



Features:

- On board Ultra low noise 3.3 V voltage regulator with noise 2 nV/√Hz
- **USB, I2C** (SDA, SCL), **SPI** and two **UART** (Tx, Rx) interface
- 12 pin JST SH connector
- **Mini USB** connector
- **SMA** antenna connector
- Active Quad Helix Multiband Antenna included
- u-center Evaluation Software
- Extensive visualization and evaluation features
- Time pulse LED, GEO LED, RTK LED
- Backup supercapacitor
- Dimensions: **38x22 mm** without SMA
- Weight: **9 gr.**

Reference: ELT0091



GNSS FEATURES

Receiver type	184-channel u-blox F9 engine Beidou, Galileo, GLONASS, GPS/QZSS
GNSS platform	Concurrent GNSS
GNSS bands	L1C/A, L1OF, E1-B/C, B1I, L2C, L2OF, E5b, B2I
Oscillators	TCXO

PERFORMANCE

Horizontal pos. accuracy	
PVT	1.5 m CEP
SBAS	1.0 m CEP
RTK	0.01 m + 1 ppm CEP
SPARTN	< 0.06 m CEP (GPS+GLO+GAL)
CLAS	0.04 m CEP (GPS+GLO+GAL)

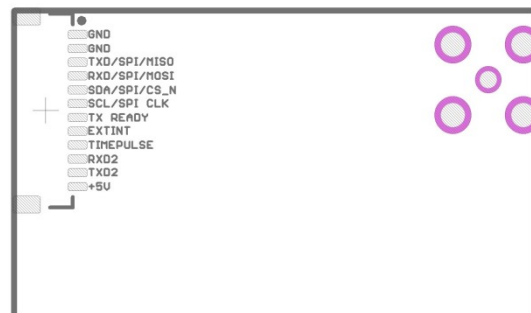
Vertical pos. accuracy	
PVT	2.0 m R50
SBAS	1.5 m R50
RTK	0.01 m + 1 ppm R50
SPARTN	< 0.12 m R50
CLAS	0.08 m R50

Convergence time	
RTK	< 10 s
SPARTN	< 45 s
CLAS	< 70 s

Acquisition	Cold start		Hot/Aided start		Nav. update rate		
	25 s	2 s	7 Hz	9 Hz	15 Hz	15 Hz	15 Hz
GPS+GLO+GAL+BDS	25 s	2 s	10 Hz	10 Hz	18 Hz	18 Hz	18 Hz
GPS+BDS+GAL	30 s	2 s	15 Hz	20 Hz	25 Hz	25 Hz	25 Hz
GPS+GAL	25 s	2 s	14 Hz	20 Hz	25 Hz	25 Hz	25 Hz
GPS+GLO	30 s	2 s	13 Hz	16 Hz	25 Hz	25 Hz	25 Hz
GPS+BDS	30 s	2 s	20 Hz	25 Hz	25 Hz	25 Hz	25 Hz
GPS	30 s	2 s	20 Hz	25 Hz	25 Hz	25 Hz	25 Hz

Velocity accuracy	0.05 m/s
Dynamic heading accuracy	0.3 deg

Sensitivity:	
Tracking and Navigation	-167 dBm
Reacquisition	-160 dBm
Cold start	-148 dBm
Hot start	-157 dBm



OTHER FEATURES

Anti-jamming	Active CW detection and removal
	Dual band onboard pass filter
Anti-spoofing	Advanced anti-spoofing algorithms
Security	Secure boot
	Secure firmware update
Memory	Flash
RAW data support	Carrier phase, code phase and pseudo-range, Doppler on all signals
Operating temperature	0 °C to +50 °C
Supply voltage	4.5 V to 5.5 V
Supply current	<130 mA (without external antenna)
External antenna requirements	Supply voltage 3.0 V
	Consumption current <50 mA