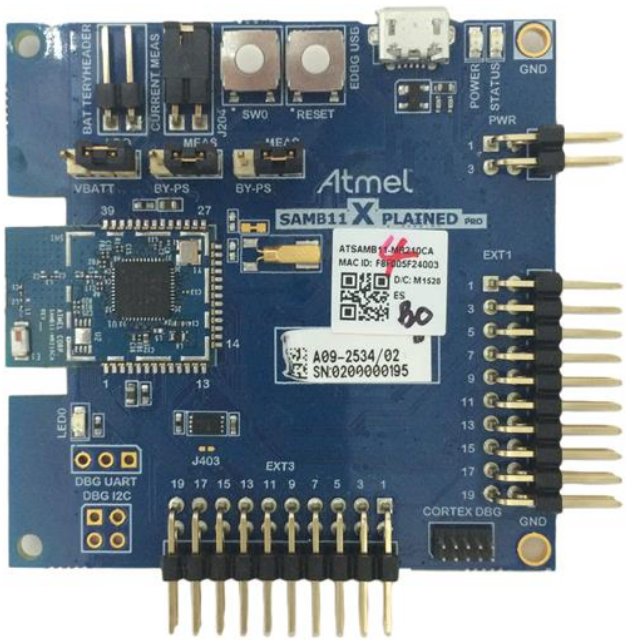
ATSAMB11 BluSDK SMART

Find Me Profile - Getting Started Guide

USER GUIDE



Introduction

The Find Me Profile (FMP) defines the behavior when a button is pressed on one device to cause an alerting signal on a peer device.

Features

- Device Discovery and Disconnection
- Pairing/Bonding
- Find Me Alerts
- Console Display

Table of Contents

1 Purpose

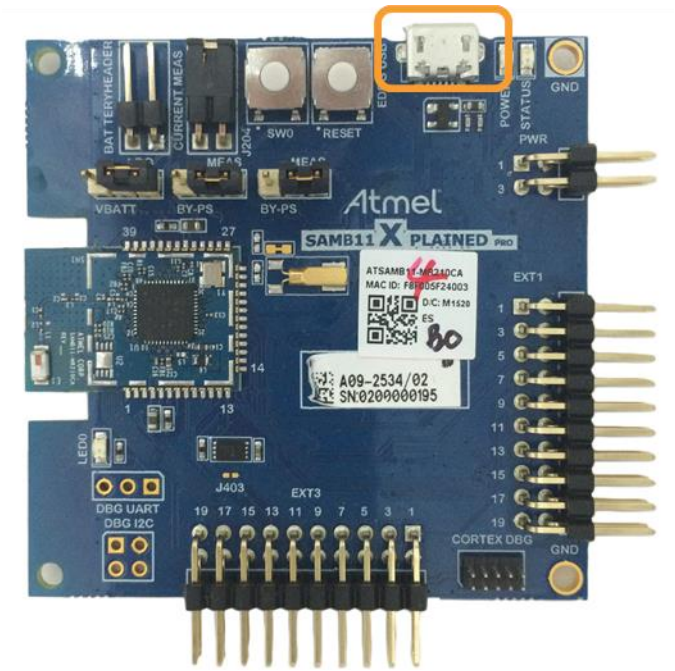
This getting started guide describes the setup of an Atmel® ATSAMB11 Xplained board and bringing up an example profile supplied as part of the BluSDK SMART release. The Bluetooth® Find Me Profile is an example application that is embedded as part of the software release package.

2 Demo Setup

3 Hardware Setup

Connect the ATSAMB11 board to the host PC using a Micro-USB cable.

Figure 3-1. EDBG USB Port



4 Find Me Target

The Find Me profile defines the behavior when a button is pressed on a device to cause an immediate alert on a peer device. This can be used to allow users to find devices that have been misplaced.

Find Me Target Application which is the GATT server will hold the characteristics and wait for the Find Me locaters alerts and based on the alerts level it will do the appropriate task.

- Alert Level Characteristic

When the Find Me Locator device wishes to cause an alert on the Find Me Target device, it shall write the specific Alert Level in the Alert Level characteristic.

5 Software Setup

5.1 Installation Steps

1. Install the latest Atmel Studio **[Atmel Studio 7.0 (build 629 or later) web installer (recommended)]**
   http://www.atmel.com/tools/ATMELSTUDIO.aspx.
2. Install the latest Atmel Software Framework.

