EnLI WLT674 Qualcomm QCA6174A-5 WiFi Bluetooth Module User Manual

Contents

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PRODUCT FEATURES

BT FEATURES:

- Bluetooth V5.0, V4.2, V4.1, V4.0 LE, V3.0+HS, Bluetooth V2.1+EDR system, backwards compatible with BT version of 1.1, 1.2 and 2.0
- Supports Class I
- BT transmission speed including 1M, 2M and 3Mbps EDR operations
- Support for Simple Pairing (SP) and Enhanced Inquiry Response (EIR) function
- HCI USB interface to work with Windows upper layer stack

WI-FI FEATURES:

- Operate at ISM frequency Band(2.4/ 5 GHz)
- IEEE Standards Support 802.11ac, 802.11a, 802.11b, 802.11g and 802.11n
- Wi-Fi using Low power PCIe (w/ L1 sub-state) interface
- Enterprise level security supporting: HW : 64/128-bit WEP, CKIP, TKIP and AES-CCMP encryption SW : WPA, WPA2, IEEE 802.1x, FIPS140-2
- Support 2 transmission and 2 receiving, transmission rate can up to 867Mbps (Physical Rate) in downstream and upstream
- Additional features include maximal likelihood (ML) decoding, low-density parity check(LDPC), maximum ratio combining(MRC),Rx space time block code(STBC), MU-MIMO and transmit beam forming

COMMON FEATURES:

- Form Factor: Half-Sized PCI Express Card
- Support for BT & WLAN Co-existence
- RoHS compliance
- Halogen Free compliance

PRODUCT SPECIFICATIONS

MAIN CHIPSET

Qualcomm QCA6174A-5

FUNCTIONAL SPECIFICATIONS

BT Function	
Standard	Bluetooth V5.0, V4.2, V4.1, V4.0LE, V3.0+HS, V2.1+EDR
Bus Interface	USB 1.1
Data Rate	1 Mbps, 2Mbps and 3Mbps
Modulation Scheme	LE, GFSK, π/4-DQPSK and 8-DPSK
Frequency Range	2.402~2.480 GHz
Receive Sensitivity	< 0.1% BER at -70dBm
Software	Bluetooth Suite
Wi-Fi Function	
Standard	IEEE802.11ac, IEEE802.11a , IEEE802.11b , IEEE 802.11g , IEEE 802.11n
Bus Interface	Low power PCI Express
Data Rate	***802.11a:***
	54, 48, 36, 24, 18, 12, 9, 6 Mbps
	802.11b:
	11, 5.5, 2, 1 Mbps
	802.11g:
	54, 48, 36, 24, 18, 12, 9, 6 Mbps
	802.11n:
	MCS 0 to 15 for HT20MHz
	MCS 0 to 15 for HT40MHz
	802.11ac:
	MCS 0 to 8 for HT20MHz
	MCS 0 to 9 for HT40MHz

	MCS 0 to 9 for HT80MHz
Media Access Control	CSMA/CA with ACK
Modulation Techniques	***802.11ac:***
	256QAM, 64QAM, 16QAM, QPSK, BPSK
	802.11a:
	64QAM, 16QAM, QPSK, BPSK
	802.11b:
	CCK, DQPSK, DBPSK
	802.11g:
	64QAM, 16QAM, QPSK, BPSK
	802.11n:

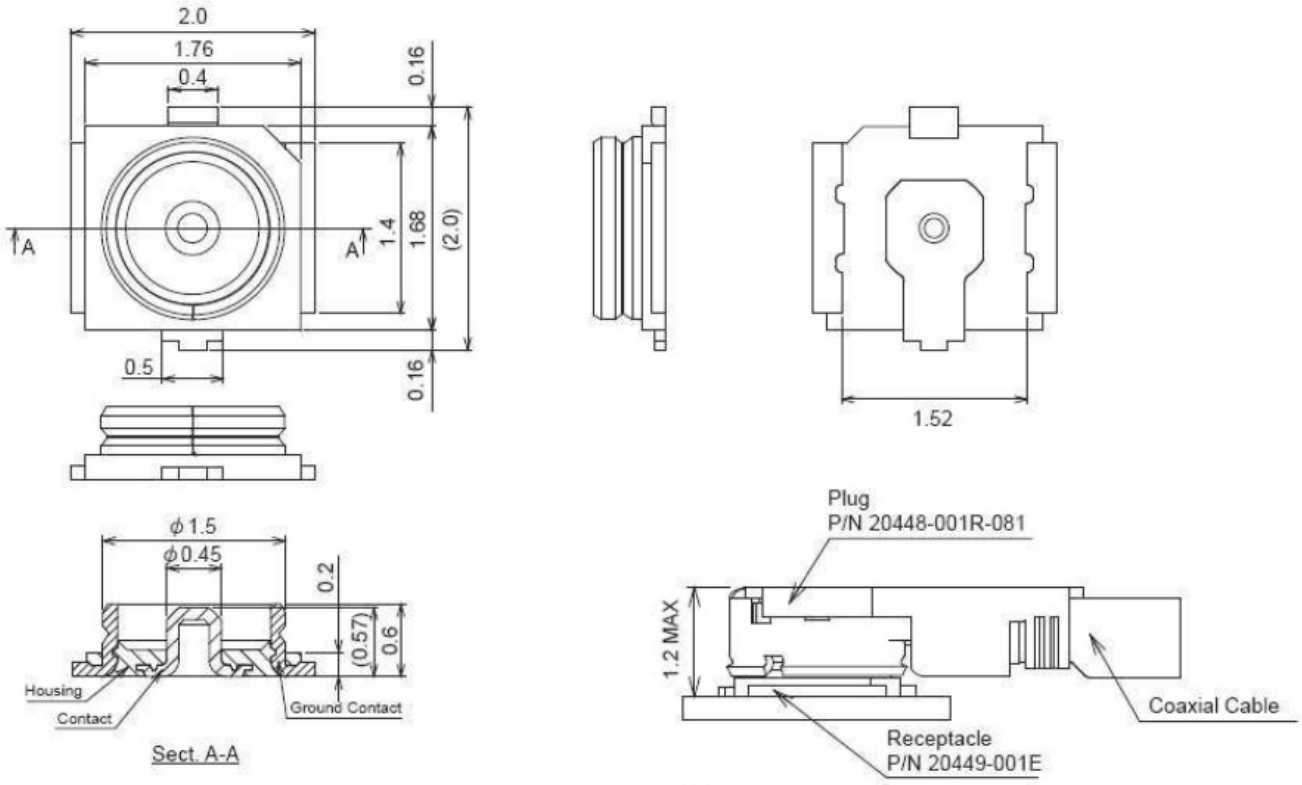
	64QAM, 16QAM, QPSK, BPSK
Network Architecture	Infrastructure mode
Receiver Sensitivity	***802.11b:***
	Less than IEEE Standard -76dBm
	802.11g / 802.11a:
	Less than IEEE Standard -82dBm @ 6Mpbs
	Less than IEEE Standard -65dBm @54Mbps
	802.11n:
	HT20:
	Less than IEEE Standard -82dBm @ MCS0
	Less than IEEE Standard -64dBm @ MCS7
	HT40:
	Less than IEEE Standard -79dBm @ MCS0
	Less than IEEE Standard -61dBm @ MCS7
	HT80: Less than IEEE Standard -76dBm @ MCS0
	Less than IEEE Standard -51dBm @ MCS7
	HW : 64/128-bit WEP, CKIP, TKIP and AES-CCMP
	encryption
	SW : WPA, WPA2, IEEE 802.1x, FIPS140-2

Operating Voltage	3.3 V ±9% I/O supply voltage
Antenna Type	Dual MHF4 connectors

PIN ASSIGNMENT

PIN#	Pin Name		PIN#	Pin Name	
1	WAKE_L	YES	2	3.3V	YES
3	RESERVED	NC	4	GND	YES
5	RESERVED	NC	6	1.5V	NC
7	CLKREQ_L	YES	8	UIM_PWR	NC
9	GND	YES	10	UIM_DATA	NC
11	REFCLK-	YES	12	UIM_CLK	NC
13	REFCLK+	YES	14	UIM_RESET	NC
15	GND	YES	16	UIM_VPP	NC
17	UIM_C8	NC	18	GND	YES
19	UIM_C4	NC	20	W_DISABLE_L	YES
21	GND	YES	22	PERST_L	YES
23	PERn0	YES	24	+3.3VAUX	NC
25	PERp0	YES	26	GND	YES
27	GND	YES	28	+1.5V	NC
29	GND	YES	30	SMB_CLK	NC
31	PETn0	YES	32	SMB_DATA	NC
33	PETp0	YES	34	GND	YES
35	GND	YES	36	USB_D-	YES
37	RESERVED	NC	38	USB_D+	YES
39	RESERVED	NC	40	GND	NC
41	RESERVED	NC	42	LED_WWAN_L	NC
43	GND	YES	44	LED_WLAN_L	YES
45	RESERVED	NC	46	LED_WPAN_L	YES
47	RESERVED	NC	48	+1.5V	NC
49	RESERVED	NC	50	GND	YES
51	BT_DISABLE_L	YES	52	+3.3V	YES

