

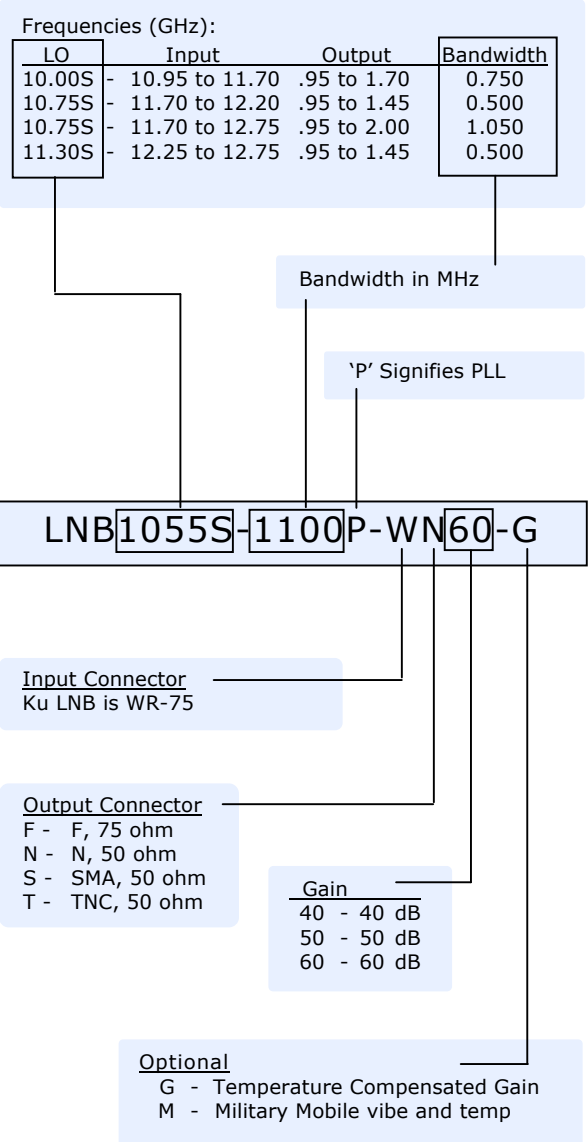


# Orbital 5300 Series Ku PLL Modified LNB



40 to 60 dB gain, 250 to 1050 MHz bandwidth, any Ku satellite

### How to order an Orbital 5300 Series Ku PLL modified LNB



### Orbital Flexibility:

Engineered using the highest quality components insures you from failure due to environmental extremes, such as arctic cold, Saharan heat, and rain-forest humidity. Our LNB is protected from man-made conditions such as shock, vibration, low power, over-voltage, surges, transients, and static discharge. Performance is consistent and replacements will match or exceed your original device. Market leading specifications yield some of the best phase noise on the market.

### Orbital Features:

#### Custom Engineering

- Begin with the low noise figure of a proven quality LNB
- Optimize Input and Output for superior VSWR
- Modify LO frequencies preserving phase noise and stability
- Modify and tune RF & IF filters for optimum response
- Tune for very low bandpass ripple
- Optimize Gain distribution for your system parameters

#### Environmental

- O ring sealed connectors for weather resistant operation
- Preserve the environmental engineering of the original LNB

#### Options

- Custom alarm options for redundant switch operations
- Full test documentation available
- Temperature Compensated Gain Variation
- Military Mobile Vibration and Temperature specs
- RoHS & REACH compliant
- **Can be ruggedized for Airborne application: DO160E B1 cabin rating and DO160E C1 fuselage**

