



Cypress BLE-Beacon iOS App User Guide

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1. Introduction



Cypress BLE-Beacon is a Bluetooth® Low Energy (BLE) app developed by Cypress Semiconductor for smartphones and tablets.

The Cypress BLE-Beacon iOS app can be used with the following devices:

- S6SAE101A00SA1002 Solar-Powered IoT Device Kit
www.cypress.com/solar-powered-iot-device-kit
- CYALKIT-E02 Solar-Powered BLE Sensor Beacon Reference Design Kit (RDK)
www.cypress.com/CYALKIT-E02
- CYALKIT-E03 Solar-Powered BLE Sensor Beacon 5 Pack
www.cypress.com/CYALKIT-E03

The Cypress BLE-Beacon iOS app can be used with the BLE example projects provided in PSoC® Creator™ 3.3. PSoC Creator can be downloaded from www.cypress.com/psoccreator. For some helpful tips on finding an example project in PSoC Creator, visit www.cypress.com/blog/psoc-creator-news-and-information/matts-tips-finding-code-examples-psoc-creator.

1.1 App Features

The Cypress BLE-Beacon iOS app allows users to receive and visualize beacon signals from CYALKIT-E02 and/or CYALKIT-E03. The app supports the following features:

- Device information – Display device information
 - Lists sensor device information including BLE Beacon-UUID/Major/RSSI and Eddystone-UID/URL/TLM frame
 - Lists ten sensor devices at the same time
- Thermo-hygrometer – Display sensor data as line charts
 - Displays sensor data including temperature and humidity
 - Displays ten sensor data at the same time
- Data logger – Display sensor data as list
 - Lists sensor data including Major ID, timestamp, temperature and humidity in chronological order
- Data Logger
 - Stores in CSV format
 - Logs data including Major ID, timestamp, temperature and humidity in chronological order
 - Maximum log data size is 50 MB

Related information is described on the kit's web pages described above.

1.2 Software and Hardware Requirements

1.2.1 Software Requirements

Table 1-1. Software Prerequisites

Software/Operating System Prerequisites	Minimum	Recommended
iOS	8.0	9.2.1 or later

Refer to <https://developer.apple.com/bluetooth> for details on BLE support in iOS.

1.2.2 Hardware Requirements

Table 1-2. Hardware Requirements

Hardware Requirements	Minimum	Recommended
iOS devices with BLE	Bluetooth 4.0	Bluetooth 4.0

2. Software Installation

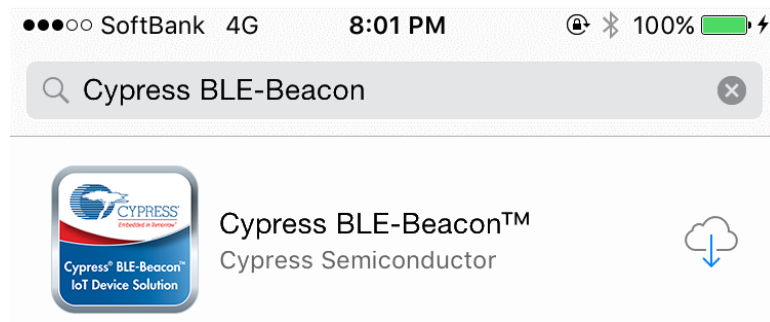


2.1 Installing the App

To install the Cypress BLE-Beacon app, perform the following steps:

1. From the iOS device, open App Store.
2. Search for Cypress BLE-Beacon in App Store.

Figure 2-1. Identifying Cypress BLE-Beacon App Using App Icon




3. Select the Cypress BLE-Beacon app and proceed to install the app on your iOS device.

2.2 Uninstalling the App

To uninstall the Cypress BLE-Beacon app, perform the following steps:

1. From the app drawer, long-press on the Cypress BLE-Beacon app.



2. Tap on the  icon to uninstall the app. Select **Delete** when prompted for confirmation.

3. Getting Started



This chapter will help you get started with the Cypress BLE-Beacon app. It briefly describes how to receive packets from BLE devices. For the purposes of description, a CYALKIT-E02 Solar-Powered BLE Sensor Beacon RDK running a PSoC Creator 3.3 example project is used as the broadcaster device.

