P/N: DBLNA300500600B

QOTANA TECHNOLOGIES

Ultra Wide Band Low Noise Amplifier 0.5GHz~6GHz

Features

- Gain: 35dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power: +26dBm Typical
- Supply Voltage: +12V @ 250mA
- 50 Ohm Matched



Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Fiber Optics

RF Microwave & VSAT
Test Instrument

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.5		3	3		6	GHz
Gain	32	35		32	35		dB
Gain Flatness		±1.0			±1.0		dB
Gain Variation Over Temperature (-45 ~ +85℃)		±2.0			±2.5		dB
Noise Figure		2.5	3.0		2.5	3.0	dB
Input VSWR		2.5			1.8		: 1
Output VSWR		1.5			2.0		: 1
Output Power for 1 dB Compression (P1dB)	24	26		24	25		dBm
Saturated Output Power (Psat)		27			26		dBm
Output Third Order Intercept (IP3)		33			33		dBm
Supply Current (Idd) (Vcc=+12V)		250	300		250	300	mA
Isolation S12		-60			-60		dB

Weight	2.82 ounce	Impedance	50ohms
Input / Output Connectors	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 Sealed (Option with extra charge)

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Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power	+2dBm

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

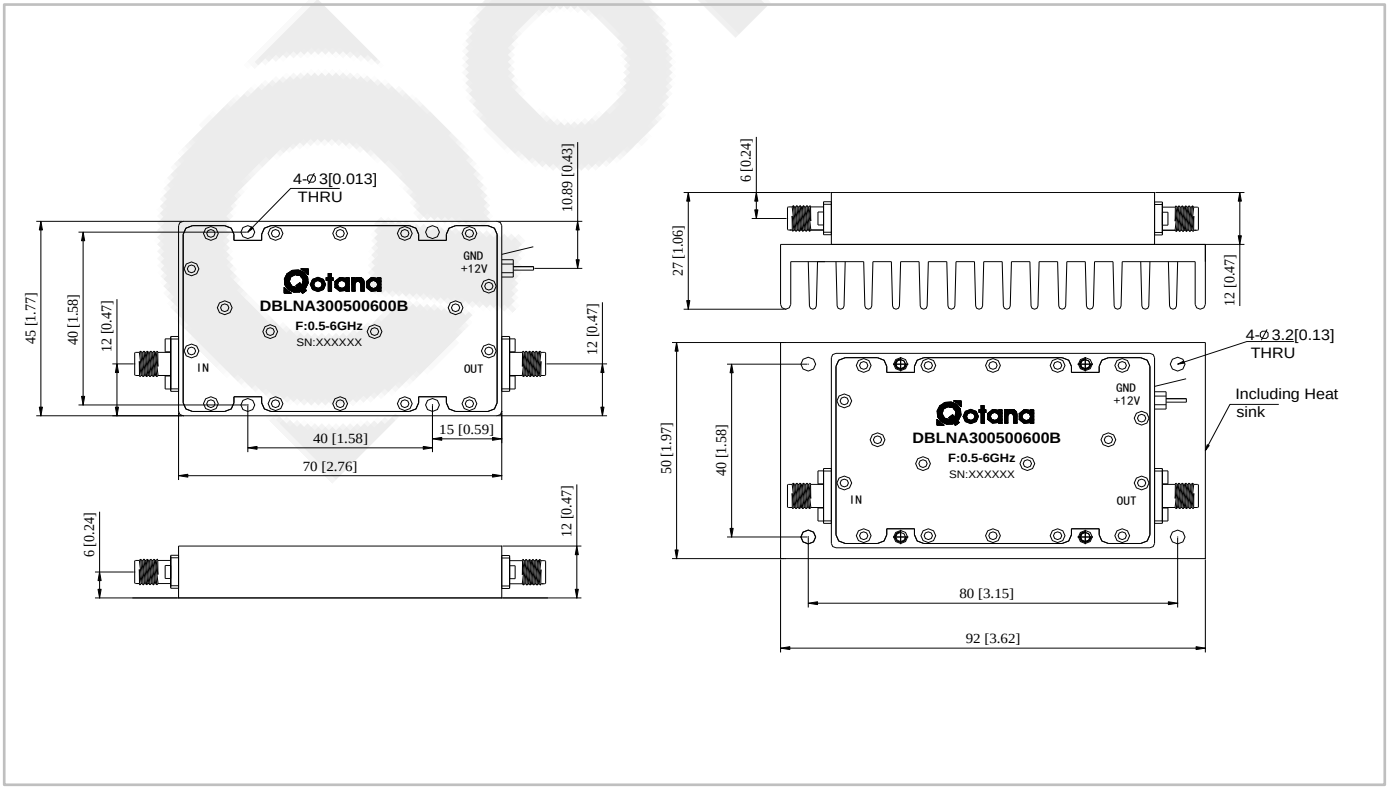
Environmental Specifications

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)

