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TinyGateway LTE BLE

Bluetooth Low Energy gateway

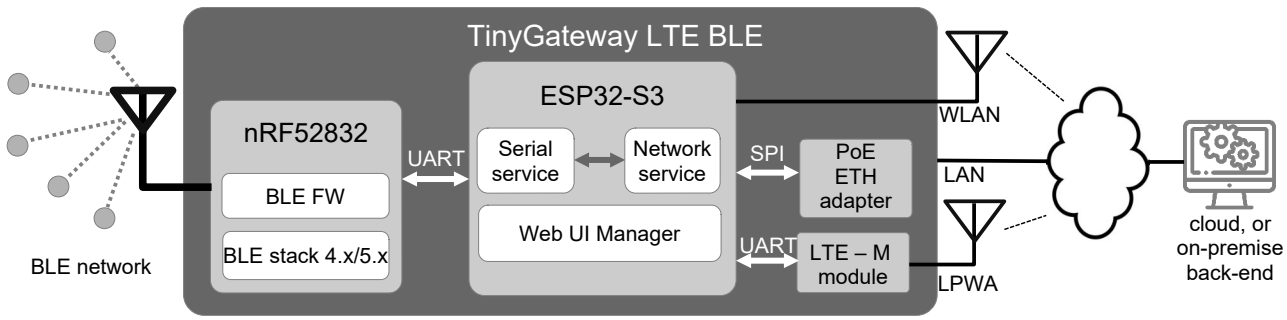
Data sheet

Key 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**

Key features
Low-power Bluetooth Low Energy gateway with LTE connectivity
Supported Bluetooth LE stack: 4.x and 5.x
Operating modes: Bluetooth LE Scanner, Bluetooth LE Advertiser
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)

TinyGateway LTE BLE: architecture and interfaces



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Device specifications	
Hardware specifications	
Platform	Espressif Systems ESP32S3WROOM-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 fallback 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
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 36 – 57Vdc ([3])
Power connector	• USB: USB-C connector • PoE RJ45 connector([3])
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

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Mechanical specifications (cont.)	
Size	124 x 100 x 35 mm (including flanges)
Weight	240 gr
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
Environmental specifications	
Operating temperature	-20°C to +65°C
Storage temperature	-40°C to +85°C

Notes:
([1]) Cat M1 only
([2]) Cat NB2 only
([3]) PoE power supply not allowed when using LTE-M connectivity

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