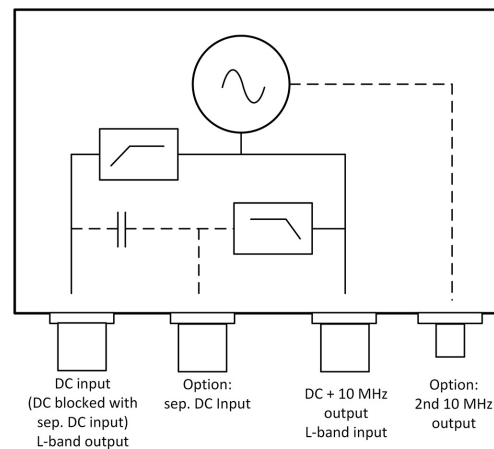
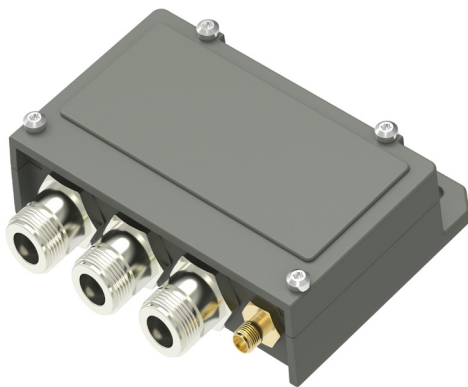


10 MHz Reference Oscillator with Diplexer

10 MHz Reference oscillator with very Low Phase Noise

The 10 MHz Reference Oscillator is used for control of the local oscillator in LNBS or BUCs when a very high LO stability and very low phase noise is needed. The SMW 10 MHz Ref. oscillator gives a LO stability of $\pm 20 \text{ ppb} = \pm 20 \times 10^{-9}$ (ppb=parts per billion).

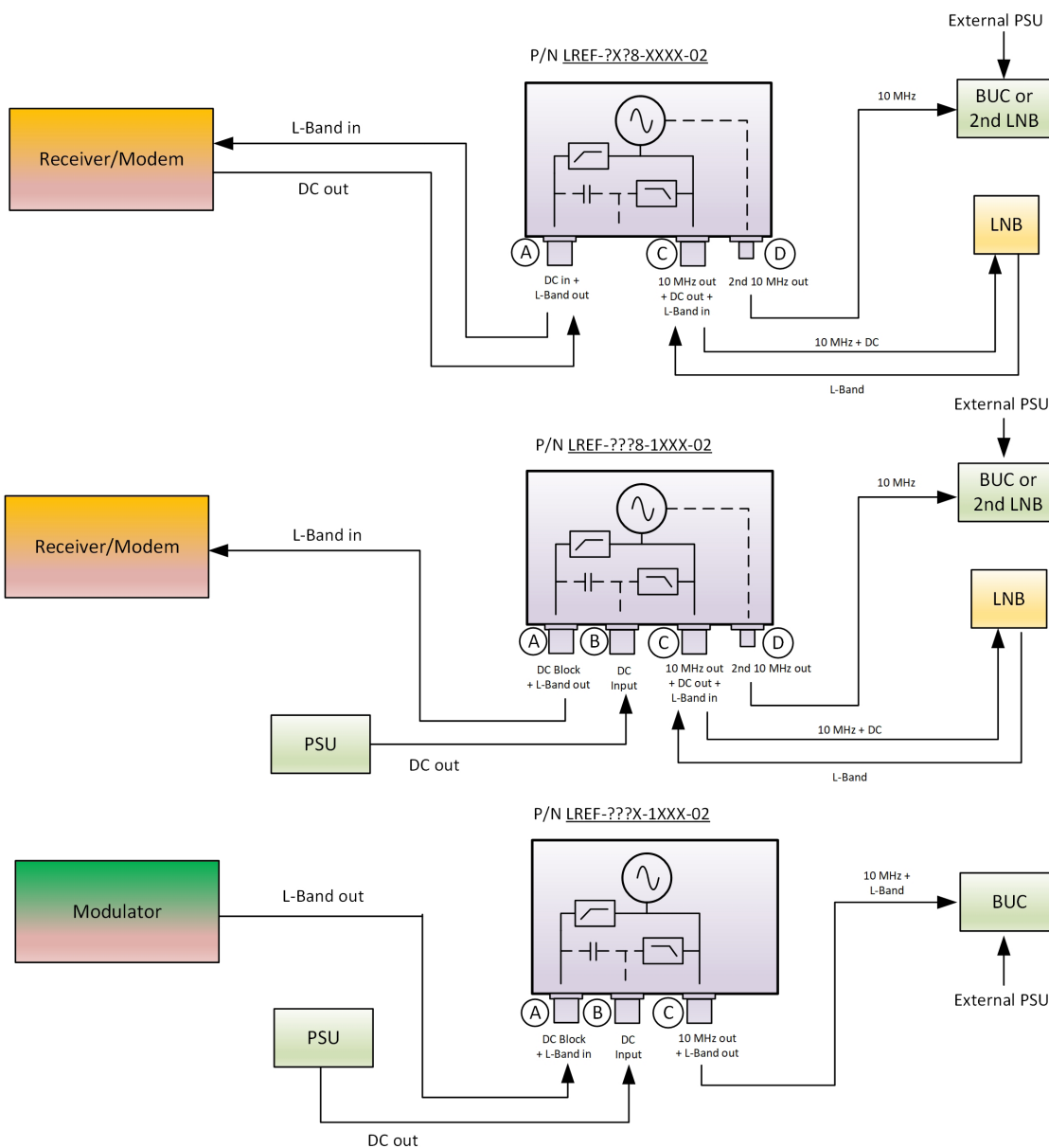
Very Low power consumption OCXO.