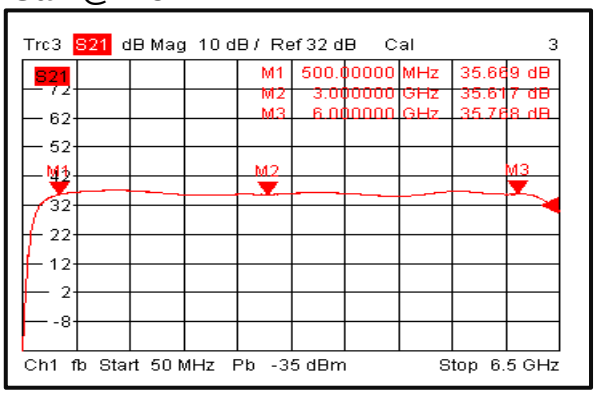


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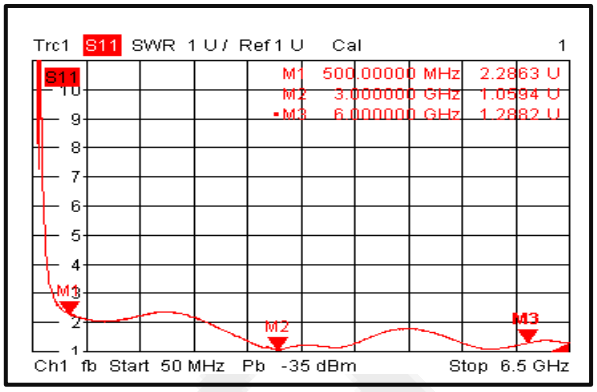
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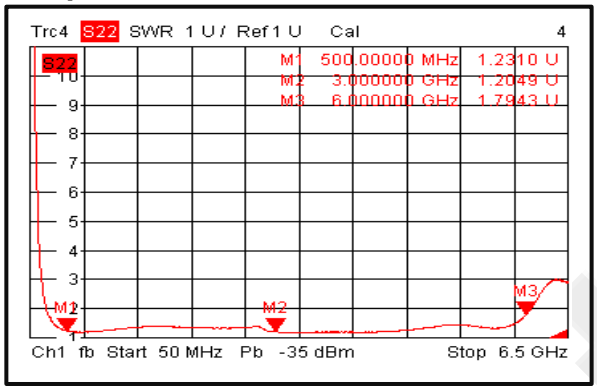
Gain@+25℃



