P/N: DBLNA200100300E

QOTANA TECHNOLOGIES Ultra Wide Band Low Noise Amplifier 0.1GHz~3GHz

Features

- Gain: 35dB Typical
- Noise Figure: 1.7dB Typical
- P1dB Output Power: +20dBm full band
- Supply Voltage: +12V @ 220mA
- 50 Ohm Matched Input / Output
- Size:1.58” 0.99” x0.47”



RoHS COMPLIANT

ESD

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Fiber Optics

RF Microwave & VSAT
Test Instrument

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.1		1	1		3	GHz
Gain	30	36		30	35		dB
Gain Flatness		±1.0			±1.0		dB
Gain Variation Over Temperature (-45ºC~+85ºC)		±0.8			±0.8		dB
Noise Figure		1.0	1.8		1.7	2.5	dB
Input VSWR		1.8			1.5		dB
Output VSWR		1.8			1.5		dB
Output Power for 1 dB Compression (P1dB)	20	21		20	21		dBm
Saturated Output Power (Psat)		23			23		dBm
Output Third Order Intercept (IP3)		33			32		dBm
Supply Current (Idd) (Vcc=+12V)		220	250		220	250	mA
Isolation S12		-65			-60		dB
Input Max Power(no damage)			-5			-5	dBm

Weight	1.06 ounce	Impedance	50ohms
Input /Output Connector	SMA-Female	Material	Aluminum
Finishing	Standard: Gold 40 micron; Nickel 220 micron thickness	Package Sealing	Epoxy Sealing (Standard)
	Option: Gold 80 micron; Nickel 180 micron thickness		Hermetically Seal (Option with extra charge)

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Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power (RFIN)	-3dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing

