

## BlueBeacon Mini

### Bluetooth Low Energy proximity-beacon

#### *Data sheet v. 3.1*



BlueBeacon Mini is a tiny and compact battery-powered BLE beacon. It supports advertising of multiple frames with iBeacon, Eddystone (full support) and/or Quuppa format, at the same time. BlueBeacon Mini is small, lightweight and easy to install: it is the perfect choice for proximity-service applications (retail, museums, events, exhibits, trade fairs, ...), and for temporary and/or movable installations

BlueBeacon Mini is powered by a CR2477 lithium coin cell, that can be easily replaced by simply unscrewing the back panel.

<b>Advertising</b>	
Up to 4 slots configurable for Eddystone frame types: UID, URL, TLM, EID. Full support for specifications Eddystone Configuration GATT Service by Google	
Up to 4 slots configurable for the following frame types: iBeacon, Quuppa, Sensors	
TX power	-40, -30, -20 to 4 dBm (with 4dB steps). Programmable for each slot
Advertising interval	0.1 to 5 secs. Programmable for each slot
Global configuration options	non-connectable mode, anonymous mode, programmable time period, locked/unlocked mode, change password
<b>Default settings</b>	
Eddystone-URL: URL = https://www.blueupbeacons.com, ADV interval = 1000 msec, TX power = -8dBm	
iBeacon: UUID = ACFD065E-C3C0-11E3-9BBE-1A514932AC01, major = 0, minor = S/N, ADV interval = 400 msec, TX power = -8dBm	
Global configuration	connectable, locked

<b>Device specifications</b>	
<b>Electrical specifications</b>	
Core module	Nordic nRF51822 SoC (MCU and radio transceiver)
MCU core	ARM Cortex-M0 32-bit CPU
Current consumption	Radio TX: 8mA (@ 0dBm) Radio RX: 9.7 mA Idle mode: 3 uA Sleep mode: 1.5 uA
<b>Radio specifications</b>	
Standard	Bluetooth 4. 0 (Bluetooth Low Energy or Bluetooth Smart)
Frequency band	2.402 to 2.480 GHz (according Bluetooth 4.0 specifications, worldwide ISM band)
Advertising channels	CH37 (2.402 GHz), CH38 (2.426 GHz), CH39 (2.480 GHz) (according Bluetooth 4.0 specifications)
Channel spacing	2 MHz (according Bluetooth 4.0 specifications)



<b>Radio specifications (cont'd)</b>	
TX power	Conducted: +4 dBm (max) EIRP (Equivalent Isotropic Radiated Power): +6 dBm (max)
<b>Antenna</b>	
Type	Integrated meandered planar inverted F-antenna (PIFA)
Gain	2dB (max.)
Radiation diagram	Omnidirectional
<b>Power</b>	
Power supply	Battery
Replaceable	Yes
Type	CR2477 (3V, lithium)
Model	EEMB or equivalent (typical capacity 1000 mAh @ 25°C)
Expected life	6 months to 5 years, 24/7 at ambient temperature 18 months with default settings
<b>Mechanical specifications</b>	
Material	ABS plastic
Color	White (silk-screen printing available on demand; custom color on demand)
Size	40 x 40 x 15 mm
Wall fastening	Double-sided tape or dual-lock
Opening	Back cover with screws
Protection	IP40
Flammability	UL 94 HB
<b>Environmental specifications</b>	
Operating temperature	-20°C to +60°C (battery operating life sharply decreases under 0°C)
Storage temperature	-40°C to +85°C (without battery)
<b>Certifications</b>	
CE (Directive 1995/5/CE R&TTE, 2011/65/UE RoHS2) iBeacon, Eddystone, Quuppa	

<b>Expected maximum battery life-time (in months)</b>						
TX power	Advertising interval					
	100 msec	300 msec	500 msec	700 msec	1000 msec	5000 msec
0 dBm	6	17	24	30	36	58
-8 dBm	7	18	25	31	37	59
-20 dBm	8	19	27	33	39	60

*Expected battery life-time is estimated assuming nominal battery capacity, self-discharge and ambient operating temperature.  
 Batteries from different manufacturers can have different operating lives.*

*Enabling Eddystone-EID and eTLM advertising reduce battery life-time of about 15/20%*

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