F8614 ZigBee+EVDO IP MODEM Specification

File No.	File version	confidential

F8614 ZigBee+EVDO IP MODEM TECHNICAL SPECIFICATION



General

F8614 ZigBee+EVDO IP MODEM is a kind of data terminal device that provides data transfer function by public EVDO and ZigBee network.

It adopts high-powered industrial 32 bits CPU and embedded real time operating system. It supports RS232, RS485 (or RS422) and ZigBee port that can conveniently and transparently connect one device to a cellular network, allowing you to connect to your existing serial and ZigBee devices with only basic configuration. It has low power consumption states in which the power consumption could be lower than 1mA@12VDC. It has compatible digital I/O channel, ADC, input pulse counter and pulse wave output 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 ZigBee module
- High-powered industrial 32 bits CPU
- Support low power consumption mode, including multi-sleep and trigger modes to reduce the power dissipation farthest
- Embedded Real Time Clock(RTC) circuit which can realize timing online/offline function
- 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 it always online
- RS232/RS485/RS422 ports:15KV ESD protection
- SIM/UIM port: 15KV ESD protection
- Power port: reverse-voltage and overvoltage protection
- Antenna port: lightning protection(optional)

Standard and Convenience

- Adopt terminal block interface, convenient for industrial application
- Support standard RS232, RS485(or RS422) and ZigBee port that can connect to serial and ZigBee devices directly



Công ty TNHH Công nghệ Việt Thái Dương

Email: kd@cnttshop.vn Tel: 0906 051 599 Web: https://cnttshop.vn Văn phòng Hà Nội: NTT03, Line 1, Thống Nhất Complex, 82 Nguyễn Tuân, Thanh Xuân, Hà Nội. Văn phòng HCM: Số 31B, Đường 1, Phường An Phú, Quận 2 (Thủ Đức), TP HCM.

- TTL logic level RS232 interface can be customized
- 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

High-performance

- Support data transfer by cellular and ZigBee network
- Support TCP server and support multi TCP client connection(optional)

- Support double data centers, one main and another backup
- Supply 5 I/O channels, compatible 2 pulse wave output channels, 2 analog inputs and one pulse input counters.
- Support multi data centers and it can support 5 data centers at the same time
- Support multi online trigger ways, including SMS, ring and data. Support link disconnection when timeout
- Support dynamic domain name(DDNS) and IP access to data center
- Design with standard TCP/IP protocol stack
- Support APN/VPDN

Product Specification

Cellular Specification

Item	Content
Cellular Module	Industrial cellular module
Standard and Band	CDMA2000 1X EVDO Rev A 800MHz
	CDMA2000 1X EVDO Rev A 800/1900MHz (optional)
	CDMA2000 1X EVDO Rev A 450MHz (optional)
	IS-95 A/B 🔪 CDMA2000 1xRTT
Bandwidth	3.1Mbps(down), 1.8Mbps(up)
TX power	<23dBm
RX sensitivity	<-104dBm

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	100m
Range	800m(for enhanced version)
T	0dBm
Transmit Power	22dBm (for enhanced version)
Bandwidth	250Kbps
Receiver Sensitivity	-95dBm
Receiver Selisitivity	-104dBm(for enhanced version)



Network Topologies	Point-to-Point, Point-to-Multipoint, Peer-to-Peer and Mesh
	16 Direct Sequence Channels
Number of channels	15 Direct Sequence Channels (for enhanced version)
C1 1	11 to 26
Channels	11 to 25 (for enhanced version)
Max packge size	1024 Bytes

Hardware System

Item	Content
CPU	Industrial 32 bits CPU
FLASH	512KB (Extendable)
SRAM	256KB(Extendable)

Interface Type

Item	Content
Serial	1 RS232 port and 1 RS485(orRS422) 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", "ACT", "Online", "ZigBee"
Antenna	Cellular: Standard SMA female interface, 50 ohm, lighting protection(optional)
	ZigBee: Standard SMA female interface, 50 ohm, lighting protection(optional)
SIM/UIM	Standard 3V/1.8V user card interface, 15KV ESD protection
Power	Terminal block interface, reverse-voltage and overvoltage protection
	Cellular Antenna TigBee Antenna Interface Terminal Block SIM/UIM Port

Power Input

Item	Content
Standard Power	DC 12V/0.5A
Power Range	DC 5~35V

Power Consumption

	Working States	Power Consumption
--	----------------	-------------------



Communication	50-90mA@12VDC; 115-165mA@5VDC
Standby	25mA@12VDC; 45mA@5VDC
Sleep	8mA@12VDC; 18mA@5VDC
Timing Power Off	0.6mA@12VDC; 1mA@5VDC

Physical Characteristics

Item	Content
Housing	Iron, providing IP30 protection
Dimensions	91x58.5x22 mm
Weight	210g

Environmental Limits

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

