

BlueBeacon TagX

Bluetooth Low Energy tag for personal safety

Data sheet



BlueBeacon TagX is a battery-powered Bluetooth Low Energy asset tag, based on powerful nRF52832 SoC. It simultaneously supports multiple technologies: iBeacon, Eddystone (full support, with Gatt and EID), Quuppa (Emulation mode), Safety and Sensor packets (BlueUp proprietary).

BlueBeacon TagX is designed as asset tag for identification and tracking in logistics, healthcare, building management.

BlueBeacon TagX is powered by a replaceable long-life CR2477 coin battery and it includes accelerometer for motion, shock and free-fall detection and 2 Led for signaling. The compact robust enclosure (IP65 as optional) has two flanges that allow maximum installation flexibility.

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 emulation mode, Safety	
Support for Safety packet: beacon ID, battery status, motion/shock/free-fall detection	
TX power	-40, -20 to 4 dBm (with 4 dB steps). Programmable for each slot
Advertising interval	0.1 to 10 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 = 10, minor = S/N, ADV interval = 400 msec, TX power = -8 dBm	
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: 5.3 mA (@ 0 dBm) Radio RX: 5.4 mA Idle mode: 3 μ A
Radio specifications	
Standard	Bluetooth 4.2 (Bluetooth 5-ready)
Frequency band	2.402 to 2.480 GHz (according to Bluetooth 4.0 specifications, worldwide ISM band)
Advertising channels	CH37 (2.402 GHz), CH38 (2.426 GHz), CH39 (2.480 GHz) (according to Bluetooth 4.0 specifications)



Radio specifications	
Channel spacing	2 MHz (according to Bluetooth 4.0 specifications)
TX power	Conducted: +4 dBm (max) EIRP (Equivalent Isotropic Radiated Power): +6 dBm (max)
Antenna	
Type	Integrated meandered planar inverted F-antenna (PIFA)
Gain	2 dB (max)
Radiation diagram	Omnidirectional
Power	
Power supply	Battery
Replaceable	Yes
Type	3V lithium coin battery
Model	1x CR2477 (typical capacity 1000 mAh @ 25°C)
Sensors and interfaces	
Sensors	3-axis linear accelerometer
Actuators	2x Led (Red, Yellow)
Mechanical specifications	
Material	ABS plastic
Color	White
Enclosure size	77 x 46 x 16 mm including flanges
Protection	IP65 optional, on demand
Environmental specifications	
Operating temperature	-20°C to +60°C (battery operating life sharply decreases under 0°C)
Storage temperature	10°C to +30°C (with battery)
Certifications	
CE	

Expected battery life-time (in months)						
TX power	Advertising interval					
	100 msec	300 msec	500 msec	700 msec	1000 msec	5000 msec
+4 dBm	8	24	38	51	69	180
0 dBm	10	28	44	59	79	180
-16 dBm	12	33	51	68	90	180

*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 reduces battery life-time of about 15/20%.
 Enabling Accelerometer-based modes can double battery life or over.*

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