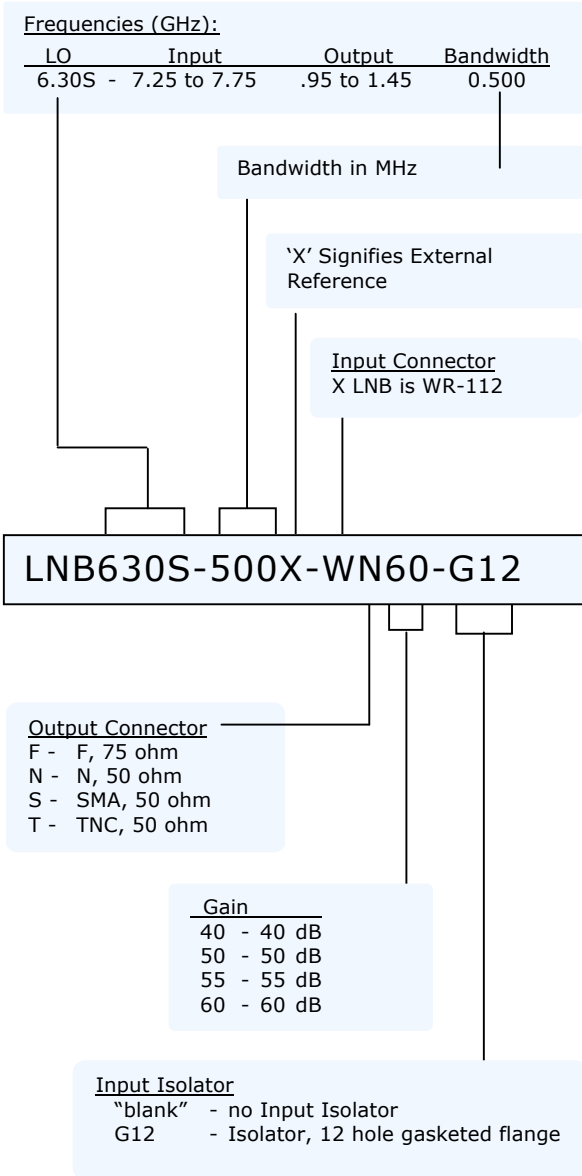


Orbital 4400X & 4400XI Series X-Band Ext Ref LNB



MIL Spec MIL-STD-188-164A, 45 dB internal filter

How to order an Orbital 4400X or 4400XI Series X-Band External Reference LNB



Orbital Features:

The newly designed Orbital X-Band LNB comes in 2 main varieties:

- External Reference with input Isolator
- External Reference without input Isolator

Without the isolator, the input flange is the standard LNB "O" Ring 4-hole style.

With the input isolator attached, Orbital has standardized on a "Universal" type WR-112 rectangular gasket flange with 12-holes instead of 8. This "Universal" flange can interface to either type of flat flange: 4-hole or 8-hole.

Other varieties/options include color, gain, and output connector.

Orbital Specs:

- Image Rejection >60 dB
- P1 dB >15 dBm
- IP3 >25 dBm
- Internal Transmit Rejection >45 dB
- Noise Figure <0.7 dB
- Mil-Std 188-164A for vibe and shock

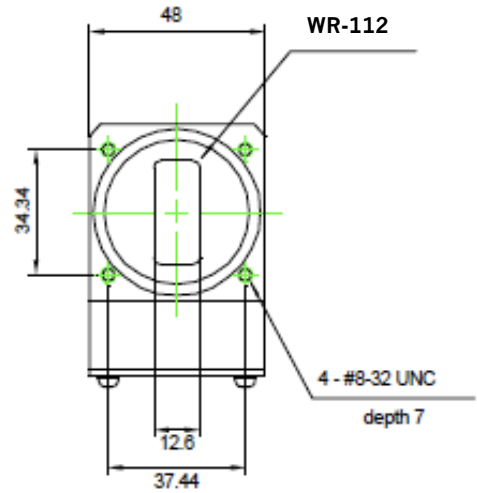
Doug Macdonald
Tel: (647) 992-1210
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David Zuvic
Tel: (604) 856-0305,
dzuvic@orbitalresearch.net

