

The KCX_BT_EMITTER module is a wireless Bluetooth audio transceiver module that integrates Bluetooth stereo audio transmission and reception. It adopts the Bluetooth 5.3 protocol version and supports the memory of the last automatically connected Bluetooth device.

Automatic connection back, supports serial port AT commands to configure compatible specified Bluetooth device name to connect, obtain search results, modify Bluetooth name, control connection and disconnection and other commands. This module configures the module to work in Bluetooth audio transmission mode or Bluetooth audio reception mode by setting short-circuit solder joints, and supports indicator light status display and connection status level output. Widely used in occasions that require Bluetooth audio reception, Bluetooth audio transmission, wireless audio transmission, DIY modification, etc.

When configured as Bluetooth audio transmitting mode: It can wirelessly transmit stereo audio signals with the module configured as receiving mode through Bluetooth, or connect with some Bluetooth headsets and Bluetooth speakers, and wirelessly transmit audio signals to these Bluetooth receiving devices.

When configured as Bluetooth audio receiving mode: It can be connected with smartphones and tablets to play Bluetooth music.

Statement on product compatibility: Because there are many bluetooth earphones and speaker chip solutions on the market, there are differences in the underlying software of the chip. When this module is configured in the transmission mode, it is only guaranteed to be perfectly compatible with the bluetooth audio receiver and bluetooth module of our store, and it is not guaranteed to be compatible with the market Bluetooth receiving devices manufactured by other manufacturers cannot be connected to car navigation all-in-one devices, and cannot be connected to devices that require pairing password verification.

-.Specifications

Product model: KCX_EMITTER

Dimensions: 23.5*15.Smm

Product weight: 1 gram

Working voltage: 3.5-SV

Working current: 35mA

Launch distance 20 meters

RF output power: +SdBm

RF frequency range: 2402-2480MHz Audio dynamic range: 80dB

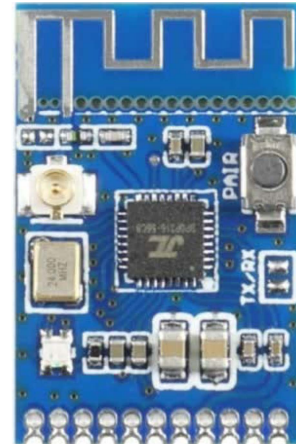
Audio Total Harmonic Distortion: -70dB

Audio frequency response: 20Hz-20KHz

Audio SNR: 95dB

Audio input and output signal amplitude: 2Vpp Number of channels: 2 channels (stereo)

Transmission delay: 250-300mS



Board halberd bluetooth antenna

PCB antenna J line can be broken

IPX1外接2.4G天线接口

launch pairing button

Bluetooth 5.3 chip

双色LED状态指示灯

发射/接收

11PIN 1.25mm pitch SMD stamp hole



Pin No. Pin Name Function Description

1 +SV 3.5-SV power supply pin

2 PGND Power ground

3 LINK connection status pin, Bluetooth connection output 3.3V, no connection output ov

4 RX serial port receiver (extended function pin, configure Bluetooth related information with thousand serial ports)

5 TX serial port sending end (extended function pin, configure Bluetooth related information with thousand serial ports)

6 AUDIO_L Audio signal left channel input/output dual-function port (configured as transmit mode input audio signal when configured to receive mode, and output audio signal when configured as receiving mode)

7 AUDIO_R Audio signal right channel input/output dual-function port (configured as transmit mode

input audio signal when configured to receive mode, and output audio signal when configured as receiving mode)