TECHNICAL SPECIFICATIONS

MODEL:	LREF - 10 MHz Reference Oscillator
L-Band Frequency Range	950 - 2150 MHz
DC Input	+10 to +28 V
Maximum Load	800 mA @ DC output
IF Insertion Loss	1 dB @ 950-2150 MHz max.
Return Loss 10 MHz Input	> 20 dB
Return Loss 10 MHz Output	> 20 dB
Return Loss L-band Input / Output	N- and SMA-connector: min. 10 dB, typ. 15 dB, with F-connector min. 8 dB, typ. 13 dB
10 MHz Harmonic Suppression	> 70 dBc (L-Band output), > 40 dBc (separate 10 MHz output)
Temperature Range	-40 to +80°C
Ingress Protection Code	IP 67
Connectors	F-type 75Ω / N-type 50Ω / SMA-type 50Ω
22 kHz Bypass (standard)	Through receiver or external source, n/a with DC Block IN or OUT
Output Frequency	10 MHz, Sinewave
Output Level	+7 dBm ± 1 dB
Frequency Stability	$\pm 20 \text{ ppb}$ @ 0 to +50°C, $\pm 50 \text{ ppb}$ @ -40 to +85°C
Calibration Tolerance	$\pm 10 \text{ ppb}$ @ 25°C
Aging	$\pm 500 \text{ ppb max.}$ @ 10 years
Phase Noise	-90 dBc @ 1 Hz, -120 dBc @ 10 Hz, -142 dBc @ 100 Hz, -155 dBc @ 1 kHz, -163 dBc @ 10 kHz (max. values)
Current Consumption	100 mA warm up 1 min., 35 mA steady state typ.
Dimensions	96 x 28 x 89 mm (N connectors) (for drawing, see www.smw.se)
Weight	208 g (F- & SMA-connectors), 250 g (N-connectors)
Options	2nd 10 MHz output SMA-connector (+6 dBm output level / output), Separate DC input with connector or pigtail (DC cable) and DC disabled on Receiver port, Factory calibration

10 MHz ref. oscillator examples



Part number designation for the 10 MHz reference oscillator

Model	Connector A	Sep. DC input B	Connector C	2nd 10 MHz out	DC Block A	DC Block C	Future use	Future use	Version
LREF	?	?	?	?	?	?	X	X	02
0	F	X No	0 F	X No 2nd 10 MHz out. +7 dBm on C	X	No DC block			
5	N	0 F	5 N						
8	SMA	5 N	8 SMA	8 2nd 10 MHz out. +6 dBm on C & D					
		8 SMA							
		9 Pigtail							
					1	DC Block			

Example: L-Band out + DC block (N), L-Band in + DC & 10 MHz out (N), Separate DC input (N), 2nd 10 MHz out = LREF-5558-1XXX-02

Rev. G

Specifications are subject to change without notice. Products from Swedish Microwave AB are made for commercial use.

Rev.02-20-2B



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