

# WG211 Datasheet

## 802.11 a/b/g/n/ac WLAN

### System Module

#### Document Information

<b>Title</b>	WG211 Datasheet 802.11 a/b/g/n/ac WLAN System Module	
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**Revision History:**

<b>Revision</b>	<b>Description</b>	<b>Approved</b>	<b>Date</b>
V1.01	Initial	George	20131105
V2.01	Update Size	George	20151226
V2.02	Update soldering temperature	George	20160418
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## 1 General Description

WG211 is a highly integrated Wi-Fi single chip which supports 433Mbps PHY rate. It is compliant with IEEE 802.11ac draft specification, offering feature-rich wireless connectivity and reliable throughput from an extended distance.

WG211 is designed to support standard based features in the areas of security, quality of service and international regulations, giving end users the greatest performance any time and in any circumstance.

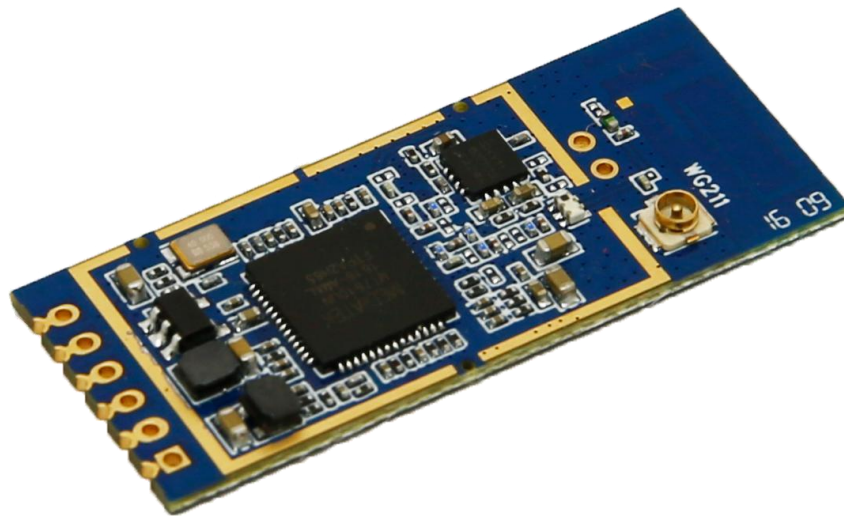


Figure 1: WG211 Top View

## 2 Applications

- ◆ IP Camera
- ◆ IP TV
- ◆ IP DVD(Internet VOD Player)
- ◆ Set Top Box
- ◆ Home Gateways
- ◆ Gaming Consoles
- ◆ DVR

### 3 Features

- ◆ IEEE 802.11a/b/g/n/ac WLANs
- ◆ 2.4/5G ITIR mode
- ◆ With support of 433Mbps PHY rate
- ◆ Compliant IEEE802.11d and 802.11h
- ◆ Complies with USB2.1 specifications
- ◆ Fully compliance with USB2.0 High-speed mode.
- ◆ Security: WEP 64/128, WPA, WPA2, TKIP, AES, WAPI
- ◆ Supports for Windows XP 32/64, 2000, Vista 32/64bit, Windows 7 32/64bit, Linux, Android
- ◆ ROHS compliance meets environment-friendly requirement.
- ◆ FCC,CE compliance.
- ◆ 36.0(L) x 15.0(W) x 3.2mm small dimension

