

TinySensor BLE

Bluetooth Low Energy sensor

Data sheet



Key features

- Customizable sensor in Bluetooth LE technology
- Based on TinyGateway WiFi hardware platform of
- Integrates standard MicroBUS socket for integration of sensors from MicroE Click boards catalogue
- Power supply via USB-C port or internal connector
- It can be used as a development board to accelerate BLE-based IoT projects




GATT and advertising

Full support for specifications Eddystone Configuration GATT Service by Google	
Up to 4 slots configurable for Eddystone frame types: UID, URL, TLM, EID	
Up to 4 slots configurable for the following frame types: iBeacon, Quuppa (emulation mode), Sensors	
TX power	-40, -20 to 4 dBm (with 4 dB steps). Programmable for each slot
Advertising interval	0.1 to 60 secs. Programmable for each slot
Global configuration options	non-connectable mode, anonymous mode, programmable time period, locked/unlocked mode, change password
Firmware update	OTA (Over-the-Air) firmware update

Device specifications

Electrical specifications

Core module	Nordic Semiconductor nRF52832 SoC (MCU and radio transceiver)
MCU core	ARM Cortex-M4 32-bit CPU
Current consumption (25°C)	Radio TX: 7.1 mA (0 dBm TX) Radio RX: 6.5 mA Idle mode: 3 µA Idle mode with accelerometer ON: 7 µA

Radio specifications

Standard	Bluetooth 4.2 Bluetooth Low Energy (compatible with BLE 5.x)
Frequency band	2.402 to 2.480 GHz (according to Bluetooth 4.0 specifications)
Advertising channels	CH37 (2.402 GHz), CH38 (2.426 GHz), CH39 (2.480 GHz) (according to Bluetooth 4.0 specifications)



Radio specifications (cont.)	
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	Planar inverted F-antenna
Gain	2 dBi (max)
Sensitivity	-96 dBm
Power	
Power supply	<ul style="list-style-type: none">• USB: USB-C connector• Internal 2-port: pluggable connector, Würth series 301/3157 compatible. Rear knockout for cable entry (20mm diameter)
Power voltage	<ul style="list-style-type: none">• 5 Vdc (USB)• 4.5 to 30 Vdc (internal 2-port)
Current	Depends on the type of the sensor and on the configuration
Sensors and interfaces	
Sensors	Can be selected from MicroE Click Boards catalog or a custom design can be requested
Interfaces	Compatible with MicroBUS standard
Mechanical specifications	
Material	Recyclable ABS plastic (flame-resistant)
Color	White
Size	74 x 74 x 25.5 mm
Weight	50 gr
Protection	- (vented enclosure)
Assembly	Front and back clip together construction (tool required for disassembly once mounted)
Mounting options	Dual-adhesive or screws
Environmental specifications	
Operating temperature	-40°C to +65°C
Storage temperature	-40°C to +105°C

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