EM MICROELECTRONIC

A COMPANY OF THE SWATCH GROUP

FACT SHEET | EMBP01

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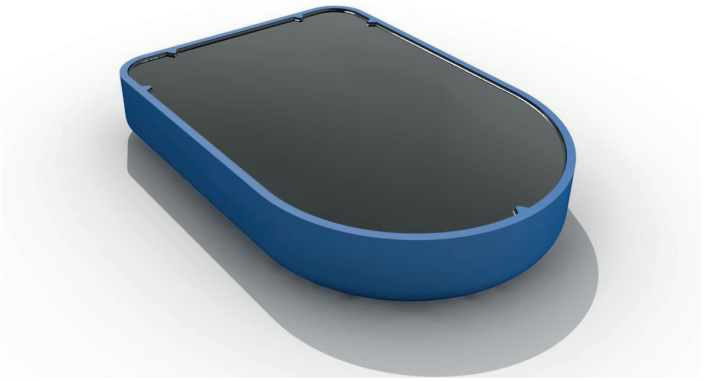
PRELIMINARY



Bluetooth® Low Energy V5.0 Encapsulated Proximity Beacon with Accelerometer

General Description

The EMBP01 is a high-performance, customizable Bluetooth V5.0 low energy proximity beacon with an accelerometer for advanced functionality. The small and rugged EMBP01 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 EMBP01 is compatible with all major beacon formats including iBeacon™ and Eddystone™, and compatible with Quuppa Intelligent Locating System™. The following parameters can be customized, for example:

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

The EMBP01 can be shipped pre-programmed with custom parameters and can be securely updated in the field with over-the-air programming from a mobile device (all major iOS® and Android™ devices supported).

The EMBP01 can be used to implement efficient and low-energy algorithms for various applications. The accelerometer can be used to activate beaconing on movement, taps, or gestures, for example. When not in use, the beacon dissipates minimal energy.

The EMBP01 can be stored in sleep mode for up to 2 years without significantly degrading the battery lifetime. When active and configured for 0dBm output power and 1 second advertising intervals, the typical battery lifetime is more than 4 years when active 8 hours per day.

The EMBP01 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 EMBP01 can be delivered in any quantity with guaranteed unique ID. A 2D unique serial number is printed on the beacon for optical scanning.

The EMBP01 operates over a -20C to +60C temperature range.

The EMBP01 is Bluetooth V5.0, 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 compatible with Quuppa Intelligent Locating System™
- Custom parameters loaded at production
- Secure over-the-air updates possible with all major mobile platforms in the field
- Long battery lifetime - active and sleep modes
- Extremely low power accelerometer can be used to activate beaconing on actions such as movement, taps, or gestures
- At 0dBm output power and 1 second advertising intervals, typical battery life is more than 4 years when used 8 hours per day
- Can be stored in warehouse mode for more than 1 year without significant impact to battery life
- Configurable for multiple, interleaved packet types
- Manufactured with Swiss quality and including the following Swatch Group technologies:
  - EM9304 state-of-the-art Bluetooth V5.0 system-on-chip, with the lowest power consumption available
  - Renata CR2032 battery
  - Micro Crystal 32.768kHz crystal
- Unique ID and scannable QR-code come standard
- Temperature range from -20C to +60C
- Bluetooth V5.0, FCC, and CE certified

Product Dimensions

The EMBP01 finished product outline dimensions are shown in Figure 3 1 with 32.3x22.3x5.3mm outer dimensions.

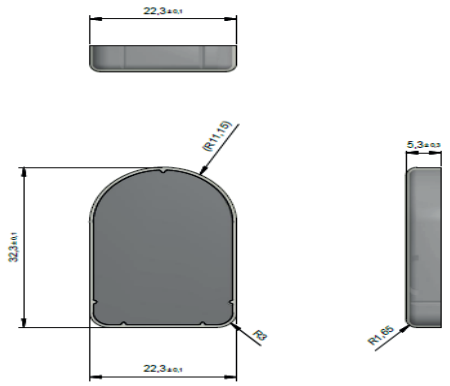


Figure 1: Finished Product Dimensions

Ordering Information

The EMBP01 is available as a finished product in a plastic housing with full FCC, IC, and CE certification. The EMBP01 ordering information is shown in Figure 2 and the order numbers are shown in Table 1.

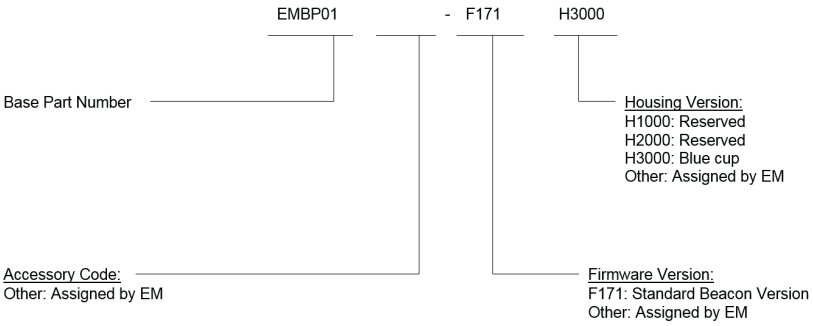


Figure 2: Ordering Information

Order Number	Description	Container	Units per Container	Minimum Order Quantity
EMBP01-F171-H3000	Performance beacon, standard version	Tray	100	100

Table 1: Ordering Information

Contact Information

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