

# simpleRTK3B - Basic Starter Kit

Includes:

- 1 simpleRTK3B Pro board (Mosaic-X5)
- 1 Budget Survey Tripleband GNSS Antenna (IP66) including 2.5m cable
- 1 Magnetic Stand for Survey GNSS Antenna



More info about the product!

simpleRTK3B - Basic Starter Kit SKU is: AS-STARTKIT-BASIC3B-L125-NH-00



## Description

This standalone set of triple band board based on Septentrio Mosaic-X5 + ArduSimple Budget Survey Antenna + Magnetic Stand is everything that you need to achieve millimeter level accuracy and evaluate triband (L1/L2/L5) RTK GNSS technology at the most affordable cost.

To achieve millimeter 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, PC or embedded platform.

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:

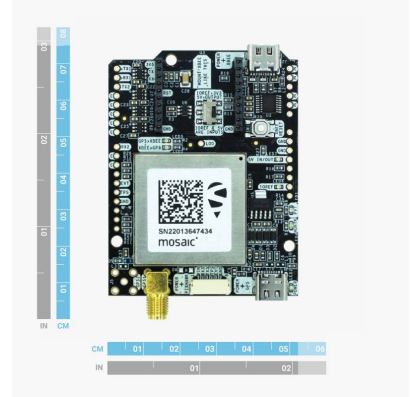
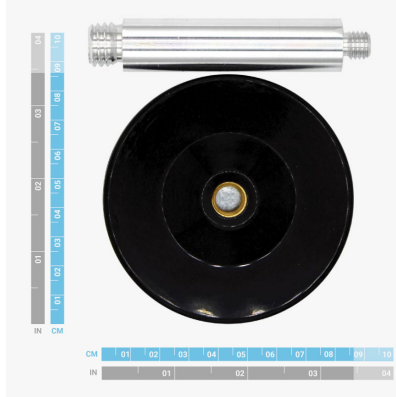
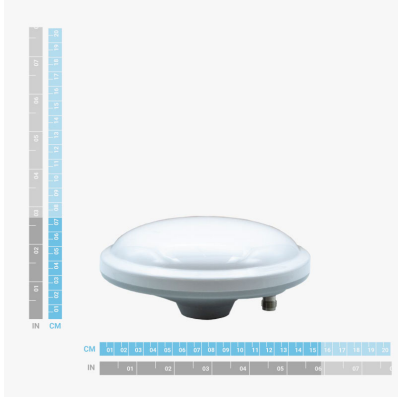
- This product is compatible but doesn't include radio, which might be useful connect to another base.
- This product is recommended if you want to evaluate Septentrio Mosaic-X5.

## Specifications

### Mosaic-X5 features

- Millimeter level precision
  - <1cm with a base station up to 35km
  - <1cm with NTRIP up to 35km
  - <1.2m in standalone mode
  - <0.6m standalone with SBAS coverage
- Update rate
  - Default: 1Hz
  - With maximum performance: up to 100Hz
- Multi band: L1, L2 and L5 support, 448 hardware channels
- Multifrequency and Multiconstellation:
  - GPS: L1C/A L1PY L2C L2P L5
  - GLONASS: L1CA L2CA L2P L3 CDMA
  - Galileo: E1 E5a E5b E5 AltBloc E6
  - BeiDou: B1I B1C B2a B2I B3
  - QZSS: L1C/A L2C L5
  - Navic: L5
  - SBAS: WAAS, EGNOS, MSAS, GAGAN, SDCM (L1 L5)
- Start-up times:
  - Cold start: <45s
  - Warm start: <20s
  - Re-acquisition: 1s
- Protocols:
  - Septentrio Binary Format (SBF)
  - NMEA 0183, v2.3, v3.03, v4.0
  - RINEX v2.x, v3.x
  - RTCM v2.x, v3.x (MSM included)
  - CMR v2.0 (out/in), CMR+ (input only)
- Interfaces (**check user guide to verify which are available**):
  - USB
  - UART
  - XBee
  - Timepulse
  - Event
- Base and Rover functionality
- Operating temperature Range: -40 to +85deg
- Certification: CE, WEEE, ISO 9001-2015
- Documentation: RED, RoHS

## Image Gallery



# Pinout

TOP VIEW

Description	Name	Name	Description
GPS TX1 IOREF level	TX1	E	Don't connect
GPS RX1 IOREF level	RX1	E	Don't connect
XBee TX/GPS RX2 IOREF level	TX2	E	Don't connect
Don't connect	E	E	Don't connect
Don't connect	E	E	Don't connect
Don't connect	E	E	Don't connect
Don't connect	E	E	Don't connect
XBee RX/GPS TX2 IOREF level	RX2	<b>GND</b>	Must connect to GND
Don't connect	E	<b>GND</b>	Must connect to GND
Don't connect	E	<b>5V_IN</b>	4.5-5.5V optional input voltage Can also be output via switch
Event input for timestamp 3.3V level	EVT	<b>IOREF</b>	1.8-5V, defines voltage of TX/RX Can also be 3.3V output via switch
Inverted timepulse out 3.3V level	TPS		
Ground	<b>GND</b>		

## Documentation

User Guide	<a href="https://www.ardusimple.com/simplertk3b-hookup-guide/">https://www.ardusimple.com/simplertk3b-hookup-guide/</a>
Antenna Installation Guide	<a href="https://www.ardusimple.com/gps-gnss-antenna-installation-guide/">https://www.ardusimple.com/gps-gnss-antenna-installation-guide/</a>
3D CAD STEP Files	<a href="https://www.ardusimple.com/3d-cad-step-files/">https://www.ardusimple.com/3d-cad-step-files/</a>

simpleRTK3B - Basic Starter Kit includes free basic technical support. Contact [info@ardusimple.com](mailto: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.