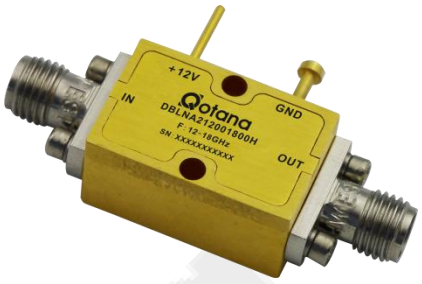
# P/N:DBLNA212001800H

**QOTANA TECHNOLOGIES**

Wide Band Low Noise Amplifier 12GHz~18GHz

## Features

- Gain: 25dB typical
- Functional Bandwidth : 6GHz to 18GHz
- Noise Figure: 2.0dB typical
- High P1dB: +19.5dBm typical
- Supply Voltage: +12V
- 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 | 6 | | 12 | 12 | | 18 | GHz |
| Gain | 25 | 27 | | 24 | 25 | | dB |
| Gain Flatness | | ±1.5 | | | ±1.0 | | dB |
| Gain Variation Over Temperature (-45 ~ +85 ) | | ±1.0 | | | ±1.0 | | dB |
| Noise Figure | | 2.0 | 2.5 | | 2.0 | 2.5 | dB |
| Input VSWR | | 1.6 | 2.0 | | 1.7 | 2.0 | : 1 |
| Output VSWR | | 1.5 | 1.8 | | 1.5 | 2.0 | : 1 |
| Output 1dB Compression Point (P1dB) | 17 | 19 | | 17.5 | 19.5 | | dBm |
| Saturated Output Power (Psat) | | 20 | | | 20 | | dBm |
| Output Third Order Intercept (IP3) | | 27 | | | 25 | | dBm |
| Supply Current (Vcc=+12V) | | 180 | 230 | | 180 | 230 | mA |
| Isolation S12 | | -55 | | | -55 | | dB |

| | | | |
|---|---|---|---|
| Weight | 0.71 ounces | Impedance | 50ohms |
| Input / Output Connectors | SMA-Female | Material | copper |
| 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) |

