

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

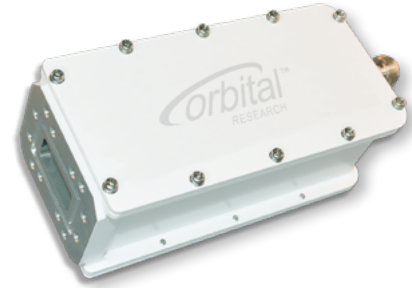
Description

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

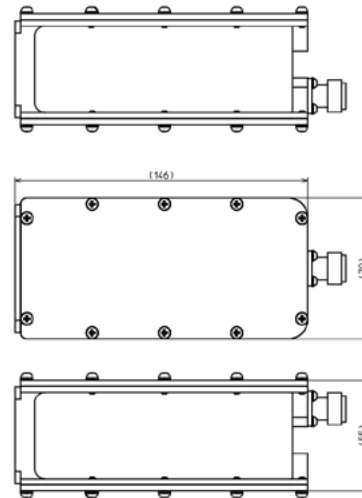
The X-MIC delivers maximum data throughput, signal amplification and reliability – even in extreme operating conditions.

- 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

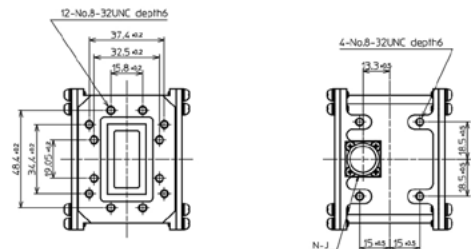
This X-band external reference LNB is primarily used for military satellite terminals but it can also be tuned for earth observation applications. In addition to standard fixed satellite terminals, it can be used on top of moving vehicles or aircraft.



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	Locked to external reference
LO Phase Noise	Locked to external reference
Band Switching	N/A

10 MHZ REFERENCE

Insertion	Via input connector
Input Level	-5 to +5 dBm

VSWR

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

GAIN

Gain (dB)	62 +/- 2.0 over temp
Flatness	+/- 1.5 dB over full band
Ripple	+/- 0.5 dB over any 10 MHz
Stability	+/- 1.0 dB 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
Length (mm)	146
Width (mm)	70
Depth (mm)	55
Input Connector	WR-112
Output Connector	N, SMA

POWER¹

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

¹ 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
1 dB 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