Power OFF Procedure

Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

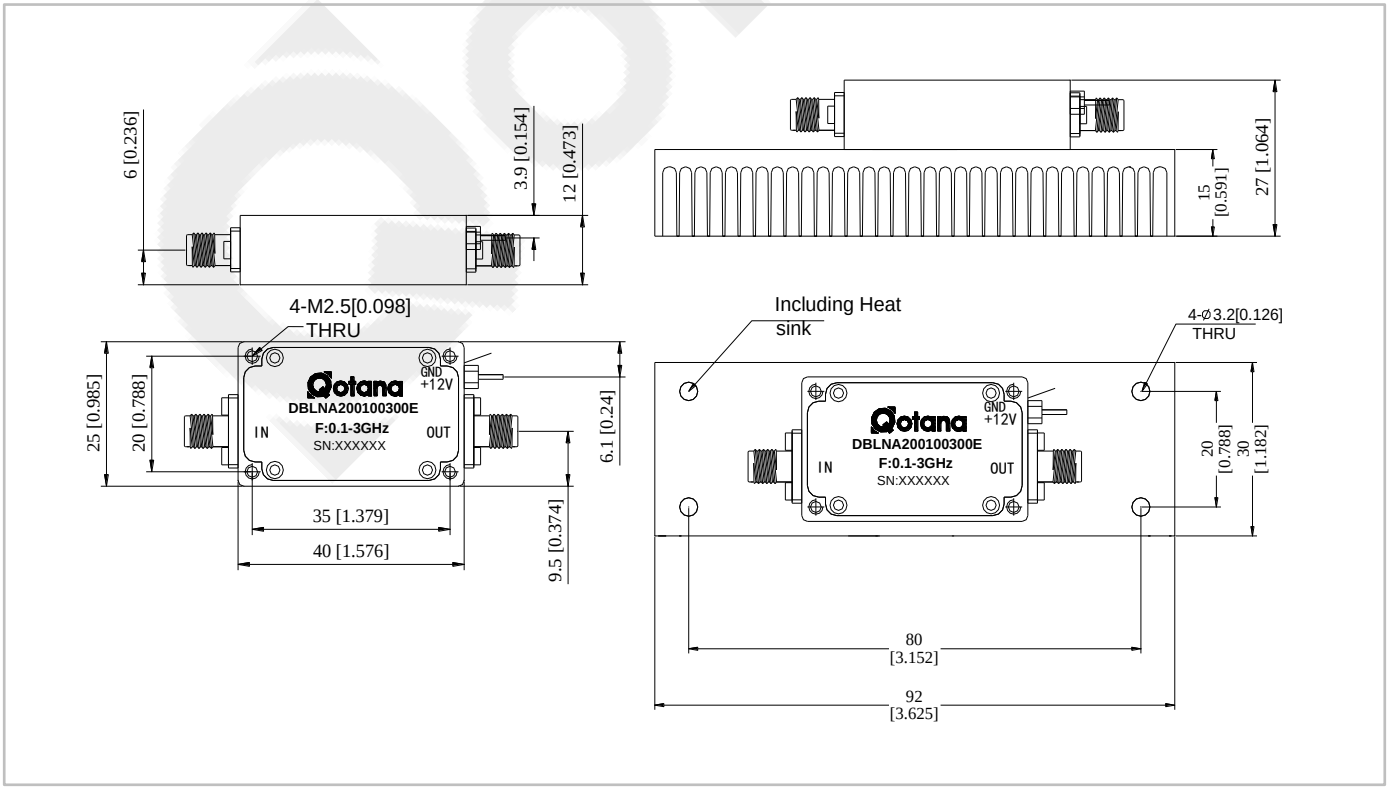
Environmental Specifications

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)

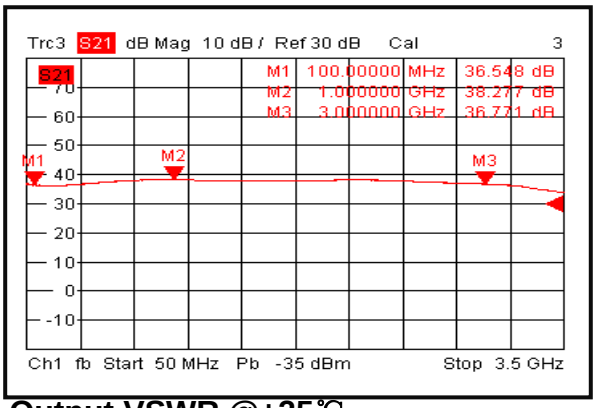
Heat Sink required during operation(Sold Seperately)



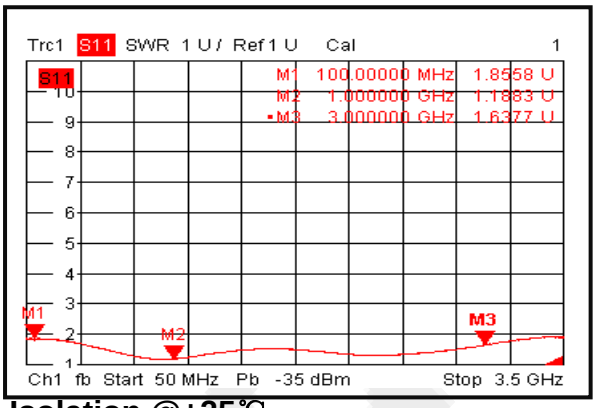
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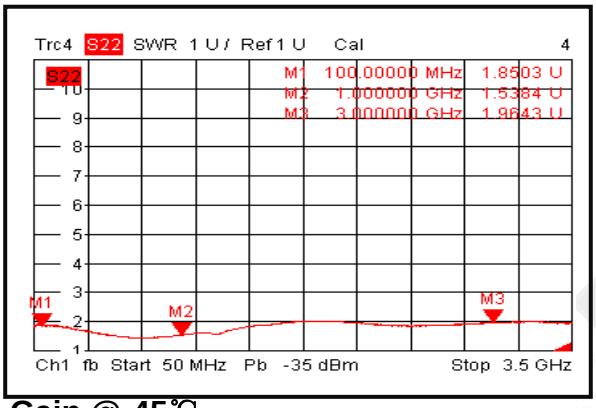
Gain @+25℃