**QOTANA TECHNOLOGIES** Wide Band Low Noise Amplifier 12GHz~18GHz

## Absolute Maximum Ratings

| | |
|---|---|
| Operating Voltage | +15V |
| RF Input Power | -10dBm |

## Biasing Up Procedure

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

## Power OFF Procedure

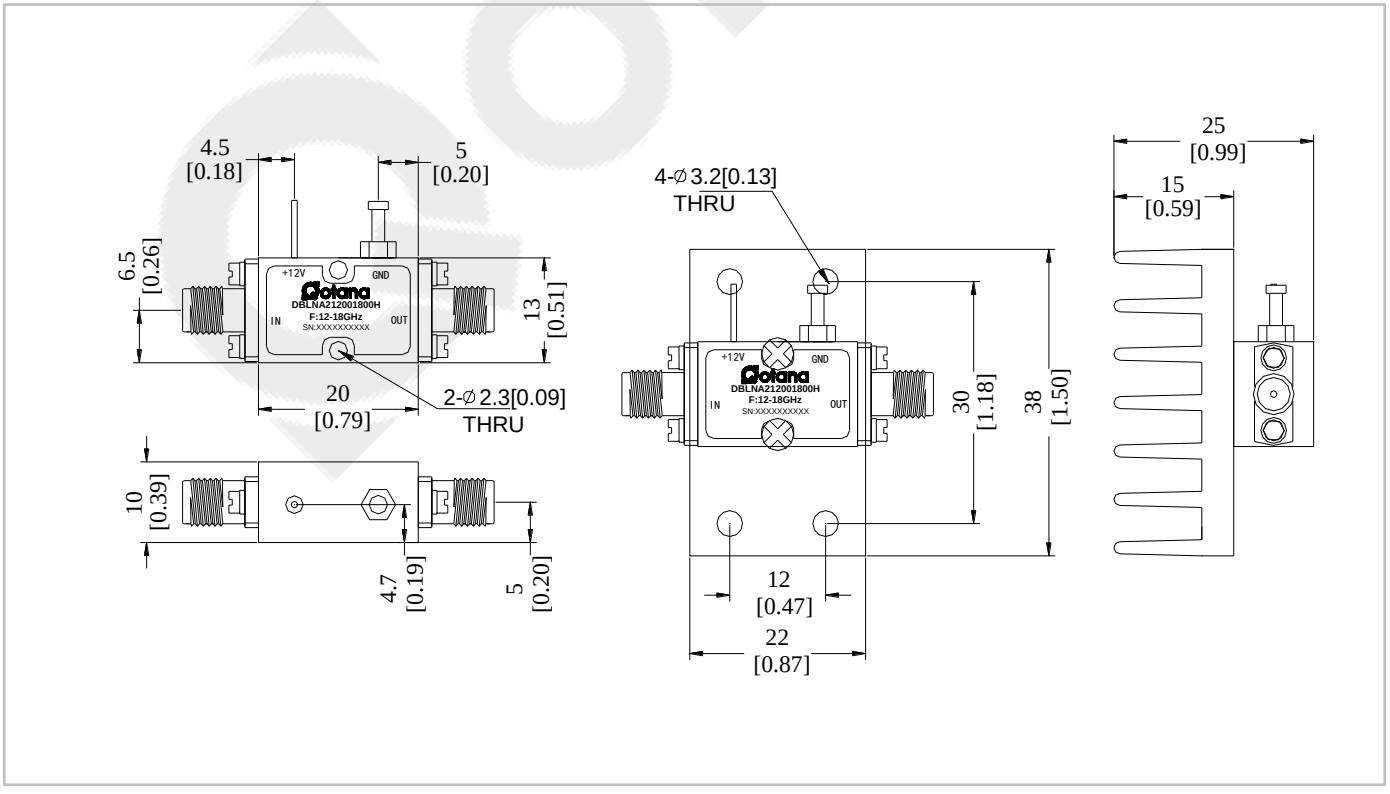
| | |
|---|---|
| Step 1 | Turn off +12V biasing |
| Step 2 | Remove RF connection |
| Step 3 | Remove Ground |

## 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:

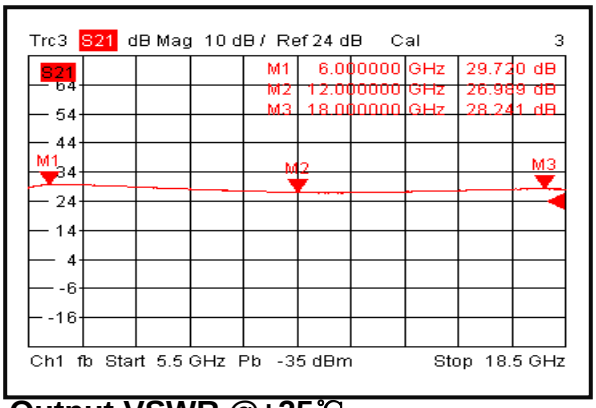
All Dimensions in mm (inches) Heat Sink required during operation(Sold Seperately)



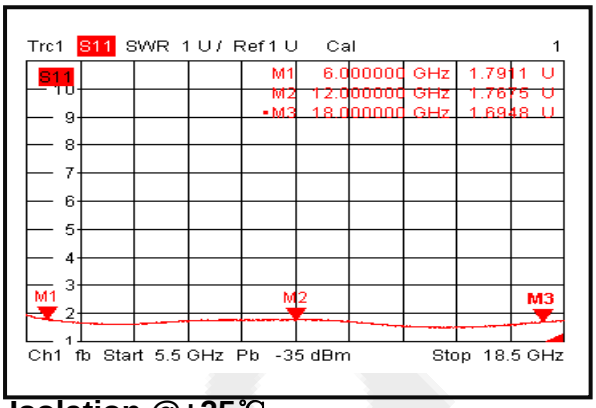
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Wide Band Low Noise Amplifier 12GHz~18GHz

