# P/N: DBLNA204200520B

**QOTANA TECHNOLOGIES**

Low Noise Amplifier 4.2GHz~5.2GHz

## Features

- Gain: 34dB Typical
- Noise Figure: 1.2dB Typical
- P1dB Output Power: 23dBm Typical
- Supply Voltage: 12V @ 350 mA
- 50 Ohm Matched Input / Output
- Size: 1.89” x 1.0” x 0.39”s




## Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Fiber Optics

RF Microwave & VSAT
Test Instrument

| Parameter | Min. | Typ. | Max. | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|---|
| Frequency Range | 4.2 | | 4.7 | 4.7 | | 5.2 | GHz |
| Gain | 32 | 34 | | 32 | 34 | | dB |
| Gain Flatness | | ±0.5 | ±1.0 | | ±0.5 | ±1.0 | dB |
| Gain Variation Over Temperature(-45 ~ +85) | | ±1.0 | | | ±1.0 | | dB |
| Noise Figure | | 1.2 | 1.8 | | 1.2 | 1.8 | dB |
| Input VSWR | | 1.6 | 2.0 | | 1.5 | 2.0 | : 1 |
| Output VSWR | | 1.6 | 2.0 | | 1.6 | 2.0 | : 1 |
| Output 1dB Compression Point (P1dB) | 21 | 23 | | 20 | 22 | | dBm |
| Saturated Output Power (Psat) | | 25 | | | 24 | | dBm |
| Output Third Order Intercept (IP3) | | 34 | | | 32 | | dBm |
| Supply Current (Idd) (Vcc=+12V) | | 350 | 450 | | 350 | 450 | mA |
| Isolation S12 | | -60 | | | -60 | | dB |

| | | | |
|---|---|---|---|
| Weight | 3.17 ounces | 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 | +13V |
| RF Input Power (RFIN) | -5dBm |

### 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 |

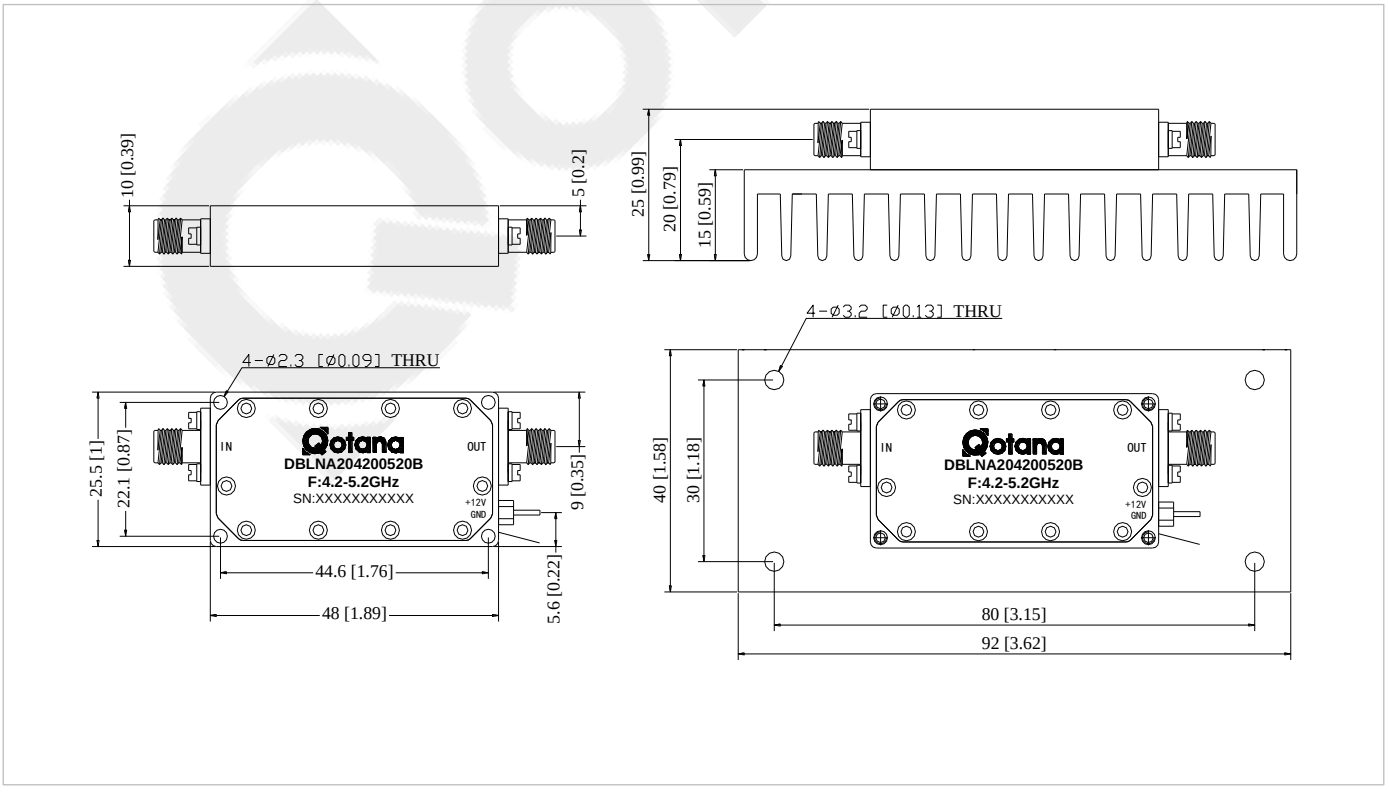
### Environmental Specifications

| | |
|---|---|
| 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)

