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## F8825 ZigBee+LTE/WCDMA ROUTER TECHNICAL SPECIFICATION

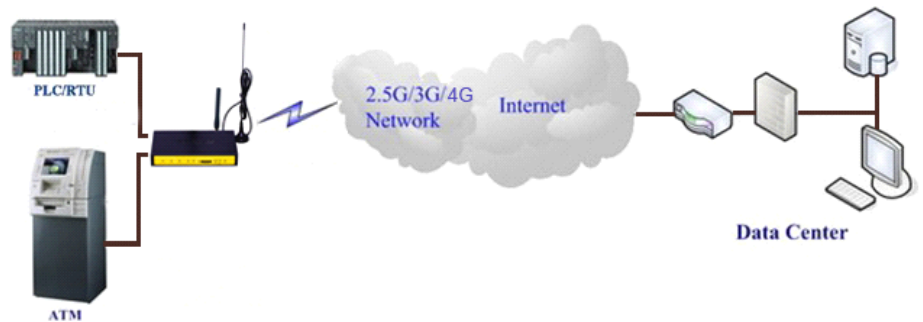


### General

F8825 ZigBee+LTE/WCDMA Router is a kind of cellular terminal device that provides data transmission function by public LTE/WCDMA network and ZigBee function.

It adopts high-powered industrial 32-bits CPU and embedded real time operating system. It supports RS232 (or RS485/RS422) and Ethernet port that can conveniently and transparently connect one device to a cellular network, allowing you to connect to your existing serial and Ethernet devices with only basic configuration. Also, it supports ZigBee function.

It has been widely used on M2M fields, such as intelligent transportation, smart grid, industrial automation, telemetry, finance, POS, water supply, environment protection, post, weather, and so on.



### Product Feature

#### Design for Industrial Application

- ◆ High-powered industrial cellular module
- ◆ High-powered industrial 32bits CPU
- ◆ High-powered industrial ZigBee module
- ◆ Support low-consumption mode, including sleep mode, scheduled online/offline mode, scheduled power-on/power-off mode(optional)
- ◆ Housing: iron, providing IP30 protection.
- ◆ Power range: DC 5~35V

#### Stability and Reliability

- ◆ Support hardware and software WDT
- ◆ Support auto recovery mechanism, including online detect, auto redial when offline to make router always online

- ◆ Ethernet port: 1.5KV magnetic isolation protection
- ◆ RS232/RS485/RS422 port: 15KV ESD protection
- ◆ SIM/UIM port: 15KV ESD protection
- ◆ Power port: reverse-voltage and overvoltage protection
- ◆ Antenna port: lightning protection(optional)

#### Standard and Convenience

- ◆ Support standard RS232(or RS485/RS422) and Ethernet port that can connect to serial and Ethernet devices directly
- ◆ Support intellectual mode, enter into communication state automatically when powered

- ◆ Provide management software for remote management
- ◆ Support several work modes
- ◆ Convenient configuration and maintenance interface (WEB or CLI)

**High-performance**

- ◆ Support 3G/HSPA/4G WAN access methods.
- ◆ Support ZigBee function
- ◆ Support VPN client(PPTP, L2TP, OPENVPN, IPSEC and GRE)(only for VPN version)
- ◆ Support VPN server(PPTP, L2TP, OPENVPN, IPSEC and GRE)(only for VPN version)
- ◆ Support local and remote firmware upgrade,import and export configure file.
- ◆ Support NTP, RTC embedded.

- ◆ Support multiple DDNS provider service.
- ◆ Support MAC Address clone, PPPoE Server
- ◆ Support multi online trigger ways, including SMS, ring and data. Support link disconnection when timeout
- ◆ Support APN/VPDN
- ◆ Support DHCP server and client, firewall, NAT, DMZ host, URL block, QoS, traffic, statistics, real time link speed statistics etc.
- ◆ Full protocol support, such as TCP/IP, UDP, ICMP, SMTP, HTTP, POP3, OICQ, TELNET, FTP, SNMP, SSHD, etc.
- ◆ Schedule Reboot, Schedule Online and Offline, etc.