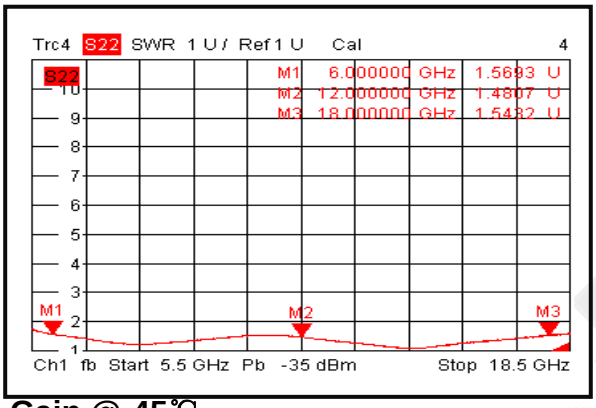
### Gain @+25℃



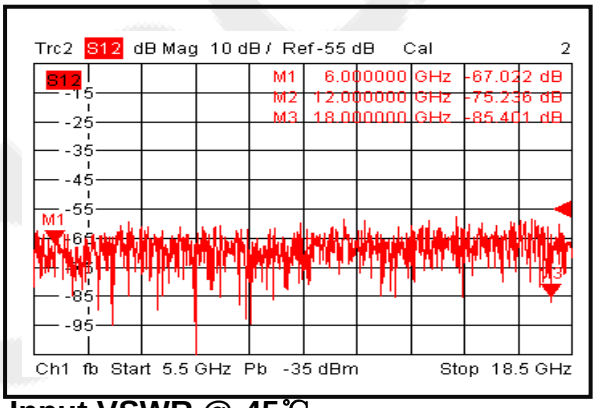

### Input VSWR @+25℃



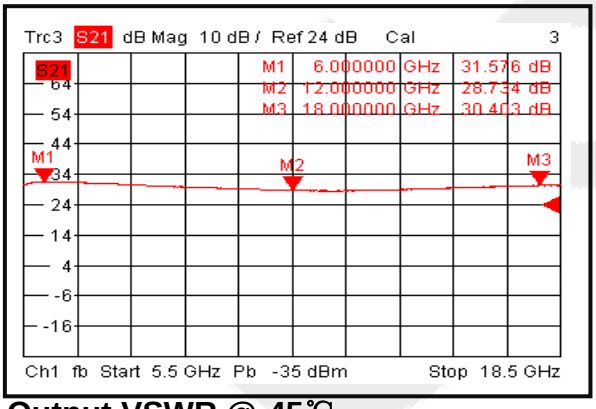

### Output VSWR @+25℃



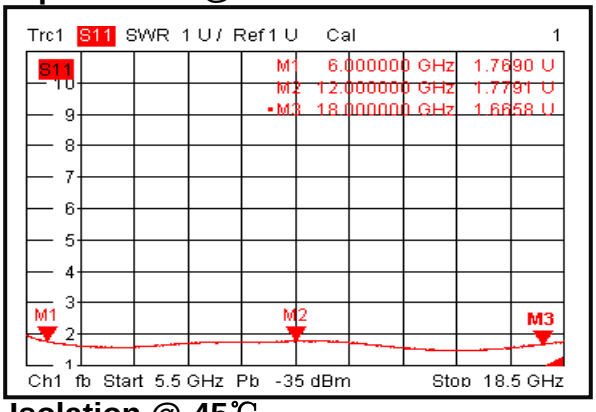

### Isolation @+25℃



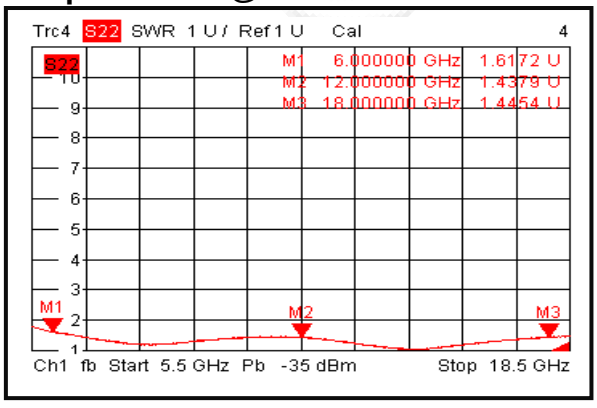

### Gain @-45℃



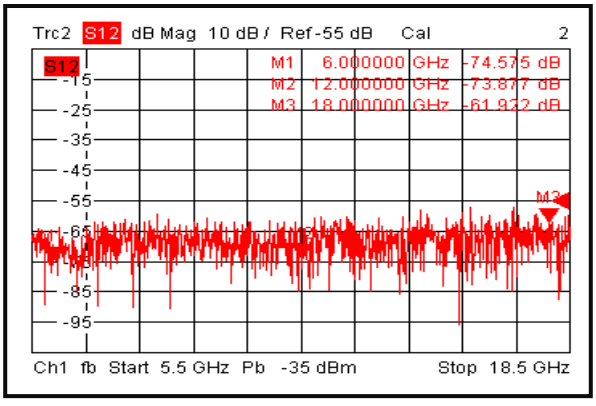

