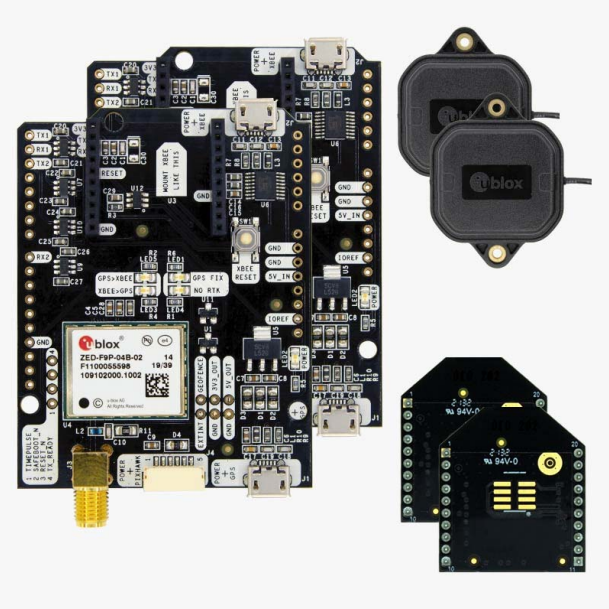
simpleRTK2B - Starter Kit MR

Includes:
- 2 simpleRTK2B Budget boards (ZED-F9P)
- 2 Radio Modules MR (Medium Range)
- 2 u-blox GNSS Multiband antenna ANN-MB-00 (IP67) with cable
- Base and Rover preconfiguration



More info about the product!

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

SKU	Variation Name
AS-STARTKIT-MR-L1L2-NH-01	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

The simpleRTK2B - Starter Kit MR (Medium Range) allows simple and fast evaluation of Dual Band GNSS (GPS/Galileo/Glonass/Beidou) RTK technology, based on u-blox ZED-F9P module.

RTK technology introduces the concept of a "Rover" and a "Base Station". By using a data stream from the base station, the rover can output its relative position with cm level accuracy in clear sky environments.

One of the known problems of Single Band RTK is its convergence time of more than 60 seconds. Dual Band technology reduces this time below 10 seconds, increasing substantially the availability of cm-level accuracy.

This is the recommended Starter Kit for your line of sight projects. The kit includes 2 boards with base and a rover functionality. The included radio modules will let you send RTK corrections up to 1200m. If you need a longer range or multi-rover capabilities, check out our Starter Kit LR.

The kit comes pre-configured, but if you need a custom configuration with special needs, make sure to add in the shopping cart our Configuration Service.

Good to know:
- This product is not suitable for multirover configuration, check our LR kit if you are interested in this feature.
- This product is recommended if you want to evaluate u-blox ZED-F9P.
- The included radio modules will let you send RTK corrections up to 1200m in perfect RF-line-of-sight. If you need a longer range, check out our Starter Kit LR.

Product Change History:
- AS-STARTKIT-MR-L1L2-NH-00: initial version
- AS-STARTKIT-MR-L1L2-NH-01: upgraded radio modules for better noise immunity

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

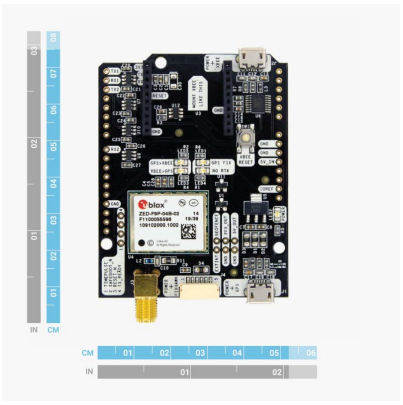
ZED-F9P features
- Centimeter level precision

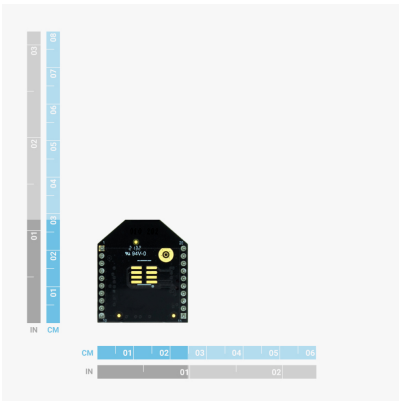
    - <1cm with a base station up to 35km
    - <1cm with NTRIP up to 35km
    - <4cm with SSR corrections
    - <1.5m in standalone mode
    - <0.9m standalone with SBAS coverage
- Update rate
    - Default: 1Hz
    - With maximum performance: up to 10Hz
    - With reduced performance: up to 20Hz
- Multi 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

