

# WiFi Router Module

## Model: Teton V2.2

### Product Description

Teton V2.2 is an embedded WiFi module based on Qualcomm's latest solution. It is small size, low power consumption, supports large-capacity DDR and high-speed SPI Flash, and has excellent performance. It can be widely used in wireless mobile hard disks, wireless HD receiving boxes, network cameras, and air conditioners. , smart TV, gateway, smart socket, smart toy, drone, etc.

### Product Features

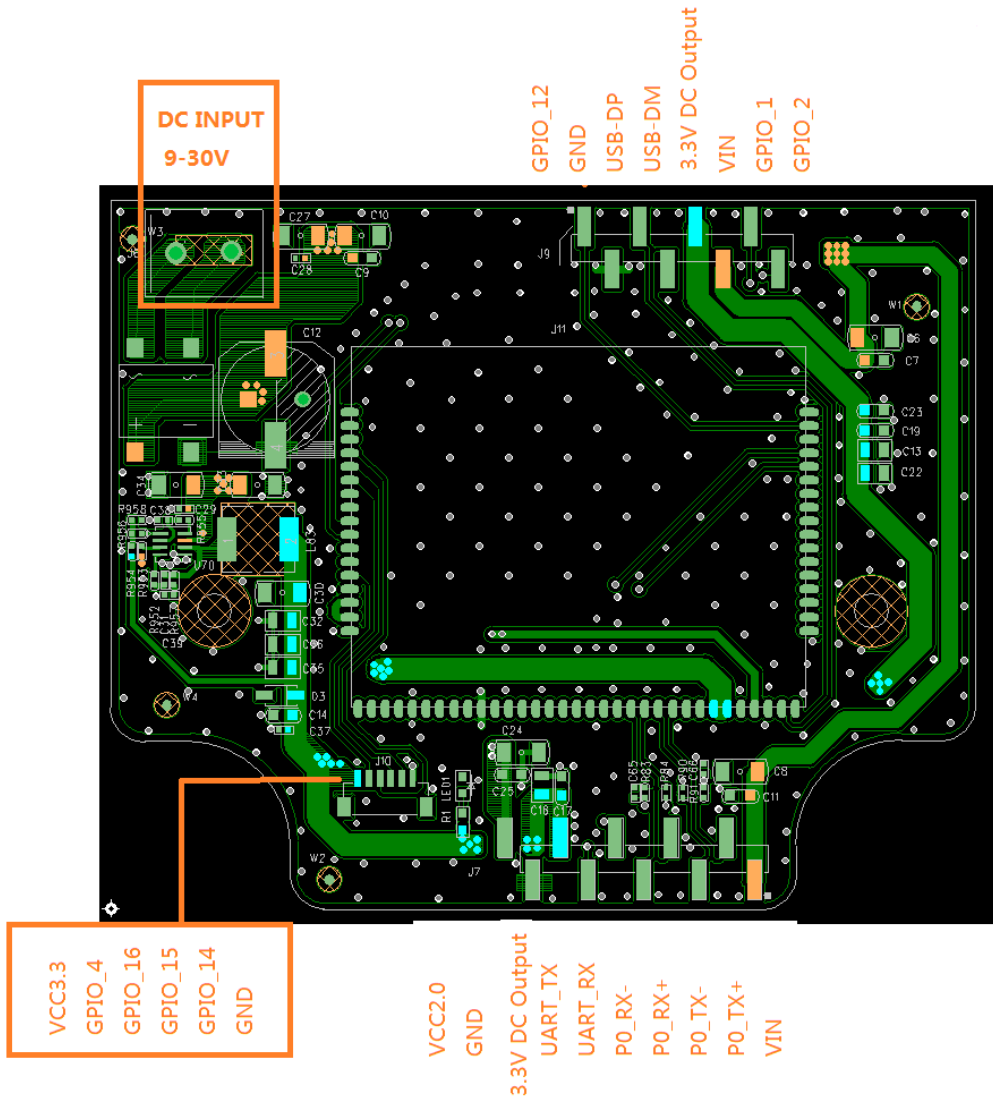
1. Rich GPIO interface, convenient for users to expand WiFi embedded applications
2. Stable performance, powerful functions and strong scalability
3. The system software can be flexibly customized to meet various application requirements
4. Provide a variety of communication interfaces and debugging interfaces
5. DC9-30V single power input
6. 1.2MM pitch half hole (stamp hole) to fix SMT patch
7. The system supports Open-Wrt, QSDK, which can be used for secondary development and customized services for customers
8. Support baud rate default 115200bps
9. Can realize the conversion between the user serial port, Ethernet, wireless network (WiFi) 3 interfaces

