



V-PBL Alert Badge

Product Specification

CONTENT



ALERT BADGE SPECIFICATION



1 Quick Guide	3	3 Maintenance Instructions	7
1.1 How to Power On/Off V-PBL V-Guardian Alert Badge	3	4 Product Specifications	8
1.2 How to replace the battery	3	4.1 Appearance	8
2 General Functions	4	4.2 Mechanical Size Description	8
2.1 Standby Mode	4	4.3 LED Indicators and Button Operations	9
Overview	4	4.4 Speaker Description	10
2.2 Alarm Operations	4	4.5 General Specifications	10
Alert Function	4	5 Packing Information	11
2.3 Positioning Strategies	5	6 FCC Statement	12
2.3.1 Bluetooth + GPS Position Fix	5		
2.3.2 Bluetooth Position Fix	5		
2.3.3 GPS Position Fix	5		
2.4 Local Data Sync	6		
2.5 Battery Performance	6		
2.5.1 Low Battery Alert	6		
2.5.2 Shutdown message reminder	6		
2.6 Time Synchronization	7		



1. Quick Guide

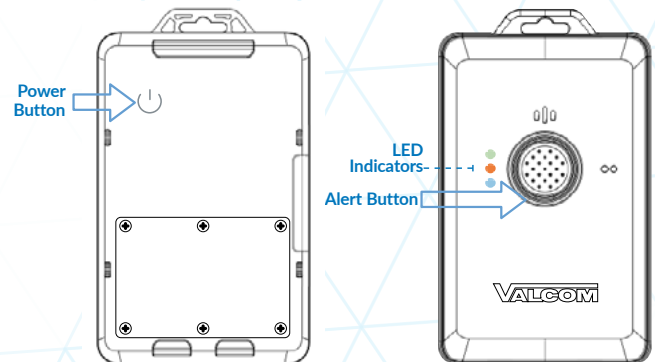
1.1 How to Power On/Off V-PBL V-Guardian Alert Badge

Power On:

Long press power button for at least 3 secs, the badge will turn on. The power LED indicator (Green) will be on for 3s.

Power Off:

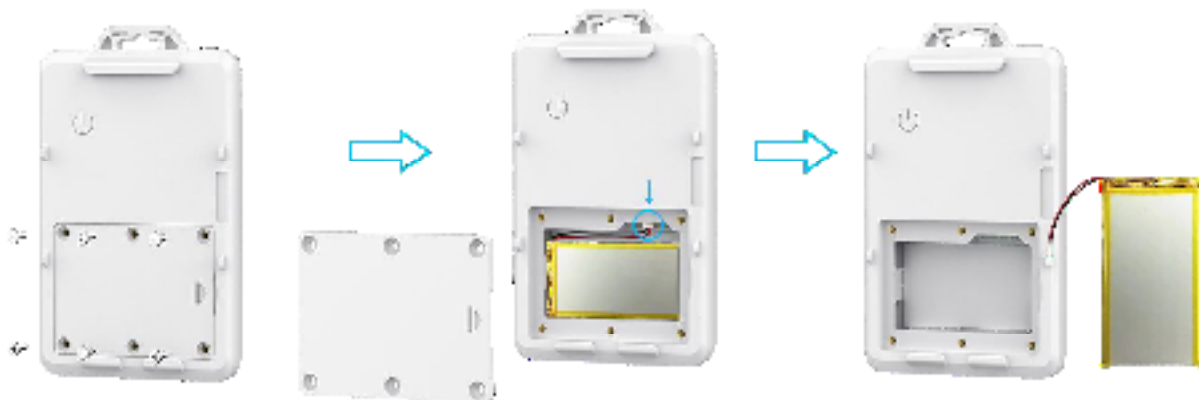
Long press the power button and Alert Button together and hold on at least 5 secs, the badge will turn off. The power LED indicator (Green) will blink for 3 secs.