MR radio features

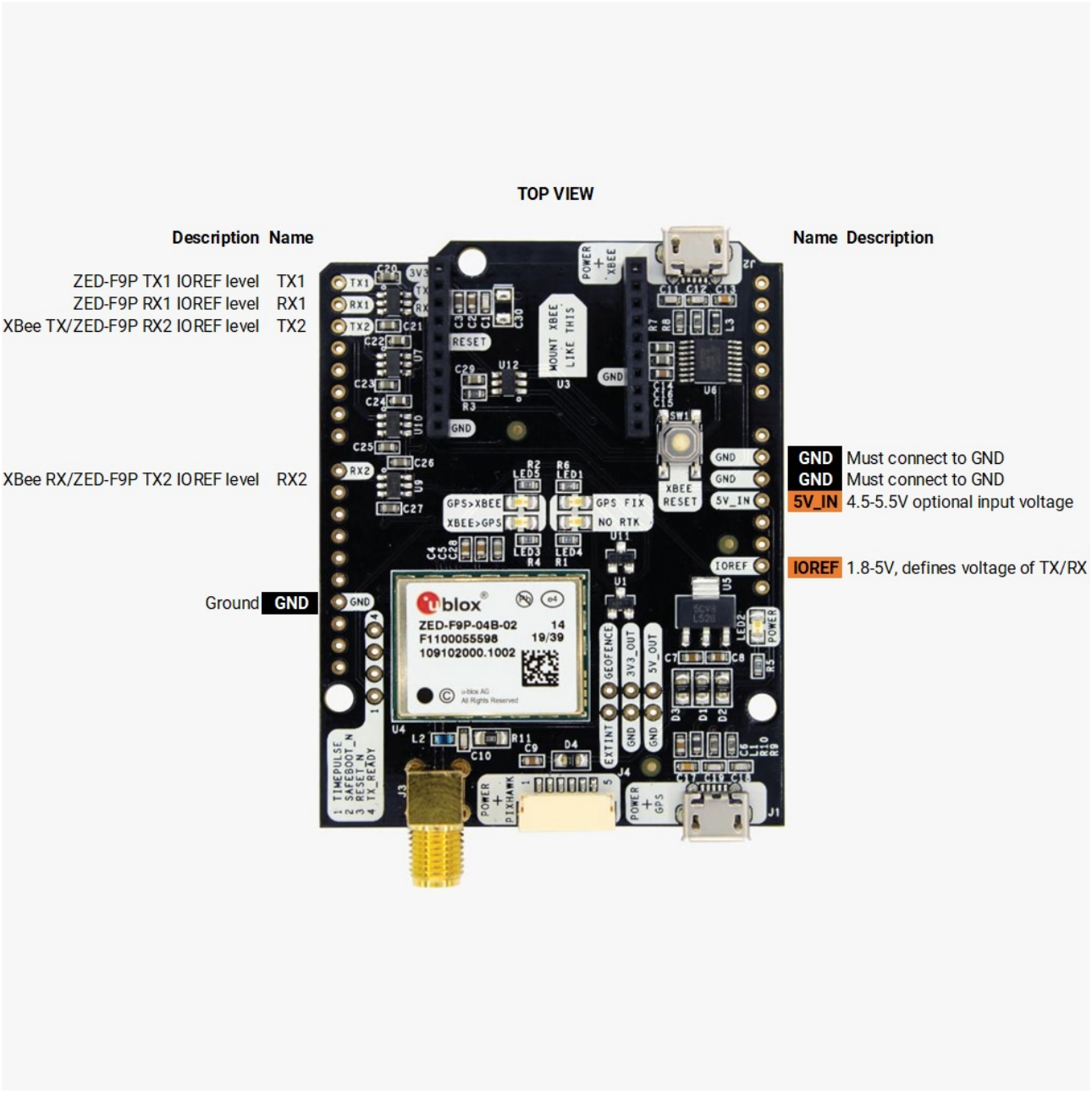
- Communication: Unidirectional Point-to-Point (maximum 1 rover)
- Frequency: ISM 2.4 GHz
- Output power: 6.3 mW (8 dBm)
- Range in line of sight:
    - Urban: 250 meters
    - Rural: 600 meters
    - Rural with complete RF line of sight: 1’200 meters
- Antenna type: internal
- Operating temperature Range: -40 to +85degC
- Documentation: RED, RoHS, FCC, IC

Image Gallery





Pinout



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 - Starter Kit MR 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.