

File No.	File version	confidential

F8233 ZigBee+CDMA ROUTER TECHNICAL SPECIFICATION

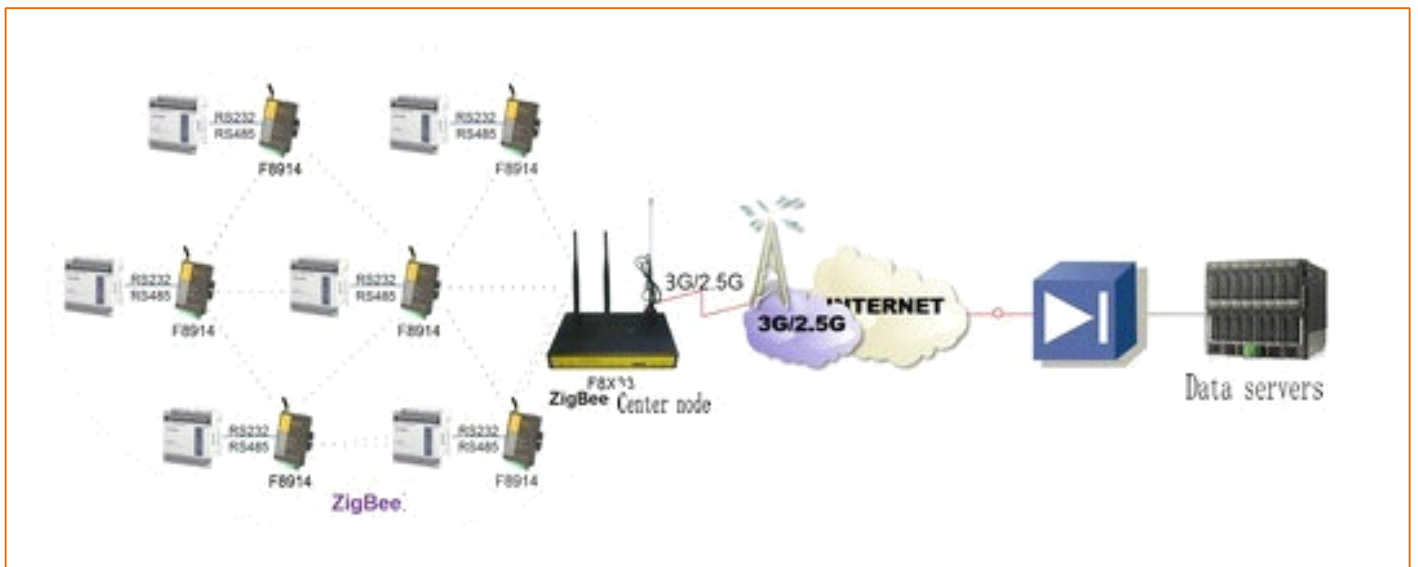


General

F8233 ZigBee+CDMA ROUTER is a kind of cellular terminal device that provides data transfer function by public CDMA and ZigBee network.

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

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

- ◆ 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), Ethernet and WIFI port that can connect to serial, Ethernet, WIFI and ZigBee devices directly

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

High-performance

- ◆ Support data transfer by cellular and ZigBee network
- ◆ Support double link backup between GPRS and WAN(PPPOE, ADSL) (optional)
- ◆ Support VPN client(PPTP, L2TP, IPSEC and GRE)(only for VPN version)
- ◆ Support port mirror function(optional)

- ◆ Support standard WAN port and PPPOE protocol that can connect to ADSL directly
- ◆ Support intellectual mode, enter into communication state automatically when powered
- ◆ Support WIFI AP, WIFI AP client and WDS(optional)
- ◆ Support multi online trigger ways, including SMS, ring and data. Support link disconnection when timeout
- ◆ Support APN/VPDN
- ◆ Support wireless video monitoring and dynamic picture transfer
- ◆ Support DHCP server and client, DDNS, firewall, NAT, DMZ host etc.
- ◆ Support multi protocols, such as TCP/IP, UDP, ICMP, SMTP, HTTP, POP3, OICQ, TELNET, FTP, SNMP, etc.

