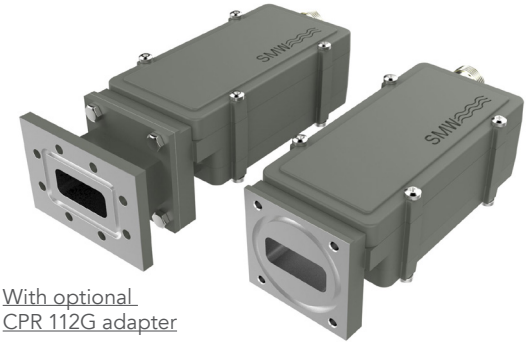
PLL LNB Earth Observation

SMW SWEDISH MICROWAVE AB

Professional LNB for EO-band 7.75-8.50 GHz



With optional CPR 112G adapter

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 smallsat or any LEO, MEO and GEO X-Band applications.

Features

- ***Low phase noise***
- ***High P1dB and IP3***
- ***Choose between Internal Ref. or External Ref. input models***
- ***Lower gain versions for larger antennas***
- ***Wide operating temperature range***
- ***Optional direct fiberoptic output***
- ***The LNB has the IF output centered at 720 MHz or 1200 MHz which is Industry standard***

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 - 8.50 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 - 1550 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 adapter.*			
Input VSWR	1.5:1 max.			
LO Leakage	-60 dBm @ waveguide input			
MODELS with Internal Reference	±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)			
MODELS with External 10 MHz Reference	Sine Wave, Level: -10 to +10 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	Storage and operating: -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 LO, lower gain and variation, Separate DC input connector F- N- or SMA-type, Separate 10 MHz ref. input., Pressurizable (n/a with optical output)			
Miscellaneous	Enclosed conductive O-ring, mounting screws (M4 x 10) 4 pcs.			

OPTIONAL RF OVER FIBER OUTPUT	
Optical output	Direct modulated DFB, 2 mW @ 1310 nm, Dual fiber, Single mode Huber & Suhner, Q-ODC
RF monitor / DC input	F-type 75Ω / N-type 50Ω / SMA-type 50Ω. RF monitor port 45 dB gain.
DC Input	Via monitor connector, Voltage see above, 6 W max.
Dimensions	137 x 63 x 56 mm, for drawing, see www.smw.se
Weight	480 g (SMA and F connectors), 520 g (N connector)
Temperature range	Storage and operating:-40 to +70° C
Standards compliance	Optical interface: EIA/TIA 568, ITU std. G694.2; EMC: EN 55013:2013, EN 55020, EN 300 386; Safety: EN 60950-1, EN 60950-22, EN 60065:2002
Options	Fixed gain (Beacon), 1550 nm fiber transmitter

Rev.04-21-5G

Above parameters are generic product family values. For part number specific min./max. values, please consult us.
Specifications are subject to change without notice. Products from Swedish Microwave AB are made for commercial use.

Swedish Microwave AB, Dynamov. 5, S-591 61 Motala, Sweden. Tel: +46 141 216135, sales@smw.se, www.smw.se