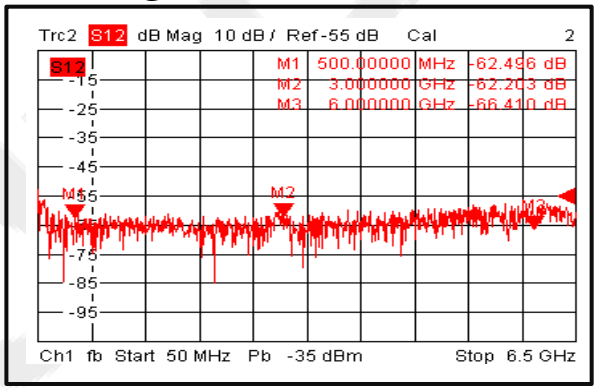
Input VSWR@+25℃



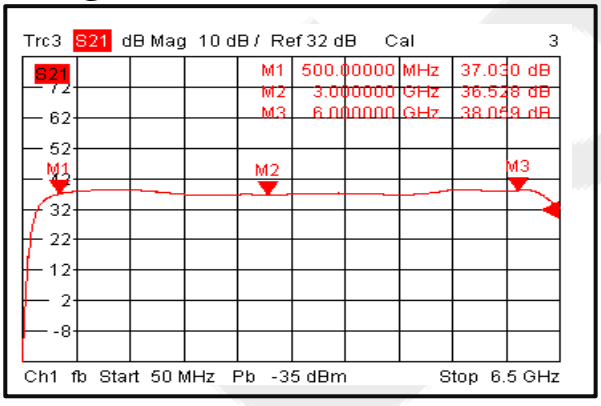
Output VSWR@+25℃



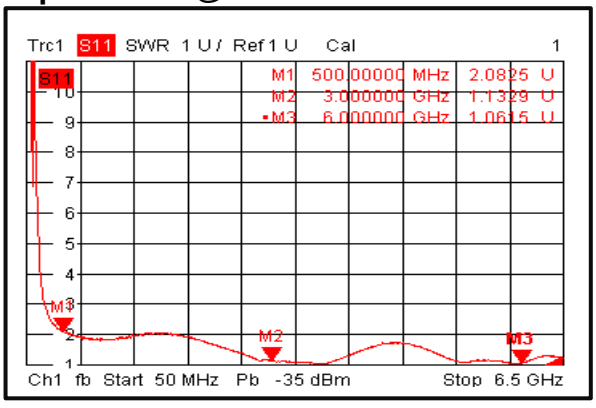
Isolation@+25℃



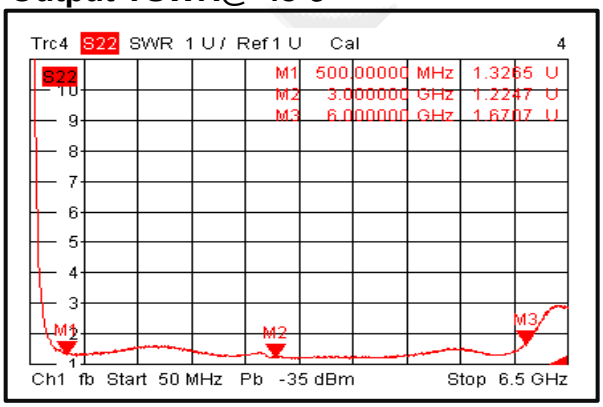
Gain@-45℃



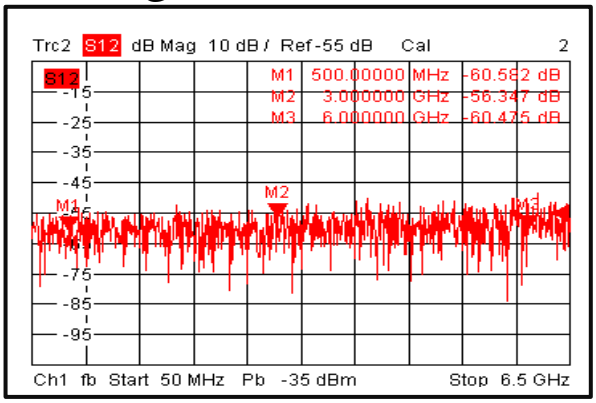
Input VSWR@-45℃



Output VSWR@-45℃



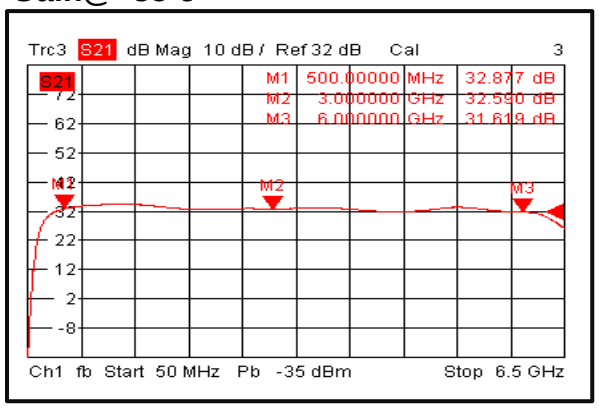
Isolation@-45℃



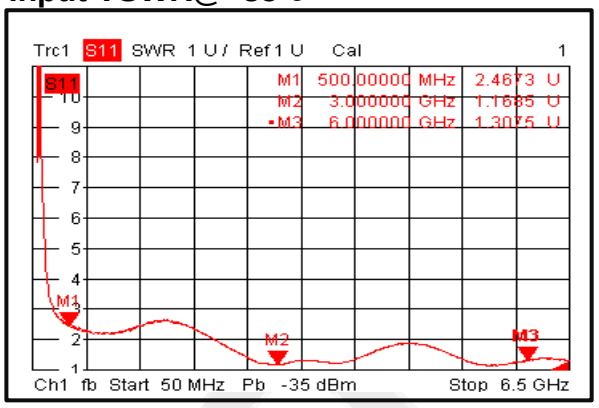
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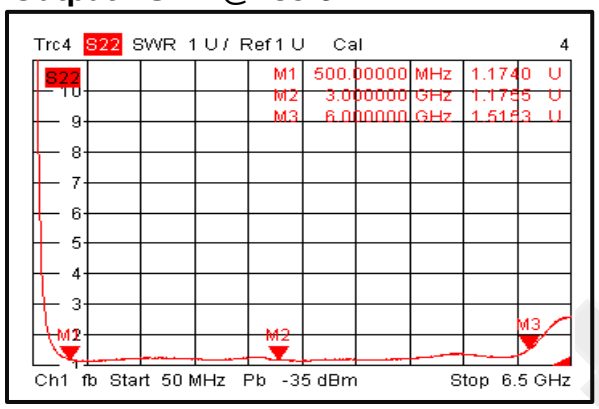
Gain@+85℃



