

Product Specifications

WM-8192EU(Realtek RTL8192EU-CG) 11n 2T2R USB Module

Version: 1.1

Manufacturer	CC&C Technologies, Inc.
--------------	-------------------------

Revision History

Version	Date	Change Description
1.0	05/28, 2014	Initial release
1.1	07/24, 2014	Update power-down control function

CONTENT

Overview.....	4
Features.....	4
Factory Options.....	4
General Specification	5
Dimension	7
Placement Notice.....	9

Overview

WM-8192EU is a WLAN 11n USB Module, which fully supports the features and functional compliance of IEEE 802.11e and i standards. It supports up to 300Mbps high -speed wireless network connections.

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

Features

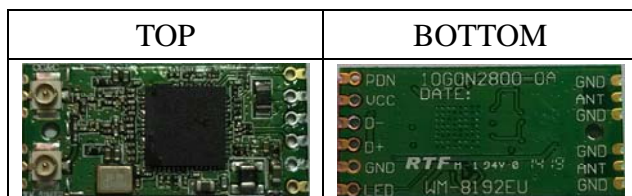
- 2x2 MIMO technology improves effective throughput and range over existing 802.11 b/g/n products
- Operates in 2.4 frequency bands

Freq.	Bands	Frequency
2.4 GHz		2.412-2.472 GHz, 2.484 GHz

- Data rates of up to 150 Mbps for 20 MHz channels and 300 Mbps for 40 MHz channels
- 802.11e-compatible bursting
- Support for the IEEE 802.11e, and i standards
- BPSK, QPSK, 16 QAM, 64 QAM, DBPSK, DQPSK, and CCK modulation schemes
- WEP, TKIP, and AES hardware encryption Schemes
- Support soft AP for Windows XP, Vista, 7 and Windows 8.

Factory options

- Support LED function
- With or without shielding cover



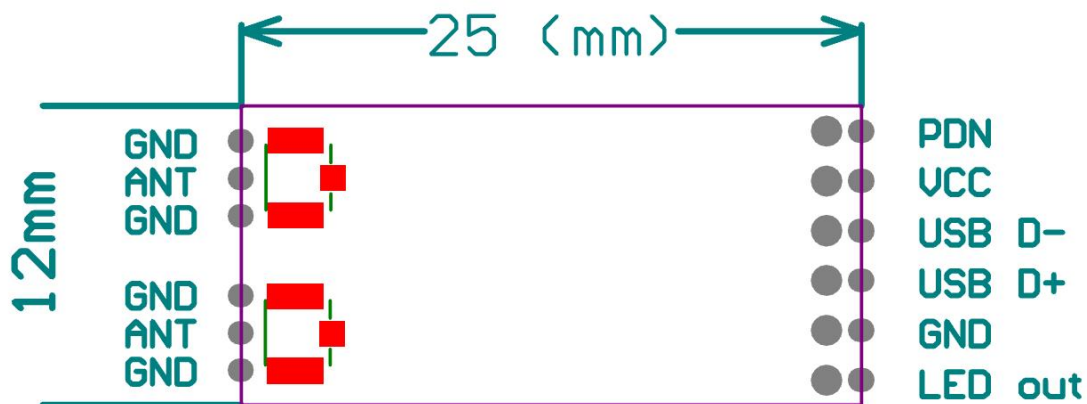
General Specification

Model Name	WM-8192EU
Product Name	11n 2T2R USB Module
Standard	802.11b/g/n
Data Transfer Rate	1,2,5.5,6,11,12,18,22,24,30,36,48,54,60,90,120,180,240,270 and maximum of 300Mbps
Modulation Method	BPSK/ QPSK/ 16-QAM/ 64-QAM/ DBPSK/ DQPSK/ CCK
Frequency Band	2.4GHz ISM Band
Spread Spectrum	IEEE 802.11b: CCK (Complementary Code Keying) IEEE 802.11g/n:OFDM (Orthogonal Frequency Division Multiplexing)
RF Output Power (tolerance \pm 2dBm)	17dBm – 802.11b@CCK 11Mbps 15dBm – 802.11g@OFDM 54Mbps 13dBm – 802.11n@MCS7_HT20 13dBm – 802.11n@MCS7_HT40
Operation Mode	Ad hoc, Infrastructure, Soft AP
Receiver Sensitivity	-76dBm – 802.11b@11Mbps -63dBm – 802.11g@54Mbps -64dBm – 802.11n@MCS7_BW20 -61dBm – 802.11n@MCS7_BW40
OS Support	Windows XP /Vista /7 /8, Linux
Security	64 bit/128 bit WEP, TKIP, AES, WPA, WPA2
Interface	USB 2.0
RF output	IPEX connectors
Operating Temperature	0 - 50° C ambient temperature
Storage Temperature	-10 - 70°C ambient temperature
Humidity	5 to 90 % maximum (non-condensing)
Size	25 x 12 x 2mm (L x W x H)