**Product Specification**

**Cellular Specification**

| Cellular Module   | Industrial cellular module  |
|-------------------|---|
| Standard and Band | LTE FDD 2600/2100/1800/900/800MHz, 700/1700/2100MHz(optional)<br>HSPA+/HSDPA/HSUPA/WCDMA /UMTS900/2100MHz, 800/850/1900/2100MHz(optional)<br>EDGE/GPRS/GSM 900/1800/1900MHz<br>GPRS CLASS 10<br>GPRS CLASS 12 |
| Bandwidth         | LTE(DL:100Mbps,UL:50Mbps)<br>HSUPA:5.76Mbps(Upload speed)<br>HSDPA:7.2Mbps(Download speed)<br>UMTS:384Kbps (DL/UL)<br>HSPA+: 21Mbps(Download speed) 5.76Mbps(Upload speed)                                    |
| TX power          | <32dBm  |
| RX sensitivity    | <-93.3dBm   |

**ZigBee Specification**

| Item                              | Content                          |
|-----------------------------------|----------------------------------|
| ZigBee Module                     | Industrial ZigBee Platform       |
| Standard and Band                 | IEEE 802.15.4<br>ISM 2.4 ~2.5GHz |
| Indoor/Urban Range                | 30m<br>90m(With PA)              |
| Outdoor/RF<br>Line-of-Sight Range | 500m<br>2000m(With PA)           |

|                      |  |
|----------------------|--|
| Transmit Power       | 2.82 mw (+4.5dBm)<br>100 mw (+20dBm) (With PA)             |
| Bandwidth            | 250Kbps  |
| Receiver Sensitivity | -97dBm<br>-103dBm(With PA)                                 |
| Network Topologies   | Point-to-Point, Point-to-Multipoint, Peer-to-Peer and Mesh |
| Number of channels   | 16 Direct Sequence Channels                                |
| Channel              | 11 to 26   |
| Max package size     | 300Bytes   |

### Hardware System

| Item  | Content                 |
|-------|-------------------------|
| CPU   | Industrial 32bits CPU   |
| FLASH | 8MB(Extendable to 64MB) |
| SDRAM | 64MB                    |

### Interface Type

| Item      | Content  |
|-----------|--|
| Ethernet  | 1 10/100 Mbps Ethernet port(RJ45), auto MDI/MDIX, 1.5KV magnetic isolation protection  |
| Serial    | 1 RS232(or RS485/RS422) port, 15KV ESD protection<br>Data bits: 5, 6 ,7, 8<br>Stop bits: 1, 1.5(optional), 2<br>Parity: none, even, odd, space(optional), mark(optional)<br>Baud rate: 2400~115200bits/s |
| Indicator | "Power", "System", "Online", "Link/ACT", "Alarm", "ZigBee", "Signal Strength".   |
| Antenna   | Cellular: Standard SMA female interface, 50 ohm, lightning protection(optional)<br>ZigBee: Standard SMA female interface, 50 ohm, lightning protection(optional)   |
| SIM/UIM   | Standard 3V/1.8V user card interface, 15KV ESD protection  |
| Power     | Standard 3-PIN power jack, reverse-voltage and overvoltage protection  |
| Reset     | Restore the router to its original factory default settings  |



### Power supply

| Item           | Content      |
|----------------|--------------|
| Standard Power | DC 12V/1.5A  |
| Power range    | DC 5~35V     |
| Consumption    | <450mA (12V) |

### Physical Characteristics

| Item       | Content                         |
|------------|---------------------------------|
| Housing    | Iron, providing IP30 protection |
| Dimensions | 157x97x25 mm                    |
| Weight     | 440g                            |

### Environmental Limits

| Item                  | Content                |
|-----------------------|------------------------|
| Operating Temperature | -35~+75°C (-31~+167°F) |
| Storage Temperature   | -40~+85°C (-40~+185°F) |
| Operating Humidity    | 95% (unfreezing)       |