

## Multiband PLL LNB

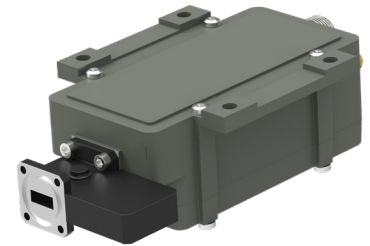


3 to 8-Band switchable  
LNB, 17.30-22.30 GHz

**NEW!**

### Features

- Alarm and M&C as option
- Auto switching LO ref: Internal / Ext. 10 MHz
- Low phase noise
- High P1dB and IP3
- Wide operating temperature range
- Customizable switching, Voltage/Tone



Optional enclosure fixing points



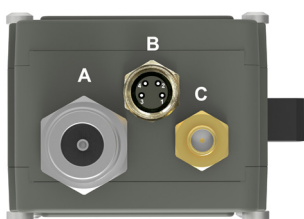
### TECHNICAL SPECIFICATIONS

MODEL:	Ka-Band Multiband
Input Frequency	3 to 8 bands, custom between 17.30 to 22.30 GHz, overlap possible
LO Frequency	Custom between 16.25 to 20.75 GHz
Output Frequency	950-1950 MHz or 1000-2000 MHz, (950-2250 MHz optional)
Band switching	+11 to 26 V nom. & 22 kHz, TTL or 0/12V as option via sep. SMA, (example 13/15/18/24 V & 22 kHz tone for 8 Bands)
22 kHz tone	Switching No tone/22 kHz $\pm 4$ kHz, Amplitude voltage 0.6 $\pm 0.2$ V, Duty cycle 40-60%
Gain	55 dB min. standard
Flatness each band	$\pm 2$ dB max.
Noise figure	1.3 dB to 1.7 dB typ., increases with input frequency
Phase Noise	-35 dBc @ 10 Hz -65 dBc @ 100 Hz -80 dBc @ 1 kHz -85 dBc @ 10 kHz -95 dBc @ 100 kHz -112 dBc @ >1 MHz typ.
Image Rejection	45 dB @ LO 16.25, 20 dB @ LO 20.25
Input	Flange PBR220, waveguide WR42
Input VSWR	1.35:1 max. with Low Loss Isolator (included)
Output P1dB	+15 dBm min.
Output IP3	+25 dBm min.
Output VSWR	1.7:1 typ.
Output Connector	N-type 50 $\Omega$ standard, Option: SMA-type 50 $\Omega$ or F-type 75 $\Omega$
LO reference	Auto switch External/Internal
Internal LO ref.	$\pm 2.5$ ppm -40 to +60 $^{\circ}$ C ( $\pm 3.5$ ppm -40 to +80 $^{\circ}$ C)
External 10 MHz Ref.	Sine Wave, Sine wave, Level -10 to +10 dBm. Supplied through output connector.
LO Leakage	-60 dBm max.
DC Input	+11 to +26 V through output connector or separate SMA connector (optional)
Power consumption	5W max.
Dimensions	153 x 68 x 45 mm, including isolator
Weight	375 g (SMA-connector) including isolator
Temperature range	Storage and operating: -40 $^{\circ}$ to +80 $^{\circ}$ C
Alarm option	Interface: Separate M8-connector (B), Open collector, Open on fault, 3.3 to 24 V, max. 200 mA Available Alarms: LO not locked, Total current consumption, Power detector outside limits, RF level outside limits
M&C option	Via MODBUS RTU RS485 electrical interface, see sep. document for details. NOTE! Mates with M8 male connector. Cable: shielded min. CAT 5
Other options	Customized LO frequencies (up to 8 LOs), Separate DC (SMA), Separate 10 MHz ref. input (SMA), Customized gain, Extended IF Fiber optic output, Pressurizable
Miscellaneous	Enclosed O-ring, mounting screws (M3 x 8) 4 pcs

SEE THE RF OVER FIBER AND L-BAND SECTIONS FOR OUTPUT OPTIONS

Rev.06-21-10B

### LNB rear connectors



### Connector B (optional)



5 SHIELD

- 1 = Alarm. open coll.
- 2 = A pos+, RS485
- 3 = B neg-, RS485
- 4 = Common (GND)
- 5 = Shield

### Connector A (standard)

Type: N-f, (option F-f or SMA-f)  
Functions: L-Band out, DC in,  
External 10 MHz in

### Connector B (optional)

Type: M8 female, 4 pin,  
A coded  
Functions: Alarm and M&C

### Connector C (optional)

Type: SMA-f only  
Functions: Ext. 10 MHz in  
or DC input

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.