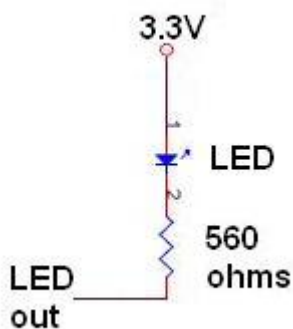
DC power input:

Module	Minimum	Typical	Maximum	Unit
DC 3.3V module	3.135	3.3	3.465	V

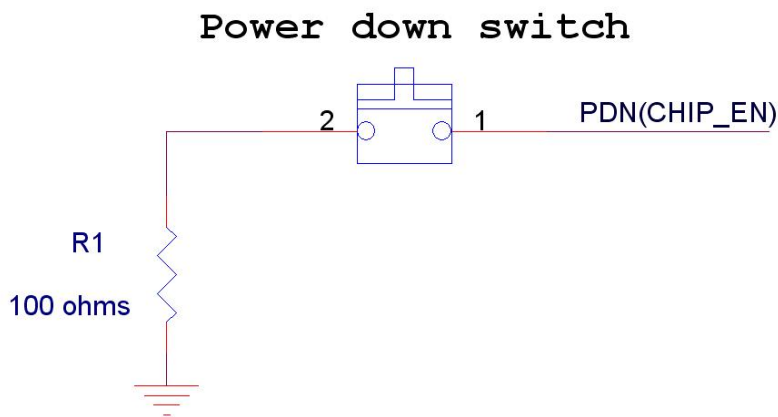
Pin outs:



The function of pin LED out is optional to LED (LED1_pin 20), a factory option.
 The external circuit for WiFi activity LED display (LED function is a factory option)

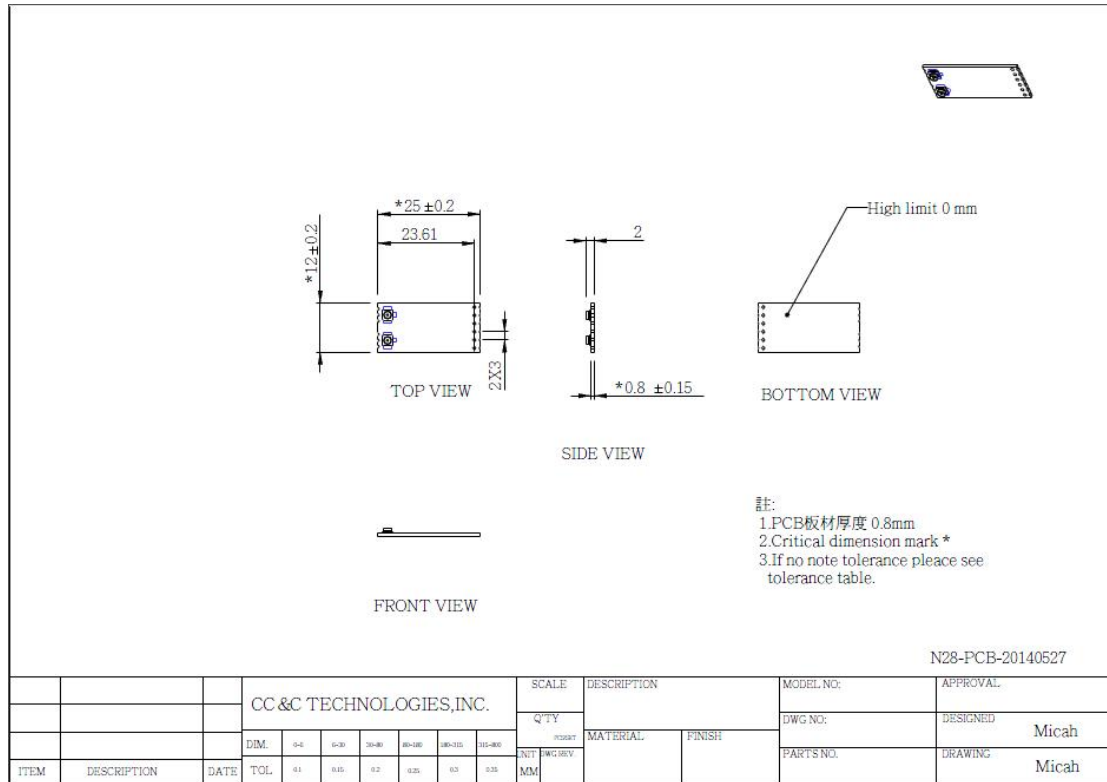


The function of pin PDN is optional to power-down (CHIP_EN_pin 41), a factory option.
 The external circuit for power-down function input (factory option), uses a push or toggle switch.