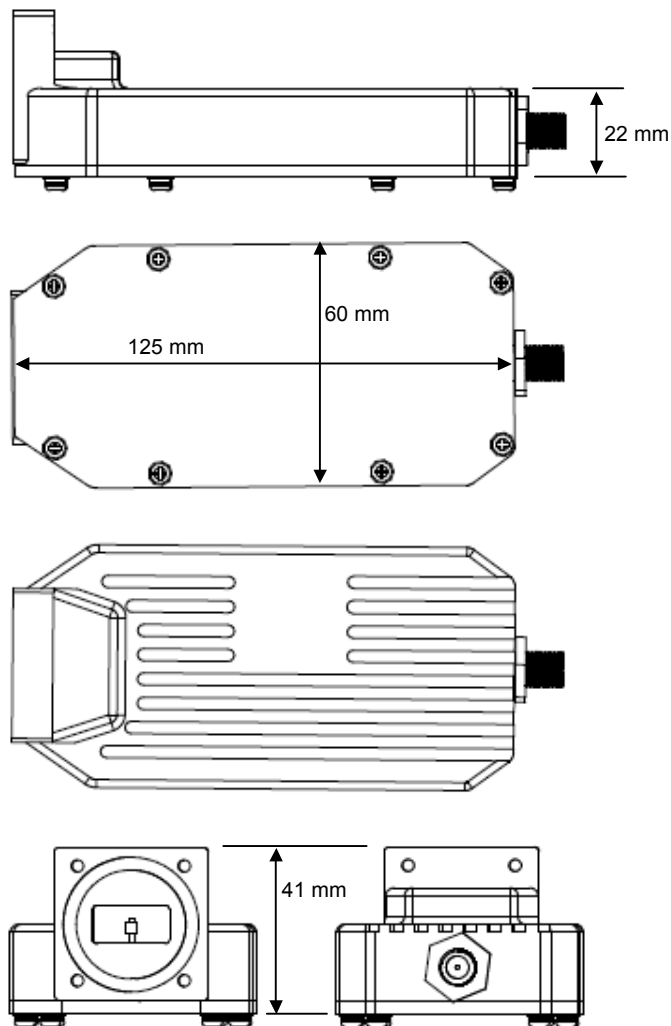
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# Orbital 5300 Series Ku PLL Modified LNB Specifications

## Mechanical Drawing



## Electrical Specifications

### Input

Frequency: Various, over range:  
10.7 to 12.75 GHz  
Bandwidth: up to 1.05 GHz  
Interface: WR-75, Waterproof  
Noise Figure: 0.7 dB typical for standard bandwidth  
0.8 dB typical for wideband  
Ripple:  $\pm 0.5$  dB max /36MHz segment  
Input VSWR: 2.2 : 1 typical

### Output

Bandpass: 950 up to 2100 MHz  
Output VSWR: 1.5 : 1 typical  
Connector: F standard, N, SMA, TNC optional  
LO Stability:  $\pm 10$  kHz  
Phase Noise:  
100 Hz offset: -70 dBc/Hz  
1 kHz offset: -80 dBc/Hz  
10 kHz offset: -85 dBc/Hz  
100 kHz offset: -105 dBc/Hz  
Compression: +10 dBm min., standard bandwidth  
+7 dBm min., for wideband  
3rd Order Intercept: +20 dBm min., standard bandwidth  
+17 dBm min., for wideband  
Spurious:  
Non-Signal related:  
-95 dBm max over freq band  
Signal related:  
-85 dBc max over freq band

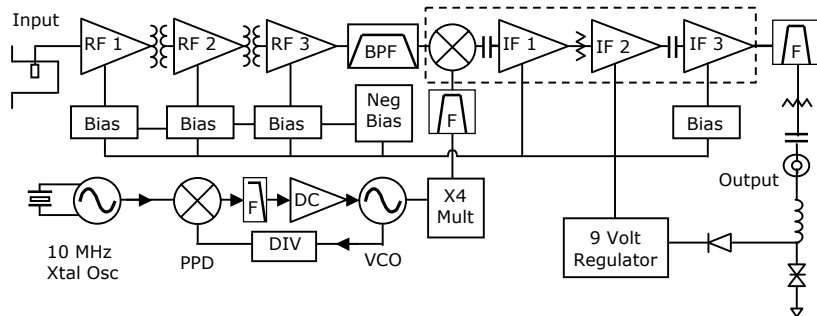
### Gain

Typical: 60 dB  
Options: 40 dB, 50 dB, 60 dB  
Ripple: 1 dB p-p max per 36 MHz segment

### Optional

Temperature Compensated Gain Variation (optional):  
 $\pm 0.75$  dB max over frequency band  
and -20 to +55°C  
Military Mobile Spec:  
Meets 810F chapter 514.5C-1 vibs spec  
Temperature range: -30 to +70°C

## Block Diagram



## Environmental Specifications

Operating Temp: -40 to +60 °Celsius  
Relative Humidity: Up to 100%  
condensation & frost

## Power

DC Input: 12 to 24 VDC, 220 mA  
nominal  
Filtering: Transient, over and reverse  
voltage protected

## Mechanical Specifications

Size: 125 x 60 x 41 mm  
Weight: 200 grams  
Paint: Brilliant White Enamel  
RoHS & REACH Compliant

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