

# NuWaves Engineering

Trusted RF Solutions.™

## NuPower Xtender™ Linear Bidirectional S-Band Amplifier



P/N: NW-LBSSPA-10W-2.2-2.5

**The NuPower Xtender™ Model NW-LBSSPA-10W-2.2-2.5 is a small, lightweight, and power-efficient linear bidirectional amplifier ideal for extending the communication range of half-duplex S-band transceivers running amplitude modulated waveforms (e.g. OFDM, QAM, DVB-T, etc.). The linear bidirectional amplifier generates 5 Watts of linear RF power from 2200 to 2500 MHz given a 10 dB Peak-to-Average Power Ratio (PAPR) waveform. The integrated low-noise amplifier provides a minimum of 13 dB of gain in receive mode.**

Leveraging the latest gallium nitride (GaN) technology as well as sophisticated adaptive pre-distortion techniques, the Xtender provides superior power efficiency when compared to bidirectional amplifiers with similar power and linearity performance.

Further, at only 6.9 in<sup>3</sup>, the Xtender is ideal for integration into size-constrained platforms, such as small Unmanned Aircraft Systems (UAS).

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

### Features

- 5 Watts\* Linear RF Output Power (\* Given a 10 dB PAPR Waveform)
- 2200 to 2500 MHz
- Bidirectional Operation
- 13 dB Gain LNA
- Fast T/R Mode Switching with Auto-Sensing or Manual T/R Line
- Small Ruggedized 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™ Linear S-Band BDA



## Specifications

### Operational

Frequency Range	2.2 GHz to 2.5 GHz
Linear Output Power (Average)	5 W (typ) (w/ 10 dB PAPR waveform)
Output Power - CW	10 W (typ)
Input Drive Level - Linear	+5 to +16 dBm (avg)
Input Drive Level - CW	+26 dBm (max)
Receive RF Gain	13 dB (min)
Receive Noise Figure	3.5 dB (typ)
T/R Mode	Automatic Sensing or Manual T/R Line
T/R Switch Tlme	1.5 $\mu$ S (max)
Supply Voltage	+11 to +32 VDC
Transmit Current Consumption	1.5 A @ +28 VDC (avg) (w/ 10 dB PAPR waveform)
Receive Current Consumption	170 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.

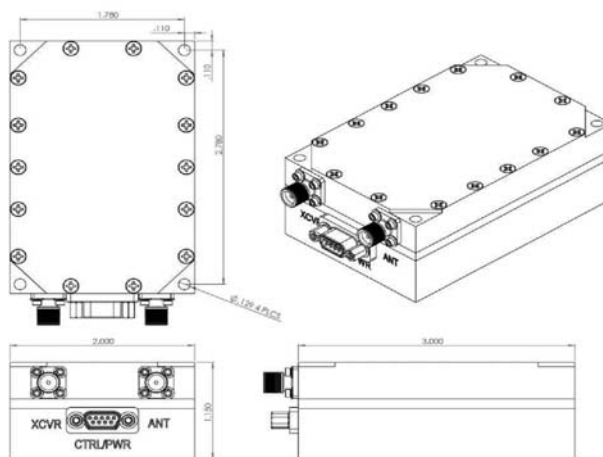
### Environmental

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

### Export

Classification	ITAR Controlled
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## Mechanical Outline



## Contact NuWaves



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