8 AGND Audio ground

9 DP USBDP data line interface (use thousands to connect to the computer USB as a sound card)

10 DM USBDM data line interface (used to connect to computer USB as sound card)

11 CONNECT External connection pairing button port (same function as module connection pairing button)

Four: Instructions for Transmitting/Receiving Mode Setting

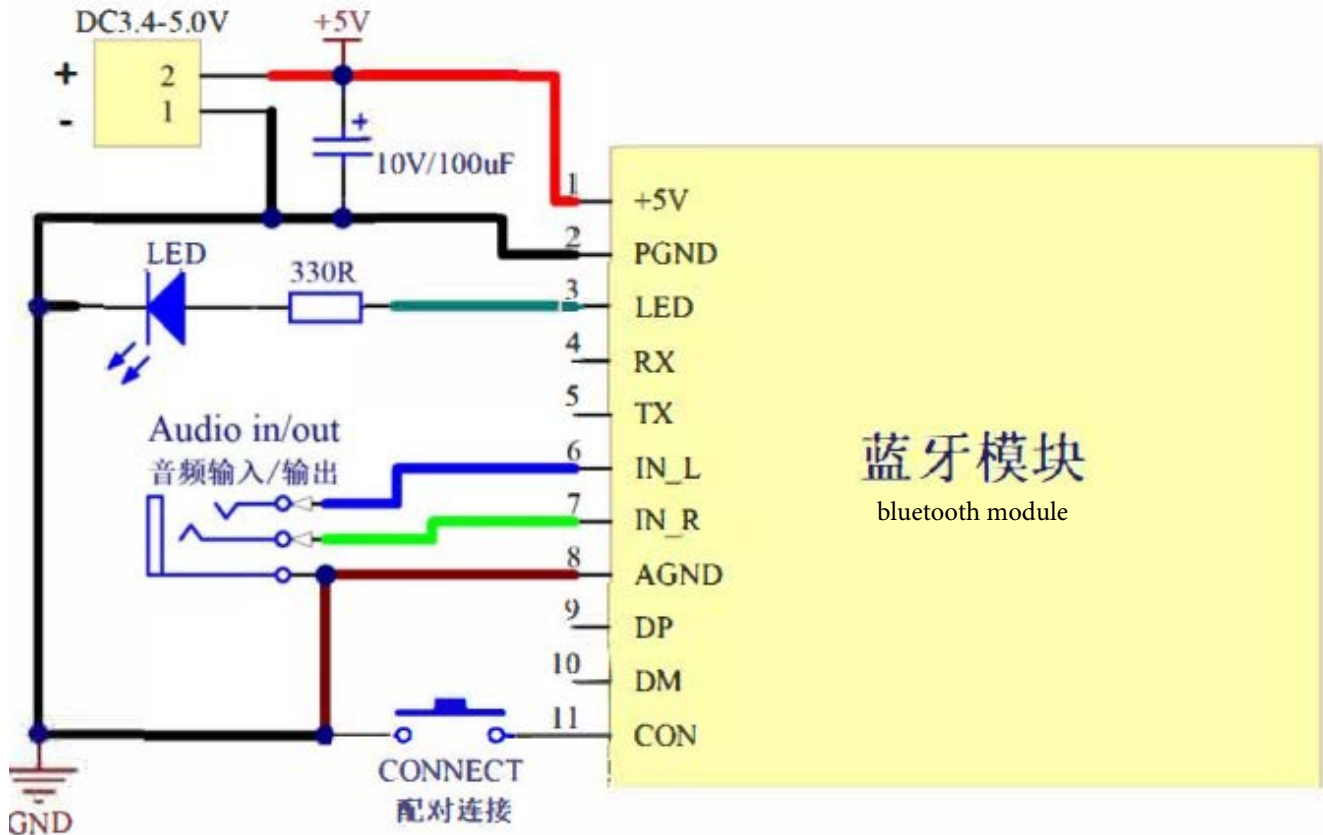
Five: Application circuit connection 1

Note: This circuit connection is applicable to both transmit mode and receive mode. When applied to transmit mode, IN_L/IN_R

Input audio signal, input line audio signal from mobile phone, computer, MP3/4 player. when applied to

In receiving mode, IN_L/IN_R outputs audio signals, which can be directly pushed to headphones or input to audio power amplifiers

Push the speaker to sound.