### 4 Module Internal Block Diagram

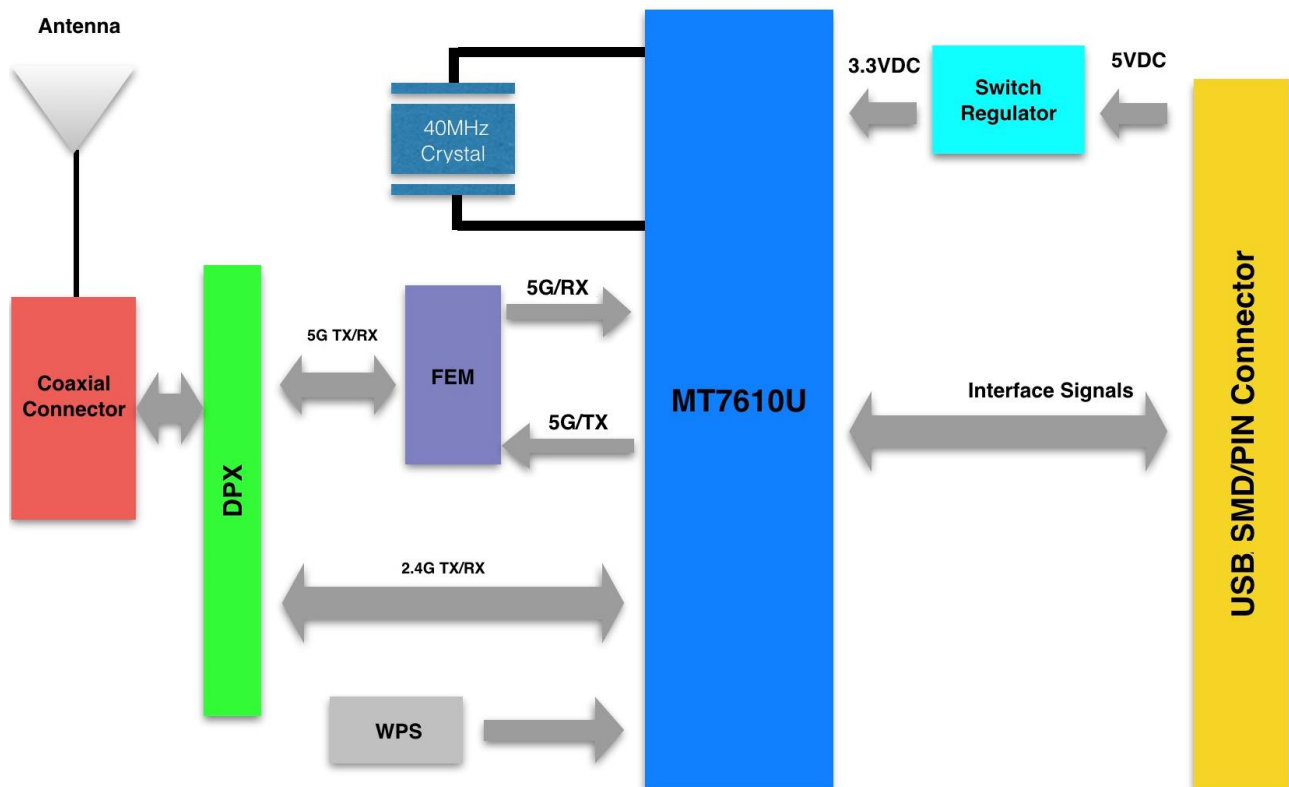
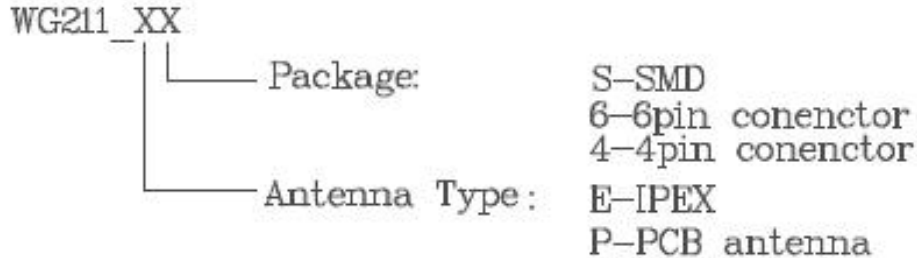


