


## TinyGateway WiFi Outdoor BLE

### Bluetooth Low Energy gateway

#### Data sheet

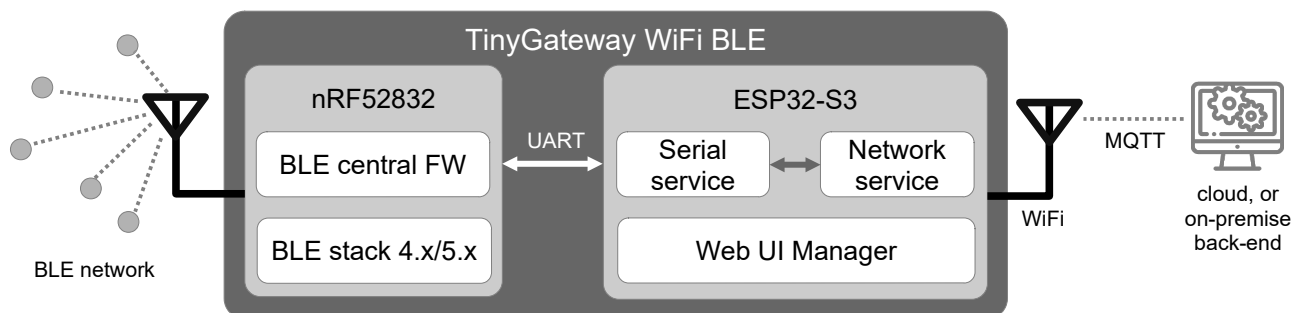


#### Key features

- Low-power and low-cost outdoor gateway
- WiFi connectivity based on ESP32 SoC (IEEE 802.11 b/g/n)
- Based on Nordic nRF52832 for BLE advertising
- Network communication protocols: HTTP, MQTT, UDP, TCP
- Compact light-weight IP65 plastic enclosure
- Internal 2-port power-supply connector

Key features
Outdoor rugged 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: UDP, TCP, HTTP, MQTT
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	
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	WiFi (802.11), Bluetooth Low Energy (v4.x / 5.x)
User interfaces	(internal) Power-on LED, Bluetooth LE LED, WiFi RGB LED, factory-reset button
<b>WiFi specifications</b>	
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
<b>Bluetooth Low Energy specifications</b>	
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
<b>Power supply</b>	
Power voltage	4.5 to 30 Vdc (internal 2-port)
Power connector	Internal 2-port: pluggable connector, Würth series 301/3157 compatible. Cable-gland for cable entry
Current	100 mA @12Vdc (max, with 802.11b, 1 Mbps, @20.5 dBm)
<b>Mechanical specifications</b>	
Material	Polycarbonate (PC) plastic
Color	Light gray
Size	105 x 105 x 45 mm (excluding flanges)
Weight	200 gr
Protection	IP65
Assembly	Lid with screw lock (4 screws included)
Mounting options	Screws for rear flanges
<b>Environmental specifications</b>	
Operating temperature	-40°C to +65°C
Storage temperature	-40°C to +105°C

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