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**

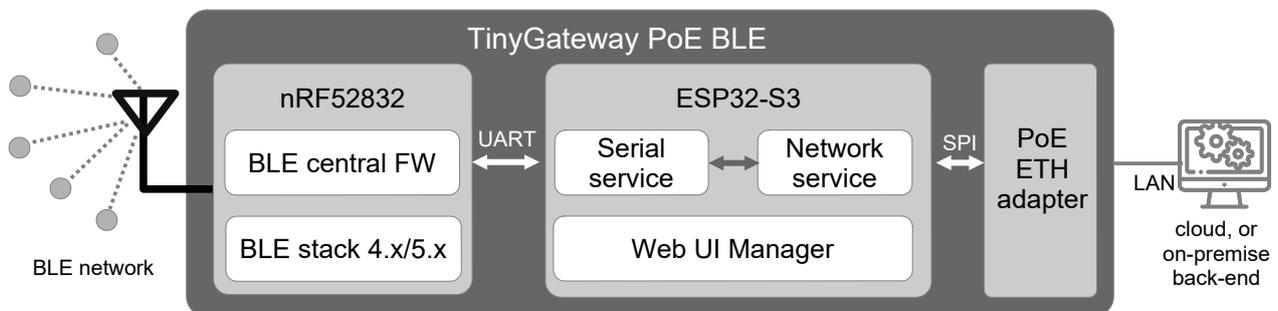| Key features |
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| Low-power Bluetooth Low Energy gateway with Ethernet (PoE) connectivity |
| Supported Bluetooth LE stack: 4.x and 5.x |
| Operating modes: Bluetooth LE central |
| Network interface: Ethernet (PoE 802.3af) |
| Support of the following 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

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

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