NuPower Xtender™ 12B04A-01
L-Band Bidirectional Amplifier

16 Watt CW
2.5 Watts Linear, 5% EVM @ 34 dBm
1.0 GHz - 1.5 GHz

P/N: NW-BA-12B04A-01

The NuPower Xtender™ Model NW-BA-12B04A-01 is a small, lightweight, and power-efficient bidirectional amplifier ideal for extending the communication range of half-duplex L-band transceivers running constant-envelope or near-constant-envelope waveforms. The bidirectional amplifier generates 16 Watts of RF power from 1000 to 1500 MHz in transmit mode and the integrated low-noise amplifier provides a minimum of 13 dB of gain in receive mode.

Based on the latest gallium nitride (GaN) technology, the Xtender offers greater than 30% power efficiency at most frequencies and its compact size makes it ideal for integration into space-constrained platforms. Accepting a +5 dBm RF input, the Xtender provides 35 dB of gain. The Xtender also features over-voltage and reverse-voltage protection and operates over a wide temperature range of -30 to +60 °C.

Extend your operational communication range with NuPower™ amplifiers from NuWaves Engineering.

Features
• 16 Watts RF Output Power
• 1.0 to 1.5 GHz
• Bidirectional Operation
• 35 dB of Transmit Gain
• 13 dB Gain LNA
• Fast T/R Mode Switching with Auto-Sensing or Manual T/R Line
• Small Form Factor
• High Efficiency GaN Technology
• Over-Voltage & Reverse-Voltage Protection

Applications
• Unmanned Aircraft Systems (UAS) - Group 2 and Group 3
• Unmanned Ground Vehicles (UGV)
• RF Communication Systems
• Software Defined Radios
### NuPower Xtender™ 12B04A-01 BDA

#### Specifications

**Operational**
- **Frequency Range**: 1.0 GHz to 1.5 GHz
- **RF Output Power**: 16 W (typ); 13 W (min)
- **Transmit Gain**: 35 dB (typ); ≤-13 dBc
- **2nd Harmonic**: ≤-13 dBc
- **T/R Mode**: Automatic Sensing or Manual T/R Line
- **T/R Switch Time**: 1.5 μS (max)
- **Receive RF Gain**: 13 dB (min)
- **Receive Noise Figure**: 3.5 dB (typ)
- **Nominal Input Drive Level**: +5 dBm
- **Maximum Input Drive Level (no damage)**: +10 dBm
- **Supply Voltage**: +11 to +32 VDC
- **Transmit Current Consumption**: 2.2 A @ +28 VDC (typ)
- **Receive Current Consumption**: 100 mA @ +28 VDC (typ)
- **RF Connectors**: SMA (female)
- **Interface Connector**: 9-pin Micro-D (socket)

**Mechanical**
- **Size**: 3.00” x 2.00” x 1.16” (L x W x H)
- **Weight**: 5.8 oz.

**Environmental**
- **Operating Temperature**: -30 to +60 °C
- **Storage Temperature**: -40 to +85 °C

**Export**
- **Classification**: ITAR Controlled

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### Mechanical Outline

![Mechanical Outline Diagram]

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### Contact NuWaves

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