General Description

The EMBC22 is a high-performance, customizable Bluetooth V4.2 low energy proximity beacon with an accelerometer for tracking objects that move. Similar to the EMBC02, the EMBC22 comes in simple, easy to use coin-shape housing, and is now powered by the EM9304, the world’s lowest power Bluetooth IC.

New features include:
- Longer life from a CR2032 battery
- Longer range (up to 200m LOS)
- Over-the-air configurability
- Multiple interleaved packet types
- Modular RF certification
- Optional connector for sensors or power source

The EMBC22 is compatible with all major beacon formats including iBeacon™, Eddystone™, AltBeacon™, and compatible with Quuppa Intelligent Locating System™. The beacon is fully customizable over the air.

For example, the following parameters can be easily modified:
- Packet types, including custom packet type
- Device name, address, manufacturer name, model number, HW/SW revision
- UUID, Major/Minor ID, UID or URL
- Beacon interval, Transmitter power
- Accelerometer function and sensitivity

The EMBC22 can be securely updated in the field with over-the-air programming from a mobile device (all major iOS® and Android™ devices supported).

The EMBC22 accelerometer can be used to implement efficient and low-energy algorithms for various applications. The accelerometer can be used to activate beaconing on movement, or gestures, for example. When not active, the beacon consumes minimal energy.

The EMBC22 can be stored in Warehouse Mode without significantly degrading the battery lifetime. When active for 6 hours per day and configured for 0dBm output power and 1 second advertising intervals, the battery lifetime is more than 4 years.

The EMBC22 can be delivered in any quantity with guaranteed unique ID. A 2D unique serial number is printed on the beacon housing for optical scanning.

The EMBC22 is also available in PCB module format without housing. The module comes with the switch and battery holder. The beacon comes standard with a Renata CR2032/235mAh battery. Other Renata Lithium primary batteries such as CR2016/90mAh, CR2450/540mAh and CR2477/950mAh can also be accommodated.

The EMBC22 comes in a waterproof housing, and operates over a -20°C to +60°C temperature range. The EMBC22 is modular Bluetooth V5.0, FCC, IC, and CE certified, RoHS and REACH compliant.
Product Dimensions
The EMBC22 accelerometer beacon module PCB is shown in Figure 1 with a 26mm diameter. An optional SlimStack TM connector (Molex PN 5037761610) can be used for software development (JTAG access), for connection to a daughter board with sensors for example, or to connect to a different power source such as a battery pack. The standard version comes with a CR2032 replaceable battery and battery holder. Other battery sizes such as CR2016, CR2450, or CR2477 batteries can also be accommodated.

Ordering Information
The EMBC22 is available as a finished product in a plastic housing with full FCC, IC, and CE certification. The EMBC22 ordering information is shown in Figure 2: and the order numbers are shown in Table 1.

<table>
<thead>
<tr>
<th>Order Number</th>
<th>Description</th>
<th>Container</th>
<th>Units per Container</th>
<th>Minimum Order Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMBC22-F141-H1111</td>
<td>Standard Accelerometer beacon in white housing</td>
<td>Tray</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>EMBC22-F141-H0001</td>
<td>Standard Accelerometer beacon PCB, CR2032 battery holder, switch, (no battery)</td>
<td>Tray</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Contact Information
Inquiries for lead-times, quotes, orders: EMDirect@emmicroelectronic.com

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