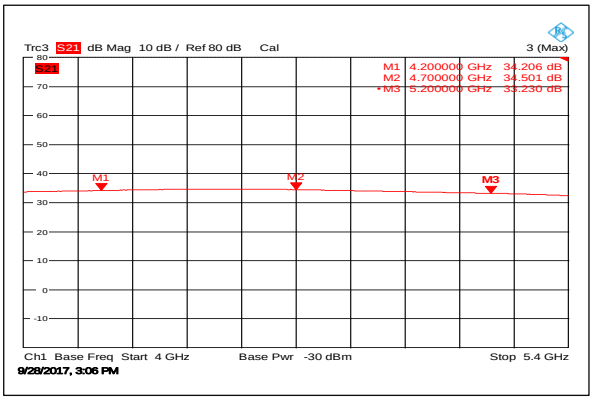
Heat Sink required during operation(Sold Seperately)



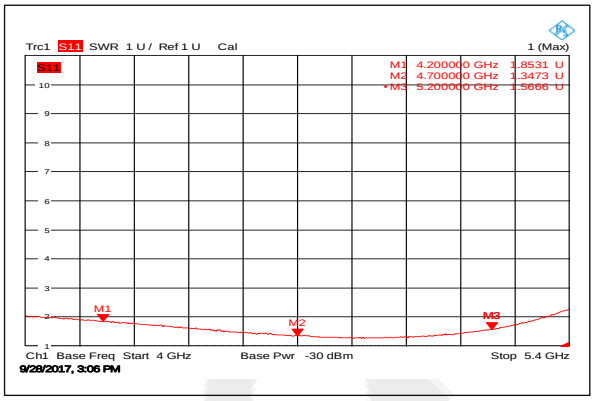
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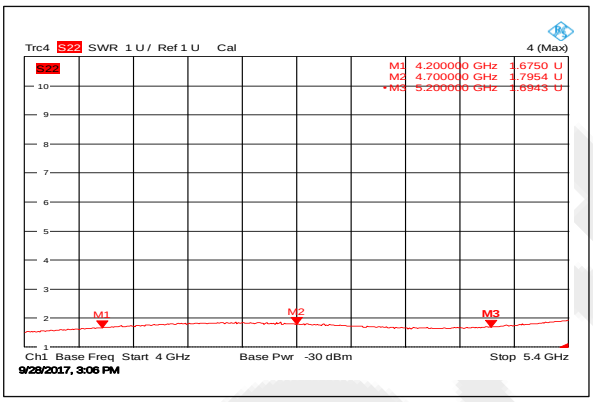
### Gain



