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BRIEF DATASHEET

Customer:

Product Number:	**CWFB122** **CWFB122-S** **CWFB123(40-Pin)**
Description:	**802.11b/g/n 1x1 Mini Module**

Approved Signatures	鉅景科技 股份有限公司
	Contact Person:

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Using This Document

This document is intended for hardware and software engineer’s general information on the product. Though every effort has been made to ensure that this document is current and accurate, more information may have become available subsequent to the production of this guide.

Revision History

Revision	Release Date	Description
0.3	2013/01/08	Preliminary Edition
0.4	2013/3/22	I2C update Pin Def
0.5	2013/5/13	I2S update Pin Def + 40-pin Pin Def

Description

Chipsip 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

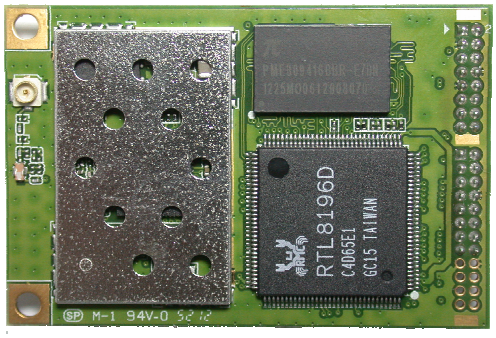
This product supports AP/Client modes. It is idea for multi-purpose installation to share wireless connection.

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

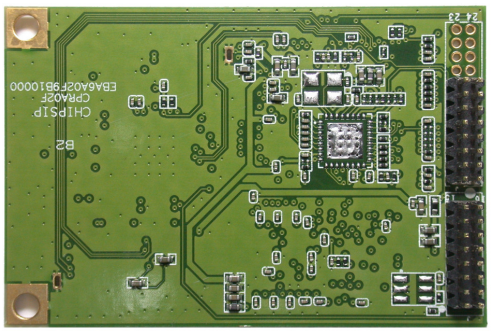
This module could be mounted on system board like IPTV, STB, Media Player, Femto, XDSL, Cable Modem, Industrial PC, Ethernet Switch, Printer Server, Connected TV, and portable CPE For WiMAX/LTE

Features

- Realtek RTL8196D chipset with interface LAN, USB, UART, I2S/I2C and GPIOs.
- Support boot from Flash
- Data Rate up to 150Mbps
- Security: 64/128-bits WEP, TKIP,WPA, WPA2,AES,WPS
- Multi-modes: AP/Router/Client
- Support DLNA server



Top View



Bottom View

Specification

Hardware Features:

Standard	IEEE 802.11 b/g/n standards compliant
Wireless LAN	1TX 1RX Mode
Antenna	iPex Connector *1
16-pin x2 Interface	USB*1 (USB2.0, Host mode) 2 Ethernets are configurable as 2 LANs UART1 I2S/I2C or UART2 as option GPIOs VCC 3.3V / GND
Frequency Range	2.400 ~ 2.4835GHz (subject to local regulations)
Number of Selectable Channels	802.11n BW 20MHz/40MHz ; 802.11b/g USA, Canada (FCC):11 channels (2.412GHz~2.462GHz) Europe (CE): 13 channels (2.412GHz~2.472GHz) Japan (TELEC): 14 channels (2.412GHz~2.4835GHz)
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 6 times faster then existing 802.11 b/g products
Transmit Power	11n HT40 MCS7 : +13 dBm 11b CCK: +17 dBm 11g OFDM: +15 dBm
Receiver Sensitivity	-66dBm at HT40 MCS7 -73dBm at 54Mpbs -86dBm at 11Mpbs
Operation Temperature	0 ^{O}C~40 ^{O}C
Related Humidity	0% ~ 90%(Non-condensing)
Dimension	30x45 mm
Certifications	FCC/CE by request

Specification

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:**
  - One Transmit and One Receive paths(1T1R)
  - 20MHZ/40MHZ bandwidth.
  - Support Multiple SSID
  - Clock rate up to 600MHz 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

Specification

Pin Definition for UART x2

Pin No.	Pin Name	I/O Direction	Pin No.	Pin Name	I/O Direction
1	3.3V	P	2	3.3V	P
3	GND	G	4	Consol RX	I
5	GPIO2	I/O	6	Consol TX	O
7	Reset/WPS	I	8	GND	G
9	GND	G	10	LED_WLAN#	O
11	USB_D +	I/O	12	GPIOB5(I2C_SDA)	I/O
13	USB_D -	I/O	14	GPIOB3(I2C_SCLK)	I/O
15	GPIOB4	I/O	16	GPIOB0	I/O
17	I2S_MCLK	O	18	I2S_SDO	O
19	I2S_SDI	I	20	I2S_WS	I/O
21	I2S_SCK	I/O	22	3.3V	P
23	GND	G	24	GND	G
25	ETH_RDIN4	I/O for LAN	26	ETH_TDOP1	I/O for WAN
27	ETH_RDIP4	I/O for LAN	28	ETH_TDON1	I/O for WAN
29	ETH_TDON4	I/O for LAN	30	ETH_RDIP1	I/O for WAN
31	ETH_TDOP4	I/O for LAN	32	ETH_RDIN1	I/O for WAN

NOTE: Type symbol definition:

