

AVN813W WLAN USB Module
Ralink IEEE 802.11 b/g/n solution
Product Specification

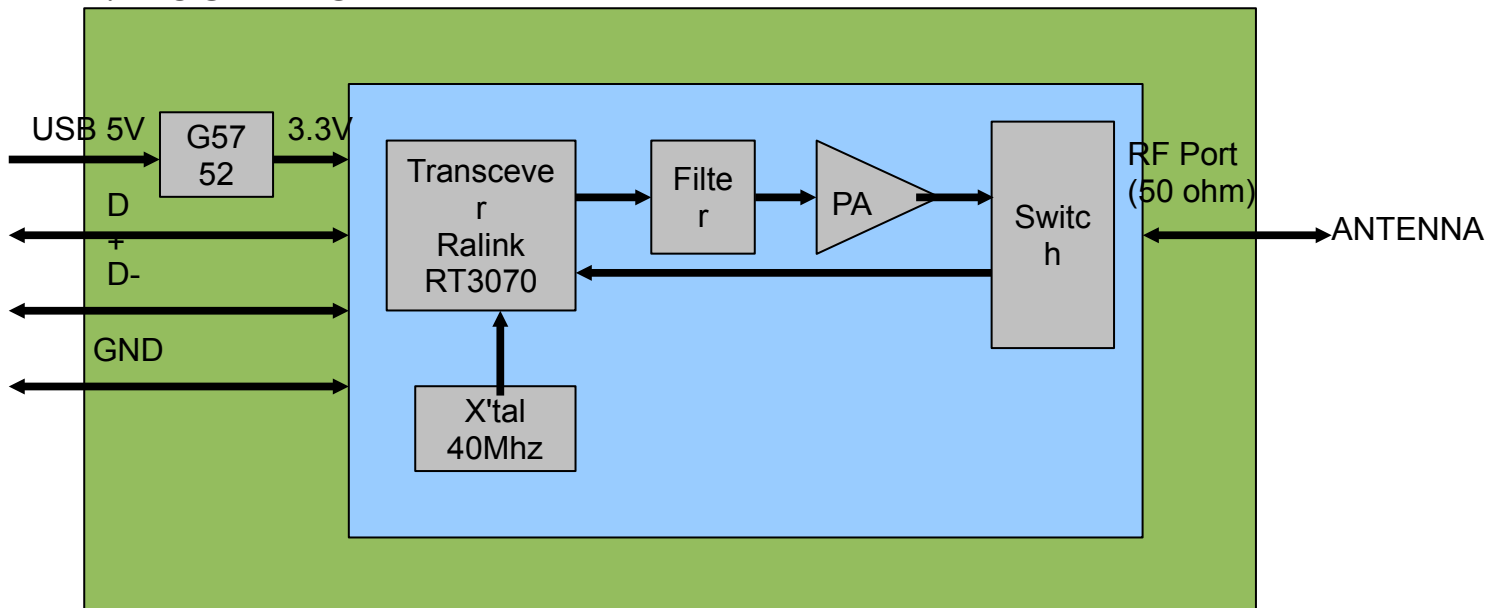
1. OVERVIEW

AVN813W is high performance and cost effective 802.11b/g/n WLAN USB module. AVN813W is embedded with Ralink RT3070 a highly integrated MAC/BBP and 2.4GHz RF single chip with 150Mbps PHY rate supporting. It fully complies with IEEE 802.11n draft 3.0 and IEEE 802.11b/g feature rich wireless connectivity at high standards, cost-effective, throughput from extended distance. Optimized RF architecture and baseband algorithms provide superb performance and low power consumption. WN8020 is designed to support standard based features in the areas of security, quality of service and international regulation, giving end users the greatest performance anytime in any circumstance.

Feature

- ⤴ Host Interface USB2.0
- ⤴ 1T1R with up to 150Mbps PHY Data Rate for Both TX and RX
- ⤴ 20MHz/ 40MHz Bandwidth Support
- ⤴ WEP 64/128, WPA, WPA2, TKIP, AES
- ⤴ Support Bluetooth Coexistence 2-wire Scheme
- ⤴ Support Turn ON/OFF WLAN System Module Function for Saving Power Consumption
- ⤴ RoHS Compliant

2. BLOCK DIAGRAM



3. ELECTRICAL CHARACTERISTICS

3.1. RF Characteristics

(Condition: VCC= 5V @ +25°C)

