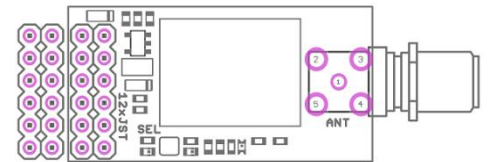


Features:

- Continuous navigation in urban environment, even at signal loss with speed or wheel-tick information from the vehicle
- Intended for fleet management or micromobility applications
- On-board low noise 3.3 V voltage regulator and RF filter for noise blocking
- **USB, I2C (SDA, SCL), SPI and UART (Tx, Rx), RAW** sensor data out
- **SMA** active antenna connector
- 12 pin 6x 2 row holes with pitch 2.54 mm
- Time pulse LED
- Wheeltick input
- u-center GPS evaluation software
- Extensive visualization and evaluation features
- Battery holder for 3 V type 621 Lithium battery
- Dimensions: 36x19 mm
- Weight 6.8 gram

Reference: ELT0165



RXD/SPI MOSI (+) +5V
 TXD/SPI MISO () SCL/SPI SLK
 DIR () SDA/SPI CS_N
 USB DP () USB DM
 WHEELTICK () TIME PULSE
 SAFEBOOT_N () GND

GNSS FEATURES

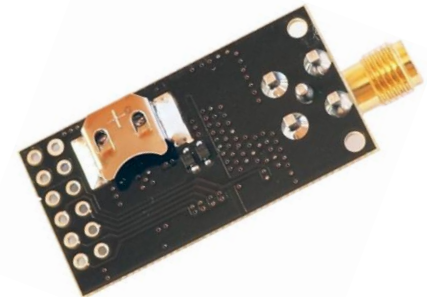
Receiver type	92-channel u-blox M9 engine GPS L1 C/A, QZSS L1 C/A/S, GLONASS L10F, Beidou B1, Galileo E1B/C, SBAS L1 C/A: WAAS, EGNOS, MSAS, GAGAN
GNSS platform	Concurrent GNSS
Oscillators	TCXO

PERFORMANCE

Position accuracy (GPS+GLO+GAL+BDS)	1.5 m CEP (with SBAS)		
Attitude accuracy (GPS)	3.0 m CEP (with SBAS)		
Position error during GNSS loss	3D Gyro + 3D Accel + Wheel Ticks		2%
	3D Gyro + 3D Accel		10%
Max nav. update rate	50 Hz		
Nav update rate (PVT)	5 Hz		
Navigation latency	15 ms		
Max sensor output rate	100 Hz		
Acquisition	Cold start	Hot start	Aided start
GPS+GLO+GAL+BDS	24 s	2 s	3 s
GPS+GLO	25 s	2 s	2 s
BDS+GLO	28 s	2 s	3 s
Velocity accuracy	0.08 m/s		
Dynamic attitude accuracy	Heading	0.3 deg	
	Pitch	0.4 deg	
	Roll	0.6 deg	

Sensitivity:

Tracking and Navigation	-159 dBm
Reacquisition	-158 dBm
Cold start	-147 dBm
Hot start	-159 dBm



OTHER FEATURES

Anti-jamming	Additional SAW filter and LNA, jamming detection and reporting	
Anti-spoofing	Spoofing detection and reporting	
Memory	Flash	
Operating temperature	0 °C to +50 °C	
Supply voltage	4.5 V to 5.5 V	
Supply current	<45 mA (without external antenna)	
External antenna requirements	Supply voltage	3.0 V
	Consumption current	<50 mA