Ka LNB 17.30-22.30 GHz 3-8 Band

Key features

- Auto Switch between External or Internal reference
- High P1dB and IP3
- Excellent Phase noise meets all profiles of DVB-S2X.
- 3-8 bands, switching via V/T or optional M&C
- Wide operating temperature range
- Alarm and Monitoring & Control as option

M&C monitoring and control interface

DVB S2X

Description

The Ka-Band Multiband LNB is the choice when you need to switch between 3 to 8 sub-bands within the frequency range of 17.30 to 22.30 GHz including Low loss isolator. SMW also offers Single- and 2-band 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 points.

Optional enclosure fixing points

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

	Parameter		
MODELS	LO frequencies		Custom between 16.25 to 20.75 GHz
	Models	Multiband	3 to 8 sub-bands, max 8 Bands (legacy mode)
	Switching	Band Switching	Legacy 13/15/18/24 V and 22 kHz tone or via RS485 Modbus RTU (option Monitoring & Control)
INPUT	Input frequency		3 to 8 sub-bands, custom between 17.20 to 22.30 GHz, overlap possible
	Input		Flange PBR220, waveguide WR42
	DC Input		+11 to +26 V through output connector or separate SMA connector (optional)
	Input max power		0 dBm instantaneous (not continuous)
	Input VSWR		1.35:1 max. with Low Loss Isolator (included)
INTERNAL	LO ref.		Auto LO ref. External 10 MHz ref / Internal ±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		±0.4 dB within 30 MHz, ±2 dB max. each band
	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.
	Group delay		± 1ns max.
	Out of band rejection		20 dB min.
	Image Rejection		45 dB @ LO 16.25, 20 dB @ LO 20.25
OUTPUT	IF output		950-1950 MHz or 1000-2000 MHz, (950-2250 MHz optional)
	Output P1dB		+15 dBm min.
	Output IP3		+25 dBm min.
	Output VSWR		1.7:1 typ.
	Output Connector		N-type 50Ω , SMA-type 50Ω or F-type 75Ω
GENERAL	Alarm functions (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 functions (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		153 x 68 x 45 mm, including isolator
	Weight		375 g (SMA-connector) including isolator
	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
	Miscellaneous		Enclosed conductive O-ring, mounting screws (M3 x 8) 4 pcs
OPTIONS			- Separate SMA connector for DC input or Ext. 10 MHz reference - Alarm and Monitoring & Control - Customized gain - Custom LOs - Pressurizable 0.1 bar max. - Input frequency from 17.20 GHz

Rev. 2402

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Model examples

3-BAND					
Band	Input freq. (GHz)	LO	L-band (MHz)	Voltage/Tone Switching	SMW M&C switch PDU #
1	17.70-18.70	16.75	950-1950	13 V (11.5 to 14.9 V)	1
*) 2	18.45-19.45	17.50	950-1950	13 V + 22 kHz tone	2
3	19.20-20.20	18.25	950-1950	18 V (15.2 to 26.0 V)	3
1	17.70-18.70	16.75	950-1950	13 V (11.5 to 14.9 V)	1
2	18.70-19.70	17.75	950-1950	13 V + 22 kHz tone	2
3	19.70-20.70	18.75	950-1950	18 V (15.2 to 26.0 V)	3
1	17.30-18.30	16.35	950-1950	13 V (11.5 to 14.9 V)	1
2	18.30-19.30	17.35	950-1950	13 V + 22 kHz tone	2
3	19.30-20.30	18.35	950-1950	18 V (15.2 to 26.0 V)	3
1	18.20-19.20	17.25	950-1950	13 V (11.5 to 14.9 V)	1
2	19.20-20.20	18.25	950-1950	13 V + 22 kHz tone	2
3	20.20-21.20	19.25	950-1950	18 V (15.2 to 26.0 V)	3
1	19.20-20.20	18.25	950-1950	13 V (11.5 to 14.9 V)	1
2	20.20-21.20	19.25	950-1950	13 V + 22 kHz tone	2
3	21.20-22.20	20.25	950-1950	18 V (15.2 to 26.0 V)	3
1	17.50-18.50	16.55	950-1950	13 V (11.5 to 14.9 V)	1
2	18.20-19.20	17.25	950-1950	13 V + 22 kHz tone	2
3	19.20-20.20	18.25	950-1950	18 V (15.2 to 26.0 V)	3
1-3	Customized	Cust.	950-1950	Customized	1-3

***) SES O3b mPOWER models**
KA-AOPXXXXX-152A-33-SE and
KA-AFBXXXXX-152A-XX-01, ask for separate product sheets.

4-BAND					
Band	Input freq. (GHz)	LO	L-band (MHz)	Voltage/Tone Switching	SMW M&C switch PDU #
1	17.20-18.20	16.25	950-1950	13 V (11.5 to 14.9 V)	1
2	18.20-19.20	17.25	950-1950	13 V + 22 kHz tone	2
3	19.20-20.20	18.25	950-1950	18 V (15.2 to 26.0 V)	3
4	20.20-21.20	19.25	950-1950	18 V + 22 kHz tone	4
1	17.70-18.70	16.75	950-1950	13 V (11.5 to 14.9 V)	1
2	18.70-19.70	17.75	950-1950	13 V + 22 kHz tone	2
3	19.70-20.70	18.75	950-1950	18 V (15.2 to 26.0 V)	3
4	20.70-21.70	19.75	950-1950	18 V + 22 kHz tone	4
1	18.20-19.20	17.25	950-1950	13 V (11.5 to 14.9 V)	1
2	19.20-20.20	18.25	950-1950	13 V + 22 kHz tone	2
3	20.20-21.20	19.25	950-1950	18 V (15.2 to 26.0 V)	3
4	21.20-22.20	20.25	950-1950	18 V + 22 kHz tone	4
1-4	Customized	Cust.	950-1950	Customized	1-4

