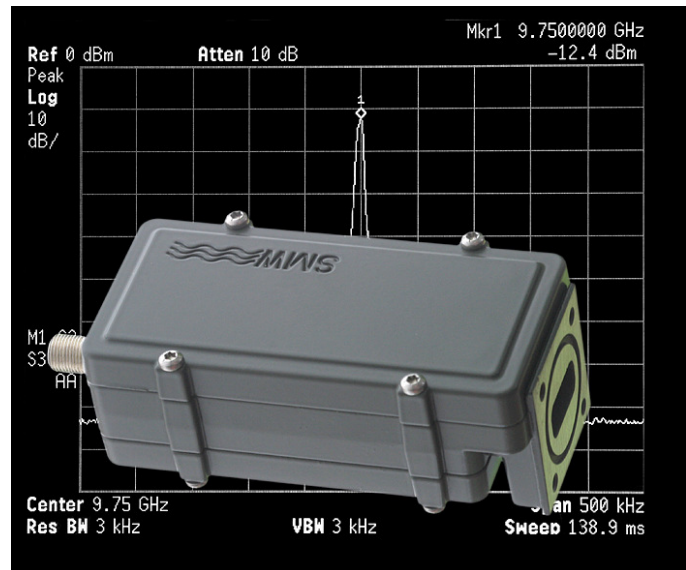


## SMW Q-PLL



### **2-, 3- or 4-band Full Ku-Band PLL-LNB**

The Q-PLL is ideal for Marine-, SNG-, VSAT and On-The-Move applications.

Q-PLL comes standard with High IP3, Low Noise Figure and Low Phase Noise, either with internal high LO stability or with external 10 MHz reference. Switching via the Voltage and Tone, or via the Voltage or Tone only.

All our LNBS are individually hand tuned to get the very best performance available for each unit. Quality and long term reliability is also essential. Therefore are all LNBS tested according to a very extensive test program, which includes heating, cooling, water-proof testing and rigorous electrical testing.

Swedish Microwave (SMW) was founded 1986 and is today a leading manufacturer of professional LNBS (Low Noise Blockdownconverters). The company is located in Motala Sweden, and to date the products are installed in more than 80 countries.

All work is in-house allowing custom-design products, short delivery times, high flexibility, quick service and support.

# Specification SMW Q-PLL

## SMW Q-PLL

Frequency range	10.70-12.75 GHz
Standard LO frequency (max. 4)	9.75, 10.0, 10.25, 10.5, 10.6, 10.75, 11.2, 11.25 and 11.3 GHz
Standard IF Frequency	950-1450 to 2150 MHz (will be specified from the LO's choosen)

### Specification

LO stability  
LO Phase noise typical

### Internal reference

±10 kHz\* or ±25 kHz  
-75 dBc @ 1 kHz  
-78 dBc @ 10 kHz  
-100 dBc @ 100 kHz  
-120 dBc @ >1 MHz

### Specification

LO stability  
External reference input frequency  
External reference input power  
External reference input port

### External reference

Depends on the external reference  
10 MHz  
-5 to 10 dBm  
Output IF connector.  
Option via sep. connector  
(F, N or SMA)  
-70 dBc @ 10 Hz  
-70 dBc @ 100 Hz  
-75 dBc @ 1 kHz  
-78 dBc @ 10 kHz  
-105 dBc @ 100 kHz  
-135 dBc @ 100 Hz  
-143 dBc @ 1 kHz  
-145 dBc @ 10 kHz

Switching 2-band Voltage (V)

Band 1 11.5 - 14.0 V, No Tone  
Band 2 16.0 - 19.0 V, No Tone

LO Phase noise typical

Switching 2-band Tone (T)

Band 1 No Tone, 11.5 - 20.0 V,  
Band 2 Tone 22 kHz, 11.5 - 20.0 V

External Reference Phase noise

Switching 3-band Voltage (V)  
option 13/18/24 V (see below)

Band 1 11.5 - 13.7 V, No Tone  
Band 2 13.9 - 16.8 V, No Tone  
Band 3 17.0 - 19.0 V, No Tone

Switching 2-band Voltage (V)

Band 1 11.5 - 14.0 V, No Tone  
Band 2 16.0 - 19.0 V, No Tone

Switching 3-band Voltage (V) and Tone (T)

Band 1 11.5 - 14.0 V, No Tone  
Band 2 11.5 - 14.0 V, Tone 22 kHz  
Band 3 16.0 - 19.0 V, No Tone

Switching 2-band Tone (T)  
(ext. 10 MHz ref. via sep. input connector)

Band 1 No Tone, 11.5 - 20.0 V  
Band 2 Tone 22 kHz, 11.5 - 20.0 V

Switching 4-band Voltage (V) and Tone (T)

