



X-Band LNB Earth Observation

*X-Band PLL LNB for EO-
band 7.75-8.50 GHz.
Single or 2-Band models.*



The professional X-Band PLL LNB is optimized for Earth Observation and remote sensing technical requirements.

It reduces cost and complexity greatly compared to a traditional LNA + Rack BDC system and it's ideal for smallsats or any LEO, MEO and GEO X-Band applications.

The LNB has the IF output centered at 720 MHz or 1200 MHz which is Industry standard.

Features

- Wide frequency range
- Low phase noise
- High P1dB and IP3
- Choose between Internal Ref. or External Ref. input models
- Compact size and light weight
- Wide operating temperature range
- Option customized gain and LO
- Option separate DC / 10 MHz ref. input

TECHNICAL SPECIFICATIONS

MODEL:	X-PLL 6.50	X-PLL 6.80	X-PLL 6.95	X-PLL 7.22/7.52
Input Frequency	7.68 - 8.32 GHz	7.75 - 8.50 GHz	7.75 - 8.40 GHz	7.75 - 8.13 / 8.05 - 8.43 GHz
LO Frequency	6.50 GHz	6.80 GHz	6.95 GHz	7.22 / 7.52 GHz
Output Frequency	1180 - 1820 MHz	950 - 1700 MHz	800 - 1450 MHz	530 - 910 MHz
Receiver Center Frequency	1500 (±320) MHz	---	1200 (± 400) MHz	720 (± 190) MHz
Gain	60 dB typ. (55 dB min.)			
Flatness	±0.4 dB max. within 30 MHz, ±2 dB max. over band			
Noise Figure / Noise Temperature	0.69 dB / 50 K max. (0.6 dB / 43 K typ.)			
Phase Noise	-35 dBc @ 10 Hz -65 dBc @ 100 Hz	-85 dBc @ 1 kHz	-90 dBc @ 10 kHz -100 dBc @ 100 kHz	-128 dBc @ ≥1 MHz, typ.
Image Rejection	40 dB min.			30 dB min.
Output P1dB	+15 dBm			
Output IP3	+25 dBm			
Output VSWR	1.7:1 max. @ 50Ω			
Output Connector	F-type 75Ω / N-type 50Ω / SMA-type 50Ω			
Input Waveguide	WR 112 / R 84. Flange PBR 84. Option CPR112G flange adaptor.			
Input VSWR	1.5:1 max.			
LO Leakage	-60 dBm @ waveguide input			
Internal Ref. Stability	±0.5 ppm -20 to +70°C (±1 ppm -40 to +80°C) ±1 ppm -20 to +70°C (±1.5 ppm -40 to +80°C)			
External 10 MHz Ref.	Level: -15 to +5 dBm. Supplied through output connector (with no ext. 10 MHz ref. present LO shifts -20 ppm)			
DC Input	+12 to +24 V Supplied through output connector Option separate DC input connector F-, N- or SMA-type			
Current Drain	190 mA @ +13 V 160 mA @ +15 V 140 mA @ +18 V 110 mA @ +24 V			
Temperature Range	-40 to +80°C			
Dimensions	130 x 56 x 51 mm (F- & SMA-connector) 135 x 56 x 51 mm (N-connector) (for drawing, see www.smw.se)			
Weight	353 g WR112, 420 g CPR112G (F- & SMA-connector) 369 g WR112, 446 g CPR112G (N-connector)			
Options	CPR 112G flange adaptor, Customized gain, LO & variation, Separate DC input connector F- N- or SMA-type, separate 10 MHz ref. input. Fiber output (Q-ODC)			
Miscellaneous	Enclosed O-ring, mounting screws (M4 x 10) 4 pcs.			