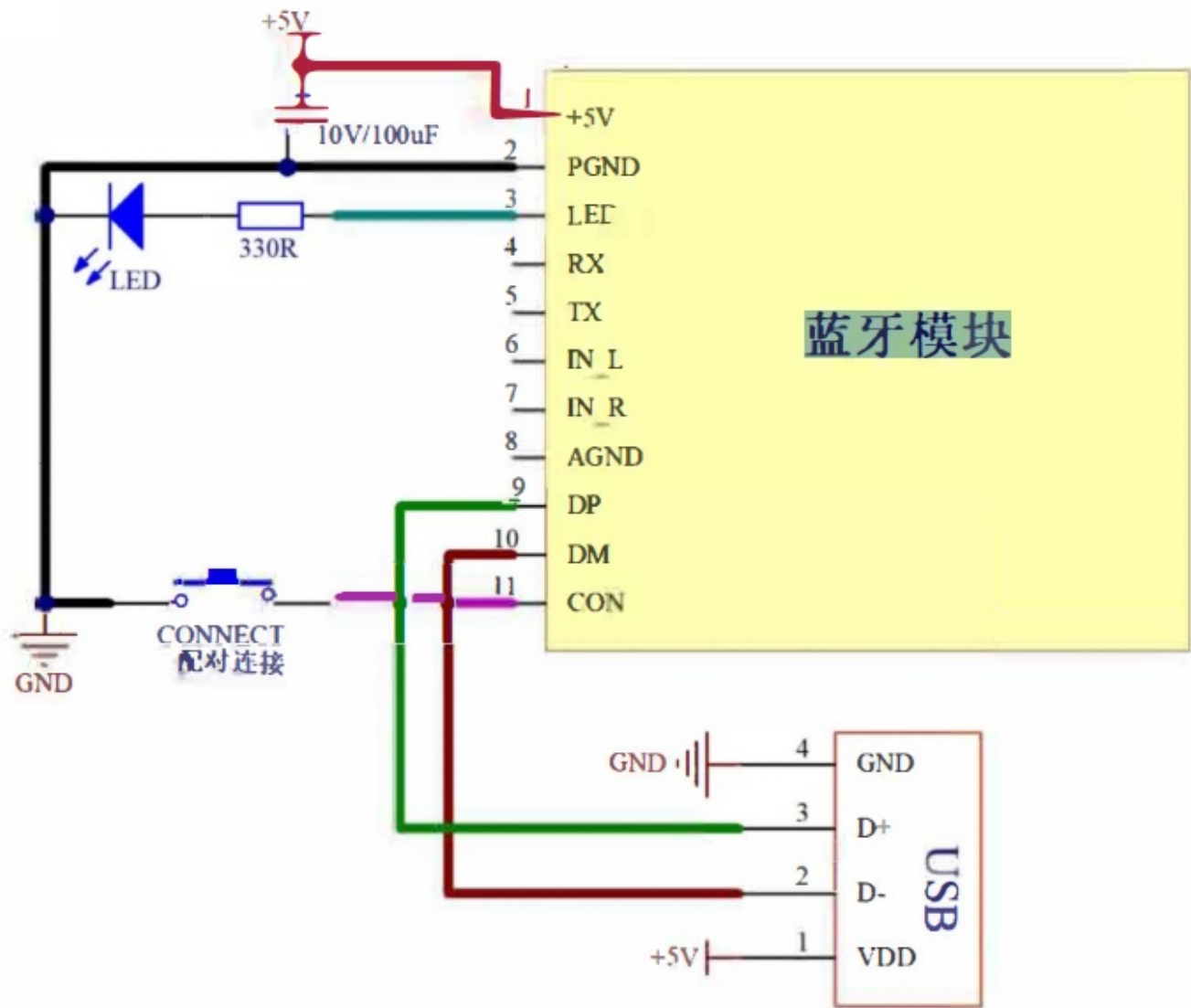
Six: Application circuit connection 2

Note: This connection method is only applicable to the thousand transmitter mode, connect the computer through the USB communication interface, when the transmitter module and

After the Bluetooth connection of the receiving module is successful, the computer system will find a "USB Audio2.0" sound card device,

At this time, the audio signal played by the computer player will be converted into a Bluetooth signal by the transmitting module through the USB data interface.

The number is wirelessly transmitted to the Bluetooth receiving module.



Seven: Status indicator light description

A red and blue dual-color LED light is integrated on the module. The red light is valid when it is set to the transmitting mode, and it is valid when it is set to the receiving mode.

The blue light is valid in the mode, and the following are two states.
launch mode

Bluetooth is not connected: the red light flashes evenly and quickly

The bluetooth connection is successful, the red light flashes 2 times at intervals of 5 seconds
receive mode

The blue light flashes evenly and quickly when the Bluetooth is not connected

Bluetooth connection is successful: the blue light flashes twice every 5 seconds

Eight: Button function description

A button for controlling Bluetooth connection pairing is integrated on the module

Short press: disconnect the current Bluetooth connection and re-pair with a new device.

