

# RSL10 Smart Shot Camera Getting Started Guide

---

## Overview

The RSL10 Smart Shot Camera (SECO-RSL10-CAM-GEVB) is a complete node-to-cloud platform that enables smart image capture for portable, low duty cycle IoT applications including asset monitoring and security. Based on the RSL10 SIP and the ARX3A0 CMOS image sensor, the platform features multiple trigger modes including time, motion detection, and environmental sensor triggers (e.g., changes in temperature and humidity).

The RSL10 SIP serves as the processing hub of the camera, enabling Bluetooth® Low Energy connectivity of captured image and sensor data to the provided mobile app (available on [GooglePlay™](#), iOS®).

This guide provides initial instructions for using the RSL10 Smart Shot Camera and accompanying mobile application. For further information about the platform, refer to the platform's [User Manual \(EVBUM2782\)](#).

## Hardware Set-up

To get started with the platform, remove the protective layer from the camera module (1) and connect the provided USB cable to your PC's USB port (2). A green LED, shown in Figure 1 below, will begin blinking to confirm that the device is ready and in Advertising Mode.

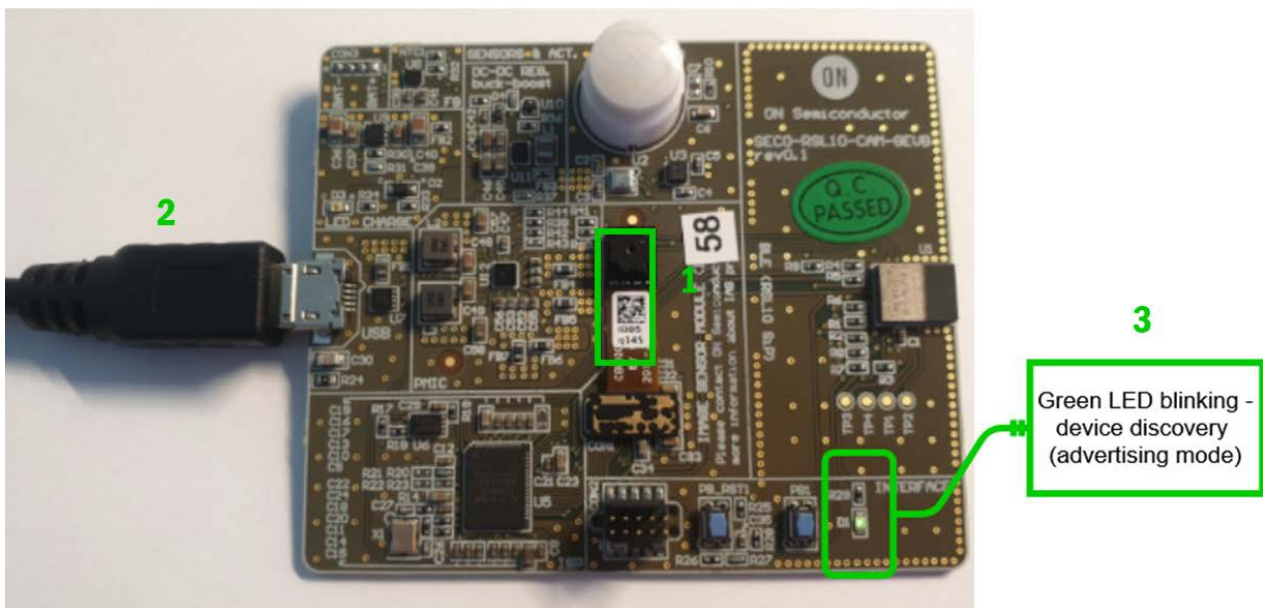


Figure 1. Unboxing the RSL10 Smart Shot Camera

## Installing the RSL10 Smart Shot Mobile App

In order to operate the board, download *RSL10 Smart Shot* mobile app from GooglePlay™ or iOS®. After installing the app, ensure that Bluetooth and GPS are enabled on your phone. Select the icon to launch the application. The following sections detail how to send images from the Camera to the app over Bluetooth Low Energy, as well as other functions of the app including sending wireless firmware updates (FOTA).

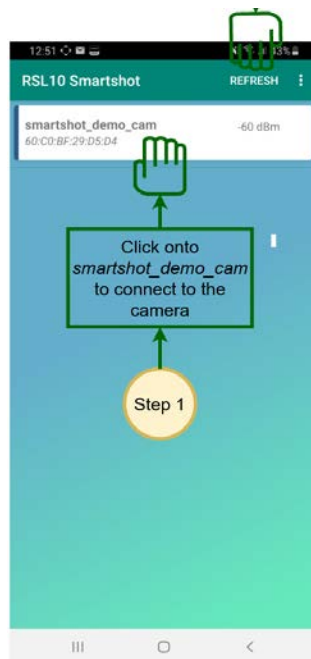
---



**Figure 2. RSL10 Smart Shot Mobile App**

### **Connect to the Camera**

After launching the app, the home screen displays the RSL10 Smart Shot Camera as a discovered device. Select the device to connect the camera to the mobile app. If you don't see the camera on the screen, select **Refresh**.