Figure 2: WG211 Block Diagram

## 5、 Ordering Information

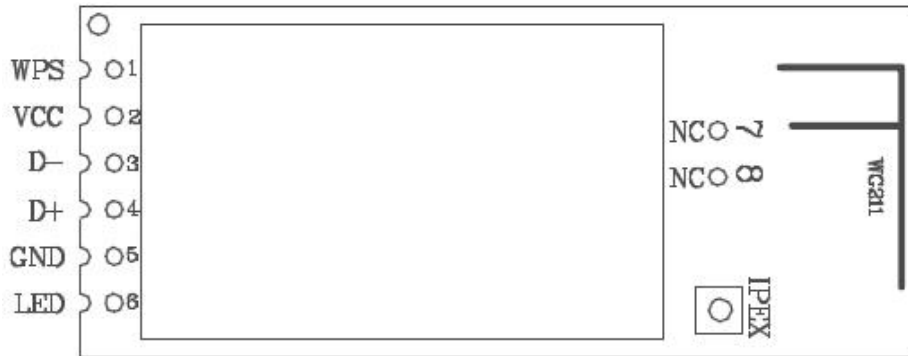


## 6 Performance Specification

Hardware Features	
<b>Model</b>	WG211
<b>ANTENNA TYPE</b>	IPEX connecter or PCB antenna
<b>Chipset solution</b>	MT7610U
<b>Voltage</b>	3.5—5.5V
<b>DIMENTIONS(W×D)</b>	36mm*15mm
Wireless Features	
<b>WIRELESS STANDARDS</b>	IEEE 802.11 a/b/g/n/ac
<b>FREQUENCY RANGE</b>	2.4/5GHz
<b>DATA RATES</b>	IEEE 802.11a Standard Mode: 6,9,12,18,24,36,48,54Mbps IEEE 802.11b Standard Mode: 1,2,5.5,11Mbps
	IEEE 802.11g Standard Mode: 6,9,12,18,24,36,48,54Mbps
	IEEE 802.11n : MCS0--MCS7 @ HT20 /2.4GHz band MCS0--MCS7 @ HT40 /2.4GHz band MCS0--MCS9 @ HT40 /5GHz band
	IEEE 802.11ac : MCS0--MCS9 @ VHT80 /5GHz band
<b>2.4G RECEIVE SENSITIVITY</b>	HT40 MCS15: -72dBm@10% PER(MCS7)
	HT20 MCS15 : -75dBm@10% PER(MCS7)
	54M: -77dBm@10% PER

	11M: -90dBm@ 8% PER			
<b>5G RECEIVE SENSITIVITY</b>	VHT80 MCS15: -62dBm@10% PER(MCS9)			
	HT40 MCS15: -71dBm@10% PER(MCS7)			
	OFDM 54M: -75dBm@10% PER			
	OFDM 6M: -90dBm@ 8% PER			
<b>MODULATION TECHNOLOGY</b>	802.11 Legacy b/g/n			
	DSSS (DBPSK, DQPSK, CCK)			
	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)			
	802.11ac			
	OFDM (256-QAM)			
<b>WIRELESS SECURITY</b>	Supports WEP64/128, WPA, WPA2, TKIP, WAPI, and AES hardware encryption			
<b>WIRELESS TRANSMIT POWER</b>	IEEE 802.11ac: 9-11dBm @HT80 MCS7			
	IEEE 802.11n: 12-15dBm @HT40 MCS7			
<b>With ±2dBm tolerance</b>	12-15dBm@HT20 MCS7			
	IEEE 802.11g: 15dBm			
	IEEE 802.11b: 17dBm			
<b>WORK MODE</b>	AP/Ad-Hoc / Infrastructure mode			
<b>Others</b>				
<b>CERTIFICATION</b>	ROHS, FCC, CE			
<b>POWER Consumption@25°C</b>	Status	POWER	2.4G/mA	5G/mA
	Transmission HT40/MCS 15	5.0V	150	160
	Receiving HT40/MC 15	5.0V	90	90
<b>System requirements</b>	Windows 7(32/64bits), Windows Vista(32/64bits), Windows XP(32/64bits), Windows 2000, Linux, Android			
<b>Environment</b>	Operating Temperature: -10°C~70°C (50°F~158°F)			
	Storage Temperature: -40°C~85°C (-104°F~185°F)			
	Operating Humidity: 10%~90% non-condensing			
	Storage Humidity: 5%~90% non-condensing			

