

Bluetooth® Low Energy V4.2 Encapsulated Proximity Beacon with Accelerometer

General Description

The EMBPO is a high-performance, customizable Bluetooth V4.2 low energy proximity beacon with an accelerometer for

advanced functionality. The small and rugged EMBPO1 comes fully encapsulated with a resin based polymer for protection against dust and liquids and reliable use in harsh environmental conditions. The beacon has been optimized for low-cost and ease of use.

The EMBPO is compatible with all major beacon formats including iBeacon™ and Eddystone™, and proprietary systems such as Quappa Intelligent Locating System™. The beacon is fully customizable over the air or in manufacturing. For example, the following parameters can be easily modified:

- UID (UUID, Major/Minor ID)
- URL and telemetry data
- Multiple interleaved packet types
- Output power
- Accelerometer function and sensitivity

The EMBPO can be securely updated in the field with over-the-air programming from a mobile device.

The EMBPO 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 EMBPO can be stored in Warehouse Mode without significantly degrading the battery lifetime and up to 10 years of battery life depending on usage conditions.

The EMBPO is manufactured with Swiss quality by EM Microelectronic. It leverages Swatch Group technology, including the EM9304 Bluetooth V5.0 system-on-chip from EM Microelectronic, a CR2032 battery from Renata, and a 32.768kHz crystal from Micro Crystal.

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

The EMBPO operates over a -20C to +60C temperature range.

The EMBPO1 is Bluetooth V4.2, FCC, IC, and CE certified, RoHS, REACH, and Halogen Free compliant.

Features

- | Small, rugged, and encapsulated in polymer resin
- | Low-cost and easy to use
- | Supports popular beacon formats such as iBeacon™ and Eddystone™, and proprietary such as Quappa Intelligent Locating System™
- | Secure over-the-air updates possible with all major mobile platforms in the field
- | Up to 10 years of battery lifetime - Battery Lifetime Calculator available
- | Extremely low power accelerometer can be used to activate beaconing on actions such as movement, taps, or gestures
- | Up to 50m range line-of-sight (LOS) at maximum output power
- | Can be stored in warehouse mode for more than 1 year without significant impact to battery life
- | Rich set of parameters configurable Over the Air allowing for rapid development a very large range of applications without modifying any source
- | Manufactured with Swiss quality and including the following Swatch Group technologies:
 - EM9304 state-of-the-art Bluetooth V5.0 system-on-chip
 - Renata CR2032 battery
 - Micro Crystal 32.768kHz crystal
- | Unique ID and scannable QR-code come standard
- | Weatherproof Enclosure with IP-67 rating
- | Temperature range from -20C to +60C
- | Bluetooth V5.0, FCC, and CE certified

Product Dimensions

The EMPBO finished product outline dimensions are shown in Figure 1 with 32.3x22.3x5.3mm outer dimensions.

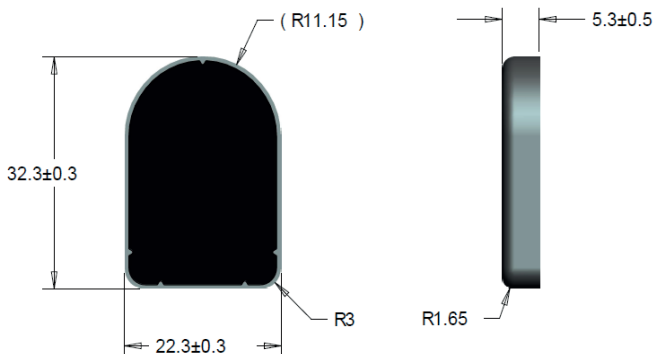


Figure 1: Finished Product Dimensions

Ordering Information

The EMPBO is available as a finished product with full FCC, IC, and CE certification. The EMPBO1 ordering information is shown in Figure 2 and the order numbers are shown in Table 1.

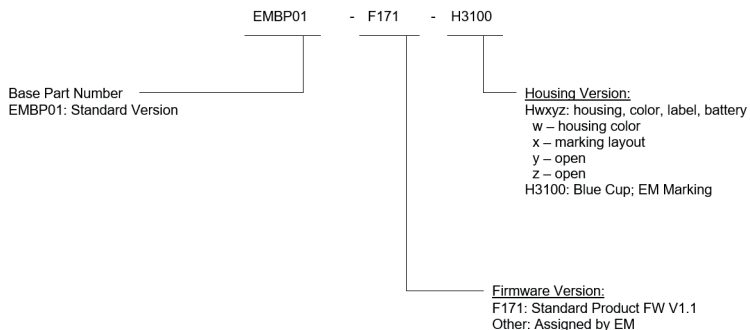


Figure 2: Ordering Information

Order Number	Description	Container	Units per Container	Minimum Order Quantity
EMBP01-F171-H3100	Standard Encapsulated Accelerometer Beacon in Blue Cup	Box	800	800

Table 1: Ordering Information

Contact Information

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