

# Orbital Wideband Ka-Band LNB Superior

## Description

This satellite converter is a world first: a Ka-Band LNB with ethernet monitor and control access. With a redesigned form factor, we engineered this device to cover the entire Ka receive spectrum while delivering phenomenal phase noise performance.

## Features

**Ultra-Low Phase Noise:** for the most challenging throughput requirements.

**Ethernet Monitor and Control (M&C):** manage this device from anywhere to save critical time.

**Wideband:** save time and money. Better throughput, less devices.

**Switchable Filters:** get exceptional image rejection on the bands you need.

**Digital Step Attenuator:** change attenuation in 0.25 dB steps for the best transmission.

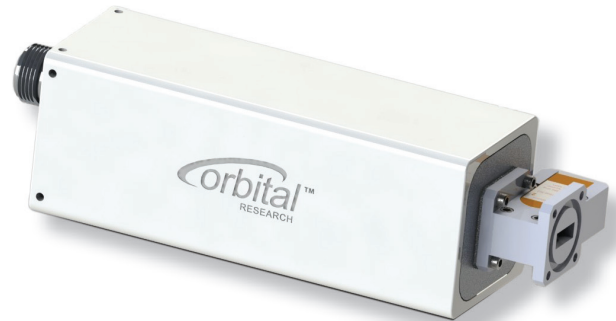
**Exceptional Performance:** enjoy a competitive edge in the market.

**Fast Customization:** get customized units in weeks, not months.

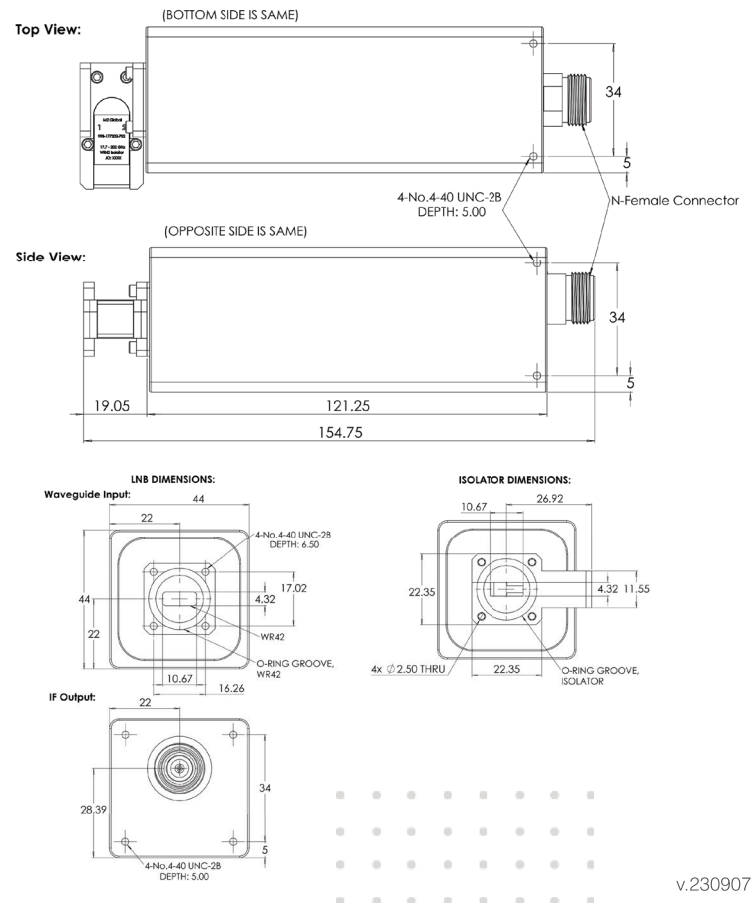
## Applications

The Superior model is tailor-made for the most complex systems that require full spectrum access, all M & C options, and superior performance:

- Gateway carriers that need wideband
- Comms On the Move conditions than need Multi-LO's
- In-Flight entertainment systems with large throughput
- Military operations requiring ARSTRAT standard compliance
- Tier 1 and 2 users with large, complex, global data networks
- IoT or NextGen applications



## Mechanical Diagram



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## Specifications

### FREQUENCY RANGE

RF Frequency Band (GHz)	17.2 to 22.2
IF Frequency Band (MHz)	950 to 3750
Bandwidth (MHz)	100 to 4000
Local Oscillator (GHz)	16.25 to 21.20
Noise Figure (dB) (typ)	1.0 to 1.3
LO Stability	Locked to Ext Reference
LO Phase Noise	Locked to Ext Reference
Band Switching	Voltage/tone & M&C

### EXTERNAL REFERENCE

Insertion	Via Input Connector or separate connector
Input Level	0 to + 10 dBm

### VSWR

Input (typ)	1.3:1
Output (typ) 1 GHz BW	1.5:1

### GAIN

Gain (dB)	60 min dB min
Flatness (over any 1 GHz)	+/- 1.5 dB

### OUTPUT PHASE NOISE (TYP) 10 MHZ EXT REF

10 Hz	-55 dBc/Hz
100 Hz	-77 dBc/Hz
1 KHz	-82 dBc/Hz
10 KHz	-83 dBc/Hz
100 KHz	-92 dBc/Hz
1 MHz	-115 dBc/Hz

### OUTPUT PHASE NOISE (TYP) - 100 MHZ EXT REF

10 Hz	-55 dBc/Hz
100 Hz	-80 dBc/Hz
1 KHz	-92 dBc/Hz
10 KHz	-92 dBc/Hz
100 KHz	-95 dBc/Hz
1 MHz	-120 dBc/Hz

### OTHER SPECS

Image Rejection (typ)	50 dB
LO Leakage (typ)	< -60 dBm
1 dB Compression (dBm) @60 dB gain	+15
OIP3 (dBm) @60 dB gain	+25
Overdrive Power Level (Non-damaging)	-20 dBm
Desense Level	-40 dBm transmit signal results in no more than 0.1 dB of NF degradation

### ENVIRONMENTAL

Operating Temperature	-40 to +71C
Survival Temperature	-55 to +85C
Humidity	100% condensing
MTBF	250,000 hrs
Standards	RoHS, REACH, IP67, DO-160

### POWER

Input Voltage Range	10 to 28 VDC
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### MECHANICAL

Weight (grams)	500
Dimensions (mm)	44 x 44 x 154
Input Connector	WR-42
Output Connector	SMA or N

### MONITOR & CONTROL

RS485 or RS422 or Ethernet	Option
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### OPTIONS

Gain Compensation Over Temperature	Option
High OIP3	Option
DC Via M & C Connector (pigtail)	Option
External Reference In (via separate SMA Connector)	Option
User Controlled Gain	Option
Automatic Level Control (ALC)	Option
Customized LO Frequencies	
Power Level at the Output	
Extended IF Frequency	Option
Internal Reference	Option
External Reference with Auto Internal Fall Back	Option
Wideband RF/IF - up to 4 GHz	Option
Choice of External Reference	10, 50, or 100 MHz

Specifications are subject to change without notice.

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