

Ka LNB 17.30-22.30 GHz 2 Band

Key features



- Auto Switch between External or Internal reference
- High P1dB and IP3
- Excellent Phase noise meets all profiles of DVB-S2X.
- Customized LO as option
- Wide operating temperature range
- Alarm and Monitoring & Control as option



Description

The Ka-Band 2-Band LNBs are the choice for reception of one sub-band in the Ka Receive band 17.30 to 22.30 GHz.

SMW also offers Single band and 3 to 8 Multi-LO/sub-band switchable models, Ka Transmit band monitoring LNBs/BDCs/TLTs and LNA+BDCs systems for up to full Ka-Band simultaneous reception, with the same excellent performance and useful features.

Options include the daisy-chainable SMW M&C interface (RS-485/Modbus RTU), Sum alarm output, Customizable LOs, IF range up to 2150 MHz, Enclosure with additional fixing point and Waveguide input isolator for exceptional input matching.



Optional enclosure fixing points



Optional Low loss isolator, std for LO 20.20 GHz and up VSWR 1.35:1 max.

LNB connector (standard)



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

LNB connectors (optional)



Connector B (optional)
Type: M8 female, 4 pin, A-coded
Functions: Alarm and M&C

Connector B (optional)



- 1 = Alarm open collector (max. 200 mA) or optionally DC input.
- 2 = A pos+ RS485
- 3 = B neg- RS485
- 4 = Common (GND)
- 5 = Shield

Connector C (optional)
Type: SMA female only
Functions: Ext. 10 MHz in and/or DC input

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Technical specifications

	MODELS/LO	16.80/17.40	17.20/18.20	17.25/18.25	17.45/18.25	18.20/19.20	18.25/19.25	19.20/20.20	19.25/20.25
INPUT	Input freq. Band 1	17.75 - 18.75	18.20 - 19.20	18.20 - 19.20	18.40 - 19.20	19.20 - 20.20	19.20 - 20.20	20.20 - 21.20	20.20 - 21.20
	Input freq. Band 2	18.35 - 19.35	19.20 - 20.20	19.20 - 20.20	19.20 - 20.20	20.20 - 21.20	20.20 - 21.20	21.20 - 22.20	21.20 - 22.20
	IF MHz Band 1	950 - 1950	1000 - 2000	950 - 1950	950 - 1700	1000 - 2000	950 - 1950	1000 - 2000	950 - 1950
	IF MHz Band 2	950 - 1950	1000 - 2000	950 - 1950	950 - 1950	1000 - 2000	950 - 1950	1000 - 2000	950 - 1950
	Input	Flange PBR220, waveguide WR42							
	DC Input	+11 to +26 V through output connector or separate SMA connector (optional), power consumption 5W max. Band switching: 13 (11.5 to 14.0V) / 18V (16.0 to 26 .0V) or 22 kHz Tone (optional via Monitoring & Control)							
	Input max power	0 dBm instantaneous (not continuous)							
INTERNAL	Input VSWR	2.3:1 typ., optional 1.35:1 max. with Low Loss Isolator (included @ LO $\geq$ 20.20 GHz)							
	LO ref.	Auto LO ref. External 10 MHz ref / Internal $\pm$ 2.5 ppm -40 to +80°C							
	External LO ref.	Sine wave, Level -10 to +10 dBm. Supplied through output connector.							
	LO Leakage	-60 dBm max. @ waveguide input, -40 dBm max. @ IF output							
	Gain	60 dB typ. (55dB min.)							
	Flatness	$\pm$ 0.4 dB within 30 MHz, $\pm$ 1.5 dB max. full band							
	Noise figure	1.3 dB to 1.5 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.							
	Integrated Phase Noise Models incl. 19.20 & 19.25	Single sideband phase noise integrated over the bandwidth from 10 Hz to 16 kHz relative to carrier center frequency: < 3.4° RMS (two-sided value) <4.8° RMS)							
	Group delay	$\pm$ 1ns max.							
	Out of band rejection	20 dB min.							
	Image Rejection	30 dB min.							
OUTPUT	IF output	950-1950 MHz or 1000-2000 MHz. Custom extended IF up to 2150 MHz.							
	Output P1dB	+15 dBm min.							
	Output IP3	+25 dBm min.							
	Output VSWR	1.7:1 typ.							
GENERAL	Output Connector	N-type 50 Ω , SMA-type 50 Ω or F-type 75 Ω							
	Alarm (option)	Sum alarm, set via M&C to alarm in any combination of: LNA failure, Total current, LO lock (Ext/Int/n/a), signal power high/low, Supply voltage low. Open collector 3.3 to 28 V, max. 200 mA (pull-up 10 k Ohm at host side), pin 1 in M8 connector.							
	M&C (option)	Via MODBUS RTU RS485 electrical interface, see document Monitoring and Control technical interface for details. NOTE! Mates with M8 male connector/Cable, use only shielded CAT 5 cables							
	Dimensions	127x56x46 mm (N-connector, without Isolator), for other versions, please consult us.							
	Weight	354 g (N-connector)							
	MTBF	MTBF as per MIL-HDBK-217F Notice 2: Environmental Condition GF (Ground Fixed): >690000 hours, Environmental Condition AIC (Airborne, Inhabited, Cargo): >360000 hour, Quality level: Commercial, Temperature used for MTBF calculation: +35°C Ambient							
	Temperature range	Storage and operating: -40 to +80°C, -40 to +176°F							
OPTIONS	Miscellaneous	Enclosed conductive O-ring, mounting screws (M3 x 8) 4 pcs							
		- Separate SMA connector for DC input or Ext. 10 MHz reference - Alarm and Monitoring & Control - Customized gain - Customized LO and IF - Pressurizable 0.1 bar max. - Input frequency from 17.20 GHz							