This package will install the following examples within the Atmel Studio environment:

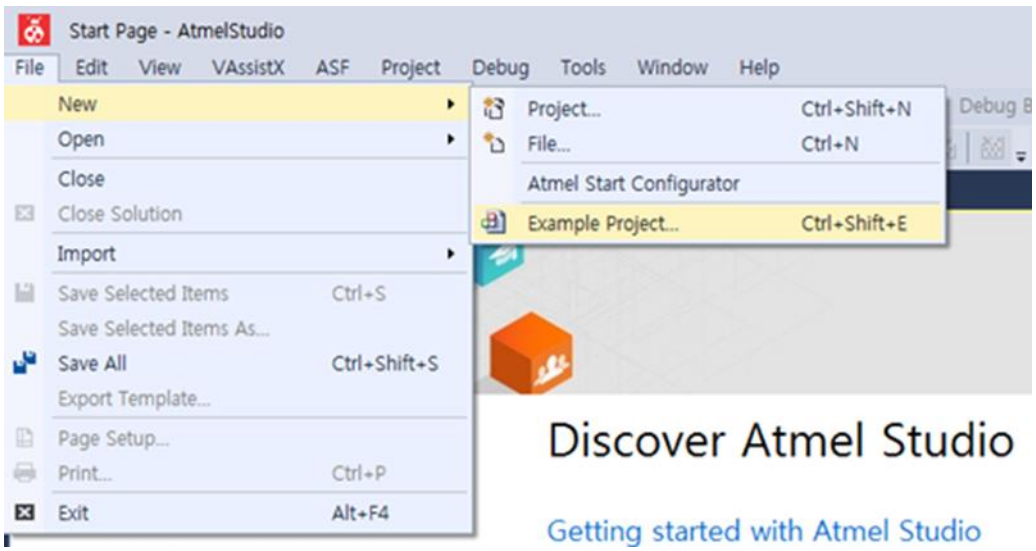
- Find Me application for ATSAMB11

5.2 Build Procedure

The following procedure is explained for ATSAMB11 application example.

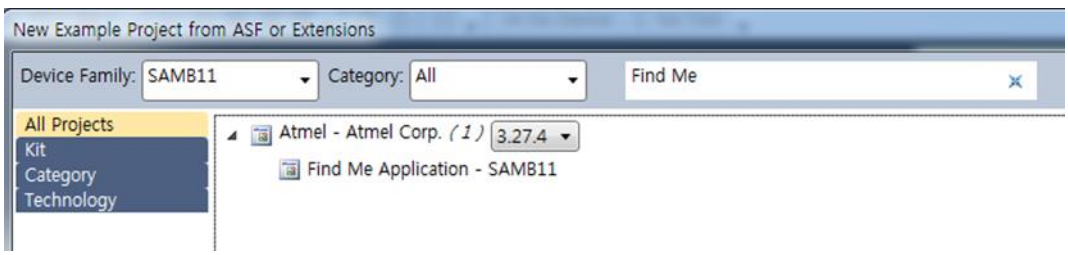
1. Select New Example Project.

Figure 5-1. Creating a New Example Project



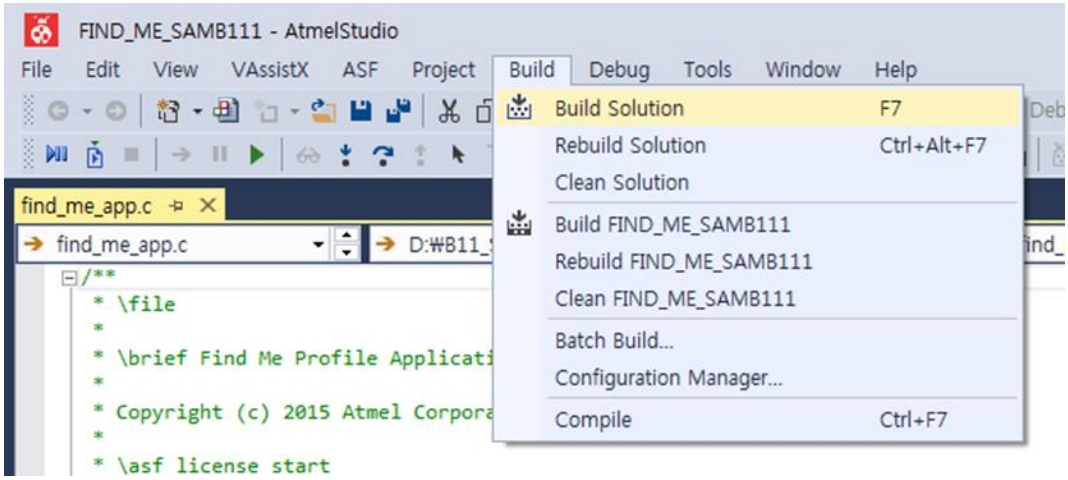
2. Select “SAMB11” in device family, enter “Find Me” in search window, and expand Atmel Corp Projects. The location and the name of the project can be selected in the respective fields. Click OK.

