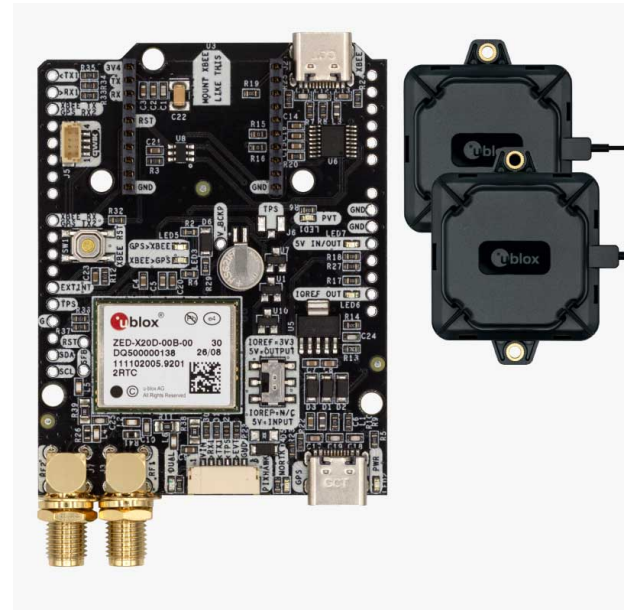


simpleRTK 4 Dual - RTK Heading Starter Kit

First dual antenna GPS heading evaluation kit with all-band u-blox ZED-X20D and ANN-MB2, for centimeter precision and out-of-the-box moving baseline (heading, orientation, north indicator, compass, roll, pitch, yaw).



More info about the product!



simpleRTK 4 Dual - RTK Heading Starter Kit SKU is: AS-STARTKIT-DUAL-X20D-00

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

ArduSimple simpleRTK 4 Dual - RTK Heading Starter Kit is a ready to use evaluation kit including a dual antenna GPS/RTK receiver and two high performance GPS/RTK antennas.

With antennas placed at 1 meter distance, the kit is able to calculate out of the box the true north / heading, with an accuracy of 0.1 degrees. Shorter distance between antennas is possible but performance will be reduced. The kit doesn't require calibration, and doesn't have drift, unlike IMU- and magnetometer- based systems.

The kit is ideal to complement autopilots to get YAW information, in addition to position information.

The kit also provides position using all-band GNSS technology, down to 1 meter of error when used standalone, and down to 1 centimeter of error when connected to a RTK base station.

This tripleband GPS kit can be used standalone connected to a PC or powerbank. And is also fully compatible with Arduino, STM32 Nucleo, Raspberry Pi, Nvidia Jetson, ROS and Pixhawk / Ardupilot.

Known limitations:

- Not possible to connect to VRS mountpoints over XBee socket (Bluetooth, WiFi, 4G).

Includes:

- 1 [simpleRTK 4 Dual board \(ZED-X20D\)](#)
- 2 [u-blox ANN-MB2-00 Tripleband GNSS antenna](#)

Specifications

Interfaces:

- USB
- UART
- XBee
- Timepulse
- Event

ZED-X20D 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
- GNSS attitude accuracy:
 - 1m antenna separation: 0.14deg heading, 0.23deg pitch/roll
 - 5m antenna separation: 0.03deg heading, 0.05deg pitch/roll
- Multi band: L1, L2, L5 and L6 support
- Multifrequency and Multiconstellation:
 - GPS: L1C/A L2C L5
 - GLONASS*: L1OF, L2OF (*disables in areas under sanction)
 - Galileo: E1-B/C E5a E6 HAS
 - Glonass: L1OF L2OF
 - BeiDou: B1I B1C B2a B3I
 - QZSS: L1C/A L2C/B L2C L5
 - Navic: L1-SPS L5-SPS
 - SBAS: WAAS, EGNOS, MSAS, GAGAN and SouthPAN
- Start-up times:
 - First position fix: 25 seconds (cold), 2 seconds (hot)
 - Warm start: <10s
 - First RTK fix: 35 seconds (cold)
- RAW data output in UBX format
- Base and Rover functionality
- Operating temperature Range: -40 to +85degC
- Certification: CE
- Documentation: RED, RoHS

ANN-MB2

Antenna element

- Supported positioning signal bands:
 - GPS: L1, L2, L5
 - GLONASS: G1, G2, G3
 - BeiDou: B1, B2, B3
 - Galileo: E1, E5, E6
 - QZSS: L1, L2
 - Navic: L5
 - L-Band: L6
 - SBAS: WAAS, EGNOS, MSAS and GAGAN
- Frequency range:
 - 1535-1602 MHz
 - 1166-1285 MHz
- Polarization: RHCP
- Peak gain: 4.5dBi (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: 31dB
- Maximum Noise Figure: 3dB
- Maximum VSWR: 2