## 7 Module Pinout



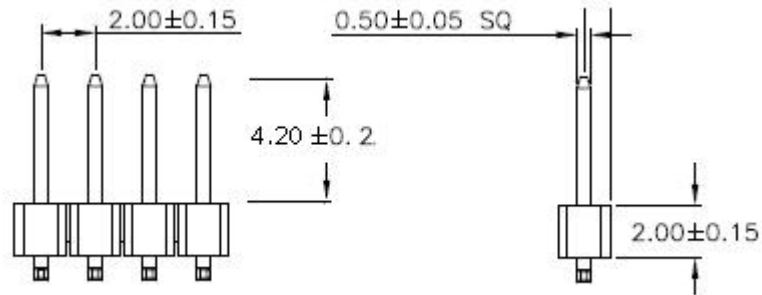
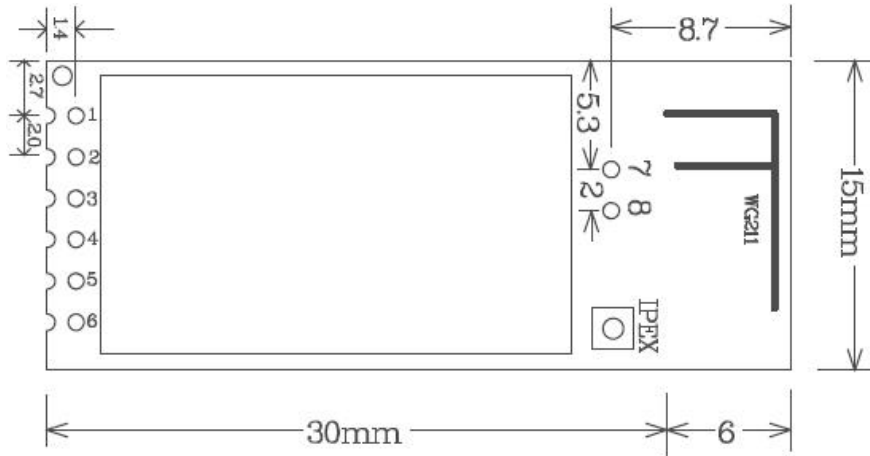
**Figure 3: WG211 Pin Name**

### Pin Description

Pin No.	Pin name	I/O	Description	Remark
1	WPS	I	WPS pin	
2	VCC	P	Module Power Supply	
3	D-	I/O	USB Interface DM	
4	D+	I/O	USB Interface DP	
5	GND	G	Ground	
6	LED	O	LED pin	
7	NC			
8	NC			