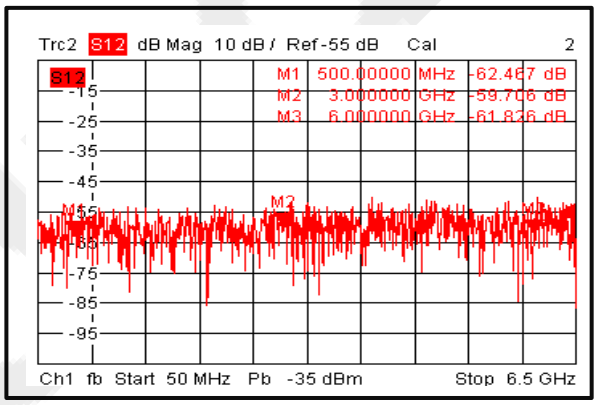
Input VSWR@+85℃



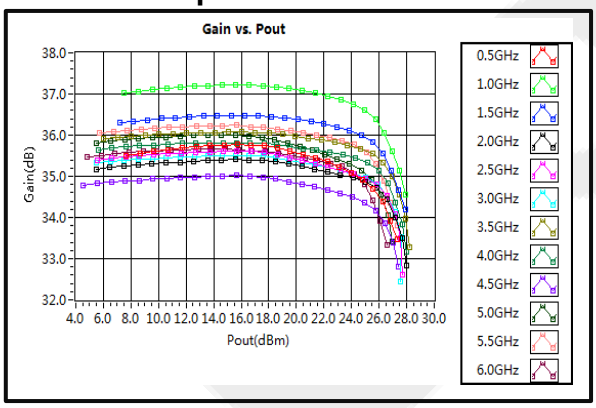
Output VSWR@+85℃



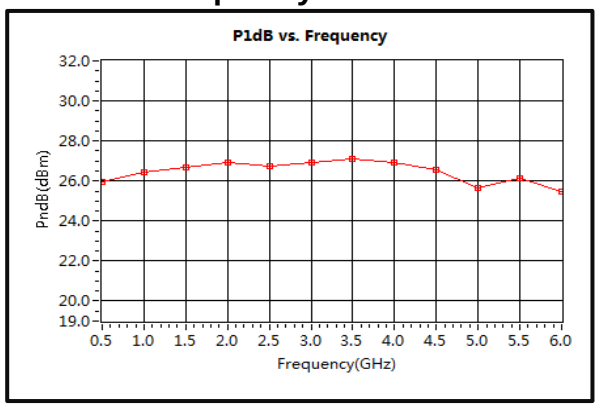
Isolation@+85℃



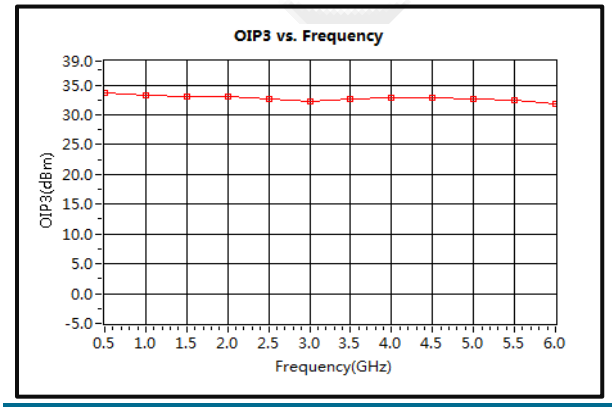
Gain vs. Output Power



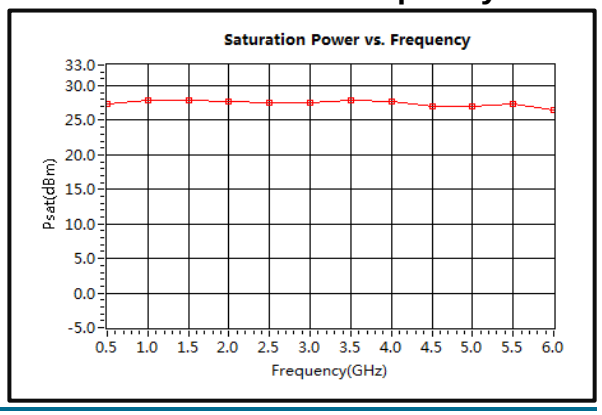
P1dB vs. Frequency



Output Third Order Intercept (IP3)

