



Telink LK8620B Bluetooth LE5.0 Module Instructions

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Telink LK8620B Bluetooth LE5.0 Module



Product Information

- **Product Name:** LK8620B Bluetooth Module
- **Manufacturer:** Shenzhen Lianke Intelligent Technology Co., Ltd
- **Website:** www.linkiing.com
- **Specification:** LK8620B V3.0/20*15MM/H=2.4
- **Based on:** TELINK-SEMI Bluetooth LE chip TLSR8250
- **Bluetooth Version:** BLE5.0 (Low Power Bluetooth)
- **SIG MESH Support:** Yes
- **Module Size:** 20mm x 15mm x 2.4mm
- **Item ID:** 105-18620-004

Contact Information:

- **Email:** dylan.xia@linkiing.com
- **Telephone:** 13510925951

Product Usage Instructions

Precautions for Use:

- The usage environment and wireless signal applications of Bluetooth are greatly affected by the surrounding environment, such as trees, metals, and other obstacles that can absorb wireless signals. This may affect the distance of data transmission in practical applications.
- Avoid installing the Bluetooth module in a metal casing, as it can have a strong shielding effect on wireless RF signals.
- When laying the PCB layout, ensure that the antenna part of the Bluetooth module is not covered or wired under the module antenna. Metal can weaken the performance of the antenna. It is recommended to keep the area around the antenna hollowed out.

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

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. It is recommended to reorient or relocate the receiving antenna if necessary.

Please refer to the user manual for more detailed instructions and information.

Specification

- **Design Based on:** TELINK-SEMI TLSR8250

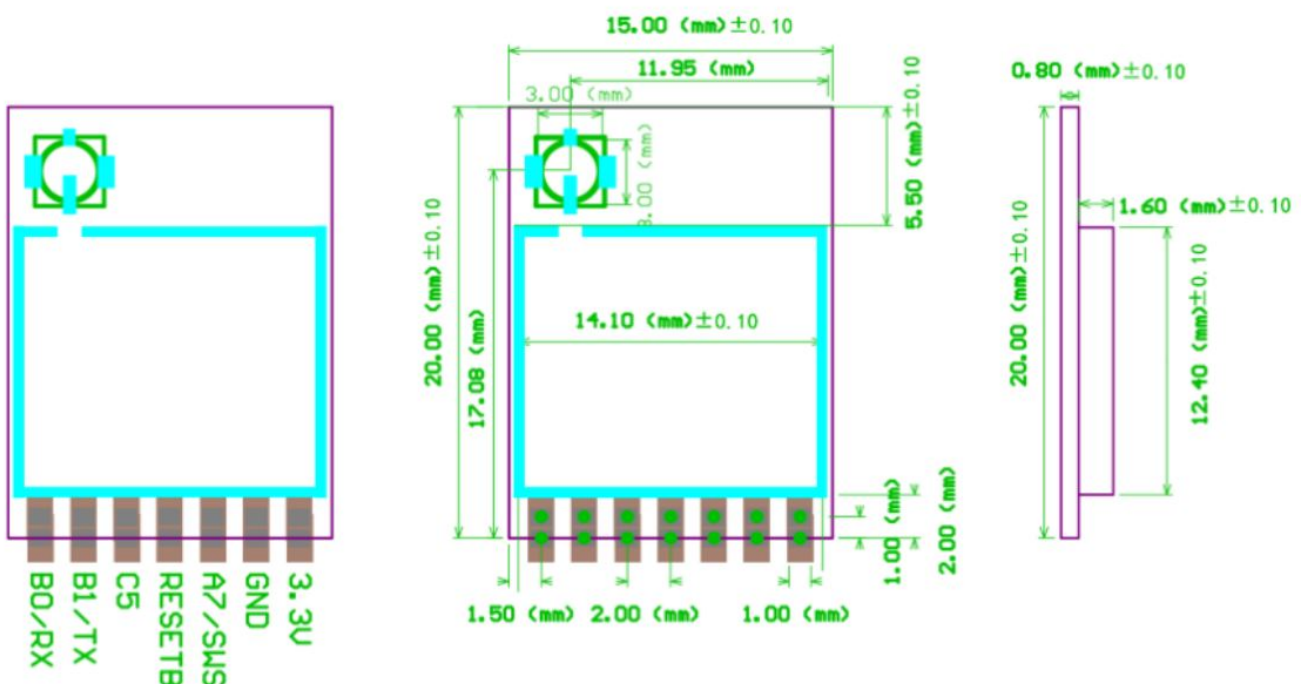
Overview

LK8620 is a Bluetooth LE5.0 (Low Power Bluetooth) module designed and produced by Shenzhen Lianke Intelligent Technology Co., Ltd. It is based on TELINK-SEMI Bluetooth LE chip TLSR8250 and supports BLE5.0, standard SIG MESH. The module pins can be led out through peripheral stamp holes and pins, and the installation method is flexible. The module is equipped with onboard antennas, greatly simplifying the difficulty of terminal product design and application, shortening the product design cycle, thereby reducing the cost of terminal product design, and ensuring product reliability and stability.

