Product Specifications

WM-294
WLAN 11n USB module (1T1R)

Version: 1.4

Manufacturer	CC&C Technologies, Inc.

Revision History

Version	Issue date	Reason for revision
1.4	Mar. 30, 2011	Update power-down control function
1.3	Jan. 27, 2011	Update power consumption
1.2	Jan. 25, 2011	Update Placement Notice
1.1	Dec. 14, 2010	Update ME drawing
1.0	Dec. 10, 2010	First edition

Overview

WM-294 is a WLAN 11n USB module, which fully supports the features and functional compliance of IEEE 802.11n,e and i standards. It supports up to 150Mbps high-speed wireless network connections.

It is designed to provide excellent performance with low power consumption and enhance the advantages of robust system and cost-effective. It is targeted at competitive superior performance, better power management applications.

Features

- Operates in 2.4 GHz frequency bands
- 1x1 MIMO technology improves effective throughput and range over existing 802.11 b/g products
- Data rates: up to 150Mbps
- 802.11e-compatible bursting and I standards
- BPSK, QPSK, 16 QAM, 64 QAM modulation schemes
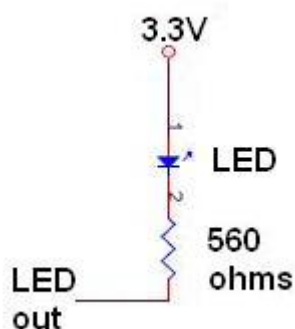- WEP, TKIP, and AES, WPA, WPA2 hardware encryption schemes

General Specification

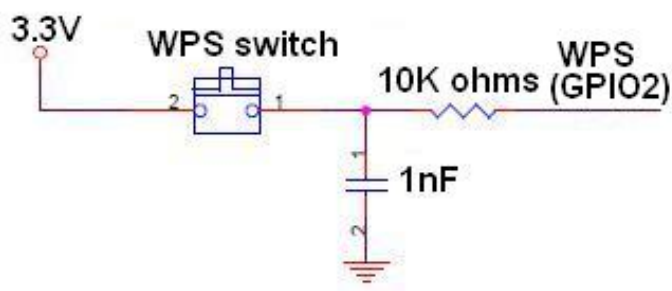| Model Name	WM-294
Product Name	WLAN 11n USB module
Standard	802.11b/g/n, 802.3, 802.3u
Data Transfer Rate	1,2,5.5,6,11,12,18,22,24,30,36,48,54,60,90,120 and maximum of 150Mbps
Modulation Method	BPSK/ QPSK/ 16-QAM/ 64-QAM
Frequency Band	2.4GHz ISM Band
Spread Spectrum	IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum) IEEE 802.11g/n:OFDM (Orthogonal Frequency Division Multiplexing)
RF Output Power	< 14dBm@11n,< 17dBm@11b,< 14dBm@11g
Operation Mode	Ad hoc, Infrastructure
Receiver Sensitivity	11Mbps -80dBm@8%,54Mbps -70dBm@10%,130Mbps -64dBm@10%
Operation Range	Up to 180 meters in open space
LED	Power
OS Support	Windows XP /Vista /Mac /Linux
Security	WEP, TKIP, AES, WPA, WPA2
Interface	USB 2.0
Power Consumption	DC 5V module - Transmit: max. 125 mA; Receive: max 105 mA DC 3.3V module - Transmit: max. 160 mA; Receive: max 125 mA
Operating Temperature	0 – 50° C ambient temperature
Storage Temperature	-10 ~ 70°C ambient temperature
Humidity	5 to 90 % maximum (non-condensing)
Dimension	25 x 12 x 2 mm (LxWxH)

Pin outs:

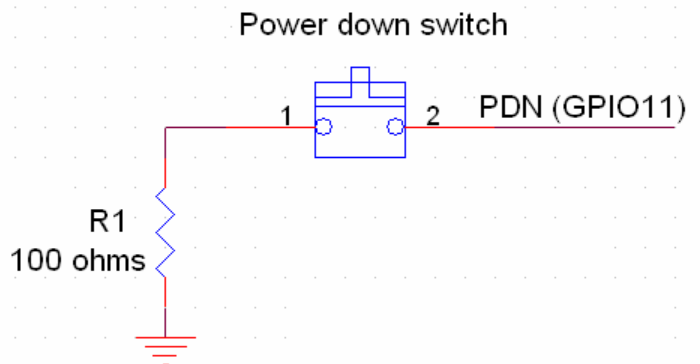The external circuit for WiFi activity LED display

The function of pin 6 is optional to WPS (GPIO2) or power-down (GPIO11) made by factory.