MHF4 CONNECTOR SPEC



ENVIRONMENTAL

OPERATING

Operating Temperature: – 10 to 70 C (14 to 158 F) Relative Humidity: 5-90% (non-condensing)

STORAGE

Temperature: -40 to 80 C (-40 to 176 F) Relative Humidity: 5-95% (non-condensing)

Software Installation

Driver installation under Windows

1. Click the following Installer
2. Click to begin the driver installation then follow InstallShield Wizard

Join a Wireless Network in order to get connected.

Step 1: Click the Network Icon on the Task bar Select your preferred WiFI Network and Click.

Step 2 : Enter the correct password of the Network card then click Next

Step 3: When it shows “Connected” the following picture you can surf the internet access now.

Federal Communication Commission Interference Statement:

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

RF exposure statements

This Transmitter must not be co-located 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 equipmentshould be installed and operated with a minimum distance of 20 centimeters between the radiator and your body or nearby persons. CFR 47 FCC PART 15 SUBPART C (15.247) and SUBPART E (15.407) has been investigated. It is applicable to the modular transmitter. 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. This radio transmitter 2AWKZ-QCNFA324 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. Unique antenna connector must be used on the Part 15 authorized transmitters used in the host product.

Antenna Type	Antenna Model	Maximum Gain (dBi)		Remark
		2.4 GHz	5GHz	
Dipole	AEDQ4S- B0003	5 dBi	5.3 dBi	
PIFA	AJDP2J-C0012	3.62 dBi	6 dBi	

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: 2AWKZ-QCNFA324" Or "Contains FCC ID: 2AWKZ-QCNFA324" The modular transmitter is only FCC authorized for the specific rule parts (i.e., FCC transmitter rules) listed on the grant, and the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

Industry Canada statement:

This device complies with Industry Canada license-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Caution:

1. The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
2. For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;
3. For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to- point and non-point-to-point operation as appropriate; and

Radiation Exposure Statement:

This equipment complies with IC 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. radio transmitter IC: 26176-QCNFA324 has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

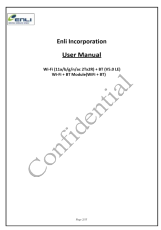
Manual Information To the End User:

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.
The end user manual shall include all required regulatory information/warning as show in this manual. Must use the device only in host devices that meet the FCC/ISED RF exposure category of mobile, which means the device is installed and used at distances of at least 20cm from persons. The end user manual shall include FCC Part 15 /ISED RSS GEN compliance statements related to the transmitter as show in this manual. Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B, ICES 003. Host manufacturer is strongly recommended to confirm compliance with FCC/ISED requirements for the transmitter when the module is installed in the host. Must have on the host device a label showing Contains FCC ID: 2AWKZ-QCNFA324, Contains IC: 26176- QCNFA324 The use condition limitations extend to professional users, then instructions must state that this information also extends to the host manufacturer's instruction manual. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

OEM Integration Instructions

This device is intended only for OEM integrators under the following conditionsThe module can be used to installation in other host. the transmitter module may not be colocated with any other transmit or antenna. The module shall be only used with the integral antenna(s) that has been originally tested and certified with this module. As long as 3 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirement with this module installed (for example, digital device emission, PC peripheral requirements, etc.)

Documents / Resources

	EnLI WLT674 Qualcomm QCA6174A-5 WiFi Bluetooth Module [pdf] User Manual QCNFA324, 2AWKZ-QCNFA324, 2AWKZQCNFA324, WLT674 Qualcomm QCA6174A-5 WiFi Bluetooth Module, WLT674, Qualcomm QCA6174A-5 WiFi Bluetooth Module