**Figure 2. Connecting the RSL10 Smart Shot Camera to the Mobile App**

After the camera is connected, the app will switch to the image capture page in Figure 3. Select the Camera icon to instruct the camera to take a picture. The image from the camera is transferred over Bluetooth Low Energy and is displayed on the screen. To save the image on your mobile phone, select the middle Save icon. On an Android phone, the image is stored in *RSL10Smartshot* directory. On a iPhone, the image is stored in your *Photos* directory.

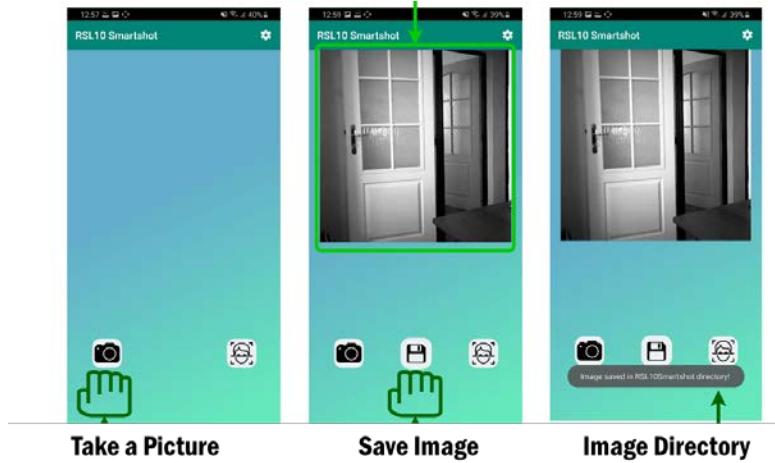


Figure 3. Using the RSL10 Smart Shot App to Capture and Save a Picture

### Capture Stream of Images

The camera also can capture stream of images with different frame rates. Select the **Settings** icon to switch from *Single Image Mode* to *Stream Mode*. You can also adjust the Frame Rate from <1 frame/second to 1 frame/minute.

