



SMW Dual Fiber output Ku band PLL LNB



Full Ku band downlink on two fiber outputs simultaneously

- Shares the internal design with our top performing LNB for Ku Band – the WDL-PLL with internal reference $\pm 5\text{kHz}$ frequency accuracy

Highest RF and optical performance

- Single frequency conversion and directly modulated DFB lasers results in best possible performance.
- Up to 15 km single mode fiber cable distance.

Fully outdoor proof

- Fully sealed high quality Q-ODC fiber connectors.
- -40° to $+70^\circ\text{C}$ operating temp range.
- All parts designed to withstand outdoor environmental conditions long term.

Features

- Directly compatible with SMW fiber receiver and compatible with a wide range of RF over fiber receivers on the market.
- Small size and low power consumption
- RF monitor and DC supply via SMA connectors.
- Cost effective compared to running a separate fiber transmitter to a RF output LNB.

Applications

Perfect for applications where professional fiber distribution from an antenna is needed but space and/or budget is limited.



SPECIFICATION SMW Dual Fiber output Ku band PLL LNB

SMW	WDFL-PLL LNB type E	WDFL-PLL LNB type B
Frequency range Low & High	10.70-11.70 & 11.70-12.75 GHz	10.95-11.70 & 11.70-12.75 GHz
LO frequency	9.75 GHz (Low band) 10.60 GHz (High band)	10.00 GHz (Low band) 10.75 GHz (High band)
Output frequency	950-1950 MHz (Low band) 1100-2150 MHz (High band)	950-1700 MHz (Low band) 950-2000 MHz (High band)
Spurious signal in	Low band High band	-60 dBm typ. @ 1700 MHz -70 dBm typ. @ 1500 MHz
Optical output	Direct modulation 2mW@1310nm (High band) Direct modulation 2mW@1310nm (Low band) Option: 1550nm	
General specification		
Gain typ.	60 dB (internal)	
Gain variation max.	±2 dB/each band ±0.25 dB within 30 MHz	
Noise figure, typ.	0.9 dB	
LO Phase noise typ.	-35 dBc @ 10 Hz -62 dBc @ 100 Hz -75 dBc @ 1 kHz -80 dBc @ 10 kHz -90 dBc @ 100 kHz -120 dBc @ >1 MHz	
LO radiation at WG input	-60 dBm max	
Image rejection	40 dB min.	
Max usable input level.	-55dBm total power per band. Note a gain limiter (AGC) activates at > -75dBm.	
Usable antenna diameter range	50cm to 400cm	
Input IP3 typ.	-35 dBm	
Input flange	WR-75 waveguide / PBR 120 flange	
RF outputs	Two built in RF -20 dB monitor outputs for high and low band respectively, for alignment/signal monitoring with standard RF instruments (L-band output). F-connectors 75 ohm, N-connectors 50 ohm or SMA-connectors 50 ohm	
DC supply.	12-20VDC. The DC supply is fed via one or both of the RF monitor outputs (for PSU redundancy or long DC cable runs)	
Power consumption	5 W	
Input VSWR typ.	2.3:1	
Operating temperature	-40 to +70°C	
Storage temperature	-40 to +85°C	
Dimensions	130 x 56 x 76 mm	
Weight	510 g	
LO stability	±5 kHz (±0.5 ppm) -10° to +70°C (±1.5 ppm -40° to +70°C)	
Fiber output specification		
Fiber type:	Single mode G652/G657 duplex fiber recommended.	
Fiber connector:	Single mode Huber&Suhner Q-ODC	
		
Link distance:	Up to 15km*	
Frequency conversion/laser modulation:	Standard LNB, Ku to L band conversion, 2x directly modulated DFB lasers.	
Link total RF gain	+70dB RF gain max with SMW fiber receiver @ 0dB optical loss. (a 3dB optical link loss results in 6dB reduced link RF gain) Fiber transmitter gain is automatically limited with high RF input levels to avoid distortion.	
Optical power:	2mW. Built in limiter to 20% max optical modulation index.	
Optical wavelength:	1310nm as standard for both low and high band outputs. Other options on request.	
RF Isolation between bands:	>40 dB	
Standards compliance	Optical interfaces: EIA/TIA 568, ITU std G694.2 EMC: EN 55013:2013, EN55020 Safety: EN62368-1, EN60950-22, EN 60065:2002+A1+A11+A2+A12, ANSI Z136.2, EN 207	
Enclosed accessories	O-ring 4 pcs Screw M4 x 10	
Options	Connector type for combined DC supply and RF monitor output: F,N,SMA	
Accessories:	Outdoor to Outdoor fiber cable- 50,100,150,200, 500 meters, other lengths on request. (For use with SMW Quad/Dual link receiver). Outdoor to Indoor fiber patch cable, Q-ODC-2 to LC-APC duplex. 2-500 meters. SC-APC/FC-APC connector on request.	

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