

EMLID



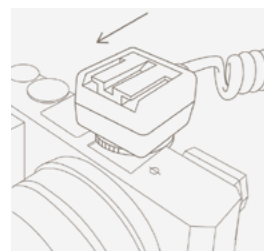
# REACH M+

RTK GNSS module for precise navigation and UAV mapping

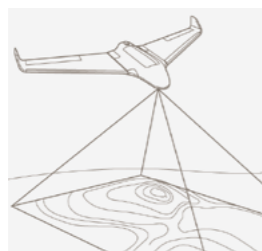
## PPK system for UAV mapping. Centimeter accuracy without GCP

Reach M+ logs precise tracks and the exact moment when each photo is taken. This allows to create precise 3D models without complicated ground control preparations drastically simplifying the mapping process.

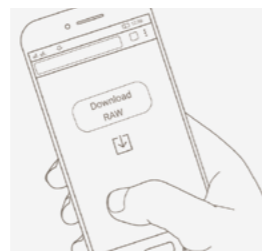
### How does it work?



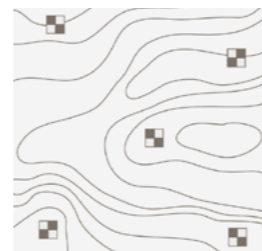
Reach M+ connects to the camera hot shoe port which is synced to the shutter.



Sub-microsecond accurate photo time marks are stored in a raw data RINEX log during the flight.



Download the RINEX logs from your airborne Reach module and a base station after the flight.



Use the free RTKLIB software to process RINEX files and get a list of precise photo coordinates.

Reach is used in drones of:



## RTK positioning for navigation

When provided with corrections from the base station Reach M+ calculates coordinates with centimeter accuracy in real-time and streams them in industry standard format to your drone or any other device.

### Correction input

RTCM2  
RTCM3

### Position output

NMEA0183  
Plain text (XYZ, LLH)  
ERB

### Interfaces

Wi-Fi (802.11a/b/g/n)  
Bluetooth (4.0/2.1 EDR)  
USB, UART, Event



## Mapping kit

Everything required to make your mapping system centimeter accurate

### Includes:

**Rover unit** – Reach M+ with external antenna

**Base unit** – Rugged and battery-powered Reach RS +

## Reach M+ specifications

### MECHANICAL

Size:	56.4 x 45.3 x 14.6mm
Weight:	20 g
Operating temperature:	-20...+65 °C

### GNSS

Signals:	GPS/QZSS L1, GLONASS G1, BeiDou B1, Galileo E1, SBAS
Update rate:	14 Hz GPS / 5 Hz GNSS
Tracking channels:	72
IMU:	9DOF

### CONNECTIVITY

Interfaces:	USB, UART, Event
Wireless:	Wi-Fi (802.11a/b/g/n), Bluetooth (4.0/2.1 EDR)

### ELECTRICAL

Input voltage on USB and DF13 connectors:	4.75–5.5 V
Antenna DC bias:	3.3 V
Average current consumption at 5 V:	200 mA

### DATA

Solution input:	ERB, plain text, NMEA (RMC, GGA, GSA, GSV)
Correction input:	RTCM2, RTCM3
Internal storage:	8 GB
Logs:	RINEX2.X, RINEX3.X

### POSITIONING

Static:	H: 5 mm + 1 ppm, V: 10 mm + 2 ppm
Kinematic:	H: 7 mm + 1 ppm, V: 14 mm + 2 ppm