Figure 5-2. Selecting Find Me Application from Example Projects



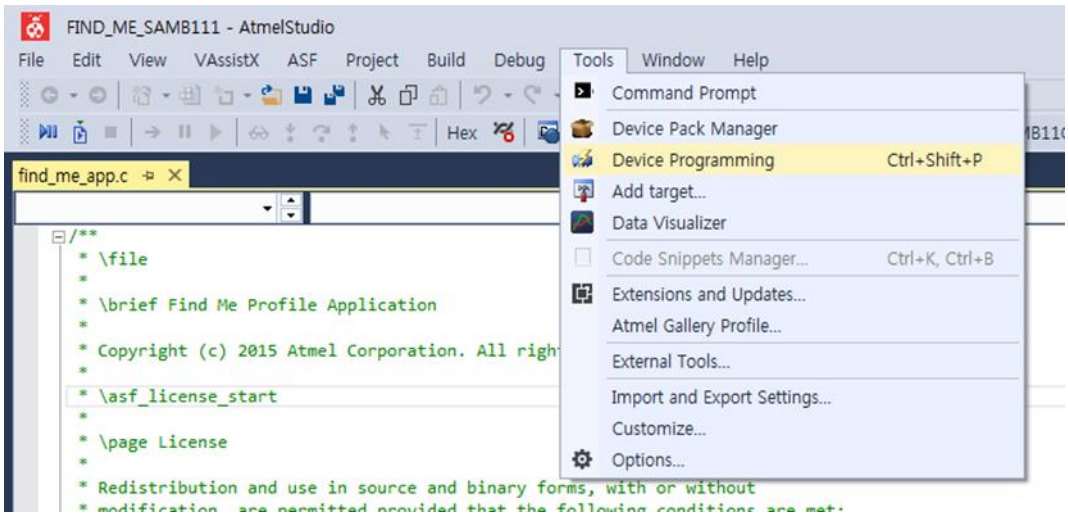
3. Accept the license Agreement. The Atmel studio will generate the Find Me Target project for ATSAMB11.
4. Build the solution.

Figure 5-3. Building the Find Me Application



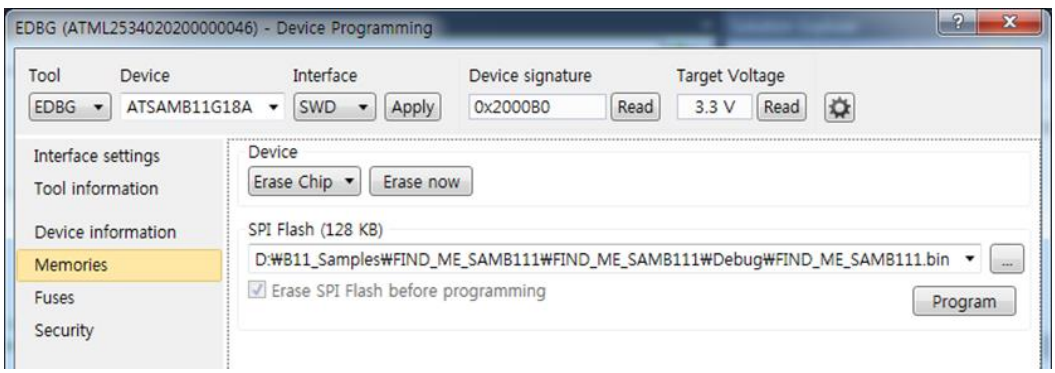
5. Download the application via the USB to the ATSAMB11 board by using the Device Programing option available in Tools as shown below.

Figure 5-4. Programming the Find Me Application



6. Inside the device programming the user has to select the correct configuration for the device and finally program the device by using the program button.

Figure 5-5. Flash the Find Me Application



7. Once the application is flashed, the Phone Alert Status Client Application is ready for usage.

6 Console Logging

For the purpose of debugging, a logging interface had been implemented in the Find Me Application.

The logging interface utilizes the same EDBG port that connects to ATSAMB11. A serial port monitor application (for example TeraTerm) shall be opened and attached to the corresponding COM port enumerated on the PC by the device. The baud rate should be set to 115200.

