

## BlueBeacon Tag Gen2

### Bluetooth Low Energy proximity-beacon

#### Data sheet v. 1.0



BlueBeacon Card is a badge-like battery-powered BLE beacon, based on Nordic nRF52832. It simultaneously supports multiple technologies: iBeacon, Eddystone (full support), Quuppa (emulation mode). It also supports Safety packet. Also available with Quuppa Approved firmware

By using the internal accelerometer, it can be configured to automatically enter into low-power mode for battery savings. A button and two leds allows for a richer user interface.

BlueBeacon Card is waterproof and powered by a thin non-replaceable lithium battery that guarantees a long operating life. Additionally, it can integrate an optional NFC NTAG2 tag.

Advertising	
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, Safety	
TX power	-40, -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
Default settings	
iBeacon: UUID = ACFD065E-C3C0-11E3-9BBE-1A514932AC01, major = 8, minor = S/N, ADV interval = 400 msec, TX power = -8dBm	
Global configuration	connectable, locked

Device specifications	
Electrical specifications	
Core module	Nordic nRF52832 SoC (MCU and radio transceiver)
MCU core	ARM Cortex-M4 32-bit CPU
Current consumption	Radio TX: 5.3mA (@ 0dBm) Radio RX: 5.4 mA Idle mode: 1.2 uA Sleep mode: 0.3 uA
Radio specifications	
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	No
Type	1x CP224147 (3V, lithium)
Model	CP224147 (typical capacity 800 mAh @ 25°C)
Expected life	6 months to 6 years, 24/7 at ambient temperature 20 months with default settings Using accelerometer-based modes can double battery life or over
<b>Sensors</b>	
Sensors	3-axis linear accelerometer, button, leds (2x)
Radio	NFC NTAG2 tag (optional)
<b>Mechanical specifications</b>	
Material	ABS plastic
Color	White (silk-screen printing available on demand; custom color on demand)
Size	85 x 56 x 4.5 mm
Protection	IP67
<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, FCC iBeacon, Eddystone, Quoppa Approved	

<b>Expected 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	18	24	30	36	60
-8 dBm	7	20	26	32	38	64
-20 dBm	8	21	28	34	40	68

*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%.  
 Enabling Accelerometer-based modes can double battery life or over*

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