6-BAND					
Band	Input freq. (GHz)	LO	L-band (MHz)	Voltage/Tone Switching	SMW M&C switch PDU #
1	17.30-18.30	16.35	950-1950	13 V (11.5 to 14.9 V)	1
2	18.00-19.00	17.05	950-1950	13 V + 22 kHz tone	2
3	18.70-19.70	17.75	950-1950	18 V (15.2 to 20.0 V)	3
4	19.40-20.40	18.45	950-1950	18 V + 22 kHz tone	4
5	20.10-21.10	19.15	950-1950	24 V (20.3-26.0 V)	5
6	20.80-21.30	19.85	950-1450	24 V + 22 kHz tone	6
1-6	Customized	Cust.	950-1950	Customized	1-6

5-BAND					
Band	Input freq. (GHz)	LO	L-band (MHz)	Voltage/Tone Switching	SMW M&C switch PDU #
1	17.20-18.20	16.25	950-1950	13 V (11.5 to 14.9 V)	1
2	18.20-19.20	17.25	950-1950	13 V + 22 kHz tone	2
3	19.20-20.20	18.25	950-1950	18 V (15.2 to 20.0 V)	3
4	20.20-21.20	19.25	950-1950	18 V + 22 kHz tone	4
5	21.20-22.20	20.25	950-1950	24 V (20.3-26.0 V)	5
1	17.50-18.50	16.55	950-1950	13 V (11.5 to 13.9 V)	1
2	18.40-19.40	17.45	950-1950	13 V + 22 kHz tone	2
3	19.30-20.30	18.35	950-1950	15 V (14.2 to 16.3 V)	3
4	20.20-21.20	19.25	950-1950	15 V + 22 kHz tone	4
5	21.10-22.10	20.15	950-1950	18 V (16.6 to 26.0 V)	5
1-5	Customized	Cust.	950-1950	Customized	1-5

8-BAND					
Band	Input freq. (GHz)	LO	L-band (MHz)	Voltage/Tone Switching	SMW M&C switch PDU #
1	17.20-18.20	16.25	950-1950	13 V (11.5 to 13.9 V)	1
2	17.85-18.85	16.90	950-1950	13 V + 22 kHz tone	2
3	18.50-19.50	17.55	950-1950	15 V (14.2 to 16.3 V)	3
4	19.15-20.15	18.20	950-1950	15 V + 22 kHz tone	4
5	19.80-20.80	18.85	950-1950	18 V (16.6 to 20.0 V)	5
6	20.45-21.45	19.50	950-1950	18 V + 22 kHz tone	6
7	21.10-22.10	20.15	950-1950	24 V (20.3-26.0 V)	7
8	21.70-22.30	20.75	950-1550	24 V + 22 kHz tone	8
1-8	Customized	Cust.	950-1950	Customized	1-8

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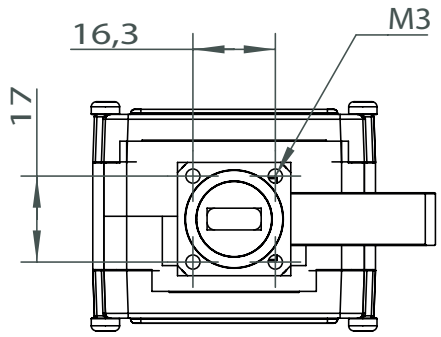
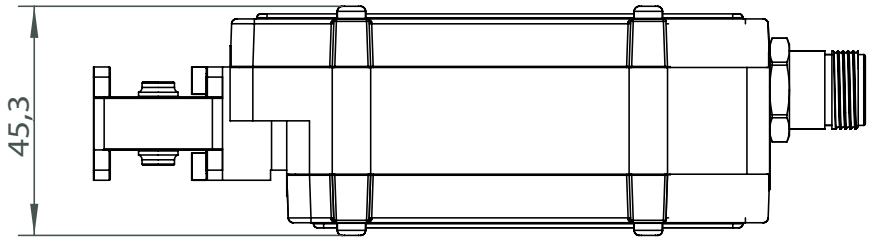
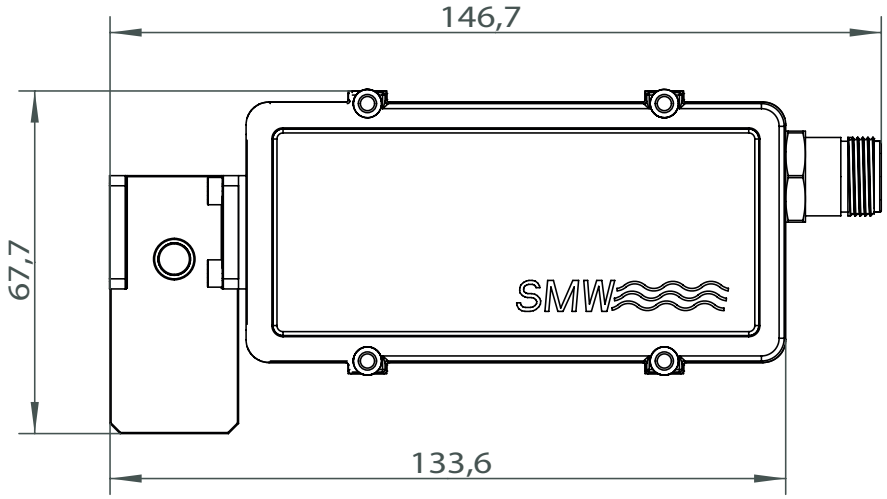
Technical Drawing







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