

LTE-Lite Low Cost 10MHz SMT GPSDO Module Spec, PN: 100407



- **0.7 X 1.18 x 0.09 inch SMT Module**
- **Excellent ADEV performance**
- **60+ Channel WAAS, QZSS GPS**
- **10MHz, and Synthesized output:
80MHz/40MHz/26.67/20/16/13.33/5MHz**

TYP. PRELIMINARY ELECTRICAL SPECIFICATIONS:

Module Specification:		
1 PPS Timing Accuracy from GPS receiver	<8ns to UTC RMS (1-Sigma) GPS Locked	
Holdover Stability (1 week with GPS)	<±50us over 3 Hour Period @+25°C (No Motion, No Airflow)	
1 PPS Output	3.3VDC CMOS	
Serial Port	TTL Level, GPS NMEA Output with 1Hz or 5Hz update rate	
GPS Frequency	L1, C/A 1574MHz	
GPS Antenna	Active or Passive (0dB to +30dB gain)	
GPS Receiver	65 Channels, QZSS, SBAS WAAS, EGNOS, MSAS capable Supports Position and Hold over-determined clock mode	
Sensitivity	Acquisition -148 dBm, Tracking -165 dBm	
GPS TTFF	Cold Start - <32 sec, Warm Start - 1 sec, Hot Start - 1 sec	
ADEV	10s: <7E-011, 10Ks: <2E-012 (GPS Locked, 25°C, no motion, no airflow)	
TTL Alarm Output	GPS LOCK indicator, ALARM output, Survey status, Warmup status	
Warm Up Time / Stabilization Time	<10 min at +25°C to better than 1E-09 Accuracy	
Supply Voltage (Vdd)	3.3V Single-Supply, +0.2V/-0.15V	
Power Consumption	<0.16W	
Operating Temperature	-10°C to +70°C, -40°C to +85°C optional	
Additional Features	Firmware field-upgradable, status LED, external oscillator option	
Oscillator Specification (internal):		
Frequency Output of low Phase Noise crystal	10MHz CMOS 3Vpp	
Secondary Synthesized CMOS output (Phase-Locked to 10MHz)	TTL selectable: 80MHz/40MHz/26.666MHz/20/16MHz/13.333MHz/5MHz	
20MHz Retrace	±2E-08 After 1 Hour @ +25°C without GPS	
Frequency Stability Over Temperature (0°C to +60°C)	±0.1ppm (internal TCXO without GPS)	
RF Output Amplitude	3Vpp CMOS	
20MHz Phase Jitter (100Hz to 10MHz)	<0.135ps rms	
Phase Noise at 10MHz	at 10MHz	
	1Hz	-69dBc/Hz
	10Hz	-96dBc/Hz
	100Hz	-119dBc/Hz
	1kHz	-138dBc/Hz
	10kHz	-150dBc/Hz
	100KHz	<-155dBc/Hz
Connections:		
1PPS Outputs (2x), 10MHz Output, power, system status, NMEA, ISP mode enable, antenna input, Synthesized reference frequency output	Connector Type: SMT module with 50 mils (1.27mm) pin spacing, U.FL RF antenna	

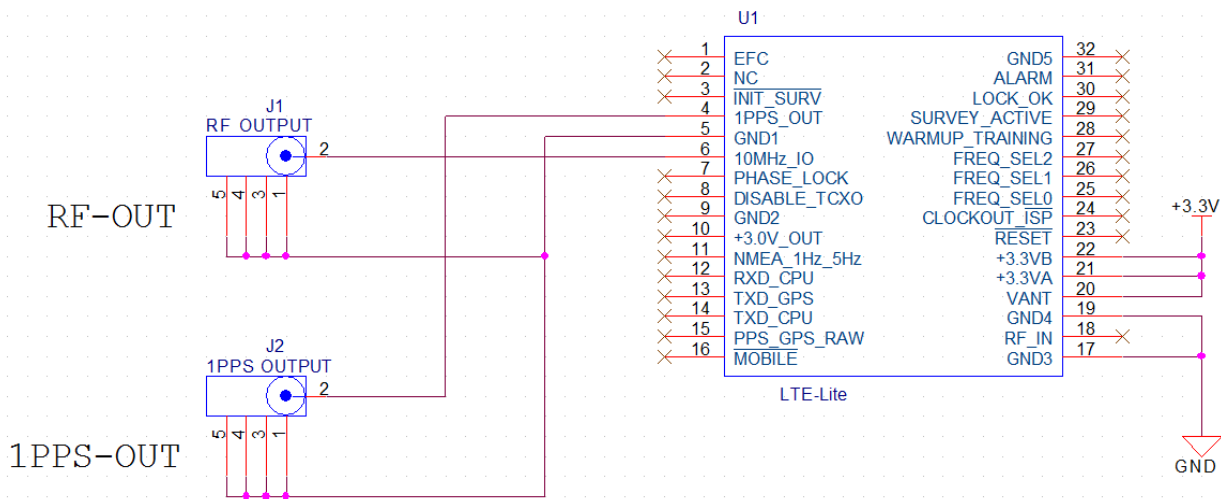


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Table 1. Available Crystal options and PLL synthesized output frequencies:

FREQ_SEL	10 MHz TCXO	15.36 MHz TCXO	19.2 MHz TCXO	20 MHz TCXO
111	disabled	disabled	disabled	disabled
110	5MHz	4.608MHz	4.8MHz	5MHz
101	13.33333333MHz	10.24MHz	9.6MHz	10MHz
100	16MHz	15.36MHz	12.8MHz	13.33333333MHz
011	20MHz	23.04MHz	15.36MHz	16MHz
010	26.66666667MHz	30.72MHz	25.6MHz	26.66666667MHz
001	40MHz	46.08MHz	38.4MHz	40MHz
000	80MHz	92.16MHz	76.8MHz	80MHz

EXAMPLE 1: MINIMUM OPERATING SETUP



EXAMPLE 2: CONNECTING AN EXTERNAL TCXO