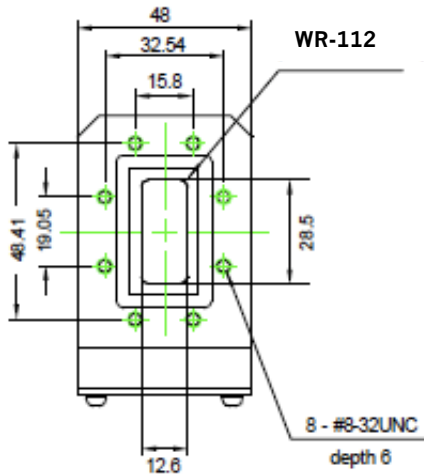
www.orbitalresearch.net

Orbital 4400X & 4400XI Series X-Band Ext Ref LNB Specs

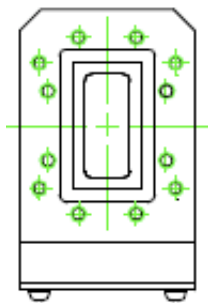
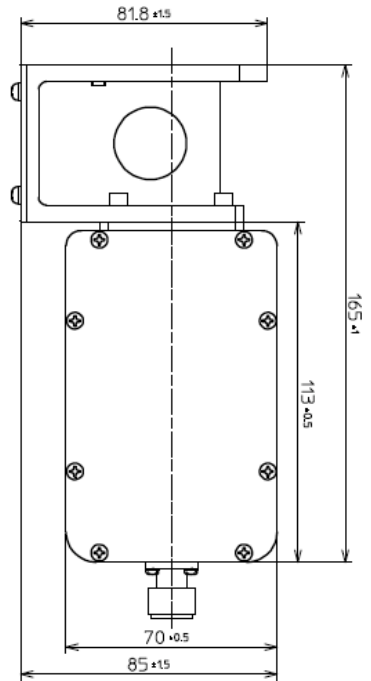
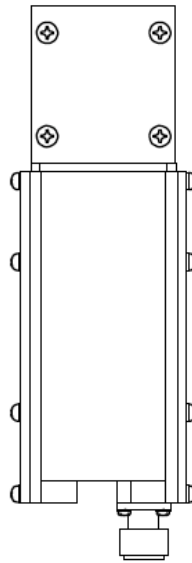
Item	4400X Series X-Band LNB without Isolator (4 hole "O" Ring flange only)
Size	(L) 113mm x (W) 70mm x (H) 55mm
Weight	Approx. 585g
NF	Approx. 0.7dB @+23C, dependent upon connecting components
VSWR	1.5:1 to 2.5:1, dependent upon connecting components