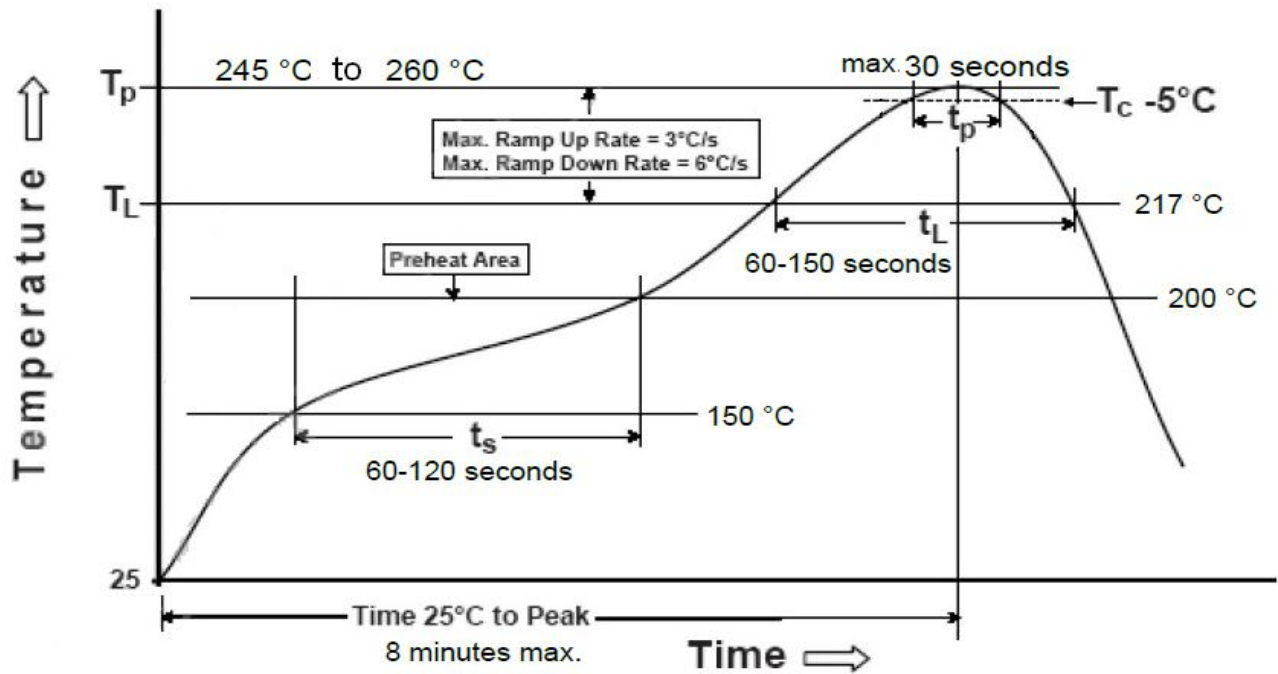


## 8 PCB Footprint and Dimensions



**Figure 4: WG211 Dimensions**

## 9 Manufacturing Process Recommendations



**Figure 5: WG211 Typical Lead-free Soldering Profile**

Note: The final soldering temperature chosen at the factory depends on additional external factors like choice of soldering paste, size, thickness and properties of the baseboard, etc. Exceeding the maximum soldering temperature in the recommended soldering profile may permanently damage the module.

## 10 Reference design schematic

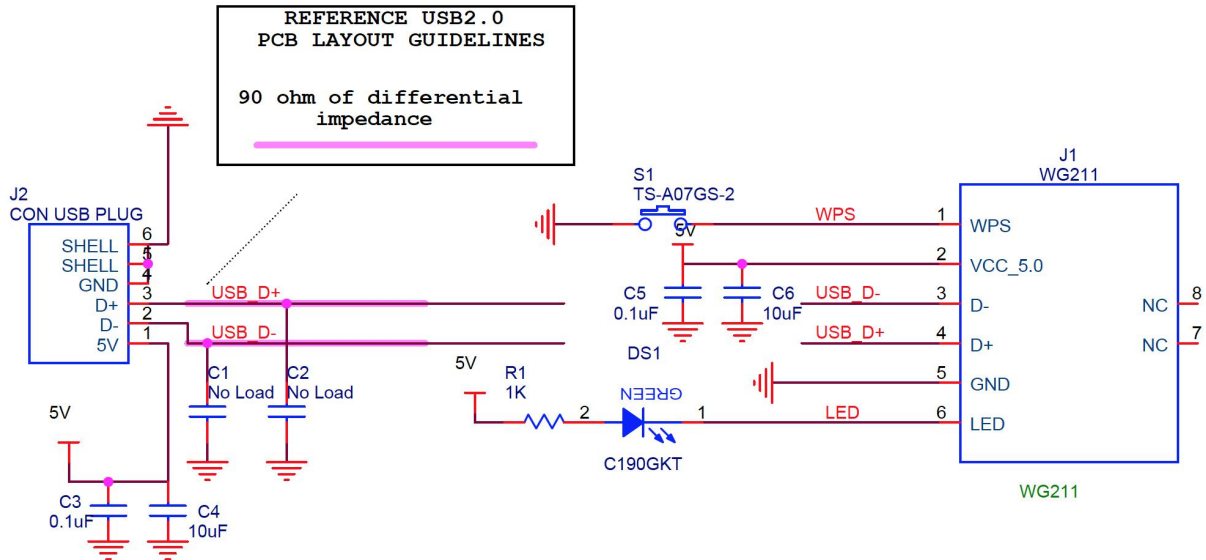


Figure 6: WG211 schematic application

## 11 Contact Information

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