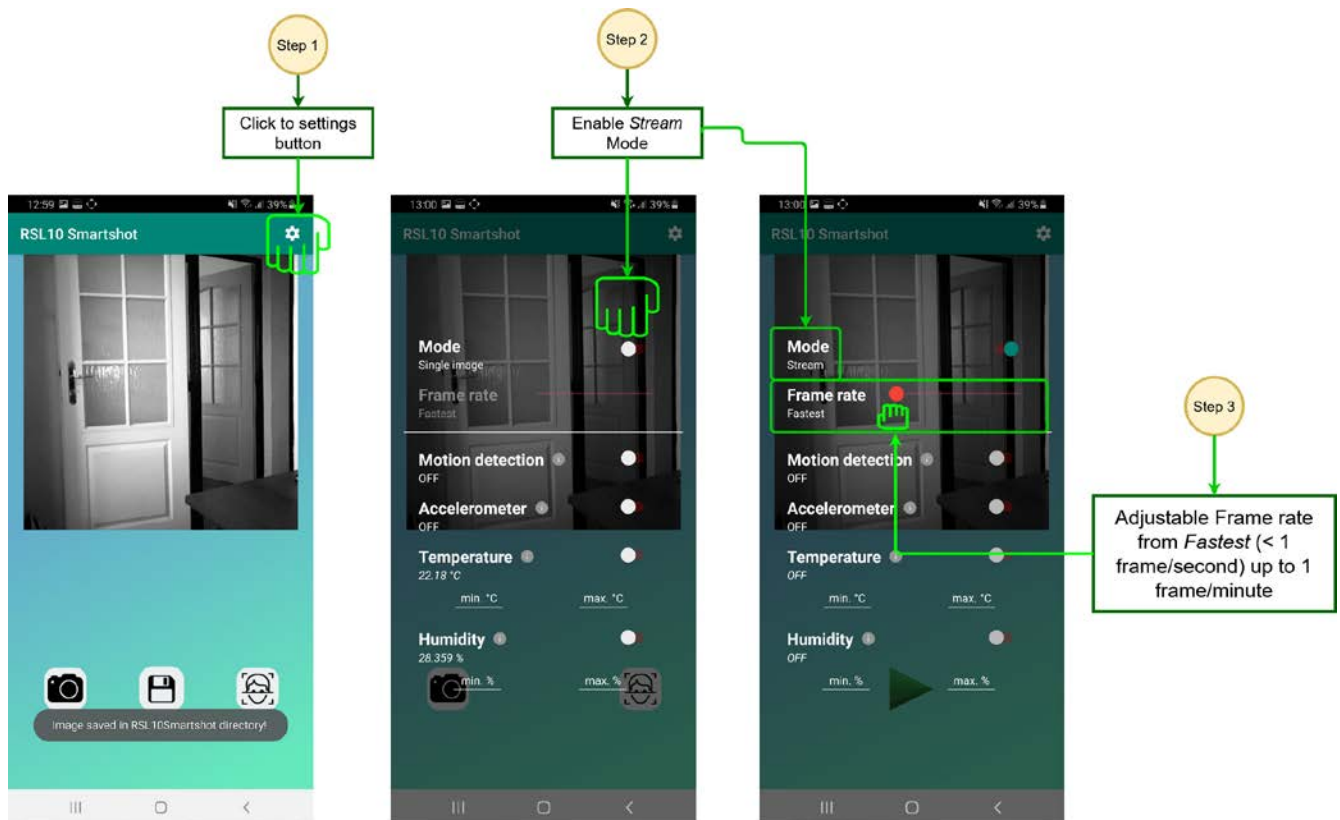


Figure 4. Stream Mode

Exit the **Settings** menu by tapping the bottom of the screen. Click the Play button to start streaming images, and click the Stop button to stop.

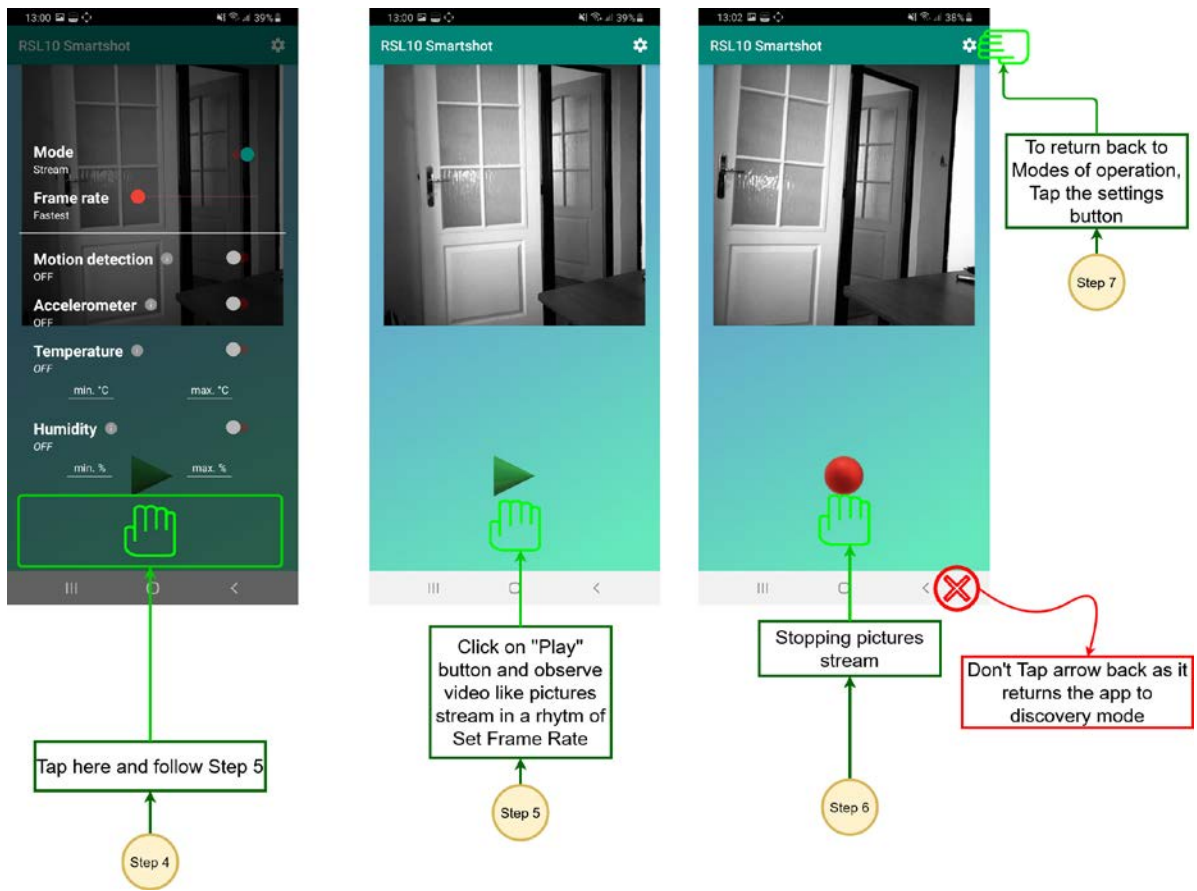


Figure 5. Streaming Images

## Setting Event Triggers

The RSL10 Smart Shot Camera supports four environmental sensors, which are used to trigger image capture when a change in value is detected.

