

# WG203 User Manual

## General Description

WG203 is a highly integrated for 2.4/5G IEEE 802.11n 2x2 MIMO WLAN for CE application, It implements half-duplex OFDM, CCK, and DSSS baseband processing, supporting 130Mbps for 20MHz and 300Mbps for 40MHz channel and IEEE 802.11b/g data rates. It supports two transmit traffic stream and two receive traffic stream using two Tx chain and two receive chain for high throughput and range performance.

## Applications

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

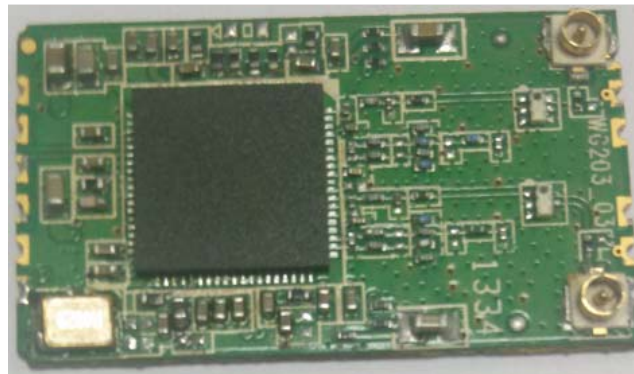


Figure 1: WG203 Top View

## Features

- 2.4/5G GHz Compliant to IEEE 802.11b/g/n 2x2 WLANs
- Supports USB 2.0 interface

- 2T2R Mode with support for a 300Mbps TX/RX PHY rate.
- 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
- MIMO power save.
- Data rates of up to 54 Mbps for 802.11g and 144.4 for 802.11n HT20, 300 Mbps for HT40.
- RoHS compliance meets environment-friendly requirement.
- 29(L) x 17(W) x 2.80(H) mm small dimension

### Applications Block Diagram

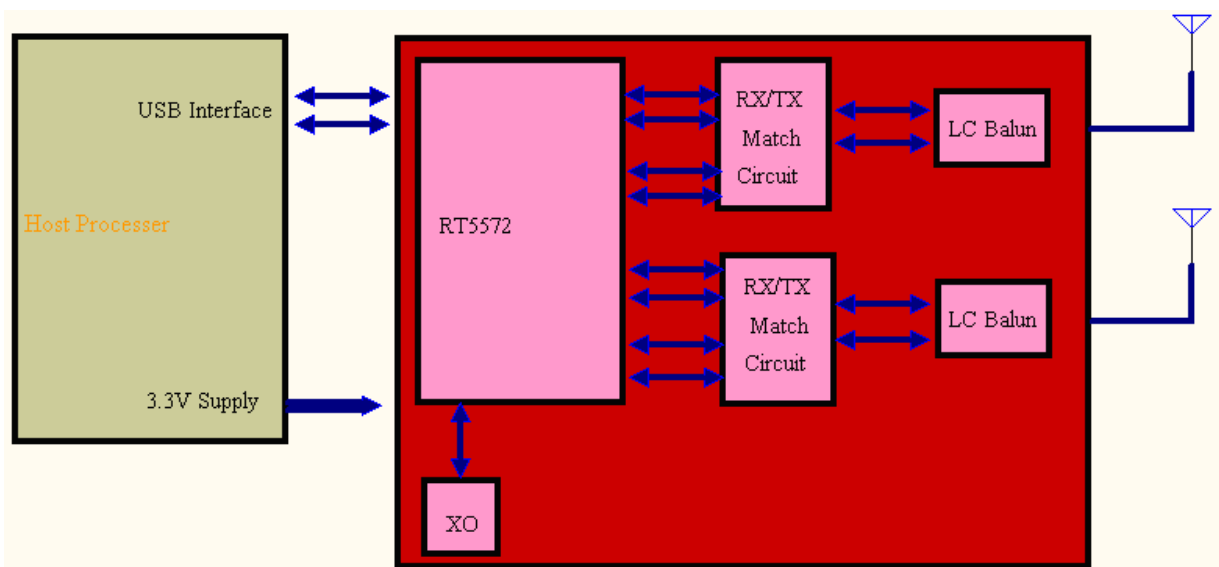


Figure 2: WG203 Block Diagram

### Ordering Information

Module NO.	RF Connector Type	Antenna Option
WG203_E	IPEX Connector	Ext Antenna
WG203_P	PCB PIN	Ext Antenna