Item ID	name	specifications
105-18620-004	Bluetooth module	LK8620B V3.0/20*15MM/H=2.4

- Main characteristics (brief description):
- 1.8-3.6V power supply, typical value 3.3V
- Low power consumption mode:
- **Full chip mode TX:** 4.8mA@0dBm
- **RX:** 5.3mA
- **Deep sleep:** 0.4uA (external wake-up)
- Built in 32-bit high-performance processor
- Rich external interfaces (I2C, I2S, SPI, PWM, ADC, USB)
- Temperature working range of -40~85 ° C
- 512KB FLASH
- 48KB SRAM
- Bluetooth 5.0 protocol
- **Receiving sensitivity:** -96dBm @ BLE 1Mbps
- **Transmission power:** up to 10dBm
- Supports standard SIG MESH

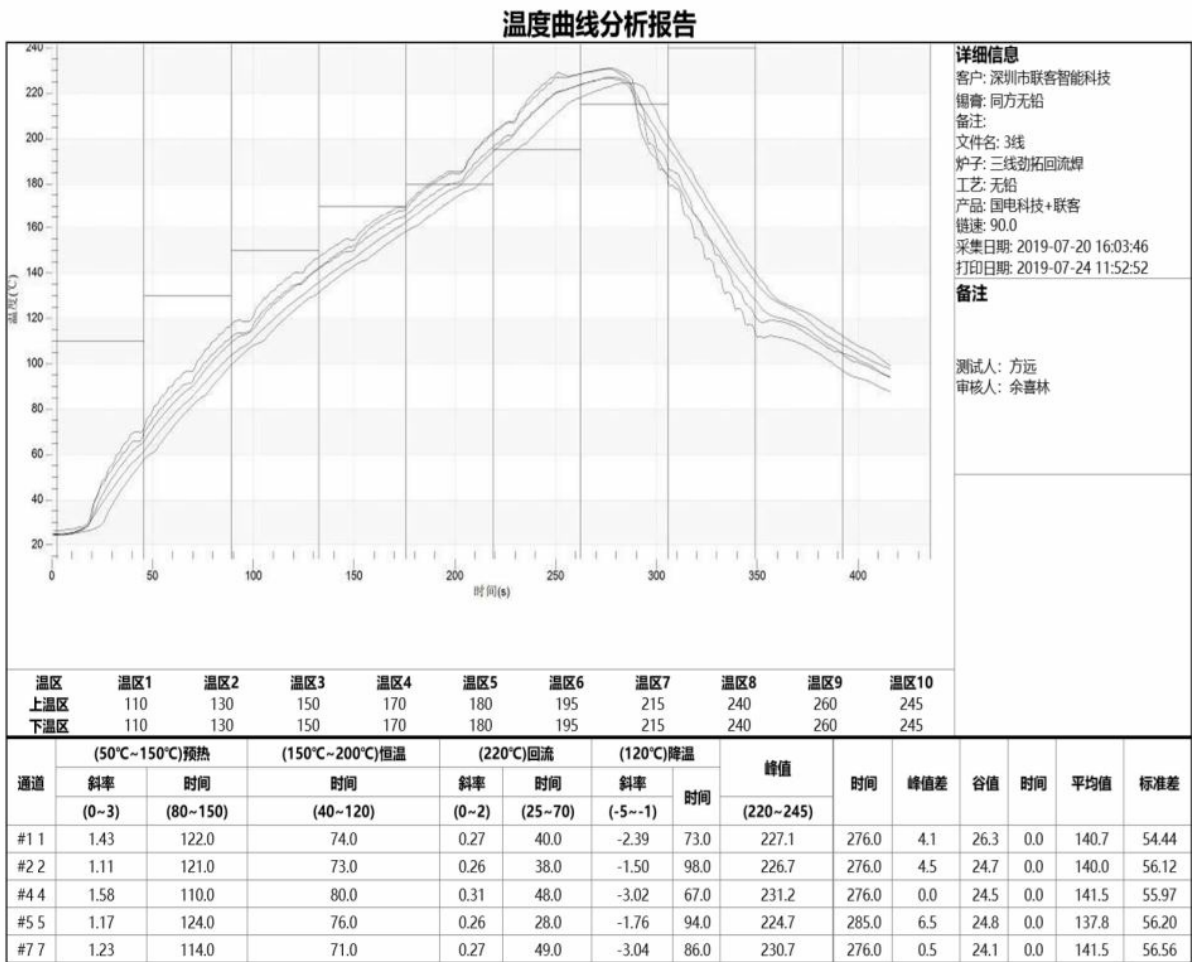
Module size



Pin description

LK8620B Pin	Pin name	Pin function
1	UART-RX	Serial port reception
2	UART-TX	Serial port transmission
3	I/O	Digital I/O
4	Reset	reset
5	SWS/UART_RTS/PA<7>	Burn foot
6	GND	Ground
7	VCC	1.8-3.6V

Schematic diagram of temperature control for secondary reflow soldering:



Precautions for use

The usage environment and wireless signal applications of Bluetooth are greatly affected by the surrounding environment, such as trees, metals, and other obstacles that can absorb wireless signals to a certain extent, thus affecting the distance of data transmission in practical applications;

Due to the fact that Bluetooth modules need to be paired with existing systems and placed in a metal casing, which has a strong shielding effect on wireless RF signals, it is recommended not to install them in a metal casing;

PCB layout: The antenna part of the Bluetooth module, due to metal weakening the performance of the antenna, is strictly prohibited from laying or wiring under the module antenna (the surrounding area of the antenna, i.e. left, right, and front end) when laying the PCB layout. It would be better if it could be hollowed out.

