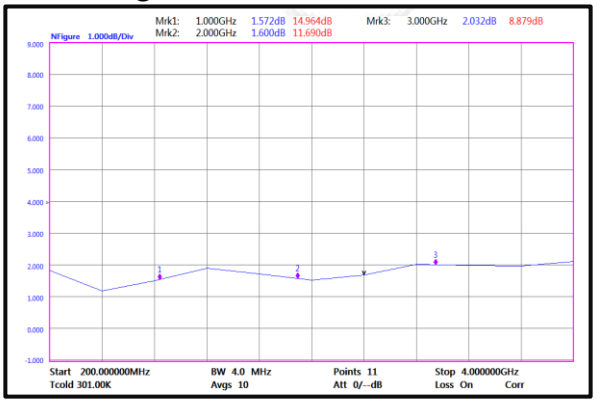
Gain vs. Output Power



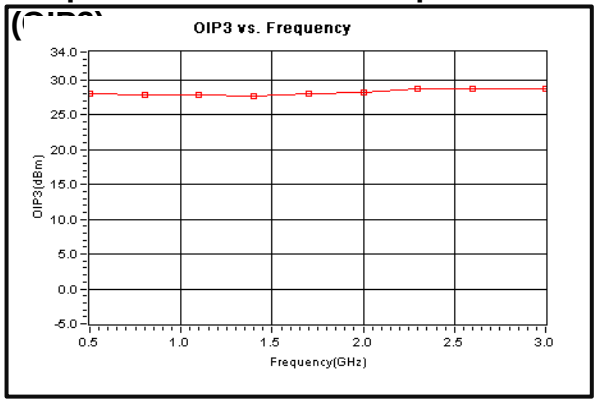
P1dB vs. Frequency



Noise Figure

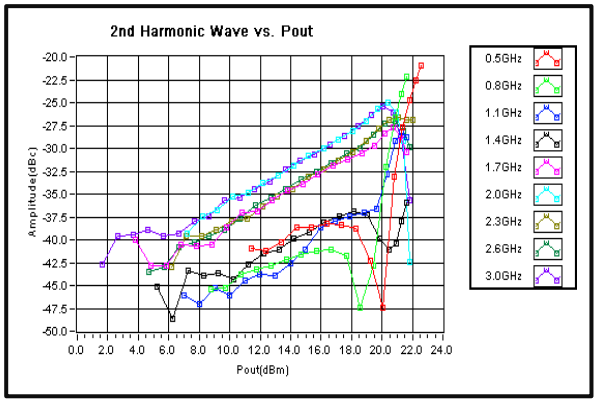


Output Third Order Intercept (OIP3)

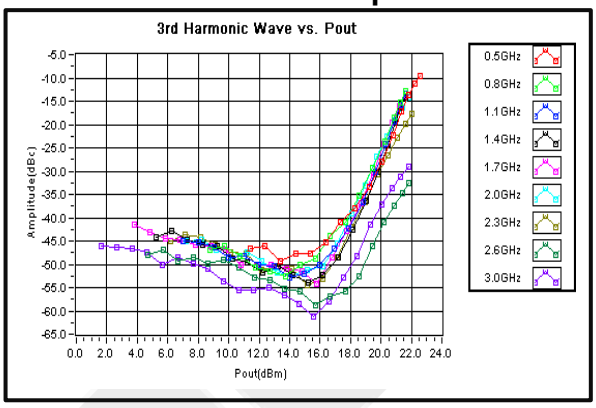


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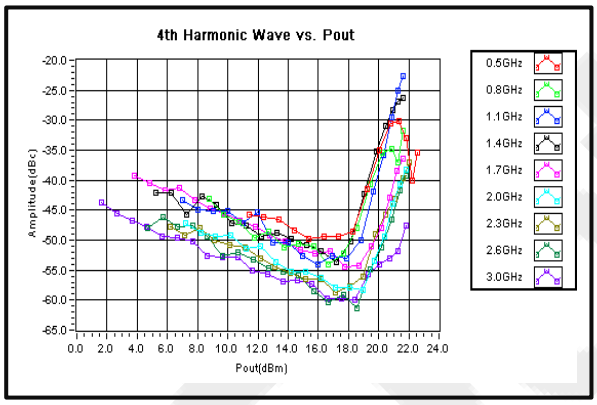
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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