1. Set up the CYALKIT-E02 Solar-Powered BLE Sensor Beacon RDK, Solar BLE Sensor using the steps provided in the Quick Start Guide of RDK, which is available at www.cypress.com/CYALKIT-E02.
2. Launch the Cypress BLE-Beacon app. A splash screen is displayed for a few seconds (Figure 3-1) before the app displays the home screen (**Graph**). If Bluetooth is turned OFF in the iOS device, the app prompts a message box to turn ON Bluetooth (Figure 3-2) with the **Settings** and **OK** buttons. Press the **Settings** button to turn ON Bluetooth on the **Settings** screen. Pressing the **OK** button leaves the settings unchanged.

Figure 3-1. Splash Screen



Figure 3-2. Bluetooth Permission Request



3. The app shows the home screen (**Graph**) where the line charts of all discovered BLE devices are plotted (Figure 4-1). If the BLE device of interest does not appear in the graph, check to see the steps provided in the Quick Start Guide of RDK.

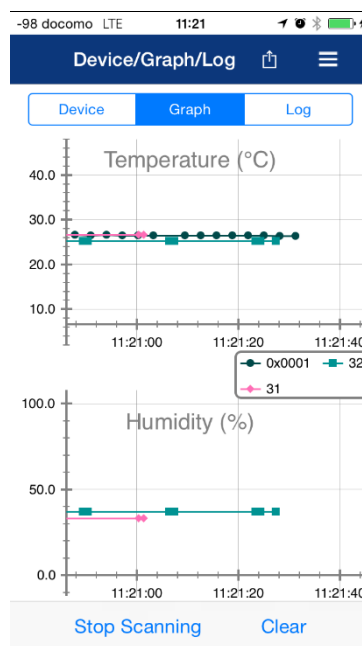
4. Cypress BLE-Beacon App GUI Overview



4.1 Home Screen (Graph)

The home screen (**Graph**) displays the device information and the latest sensor data advertised by the Solar BLE Sensor.

Figure 4-1. Home Screen (Graph)



The Home Screen (Graph) consists of the following features:



Navigation Side Menu



Share

Graph Temperature Graph and Humidity Graph

Data from the Solar BLE Sensor that has its ID on the **ID Settings** screen can be displayed in the graph as a line chart by tapping on the **Scan** button. After you do so, the label switches to **Stop Scanning**.

The graph displays all discovered devices with the following information for each discovered device:

- BLE Beacon
 - Major ID
 - Temperature and Humidity
- Eddystone
 - BID

- o Temperature

The app stops scanning when you tap the **Stop Scanning** button. After you do so, the label switches to **Scan**.

The line charts in the graph are cleared when you tap the **Clear** button.

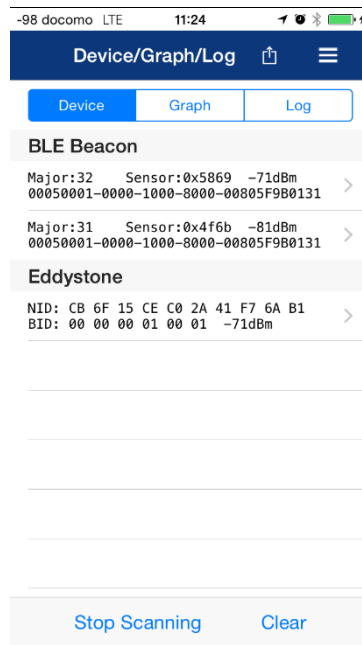
You can scroll or resize the x-axis and y-axis as needed. The x-axis in Temperature Graph and Humidity Graph are scrolled or resized in synchronization.

To reset scale to default, tap the **Graph** button when you are in the Home Screen (Graph).



4.2 Home Screen (Device)

The **Device** screen will appear when you tap the **Device** button, as shown in [Figure 4-2](#). The **Device** screen displays the list of detected Solar BLE Sensors.

