

EM6819_Beacon Version 3.0.0

This package contains the Software Development Kit (SDK) for the following EM Microelectronic products:

- EMBC01 (Bluetooth Low Energy Beacon)
- EMBC02 (Beacon with Accelerometer)
- EMBC03 (Beacon with Temperature Sensor)

SDK Organization

This release is organized as follows:

```
EM6819_Beacon      <-- Top level release directory
  doc
    HWDesign        <-- Device schematics and board layout
      CoinCell
      EMBC02
      EMBC03

  include           <-- MCU dependent include files
    EM6819F6-A000
    EM6819FX-B300

  lib               <-- ID Data and non-volatile mem (nvm) libraries

  project
    EMBC01          <-- 01 Coincell project located here
      build         <-- Build outputs (.hex, .map files)
    EMBC02          <-- 02 Accelerometer project located here
      build         <-- Build outputs (.hex, .map files)
    EMBC03          <-- 03 Temperature Sensor project located here
      build         <-- Build outputs (.hex, .map files)

  src               <-- Primary source code for the project

  util              <-- Beacon Programming and Update Tools
```

Rebuilding

This release supports multiple products and a variety of on-board sensors. Each configuration has its own Ride7 project file located in `/project/EMBCxx`, where 'xx' = 01, 02, or 03. For example to build the EMBC02 hex file, open and build the `/project/EMBC02/EMBC02.rprj` project file. The hex file will appear in the *build* subdirectory.

Each project pulls the source files it needs from a common pool in `/src` and `/include`.

NOTE: To compile this release it is necessary to update your RIDE7 installation with corrected libraries for the EM6819F6-B300 microcontroller used for the EMBCxx beacon design. Download the [Ride7 Update for EM6819F6-B300](#) from the distributions forum on [emdeveloper.com](#). Unzip the contents and follow the instructions in the README file found there.

IdData Support

As delivered, each hex file (01, 02, 03) includes IdData (iBeacon compatible) packets. However, the `iddata.a` library contains only stub functions. This means that if you recompile and program without any changes, your beacon will not transmit IdData packets. To remedy this, you have several options.

- Obtain the fully-featured IdData library.

The emBeacon ID source and object library is available free of charge from EM with proof of your agreement to [Apple's iBeacon License](#) available at <https://developer.apple.com/ibeacon>. You will receive an acknowledgment from Apple in pdf form. Please send a copy of the first page, which contains your e-signature and contract number, to EM at support@emdeveloper.com. Be sure to state that you are requesting source code for the IdData library.

- Change `ADVMODES DEFAULT` to select a state machine/packet selection that does not include IdData. Values for this symbol are

documented under the "beaconMode" entry in /util/ParameterDictionary.pdf in this SDK.

- Use the hex file as-is but program it with the scripts in the util directory and use a CSV file to update the beaconMode parameter. This is a relatively simple process. If you have never done this before, see the PDF files in the util directory or review [this EMDDeveloper blog post](#) entitled "*Beacon Programming and Update Tools*".