

## **Brief Datasheet**

**PRODUCT :** CM8196B

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**DESCRIPTION :** *802.11b/g/n 1x1 Mini Module*

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## Description

CM8196B Solution is a small-size, 802.11n AP board that achieves a data rate up to 150Mbps. It is 3 times faster than the legacy 11g model but is priced less, making it more cost-effective.

This product supports WIFI Application. It is ideal for multi-purpose installation to share wireless connection.

By supporting 64/128-bits WEP, TKIP, WPA, WPA2, AES and WPS, help to protect your data and privacy during transmission.

This module could be used in WIFI application such as WIFI drive, baby monitoring, WIFI IP CAM, WIFI accessory...etc.

## Features

- Realtek RTL8196EU-V3 chipset with Interface USB, GPIO, UART and GPIOs.
- Support boot from Flash
- Data Rate up to 150Mbps
- Security: 64/128-bits WEP, TKIP, WPA, WPA2, AES, WPS
- Multi-modes: AP/Client, WDS



## Specification

### Hardware Features:

Standard	IEEE 802.11 b/g/n standards compliant
Wireless LAN	1T1R Mode
Antenna	on-board chip antenna
20-pin Interface	USB*1 ( Host ) UART*1 GPIOs VCC/GND
Frequency Range	2.412 ~ 2.462GHz ( subject to local regulations)
Number of Selectable Channels	802.11n 40MHz :7 channels 802.11b/g/n 20MHz :11channels
Data Rate	802.11n: up to 150Mbps 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
Coverage Area	Up to 3 times faster than existing 802.11 b/g products
Transmit Power(EIRP)	11n HT40 MCS7 : +13 dBm 11b CCK: +18 dBm 11g OFDM: +15 dBm
Receiver Sensitivity	-66dBm at HT40 MCS7 -73dBm at 54Mbps -86dBm at 11Mbps
Power Consumption	220mA
Dimension	25x35 mm
Certifications	FCC by request

**Software Features:**➤ **Network Features:**

- ✧ DHCP Client/Relay/Server
- ✧ Dynamic DNS
- ✧ NTP Client
- ✧ DNS Cache/Proxy
- ✧ Firewall
  1. MAC/IP/Port Filter
  2. Virtual Server
  3. DMZ
  4. Content Filter

➤ **WiFi:**

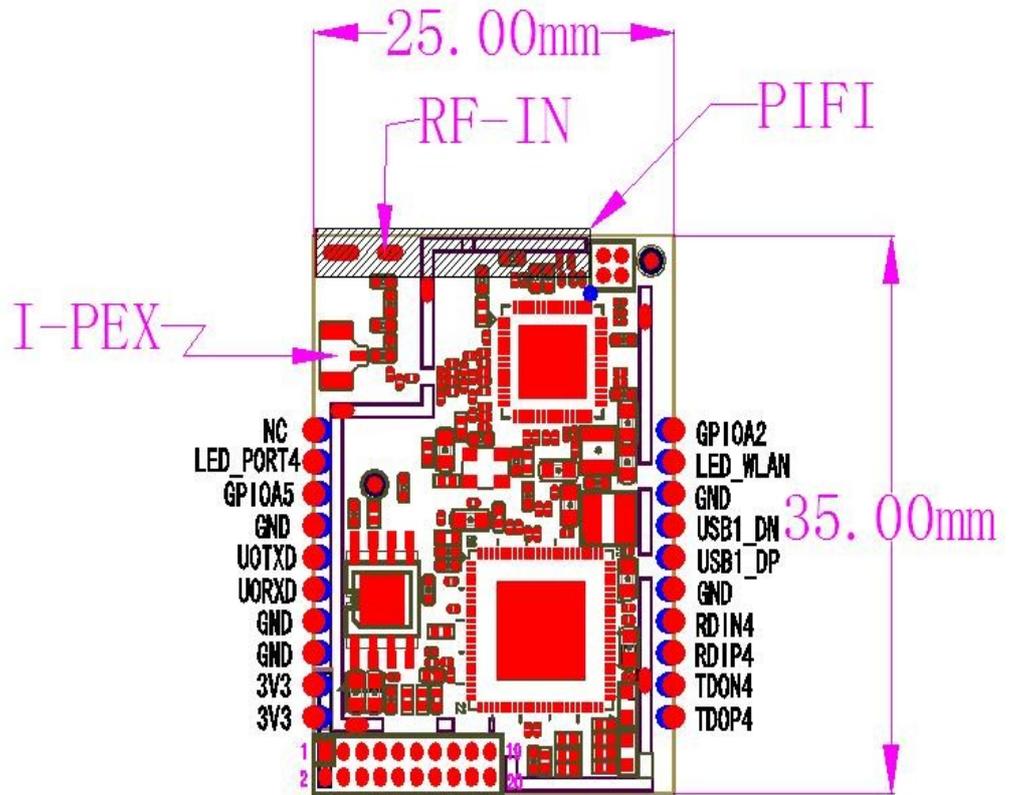
- ✧ Mode: AP/Router/Client/AP-Client/Router-Client
- ✧ One Transmit and One Receive paths(1T1R)
- ✧ 20MHZ/40MHZ bandwidth.
- ✧ Support Multiple SSID
- ✧ Clock rate up to 400MHz Legacy and High Throughput Modes.
- ✧ Support WPS
- ✧ High security with build-in: WEP 64/128, TKIP, WPA, WPA2 mixed, 802.1x and 802.11i
- ✧ 802.1X Authentication with RADIUS Client
- ✧ QoS-WMM.WMM-PS

## Pin Definition

Description	Pin	Pin	Description
+3.3V	2	1	+3.3V
UART_Rx	4	3	GND
UART_Tx	6	5	NC
GND	8	7	WPS/Reset to Default # (GPIOA5)
LED_WLAN#	10	9	GND
LED_WPS#	12	11	USB_D+
AP/Client selection (GPIOA2)	14	13	USB_D-
Reserved	16	15	GND
RJ45 (TX+)	18	17	RJ45(TX-)
RJ45(RX+)	20	19	RJ45(RX-)

### Size:

1. Size: 25\*35 mm  
Double row 1.27 pitch on the 35mm side
2. Reserved: Available for use
3. Reserved is ACTIVE LOW
4. LEDs and WPS/Reset to Default are active LOW
5. Reset /Reset to default function is share AP/Client selection pin.



1	3V3	GND	NC	GPIOA5	GND	USB1_DP	USB1_DN	GND	TD0N4	RD1N4	19
2	3V3	U0RXD	U0TXD	GND	LED_WLAN	LED_PORT4	GPIOA2	NC	TD0P4	RD1P4	20

**FCC ID: 2ACXLCM8196B**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF exposure statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The module must not be modified in any way. Coupling of external circuitry must not bypass the provided connectors.

End product must be externally labeled with "Contains FCC ID: 2ACXLCM8196B" The integrator must not provide any information to the end-user on how to install or remove the module from the end-product.

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