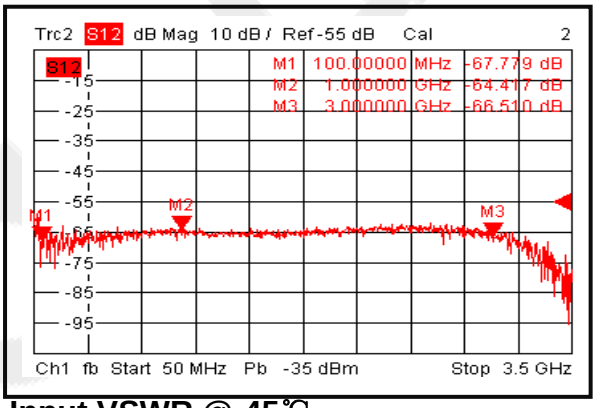
Input VSWR @+25℃



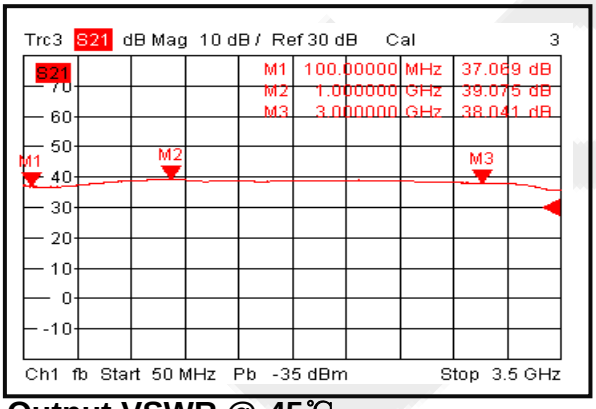
Output VSWR @+25℃



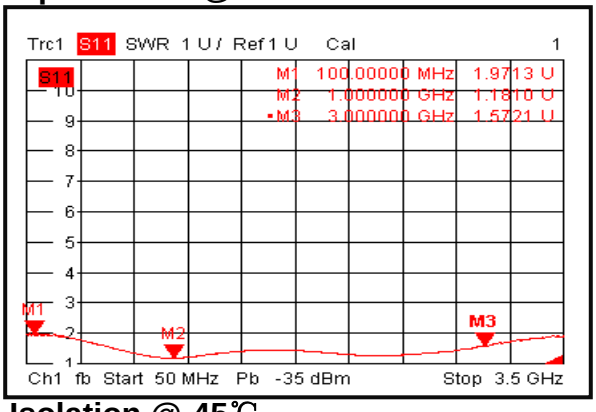
Isolation @+25℃



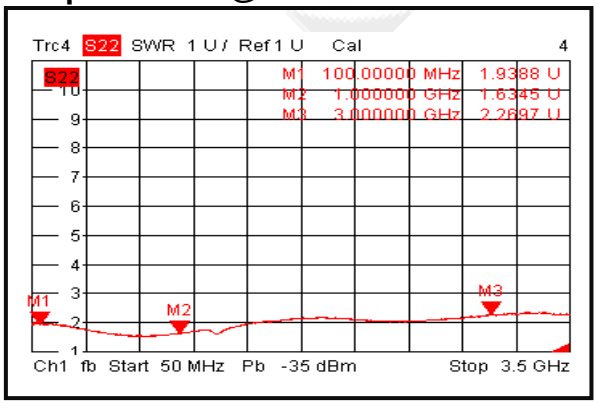
Gain @-45℃



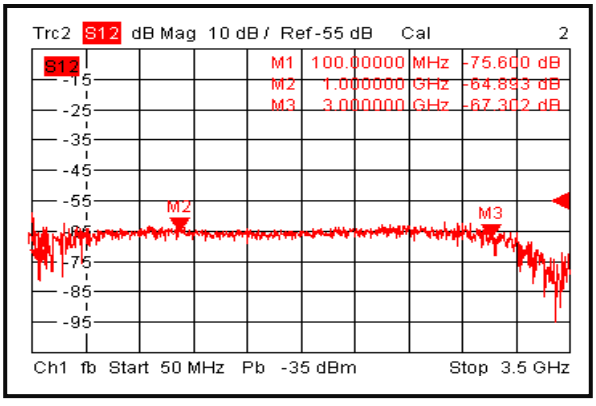
Input VSWR @-45℃



Output VSWR @-45℃



Isolation @-45℃

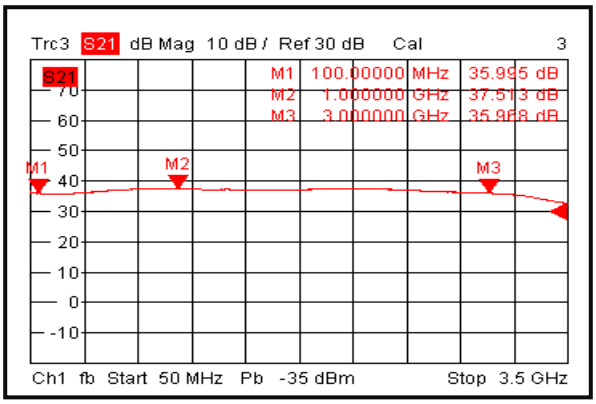


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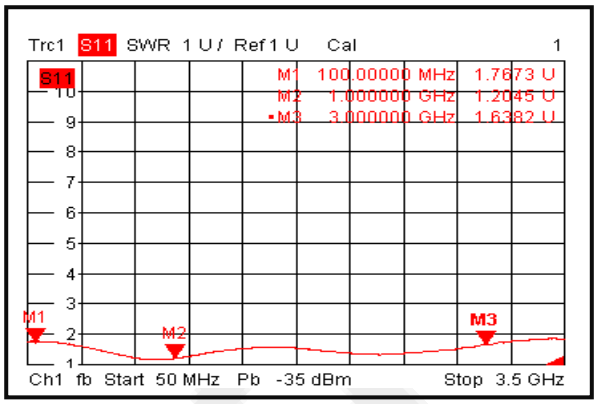
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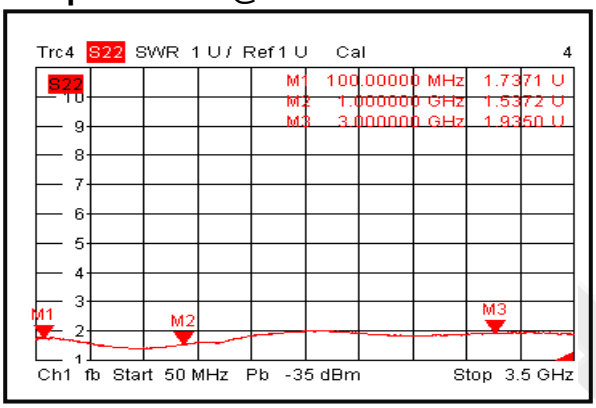
Gain @+85℃



