LEO BODNAR ELECTRONICS

LBE-1421

Dual Output GPS Locked Clock Source

FEATURES

- 1 PPS Output (UTC)
- Fast Time to Usable Output
- NMEA Data Over Virtual Serial Port
- Low Phase Noise
- Supports Multiple GNSS systems
- Powered Antenna Port (3.3V up to 50mA)
- USB-C Connectivity
- Low Power 250mA @ 5V
- Output Stability Achieving an Accuracy of 0.000001ppm
- Internal High-Quality TCXO Ensures Clean Clock Signal
- 3.3V CMOS Square Wave Outputs With 50Ω Impedance for Direct Compatibility With RF and Lab Equipment
- Outputs 1Hz to 1.4GHz
- Handles Temporary Gps Signal Loss Seamlessly With No Frequency or Phase Jumps

APPLICATIONS

- Precision Frequency Reference for Lab Equipment
- RF Transmitter and Receiver Systems (E.g., Ham Radios, VHF/UHF Transconverters)
- Calibration Sources for Radio Receivers and Propagation Beacons
- Master Clocks for Audio/Video Systems, DACs, and Recording Gear
- Referencing Radio Equipment

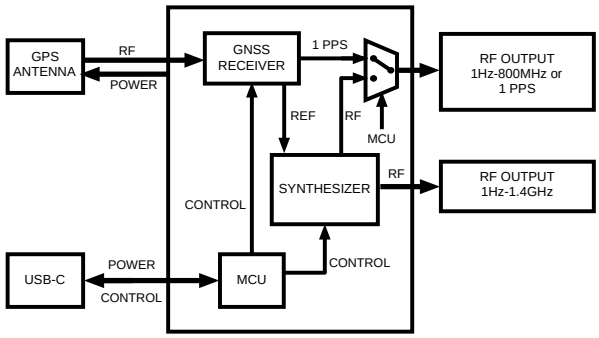
DESCRIPTION

The LBE-1421 is a high-performance GPS-disciplined oscillator designed for precision frequency calibration and RF reference applications. With GPS-locked output frequencies and exceptional stability, it is ideal for demanding environments requiring both accuracy and reliability. 1 PPS, NMEA and the RF output can be used together for applications where high a precision frequency source and absolute time reference is needed.

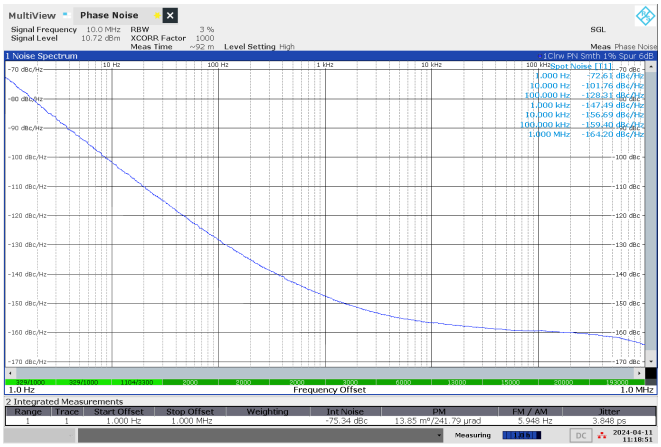
SPECIFICATIONS

POWER	
Connector	USB-C (USB 2.0)
Voltage	5V ±10%
Current	250mA ±10% @ 5V
RF OUTPUT	
Connectors	2 x SMA Female
Out 1 Frequency	1Hz to 800MHz or 1 PPS
Out 2 Frequency	1Hz to 1.4GHz
Frequency Resolution	1μHz
Amplitude	1.65V into 50Ω, 3.3V into High Impedance
Stability	$1x10^{-12}$ at 1000s
OUTPUT POWER	
< 400 MHz	+11dBm, +6dBm (Low Power Mode)
400MHz - 1GHz	+10dBm, +5dBm Low Power Mode
> 1GHz	+10dBm, +3dBm Low Power Mode
PPS OUTPUT	
Amplitude	1.65V into 50Ω, 3.3V into High Impedance
Pulse Length	100ms
ANTENNA PORT	
Connector	SMA Female
Current	Up to a maximum of 30mA
Voltage	3.3V ±5%
DIMENSIONS	
With Connectors	69x40x12mm
Without Connectors	53x40x12mm
Weight (Main Device)	43g

BLOCK DIAGRAM



PHASE NOISE



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