### Input VSWR @-45℃




### Output VSWR @-45℃



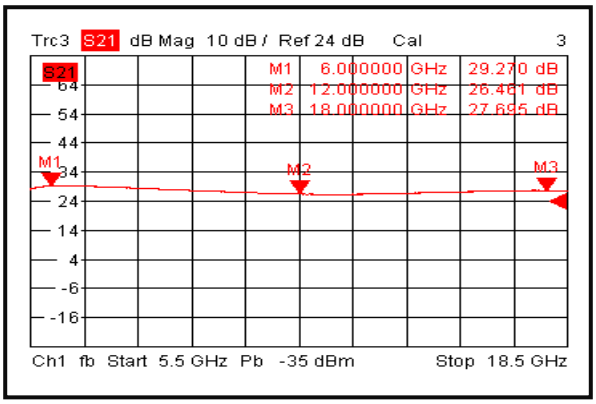

### Isolation @-45℃



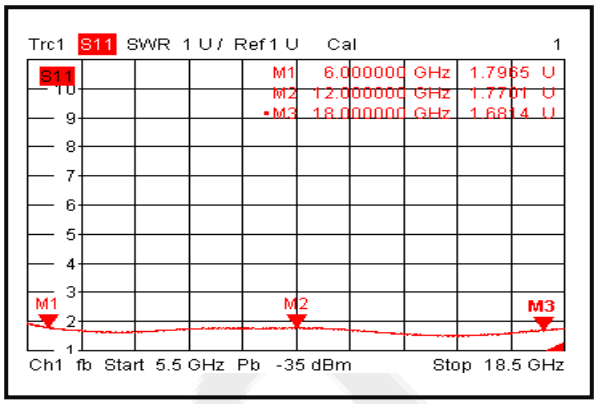
## QOTANA TECHNOLOGIES

# Wide Band Low Noise Amplifier 12GHz~18GHz

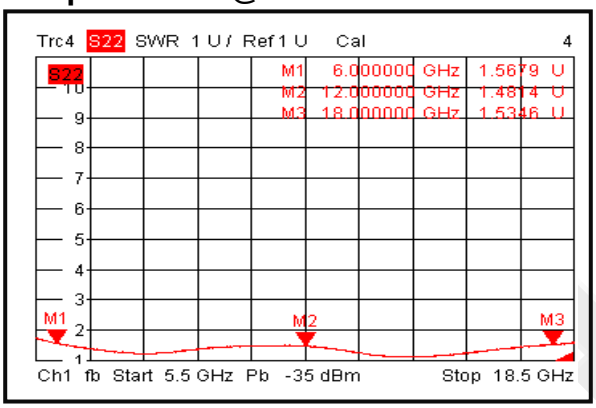
### Gain @+85℃



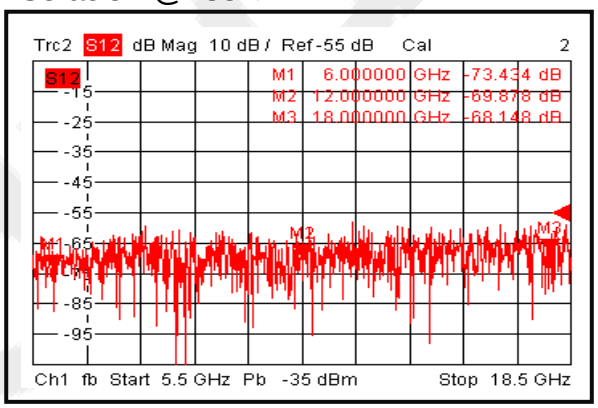

### Input VSWR @+85℃



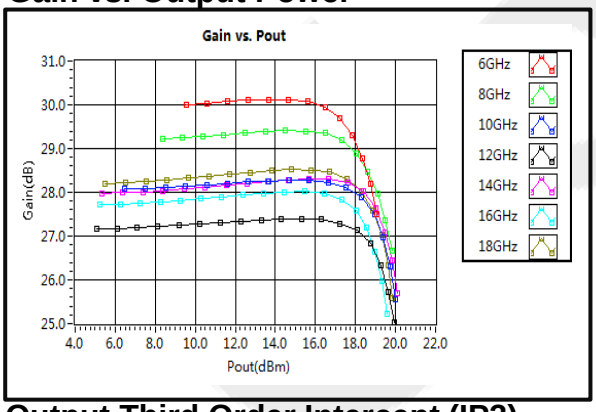

