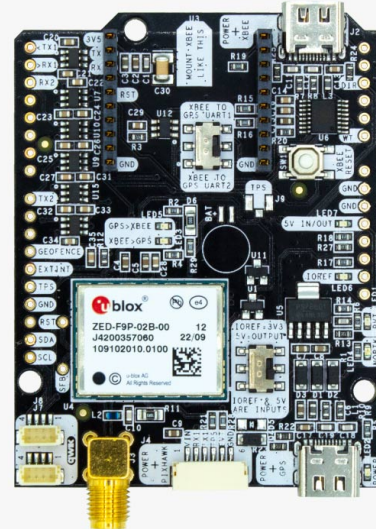# simpleRTK2B Pro

Includes:
- 1 simpleRTK2B Pro board

More info about the product!

simpleRTK2B Pro has several different configurations to provide you with flexibility:

SKU	Variation Name
AS-RTK2B-PROF9P-L1L2-NH-00	Without headers / ZED-F9P
AS-RTK2B-PROF9P-L1L2-HS-00	Headers soldered (+26€) / ZED-F9P

This document was last modified on 2024/05/14
Modifications reserved - Data subject to change without notice
© All rights reserved. ArduSimple, 2024

www.ardusimple.com
More information: info@ardusimple.com
Page 1 of 6

Description

simpleRTK2B Pro is a standalone board that allows to evaluate dual band RTK GNSS technology. It's based on u-blox ZED-F9 module and is fully compatible with Arduino and STM32 Nucleo platforms, as a shield.

The new Pro version is the latest generation supercharged with new features:
- High power XBee Socket to connect high power devices, like 4G NTRIP Client and XLR at 1W output power.
- Selectable UART1 / UART2 connection to the XBee socket, to be able to send UBX protocol over the air.
- Compatible with Sparkfun qwiic interface and I2C interface.
- Dual USB-C connector
- "NO RTK" LED in red color
- "GPS FIX" LED in green color
- EXTINT and TIMEPULSE available on the JST connector

Check out simpleRTK2B page and hookup guide to learn more.
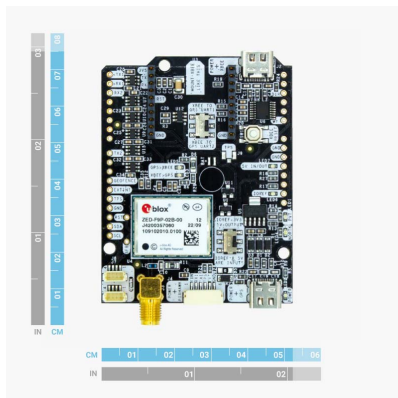
Good to know:
- This product is compatible but doesn't include multiband GNSS antenna, which is necessary to use the product.
- The module will not give good performance with a standard GNSS antenna, requires a multiband one.
- This product is compatible but doesn't include radio, which is necessary to connect to another base.
- This board is recommended if you want to test u-blox ZED-F9P performance.
- This board has the option of mounting a backup battery to speed up the Time to First Fix after a short power down. Note that this will not speed up the Time to First RTK fix, fresh satellite data is needed for that. If you want the board with the onboard V_BCKP battery mounted you can add the Hand Soldering Service to your cart.

This document was last modified on 2024/05/14
Modifications reserved - Data subject to change without notice
© All rights reserved. ArduSimple, 2024

www.ardusimple.com
More information: info@ardusimple.com
Page 2 of 6

Specifications

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)
- Interfaces **(check user guide to verify which are available)**:
    - USB
    - UART
    - XBee
    - Timepulse
    - Event
    - Safeboot
- RAW data output in UBX format
- Base and Rover functionality
- Operating temperature Range: -40 to +85deg
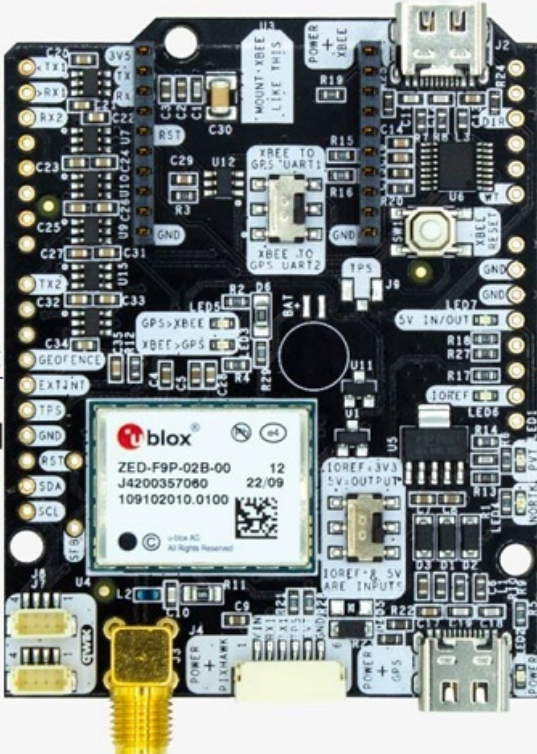- Documentation: RED, RoHS

This document was last modified on 2024/05/14
Modifications reserved - Data subject to change without notice
© All rights reserved. ArduSimple, 2024

www.ardusimple.com
More information: info@ardusimple.com
Page 3 of 6

Image Gallery

This document was last modified on 2024/05/14
Modifications reserved - Data subject to change without notice
© All rights reserved. ArduSimple, 2024

www.ardusimple.com
More information: info@ardusimple.com
Page 4 of 6

Pinout

TOP VIEW

Description	Name
GPS TX1 IOREF level	TX1
GPS RX1 IOREF level	RX1
XBee TX/GPS RX2 IOREF level	RX2
XBee RX/GPS TX2 IOREF level	TX2
Configurable fence output 3.3V level	FENCE
Event input for timestamp 3.3V level	EXTINT
Timepulse out 3.3V level	TPS
Ground	GND
I2C Data line pulled-up 3.3V	SDA
I2C Clock line pulled-up 3.3V	SCL

Name	Description
DNC	Don't connect
DNC	Don't connect
GND	Must connect to GND
GND	Must connect to GND
5V_IN	4.5-5.5V optional input voltage Can also be output via switch
IOREF	1.8-5V, defines voltage of TX/RX Can also be 3.3V output via switch

This document was last modified on 2024/05/14
www.ardusimple.com
Modifications reserved - Data subject to change without notice
More information: info@ardusimple.com
© All rights reserved. ArduSimple, 2024
Page 5 of 6

Documentation

simpleRTK2B Pro User Guide	https://www.ardusimple.com/simplertk2b-pro-hookup-guide/
Configuration files	https://www.ardusimple.com/configuration-files/
3D CAD STEP Files	https://www.ardusimple.com/3d-cad-step-files/

simpleRTK2B Pro 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.

This document was last modified on 2024/05/14
Modifications reserved - Data subject to change without notice
© All rights reserved. ArduSimple, 2024

www.ardusimple.com
More information: info@ardusimple.com
Page 6 of 6