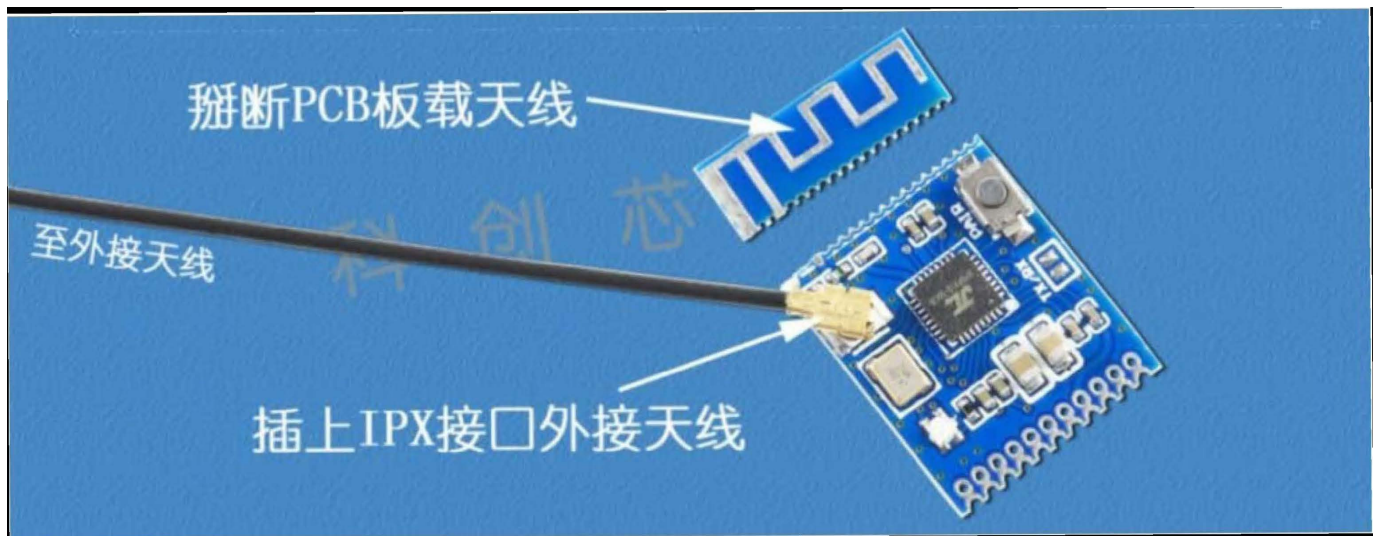
Long press for 2 seconds to switch between line audio input and USB audio input (valid when USB audio is online).