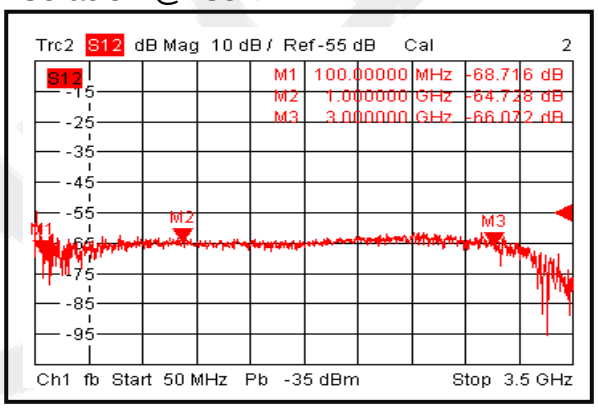
Input VSWR @+85℃



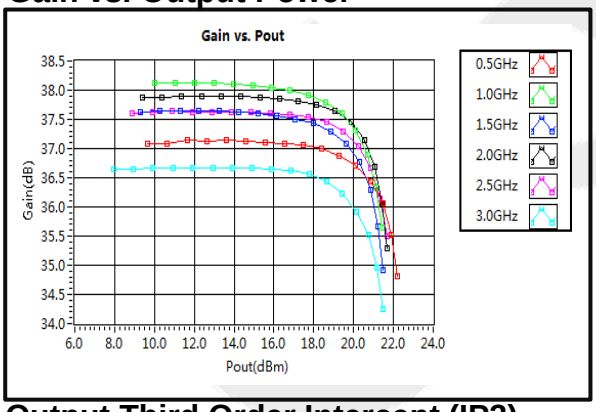
Output VSWR @+85℃



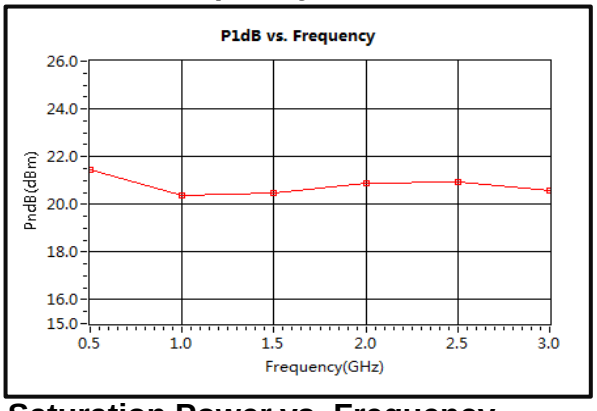
Isolation @+85℃



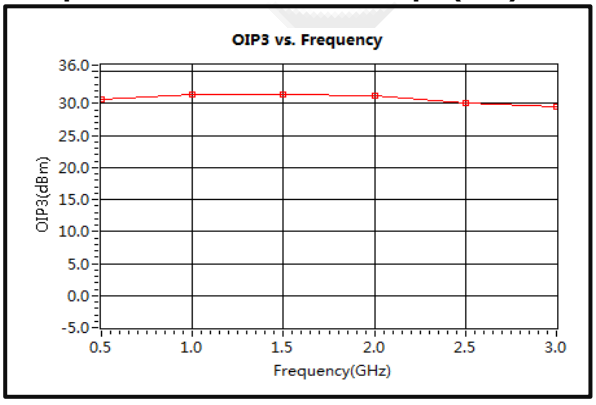
Gain vs. Output Power



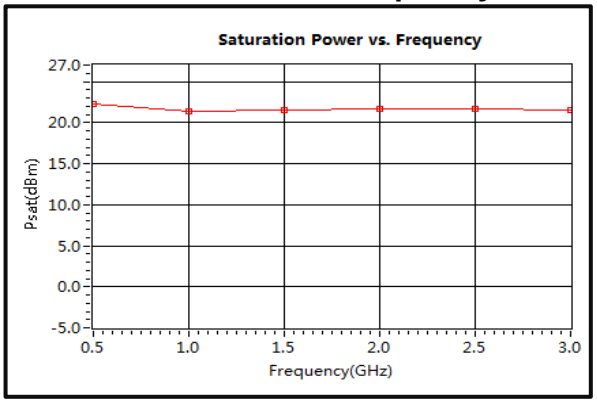
P1dB vs. Frequency



Output Third Order Intercept (IP3)

