

# Orbital X-MIC External Reference X-Band LNB with Internal Isolator

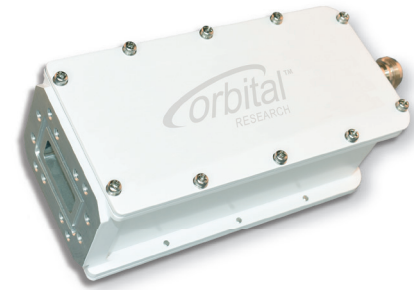
## Description

The Orbital Research X-MIC X-Band low noise block downconverter (LNB) provides exceptional performance for ruggedized military satellite communications (SATCOM) applications.

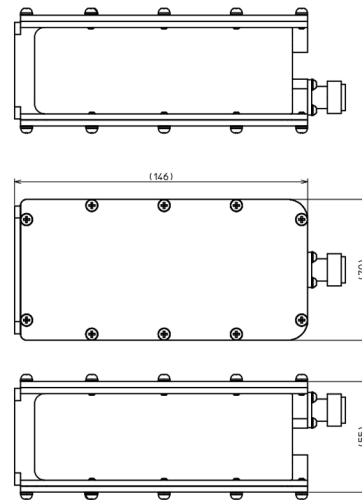
The X-MIC delivers maximum data throughput, signal amplification and reliability – even in extreme operating conditions.

- Internal Isolator ensures exceptional performance in any weather
- Built-in 55 dB Transmit Reject Filter minimizes need for external filters
- Switching Power Supply for maximum operating efficiency
- Reduced SWAP (Size, Weight and Power) for real estate optimization
- Excellent Impedance Matching means Low Phase Noise, minimal Bit Error Rate (BER)
- Superior Linearity leads to maximum throughput

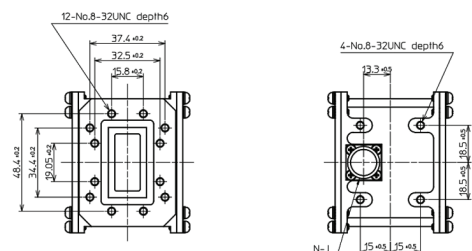
This X-Band external reference LNB is primarily used for military satellite terminals but it can also be tuned for earth observation applications. In addition to standard fixed satellite terminals, it can be used on top of moving vehicles or aircraft.



## Mechanical Diagram



X-LNB with built-in isolator outline drawing



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## Specifications

### FREQUENCY RANGE

RF Frequency Band (GHz)	7.25 to 7.75
IF Frequency Band (MHz)	950 to 1450
Bandwidth (MHz)	500
Local Oscillator (GHz)	6.3
Noise Figure (dB)	0.8 typical
LO Stability (ppm)	Locked to external reference
LO Phase Noise	Locked to external reference
Band Switching	N/A

### 10MHZ REFERENCE

Insertion	Via input connector
Input Level Range (dBm)	-5 to +5

### VSWR

Input VSWR	1.3:1 nominal
Output VSWR	2.0:1 nominal

### GAIN

Gain (dB)	62 +/- 2.0 over temp
Flatness	+/- 1.5 over full band
Ripple	+/- 0.5 over any 10 MHz
Stability	+/- 1.0 over 24 hours @ 25C

### ENVIRONMENTAL

Operating Temperature	-40C to +60C
Non-Operating Temp Range	-50C to +70C
Humidity	100% condensing
MTBF	> 125,000 hours
Standards	RoHS, REACH, MIL-STD-810F for vibration, IP67

### MECHANICAL

Weight (grams)	750
Dimensions (mm)	146 x 70 x 55
Input Connector	WR-112
Output Connector	N, SMA

### POWER<sup>1</sup>

Current Draw	3.8 W
Input Voltage Range	+12 to +20 VDC

<sup>1</sup> Power supplies must meet 100 mV maximum ripple and noise

### OPTIONS

Extended Temperature Range	
Custom Gain Temperature Compensation	

### OTHER SPECS

Image Rejection	60 dBc min
1dB Compression dBm	+15 dBm min
OIP3 (dBm)	+25 dBm min
Desense Level	-40 dBm transmit signal results in <0.1 dB of NF degradation
Transmit Rejection	55 dB
Overdrive Power Level (Non-Damaging)	-20 dBm