### Module Pinout

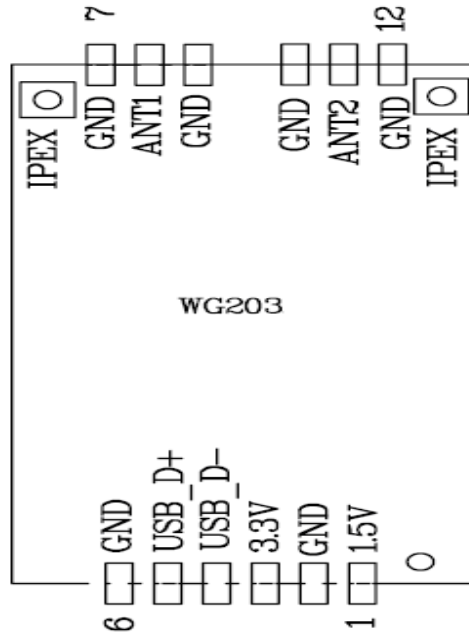


Figure 3: WG203 Pin Package

### Pin Description

Pin No.	Pin name	I/O	Description	Remark
1	1.5V	P	Module Power Supply	
2	GND	G	Ground	
3	3.3V	P	Module Power Supply	
4	USB_D-	I/O	USB Interface DM	
5	USB_D+	I/O	USB Interface DP	
6	GND	G	Ground	
7	GND	G	Ground	
8	ANT1	RF	Antenna1	50 OHM
9	GND	G	Ground	
10	GND	G	Ground	
11	ANT2	RF	Antenna2	50 OHM

12	GND	G	Ground	
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### PCB Footprint and Dimensions

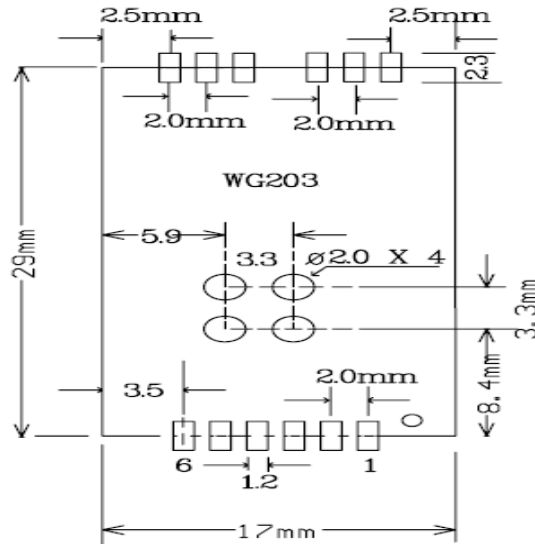
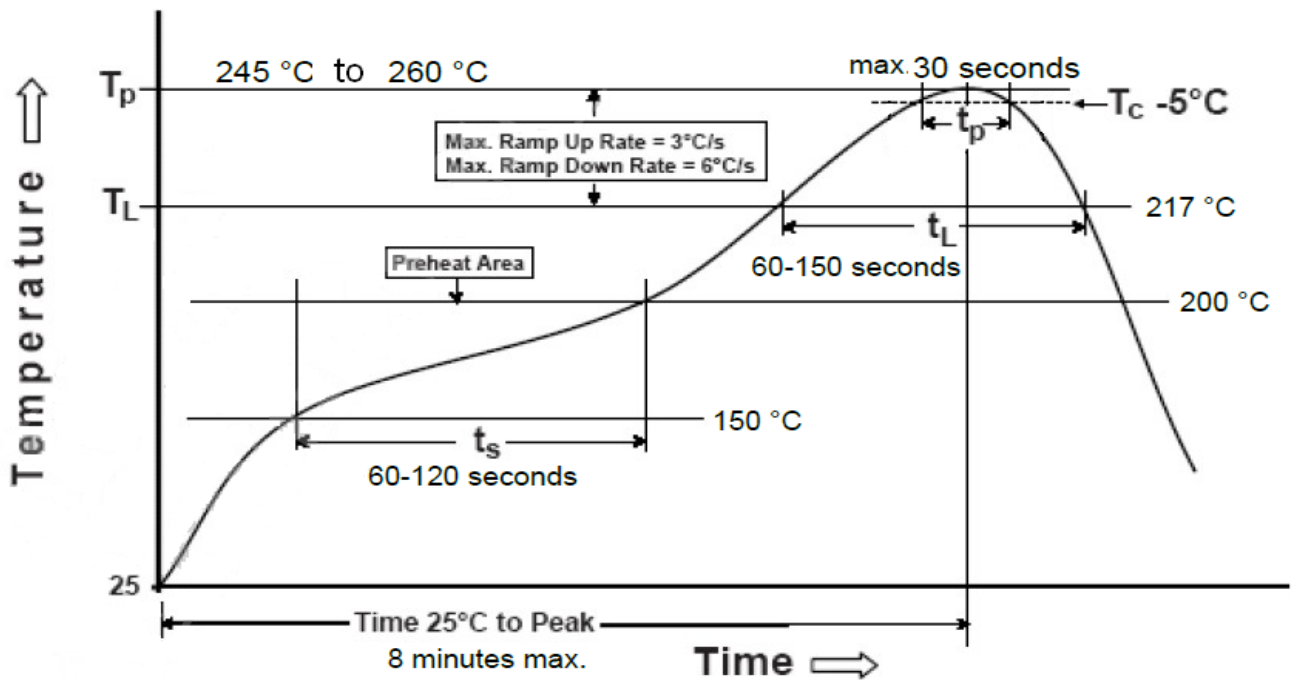