To set or change the triggers, select the Settings icon. You can turn the triggers ON or OFF, and set the minimum and maximum thresholds of temperature and humidity sensors. You can enable either individual sensor or a combination of sensors to set your trigger condition for image capture.

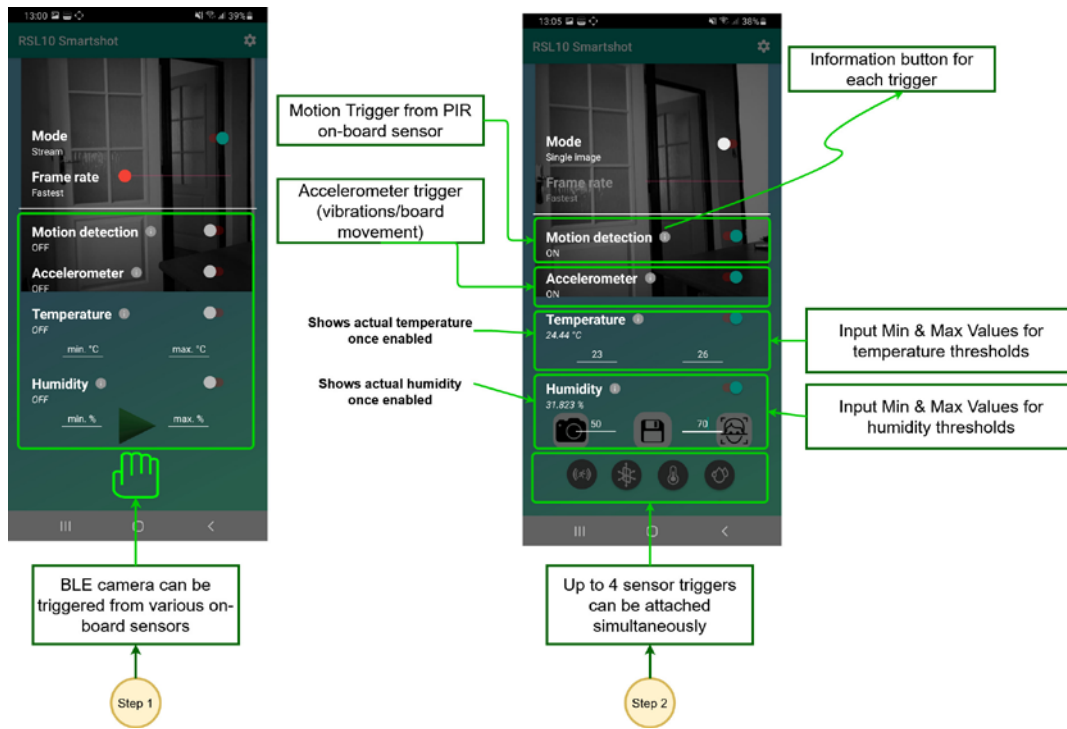
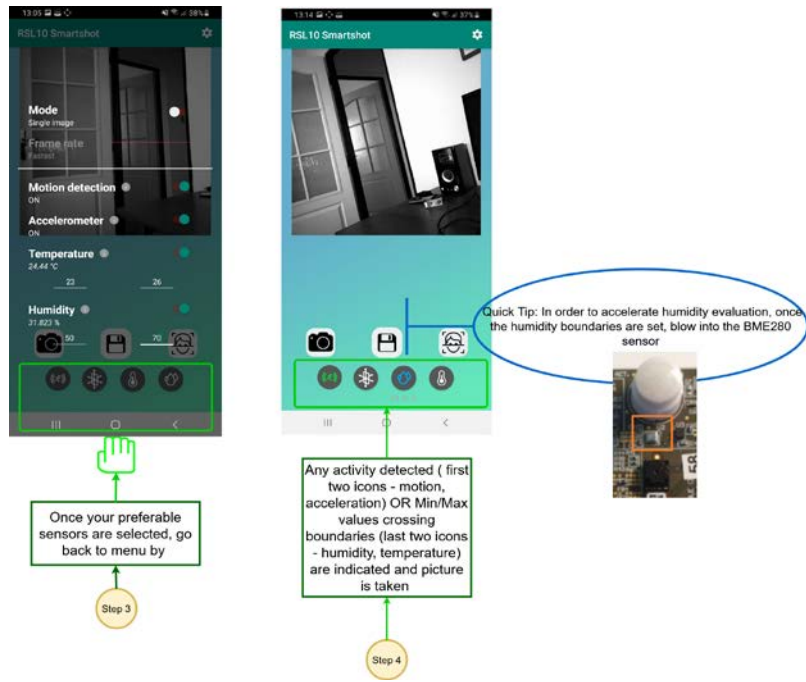


Figure 6. Environmental Trigger Settings

Exit the **Settings** menu by tapping the bottom of the screen. The RSL10 Smart Shot Camera will be armed and capture an image each time event conditions are triggered. The captured image along with the triggered event condition will be displayed on the screen.



