



ATBM601X Module User Manual

Ver. 0.1

1. Overview

The ATBM601X module can be used in Wireless cameras, TV set and other devices that need to connect Wi-Fi networks. In order to allow you to install and use the product easier, please read this manual carefully.

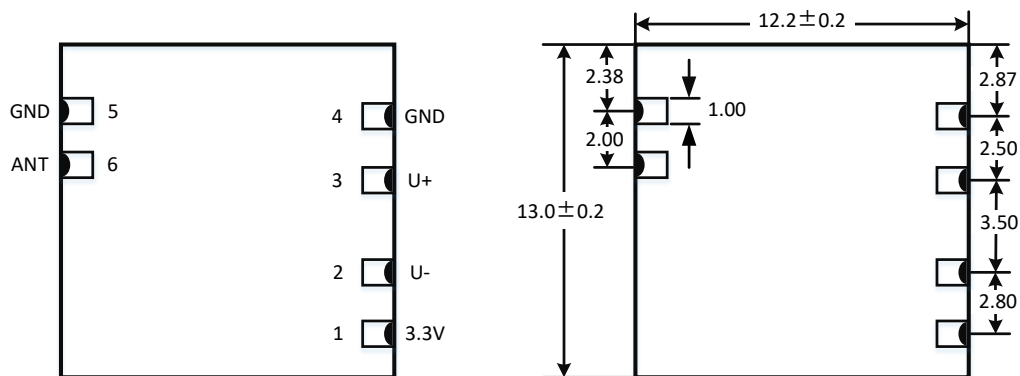
2. Product characteristics

- 1) Support Wi-Fi 2.4GHz IEEE 802.11b/g/n, 1T1R
- 2) Operating frequency: 2.412 ~ 2.462GHz
- 3) Modulation
 - 802.11b: CCK (11, 5.5Mbps), QPSK (2Mbps), BPSK (1Mbps)
 - 802.11g/n: OFDM
- 4) PHY data rates
 - 802.11b: 11, 5.5, 2, 1Mbps
 - 802.11g: 54, 48, 36, 24, 18, 12, 9, 6Mbps
 - 802.11 n: up to 72.2Mbps
- 5) USB 2.0 interface

3. Product parameters

- 1) Operation voltage: 3.3VDC
- 2) USB 2.0 compliant
- 3) Security: WEP, TKIP, AES, WPA, WPA2, WPA3
- 4) OS support: Linux/Android/RTOS
- 5) Power consumption: 3.3VDC Max. 300mA
- 6) Operating temperature: -20 to +70°C
- 7) Storage temperature: -40 to +150°C
- 8) Humidity: 5% to 90% maximum
- 9) Dimension: 13.0mm*12.2mm (L*W)

4. Pin definition



Pin Number	Pin Name	Pin Description
1	3.3V	3.3V DC power supply
2	U-	USB DN
3	U+	USB DP
4	GND	Ground
5	RF GND	RF Grand
6	ANT	Wi-Fi antenna pin (2.4GHz 50ohm)

5. FAQ

Q: Why USB cannot be connected?

A: a) Please check if USB DC power of module is supplied.

b) Please check if USB lines are connected correctly.

Q: Why cannot connect to wireless router?

A: Please check if antenna is connected.

6. Warning

1. Do not use this product under humid or hot conditions.
2. Do not use overloaded.
3. FCC compliance statement

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.

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

7.Regulatory Module Integration Instructions

7.1 List of applicable FCC rules

This device complies with part 15.247 of the FCC Rules.

7.2 Summarize the specific operational use conditions

This module can be used in household electrical appliances as well as TV and IP camera. The input voltage of module should be 3.0~3.6VDC.

7.3 Limited module procedures

Not applicable

7.4 Trace antenna designs

Not applicable

7.5 RF exposure considerations

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. If the device built into a host as a portable usage, the additional RF exposure evaluation may be required as specified by §2.1093.

7.6 Antennas

This radio transmitter FCC ID: 2AOXXATBM601X has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated.

Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Antenna Description	Antenna Type	Frequency Range	Maximum antenna gain
2.4G WiFi	Dipole Antenna	2.4GHz-2.5GHz	2.25dBi

7.7 Label and compliance information

The outside of final products that contains this module device must display a label referring to the enclosed module. This exterior label can use wording such as: "Contains Transmitter Module FCC ID: 2AOXXATBM601X", or "Contains FCC ID: 2AOXXATBM601X", any similar wording that expresses the same meaning may be used.

7.8 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 retest 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 Dipole Antenna, 2.25dBi 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

7.9 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 Part 15 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.

Frequency spectrum to be investigated 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. Operating the host product 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. 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.

The product under test is set into a link/association with a partnering WLAN device, as per the normal intended use of the product. To ease testing, the product under test is set to transmit at a high duty cycle, such as by sending a file or streaming some media content.

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.