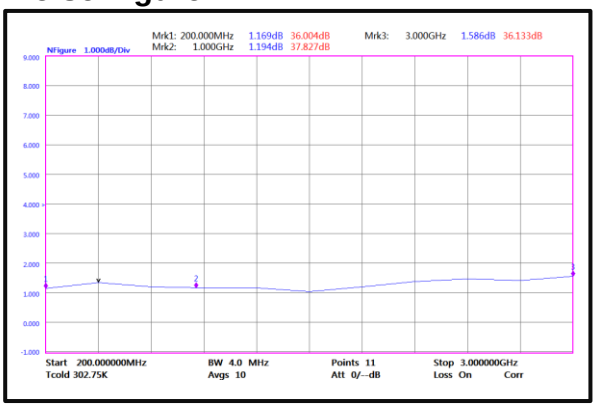


Saturation Power vs. Frequency

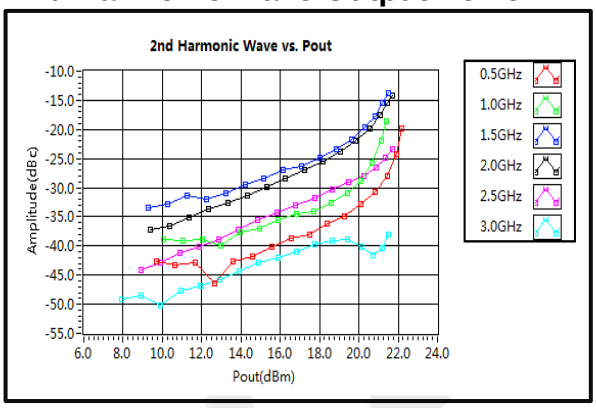


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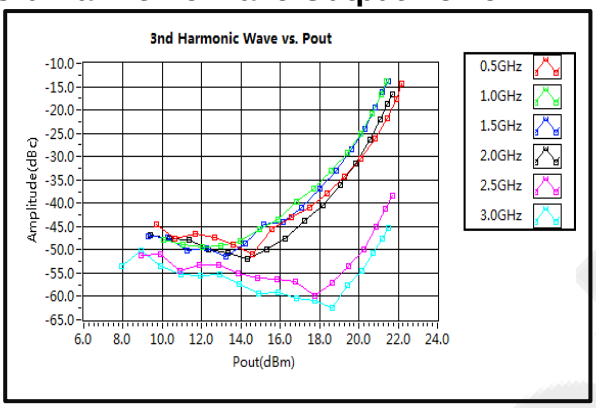
Noise Figure



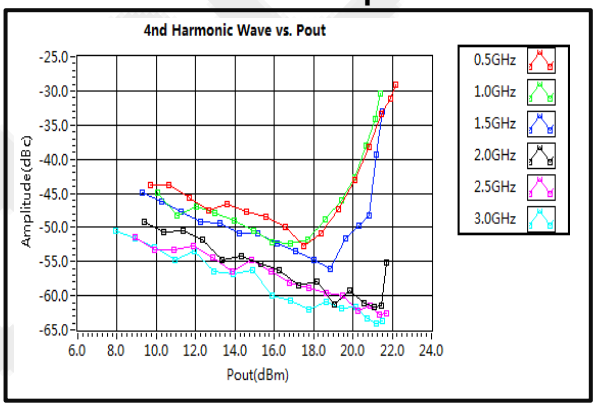
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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