



PRODUCT MODEL (HVIN): WL6QR1500

PRODUCT DESCRIPTION (PMN): WIFI+BT Module

SAFETY REGYLATION:

1. shall not arbitrarily change the frequency of transmission, increase the transmission power (including the installation of radio frequency power amplifier);
2. it is not allowed to cause harmful interference to all kinds of legal radio communication. Once it is found that there is interference, it should be stopped immediately, and measures can be taken to eliminate interference before continuing to use it;
3. must be able to resist radiation interference of various radio or industrial / scientific / medical applications;
4. may not be used near airplane or airports.

NOTICE:

1. please keep this product and accessories attached to the places which children can't touch;
2. do not splash water or other liquid onto this product, otherwise it may cause damage;
3. do not put this product near the heat source or direct sunlight, otherwise it may cause deformation or malfunction;
4. please keep this product away from flammable or naked flame;
5. please do not repair this product by yourself. Only qualified personnel can be repaired.

FEATURES:

1. Compatible with IEEE 802.11b standard to provide wireless 11Mbps data rate.
Compatible with IEEE 802.11g standard to provide wireless 54Mbps data rate.
Compatible with IEEE 802.11n standard to provide wireless 72.2Mbps data rate.
2. Support 20MHz bandwidth in 2.4GHz band.
3. The modulation type are DQPSK,DBPSK and CCK with DSSS to 802.11b;
QPSK,BPSK,16QAM,64QAM with OFDM to 802.11g/n;
4. Supports Bluetooth V2.1/3.0/4.2
5. Operation at 2.4~2.4835GHz frequency band to meet worldwide regulations.
6. Friendly user configuration and diagnostic utilities
7. Drivers support Windows7.LINUX
8. RoHS compliant
9. Transmit power no more than 1000mW
10. Voltage is 3.3VDC

**General Requirements***IEEE 802.11b Section*

Feature	Detailed Description
Standard	● IEEE 802.11b
Radio and Modulation Schemes	● DQPSK , DBPSK and CCK with DSSS
Operating Frequency	● 2400 ~ 2483.5 MHz ISM band
Channel Numbers	● 13 channels for Worldwide
Data Rate	● at most 11Mbps
Media Access Protocol	● CSMA/CA with ACK
Transmitter Output Power at Antenna Connector	● Typical RF Output Power at each RF chain, at room Temp 25℃ ● 19±1 dBm at 11Mbps
Receiver Sensitivity at Antenna Connector	● Typical Sensitivity at each RF chain. @Frame (1000-byte PDUs) Error Rate<8% at room Temp 25℃ ● -83 dBm for 11Mbps

IEEE 802.11g Section

Feature	Detailed Description
Standard	● IEEE 802.11g
Radio and Modulation Type	● QPSK , BPSK , 16QAM ,64QAM with OFDM
Operating Frequency	● 2400 ~ 2483.5MHz ISM band
Channel Numbers	● 13 channels for Worldwide
Data Rate	● at most 26Mbps
Media Access Protocol	● CSMA/CA with ACK
Transmitter Output Power at Antenna Connector	● Typical RF Output Power at each RF chain, at room Temp 25℃ ● 24±1 dBm at Maximum data rate
Receiver Sensitivity at Antenna Connector	● Typical Sensitivity at each RF chain. @Frame(1000-byte PDUs) Error Rate<10% at room Temp 25℃ ● -71 dBm at Maximum data rate

*IEEE 802.11n Section*

	Feature	Detailed Description
Standard		● IEEE 802.11n
Radio and Modulation Type		● BPSK , QPSK , 16QAM ,64QAM with OFDM
Operating Frequency		● 2.4GHz :2400 ~ 2483.5MHz ISM band
Data Rate		● at most 65Mbps
Media Access Protocol		● CSMA/CA with ACK
Transmitter Output Power at Antenna Connector		● Typical RF Output Power at each RF chain, at room Temp 25°C
		2.4GHz Band/HT20 ● 24±1 dBm at Maximum data rate
Receiver Sensitivity at Antenna Connector		● Typical Sensitivity at each RF chain. @Frame (1000-byte PDUs) Error Rate=10% and at room Temp 25°C
		2.4GHz Band/HT20 ● -68dBm at Maximum data rate

Bluetooth Section

	Feature	Detailed Description		
Bluetooth standard		● Bluetooth V4.2		
Modulation		● GFSK		
Operating Frequency		● 2402MHz-2480MHz		
Channel Numbers		● 40 channels for BLE		
		Min (dBm)	Typical (dBm)	Max (dBm)
BLE Output Power			4±1	
Sensitive @PER=30.8% FOR BLE			-90	



Compliance Information

FCC 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

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/television technician for help.

FCC Radiation Exposure Statement

This transmitter must not be co-location or operating in conjunction with any other antenna or transmitter. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 7.9 inches (20 cm) between the radiator and your 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: 2AC23-WL6Q Or Contains FCC ID: 2AC23-WL6Q"

When the module is installed inside another device, the user manual of the host must contain below warning statements:

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

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.

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.

Any company of the host device which install this modular with limit modular approval should perform the test of radiated & conducted emission and spurious emission, etc. According to FCC part 15.247 and 15.209 & 15.207, 15B Class B requirement, only if the test result comply with FCC part 15.247 and 15.209 & 15.207, 15B Class B requirement, then the host can be sold legally.

Information on test modes and additional testing requirements.

Any final host product with the modular transmitter installed should be under test according to guidance given in KDB 996369 D04. To enter test mode for module, Bluetooth RF Test Tool (RtlBlueMP.dll Version: 5.3.1.4 RTLBTAPP Version: 5.2.2.40) and AmebaZ2_mptool_1v3 software and command is necessary.

When something wrong happens in configuring test modes for host product with module, host product manufacturer should coordinate with module manufacturer for technical support. It is recommended that some investigative measurements should be taken to confirm that host product with module installed does not exceed the spurious emissions limits or band edge limits.

The module complies with FCC Part 15.247 and apply for Single module approval.

The module is limited to OEM installation ONLY.

The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module. The module is limited to installation in mobile application.

Limited module procedures:

Not applicable for Limited module procedures.

This radio transmitter 2AC23-WL6Q 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.



A separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and difference antenna configurations. There is requirement that the grantee provide guidance to the host manufacturer for compliance with Part 15B requirements.

Trace antenna designs: Not applicable.

The antenna is permanently attached, can't be replaced.

WIFI/BT Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2400-2483.5	PCB Antenna	3