**Figure 7. Sensor Triggered Image Capture**

## Object recognition using Amazon Rekognition

The mobile app uses Amazon Rekognition cloud engine to analyze the image and identify objects within it. The image for analysis is uploaded to the cloud engine, and results are displayed on the app. More information about the Amazon Rekognition setup is available in the [RSL10 Smart Shot Camera User Manual \(EVBUM2782\)](#).

You should specify your AWS account credentials to use this feature. Select the *Settings icon* -> *AWS Account* on the Home Screen.



**Figure 8. Accessing Amazon Rekognition**

Enter the accessKey and secretKey associated with your AWS account and click *Use*. After logging in, you can use the Face icon shown below to analyze pictures captured with the RSL10 Smart Shot Camera.

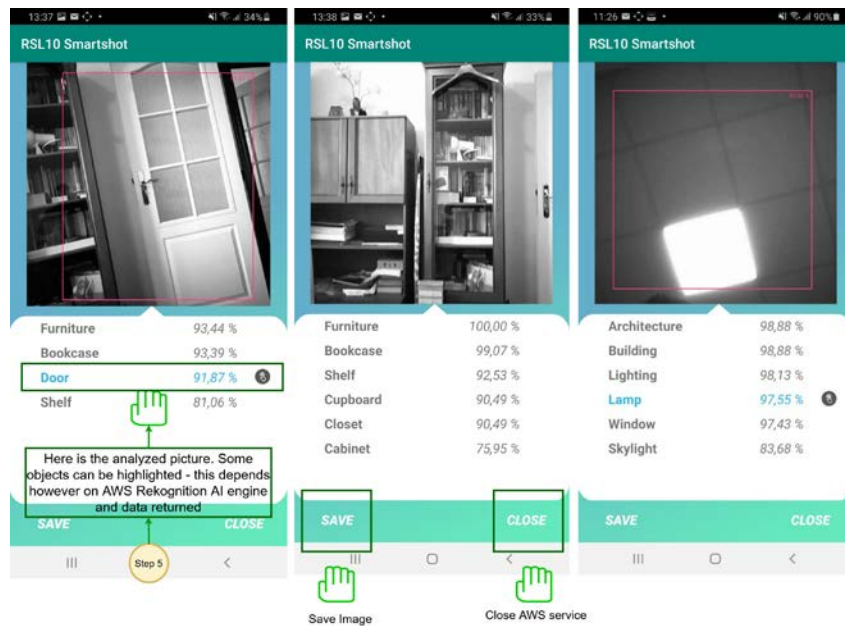
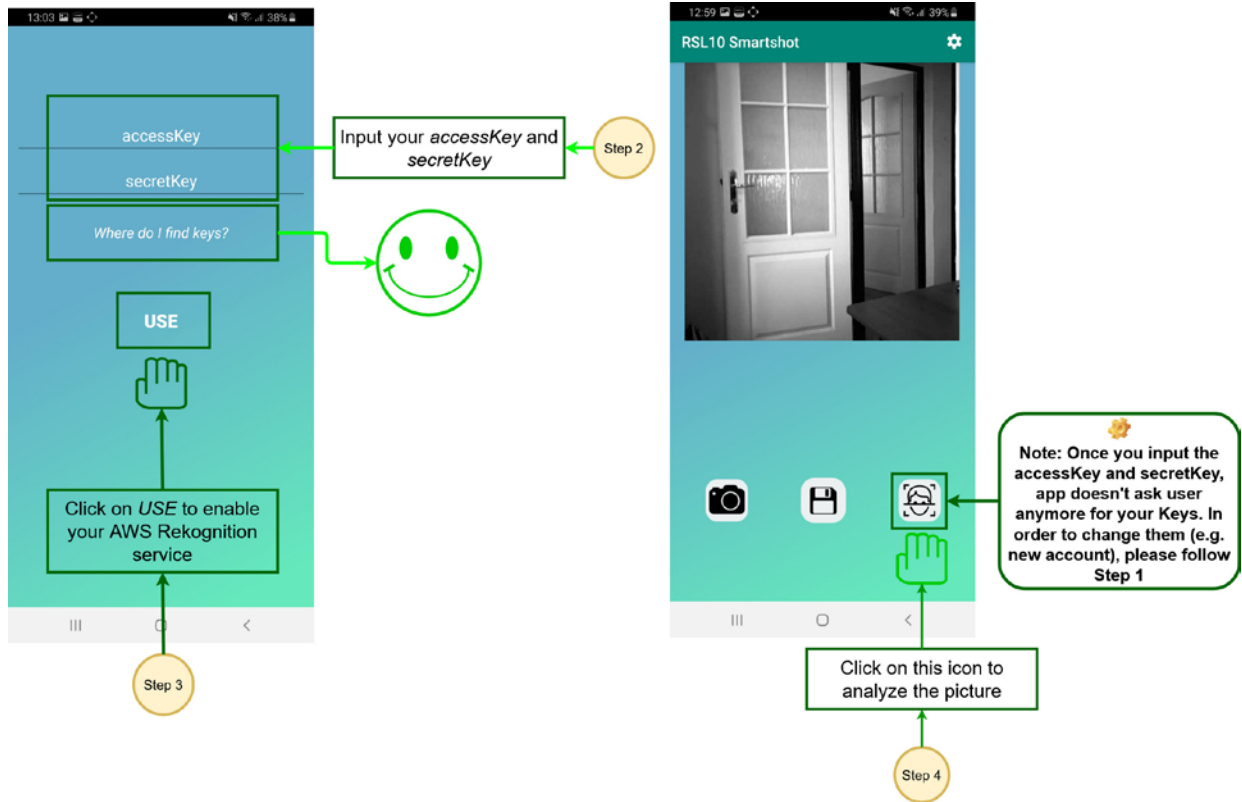


