gnss oem
geopositioning electronics

ZED-F9T-10B
L1/L5/E5a 5G Network Synchronization InCase PIN high accuracy timing module with SMA and USB
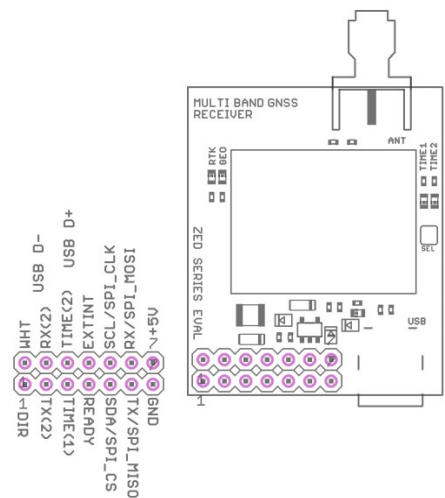
Features:

- On board low noise 3.3 V voltage regulator
- **USB**, **I2C** (SDA, SCL), **SPI** and two **UART** (Tx, Rx) interfaces
- **Mini USB** connector
- 14 pin holes connector
- **SMA** active antenna connector
- u-center Evaluation Software
- Extensive visualization and evaluation features
- Two time pulse LED, GEO LED, RTK LED
- Backup supercapacitor
- Dimensions: **36x30 mm** without SMA
- Weight: **11 gr.**

GNSS FEATURES

Receiver type	184-channel u-blox F9 engine Beidou, Galileo, GLONASS, GPS/QZSS, NavIC
GNSS platform	Concurrent GNSS
GNSS bands	L1C/A, L1OF, E1-B/C, B1I, B1C, L5, E5a, B2a, SPS-L5
Oscillators	TCXO

PERFORMANCE

Accuracy of time pulse signal	Absolute timing mode			5 ns
	Differential timing mode			2.5 ns
Frequency of time pulse	0.25 Hz to 25 MHz configurable			
Time pulse jitter	±4 ns			
Time mark resolution	8 ns			
Velocity accuracy	0.05 m/s			
Dynamic heading accuracy	0.3 deg			

Acquisition	Cold start	Hot start	Aided start	Navigation update rate
GPS+GLO+GAL+BDS	24 s	2 s	2 s	8 Hz
GPS+BDS+GAL	25 s	2 s	2 s	10 Hz
GPS+GAL	29 s	2 s	2 s	15 Hz
GPS+GLO	26 s	2 s	2 s	15 Hz
GPS+BDS	28 s	2 s	2 s	12 Hz
GPS	29 s	2 s	2 s	20 Hz

Horizontal position accuracy	1.5 m CEP

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