I: Input

O: Output

I/O (low active): Bi-Directional Input/Output

P: Digital Power

AI: Analog Input

AO: Analog Output

AI/O: Analog Bi-Directional Input/Output

G: Digital Ground

Specification

Pin Definition for w/I2S

Description	Pin	Pin	Description
+3.3V	2	1	+3.3V
Consol RX	4	3	GND
Consol TX	6	5	GPIO2
GND	8	7	Reset/WPS
LED_WLAN#	10	9	GND
GPIOB5 I2C	12	11	USB_D+
GPIOB3 I2C	14	13	USB_D-
GPIO0	16	15	GPIO4

I2S_SDO	18	17	I2S_MCLK
I2S_WS	20	19	I2S_SDI
+3.3V	22	21	I2S_SCK
GND	24	23	GND
ETH_TDOP1	26	25	ETH_RDIN4
ETH_TDON1	28	27	ETH_RDIP4
ETH_RDIP1	30	29	ETH_TDON4
ETH_RDIN1	32	31	ETH_TDOP4

Specification

Pin Definition for 40-pin w/Mii

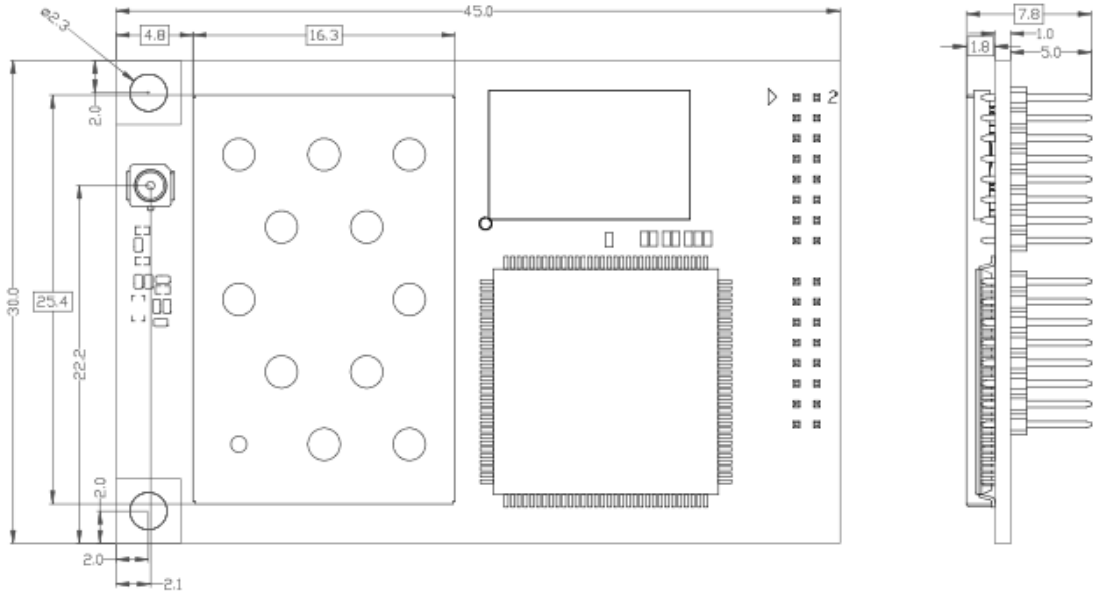
Description	Pin	Pin	Description
+3.3V	2	1	+3.3V
Consol RX	4	3	GND
Consol TX	6	5	GPIO2
GND	8	7	Reset/WPS
LED_WLAN#	10	9	GND
GPIOB5	12	11	USB_D+
GPIOB3	14	13	USB_D-
GPIO0	16	15	GPIO4

ETH_RDIP3	18	17	ETH_TDON3
ETH_RDIN3	20	19	ETH_TDOP3
MII_CRS	22	21	MII_RXER
GND	24	23	GND
MII_RXD0	26	25	MII_TXD0
MII_RXD1	28	27	MII_TXD1
MII_RXD2	30	29	MII_TXD2
MII_RXD3	32	31	MII_TXD3
GND	34	33	GND
MII_RXC	36	35	MII_TXC
MII_RXDV	38	37	MII_TXEN
MII_MDIO	40	39	MII_MDC

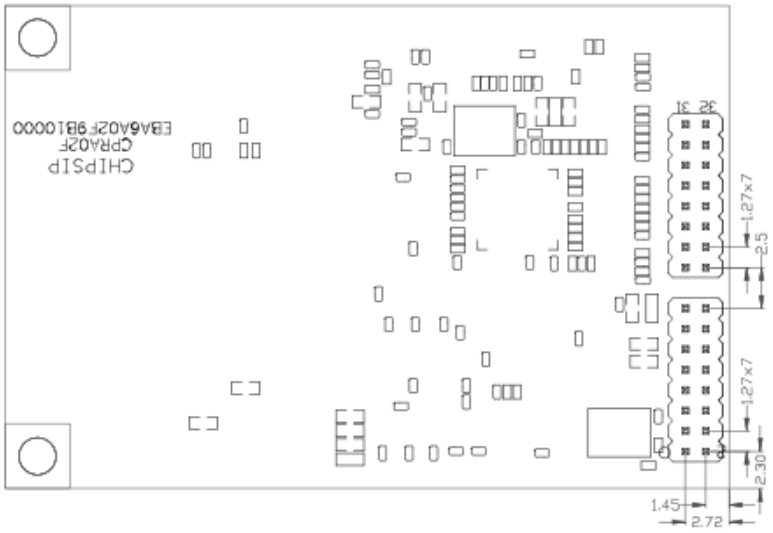
Product Dimension and Drawing

Product outline size: about 30 x 45 mm

Mechanical Drawing: (unit: mm, tolerance: ±0.15mm)



Top View



Bottom View