1.2 How to Replace the Battery

As shown in the figure above, follow these steps:

1. Remove the six screws securing the battery cover.
2. Lift the battery cover out from the slot on the right side.
3. The battery is connected to the power connector on the PCBA.
Use tweezers or your fingers to gently pry the battery cable away from the PCBA before removing the battery. Do not pull directly on the battery cable.
4. Install the new battery, replace the cover, and tighten the screws.





2. General Functions

2.1 Standby Mode

Overview

V-PBL V-Guardian Alert Badge is always in standby mode when powered on.

The Badge sends a heartbeat check-in every 6 hours by default. If the Badge does not check in within the administrator-configured time period, the server automatically emails a report to the administrator indicating that the Badge has missed its expected check-in.

2.2 Alert Operations

Alert Functions

V-PBL V-Guardian Alert Badge supports two alert types: one is *Staff Assist*, the other is *Emergency*.

Users can choose the alert type according to the actual situation, but the badge can only send one alert type at a time.

Staff Assist: When users encounter lower-level alert or need to make special notifications, the alert is triggered by pressing the alert button, which sends the positioning data to the server once and triggers the Valcom server to perform its predefined actions for staff assist. The alert badge will exit alert state automatically. The default setting for staff assist is 3 button presses.

Emergency: When the user encounters a higher-level alert, the alert is triggered by pressing the alert button, which continuously sends the positioning data to the server to activate the predefined actions for emergency alerts. The alert badge will remain in the emergency state until cleared by the administrator. The default setting for the emergency activation is 6 button presses.



2 General Functions

2.3 Positioning Strategies

2.3.1 Bluetooth + GPS Position Fix

V-PBL V-Guardian Alert Badge is programmed to use **Bluetooth beacons** for determining its location. If **Bluetooth** is not successful, the badge will obtain signals from **GPS**:

2.3.2 Bluetooth Position Fix

V-PBL V-Guardian Alert Badge obtains the broadcast information of surrounding Bluetooth device through Bluetooth scanning function, and reports the information of the closest Bluetooth device (MAC address and RSSI) to the server through the LoRaWAN Gateway. The Valcom Server, receives the location and uses it for subsequent actions.

The following BLE Beacon types are supported for scanning:

Beacon (Apple)

Eddystone (Google)

Valcom-defined beacons

Unknown (For example, a beacon manufacturer-defined format)

The success of Bluetooth positioning depends on the proximity to Bluetooth beacon sources.

2.3.3 GPS Position Fix

V-PBL V-Guardian Alert Badge can obtain the GPS satellite information to determine the location of the badge.

When the badge successfully obtains the location information, the location information is transmitted over LoRaWAN to the Valcom Server, for subsequent actions.



2 General Functions

2.4 Local Data Sync

V-PBL V-Guardian Alert Badge Built-in 4M FLASH memory chip, can support up to 20,000 pieces of data in local storage. All data uploaded by the badge is stored in the badge.

Past data can be retrieved from the badge.

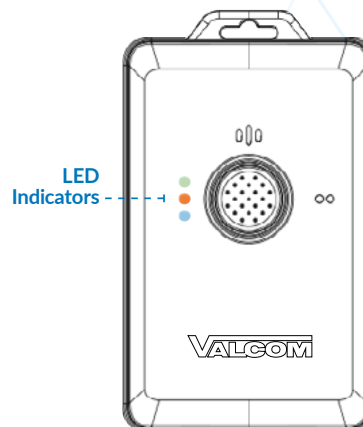
When the LoRaWAN network has problems or data loss is severe, users can quickly get the historical reporting data from the badge.

2.5 Battery Performance

The **V-PBL V-Guardian Alert Badge** is equipped with 1200mAH replaceable battery.

2.5.1 Low Battery Alert

When **V-PBL V-Guardian Alert Badge's** battery level is low, its power indicator will flash every 10s and it will report *Low Power Payload (with low power prompt)* to the Valcom Server.



2.5.2 Shutdown message reminder

V-PBL V-Guardian Alert Badge supports sending the *shutdown payload* as a notification to the Valcom Server when the badge is turned off.

Note: If the battery is suddenly disconnected or pulled out, the badge cannot send the shutdown payload.