Band 1 11.5 - 14.0 V, No Tone  
Band 2 11.5 - 14.0 V, Tone 22 kHz  
Band 3 16.0 - 19.0 V, No Tone  
Band 4 16.0 - 19.0 V, Tone 22 kHz

Switching 3-band Voltage (V)  
Option 13/18/24 V (see Options)

Band 1 11.5 - 13.7 V, No Tone  
Band 2 13.9 - 16.8 V, No Tone  
Band 3 17.0 - 19.0 V, No Tone

### General

Gain typ.  
Gain variation within 30 MHz max.  
Gain variation max.  
Noise Figure, typical  
LO radiation  
Image rejection  
1 dB gain compression point typical  
IP 3 typical  
Input  
Output (waterproof)

58 dB typ. (53 dB min.)  
±0.4 dB  
±4 dB  
0.8 dB  
-60 dBm  
40 dB min  
+15 dBm  
+25 dBm  
WR-75 waveguide (R120)  
F-connector 75 ohm,  
N-connector 50 ohm or  
SMA-connector 50 ohm  
2.3:1 max  
2.1:1 max  
270 mA typ.  
-30 to +60°C  
-40 to +80°C  
122 (127 N) x 56 x 44 mm  
329 g (F- & SMA-connector)  
345 g (N-connector)

Switching 3-band Voltage (V) and Tone (T)  
(ext. 10 MHz ref. via sep. input connector)

Band 1 11.5 - 14.0 V, No Tone  
Band 2 11.5 - 14.0 V, Tone 22 kHz  
Band 3 16.0 - 19.0 V, No Tone

Switching 4-band Voltage (V) and Tone (T)  
(ext. 10 MHz ref. via sep. input connector)

Band 1 11.5 - 14.0 V, No Tone  
Band 2 11.5 - 14.0 V, Tone 22 kHz  
Band 3 16.0 - 19.0 V, No Tone  
Band 4 16.0 - 19.0 V, Tone 22 kHz

Input VSWR  
Output VSWR  
Current  
Operating temperature  
Storage temperature  
Dimensions  
Weight

### Specification Tone Switching

Switching  
Amplitude voltage  
Duty cycle

No tone/22 kHz ±4 kHz  
0.6 ±0.2 V  
40-60%

### Options

Voltage switching 13/18/24 V (240/190/150 mA typ.)  
Separate DC power input (F, N or SMA)  
Customized gain and variation  
Customized LOs  
Extended frequency range  
Separate input connector for the ext. 10 MHz ref.  
SMA-input (via transition)

### Enclosed accessories

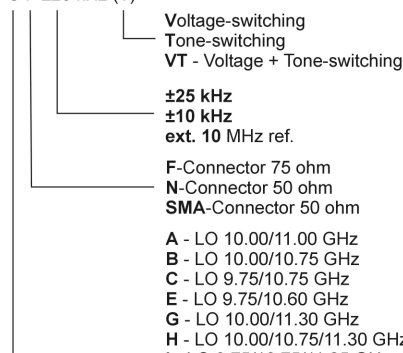
O-ring  
Screw M4 x 8 4 pcs

\* ±10 kHz within -10° to +70°C



### How to order Q-PLL Ku-band (if you can't find your model please ask for a type)

Q-PLL type C F ±25 kHz (V)



- Voltage-switching
- Tone-switching
- VT - Voltage + Tone-switching
- ±25 kHz
- ±10 kHz
- ext. 10 MHz ref.
- F-Connector 75 ohm
- N-Connector 50 ohm
- SMA-Connector 50 ohm
- A - LO 10.00/11.00 GHz
- B - LO 10.00/10.75 GHz
- C - LO 9.75/10.75 GHz
- E - LO 9.75/10.60 GHz
- G - LO 10.00/11.30 GHz
- H - LO 10.00/10.75/11.30 GHz
- I - LO 9.75/10.75/11.25 GHz
- J - LO 10.00/10.60/11.05 GHz
- K - LO 10.00/10.60/11.25 GHz
- L - LO 9.75/10.00/10.60 GHz
- M - LO 9.75/10.25/10.75/11.30 GHz
- N - LO 9.75/10.00/10.75/11.30 GHz
- O - LO 9.75/10.25/10.75/11.25 GHz
- P - LO 10.00/10.50/10.75/11.25 GHz
- R - LO 10.00/10.75/11.30/9.75 GHz
- S - LO 9.75/10.60/11.30 GHz
- T - LO 9.75/10.75/11.30 GHz
- U - LO 9.75/10.50/11.25 GHz
- V - LO 9.75/10.50/11.05/10.00 GHz
- Y - LO 9.75/10.50/11.30 GHz