# Examples Multiband

3-BAND				
Band	Input freq. (GHz)	LO	L-band (MHz)	Switching
1	17.70-18.70	16.75	950-950	13 V (11.5 to 14.9 V)
2	18.45-19.45	17.50	950-950	13 V + 22 kHz tone
3	19.20-20.20	18.25	950-950	18 V (15.2 to 26.0 V)
1	17.70-18.70	16.75	950-950	13 V (11.5 to 14.9 V)
2	18.70-19.70	17.75	950-950	13 V + 22 kHz tone
3	19.70-20.70	18.75	950-950	18 V (15.2 to 26.0 V)
1	17.30-18.30	16.35	950-950	13 V (11.5 to 14.9 V)
2	18.30-19.30	17.35	950-950	13 V + 22 kHz tone
3	19.30-20.30	18.35	950-950	18 V (15.2 to 26.0 V)
1	18.20-19.20	17.25	950-950	13 V (11.5 to 14.9 V)
2	19.20-20.20	18.25	950-950	13 V + 22 kHz tone
3	20.20-21.20	19.25	950-950	18 V (15.2 to 26.0 V)
1	19.20-20.20	18.25	950-950	13 V (11.5 to 14.9 V)
2	20.20-21.20	19.25	950-950	13 V + 22 kHz tone
3	21.20-22.20	20.25	950-950	18 V (15.2 to 26.0 V)
1	17.50-18.50	16.55	950-950	13 V (11.5 to 14.9 V)
2	18.20-19.20	17.25	950-950	13 V + 22 kHz tone
3	19.20-20.20	18.25	950-950	18 V (15.2 to 26.0 V)
1-3	Customized	Cust.	950-950	Customized

5-BAND				
Band	Input freq. (GHz)	LO	L-band (MHz)	Switching
1	17.20-18.20	16.25	950-950	13 V (11.5 to 14.9 V)
2	18.20-19.20	17.25	950-950	13 V + 22 kHz tone
3	19.20-20.20	18.25	950-950	18 V (15.2 to 20.0 V)
4	20.20-21.20	19.25	950-950	18 V + 22 kHz tone
5	21.20-22.20	20.25	950-950	24 V (20.3-26.0 V)
1	17.50-18.50	16.55	950-950	13 V (11.5 to 13.9 V)
2	18.40-19.40	17.45	950-950	13 V + 22 kHz tone
3	19.30-20.30	18.35	950-950	15 V (14.2 to 16.3 V)
4	20.20-21.20	19.25	950-950	15 V + 22 kHz tone
5	21.10-22.10	20.15	950-950	18 V (16.6 to 26.0 V)
1-5	Customized	Cust.	950-950	Customized

4-BAND				
Band	Input freq. (GHz)	LO	L-band (MHz)	Switching
1	17.20-18.20	16.25	950-950	13 V (11.5 to 14.9 V)
2	18.20-19.20	17.25	950-950	13 V + 22 kHz tone
3	19.20-20.20	18.25	950-950	18 V (15.2 to 26.0 V)
4	20.20-21.20	19.25	950-950	18 V + 22 kHz tone
1	17.70-18.70	16.75	950-950	13 V (11.5 to 14.9 V)
2	18.70-19.70	17.75	950-950	13 V + 22 kHz tone
3	19.70-20.70	18.75	950-950	18 V (15.2 to 26.0 V)
4	20.70-21.70	19.75	950-950	18 V + 22 kHz tone
1	18.20-19.20	17.25	950-950	13 V (11.5 to 14.9 V)
2	19.20-20.20	18.25	950-950	13 V + 22 kHz tone
3	20.20-21.20	19.25	950-950	18 V (15.2 to 26.0 V)
4	21.20-22.20	20.25	950-950	18 V + 22 kHz tone
1-4	Customized	Cust.	950-950	Customized

6-BAND				
Band	Input freq. (GHz)	LO	L-band (MHz)	Switching
1	17.30-18.30	16.35	950-950	13 V (11.5 to 14.9 V)
2	18.00-19.00	17.05	950-950	13 V + 22 kHz tone
3	18.70-19.70	17.75	950-950	18 V (15.2 to 20.0 V)
4	19.40-20.40	18.45	950-950	18 V + 22 kHz tone
5	20.10-21.10	19.15	950-950	24 V (20.3-26.0 V)
6	20.80-21.30	19.85	950-1450	24 V + 22 kHz tone
1-6	Customized	Cust.	950-950	Customized

8-BAND				
Band	Input freq. (GHz)	LO	L-band (MHz)	Switching
1	17.20-18.20	16.25	950-950	13 V (11.5 to 13.9 V)
2	17.85-18.85	16.90	950-950	13 V + 22 kHz tone
3	18.50-19.50	17.55	950-950	15 V (14.2 to 16.3 V)
4	19.15-20.15	18.20	950-950	15 V + 22 kHz tone
5	19.80-20.80	18.85	950-950	18 V (16.6 to 20.0 V)
6	20.45-21.45	19.50	950-950	18 V + 22 kHz tone
7	21.10-22.10	20.15	950-950	24 V (20.3-26.0 V)
8	21.70-22.30	20.75	950-1550	24 V + 22 kHz tone
1-8	Customized	Cust.	950-950	Customized

Rev.06-21-10B