Nine: Description of external 2.4G antenna

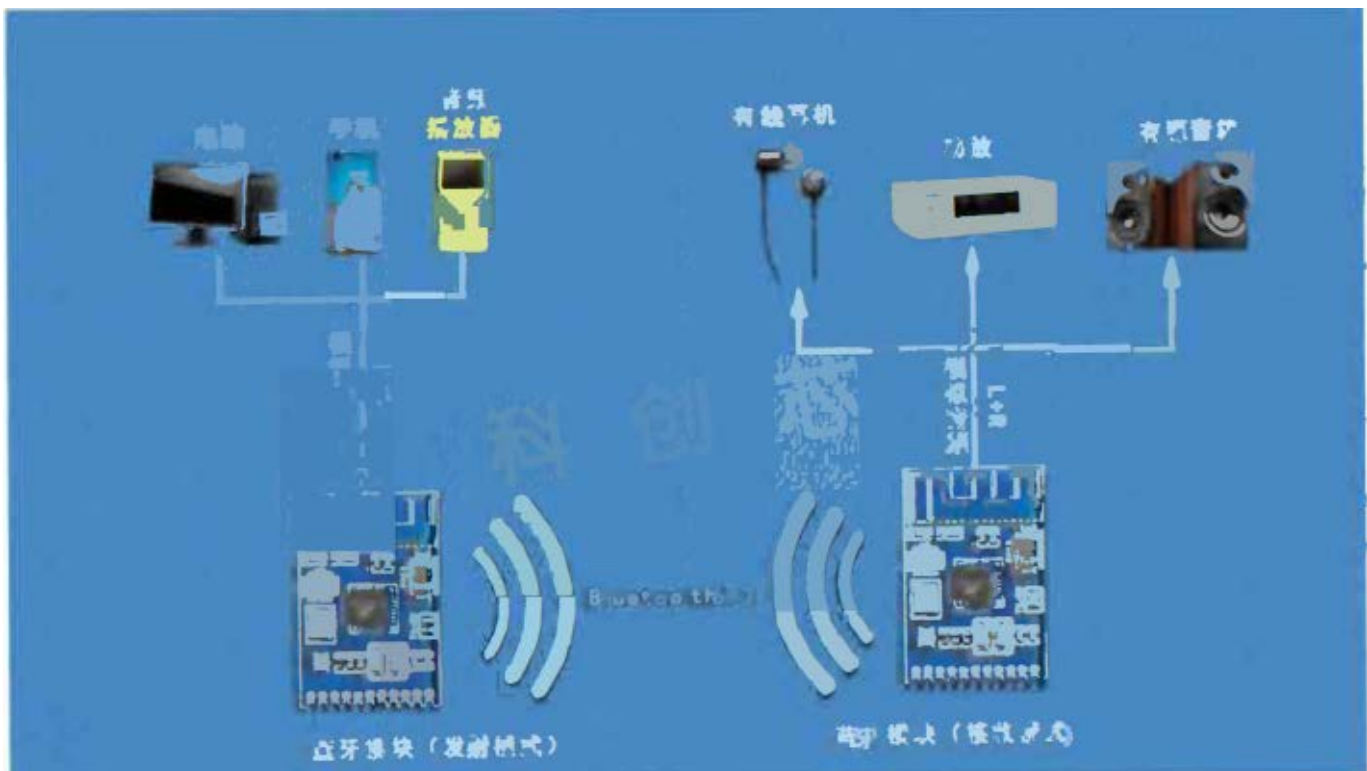
An IPX1 with RF output interface is integrated on the module, and an external 2.4G external antenna can be connected with it. When the module should

An external antenna is required when using a metal shell product. When using an external antenna, it is necessary to break off the

The cable is not used, and then plug in the IPX radio frequency cable (the external 2.4G antenna needs to be prepared by yourself, the module does not come with an external antenna line), as shown in the figure below.