2 General Functions

2.6 Time Synchronization

There are three methods to sync time of **V-PBL V-Guardian Alert Badge**.

1. V-PBL supports the DeviceTimeReq MAC Command, which enables users to periodically time their badges to avoid time offset.
2. When the APP connect with the badge success the phone system time will be sync to the badge via Bluetooth.
3. Time synchronization via GPS satellite (Traditional GPS Fix only).

3 Maintenance Instructions

- Do not use or store the badge in dusty or dirty areas.
- Do not use or store the badge in extremely hot temperatures. High temperatures may damage the badge or battery.
- Do not use or store the badge in extremely cold temperatures. When the badge warms to its normal temperature, moisture can form inside the badge and damage the badge or battery.
- Do not drop, knock, or shake the badge. Rough handling can break it.
- Do not use strong chemicals or washing to clean the badge.
- Do not paint the badge, paint can cause improper operation.
- Do not disassemble the badge or alter it in any way without permission from Valcom.

Handle your badge, battery and accessories with care.

The suggestions above help you keep your badge operational.

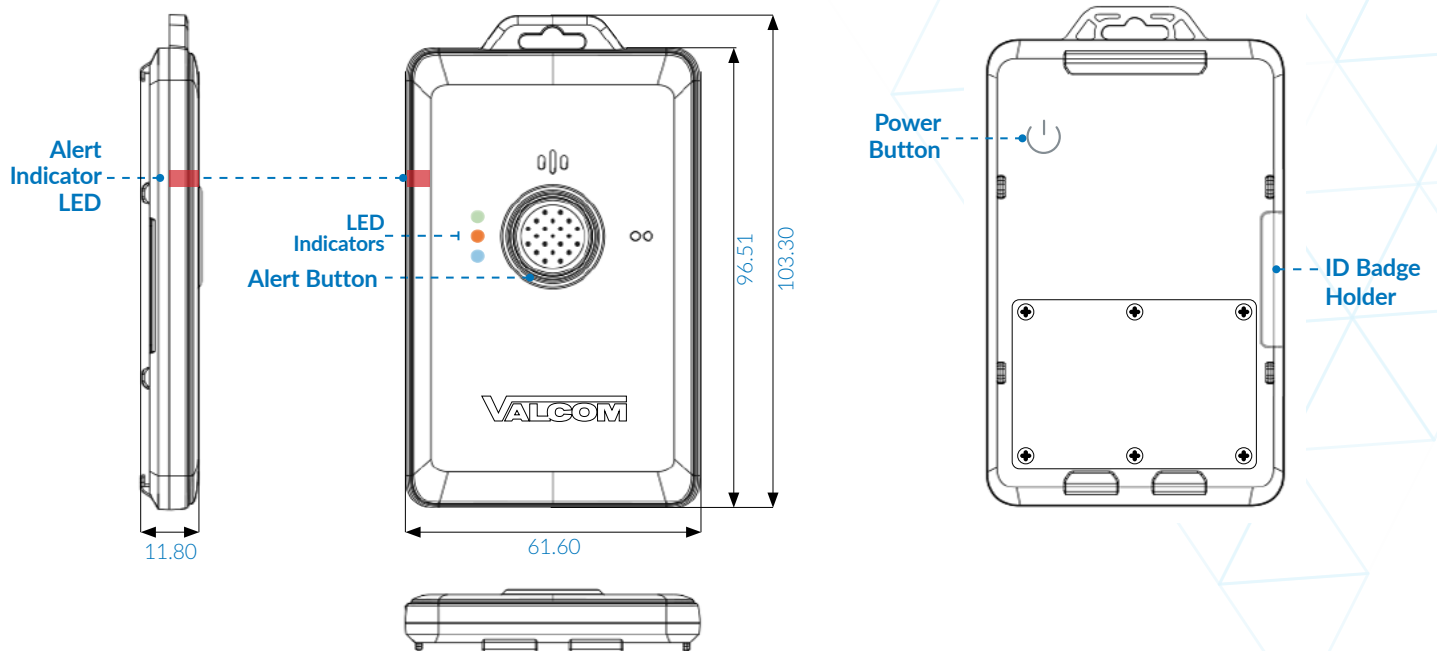
4. Product Specifications



4.1 Appearance



4.2 Mechanical Size Description



Unit: mm

4. Product Specifications

4.3 LED Indicators and Button Operations

Indicator Type	Items	LED Indicator Operations	Button Operations
Power Indicators	Turn ON	● Solid Green and keep 3s	Press the power button on the back of badge and hold on 3s when the badge is off.
	Turn OFF	● Green LED blink 3s	Press the power button and Alert button together and hold on 5s when the badge is on.
	Status Indication	● If the badge is on, Green LED will blink 1s	Single click power button
	Badge in charging	● Green LED blink slowly all the time	/
	Badge fully charged	● Solid Green until charging cable unplugged	/
	Low Power	● Green LED blink once every 10s	/
Network Indicators	Join LoRa Network Successfully	● Solid Orange and keep 3s	/
	In joining LoRa Network	● Orange LED blink 3s rapidly	/
	Network check (Link Check MAC command) function trigger	● Orange LED blink 3s	/
	Bluetooth connection established successfully	● Orange LED blink slowly all the time	Double-click power button when the badge is on can make the Bluetooth broadcast function activated again
Positioning Indicators	In Positioning process	● Blue LED blink slowly all the time	/
