

Circuit Description

Spectrum

Bluetooth technology operates in the unlicensed industrial, scientific and medical (ISM) band at 2.402 to 2.480 GHz, using a spread spectrum, frequency hopping, full-duplex signal at a nominal rate of 1600 hops/sec. The 2.4 GHz ISM band is available and unlicensed in most countries.

Interference

Bluetooth technology's adaptive frequency hopping (AFH) capability was designed to reduce interference between wireless technologies sharing the 2.4 GHz spectrum. AFH works within the spectrum to take advantage of the available frequency. This is done by detecting other devices in the spectrum and avoiding the frequencies they are using. This adaptive hopping allows for more efficient transmission within the spectrum, providing users with greater performance even if using other technologies along with Bluetooth technology. The signal hops among 79 frequencies at 1 MHz intervals to give a high degree of interference immunity.

Power on the headset and enter pairing mode, you can find the device via phone's bluetooth. Enter the pincode and connect, then you can use the audio service and stereo music.

In a bluetooth headset, our voice goes out and the audio from the incoming call arrives. These information streams are converted to digital bluetooth signals, and the data flows into and out of the headset. The headset "understands" the incoming signal from the cell phone, and can convert it into audio for us to hear. And the headset converts our voice into a bluetooth signal that it then sends to the phone, which "understands" that signal and converts it to be broadcast to the cell hub.

The key to Bluetooth is the management of the information (or data) stacks, and the manner in which they are broadcast, and that is handled a little differently by different devices. Use the link below for more information

USB interface

Micro USB plug only applies to charging port connection. Please do not use it for data transmission with PC.

The working frequency range of Bluetooth RF module is set from 2402MHz to 2480MHz, the separation is 1MHz and there are 79 channels in total. The 20dB bandwidth of the hopping channel is 1MHz.

Type of modulation: GFSK, Pi/4DQPSK, 8DQPSK.

The working procedures are:

- a. When power on, this device will loop scan the whole frequency until a connection command from the partner is received.
- b. This device transmits a response signal.
- c. The partner receives the response signal and recognizes it, then send a connection command to establish the connection.
- d. Each frequency is used equally on the average by each transmitter that each new transmission event begins on the next channel in the hopping sequence after the final channel used in the previous transmission event.
- e. After the connection is established successfully, the data transmission is beginning. At the same time, the partner and this device will shift frequencies in synchronization per a same pseudo randomly ordered list of hopping frequencies, the hopping rate is 1600 times per second. This device conforms to the criteria in FCC Public Notice DA00-705.
- f. The bandwidth of this device, which is set to a fixed width by the software, matches the hopping channel bandwidth of their corresponding partner. This device is a true frequency hopping system and does not have the capability to be coordinated with other FHSS systems in an effort to avoid the simultaneous occupancy of individual hopping frequencies by multiple transmitters.