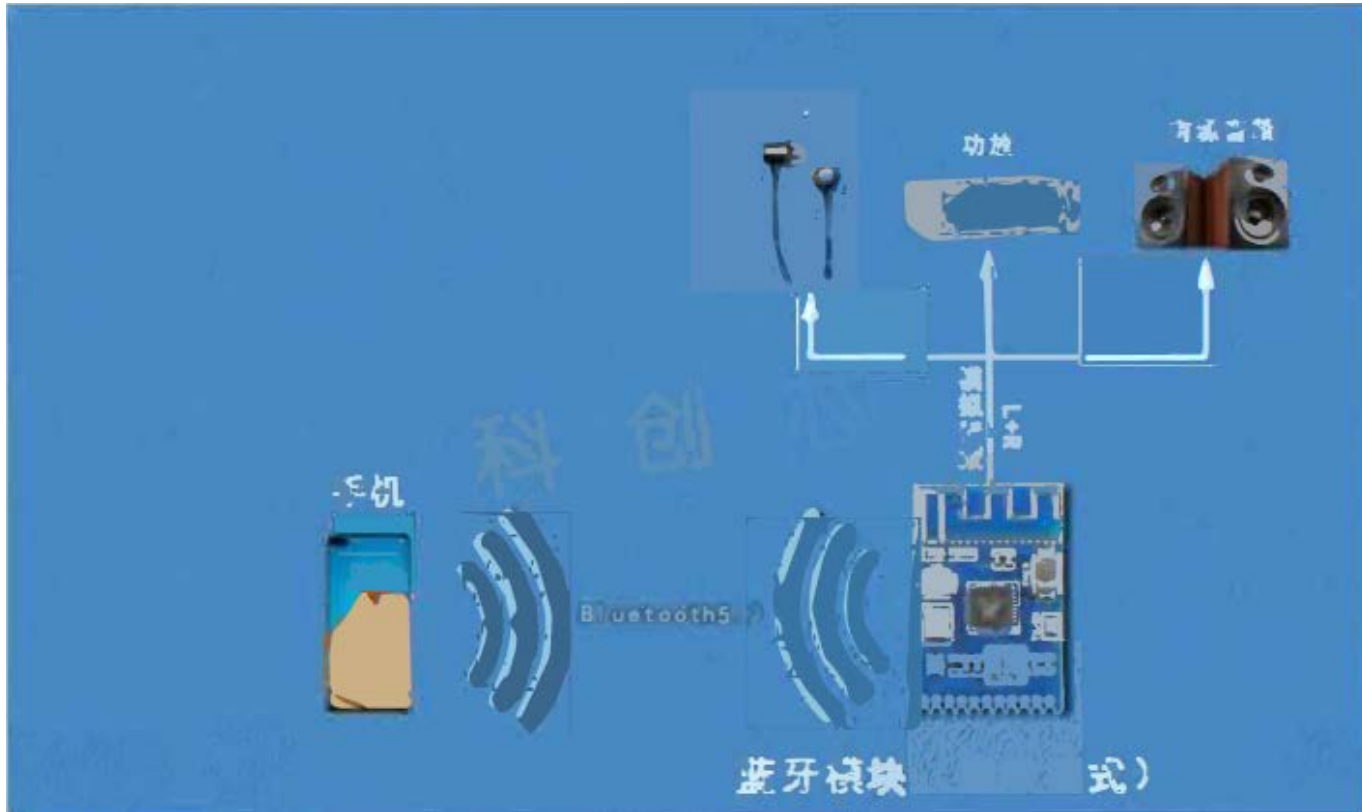
Ten: Application Scenario 1



Eleven: Application Scenario 2



Thirteen: Application Scenario 3



Fourteen: Precautions

1: The power supply voltage of this module is 3.5-SV. Note that the power supply voltage is within this range. If the voltage is too high, the module will be burnt out.
In order to reduce the noise caused by the common ground, it is recommended to use an independent power supply for the module, and do not share the power supply with the power amplifier.

- 2: The external 10V/100uF electrolytic capacitor connected to the ground of the module power supply pin should be placed as close as possible to the module power supply pin.
Benefit from better filtering effect.
- 3: AGND of the module is the audio ground, and it should be connected to PGND close to the negative pole of the 10V/100uF filter capacitor.
Helps reduce noise.
- 4: Bluetooth works in the 2.4G frequency band, it is recommended not to place it too close to the wireless router, so as not to preempt each other channel, reducing connection stability.
- 5: The 2.4G bluetooth signal cannot pass through metal, and the product uses a thousand metal shells that require an external antenna. The antenna selection
Use the 2.4G frequency band IPX1 to replace the interface.
- 6: When applied to product PCB wiring, do not route wires under the module PCB antenna, do not lay copper boxes, and Knowing the concept that signals cannot penetrate metal is extremely important to ensure communication distance.

Fifteen: Specifications and parameters

1: Limit parameter

| Parameter | min | reference value | max | unit |
|---------------------|------|-----------------|-----|------|
| Working temperature | -20 | 25 | +70 | °C |
| Storage temperature | -30 | 25 | +80 | °C |
| Operating voltage | 3.3 | 4.2 | 5.0 | V |
| 10 Voltage | -0.3 | 3.3 | 5.0 | V |

Notes:

- 1, The limit value indicates that the module may be damaged when working beyond this condition. The module works normally within the recommended working value range.
2. The module is sensitive to static electricity. During transportation and storage, it is best to use anti-static equipment, and it must be well grounded during machine or manual welding.

Electrical Characteristics

| Characteristic | Parameter | Minimum | Reference Value | Maximum | Unit |
|-----------------------------------|---------------------------|---------|-----------------|---------|------|
| Electrical characteristics | | | | | |
| Power Supply | supply voltage | 3.3 | 4.2 | 5.0 | V |
| Ip supply current (LOO no load) | | 30 | 35 | 45 | mA |
| General RF conditions | | | | | |
| fOP | Operating frequency | 2402 | | 2480 | MHz |
| PRF | Maximum RF output power | | 5 | | dBm |
| Audio features | | | | | |
| Dynamic Range | dynamic range | | 80 | | dB |
| THD+N | Total Harmonic Distortion | | -70 | | dB |
| Crosstalk | crosstalk | | -86 | | dB |
| Signal to Noise ratio | SNR | | 95 | | dB |
| ADC Sampling rate | ADC sampling rate | | 44. 1 | | KHz |
| ADC word length | ADC digit | | 16 | | Bit |

Sixteen: Package and size

Dimensions: 15.5x23.5mm Weight 1g