Figure 4-2. Home Screen (Device)



The home screen (**Device**) of the Cypress BLE-Beacon app consists of the following features:

-  Navigation Side Menu
-  Share

Device list Bluetooth LE Device List

The Solar BLE Sensor that has its ID on the **ID Settings** screen is listed on the **Device** screen when you tap on the **Scan** button. After you do so, the label switches to **Stop Scanning**.

The list of all discovered devices is displayed with the following information:

- BLE Beacon
 - o Major ID, Sensor Data, and RSSI
 - o UUID
- Eddystone
 - o NID
 - o BID and RSSI

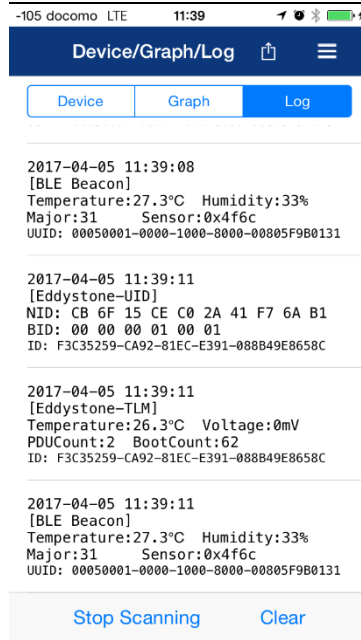
The app stops scanning when you tap the **Stop Scanning** button. After you do so, the label switches to **Scan**.

All the Solar BLE Sensors listed on the **Device** screen are cleared when you tap the **Clear** button.



4.3 Home Screen (Log)

The Log screen appears when you tap the **Log** button, as shown in Figure 4-3. The **Log** screen displays the list of packets from the Solar BLE Sensors.

Figure 4-3. Home Screen (Log)



The home screen (**Log**) of the Cypress BLE-Beacon app consists of the following features:

-  Navigation Side Menu
-  Share
- Log data Bluetooth LE log data

The packets from the Solar BLE Sensor that has its ID on the **ID Settings** screen are listed on the **Log** screen when you tap the **Scan** button. After you do so, the label switches to **Stop Scanning**.

The list of all discovered packets is displayed with the following information:

- BLE Beacon
 - Time stamp
 - Temperature and Humidity
 - Major ID and Sensor Data
 - UUID
- Eddystone
 - Time stamp
 - NID
 - BID
 - ID

The app stops scanning when you tap the **Stop Scanning** button. After you do so, the label switches to **Scan**.

All the packets from the Solar BLE Sensors listed on the **Log** screen are cleared when you tap the **Clear** button.

4.4 Navigation Side Menu

The Navigation Side Menu provides options to view the device list, Cypress BLE products, contact details, and version information of the app (Figure 4-4). It can be opened by tapping the menu icon at the upper right corner of the screen. The options that the Navigation Side Menu provides are described in Table 4-1.

