

Ku System 10.70 - 12.75 GHz Dual

Key features

- LNA+BDC
- M&C

- Excellent Phase Noise
- Auto switch between External or Internal reference
- Wide operating temperature range
- High P1dB and IP3
- Alarm and Monitoring & Control as option



HF cables and DC cable included

Optional Low loss isolator

Description

The Dual Ku System (PLL) is the professional solution to receive the two bands simultaneously with high LO Stability and Low Phase Noise. Any LO frequencies can be combined without spurioses e.g. Low band 10.00GHz & High band 11.30 GHz. The standard configuration consists of a LNA with two BDC (Block Down Converters) including HF cables 4 meter and DC cable 4.8 meter. An preferred option is Alarm and Monitoring & Control via Modbus (RS485) interface, for monitoring of important parameters and adjustments available. The configurable alarm output alerts if the signal reception is lost or if the external reference fails.

BDC connector (standard)

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

BDC connectors (optional)

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

Connector B (optional)

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

1 = Alarm open collector (max. 200 mA) or optionally DC input.

2 = A pos+ RS485

3 = B neg- RS485

4 = Common (GND)

5 = Shield

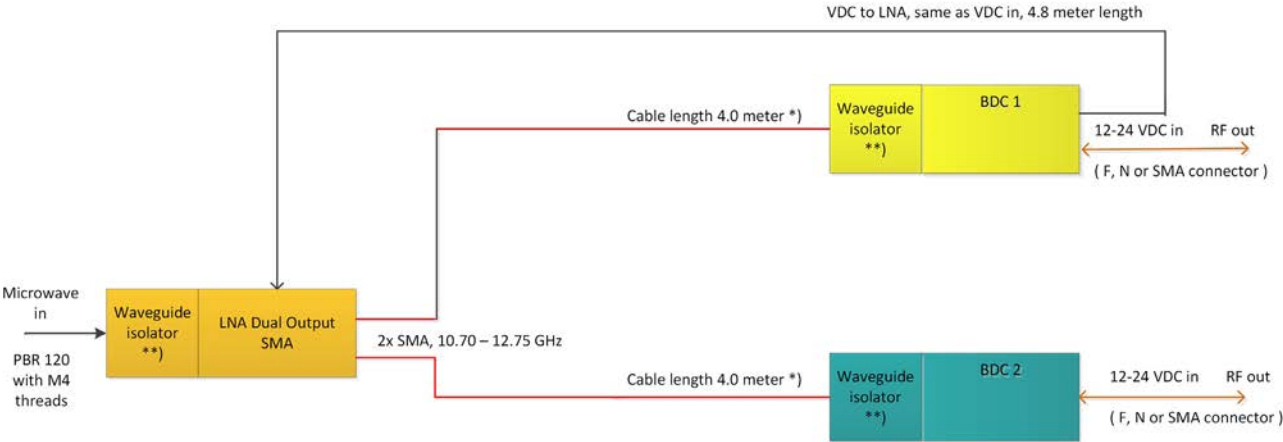
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Technical specifications

BDC LO Low Band		9.75	10.00	10.25	10.50	10.60	10.75					
BDC LO High Band								10.60	10.75	11.20	11.25	11.30
INPUT	Input frequency GHz	10.70-11.80	10.95-11.80	11.20-11.70	11.45-12.20	11.70-12.75	11.70-12.75	11.70-12.75	11.70-12.75	12.20-12.75	12.20-12.75	12.25-12.75
	LO frequency GHz	9.75	10.00	10.25	10.50	10.60	10.75	10.60	10.75	11.20	11.25	11.30
	IF frequency MHz	950-2050	950-1800	950-1450	950-1700	1100-2150	950-2000	1100-2150	950-2000	1000-1550	950-1500	950-1450
	Input LNA	Waveguide WR 75 / R 120. Flange PBR 120.										
	Input BDC	SMA female 50Ω										
	DC Input BDC	nom. +12 to +24 V (11V min., 26V max.) through output connector or separate connector (SMA). 5W max.										
DC input LNA		+12 to +24 V / 70 mA typ. Supplied through separate SMA connector via included DC cable, mated from BDC Low Band										
Input VSWR LNA		2.0:1 max., 1.25:1 max. with optional waveguide Isolator										
INTERNAL	LO ref.	Auto switch External 10 MHz ref / Internal ±2.5 ppm -40 to +80°C										
	Ext. 10 MHz ref.	Sinus wave, input level -10 dBm to +10 dBm through output connector or optionally via separate SMA connector.										
	LO Leakage	-60 dBm max. @ RF input										
	System Gain	60 dB typ.										
	Gain variation over 24h	±0.1 dB @ 23°C										
	Flatness	±0.4 dB within 30 MHz, ±2 dB max. over each band										
	Group delay	±1 ns max.										
	Noise figure	1.0 dB / 75 K typ.										
	Phase Noise	10 Hz -35dBc/Hz • 100 Hz -65dBc/Hz • 1 kHz -82dBc/Hz • 10 kHz -86dBc/Hz • 100kHz -95dBc/Hz • 1MHz -120dBc/Hz (max.)										
	Image Rejection	40 dB min.										
OUTPUT	IF output	Within 950-2150 MHz , see above.										
	Output P1dB	+ 5 dBm min. @ 20 to 40 dB gain, +15 dBm min. @ 40 to 60 dB gain										
	Output IP3	+15 dBm min. @ 20 to 40 dB gain, +25 dBm min. @ 40 to 60 dB gain										
	Output VSWR BDC	1.7:1 max. (N and SMA connector), 2.3:1 max. (F connector)										
	Output connector LNA	SMA-type 50Ω										
	Output Connector BDC	N-type 50Ω , SMA-type 50Ω or F-type 75Ω										
GENERAL	System power consumption	8,2 W typ.										
	Dimensions LNA	78 x 46 x 44 mm										
	Dimensions BDC	166 x 80 x 48 mm										
	Weight LNA	124 g										
	Weight BDC	425 g										
	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										
OPTIONS	Temperature range	Storage and operating: -40 to +80°C, -40 to +176°F										
	Options	- Separate connector on BDC for DC input - Alarm and Monitoring & Control - Customized gain and variation - Customized LO - Low Loss waveguide isolator (VSWR 1.25:1 max.										

