

The working principle of Bluetooth earphones can be roughly divided into six steps:

1. The earphones are powered by an internal battery and charged with 5V current in the charging room to maintain normal operation;
2. The decoding chip in the mobile phone decodes MP3 and other music files, generates digital signals, and sends them to Bluetooth earphones through Bluetooth;
3. Bluetooth earphones receive digital signals and convert them into analog signals that adults can understand through the digital to analog conversion chip inside the Bluetooth earphones;

To amplify analog signals, a signal amplification chip inside the headphones is required;

5. The headphone speaker unit receives amplified signals and emits sound. At this point, the ears can hear music;
6. Headphones can make calls through a microphone;

Product details:

This product's charging case is powered by a 3.7V 250mAH polymer lithium battery, while the earphones are powered by a 3.7V 45mAh polymer lithium battery. The charging case is controlled by the SY7658 charging management boost IC to achieve charging and discharging functions. The input voltage and current of the charging case are 5V and 200mA. This product has an LED power display function. When charging, the corresponding LED light flashes, and when fully charged, it stays on. When charging the headphones, the corresponding LED light decreases.

Speaker output sound pressure: $102.9 \pm 3\text{dB}$ at $1\text{kHz}/0.172\text{mV}$

Effective bandwidth of speaker: 20-20k

Speaker AC impedance: $30 \pm 15\%$ at 1.0kHz

Rated input power of speaker: 2mW 0.25V Swept sine from 50Hz-3kHz 2cycle/1-2sec
with no audible noise

BT frequency range: 2402MHz-2480MHz

Corresponding codec: SBC, AAC do not support APTX audio encoding

Technology Bluetooth: FHSS frequency hopping spectrum, does not support HSP
protocol

Max Power output: +4dBm

RF output frequency (general power or omnidirectional power): 2 dBm

Output: Class II

Modulation method: GFSK DQPSK

Channel Bandwidth: 0.65MHz GFSK、 0.9MHz DQPSK @20db MHz

Modulation rate: 1 M/S GFSK

2M/S DQPSK

No. of preset switchable channels : 79

Maximum and minimum Number of Hopping Frequencies: 79 / 20

Hopping Frequency Separation: 1- 78 MHz

Absolute RF channel number: 0-78

Channel Spacing: 1MHz

Antenna

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.

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

RF Exposure Information

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