

COMBO CELLULAR-LPWAN COMPACT TRACKER

LTE-M, NB-IoT & LoRa LPWAN - Indoor & Outdoor - High precision - Hardened



The Abeeway Combo Compact Tracker is a versatile multi-mode tracking device supporting Cellular (LTE-M, NB-IoT) and LoRaWAN® connectivity.

It combines data from a comprehensive suite of sensors - including an accelerometer, multi-constellation GNSS, low-power GPS, BLE, and Wi-Fi - to deliver precise and reliable geolocation for both indoor and outdoor environments.

The Compact Tracker has a robust form factor (IP68, IK08), designed to withstand harsh environments, making it ideal for seamless asset tracking in industrial settings. Whether monitoring heavy-duty assets or small equipment, its long battery life ensures reliable performance over extended periods.

Applications:

- On-Demand, real-time and motion triggered tracking of assets, vehicles or livestock, indoor and outdoor.
- Monitoring of equipment sets through BLE detection around the tracker.
- Activity monitoring based on motion or vibration for usage optimization.
- Optimization of supply chain and production, delivery and inventory tracking.
- Geofencing and antitheft applications.
- Optional external temperature probe

Product Highlights

Multiple operating modes:

- **Motion Tracking:** Real-time position at a given cycle when motion is detected.
- **Permanent tracking:** Regular interval real time position.
- **Start/End motion tracking:** Receive position messages during motion start and end events.
- **Fix on demand:** Obtain tracker position when needed
- **Activity tracking:** Monitor activity rate with embedded sensors.
- **Geozone detection:** capability to detect specific zones that matter for your processes.

Geolocation technologies:

- **GPS:** Precise outdoor position
- **Low power GPS:** Server assisted, fast Time To First Fix in low signal conditions
- **Wi-Fi** indoor and outdoor APSSID sniffing
- **BLE:** Sniffing and beaconing

Other features:

- Companion brandable Abeeway mobile app
- Firmware upgrade via BLE
- Configuration and mode change possible via Cellular, LoRaWAN or BLE
- BLE scan function for inventory of tools and accessories (set management)
- BLE zone detection (e.g. safe/hazard zone)
- Temperature monitoring
- Proximity detection
- Waterproof, shock resistant enclosure IP68; IK08
- Replaceable AA batteries
- Magnetic switch (optional)
- Pressure sensor (Optional)
- Indoor BLE/WiFi fingerprinting (requires subscription)
- Compatible with Quuppa Intelligent Location (requires Quuppa infrastructure)

Physical configuration

Size	112mm x 66mm x 33mm (L x l x h)
Weight	190g
Waterproof capability and resistance	IP68, IK08
Operating temperatures	-20°C to +65°C
Storage temperature	10°C to 30°C (recommended)
Time storage max	12 months
Humidity	< 95% non-condensing

Estimated lifetime

Use Case	Battery Life (Approx.) ⁽⁵⁾
1GPS/hour ⁽²⁾	9 months
1 LPGPS fix per hour ⁽²⁾	1 year
1 WiFi scan per hour	1.5 years
1 BLE scan every 3 min	1.5 years
Standby	> 5 years

Standards and Certifications

LoRa Alliance EU868, US915, AS923, IN865, AU915
Radio regulatory certification: EC, FCC, IC, TELEC, IMDA, PTCRB

Data communication support

Cellular standard	NB-IoT/LTE-M
Cellular bands	B1 (2100), B2 (1900 PCS), B3 (1800+), B4 (AWS-1), B5 (850), B8 (900 GSM), B12 (700 a), B13 (700 c), B14 (700 PS), B17 (700 b), B18 (800 Lower), B19 (800 Upper), B20 (800 DD), B25 (1900+), B26 (850+), B28 (700 APT), B66 (AWS-3), B71 (600), B85 (700 a+).
Cellular Total Radiated Power (TRP)	18dBm
Cellular SIM	eSIM / nano SIM
Wi-Fi sniffer sensitivity	-86 dBm
Wi-Fi frequency band	2412 - 2472MHz
BLE RF output power	3 dBm max
BLE sensitivity	-88 dBm
GNSS band	1575 – 1610MHz
LoRaWAN™	specific parameters
Version	1.0.4, Class A
Regions ⁽¹⁾	IN865 / EU868 / US915 / AU915 / AS923
Activation	OTA
Tx power ⁽¹⁾	14 dBm / 19 dBm (max)
Rx sensitivity	-130 dBm in SF10

Position accuracy

GNSS ⁽³⁾	Position Accuracy (50%-90%)	10 to 18 meters	
		Time To First Fix	Cold start
		Hot start	<5 seconds
	Acquisition sensitivity	-140 dBm	
Low power GPS ⁽³⁾	Position Accuracy (50%-90%)	15 - 30 meters	
	Time To First Fix	< 10 seconds	
	Acquisition sensitivity	-145 dBm	
Wi-Fi ⁽⁴⁾	Indoor Position Accuracy	20 - 50 meters	
	Time to get a position	3 seconds	
BLE for positioning ⁽⁴⁾	Indoor Position Accuracy	5 - 15 m	
	Time to get a position	1 second	

Power management

Primary battery	3x AA/3.6V (Li-SOCI2) -Nominal capacity 8Ah
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Product references

Product	SKU
ABE Cellular COMPACT TRACKER EU868	DEABE5XX-XXEU
ABE Cellular COMPACT TRACKER US915	DEABE5XX-XXUS
ABE Cellular COMPACT TRACKER AS923	DEABE5XX-XXAS
ABE Cellular COMPACT TRACKER AU915	DEABE5XX-XXAU

- (1) Channel frequencies and Transmit output power level are country specific and controlled by the operator
- (2) Assuming 5 satellites at -130dBm input power
- (3) Assuming 5 satellites at -130 dBm input power

- (4) Accuracy depends on the BLE beacon or WiFi AP density and physical layout of the premises
- (5) Battery life time depends on LTE signal quality and MCL

Abeeway is the market leader in low-power geolocation and a provider of disruptive IoT tracking solutions worldwide. Abeeway offers the most energy-efficient, reliable and flexible geolocation solutions using unique tracking devices and a smart multi-technology location system optimized for long-range and low-power-consumption LoRaWAN® connectivity. Offering the fastest time-to-market, Abeeway delivers a complete end-to-end solution for mass-market IoT sectors for asset tracking and management, process and decision optimization and personal safety. Abeeway is a member of the LoRa Alliance® and part of the Actility Group. Actility Group is a leading provider of LPWA (Low Power Wide Area) IoT connectivity solutions, tools, business services and applications.