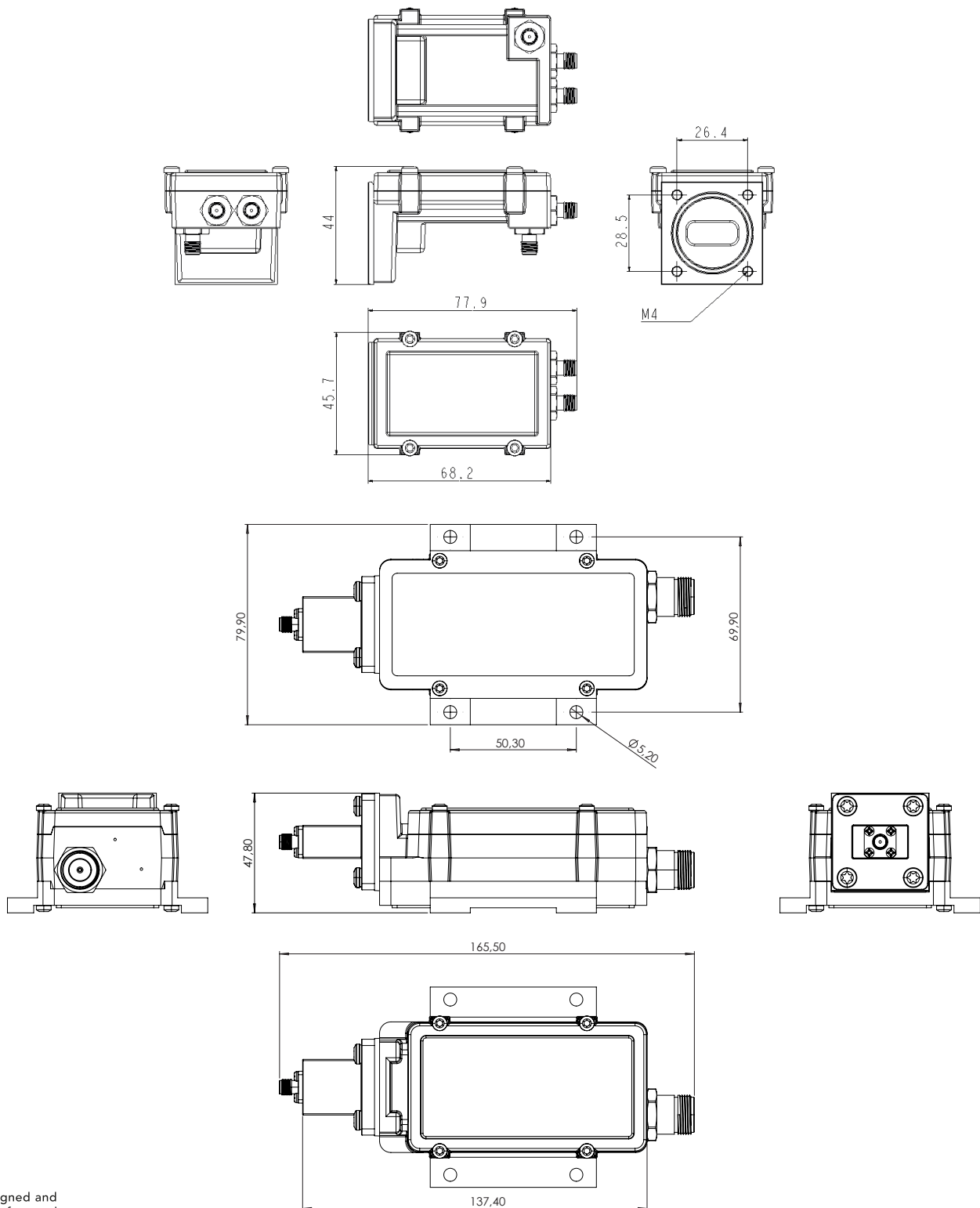
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Wiring diagram



Ku System 10.70 - 12.75 GHz Dual

Technical Drawing



Designed and
Manufactured

IN SWEDEN

SMW 

ESATCOM
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SMW authorized distributor

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