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TinyGateway PoE BLE

Bluetooth Low Energy gateway

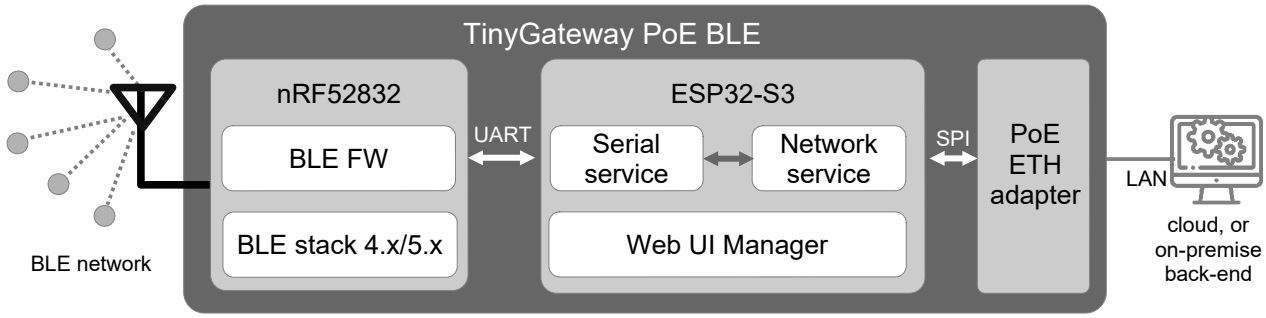
Data sheet

Key features

- **Low-power and low-cost BLE gateway**
- **Ethernet connectivity based on ESP32 SoC (IEEE 802.3af)**
- **Based on Nordic nRF52832 for BLE**
- **Network communication protocols: HTTP(S), MQTT(S), UDP, TCP**
- **Compact light-weight plastic enclosure**
- **Dual power-supply: USB-C or RJ45 PoE connector**

Key features
Low-power Bluetooth Low Energy gateway with Ethernet (PoE) connectivity
Supported Bluetooth LE stack: 4.x and 5.x
Operating modes: Bluetooth LE Scanner, Bluetooth LE Advertiser
Network interface: Ethernet (PoE 802.3af)
Support of the following set of connection protocols: HTTP(S), MQTT(S), UDP, TCP
Multiple data encoding options: JSON, ASCII, raw-data
Easy-to-use web UI manager dashboard for configuration and management
Complete remote configurability via HTTP or MQTT API
Possibility to operate simultaneously in scanning mode (BLE receiver) and advertising mode (BLE beacon)

TinyGateway PoE BLE: architecture and interfaces



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Device specifications	
Hardware specifications	
Platform	Espressif Systems ESP32S3WROOM-1
Processor	ESP32-S3 series, Xtensa® dual-core 32-bit LX7 microprocessor, up to 240MHz
Memory	384 KB ROM, 512 KB SRAM, Up to 8 MB PSRAM
Connectivity	Ethernet (802.3af), Bluetooth Low Energy (v4.x / 5.x)
User interfaces	Power-on LED, Bluetooth LE LED, Status LED, factory-reset button
Ethernet specifications	
Protocol	IEEE 802.3af (PoE)
Connector	RJ45
Bluetooth Low Energy specifications	
Core module	Nordic Semiconductor nRF52832 SoC, 32-bit ARM Cortex-M4
Protocol	Bluetooth Low Energy (v4.x / 5.x)
Frequency band	2.402 to 2.480 GHz
Channel spacing	2 MHz
Sensitivity	-96 dBm
TX power	4dBm (max)
Antenna type	Planar Inverted F-antenna
Antenna gain	2dBi
Power supply	
Power voltage	• USB: 5Vdc • PoE (802.3af): 44 – 57Vdc (Class: 0)
Power connector	• USB: USB-C connector • PoE (802.3af): RJ45 connector
Current	• USB: max 250 mA @5Vdc • PoE (802.3af): 40 mA typ. @48Vdc, 60mA max @48Vdc
Mechanical specifications	
Material	Recyclable ABS plastic (flame-resistant UL94V-0)
Color	White
Size	124 x 100 x 35 mm (including flanges)
Weight	200 gr (including flanges)
Protection	IP40
Opening	4x M2.5 self-healing screws on back panel
Wall fastening	2x M3.5 screws (not included) for lateral wall-mounting flanges
Environmental specifications	
Operating temperature	-20°C to +65°C
Storage temperature	-40°C to +85°C
Certifications	
CED (RED), FCC	

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