HS5010-03 Bluetooth module specification
V1.0

Directory

1） product features:

1, Based on LE5010 Bluetooth low energy research and development

2, Support private APP access, 2.4G remote control access

3, Bluetooth module designed with Bluetooth 5.0 low energy design, 4, Working voltage: 1.8~3.6V

5, Working temperature: -40 degrees ~ +80 degrees (commercial specifications)

6, SMD package

Bluetooth features:

1， BLE5.0/5.1

2, Support 125Kbps/500Kbps/1Mbps/2Mbps

3. Receiving sensitivity: -99.7dBm @1Mbps

-96dBm @2Mbps

-105dBm @125Kbps

4, Transmission power: maximum +12dBm (max)

5, Link gain 117@125Kbps (max.)

6, SUPPORT FOR SIG MESH, PRIVATE MESH AND BLE

MCU features:

1, 32BIT CPU CORE

2. Up to 64M main frequency

3, Maximum 64KB SRAM

4, MAX 512 FLASH

5, RX mode: 4.5mA

1, TX mode: 4.3mA @0DB

2, Deep sleep: 1.1UA (GPIO+RTC wake-up)

3, ShutDOWN: 700NA (GPIO wake-up)

4, Real-time clock RTC

5, peripheral interface: UART

6, All IOs support function mapping,

Scope of application:

1, LED intelligent control

2, Smart home appliances

3. Exercise health

4, Sports wearable

5, Logistics label

6. Consumer products

2） Electrical parameters：

Voltage

	MIN	TYP	MAX	Unit
Supply voltage	1.7	3.3	3.6	V
I/0 voltage	0	~	3.6	V
Operating temperature	-40	~	+85	degree
Storage temperature	-40	~	+125	degree

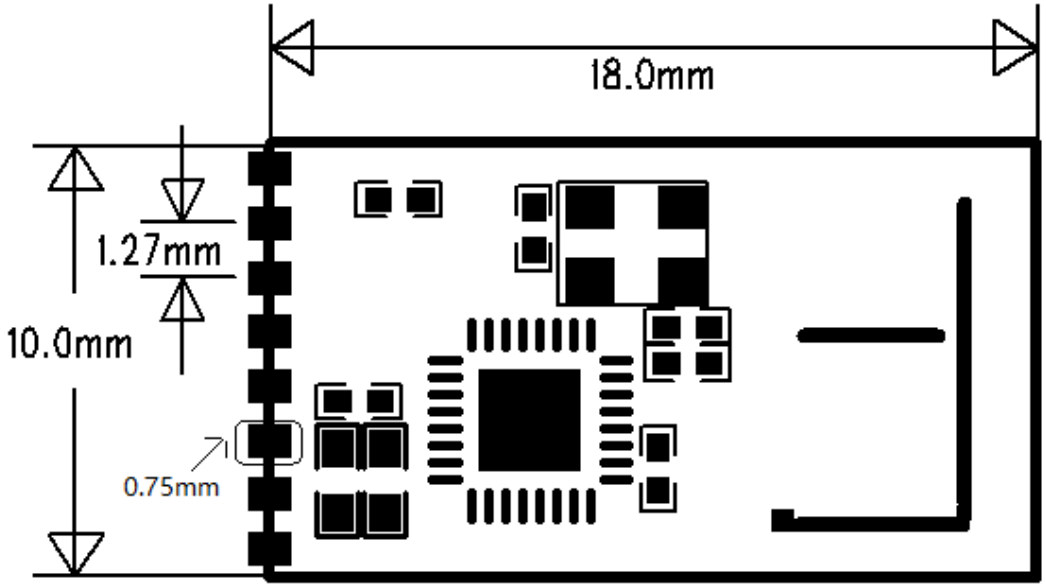
Power consumption

	TYP	unit
RX MODE	**4.5**	**mA**
TX MODE@0DB	**4.3**	**mA**
Deep sleep	1.1UA(GPIO+RTC)	**uA**
ShutDOWN	700NA(GPIO)	**nA**

3) module shape and interface:

1, HS5010-03 (small size module)

Size: 18X10X2.6mm (L*W*H)