## Product Specifications

Protocol	IEEE802.11N/G/B			
RAM	128MB			
FLASH	16MB			
WiFi Speed	2T2R:300Mbps			
Working Frequency	2.4Ghz			
Interface	1 10/100M adaptive WAN/LAN PHY interface, support automatic flip (Auto MDI/MDIX)			
Product maximum power consumption	< 3W			
Dimension	41.6X33MM			
Working Environment	Working temperature: -20°C to 75°C; Storage temperature: -40°C to 100°C; Working humidity: 10% to 90%RH non-condensing; Storage humidity: 5% to 90%RH non-condensing			
RF Output Power (Typical)	B Mode	G Mode	11N HT20 Mode	11N HT40 Mode
	Cck 1L Mbps/16dBm	OFDM 6Mbps/14dBm	MCS0/8 14dBm	MCS0/8 13dBm
	Cck 2L Mbps/16dBm	OFDM 9Mbps/14dBm	MCS1/9 14dBm	MCS1/9 13dBm
	Cck 5L Mbps/16dBm	OFDM 12Mbps/14dBm	MCS2/10 14dBm	MCS2/10 13dBm
	Cck 5S Mbps/16dBm	OFDM 18Mbps/14dBm	MCS3/11 14dBm	MCS3/11 13dBm
	Cck 11L Mbps/16dBm	OFDM 24Mbps/13dBm	MCS4/12 13dBm	MCS4/12 12dBm
	Cck 11S Mbps/16dBm	OFDM 36Mbps/13dBm	MCS5/13 13dBm	MCS5/13 12dBm
		OFDM 48Mbps/13dBm	MCS6/14 12dBm	MCS6/14 12dBm
		OFDM 54Mbps/13dBm	MCS7/15 12dBm	MCS7/15 12dBm
Sensitivity	B Mode	G Mode	11N HT20	11N HT40
	Cck 1L Mbps≤-91	OFDM 6Mbps≤-89	MCS0/8≤-83	MCS0/8≤-80
	Cck 2L Mbps≤-91	OFDM 9Mbps≤-88	MCS1/9≤-80	MCS1/9≤-77

	Cck 5L Mbps≤-91	OFDM 12Mbps≤-85	MCS2/10≤-78	MCS2/10≤-75
	Cck 5S Mbps≤-91	OFDM 18Mbps≤-83	MCS3/11≤-75	MCS3/11≤-72
	Cck 11L Mbps≤-91	OFDM 24Mbps≤-80	MCS4/12≤-71	MCS4/12≤-68
	Cck 11S Mbps≤-91	OFDM 36Mbps≤-75	MCS5/13≤-67	MCS5/13≤-64
		OFDM 48Mbps≤-71	MCS6/14≤-66	MCS6/14≤-63
		OFDM 54Mbps≤-70	MCS7/15≤-65	MCS7/15≤-62
Wireless Security	Wireless security function switch; 64/128/152-bit WEP encryption; WPA-PSK/WPA2-PSK, WPA/WPA2 security mechanism; WPS Quick Security Setup			
Software Features	Support AP, router, relay, etc.  Support dynamic routing and static routing  Convenient WEB configuration  Wireless settings and encryption  Support telnet management, convenient and easy-to-use console shell interactive environment  Supports multiple dialing methods: automatic allocation, specified IP, specified local peer IP, ppoe  Support local software upgrade; support export and import of configuration, and update firmware program online via web  Support operating system Windows XP/7/8/9/10/Linux			

## Interface Definition:



## Product Application

Serial port (RS232/RS485) to WiFi, TTL to WiFi, WiFi remote control/monitoring, TCP/IP and Wi-Fi co-processor, WiFi remote control plane, car and other toy fields, WiFi Internet radio, camera, digital photo frame, medical equipment, data acquisition, handheld devices, WiFi fat scales, smart card terminals, home intelligence, instrumentation, equipment parameter monitoring, wireless POS machines, smart sockets, wireless image transmission, HDMI wireless video conversion, gateways, smart furniture, WIFI probes, etc. .

