



# 技术规格书 SPECIFICATION

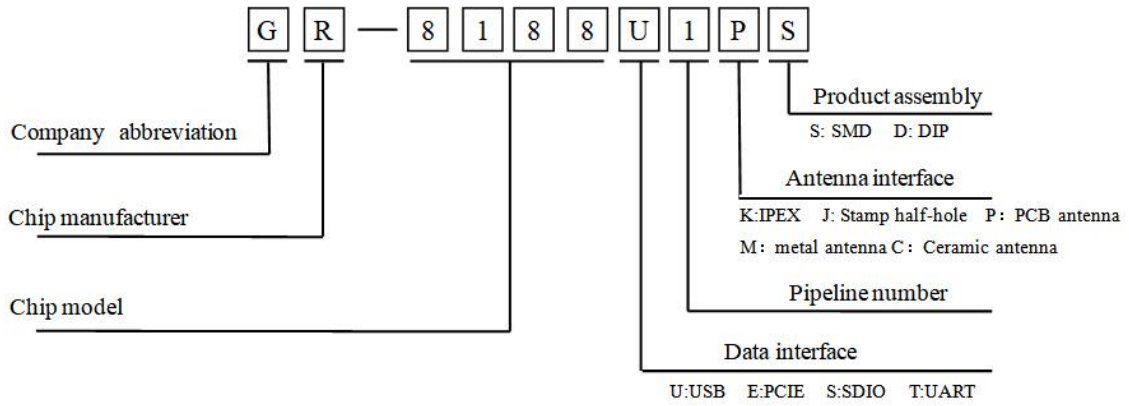
Product description	150M WiFi Module
Product Model No.	<b>GR-8188U1PS</b>
FCC ID	2ASV9-8188U1PS
IC ID	24909-8188U1PS
Part No.	

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## 1、 Essential information

### 1.1 Naming rule



### 1.2 Module information

Module model	Assemble	Module size	Remark
GR-8188U1PS	SMD	18.0×19.0×2.2mm	

### 1.3 Revision history

Release date	Version	Wrote by	Remark
2019-02-14	1.0	John	First release
2019-04-30	1.1	Lisl	Add RF Exposure Information and Statementand ,OEM NOTES

## 2、 Overview

### 2.1 General description

GR-8188U1PS is a highly integrated 802.11b/g/n 1T1R wireless LAN, which implements network data transmission and reception through USB2.0 interface. Supports 802.11i security protocols, as well as IEEE 802.11e quality of service standards, and supports WoW (wake on WLAN) function.

For legacy compatibility, Direct Sequence Spread Spectrum (DSSS), Complement Code Keying (CCK) and OFDM baseband processing are included support all IEEE 802.11b and 802.11g data rates. Differential phase shift keying modulation schemes, DBPSK and DQPSK with data scrambling capability are available, and CCK provides support for legacy data rates, with long or short preambles. The high-speed FFT/IFFT paths, combined with BPSK, QPSK, 16QAM, and 64QAM modulation of individual subcarriers and rate compatible punctured convolutional coding with coding rate of 1/2, 2/3, 3/4, 5/6, providing higher data rates of 54Mbps and 150Mbps for IEEE 802.11g and 802.11n OFDM respectively.

## 2.2 Applications

- Notebook computer, Panel computer, Desktop computer
- Smart phone and TV
- OTT Network player
- Electronic book
- Wi-Fi loudspeaker box
- Wi-Fi camera
- Security monitoring
- Smart home, etc.

## 3、characteristic

### 3.1 Electrical characteristics

<b>Model</b>	<b>GR-8188U1PS</b>
Product Name	150M WiFi Module
Main chip	RTL8188FTV
Interface	USB2.0
Supply Power	3.3V±0.2V
Power Consumption	System sleep: ≤ 10mA ( Blocking environment without hotspot communication when module power consumption current) Standby mode:120mA@3.3V Operating mode:420mA@3.3V
Antenna type	PCB on-board antenna
Antenna gain	0.06dBi
Antenna impedance	28.64 Ω
Operation Mode	Ad hoc infrastructure
Dimension	18×19×2.2mm

### 3.2 RF characteristics

Support protocol	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n
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Frequency Band	2.4GHz~2.4835GHz ISM band
Data Transfer Rate	11n: maximum of 150Mbps
	11g: maximum of 54Mbps
	11b: maximum of 11Mbps
Modulation mode	11n: BPSK, QPSK, 16QAM, 64QAM with OFDM
	11g: BPSK, QPSK, 16QAM, 64QAM with OFDM
	11b: DQPSK, DBPSK, CCK
RF Output power	11b: 11±2dBm Max @ EVM≤-20dB 11g: 10±2 dBm Max @ EVM≤-27dB 11n: 10±2dBm Max @ EVM≤-30dB
Receiver Sensitivity	150Mbps: -67dBm@10%PER
	54Mbps: -71dBm@10%PER
	11Mbps: -82dBm@8% PER
Security	WPA,WPA-PSK,WPA2,WPA2-PSK,WEP64bit@128bit,IEE E802.11x, IEEE802.11i
Channel	Ch1-11 is used in United States, Ch1-13: is used in Europe, Ch1-14: is used in Japan
OS Support	Linux, android, windows7

### 3.3 Environmental requirements

Input power ripple	≤40mV
Power rating	1.5W
operating temperature	-10°C~70°C
Storage temperature	-40°C~80°C
operating humidity	10%~90% Non-condensed state
Storage humidity	5%~90% Non-condensed state

## 4、RF Exposure Information and Statement

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## 5、FCC and IC Statement

This device complies with part 15 of the FCC rules and RSS-247 of Industry Canada. 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.

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.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

**NOTE:** The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

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

## 6、Instructions to the OEM/Integrator:

This module has been granted modular approval for mobile applications. OEM integrators for host products may use the module in their final products without additional FCC/ISED (Innovation, Science and Economic Development Canada) certification if they meet the following conditions. Otherwise, Additional FCC/IC approvals must be obtained.

- The OEM must comply with the FCC labeling requirements. If the module's label is not visible when installed, then an additional permanent label must be applied on the outside of the finished product which states: "Contains transmitter module FCC ID: 2ASV9-8188U1PS". Additionally, the following statement should be included on the label and in the final product's user manual:  
"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 interferences, and (2) this device must accept any interference received, including interference that may cause undesired operation."
- The user's manual for the host product must clearly indicate the operating requirements and conditions that must be observed to ensure compliance with current FCC / IC RF exposure guidelines.
- The final host / module combination may also need to be evaluated against the FCC Part 15B criteria for unintentional radiators in order to be properly authorized for operation as a Part 15 digital device.
- This Module is full modular approval, it is limited to OEM installation ONLY.
- The module is limited to installation in mobile application.
- A separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and difference antenna configurations.
- The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.
- The Grantee will provide guidance to the Host Manufacturer for compliance with the Part 15B requirements if requested.
- **Any modifications made to the module will void the Grant of certification ,including antenna replacement ,the OEM integrator will be responsible for re-evaluating radiated emission of part 15C, and obtain a separate FCC authorization.**

IC labeling requirement for the final end product:

The final end product must be labeled in a visible area with the following "Contains IC: 24909-8188U1PS"

The Host Marketing Name (HMN) must be indicated at any location on the exterior of the host product or product packaging or product literature, which shall be available with the host product or online.

**Le produit final doit être noté dans une zone visible "Contains IC: 24909-8188U1PS"**

**Le nom du présentateur (HMN) doit être indiqué dans toute location sur le nom du produit hôte ou du label ou de la littérature du produit,**

**Qui doit être disponible avec le produit hôte ou en ligne.**