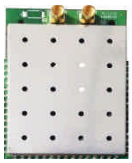
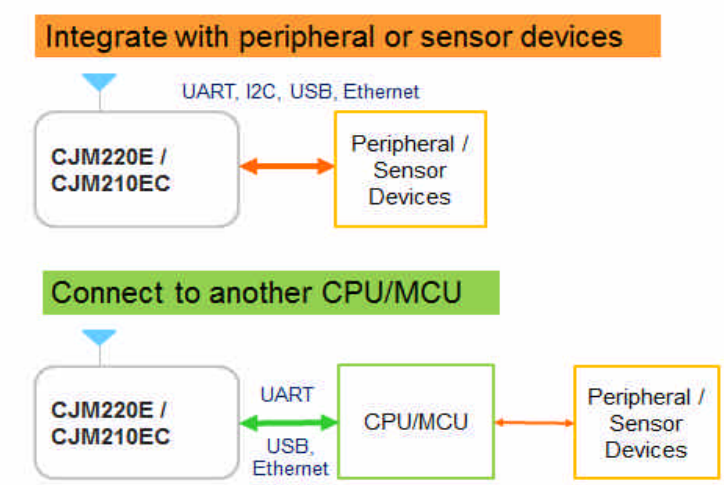
CONJING NETWORKS CJM220E/CJM220EI

802.11 b/g/n High Performance Embedded Wi-Fi Module



PRODUCT OVERVIEW

The Wi-Fi modules offer quick, easy and cost effective way to enable Wi-Fi connectivity for all kinds of products. They provide two serial UART (Low/High speed), GPIO, I2C, USB and Ethernet interfaces, enabling connection to any kind of embedded design. The module works as transparent bridge among interfaces such as UART to WiFi, UART to Ethernet, Ethernet to WiFi, …etc. The Wi-Fi solution dramatically reduces development time and allows customers to focus on their core applications.



The modules are fully compliant with 802.11 b/g/n, and the data rates are up to 300 Mbps. They support AP / Client / Repeater operation modes for any kind of networking applications, and allow customer's products connect to internet easily. Especially for video streaming application, we support IGMP snooping and multicast-unicast conversion technology to ensure high quality video transmission over wireless.

Module	Antenna Options	Antenna Connector
CJM220E	External antenna	MMCX
CJM220EI	External antenna	IPEX

The modules have extended range with excellent receiver sensitivity. There are two kinds of connectors available to add external antennas for max performance. The MMCX connector is robust for the connection of antenna, and the IPEX connector is suitable for general applications. The 2X2 Wi-Fi radio can provide high throughput for Wi-Fi data transmission.

FEATURES

- Highly integrated 802.11b/g/n 2x2 Wi-Fi radio at data rate of up to 300 Mbps
- Support AP/Client/Repeater mode
- Support wireless security: legacy WEP, WPA/WPA2 personal and enterprise
- Excellent receiver sensitivity -93 dBm
- Easy configuration through web page / CLI command
- Easy firmware upgrade through web page
- Multiple TCP connections are up to 32 clients
- High capacity memory 32MB RAM, 8MB Flash
- Rich I/O interfaces such as UART , I2C, GPIO, Ethernet, USB
  - High speed UART is up to 3Mbps
- Easy integrated surface mount connection
- Single power source of 3.3V DC
- Support USB driver for mass storage and virtual Ethernet interface
- Support IGMP snooping and multicast-unicast conversion technology for video streaming application.
- Certificate: FCC, CE, RoHS compliant

CJM220E / CJM220EI PRODUCT SPECIFICATIONS

RF characteristics	
Standard	IEEE 802.11 b/g/n 2x2 Wi-Fi radio
Operating Frequency	2.412 GHz ~ 2.484 GHz
Supported Data Rates	• 802.11n: 6.5Mbps ~ 300Mbps • 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11b: 1, 2, 5.5, 11 Mbps
Transmit Power (Typical)	• 802.11b: 17dBm • 802.11g: 18dBm@6Mbps,13dBm@54Mbps • 802.11n: 18dBm@MCS0,12dBm@MCS7
Receiver Sensitivity	• 802.11b: -93dBm • 802.11g: -90dBm@6Mbps, -75dBm@54Mbps • 802.11n: -90dBm@MCS0, -71dBm@MCS7
Antenna Options	MMCX / IPEX connectors for external antennas
Hardware Characteristics	
Chipset	Qualcomm Atheros SoC
Memory	Flash: 8 MB nor flash, RAM: 32 MB DDR1
I/O Interfaces	• Low speed UART x 1: up to 115.2 Kbps • High speed UART x 1: up to 3Mbps with RTS/CTS flow control • Fast Ethernet x 2, I2C x 1, USB 2.0 x 1, GPIOs
Operating Temperature	-40℃ ~ 65℃
Power Source	3.3 V DC
Dimension	(CJM220E) 47(l) mm x 33(w) mm x 8(h) mm (CJM220EI) 47(l) mm x 33(w) mm x 6(h) mm
Software	
Wireless Mode	AP/Client/Repeater (AP+Client) mode
Wireless Security	WEP, WPA/WPA2 Personal, WPA/WPA2 Enterprise, WPS
Advanced Wireless Features	Auto data rate, auto channel selection, adjustable transmit power, site survey
Network Protocols	TCP, UDP, IPv4, DHCP, ARP, ICMP, DNS, HTTP, Telnet, SNTP. IPV6 pass through, IGMP snooping
Multiple TCP Connections	Maximum TCP Clients are 32
USB driver	Mass storage, Virtual Ethernet interface
Configuration	Web GUI, CLI commands

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