



GNSS X5 Mobile Pro RTK

Product Name: METTATEK X5 Mobile Pro
Model Number: X5MPRO-001

The high precision external GNSS antenna receiver that works with your Android smartphone or tablet. The perfect solution for entry-level and field experienced professional users with RTK+PPK+NTRIP corrections.



Description

The X5 Mobile Pro is a high-precision GNSS receiver that operates connected to an Android smartphone or tablet and features an RTK correction system that receives data via LoRa.

Main Advantages:

- Multi-band RTK (433MHz and 915MHz frequencies available), PPK and NTRIP corrections with fast convergence times and robust performance, offers centimeter-level accuracy with a Fix solution in seconds
- Uses the same GNSS L1/L2/e5 technology found in professional receivers with state-of-the-art components
- Simultaneous reception of all constellations: GPS, GLONASS, GALILEO and BEIDOU
- Includes its own multi-band helical GNSS and LoRa antennas
- Data transfer connection via USB port and Bluetooth
- Compatible with GIS and Photogrammetry Applications that operate with NMEA data
- It has a red point Laser for easy location of the points to be georeferenced on the field
- Rugged plastic enclosure

X5 Mobile Pro Components:

- GNSS X5 Mobile Pro unit
- HeliX5 multi-band GNSS antenna
- LoRa 433 MHz or 915 MHz antenna (Frequency selected by client)
- Rover pole Adapter with 5/8" thread
- USB Type-C cable for power supply



Image: X5 Mobile components

Compatible Android apps:

- SW Maps
- FieldGenius
- Survey Master
- Mapit GIS / Mapit NTRIP Client
- YCServer NTRIP Client
- RTK camera (Photogrammetry)
- And other Apps and Software that use or accept NMEA data via Bluetooth or Serial USB

Basic Operation Instructions:

1. Assemble Components:

- Attach the HeliX5 multi-band GNSS antenna to the MCX connector.
- Attach the LoRa antenna (433 MHz or 915 MHz) to the SMA connector.
- Mount the unit on the rover pole adapter if required.

2. Power On: Connect the USB Type-C cable to a power source (mobile device or power bank).

3. Configure Bluetooth Connection:

- Enable Bluetooth on your Android device.
- Pair with "X5 MobilePRO" from the Bluetooth device list.

4. Configure GNSS and LoRa Settings: Use the configuration switch to adjust LoRa parameters using the dedicated software.

5. Use Compatible Apps: Launch your preferred NMEA-compatible app (e.g., SW Maps, FieldGenius).

6. Set up RTK, NTRIP, or PPK corrections as per your workflow.

7. Safety Reminder: Do not use the device beyond its operating temperature range (–40 °C to 85 °C).

1. SPECIFICATIONS

Mechanical	• Dimensions: 85 × 40 × 13 mm (without antenna) • Weight: 80g • Operation temperature: -40 to 85 °C • Enclosed Design
Electrical	• Input voltage: 4.75 – 5.5 V, ≥ 5.0 V ensures output power • Antenna DC bias: 3.3 V • Peak current consumption: 5V @ 250 mA • Average current consumption: 5V @ 120 mA • Current limit on USB cable: 500 mA
Connectivity	• Bluetooth V4.2 BR/EDR • USB Serial
GNSS	• Concurrent reception of GPS, GLONASS, Galileo and BeiDou • Receives both L1C/A and L2C bands • Signal tracked GPS/QZSS L1 C/A, L2 GLONASS L1OF, L2 BeiDou B1I, B2I Galileo E1-B/C, E5b • Number of channels 184 • Navigation update rate: 1 Hz GNSS • Position accuracy: NTRIP 0.01 m + 1 ppm CEP • Convergence time: NTRIP < 10 sec • Time to First Fix: 25s (cold), 2s (hot) • Max Altitude: 50 km (31 miles) • Max Velocity: 500 m/s (1118 mph)

Radio configuration	● Global license-free ISM 433MHz or 915MHz band ● Air rate: 19.2 kbps (default) ● Transmission power: 30 dBm (default) ● Antenna gain: 5 dBi ● Max distance: 10 km, in clear open area and line of sight
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2. PORTS DESCRIPTION

USB-C	● Powering the device
Antenna Connector	● SMA connector for 433MHz/915MHz LoRa antenna ● MCX connector for GNSS antenna

3. LEDS DESCRIPTION

RF LED	● Blinking: Transmitting or receiving data with LoRa (Rx/Tx)
BT LED	● Blinking: Waiting for Bluetooth connection ● Solid: Bluetooth connected

4. OPERATION MODES

The device includes a switch for the different operation modes:

Configuration	● To change LoRa parameters with the executable application
Transmission	● To receive the corrections from the Base Station

5. SAFETY WARNINGS

 Warning: Only use the supplied USB Type-C cable for power supply. Using incompatible power sources may damage the device.
 Warning: Do not operate the device in explosive atmospheres or near flammable materials.
 Warning: Ensure antennas are securely attached before powering on the device. Loose antennas may affect performance or cause damage.
 Caution: Avoid dropping the device. The rugged enclosure offers protection, but impacts may affect calibration.
 Note: Follow local regulations when using the 433 MHz or 915 MHz frequency bands.

FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.