



SLEEK, SMART, WORKFORCE BADGE



The **Abeaway Smart Badge** is a portable multi-mode tracker in **ID card format** with embedded sensors combining multiconstellation GNSS⁽¹⁾, Low-power GPS⁽²⁾, Wi-Fi Sniffer⁽³⁾, BLE and LoRaWAN[®] TDoA⁽⁴⁾ geolocation technologies, supporting **seamless outdoor and indoor geolocation**.



This device is ideal for **contact back-tracing, zone notification and monitoring of workforce safety and security**. Simple to use, a single button gives you access to the numerous functionalities you may personalize for your needs, e.g. as a **Panic/SOS Button**. A local zoning feature is able to **signal danger zones** with a 96 dBa buzzer. It has a robust, **industrialgrade magnetic connector** for recharging the battery, and optional multi-slot charging/upgrade dock.

APPLICATIONS

- Multi-mode tracking for employees, workers, visitors
- Contact back-tracing, proximity detection for sanitary policy enforcement
- SOS panic alarm for indoor and outdoor lone workers
- Danger zones or restricted areas access notifications
- Automated attendance monitoring and zoning
- Safety evacuation monitoring
- Location heatmaps, e.g. for optimization of supervisor/worker ratio in large construction or industrial sites

PRODUCT HIGHLIGHTS

MULTIPLE OPERATING MODES:

- Motion Tracking:**
 High-resolution position when motion is detected
- Permanent tracking:** Periodic interval position
- Fix on demand:** Obtain tracker position when needed (very low power operating mode)
- Activity tracking:** Monitor activity rate with embedded sensors

OTHER FEATURES:

- Geofencing zone detection**
- Edge computing for Proximity detection and exposure assessment**
- User interface:** 96 dBa buzzer, bicolor LEDs, button
- Temperature monitoring**
- LoRaWAN® Class A radio**
- High Pressure Water-spray resistant enclosure (IP65)**
- Magnetic USB connector for Rechargeable battery
- Large 1.3Ah battery

GEOLOCATION TECHNOLOGIES:

- Multi-constellation GNSS/GPS(5)**
- Low power GPS(6)**
- Wi-Fi indoor and outdoor APSSID sniffing**
- BLE:** Sniffing and beaconing
- Firmware Upgrade
- ATEX (Certified for explosive atmosphere)(7)
- Holder to slide ID or RFID Card
- BLE scan function for inventory of tools and accessories
- Indoor BLE/WiFi fingerprinting with HERE Tracking (requires subscription)
- Indoor BLE based geolocation with Quuppa Intelligent Location (requires Quuppa infrastructure)
- BLE based safe/hazard zone detection

SMART BADGE SPECIFICATIONS

PHYSICAL CONFIGURATION	
Size	104mm x 68 mm x 11 mm (L x l x h)
Weight	64g
Waterproof capability	IP65
Operating temperatures	-10°C to 55°C
Charging temperatures	0°C to 45°C
Storage temperature	10°C to 30°C (recommended)
Time storage max	6 months
Humidity	5% to 95% non-condensing

DATA COMMUNICATION SUPPORT

LoRaWAN® Modem	Semtech SX1262 transceiver
Protocol	LoRaWAN Class A
LoRaWAN® frequency bands ⁽⁹⁾	EU868MHz / US915MHz / AS923MHz / AU915 MHz
Configuration supported	LoRaWAN® OTA or ABP
RF power	14 dBm / 18 dBm (max)
Min sensitivity of LoRaWAN® receiver	-130 dBm in SF 10 -135 dBm in SF 12
Wi-Fi Frequency band	2412 – 2472MHz
BLE sensitivity	-88 dBm
BLE RF output power	4 dBm max
BLE frequency band	2402 – 2480MHz
GNSS band	1559 – 1610MHz

ESTIMATED BATTERY LIFETIME

Use Case	Battery Life (Approx.)
1 GNSS position / hour	6 weeks ⁽⁸⁾
1 LPGPS position / hour	38 weeks ⁽⁸⁾
1 WiFi position / hour	1.6 year
Standby	>1.8 years

STANDARDS AND CERTIFICATIONS

LoRa Alliance EU868, US915, AS923, AU915, IN865

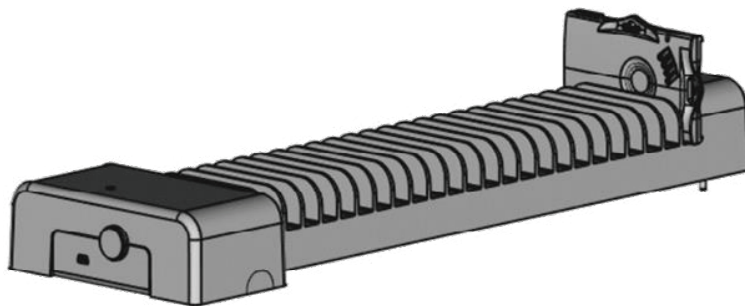
Radio regulatory certification : EC, FCC, IC, TELEC, IMDA, WPC