Figure 9. Using Amazon Rekognition to Analyze Captured Images



## Firmware over the Air (FOTA) Updates

The RSL10 Smart Shot Camera supports wireless firmware updates using the RSL10 Bluetooth 5 radio.

To begin, you will need the following:

- Install the *RSL10 FOTA* mobile app (available on GooglePlay™, iOS®).
- Download the [smartshot\\_demo\\_cam.fota](#) image file

Note: FOTA only updates the RSL10 image. To update the Image Sensor Processor firmware (SPCV1100A) refer [RSL10 Smart Shot Camera User Manual \(EVBUM2782\)](#).

To send FOTA updates to the RSL10 Smart Shot Camera, push the PB1 button on the platform. The green LED will light up, and your board will switch to FOTA Mode. The platform will then be discoverable on the RSL10 FOTA app.

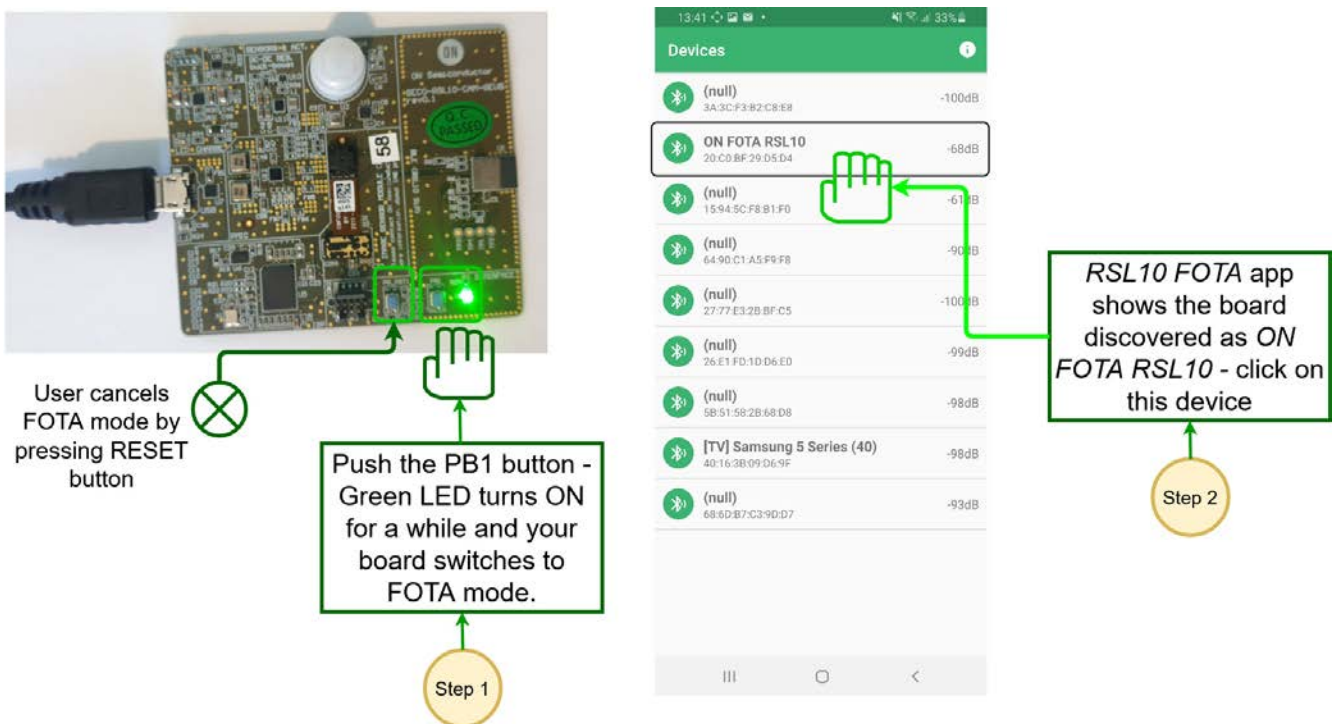


Figure 10. Switching to FOTA Mode

After selecting the device on the mobile app, you can update the firmware by clicking **Select File** to import the new firmware. Click **Connect** and **Update** to send the firmware to the device.