### Output VSWR @+85℃



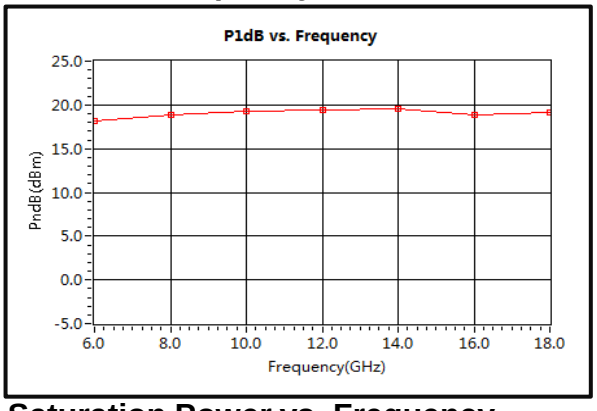

### Isolation @+85℃



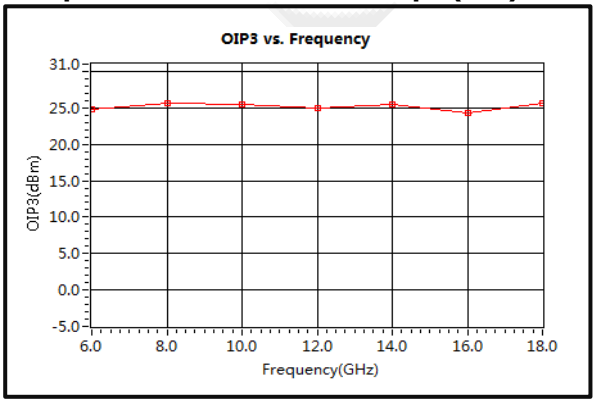

### Gain vs. Output Power



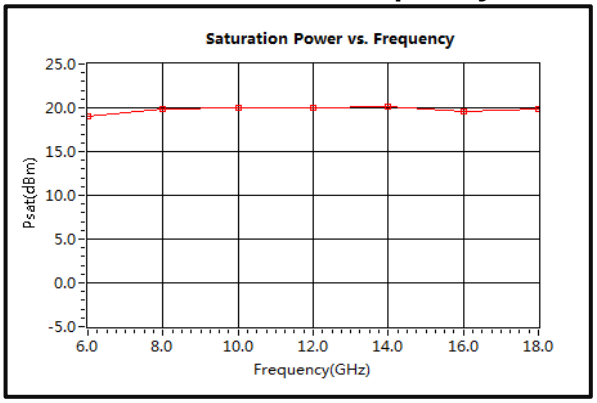

### P1dB vs. Frequency




### Output Third Order Intercept (IP3)

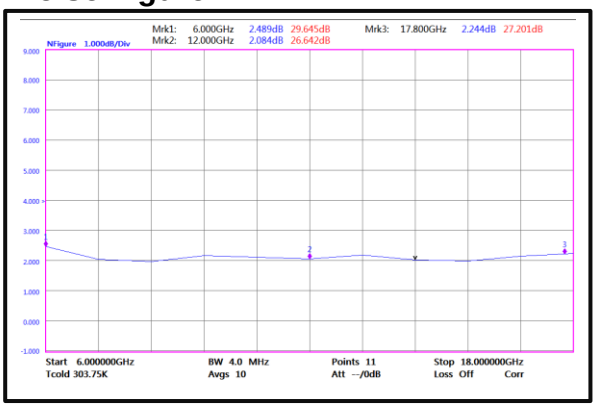