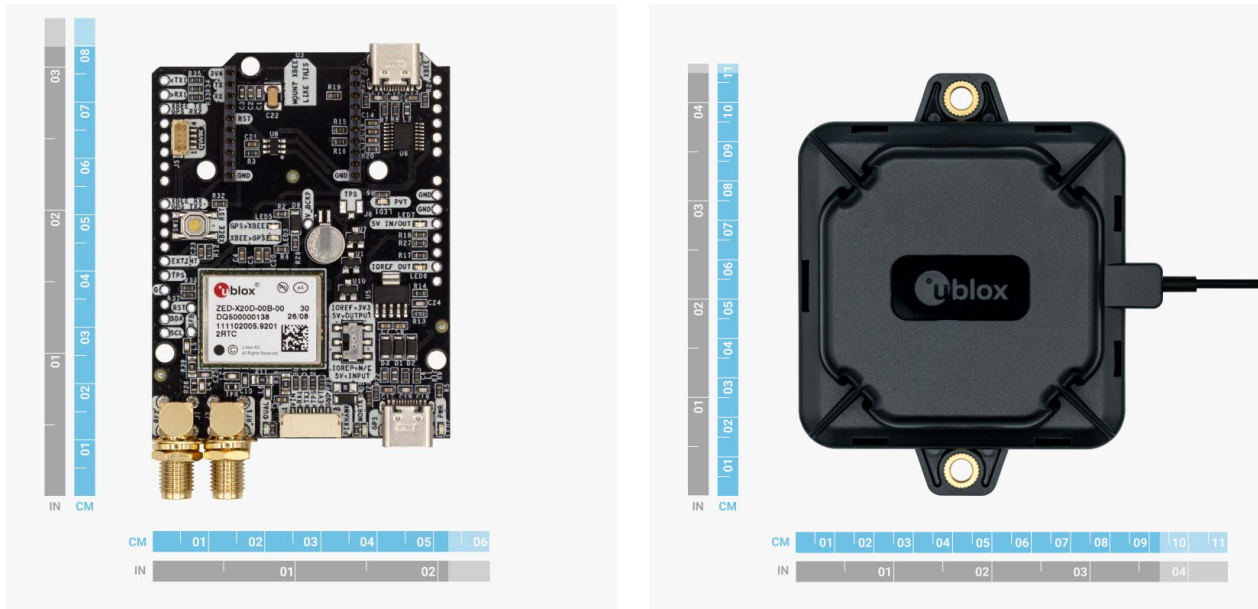
Mechanical

- Maximum length: 109mm
- Weight: 260g
- Mounting style: magnetic base or 2x5.5mm holes
- Cable length: 5 meters
- Connector: SMA male

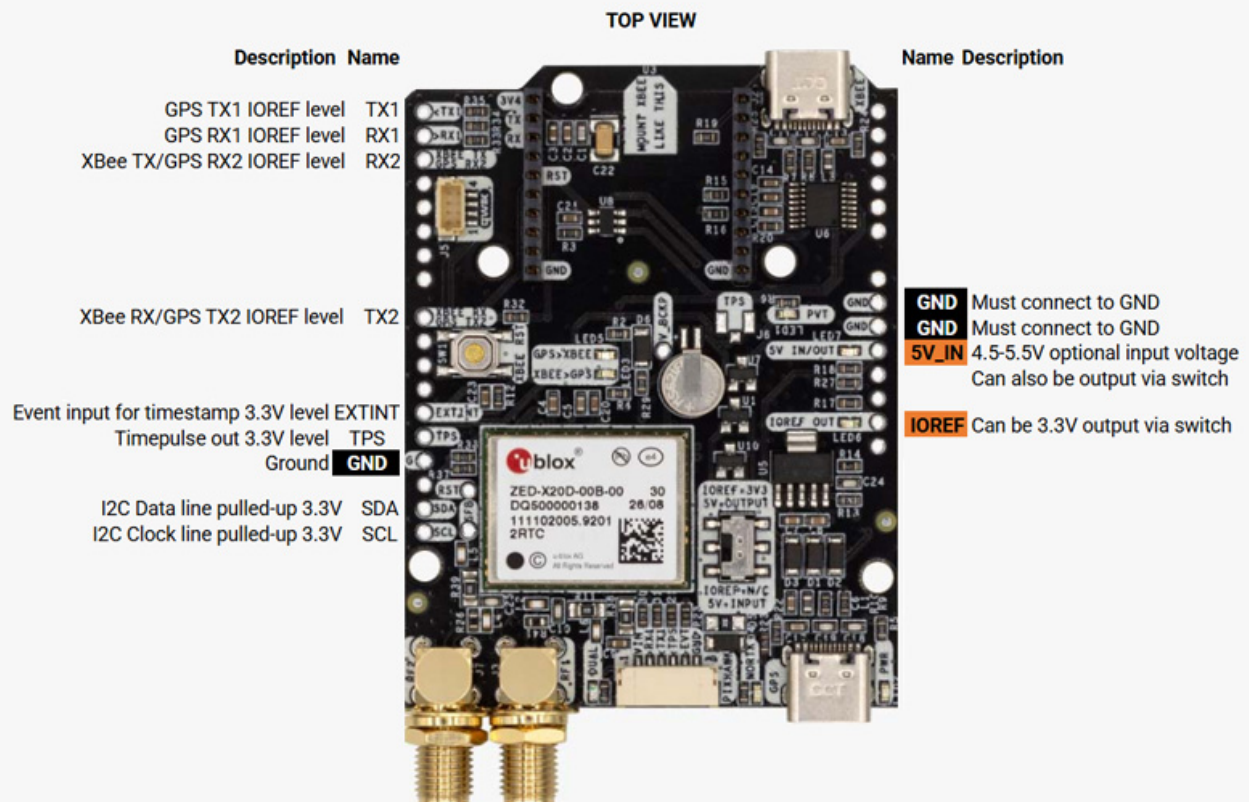
Environmental

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

Image Gallery



Pinout



Documentation

Antenna Installation Guide	https://www.ardusimple.com/gps-gnss-antenna-installation-guide/
Learn how to configure u-blox ZED-X20 boards	https://www.ardusimple.com/how-to-configure-u-blox-zed-x20p/

simpleRTK 4 Dual - RTK Heading 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.