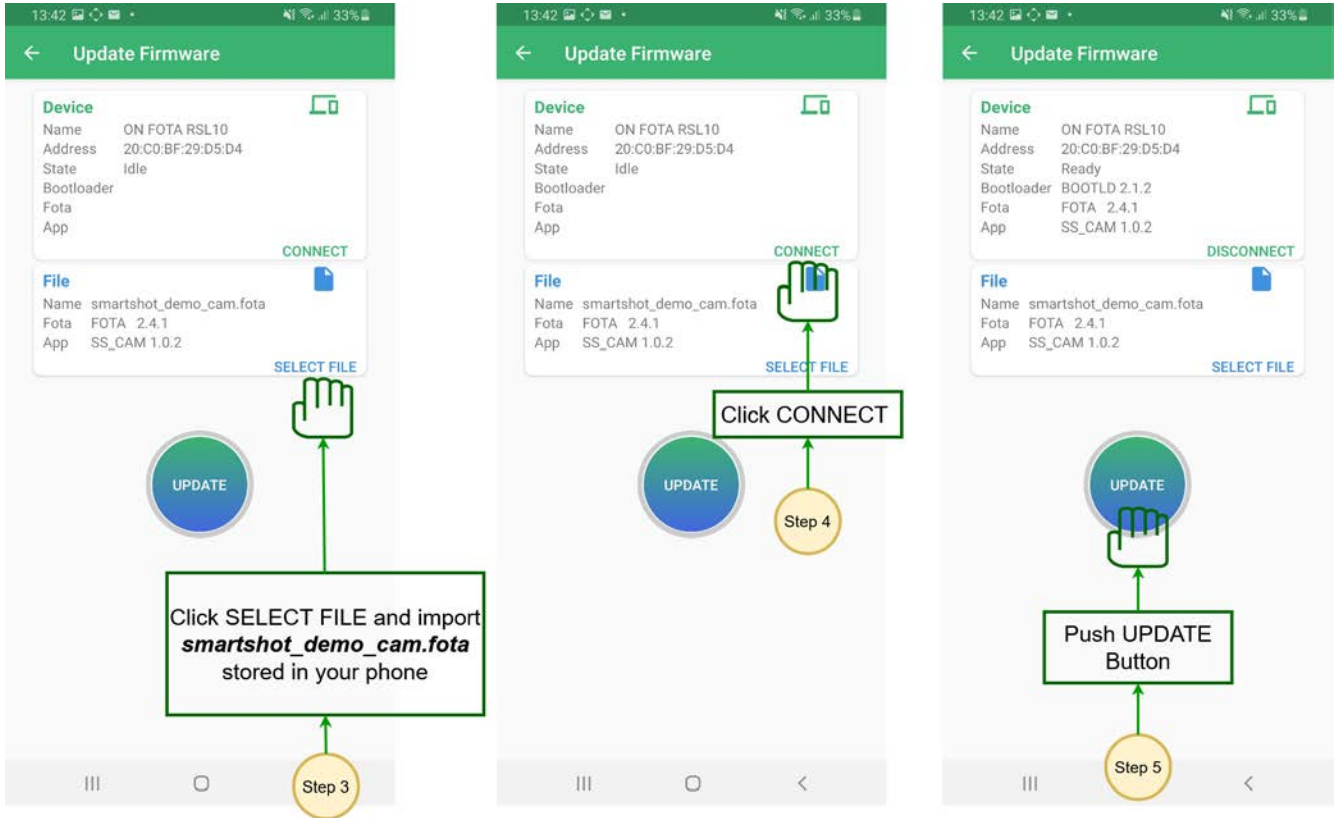
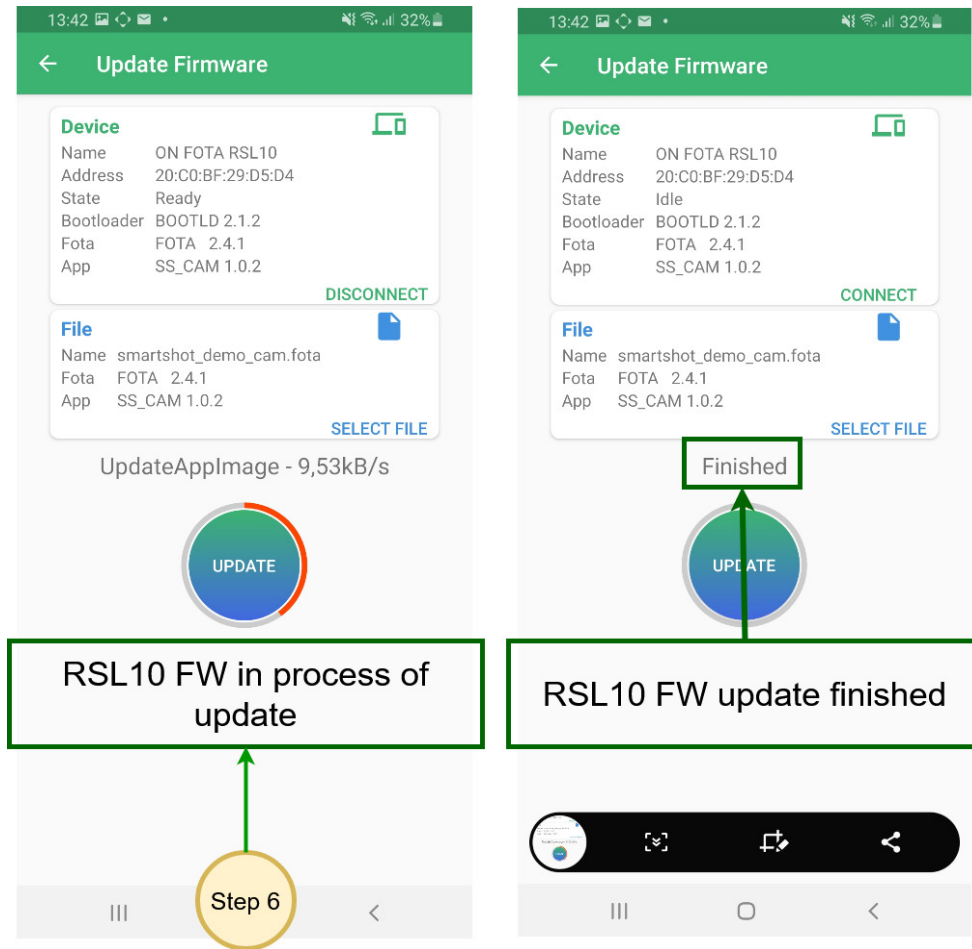