Product Specification

Cellular Specification

Item	Content
Cellular Module	Industrial cellular module
Standard and Band	CDMA2000 1xRTT 800MHz, 800/1900MHz(optional),450MHz(optional)
Bandwidth	153.6Kbps
TX power	<30dBm
RX sensitivity	<-104dBm

WIFI Specification

Item	Content
Standard	IEEE802.11b/g IEEE802.11n (optional)
Bandwidth	IEEE802.11b/g: 54Mbps (max) IEEE802.11n: 300Mbps (max)
Security	WEP, WPA, WPA2, etc. WPS (optional)
TX power	16-17dBm(11g), 18-20dBm(11b)
RX sensitivity	<-72dBm@54Mbps

ZigBee Specification

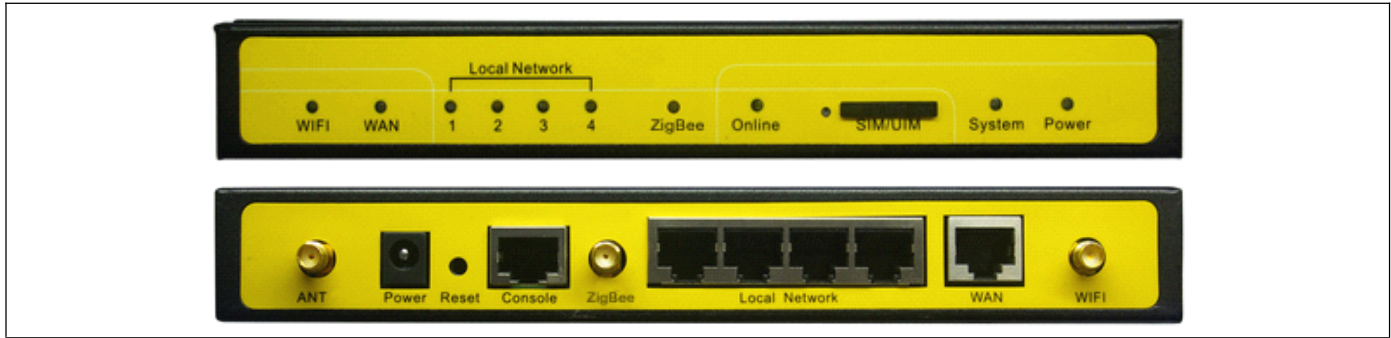
Item	Content
ZigBee Module	Industrial ZigBee module
Standard and Band	IEEE 802.15.4 ISM 2.4 GHz
Indoor/Urban Range	60m 90m(for enhanced version)
Outdoor/RF Line-of-Sight Range	1200m 3200m(for enhanced version)
Transmit Power	3.1 mw (+5dBm) /Normal mode, 6.3 mw (+8dBm)/Boost mode 63 mw (+18dBm) (for enhanced version)
Bandwidth	250Kbps
Receiver Sensitivity	-102dBm
Network Topologies	Point-to-Point, Point-to-Multipoint, Peer-to-Peer and Mesh
Number of channels	16 Direct Sequence Channels 15 Direct Sequence Channels (for enhanced version)
Channels	11 to 26 11 to 25 (for enhanced version)

Hardware System

Item	Content
CPU	Industrial 32bits CPU
FLASH	4MB(Extendable to 16MB)
SDRAM	32MB(Extendable to 64MB)

Interface type

Item	Content
WAN	1 10/100 Mbps WAN port(RJ45), auto MDI/MDIX, 1.5KV magnetic isolation protection
LAN	4 10/100 Mbps Ethernet ports(RJ45), auto MDI/MDIX, 1.5KV magnetic isolation protection
Serial	1 RS232(or RS485/RS422) port, 15KV ESD protection Data bits: 5, 6, 7, 8 Stop bits: 1, 1.5, 2 Parity: none, even, odd, space, mark Baud rate: 110~230400 bps
Indicator	"Power", "System", "Online", "ZigBee", " Local Network ", "WAN", "WLAN"
Antenna	Cellular: Standard SMA female interface, 50 ohm, lightning protection(optional) WIFI: Standard SMA male interface, 50 ohm, lightning protection(optional) 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	<480mA (12V)

Physical Characteristics

Item	Content
Housing	Iron, providing IP30 protection
Dimensions	206x135x28 mm
Weight	795g

Environmental Limits

Item	Content
Operating Temperature	-25~+65°C (-13~+149°F)
Extended Operating Temperature	-30~+75°C (-22~+167°F)
Storage Temperature	-40~+85°C (-40~+185°F)
Operating Humidity	95% (unfreezing)