

## 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
- Network communication protocols: HTTP(S), MQTT(S), 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: HTTP(S), MQTT(S), UDP, TCP

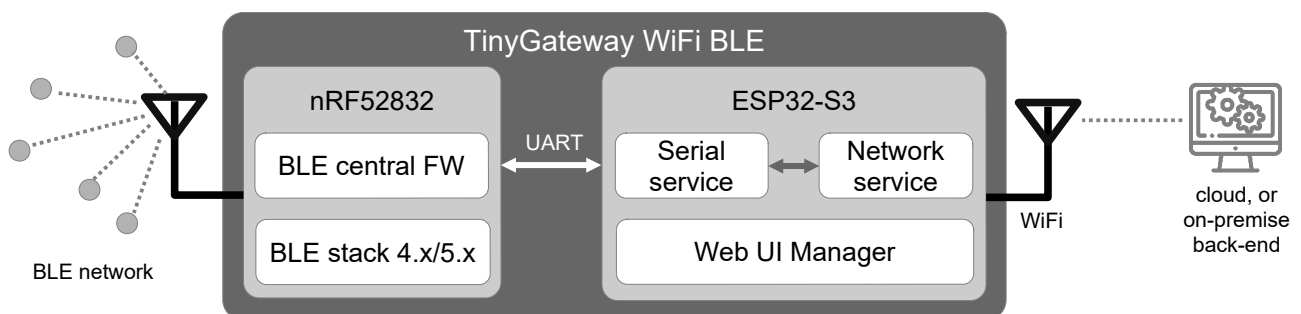
Multiple data encoding options: JSON, ASCII, raw-data

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               |  |
|-------------------------------------|--|
| 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                          |
| 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                       | 4.5 to 30 Vdc (internal 2-port)  |
| Power connector                     | Internal 2-port: pluggable connector, Würth series 301/3157 compatible.<br>Cable-gland for cable entry |
| Current                             | 100 mA @12Vdc (max, with 802.11b, 1 Mbps, @20.5 dBm)   |
| Mechanical specifications           |  |
| Material                            | Polycarbonate (PC) plastic   |
| Color                               | Light grey   |
| Size                                | 105 x 105 x 45 mm (excluding flanges)  |
| Weight                              | 200 gr   |
| Protection                          | IP65   |



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| <b>Mechanical specifications (cont.)</b> |   |
|--|---|
| 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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