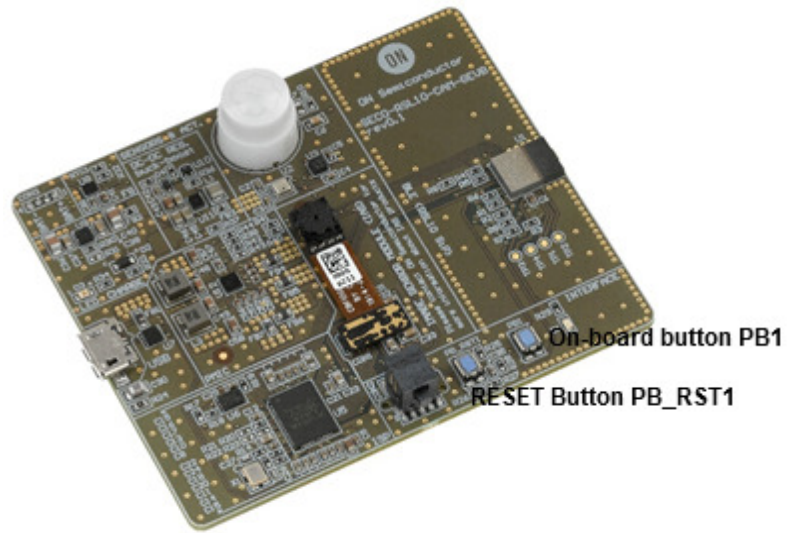
Figure 11. Sending Firmware Updates




**Figure 12. Firmware Update Process**

### Power Down Mode

In Power Down Mode, all systems are put into low power modes to consume the lowest possible amount of power. Low Power Mode can be entered by keeping the on-board button PB1 pressed after releasing the reset button (PB\_RST1). To return to normal operation, press the RESET button.



**Figure 13. On-board Power and Reset Buttons**

ON Semiconductor and  are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product/patent coverage may be accessed at [www.onsemi.com/site/pdf/Patent-Marking.pdf](http://www.onsemi.com/site/pdf/Patent-Marking.pdf). ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using ON Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by ON Semiconductor. "Typical" parameters which may be provided in ON Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. ON Semiconductor does not convey any license under its patent rights nor the rights of others. ON Semiconductor products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use ON Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold ON Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that ON Semiconductor was negligent regarding the design or manufacture of the part. ON Semiconductor is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

---