Standard 4 hole flange

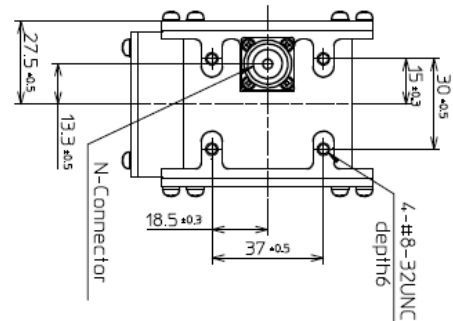


Standard 8 hole flange

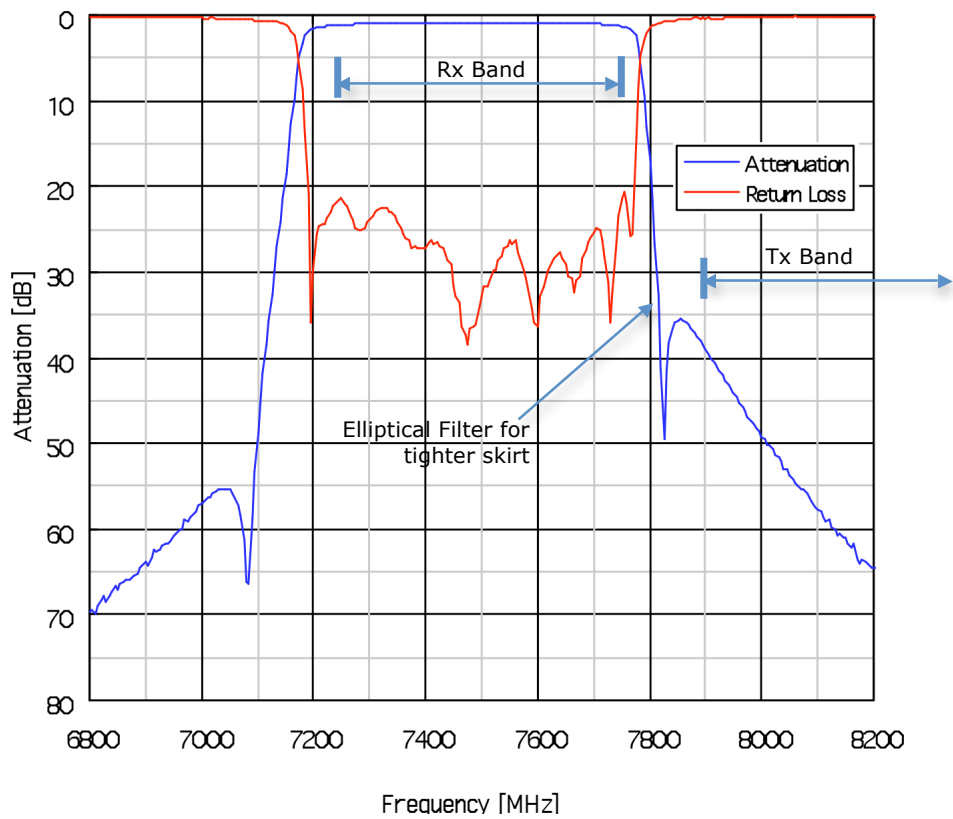


Resulting 12 Hole Mounting Pattern

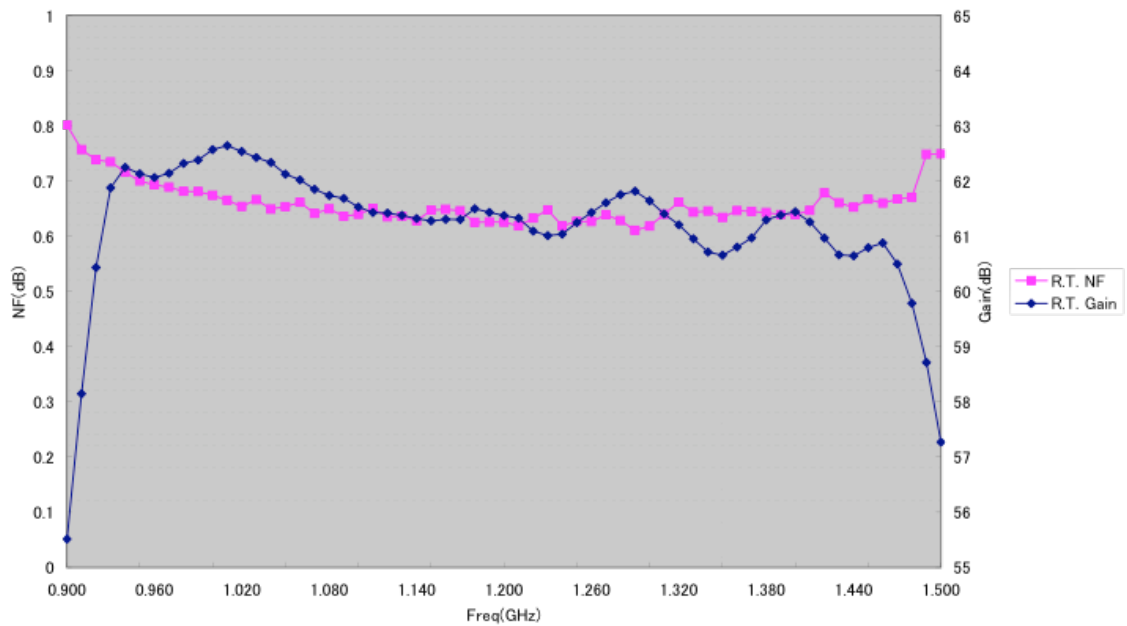
WR-112 type,
Universal
12-hole flange
(connects to either
4-hole or 8-hole flat
flanges)