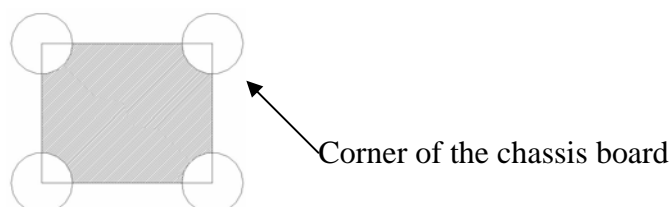The external circuit for WPS function input (optional)

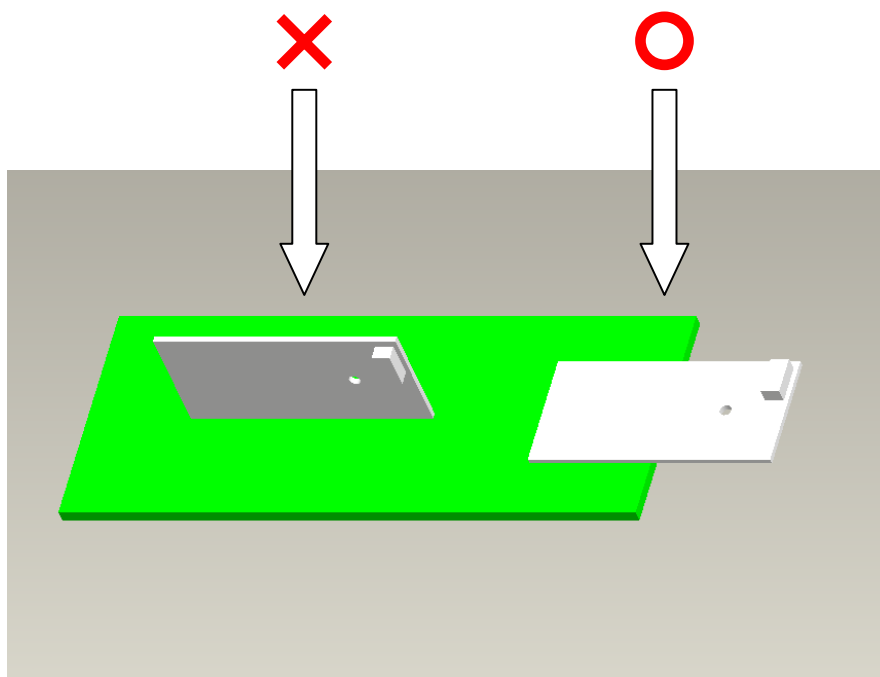The external circuit for power-down function input (optional)

Dimension

Subject to change without notice

Placement Notice

■ In order to get a better performance please don't put any metal shielding in the surrounding area of module and try to leave the module placed in the corner of chassis board as close as possible.
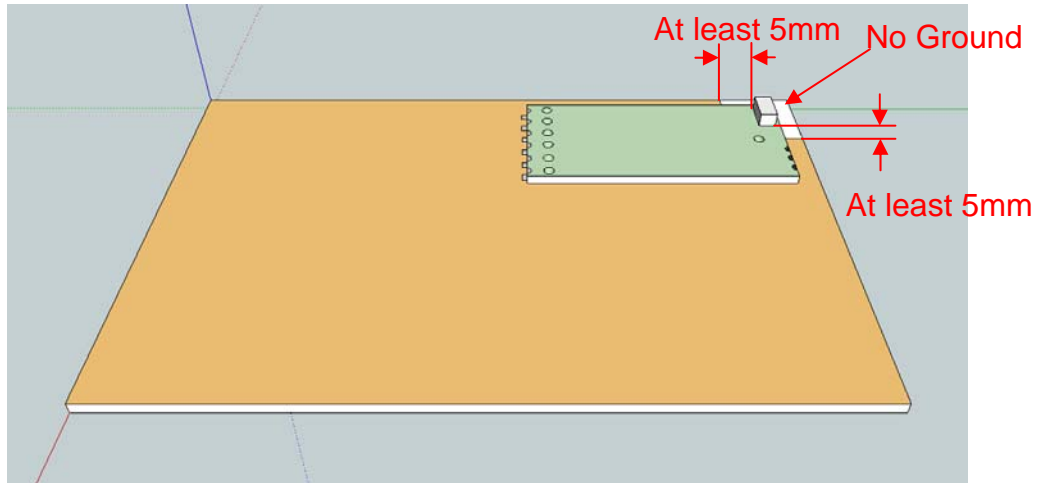
Corner of the chassis board

■ Considering antenna field pattern it is better to put the module in horizontal way with the chassis board.
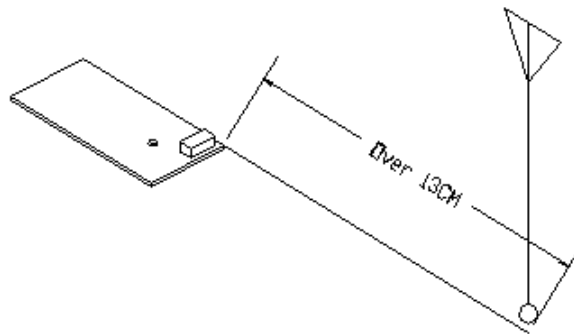
■ **Chip Antenna**