### Saturation Power vs. Frequency

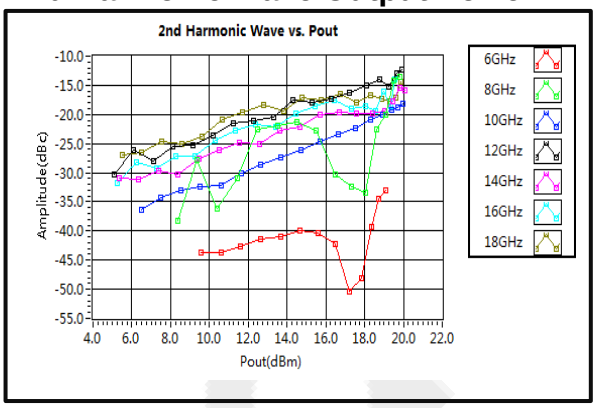


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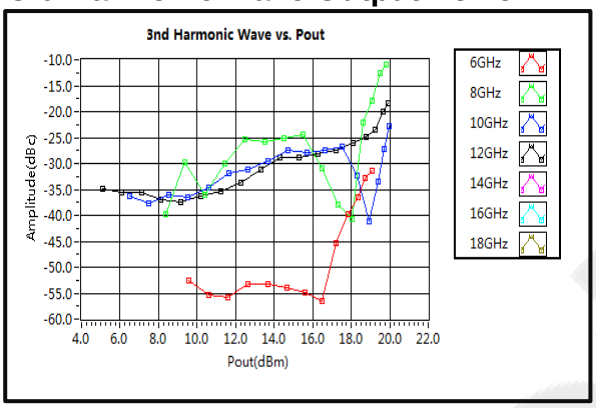
### Noise Figure



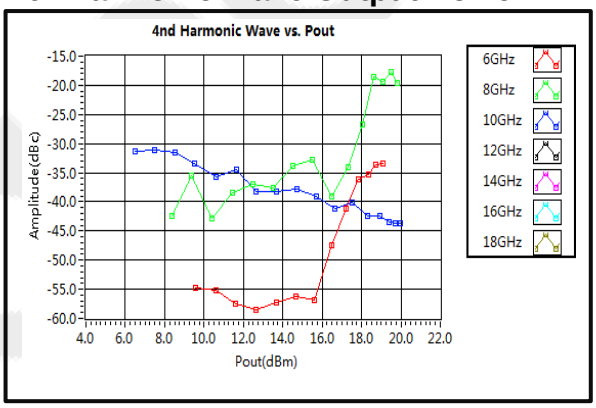

### 2nd Harmonic Wave Output Power




### 3rd Harmonic Wave Output Power




### 4th Harmonic Wave Output Power




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