**FCC Caution:**

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's 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 may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**IMPORTANT NOTE:**

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.

**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.

**OEM/Integrators Installation Manual**

**List of applicable FCC rules** This module has been tested and found to comply with part 15.247 requirements for Modular Approval.

**Summarize the specific operational use conditions** This module can be applied in Serial port (RS232/RS485) to WiFi, TTL to WiFi, WiFi remote control/monitoring, TCP/IP and Wi-Fi co-processor, WiFi remote control plane, car and other toy fields, WiFi Internet radio, camera, digital photo frame, medical equipment, data acquisition, handheld devices, WiFi fat scales, smart card terminals, home intelligence, instrumentation, equipment parameter monitoring, wireless POS machines, smart sockets, wireless image transmission, HDMI wireless video conversion, gateways, smart furniture, WIFI probes, etc.

The input voltage to the module should be nominally 9-30VDC, typical value 19VDC and the ambient temperature of the module is -20°C to 75°C.

**Limited module procedures N/A**

**Trace antenna designs N/A**

**Antennas** The module of WiFi Router Module has two Antenna ports and the antenna gain as below: 2.4G Wi-Fi : 5dBi;

**Label and compliance information** When the module is installed in the host device, the FCC ID label must be visible through a window on the final device or it must be visible when an access panel, door or cover is easily re-moved. If not, a second label must be placed on the outside of the final device that contains the following text: Contains Transmitter Module

**FCC ID:** C3DTETON, the FCC ID can be used only when all FCC ID compliance requirements are met.

**Information on test modes and additional testing requirements**

- a) The modular transmitter has been fully tested by the module grantee on the required number of channels, modulation types, and modes, it should not be necessary for the host installer to re-test all the available transmitter modes or settings. It is recommended that the host product manufacturer, installing the modular transmitter, perform some investigative measurements to confirm that the resulting composite system does not exceed the spurious emissions limits or band edge limits (e.g., where a different antenna may be causing additional emissions).
- b) The testing should check for emissions that may occur due to the intermixing of emissions with the other transmitters, digital circuitry, or due to physical properties of the host product(enclosure). This investigation is especially important when integrating multiple modular transmitters where the certification is based on testing each of them in a stand-alone configuration. It is important to note that host product manufacturers should not assume that because the modular transmitter is certified that they do not have any responsibility for final product compliance.
- c) If the investigation indicates a compliance concern the host product manufacturer is obligated to mitigate the issue. Host products using a modular transmitter are subject to all the applicable individual technical rules as well as to the general conditions of operation in Sections 15.5, 15.15, and 15.29 to not cause interference. The operator of the host product will be obligated to stop operating the device until the interference has been corrected.

Additional testing, Part 15 Subpart B disclaimer

The final host / module combination need to be evaluated against the FCC Part 15B criteria for unintentional radiators in order to be properly authorized for operation as a Part15 digital device. The host integrator installing this module into their product must ensure that the final composite product complies with the FCC requirements by a technical assessment or evaluation to the FCC rules, including the transmitter operation and should refer to guidance in KDB 996369. For host products with certified modular transmitter, the frequency range of investigation of the composite system is specified by rule in Sections 15.33(a)(1) through (a)(3), or the range applicable to the digital device, as shown in Section

15.33(b)(1), whichever is the higher frequency range of investigation. When testing the host product, all the transmitters must be operating. The transmitters can be enabled by using publicly available drivers and turned on, so the transmitters are active. In certain conditions it might be appropriate to use a technology-specific call box (test set) where accessory devices or drivers are not available. When testing for emissions from the unintentional radiator, the transmitter shall be placed in the receive mode or idle mode, if possible. If receive mode only is not possible then, the radio shall be passive (preferred) and/or active scanning. In these cases, this would need to enable activity on the communication BUS (i.e., PCIe, SDIO, USB) to ensure the unintentional radiator circuitry is enabled. Testing laboratories may need to add attenuation or filters depending on the signal strength of any active beacons (if applicable) from the enabled radio(s). See ANSI C63.4, ANSI C63.10 and ANSI C63.26 for further general testing details.