ULTRA UBILINK

Product Manual

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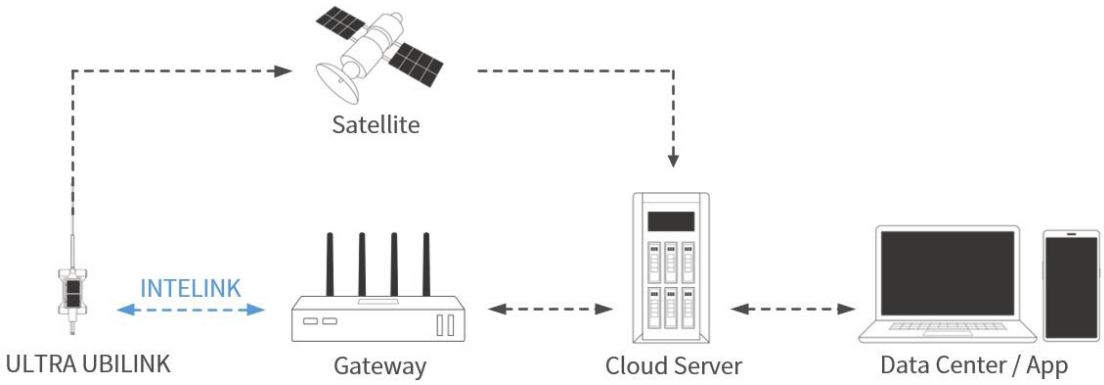
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BASIC INTRODUCTION

DEBUT ULTRA UBILINK is an ultra-light low-power GNSS tracker for wildlife. It is equipped with GNSS, UBILINK, and INTELINK. It collects animals' location data and transmit the data to the satellite using UBILINK.

In addition to scheduled UBILINK transmission, ULTRA UBILINK utilizes patented technology to transmit data to smartphones or DEBUT series gateway devices. This facilitates ground search operations, retrieval of data stored onboard (often exceeding the capacity for UBILINK transmission), and enables real-time modeling based on raw acceleration data downloading and tagging using specialized tools.

The illustration below shows how the data is transmitted among ULTRA UBILINK, the gateway and the cloud server.



A gateway can be DEBUT HUB, DEBUT TAG III or a smartphone with Mootune app installed. These gateways vary in performance

- DEBUT HUB offers the highest performance but comes at a higher cost and is limited to fixed installations.
- DEBUT TAG III is incredibly lightweight, weighing only 30 grams, making it highly portable.
- Smartphones are universally available, while offers the least capability among the three.

You can choose the option that best suits your needs.

KEY FEATURES

- Data collecting and transmitting at customizable intervals

  Setting the working interval from few seconds to 2 days as needed.

- Animal location and movement track display

  Displaying animal locations and movement tracks on the interactive map.

- Global coverage

  Transmitting data anywhere on earth with UBILINK satellite transmission module.

- Group management

  Allocating animals to different groups for easier management.

- Multi-dimension data analysis

  Displaying various combinations of data from different perspectives.

BASIC SPECIFICATIONS

Appearance



Housing/Sealing	Nylon 3D-printed, available in white or custom colors
Antenna	270 mm external antenna made from 0.2mm diameter titanium alloy with protective coating
Dimensions (LWD)	25 x 8 x 12 mm (excluding antennal)
Weight	1.46±0.05 g
Battery	7 mAh lithium polymer rechargeable battery
Charging method	Solar panel
Working Temperature	• -20°C~60°C
Waterproof	• IP 68 (7 ATM for the main part)
Data Storage	Collected data will be stored in memory before transmission.

	– Flash memory: 384 KB • Regular data storage: 460 days at default setting
Data Type	– GNSS data
Working Schedule	Programmable from 5 min, changeable via INTELINK
Firmware Upgrade	Remotely via INTELINK

Complete view of the device with full antenna:



UBILINK X1 MODULE

Frequency	400 MHz
Maximum Output Power	31 dBm
Maximum Data Rate	5 packets / 15 seconds, max. 120 bytes in on packet

LoRa MODULE

Frequency Bands	150~960 MHz
Maximum Output Power	22 dBm

Maximum Data Rate	62.5 kbps
Transmission Distance (ideal condition in field)	10 km

INTELINK MODULE

Frequency	2.4 GHz
Maximum Output Power	8 dBm
Maximum Data Rate	1 Mbps
Maximum Coverage (in ideal environment)	500 m

GPS MODULE

Sensitivity	Tracking: –163 dBm Acquisition: –147 dBm
Time to First Fix	Cold Start: < 28 s Hot Start: 1 s Reacquisition: 1 s
Maximum Update Rate	10 Hz
Precision	Horizontal: < 3 m CEP Speed: 0.1 m / s

SOLAR MODULE

Material	GaAs

Dimension	12.5 mm × 6.5 mm × 0.55 mm
Voltage	5 V
Current	3.78 mA
Rated Power	18.9 mW
Efficiency	30%