Debut® OMNI 4G
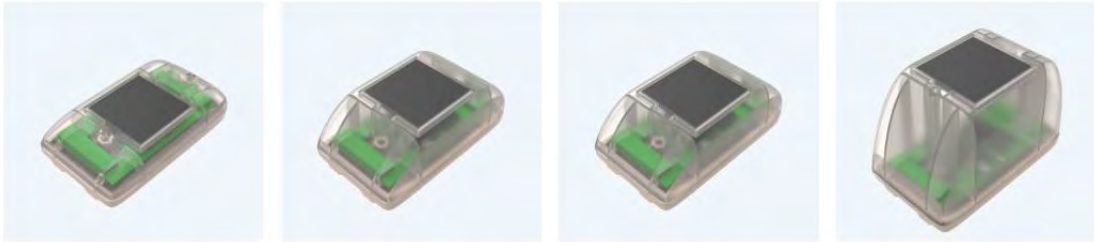
OMNI 4G is a solar-powered GPS-4G-ACC tracker suitable for backpack deployment. It is a model customized from the Debut OMNI hardware development platform.

Appearance & Measurement

- Dimensions (LWD): 43 mm x 25 mm x 12/18/21/30 mm
- Weight: 8.6g~15.6g
- Antenna: Internal
- Housing: ABS injection molding

Data Types

- GPS: longitude, latitude, altitude, geoid height, course, satellite quantity
- ENV: voltage, light intensity, temperature
- BHV: ODBA (overall dynamic body acceleration)
- ACC: x/y/z acceleration data (upon request)

Power Supply

- Solar type: GaAs solar unit (30% efficiency) with good performance under weak light
- Battery type: Lithium polymer rechargeable battery with under-and-over-charge protection
- Battery capacity: 30/110/190mAh

GPS Module

- GPS precision: CEP（50%）5m
- Maximum update rate: 10 Hz

Transmission Module

Band	Uplink (MHz)	Downlink(MHz)	Output Power(dBm)
LTE-FDD B1	1920 ~1980	2110 ~2170	23 dBm±2.7 dB
LTE-FDD B3	1710 ~1785	1805 ~1880	23 dBm±2.8 dB
LTE-FDD B5	869 ~ 894	824 ~ 849	23 dBm±2.9 dB
LTE-FDD B8	880 ~915	925 ~960	23 dBm±2.10 dB

Maximum uplink/downlink data rate: 5Mbps/10Mbps

Global Roaming: Support

Data Collection & Transmission Setting:

- Regular-Interval Mode
  - GPS interval: 5 min ~1 day
  - ENV interval: 5 min ~1 day
  - ODBA interval: 10 min/30 min
  - ACC interval: 25 Hz, 3 seconds in every 10 min (by default)
  - Transmission interval: 5 min ~1 day

  Above ranges are selectable on website data platform or App. Contact us if other settings are required.

- On-Time Mode
  - Transmission: Up to three times at fixed hours per day (such as 13:00/14:00/18:00)
  - GPS/ENV/BHV: Regular-interval model or on-time model follow each transmission
- Sleep Mode

  This mode is to deactivate certain type of data collection for:
  - a certain period (from minutes to months)
  - a regular period each day (a maximum of 16 hours)

Intelligent Frequency Optimization & Flight Detection (BOOST)

The BOOST function intelligently increases data collection & transmission frequency when the charging condition is good or the bird is flying. The default setting is as below:

- Frequency Optimization: every 10 min/1 min
- Flight Detection: every 20 sec

With BOOST, the device portrays detailed movement tracks without manual intervention and avoids the possibility of battery drain due to radical settings in bad weather.

Data Storage

Logged data will be stored in memory if network is unavailable.

- Flash memory: 16 MB
- Regular data storage: 460 days at default setting (1h GPS+1h ENV+10 min BHV)
- BOOST data storage: 280,000 pieces
- ACC data storage: 28,700 pieces

Operational Environment

- Working temperature: -20C~60°C
- Waterproof: IP 68

Firmware Upgrade

Over the air (OTA)