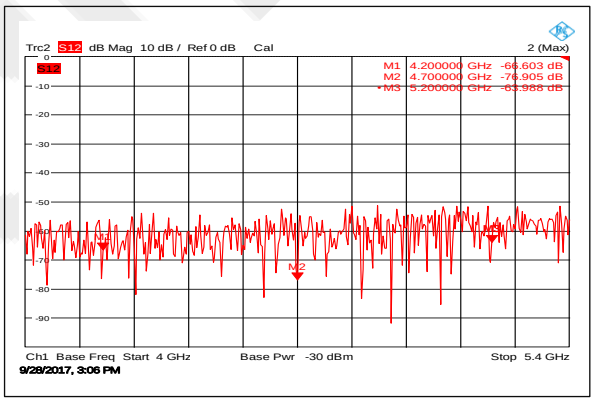

### Input VSWR



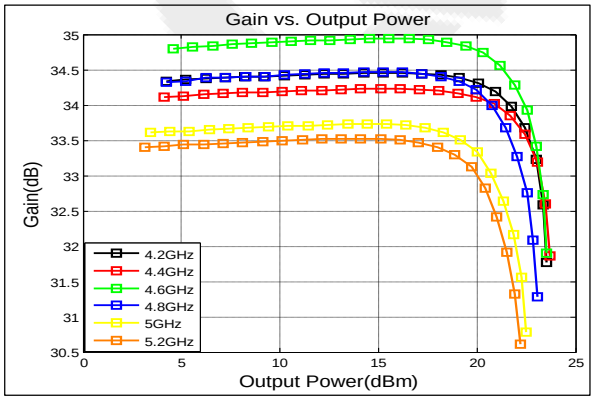

### Output VSWR



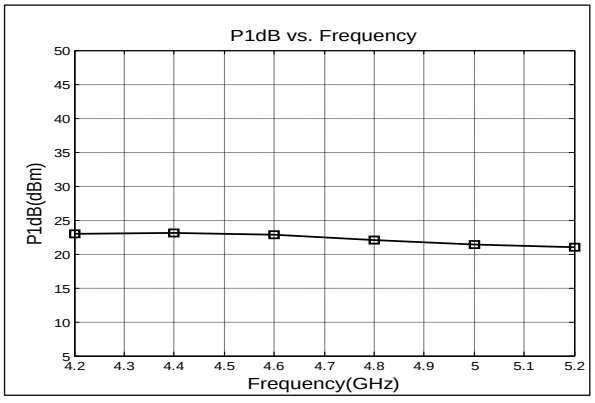

### Isolation




### Gain vs. Output Power



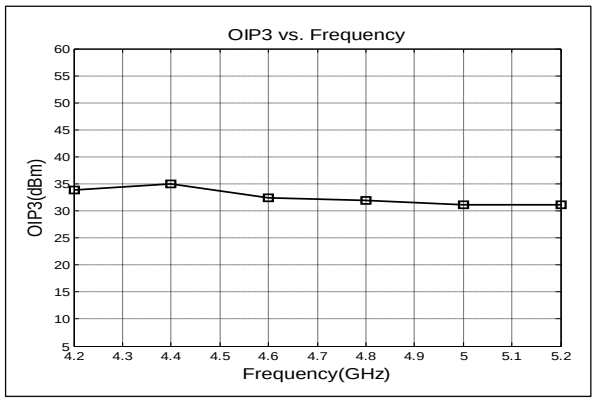

### P1dB vs. Frequency



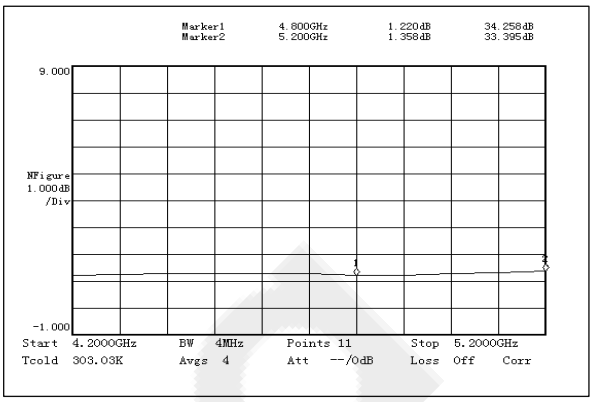
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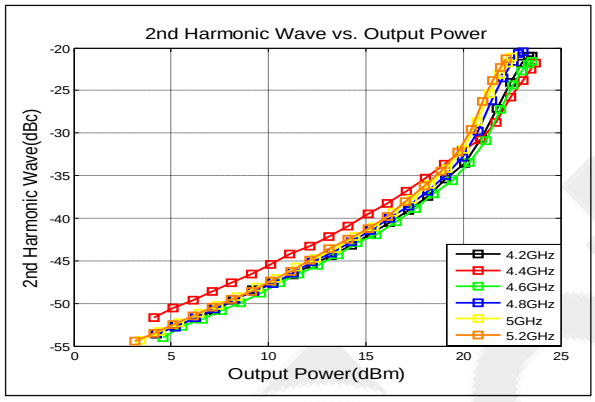
### Output Third Order Intercept (IP3)



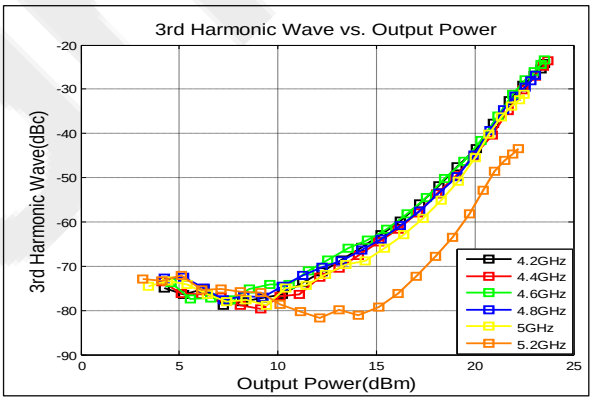

### Noise Figure



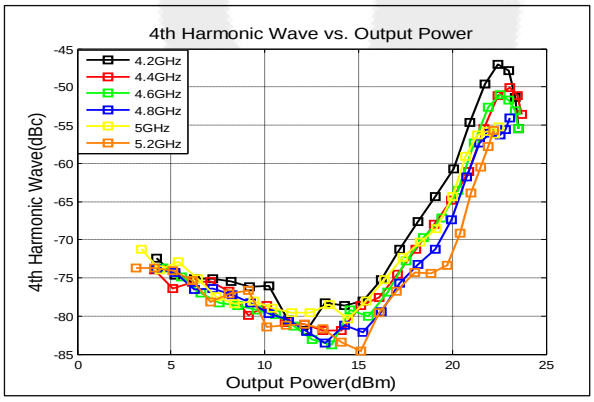

### 2nd Harmonic Wave Output Power




### 3rd Harmonic Wave Output Power




### 4th Harmonic Wave Output Power




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