Figure 4-4. Navigation Side Menu

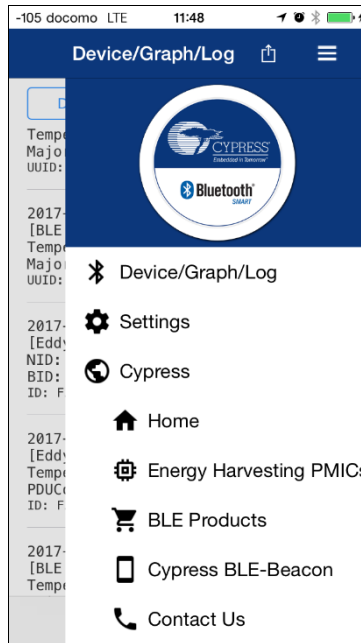












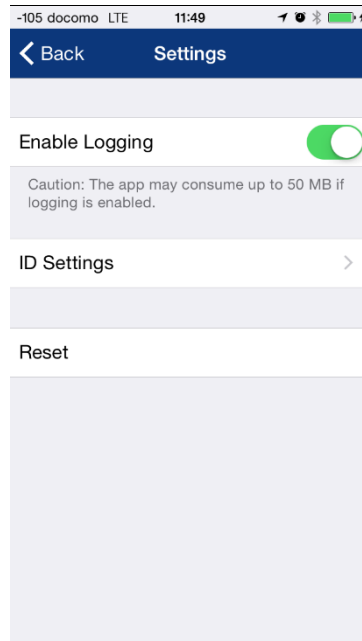
Table 4-1. Navigation Side Menu Details

Navigation Side Menu Item	Description
 Device/Graph/Log	Displays the home screen (Device/Graph/Log)
 Settings	Displays the Settings screen
 Cypress	Provides a set of Cypress-related information as subitems. These subitems are links to Cypress's web pages that open in a web browser, provided the iOS device is connected to the Internet.
 Home	Opens the home page of the Cypress website, http://www.cypress.com .
 Energy Harvesting PMICs	Opens the Cypress Energy Harvesting PMICs web page, http://www.cypress.com/energy-harvesting
 BLE Products	Opens the Cypress BLE products web page, http://www.cypress.com/ble .
 Cypress BLE-Beacon	Opens the Cypress BLE-Beacon app web page, www.cypress.com/CypressBLE-Beacon-app The <i>Cypress BLE-Beacon iOS App User Guide</i> is available on this page.
 Contact Us	Opens the Cypress Contact Us web page. When the iOS device is not connected to the Internet, it displays contact information and the email address of Cypress customer care.
 Open Source Licenses	Displays the license information of open source software that the Cypress BLE-Beacon app uses
 About	Displays the version of the Cypress BLE-Beacon app and copyright details

4.5 Settings Screen

The **Settings** screen shown in [Figure 4-5](#) appears when you tap the **Settings** option in the Navigation Side Menu.

Figure 4-5. Settings Screen



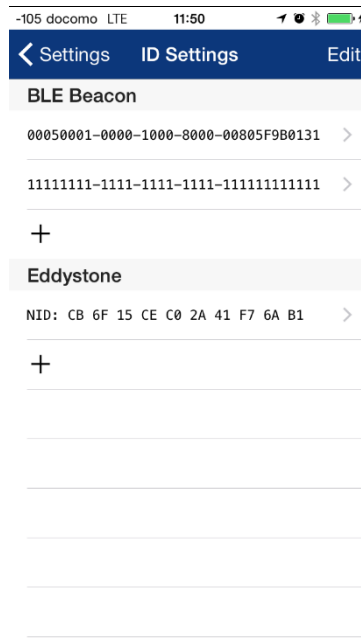
A menu with the following options is displayed:

- **Enable Logging**
- **ID Setting**
- **Reset**

Data logging can be turned ON/OFF by switching the **Enable Logging** option.

The **ID Setting** screen shown in [Figure](#) appears when you tap on the **ID Setting** option.

Figure 4-6. ID Setting Screen



The default IDs are:

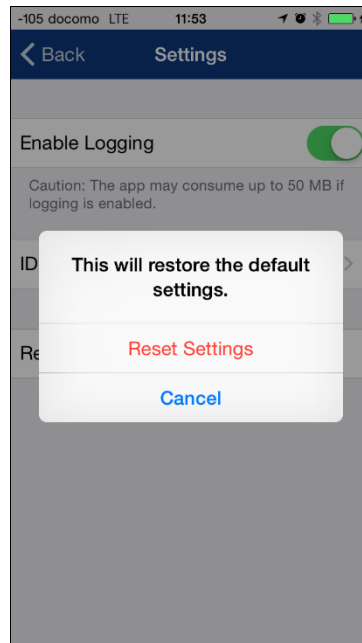
- BLE Beacon UUID
 - 00050001-0000-1000-8000-00805F9B0131
- Eddystone NID
 - CB 6F 15 CE C0 2A 41 F7 6A B1

The packet that has a ID specified here is displayed on the **Device/Graph/Log** screen. Otherwise, the app ignores the packet.

The Reset Dialog box shown in [Figure 4-7](#) appears when you tap the **Reset** option.

