

# Bluetooth Low Energy Gateway

## BLE LTE GATEWAY



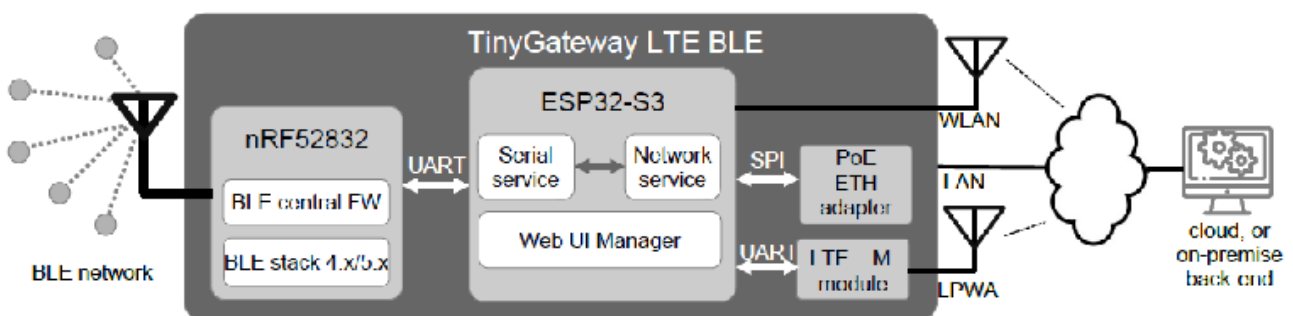
### KEY FEATURES

Low-power Bluetooth Low Energy gateway with LTE connectivity
Supported Bluetooth LE stack: 4.x and 5.x
Operating modes: Bluetooth LE central
Network interface: LTE-M (CatM/NB-IoT)
Support of the following set of connection protocols: HTTP, MQTT, 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
- LTE CatM/ NB-IoT Connectivity
- 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 LTE 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
LTE Module	Quectel BG95-M3 3GPP Rel-14 LPWA module
Memory	384 KB ROM, 512 KB SRAM, Up to 8 MB PSRAM
Connectivity	LTE CatM/NB-IoT, Ethernet, WiFi, Bluetooth Low Energy
User interfaces	Power-on LED, Bluetooth LE LED, Status LED, factory-reset button

### LTE-M SPECIFICATIONS

LPWA technologies	LTE Cat M1/Cat NB1-NB2 (with fall-back on EDGE/EGPRS)
Frequency Bands	LTE CatM1/NB1/NB2: B1/2/3/4/5/8/12/13/18/19/20/25/26(1)/27(1)/28/31/66/71(2)/85 EDGE/EGPRS: 850/900/1800/1900MHz
Max Data Rate	LTE CatM1: 588 kbps (DL), 1119 kbps (UL) LTE CatNB1: 32 kbps (DL), 70 kbps (UL) LTE CatNB2: 127 kbps (DL), 158.5 kbps (UL) EDGE: 296 kbps (DL), 236.8 kbps (UL) EGPRS: 107 kbps (DL), 85.6 kbps (UL)
TX Power	21dBm (Power Class 5)
Antenna Connector	SMA-m

### ENVIRONMENTAL SPECIFICATIONS

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

### 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
Power Connector	USB: USB-C Connector PoE RJ45 Connector
Current	LTE Cat M1/NB1/NB2 + WiFi AP: ave. 350 mA, peak 850 mA @5Vdc USB
	LTE Cat M1/NB1/NB2: ave. 250 mA, peak 600 mA @5Vdc USB
	EGPRS + WiFi AP: ave. 800 mA, peak 1900 mA @5Vdc USB
	EGPRS: ave. 750 mA, peak 1650 mA @5Vdc USB

### MECHANICAL SPECIFICATIONS

Material	Recyclable ABS plastic (flame-resistant UL94V-0)
Color	White
Size	124 x 100 x 35 mm (including flanges)
Weight	240 g
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

## ORDER CODES

### VERSIONEN

BLE LTE Gateway	IOT-GA-BL-IN-7403
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