POSITION ACCURACY

	Position Accuracy ⁽¹⁴⁾ (Standard deviation)	3 meters
GNSS⁽⁸⁾ (GPS/Baidu/Glonass / Galileo)	Time To First Fix	Cold start 30-50 seconds Hot start <5 seconds
	Acquisition sensitivity	-140 dBm
	Position Accuracy (50%-90%)	15 - 30 meters
Low power GPS⁽⁸⁾	Time To First Fix	<10 seconds
	Acquisition sensitivity	-144 dBm
Wi-Fi⁽¹⁰⁾	Indoor and Deep Urban Position Accuracy	20 - 50 meters
	Time to get a position	3 seconds
	Sensitivity	-86 dBm

BLE for positioning⁽¹⁰⁾	Indoor Position Accuracy	5 - 15 m
	Time to get a position	1 second
BLE for proximity	Proximity Detection Accuracy	-86See Proximity Application Note dBm

POWER MANAGEMENT		
Rechargeable Battery	3.7V	1.3 Ah
Battery type	Lithium Polymer	
Charging cable	5V from a magnetic USB charger	
25 port charging dock	With magnetic connectors, Docks can be chained for large capacity charging (requires external 5V PSU)	
25-port charging dock with USB hub	Adds integrated USB hub option for mass configuration and firmware upgrades ⁽¹¹⁾	



PRODUCT REFERENCES ⁽¹²⁾	
Product	SKU
Smart Badge EU868	DEABE3XX-XXEU - DEABE3XX-XXEU-Ex2 ⁽¹³⁾
Smart Badge EU868 – no GPS and WiFi	DEABE3XX-XXEU-BLE Only
Smart Badge US915	DEABE3XX-XXUS - DEABE3XX-XXUS-Ex2 ⁽¹³⁾
Smart Badge US915 – no GPS and WiFi	DEABE3XX-XXUS-BLE Only
Smart Badge AS923	DEABE3XX-XXAS - DEABE3XX-XXAS-Ex2 ⁽¹³⁾
Smart Badge AS923 – no GPS and WiFi	DEABE3XX-XXAS-BLE Only
Smart Badge AU915	DEABE3XX-XXAU - DEABE3XX-XXAU-Ex2 ⁽¹³⁾
Smart Badge AU915 – no GPS and WiFi	DEABE3XX-XXAU-BLE Only
USB Magnetic charging cable	ACHYT0000WW
USB Magnetic charging+data cable	ACHYT0003WW
USB Magnetic charging+data cable (with fuse)	ACHYT0103WW
25 magnetic ports charging dock	ACISN0000WW
25 magnetic ports charging dock with USB hub function	ACISN0100WW
5V Power Supply for single charging dock	ACISN1000XX

- (1)** - Option, GNSS/GPS not available in all models (refer to SKU list)
- (2)** - Option, requires GNSS enabled model and server-side Assisted GPS subscription to ThingPark Location
- (3)** - Option, requires WiFi enabled model and ThingPark Location WiFi solver subscription
- (4)** - Requires TDoA Location Solver option in ThingPark Wireless, ThingPark Enterprise or 3rd party LoRaWAN® network server
- (5)** - Precise outdoor position with GPS, GLONASS, Galileo and Beidou
- (6)** - Fast Time To First Fix in outdoor and light indoor conditions
- (7)** - ATEX Zone II: II 3 G Ex ic IIB T4 Gc (-20 °C ≤ Tamb ≤ +40 °C) II 3 D Ex ic IIIB T135 °C Dc (-20 °C ≤ Tamb ≤ +40 °C)
- (8)** - Assuming 6 satellites at -130 dBm
- (9)** - Channel frequencies and Transmit output power level are country specific and controlled by the operator. Supported frequencies and regional certifications differ according to ordering codes (refer to SKU list)
- (10)** - Requires location solver. Accuracy depends on the BLE beacon or WiFi AP density and physical layout of the premises
- (11)** - Separate Linux based PC required for Firmware Update
- (12)** - All SKUs subject to MOQ. Contact local sales representative to enquire for conditions and pricing. Some SKUs are pre-orders that will be available in Q4 2022
- (13)** - ATEX Zone II version of the product.
- (14)** - Assuming the tracker has acquired Almanac by placing the tracker in open sky in good conditions. The Almanac acquisition can take 15 mins – 1 hour depending on the conditions

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. The system makes precise geolocation power-efficient for various environments by combining highprecision GPS, our patented cloud computing Low Power GPS technology and ultra-low-consumption Wi-Fi sniffing technique. 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 optimization and personal safety. Abeeway is a member of LoRa Alliance™ and is part of the Actility Group. Actility Group is a leading provider of LPWA IoT connectivity solutions, tools, business services and applications.