

simpleRTK2B - Basic Starter Kit

Includes:

- 1 [simpleRTK2B Budget board \(ZED-F9P\)](#)
- 1 [u-blox GNSS Multiband antenna ANN-MB-00 \(IP67\) with 5m cable](#)



More info about the product!



simpleRTK2B - Basic Starter Kit has several different configurations to provide you with flexibility:

SKU	Variation Name
AS-STARTKIT-BASIC-L1L2-HS-02	Headers soldered (+26€)
AS-STARTKIT-BASIC-L1L2-NH-02	Without headers

Get a discounted bulk price on this product for orders of 50 units or more. Contact us at info@ardusimple.com to get a quote.

Description

This standalone set of dual-band board based on u-blox ZED-F9P + u-blox ANN-MB-00 antenna is everything that you need to achieve centimeter level accuracy and evaluate multiband RTK GNSS technology at the most affordable cost.

To achieve centimeter level accuracy, you will need to connect it to a base station or to an RTK correction service (NTRIP or PointPerfect). You can use it with your smartphone, tablet, laptop or PC.

The kit can be configured as a base or a rover, supports multi-rover. It is fully compatible with Arduino, STM32 Nucleo, Raspberry Pi, Nvidia Jetson, ROS and Pixhawk / Ardupilot.

More details are available in the Specifications and Documentation tabs.

Good to know:

- This product is compatible but doesn't include radio, which might be useful connect to another base.
- This product is recommended if you want to evaluate u-blox ZED-F9P.
- This product has the same RTK performance as u-blox C099-F9P.
- If you don't know if you need the headers option, have a look at our article [Do I need Arduino Headers option?](#)

Specifications

ANN-MB

Antenna element

- Supported positioning signal bands:
 - GPS: L1, L2
 - GLONASS: G1, G2
 - BeiDou: B1, B2
 - Galileo: E1, E5b
 - QZSS: L1, L2
 - SBAS: WAAS, EGNOS, MSAS and GAGAN
- Frequency range:
 - 1559-1606 MHz
 - 1197-1249 MHz
- Polarization: RHCP
- Peak gain: 2.0dBi (without ground plane)
- Axial Ratio @ zenith: <3dB
- Azimuth Coverage: 360 degrees
- Impedance: 50 ohm

Electrical

- Supply voltage: 3-5V
- Typical supply current @ 3V: 15mA
- Average LNA gain: 28dB
- Maximum Noise Figure: 3.2dB
- Maximum VSWR: 2

Mechanical

- Maximum length: 82mm
- Weight: 173g
- Mounting style: magnetic base or 2x4.5mm holes
- Cable length: 5 meters
- Connector: SMA male

Environmental

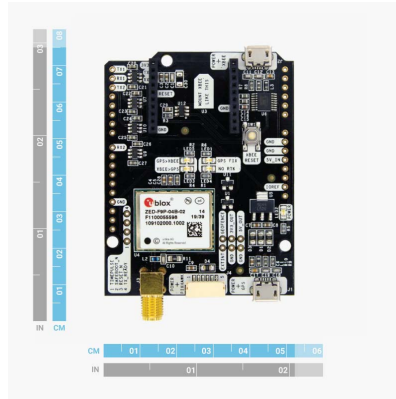
- Operating Temperature: -40 to +85°C
- Storage Temperature: -40 to +85°C
- IP Rating: IP67
- RoHS: Yes

ZED-F9P features

- Centimeter level precision
 - <1cm with a base station up to 35km

- <1cm with NTRIP up to 35km
 - <4cm with SSR corrections
 - <1.5m in standalone mode
 - <0.9m standalone with SBAS coverage
- Update rate
 - Default: 1Hz
 - With maximum performance: up to 10Hz
 - With reduced performance: up to 20Hz
- Multi band: L1, L2 and E5b support
- Multifrequency and Multiconstellation:
 - GPS: L1C/A L2C
 - GLONASS: L1OF L2OF
 - Galileo: E1-B/C E5b
 - BeiDou: B1I B2I
 - QZSS: L1C/A L2C
 - SBAS: WAAS, EGNOS, MSAS, GAGAN and SouthPAN
- Start-up times:
 - First position fix: 25 seconds (cold), 2 seconds (hot)
 - First RTK fix: 35 seconds (cold)
- RAW data output in UBX format
- Base and Rover functionality
- Operating temperature Range: -40 to +85degC
- Documentation: RED, RoHS

Image Gallery



Pinout

TOP VIEW

Description Name

ZED-F9P TX1 IOREF level TX1

ZED-F9P RX1 IOREF level RX1

XBee TX/ZED-F9P RX2 IOREF level TX2

XBee RX/ZED-F9P TX2 IOREF level RX2

Ground **GND**

Name Description

GND Must connect to GND

GND Must connect to GND

5V_IN 4.5-5.5V optional input voltage

IOREF 1.8-5V, defines voltage of TX/RX

Documentation

Antenna Installation Guide	https://www.ardusimple.com/gps-gnss-antenna-installation-guide/
Configuration files	https://www.ardusimple.com/how-to-configure-ublox-zed-f9p/

simpleRTK2B - Basic Starter Kit includes free basic technical support. Contact info@ardusimple.com for more information.
Data and descriptions in this document are subject to change without notice. Product photos and pictures are for illustration purposes only and may differ from the real product appearance.