

# Bluetooth Low Energy Gateway

## BLE WIFI GATEWAY



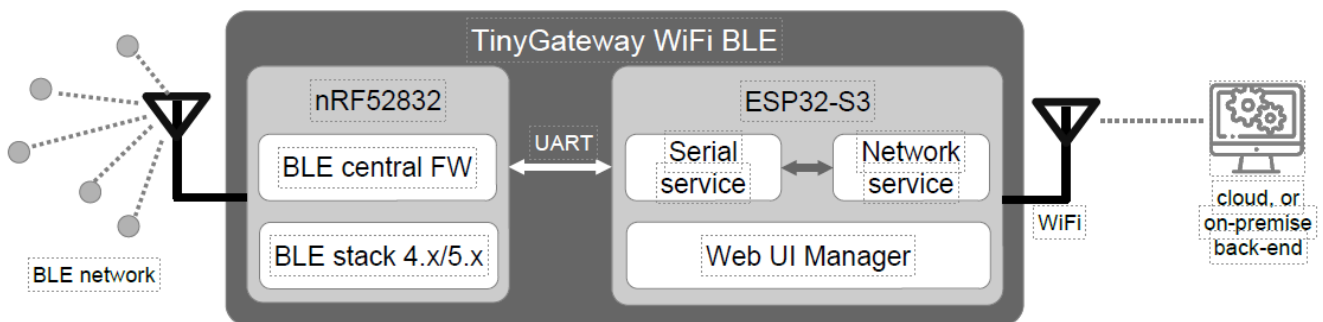
### KEY FEATURES

Low-power Bluetooth Low Energy gateway with WiFi connectivity
Supported Bluetooth LE stack: 4.x and 5.x
Operating modes: Bluetooth LE central
Network interface: Wireless LAN
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)

### 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**
- **Power-Supply: USB-C Connector**

### TinyGateway WiFi BLE: architecture and interfaces



## TECHNICAL DATA

### HARDWARE SPECIFICATIONS

Platform	Espressif Systems ESP323WROOM-1
Main 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	WiFi (802.11), Bluetooth Low Energy (v4.x / 5.x)
User interfaces	Power-on LED, Bluetooth LE LED, WiFi RGB LED, factory-reset button

### WIFI SPECIFICATIONS

Core Module	Espressif Systems ESP32-S3
Protocol	IEEE 802.11 b/g/n
Authentication	WPA/WPA2/WPA2 Enterprise (EAP-TLS, EAP-PEAP, EAP-TTLS)
Frequency Band	2.412 to 2.484 GHz
Channel Spacing	20 MHz (802.11 b/g/n), 40MHz (802.11n)
Sensitivity	-98 dBm (802.11b, 1 Mbps)
TX power	20.5dBm (max, 802.11b, 1 Mbps)
Antenna Type	Meander Planar Inverted F-antenna
Antenna Gain	0dBi

### 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 Internal 2-port: pluggable connector, Würth series 301/3157 compatible. Rear knockout for cable entry (20mm diameter)
Current	240 mA @5Vdc (max, with 802.11b, 1 Mbps, @20.5 dBm)

### MECHANICAL SPECIFICATIONS

Material	Recyclable ABS plastic (flame-resistant UL94V-0)
Color	White
Size	74 x 74 x 25.5 mm (including flanges)
Weight	50 g
Protection	IP40
Assembly	Front and back clip together construction (tool required for disassembly once mounted)
Wall fastening	Dual-adhesive or screws

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-20°C up to +65°C
Storage Temperature	-40°C up to +85°C

## ORDER CODES

### VERSIONEN

BLE WiFi Gateway

### ORDER CODES

IOT-GA-BL-IN-7401