


TinyGateway LTE Wirepas Wirepas Mesh 2.4GHz gateway

Data sheet

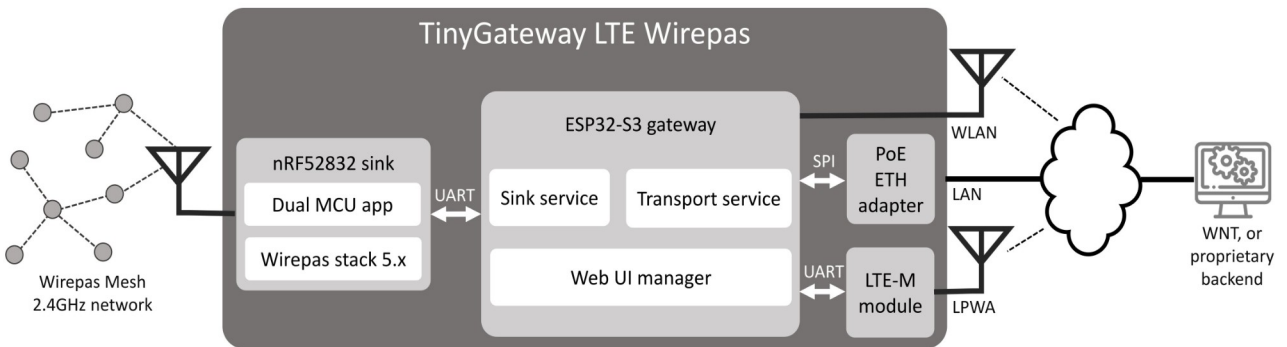


Key features

- Low-power and low-cost Wirepas gateway
- LTE CatM/NB-IoT connectivity
- Wirepas Sink based on Nordic nRF52832
- Network communication protocols: HTTP, MQTT, UDP, TCP
- Compact light-weight plastic enclosure
- Power-supply: USB-C connector

Key features
Low-power Wirepas gateway with LTE/Ethernet/WiFi connectivity with full support of Wirepas gateway drivers for MQTT connection
Supported Wirepas stack: 5.x (up to 5.3)
Operating modes: Wirepas Sink device
Network interface: LTE-M (CatM/NB-IoT), Ethernet PoE, WiFi
Compatible with Wirepas Network Tool (WNT) backend or with custom back-end, cloud or on-premises
Fully compliant with Wirepas remote MQTT APIs
Web UI manager dashboard and HTTP APIs for configuration and management

TinyGateway LTE Wirepas: architecture and interfaces



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 (1)
Wirepas module	Nordic Semiconductor nRF52832 SoC, 32-bit ARM Cortex-M4
Memory	384 KB ROM, 512 KB SRAM, Up to 8 MB PSRAM, up to 8MB Flash
Connectivity	LTE CatM/NB-IoT, Ethernet, WiFi, Wirepas Mesh 2.4GHz
User interfaces	Power-on LED, Wirepas LED, Status LED, factory-reset button
LTE-M specifications	
LPWA technologies	LTE Cat M1/Cat NB1-NB2 (with fallback on EDGE/EGPRS) (2)
Frequency bands	LTE CatM1/NB1/NB2: B1/2/3/4/5/8/12/13/18/19/20/25/26(3)/27(3)/28/31/66/71(4)/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
Ethernet specifications	
Protocol	IEEE 802.3af (Power over Ethernet, PoE)
Connector	RJ45
WiFi specifications	
Protocol	IEEE 802.11 b/g/n
Security	WPA/WPA2/WPA2-Enterprise (EAP-TLS, EAP-PEAP, EAP-TTLS) (5)
Frequency band	2.412 to 2.484 GHz
Channel spacing	20 MHz (802.11 b/g/n), 40 MHz (802.11n)
Sensitivity	-98 dBm (802.11b, 1 Mbps)
TX power	20.5 dBm (max, 802.11b, 1 Mbps)
Antenna type	Meander Planar Inverted F-antenna
Antenna gain	0 dBi
Wirepas Mesh specifications	
Protocol	Wirepas Mesh 2.4GHz, v5.x (up to 5.3)
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	<ul style="list-style-type: none">• USB: 5Vdc• PoE: 36 – 57Vdc ⁽⁶⁾
Power connector	<ul style="list-style-type: none">• USB: USB-C connector• PoE: RJ45 connector⁽⁶⁾
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 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	-35°C to +65°C
Storage temperature	-40°C to +105°C

Notes:

- (¹) Prototype will be available with BG96 module
- (²) Prototype will support NB1 only
- (³) Cat M1 only
- (⁴) Cat NB2 only
- (⁵) WPA2-Enterprise scheduled for Q1 2024
- (⁶) PoE power supply not allowed when using LTE-M connectivity

BlueUp reserves the right to change product specifications at any time without prior notice.
Wirepas, Espressif Systems, Xtensa, Nordic Semiconductor are trademarks of respective owners