7 Running the Demo

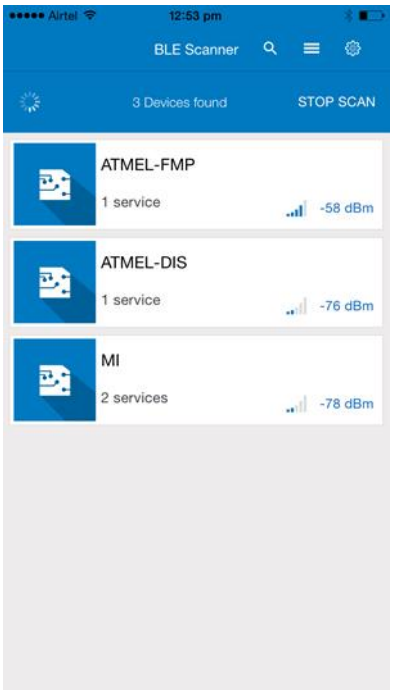
1. Power on the ATSAMB11 by connecting the USB cable.
2. Open a console window using TeraTerm or any equivalent serial port monitor application and connect to the corresponding COM port enumerated on the PC. Configure the COM Port with the following settings: Baudrate 115200, Parity None, one Stop bit, one Start bit, no Hardware Handshake.
3. Press the Reset button on the ATSAMB11 board.
4. The device is now in advertising mode.

Figure 7-1. Console Display for Device in Advertising Mode

```
Initializing Find Me Application
Initializing SAMB11
BD Address:0xF8F005F23FFF, Address Type:0
The Supported Services in Find Me Profile are:
  -> Immediate Alert Service
Bluetooth device is in Advertising Mode
```

5. On the iPhone®, enable Bluetooth in the Settings page. Start the Atmel SmartConnect App and scan for devices. ATMEL-FMP will be appear amongst the devices scanned. Click on ATMEL-FMP to connect to the ATSAMB11 device.

Figure 7-2. ATMEL-FMP in Device Discovery Atmel SMART App



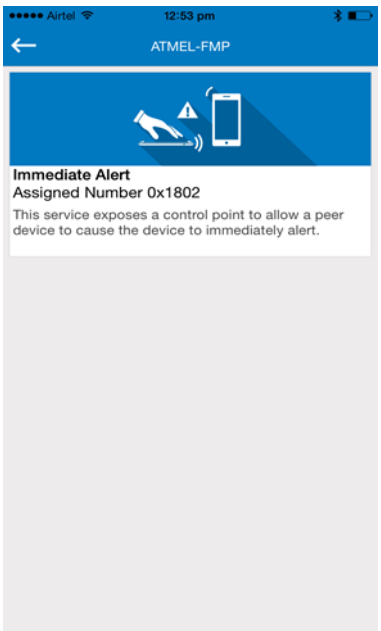
6. Once connected, the client side will request for the pairing procedure with the iPhone. The console log provides a guidance for the user to enter the pass-key on iPhone.

Figure 7-3. Console Display for Find Me Application Pairing

```
Initializing Find Me Application
Initializing SAMB11
BD Address:0xF8F005F23FFF, Address Type:0
The Supported Services in Find Me Profile are:
  -> Immediate Alert Service
Bluetooth device is in Advertising Mode
Connected to peer device with address 0xccfa00710852
Connection Handle 0
Peer device request pairing
Sending pairing response
Please Enter the following Pass-code(on other Device):123456
Pairing procedure completed successfully
Find Me : Mild Alert
Find Me : High Alert
Find Me : No Alert
```

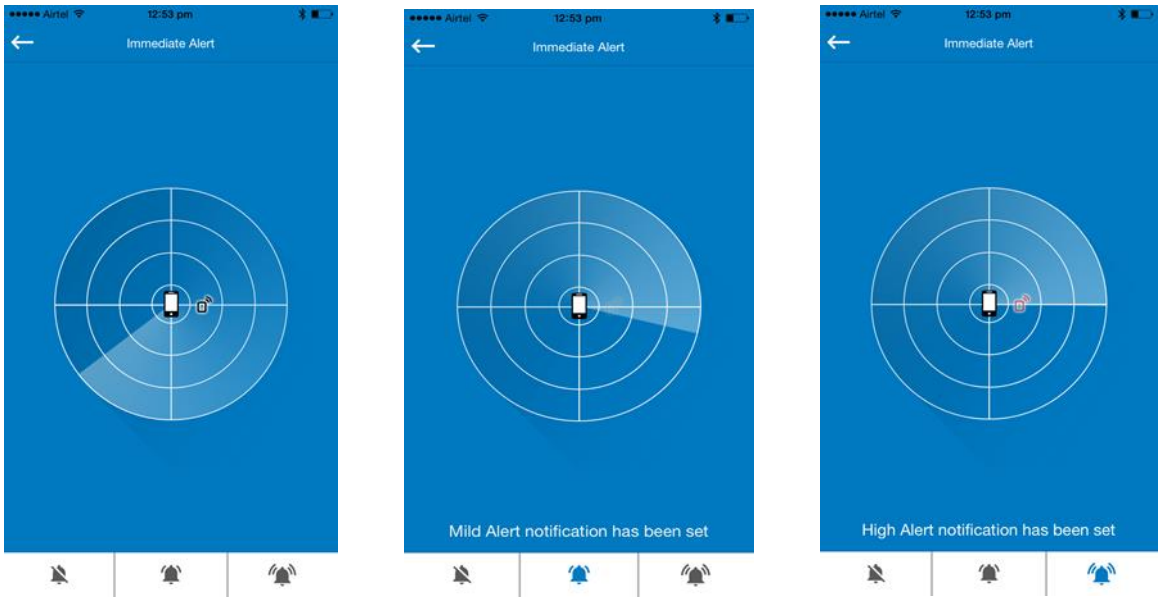
7. Once the device is connected, the following services shall be displayed on the App.