Figure 4: WG203 Footprint

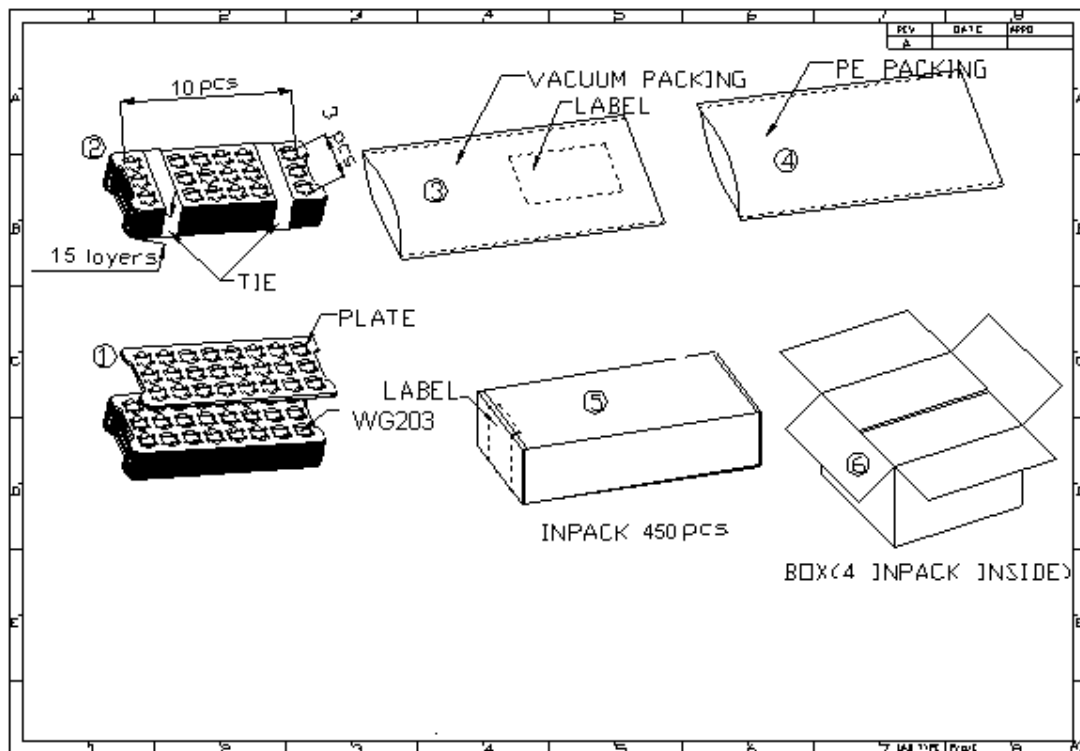
### Manufacturing Process Recommendations



**Figure 5: WG203 Typical Leadfree 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.

## Packaging Specification



**Figure 6: WG203 Packaging**

**WARNING:**

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 Statement

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

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
- Consult the dealer or an experienced radio/TV technician for help receiver is connected.

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

The modular can be installed or integrated in mobile or fix devices only. This modular cannot be installed in any portable device, for example, USB dongle like transmitters is forbidden. This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter.

This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module.

This exterior label can use wording such as the following:

“Contains Transmitter Module FCC ID:2ACOE-WG203 Or Contains FCC ID:2ACOE-WG203” when the module is installed inside another device, the user manual of this device must contain below warning statements;

1. 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.



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(2) This device must accept any interference received, including interference that may cause undesired operation.

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

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.