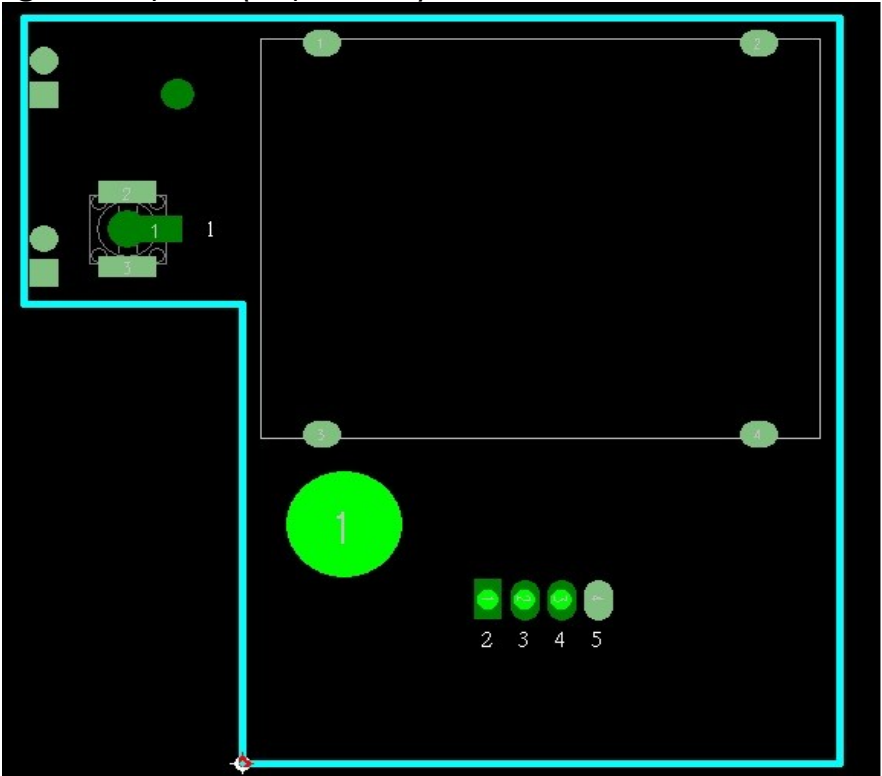
Feature	Description
Standards	Fully Compliant with IEEE 802.11 b/g/n Standard
Frequency Band	2400MHz ~ 2500MHz
Frequency Stability	< ±5ppm @Room Temperature +25°C
Modulation	OFDM and CCK
PHY Data Rate	Up to 150Mbps
Channel Bandwidth	20MHz and 40MHz
OFDM Output Power	15dBm (Typ.) @EVM<3%, all channel
CCK Spectral Mask	-37dBc (Typ.) @ 11~22MHz
@Pout=18dBm	-60dBc (Typ.) @ 22~33MHz
2f Harmonics	-55dBm (Typ.)
LO Leakage Peak Power	-64dBm (Typ.) @Transmit State
Receive Sensitivity	-65dBm (Typ.) @HT40M, MCS7
	-71dBm (Typ.) @54M OFDM
	-85dBm (Typ.) @11M CCK
	-90dBm (Typ.) @1M CCK
RF Port Impedance	50Ω±10%
USB Differential Port Impedance	90Ω±10%

3.2. Absolute Maximum Ratings

Parameter Name	Min.	Typ.	Max.	Unit
Operating Temperature	-10		85	°C
Supply Voltage	4.5	5.0	5.5	V
Range: USB VCC				
Storage Temperature Range	-55		150	°C

4. PACKAGE INFORMATION

4.1. Signal Layout (Top View)



4.2. Pin Description

No.	Name	Typ	Description	Note
1	ANT	I/O	RF Signal Input (RX)/ Output (TX)	
2	USB 5V	P	5V DC Power Supply Input for Module Circuits	
3	D+	I/O	D+ Line of USB2.0	
4	D-	I/O	D+ Line of USB2.0	
5	GND	P	Ground	

Note:

- (1) I: Input
- (2) O: Output
- (3) I/O: Bi-Direction
- (4) P: Power

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital service, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy. 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.
- ⚡ All external cables connecting to this basic unit must be shielded. For cables connecting to PCMCIA cards, see the option manual or installation instructions.

RF exposure warning:

The equipment complies with RF exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device must not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

DGT Warning Statement

Article 12 Without permission, any company, firm or user shall not alter the frequency, increase the power, or change the characteristics and functions of the original design of the certified lower power frequency electric machinery.

Article 14 The application of low power frequency electric machineries shall not affect the navigation safety nor interfere a legal communication, if an interference is found, the service will be suspended until improvement is made and the interference no longer exists.