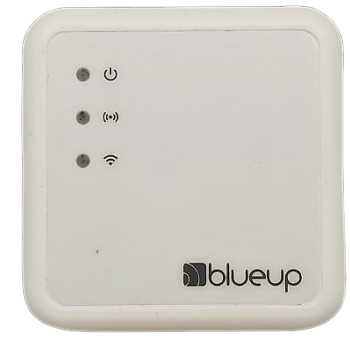


TinyGateway WiFi BLE

Bluetooth Low Energy gateway

Data sheet



Key features

- Low-power and low-cost gateway
- WiFi connectivity based on ESP32 SoC (IEEE 802.11 b/g/n)
- 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 internal connector

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

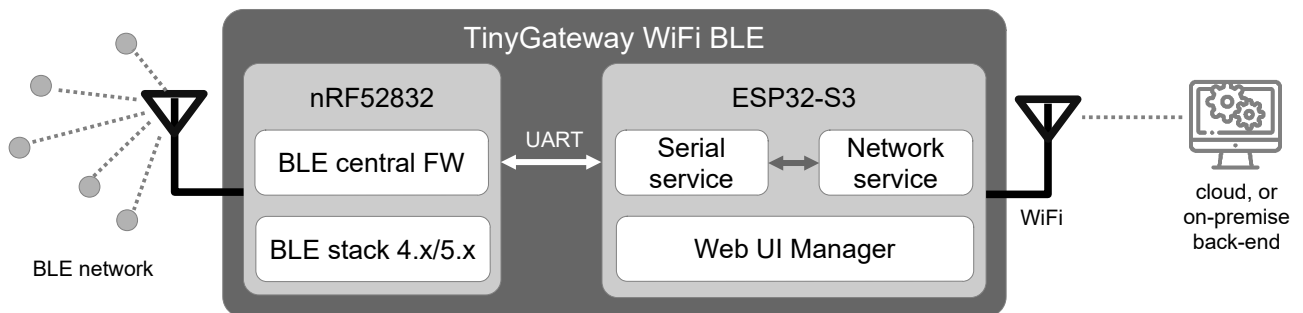
Multiple data encoding options: JSON, ASCII, raw-data

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)

TinyGateway WiFi BLE: architecture and interfaces



Device specifications	
<i>Hardware specifications</i>	
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	WiFi (802.11), Bluetooth Low Energy (v4.x / 5.x)
User interfaces	Power-on LED, Bluetooth LE LED, WiFi RGB LED, factory-reset button
<i>WiFi specifications</i>	
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
<i>Bluetooth Low Energy specifications</i>	
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
<i>Power supply</i>	
Power voltage	<ul style="list-style-type: none"> • 5 Vdc (USB) • 4.5 to 30 Vdc (internal 2-port)
Power connector	<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)
Current	240 mA @5Vdc (max, with 802.11b, 1 Mbps, @20.5 dBm)
<i>Mechanical specifications</i>	
Material	Recyclable ABS plastic (flame-resistant UL94V-0)
Color	White
Size	74 x 74 x 25.5 mm
Weight	50 gr
Protection	IP640



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Power supply (cont.)	
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

BlueUp reserves the right to change product specifications at any time without prior notice.
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