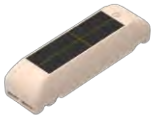
Product Introduction

Debut® LEGO (2G/3G/4G/5G)

Debut LEGO series is solar-driven GPS-Cellular-ACC trackers suitable for backpack deployment. It can use all types of cellular network to suit different regions, and with different heights to ensure efficient solar charging against thick feathers.

BASIC SPECIFICATIONS

MODEL	LEGO	LEGO ECL 26	LEGO EL 26/40/50
Appearance			
Solar Charging Efficiency	Medium	High	High
Height	16.2mm	26.5mm	26.2/40.5/50.5mm
Weight (±0.1)	18.7g (2G/5G) 20.5g (3G/4G)	19.7g (2G/5G) 21.7g (3G/4G)	23.6/24.7/25.3g (2G/5G) 25.4/26.5/27.1g (3G/4G)
Dimensions	68mm × 21mm × 16mm (LWD, Holder/Hive not included)		
Battery	210mAh lithium polymer rechargeable battery, with under-and-over-charging protection		
Battery Life	Over 2000 GPS positions under optimal GPS satellite view at 5-minute interval		
Antenna	Internal		
Housing	ASA injection molding with excellent toughness and environment tolerance, multiple harness threading holes		
Available Colors	Light brown		
GPS Module	Precision: CEP（50%）5m Maximum update rate: 10 Hz		
Working Temperature	-20°C~60°C (good for cold winter as close to animal body)		
Waterproof	IP 68 (7 ATM for the main part)		
Firmware Upgrade	Remotely via network, or instantly via INTELINK		
Working Schedule	Remotely via network, or instantly via INTELINK		
Global Roaming	Support		
SMS Function	Support (upon request)		
Data Storage	Logged data will be stored in memory when 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		

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)
- BSS: longitude, latitude, altitude (alternative locating method for extreme situation)

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

(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 (up to 16 hours)

TRANSMISSION MODULE

■ LEGO 2G

Band	Uplink（MHz）	Downlink（MHz）	Output Power（dBm）
GSM850	824.2 ~ 848.8	869.2 ~ 893.8	33
EGSM900	880.2 ~ 914.8	925.2 ~ 959.8	33

DCS1800	1710.2 ~ 1784.8	1805.2 ~ 1879.8	30
PCS1900	1850.2 ~ 1909.8	1930.2 ~ 1989.8	30

Maximum uplink/downlink data rate: 85.6 Kbps/85.6 Kbps

■ LEGO 3G

Band	Uplink（MHz）	Downlink（MHz）	Output Power（dBm）
EGSM900	880.2 ~ 914.8	925.2 ~ 959.8	33
DCS1800	1710.2 ~ 1784.8	1805.2 ~ 1879.8	30
FDD B8	882.4 ~ 912.6	927.4 ~ 957.6	24
FDD B1	1922.4 ~ 1977.6	2112.4 ~ 2167.6	24

Maximum uplink/downlink data rate: 5.76M bps/7.2 Mbps

■ LEGO 4G

Band	Frequency (MHz）
LTE-FDD B1	2100
LTE-FDD B3	1800
LTE-FDD B5	850
LTE-FDD B8	900
LTE-TDD B34	2010
LTE-TDD B38	2600
LTE-TDD B39	1900
LTE-TDD B40	2300
LTE-TDD B41	2600

Maximum output power: 23 dBm

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

■ LEGO 5G

Certified LTE Bands	Frequency (MHz）
1	2100
2, 25	1900
3	1800
4, 66	1700
5, 18, 19, 26	850
8	900
12, 13, 14, 17, 28	700
20	800

Maximum output power: 23 dBm

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.