

Swedish Microwave is a manufacturer of premium Low Noise Blockdownconverters (LNB) and RF distribution systems, for outdoor use. Our main goal is to make our customers more competitive with products that we can be proud of. So, what can we do for you?

X LNB 7.75-8.50 GHz 1 Band

LNB

X-BAND

M&C

Available as engineering sample

This product is based on the 2nd generation of our cross-segment platform and introduces a new critical building block. At its core lies a next-generation internal reference system, designed to deliver outstanding performance and long-term reliability.

Key benefits and improvements

- **Significantly lower phase noise** for superior signal quality
- **Improved internal reference stability:** max. ± 0.5 ppm over -40 to $+80$ °C, maintained for 10 years without recalibration
- **Intelligent redundancy:** seamless auto-switching between internal and external references without compromising performance

Backed by more than 40 years of continuous innovation, this product embodies our commitment to uncompromising quality and technological excellence.



KEY SPECIFICATIONS

STANDARD MODEL(S)

RF RANGE	7.75-8.50 GHz
LO	6.80 GHz
IF RANGE	950-1700 MHz
POWER INPUT	11.5-26.0 V DC
GAIN	60 dB typ
LO REFERENCE	Auto switch external 10 MHz / internal ± 0.5 ppm for 10 years @ -40 to $+80$ °C
INPUT CONNECTOR	WR 112 flange PBR 84. 4 x M4

TECHNICAL SPECIFICATIONS

EXT REFERENCE LEVEL	Sine Wave, level ± 10 dBm	
INT REFERENCE STABILITY	± 0.5 ppm max, 10 years @ -40 °C to $+80$ °C ± 0.1 ppm typ, 1 years @ -40 °C to $+80$ °C	
INT REFERENCE OUTPUT	Sine wave, level typ. 0 dBm (not yet implemented)	
LO LEAKAGE	Input: -60 dBm max Output: -40 dBm max	
PHASE NOISE MAX @ 25 °C	EXT REFERENCE: *	INT REFERENCE:
	-45 dBc @ 10 Hz	-40 dBc @ 10 Hz
	-75 dBc @ 100 Hz	-70 dBc @ 100 Hz
	-95 dBc @ 1 kHz	-95 dBc @ 1 kHz
	-100 dBc @ 10 kHz	-100 dBc @ 10 kHz
	-105 dBc @ 100 kHz	-105 dBc @ 100 kHz
	-122 dBc @ 1 MHz	-122 dBc @ 1 MHz
	-126 dBc @ 10 MHz	-126 dBc @ 10 MHz
	-126 dBc @ ≥ 100 MHz	-126 dBc @ ≥ 100 MHz
GAIN FLATNESS	Within 30 MHz: ± 0.4 dB max, Over RF range: ± 2 dB max	
STABILITY OVER 24H	± 0.5 dB @ 23 °C	
NOISE FIGURE	0.80 dB / 58 K max @ 23 °C	

TECHNICAL SPECIFICATIONS

GROUP DELAY	± 1 ns max
IMAGE REJECTION	40 dB min
POWER CONSUMPTION	4 W typ
MAX POWER INPUT	0 dBm survival
INPUT VSWR / RETURN LOSS	2:1 max / -9.5 dB max
OUTPUT VSWR / RETURN LOSS	1.4:1 max / -16 dB max
OUTPUT P1dB	+15 dBm min
OUTPUT IP3	+26 dBm min
INGRESS PROTECTION RATING	IP67

* Both RF- and reference signal generators phase noise performance impact this parameter.

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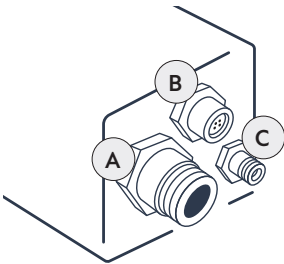


Illustration of connectors

CONNECTORS	
CONNECTOR A (STANDARD)	N (female) - IF output, power input, external reference input or internal reference output, 22 kHz tone SMA (female) - IF output, power input, external reference input or internal reference output, 22 kHz tone QMA (female) - IF output, power input, external reference input or internal reference output, 22 kHz tone
CONNECTOR B (STANDARD)	M8 for Alarm and Monitoring & Control. Optionally power input.
(OPTIONAL)	SMA (female) - for alarm, or power input and/or 22 kHz tone
CONNECTOR C (OPTIONAL)	SMA (female) for separate external reference input or internal reference output SMA (female) for separate power input SMA (female) for separate external reference and power input and/or 22 kHz tone

GENERAL	
DIMENSIONS	128 x 56 x 51 mm (SMA-connector) 135 x 56 x 51 mm (N-connector)
WEIGHT	330 g (SMA-connector) 344 g (N-connector)
TEMPERATURE RANGE	Storage and operating: -40 to +80 °C, -40 to +176 °F *Maximum surface/case temperature must not exceed +80 °C under worst case solar load.
MTBF	MTBF as per MIL-HDBK-217F Notice 2: Environmental Condition GF (Ground Fixed): >489000 hours, Environmental Condition AIC (Airborne, Inhabited, Cargo): >245000 hours, Quality level: Commercial, Temp used for MTBF calculation: +35 °C Ambient
MONITOR AND CONTROL	Via MODBUS RTU RS485 electrical interface, see sep. document for details. NOTE! Mates with M8 male connector/Cable, use only shielded CAT 5 cables
ALARM	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 High/Low. Open collector 3.3 to 26 V, max. 200 mA (pullup 1-10 kOhm at host side), pin 1 in M8 connector.
OPERATING ALTITUDE	Up to 4572 m (15000 ft) above sea level
OPTIONS	- External 10-200 MHz reference - CPR 112 G flange adaptor - Internal reference re-calibration - Customized gain - Internal reference output (not yet implemented) - Fixing points



Technical specifications are typical, for specific part number specifications, please contact us. Specifications are subject to change without prior notice. Products from Swedish Microwave AB are made for commercial use. For further details about each products technical specifications, please scan QR-code link to access website for complete Documentation, Technical Specifications, Manuals and Register Maps. Find your product at <https://smw.se/findproduct>
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