Item	4400XI Series X-Band LNB with Isolator
Size	(L) 165mm x (W) 85mm x (H) 55mm
Weight	Approx. 800 g
NF	0.7 dB max. @+23C
VSWR	1.3 : 1



Internal Filter Frequency Response



Noise Figure and Gain

ELECTRICAL SPECIFICATIONS

Item	With Isolator (4400XI)	Without Isolator (4400X)
RF Input Frequency	7.25 to 7.75GHz	
IF Output Frequency	950 to 1450MHz	
Local Frequency	6.3GHz	
Local Frequency Stability	Phase locked to external 10MHz reference	
10MHz Reference	@ Multiplexed on the IF coaxial connector [Input level] -5 to +5dBm [Phase Noise] -135dBc/Hz max. @100Hz -148dBc/Hz max. @1KHz -152dBc/Hz max. @10KHz -155dBc/Hz max. @100KHz	
LO Phase Noise	-65dBc/Hz max. @100Hz -75dBc/Hz max. @1KHz -85dBc/Hz max. @10KHz -95dBc/Hz max. @100KHz -105dBc/Hzmax. @1MHz	
LO Leakage	Virtually eliminated	-60dBm max at waveguide flange
Noise Figure	0.7dB typ. @+23°C	Approx. 0.7dB @+23°C, dependent upon connecting components
Gain	62dB±4dB @Over temp. and freq.	
Gain Flatness	±2.0dB max. @Over band	
Gain Stability	±1.0dB max. @Over a 24hr at +25°C	
Input VSWR	1.3:1 max.	1.5:1 to 2.5:1, dependent upon connecting components
Output VSWR	2.0:1 max.	
Attenuation (in Tx band, 7.9 to 8.4 GHz)	45 dB	45 dB
Image Rejection	-60dBc max.	
P1dB Compression point	+15dBm min.	
Signal Independent Spurious	-60dBm max. @Rx-band	
Signal Related Spurious	-65dBc max. @0dBm output, Rx-band	
Desense level	-40dBm, 7.9-8.4GHz @No more than 0.1dB of noise figure degradation	
Overdrive	-20dBm @Non-damaging	
Input DC Power	+15 to +24VDC, 500mA Multiplexed on a single coaxial connector with the IF and 10MHz reference signal.	
Input Interface	WR-112 waveguide, 12-hole flange	WR-112 waveguide, 4-hole flange
Output Interface	50Ω, N-type female coaxial connector	

MECHANICAL SPECIFICATIONS

Size	(L) 165mm x (W) 85mm x (H) 55mm 6.5 x 3.4 x 2.2 inches	(L) 113mm x (W) 70mm x (H) 55mm 4.5 x 2.8 x 2.2 inches
Weight	approx. 800g 1.8 lbs	Approx. 585g 1.3 lbs
Color	White Munsell N9.5 semigloss standard, other colors available	

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40°C to +60°C	
Operating Altitude	10,000 ft ASL	
Operating Relative Humidity	100%, condensing	
Non-operating Temperature	-50°C to +70°C	
Non-operating Altitude	50,000 ft. ASL	
F Shock	20g, 11ms, half sine	
Vibration	MIL-STD-810E, method 514-4	
MTBF	>125,000 hours	

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