

# Shaper S • S+

Professional-grade **GNSS receiver**  
for **Aerial Survey** and **Defence applications**

**SHAPER-S series of GNSS receivers is a versatile and flexible solution for any UxS**

## Key features:

- Built-in protection algorithms against jamming and spoofing, as well as support of Galileo OSNMA
- Built-in barometer for additional height reference in spoofing environment
- Full compatibility with most mass-market autopilots and digital cameras for aerial mapping
- A wide option of data input/output interfaces.
- Auxiliary UART port with additional filtration functionality, providing extra level of data validation and cleanliness
- Low power consumption
- Built-in SMART controller for receiver operations enhancement, as well as raw data and Event Markers logging
- User Friendly WEB interface for system configuration and GNSS receiver's performance monitoring and interference evaluation
- Available in enclosure and as OEM versions



# GNSS Performance

## Frequency (Tracking & Position):

544 hardware channels for simultaneous tracking of

### SHAPER-S

- GPS: L1 C/A, L1C, L2C, L2 P(Y), L5
- GLONASS: L1 C/A, L2C/A, L2P, L3
- Beidou: B1I, B1C, B2a, B2I, B2b, B3I
- Galileo: E1, E5a, E5b
- QZSS: L1 C/A, L1C/B, L2C, L5
- NavIC: L5
- SBAS: EGNOS, WAAS, GAGAN, MSAS

### SHAPER-S+

- GPS: L1 C/A, L1C, L2C, L2 P(Y), L5
- GLONASS: L1 C/A, L2C/A, L2P, L3
- Beidou: B1I, B1C, B2a, B2I, B2b, B3I
- Galileo: E1, E5a, E5b, E5 AltBoc, E6
- QZSS: L1 C/A, L1C/B, L1C, L2C, L5
- NavIC: L5
- SBAS: EGNOS, WAAS, GAGAN, MSAS
- L-band

## GNSS Accuracy (RMS)

### Single point position:

- Horizontal: 1.2 m
- Vertical: 1.9 m
- Time Precision: - 5 ns

### DGPS:

- Horizontal: 40 cm
- Vertical: 70 cm

### RTK:

- Horizontal: 0.6 cm + 0.5 ppm
- Vertical: 1 cm + 1 ppm

### PPK:

- Horizontal: 0.6 cm + 0.5 ppm
- Vertical: 1 cm + 1 ppm

## Key tracking performance in noisy environment

### C/N0 thresholding value:

Signals tracking and retention	less 20 dB-Hz
Signals acquisition	33 dB-Hz

### Interfaces:

- Wi-Fi: built-in WEB UI for pre-launch preparation and inspection, including an Interference Tools Kit
- 1 UART (LVTTTL)
- 1 Filtered UART (LVTTTL)
- 1 COM port (RS-232)
- 1 USB device (2.0, HS)
- 1 Event markers input
- Built-in SD card memory (up to 64 GB) for raw data recording

### Connectors Type:

- PA FAMILY Connectors for main interfaces and power
- Type C for USB
- SMA female for antenna

### Physical Characteristics:

#### OEM

Dimension: 86x52x18mm

Weight: 54g

#### Enclosure

Dimension: 100x55x28mm

Weight: 120g