	Positioning successfully	● Solid Blue and keep 2s	/
	Positioning failed	● Blue LED blink 2s rapidly	/
Alert Indicators	Alert function is triggered	● Red LED blink rapidly all the time	Corresponding button operation of alert function
	Exit alert	● Red LED stop blink	Press the Alert button and keep 15s in default (Duration can be set to 1~15s)
All Indicators	During the firmware OTA upgrade	All LEDs blink all the time	/
	Firmware OTA upgrade successfully	Solid light and keep 3s	/
	Firmware OTA upgrade failed	All LEDs blink 6s rapidly	/
	Factory reset	The 3 indicator lights are flashing twice one by one	Press the power button and keep 10s when badge is off
	Badge anomaly	All LEDs are always on	If this happens, please contact the Valcom Tech Support team



4. Product Specifications

4.4 Speaker Description

Indicator Type	LED Indicator Operations	Button Operations
Staff Assist or Emergency Alert is triggered	Repeated alert sound every 5s in default	Three alert sound effects are available

4.5 General Specifications

Categories	Parameter	Value
LoRa Wireless Specification	LoRa Protocol	LoRaWAN V1.0.3
	LoRa Frequency	US915
	TX Power	Max 21dBm
	Sensitivity	-137dBm@SF12 300bps
BLE Wireless Specification	LoRa Communication Distance	Up to 5 km (in urban open space)
	Bluetooth® (BLE)	5.0
	TX Power	Max 8 dBm
	BLE Broadcast Distance	Up to 50m in free space
	BLE Scan Distance (1M PHY)	Up to 150m in free space
Positioning Specification	GPS Positioning Type	Traditional GPS
Physical Parameter	Dimension	103.3 x 68.4 x 11.8mm (Includes lugs)
	Shell Material	ABS + PC
	Weight	Around 70g
	Color	Light Gray
Power Consumption	Power Supply	1200mAH Replaceable battery
Application Parameter	Operating Temperature	-20 ~ + 60°C
	Operating Humidity	0%-95% (No condensation)
	IP Rating	IP66
	Certification	FCC



5. Packing Information

1-Pack Panic Button

V-PBL V-Guardian Alert Badge



Lanyard

6 FCC Statement



1. This badge complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - (1) This badge may not cause harmful interference.
 - (2) This badge must accept any interference received, including interference that may cause undesired operation.
2. any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

The badge has been evaluated to meet general RF exposure requirement.
The badge can be used in portable exposure condition without restriction.

**Scan to learn
more or to
schedule
a demo**



<https://www.valcom.com/vguardian/>