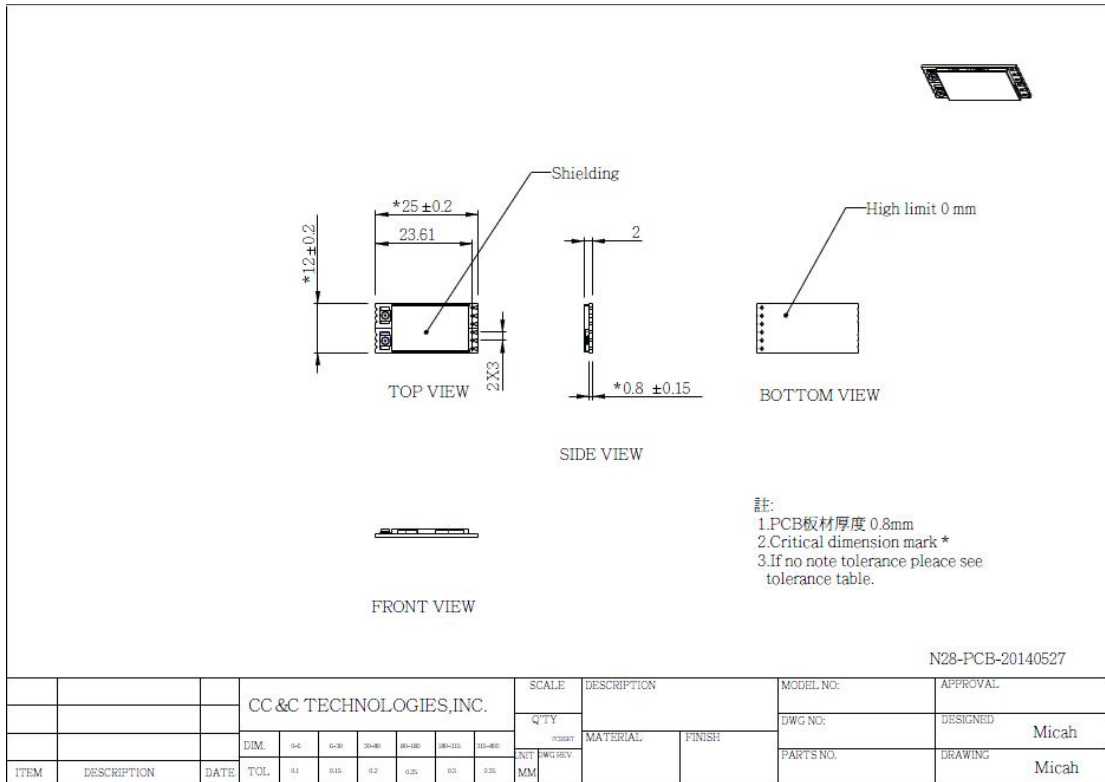


Dimension

Without Shielding Cover

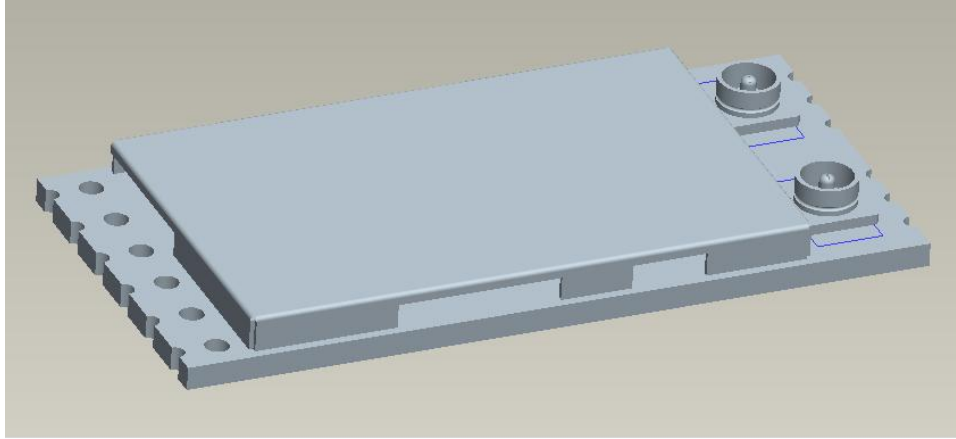


With Shielding Cover

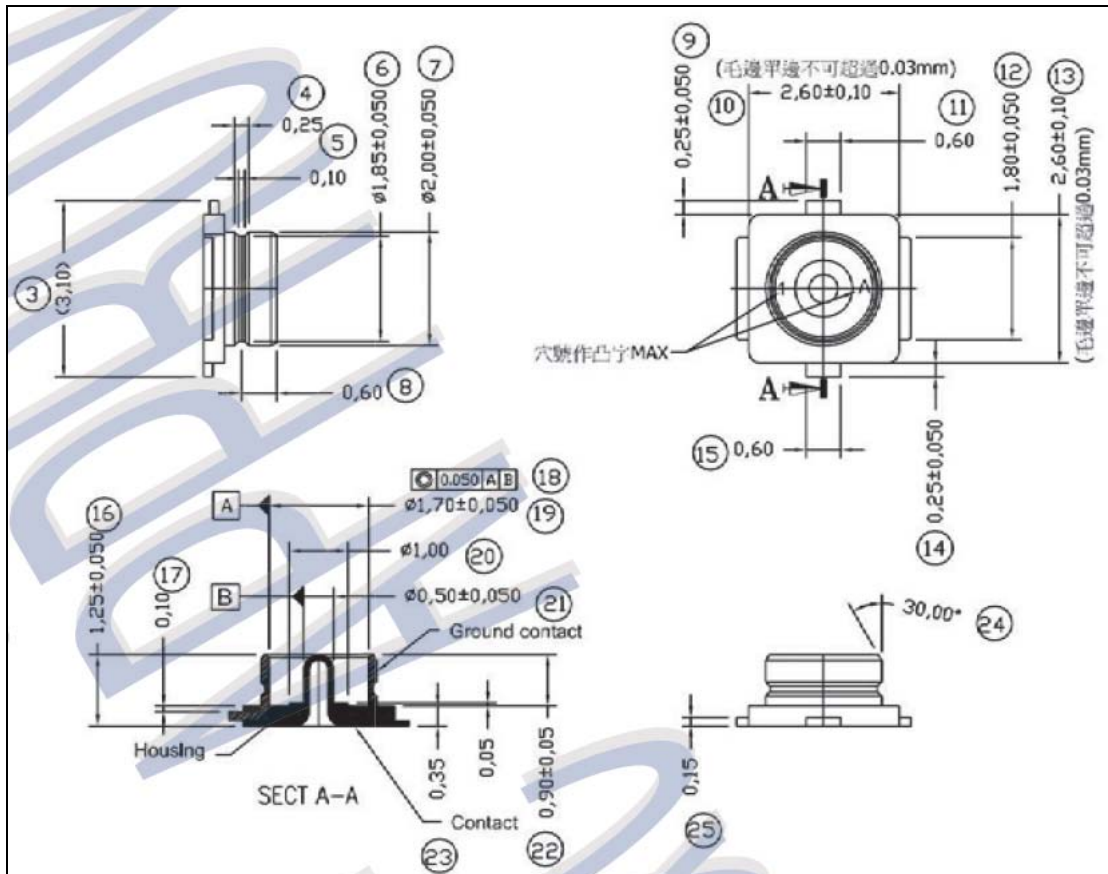


Placement Notice

RF connector



RF connector dimensions (unit: mm)



PCB Layout footprint

1. The recommended layout pads for WM-8192EU module are shown below. (module top view)



All dimensions are in millimeters.

Tolerance: $\pm 0.05\text{mm}$

Federal Communication Commission Interference Statement

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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

FCC Radiation 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.

LABEL OF THE END PRODUCT:

The final end product must be labeled in a visible area with the following " Contains TX FCC ID: PANWM8192EU".

IMPORTANT NOTE:

This module is intended for OEM integrator.

The OEM integrator is still responsible for the FCC compliance requirement of the end product, which integrates this module.

Appropriate measurements (e.g. 15 B compliance) and if applicable additional equipment authorizations (e.g. Verification , Doc) of the host device to be addressed by the integrator/manufacturur.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

7.1.2 Transmitter Antenna

This radio transmitter (IC: 10384A-WM8192EU) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. The required antenna impedance is 50 ohms. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (identifier le dispositif par son numéro de certification ou son numéro de modèle s'il fait partie du matériel de catégorie I) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Antenna General Information					
Ant.	Port.	Ant. Cat.	Ant. Type	Model Name	Gain (dBi)
A	1	Integral	PIFA	ALO140-052030	3
	2				3
B	1	Integral	Print	ALC140-051021-A	3
	2				3
C	1	Integral	PIFA	ALC140-052030-A	3
	2				3

Note: This EUT supports 1TX and Port 2 for transmitting in Modulation Mode 11b and 11g. In Modulation Mode 11n, this EUT supports 2TX.

IMPORTANT NOTE:

IC Radiation Exposure Statement:

This equipment complies with IC RSS-102 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.

Déclaration.d'exposition.aux.radiations:Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

OEM integrator is still responsible for testing their end product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the IC authorization is no longer considered valid and the IC No. cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate IC authorization.

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that **20** cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains transmitter module IC: 10384A-WM8192EU".

Contient le module d'émission IC: 10384A-WM8192EU

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

CAN ICES-3 (B)/NMB-3(B)

The Country Code Selection feature is disabled for products marketed in the US/Canada