Figure 7-4. Services Discovered in ATMEL-FMP Device



8. Since the service level connection is now established, the user will see the notifications based on the alert level settings as depicted in the following diagrams.

Figure 7-5. Sending Alerts to Find Me Target ATMEL-FMP

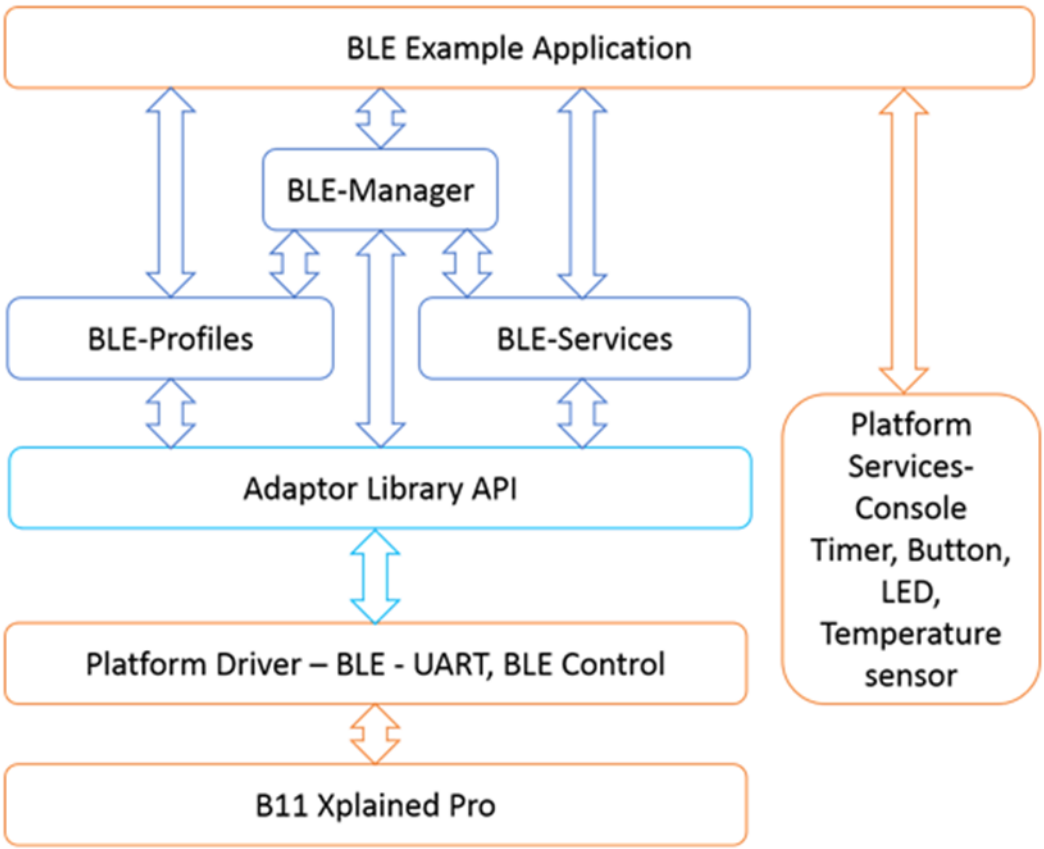


Note: A BLE compatible Android phone with the Atmel SmartConnect App can also be used to run the demo as described above. The Android version of the SmartConnect app provides the same look and feel as the iOS mobile app described above. Hence the same steps shall be used to run the demo on a BLE compatible Android phone.

8 BluSDK SMART Software Architecture

Figure 8-1 illustrates the top level diagram for the ATSAMB11 configuration.

Figure 8-1. ATSAMB11 Software Architecture



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