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.

Warning: 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/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- this device may not cause interference, and
- this device must accept any interference, including interference that may cause undesired operation of the "device"

Conditions on using GODOX PHOTO EQUIPMENT CO.,LTD regulatory approvals:

1. Customer must ensure that its product (the"CUSTOMER Product") is electrically identical to GODOX PHOTO EQUIPMENT CO.,LTD reference designs. Customer acknowledges that any modifications to GODOX PHOTO EQUIPMENT CO.,LTD reference designs may invalidate regulatory approvals in relation to the CUSTOMER Product, or may necessitate notifications to the relevant regulatory
2. Customer is responsible for ensuring that antennas used with the product are of the same type, with same or lower gains as approved and providing antenna reports to GODOX PHOTO EQUIPMENT ,LTD.
3. Customer is responsible for regression testing to accommodate changes to GODOX PHOTO EQUIPMENT CO.,LTD reference designs, new antennas, and portable RF exposure safety testing/approvals.
4. Appropriate labels must be affixed to the CUSTOMER Product that comply with applicable regulations in all respects.

5. A user's manual or instruction manual must be included with the customer product that contains the text as required by applicable law. Without limitation of the foregoing, an example (for illustration purposes only) of possible text to include is set forth below:

List of applicable FCC rules and RSS rules

- FCC Part 15 Subpart C 15.247 & 15.207 & 15.209& 205 RSS-Gen Issue 5 Amendment 2, February 2021

RSS-247 Issue 2, February 2017

Specific operational use conditions

- **Operation Frequency:** 2402~2480MHz
- **Number of Channel:** 40
- **Channels Modulation Type:** GFSK
- **Antenna Type:** PCB antenna
- **Antenna Gain(Peak):** 2.32 dBi (Provided by customer)

The module can be used for mobile or portable applications with a maximum 2.32 dBi antenna. The host manufacturer 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. The host manufacturer 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 shown in this manual.

Limited module procedures

Not applicable. The module is a Single module and complies with the requirement of FCC Part 15.212.

Trace antenna designs

Not applicable. The module has its own antenna, and doesn't need a host's printed board microstrip trace antenna etc.



RF exposure considerations

The device can be used in portable exposure condition without restriction and if RF exposure statement or module layout is changed, then the host product manufacturer required to take responsibility of the module through a change in FCC ID or new application. The FCC ID of the module cannot be used on the final product. In these circumstances, the host manufacturer will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

Antennas

Antenna Specification are as follows:

- **Antenna Type:** PCB antenna

- **Antenna Gain(Peak):**2.32 dBi (Provided by customer)

This device is intended only for host manufacturers under the following conditions: The transmitter module may not be co-located with any other transmitter or antenna;The module shall be only used with the External antenna(s) that has been originally tested and certified with this module. The antenna must be either permanently attached or employ a 'unique'antenna coupler.

As long as the conditions above are met, further transmitter test will not be required. However, the host manufacturer is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheralrequirements, etc.).

Label and compliance information

Host product manufacturers need to provide a physical or e-label stating "Contains FCC ID 2ABYN-LK8620B"/"Contains IC: 20034-LK8620B" With their finished product.

Information on test modes and additional testing requirements

- **Operation Frequency:**2402~2480MHz
- **Number of Channel:**40
- **Channels Modulation Type:**GFSK
- **Antenna Type:**PCB antenna
- **Antenna Gain(Peak):**2.32 dBi (Provided by customer)


Host manufacturer must perform test of radiated & conducted emission and spurious emission, etcaccording to the actual test modes for a stand-alone modular transmitter in a host, as well as for multiple simultaneously transmitting modules or other transmitters in a host product. Only when all the test results of test modes comply with FCC requirements, then the end product canbe sold legally.

The modular transmitter is only FCC authorized for FCC Part 15 Subpart C 15.247 & 15.207 & 15.209 & 15.205 and that 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. If the grantee markets their product as being Part 15 Subpart B compliant (when it also contains unintentional-radiator digital circuitry), then the grantee shall provide a notice stating that the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

Shenzhen Linkiing Tech Co., Ltd

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Documents / Resources

	<p>Telink LK8620B Bluetooth LE5.0 Module [pdf] Instructions LK8620B, LK8620B Bluetooth LE5.0 Module, Bluetooth LE5.0 Module, LE5.0 Module, Module</p>
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