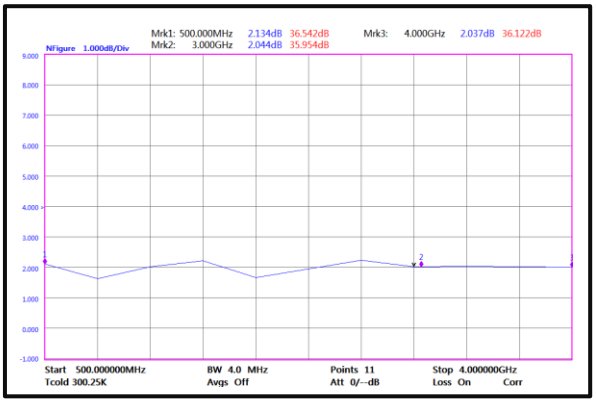


Saturation Power vs. Frequency

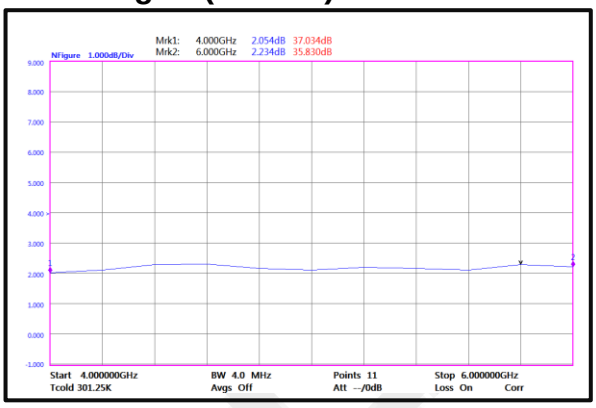


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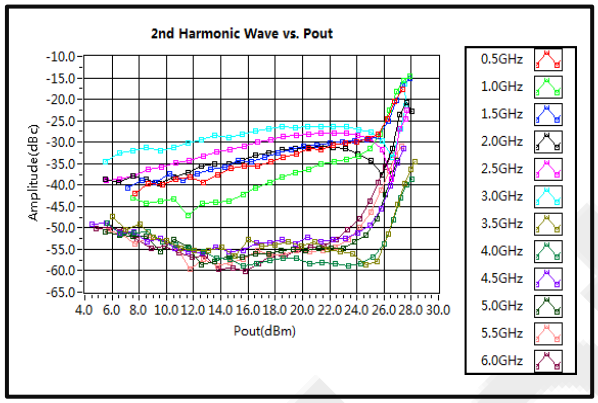
Noise Figure(0.5-4GHz)



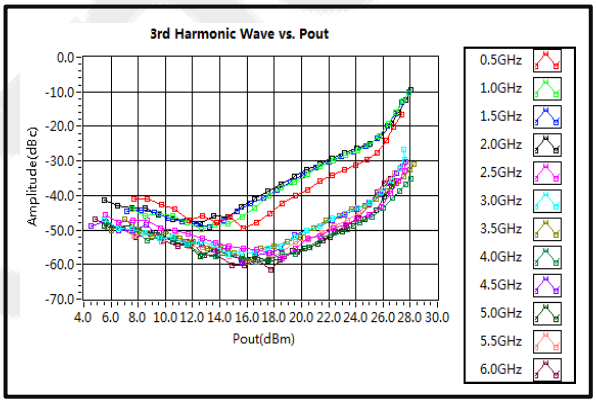
Noise Figure(4-6GHz)



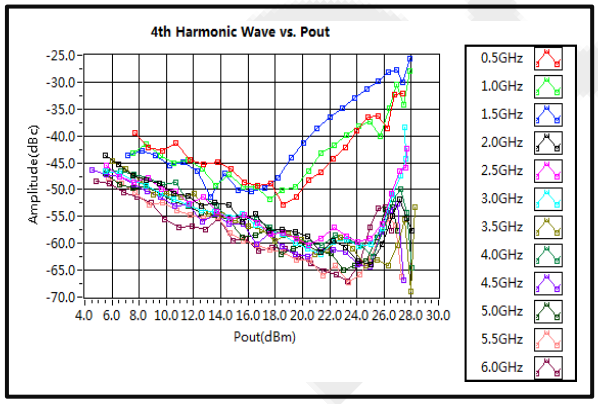
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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