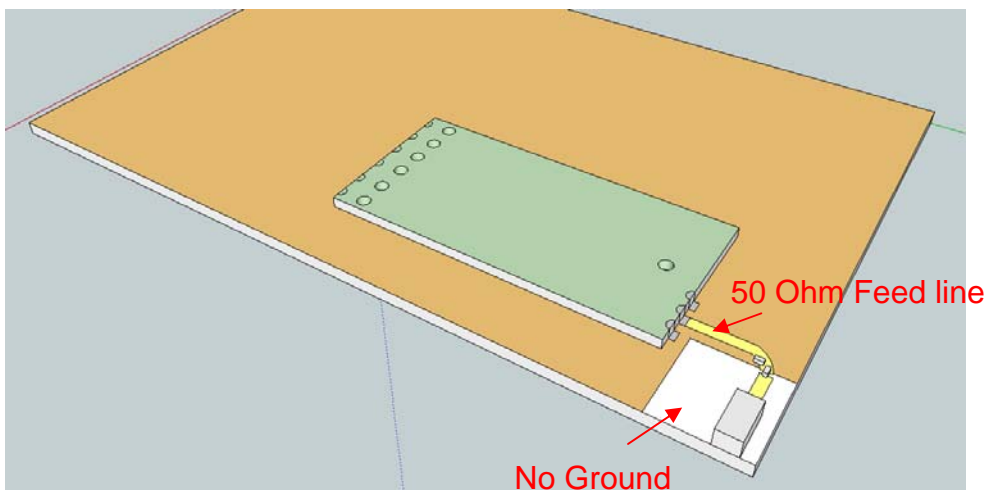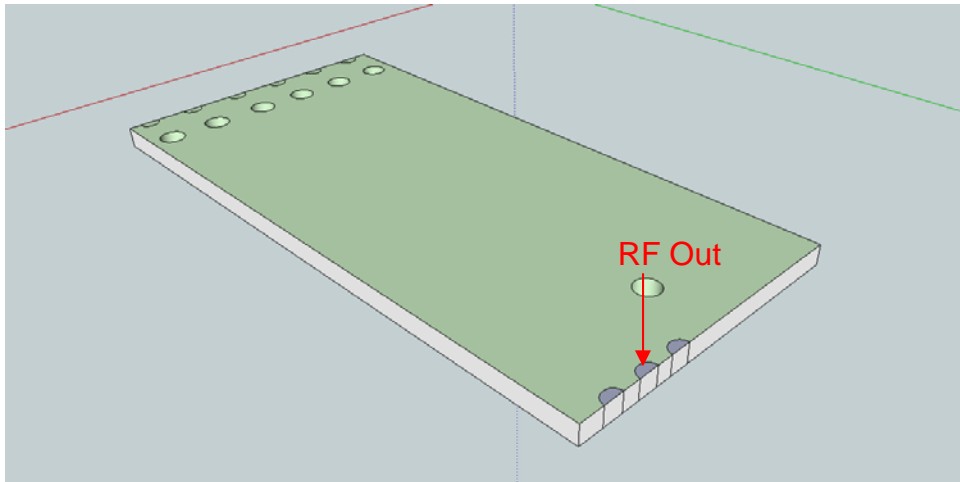The antenna area in the module should protrude outside the Ground at least 5mm

Keep the distance at least 13 cm long with WLAN or other antenna of same frequency band to avoid the interference or deteriorate the performance.
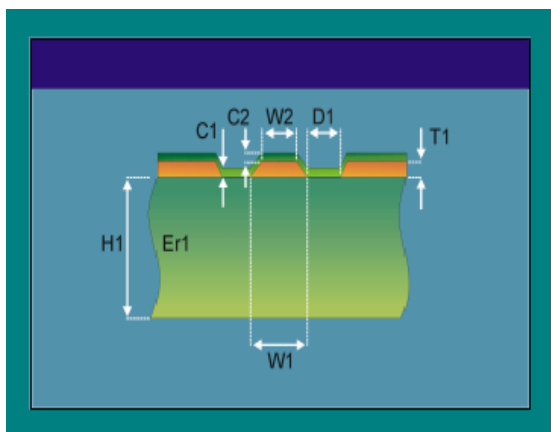
■ **RF out**

This RF out pin, it needs the input impedance of 50 Ohm

50 Ohm Feed line:

H1: 20 ~ 60 mil

Er1: 4.2

W1: 20   mil

W2: 20   mil

D1: 5   mil

C1: 0.7 mil

C2: 0.7 mil

T1: 1.4 mil (1 oz)

Impedance: 51 ~ 53 Ohm

■ **RF mini connector**