The default settings are restored when you tap **Reset Settings**, and the default settings are not restored when you tap **Cancel**.

Figure 4-7. Reset Settings



4.6 Sharing Log

The **Share** option allows you to share the log data to various apps listed in the iOS system. The share feature is accessible from the home screen (**Device/Graph/Log**).

The following is the rule of logging:

- Up to five log files.
- Up to 100,000 log files in each log file.
- If the user enables logging on the **Settings** screen, the app generates and updates the log file.
- If the number of packet reaches 100,000, the app generates a new log file.
- If the user disables logging, the app closes the current log file even if the number of packets does not reach 100,000. Then if the user enables logging, the app generates a new log file.
- The app deletes the oldest log file before generating a new one if the number of existing log files is 5.

To share the log, follow this procedure:

1. Tap the Share button in the upper right of the screen, as shown in [Figure 4-8](#).
The app shows a list of available log files. The list has up to five log files, as shown in [Figure 4-9](#).
2. Tap on one of the files. The app shows a dialog box to share the log file, as shown in [Figure 4-10](#).
The selected app launches, as shown in [Figure 4-11](#).

Figure 4-8. Sharing Log – Share Button



Figure 4-9. Sharing Log – Log Files

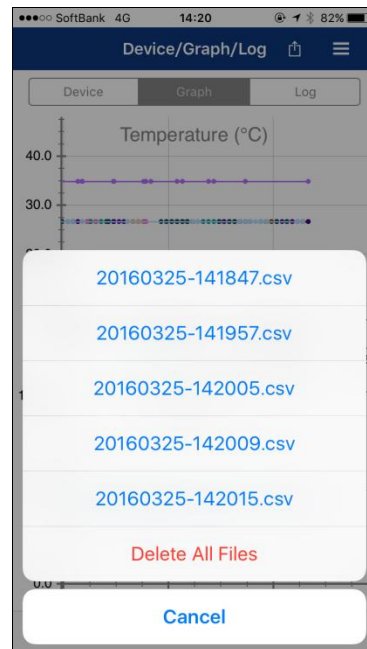


Figure 4-10. Sharing Log – Dialog Box

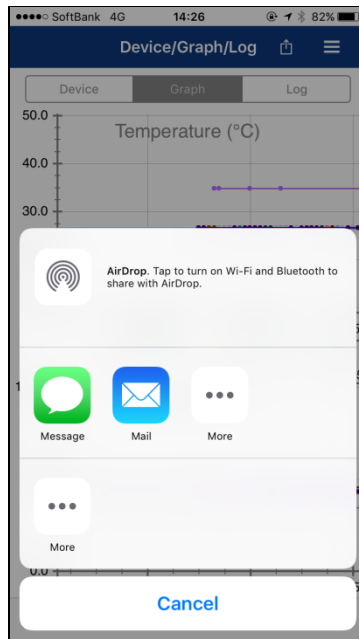
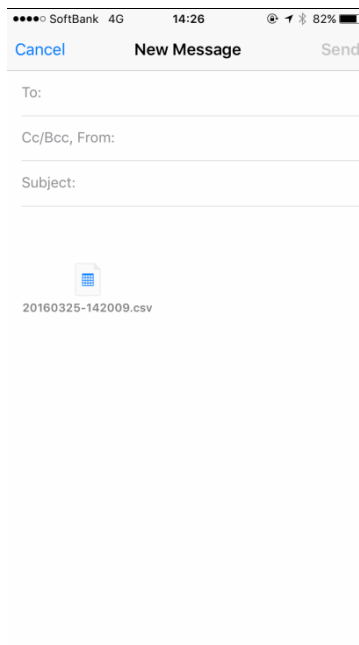


Figure 4-11. Sharing Log – App Launch



Revision History



Document Revision History

Document Title: Cypress BLE-Beacon iOS App User Guide			
Document Number: 002-12101			
Revision	Issue Date	Origin of Change	Description of Change
**	05/01/2016	KEIO	New user guide
*A	04/07/2017	EIFU	Updated Cypress Logos Added Eddystone functions