

BlueBeacon Tag Gen2

Bluetooth Low Energy wearable keyfob tag

Data sheet



BlueBeacon Tag Gen2 is a keyfob-like battery-powered BLE beacon. It supports advertising of multiple frames with iBeacon, Eddystone (full support) and/or Quuppa format, at the same time. BlueBeacon Tag Gen2 can be provided also with Quuppa Approved firmware.

Thanks to its low-profile form-factor, BlueBeacon Tag can be worn as an identification badge for personnel or hung on racks or products. Tusing the internal accelerometer, it can be configured to automatically enter into sleep-mode for battery savings.

BlueBeacon Tag Gen 2 uses a couple of CR2032 coin batteries that are easily replaceable by simply removing the snap-fit cover.

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 = 5, 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 (25°C)	Radio TX: 7.1mA (0dBm TX) Radio RX: 6.5 mA Idle mode: 3 uA Idle mode with accelerometer ON: 7 uA
Radio specifications	
Standard	Bluetooth 4.2 Bluetooth Low Energy (BT5-ready)
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)



Radio specifications (cont'd)	
TX power	Conducted: +4 dBm (max) EIRP (Equivalent Isotropic Radiated Power): +6 dBm (max)
Antenna	
Type	Integrated meandered planar inverted F-antenna (PIFA)
Gain	2dB (max.)
Radiation diagram	Omnidirectional
Power	
Power supply	Battery
Replaceable	Yes
Type	2x CR2032 (3V, lithium)
Model	Panasonic or equivalent (typical capacity 440 mAh @ 25°C)
Expected life	4 months to 3 years, 24/7 at ambient temperature 11 months with default settings Using accelerometer-based modes can double battery life or over
Sensors	
Accelerometer	3-axis linear accelerometer
Mechanical specifications	
Material	ABS plastic
Color	White (silk-screen printing available on demand; custom color on demand)
Size	60 x 35 x 11 mm
Opening	Snap-fit
Protection	IP40
Flammability	UL 94 HB
Environmental specifications	
Operating temperature	-20°C to +60°C (battery operating life sharply decreases under 0°C)
Storage temperature	-40°C to +85°C (without battery)
Certifications	
CE, FCC iBeacon, Eddystone, Quuppa Approved	

Expected battery life-time (in months)						
TX power	Advertising interval					
	100 msec	300 msec	500 msec	700 msec	1000 msec	5000 msec
0 dBm	3	9	12	15	18	30
-8 dBm	4	10	13	16	19	32
-20 dBm	4	11	14	17	20	34

*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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