Definition

PIN	Pin Name	Pin Name
1	GND	GND
2	PB15	GPIO/low-power wake-up pin/continuous low level into sleep; High-level wake-up; There is a pull-up inside the dangling, which wakes up by default
3	PA00	indicates Bluetooth connection status; BLE or SPP is connected and the output is high BLE and SPP are not connected, and the output is low
4	PA01	serial port data input UART_RX
5	PA02	PA02 serial port data output UART_TX
6	GND	GND
7	VCC	Operating voltage range 1.8-3.6V
8	PA14	GPIO

5) The schematic

Confidential

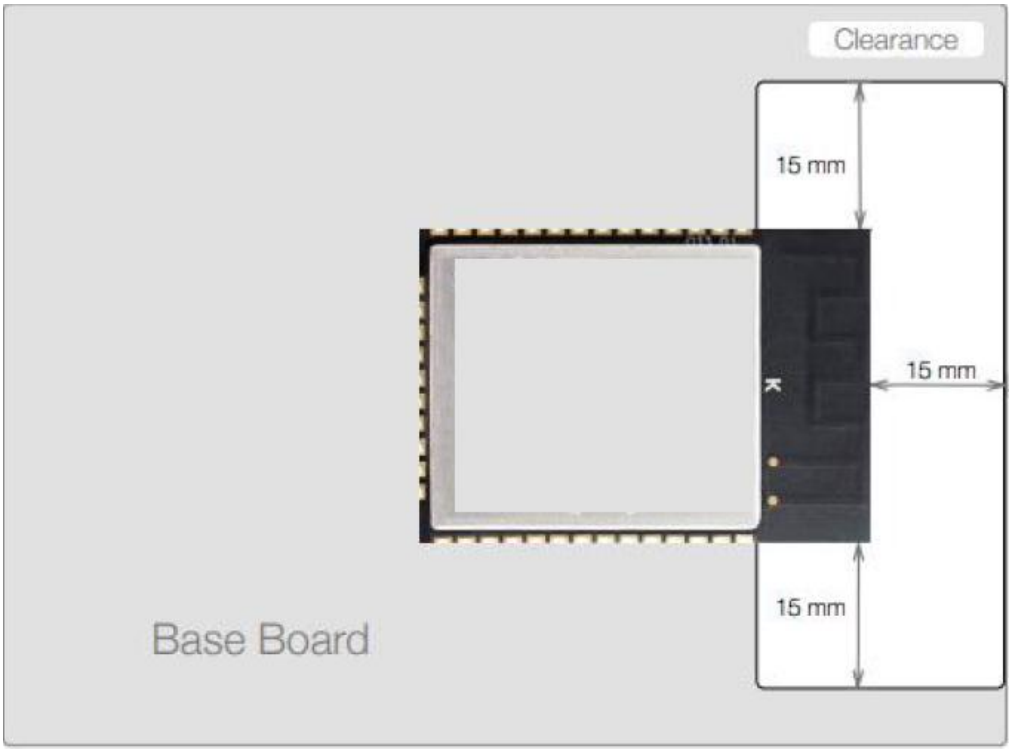
Notes:

1, power supply, try to use a clean power supply, ripple control within 30mV

2, Antenna

2.1 The module can choose the on-board antenna or the external wire antenna, when laying the patch when laying the board, it is necessary to achieve complete headroom for the antenna,

do not lay copper and wire;



2.2: The side of the IC on the module cannot face the high-frequency components on the drive, but the outside of the drive board;

2.3: The module should be far away from the high-frequency components on the drive;

2.4: The antenna placement of the module should be taken into account when the PCB layout of the driver is carried out;

2.5: For the module of the welding antenna, there are front welding and back welding methods, if the module of the front welding antenna is not well placed during the layout, you can consider using the module of the back welding antenna

6) Contact Us:

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FCC Statement
FCC standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247
Device is equipped with PCB antenna, Antenna gain 3dBi

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/TV technician for help.

FCC Radiation Exposure Statement
This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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: 2BCGR-HS501003 Or Contains FCC ID: 2BCGR-HS501003”
When the module is installed inside another device, the user manual of the host must contain below warning statements;
1. 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.
2. 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 the modular with modular approval should perform the test of radiated & conducted emission and spurious emission, etc. according to FCC part 15C : 15.247 and 15.209 & 15.207 ,15B Class B requirement, Only if the test result comply with FCC part 15C : 15.247 and 15.209 & 15.207 ,15B Class B requirement, then the host can be sold legally.