

Circuit Description

Battery(3.7V)provides energy for the Bluetooth chip(AC6939) ;
Crystal oscillator(24MHz) provides the clock signal for the Bluetooth
chip. Bluetooth signals get through a matching circuit, and then
transmitted to the space through the antenna,the antenna consists of a
2.4GHz ceramic antenna. Frequency Range: (2402MHz - 2480MHz) .
When the product is connected, the product can be in two - way
communication with other Bluetooth devices, and then the device's
Bluetooth module sends Bluetooth signals into space, the product
receives the Bluetooth signal through an antenna, transmission to the
Bluetooth chip via matching circuit.

1 Hopping Range

Hereby we declare that the maximum range frequency of this device is: 2402-2480 MHz.

This is according the Bluetooth core Specification for device which will be operated in the USA

2 Hopping Sequence

Example of a 79 hopping sequence in data mode:

35,14,21,44,23,42,53,46,55,48,40,59,72,29,76,31,08,73,
07,65,09,45,60,39,58,13,47,11,77,52,35,50,65,54,67,56,
69,62,71,64, 37,25,27,66,57,70,24,61,78,63,10,41,05,43,
19,43,64,68,02,71,06,01,51,03,55,05,03,66,53,49,26,46

3 Receiver input bandwidth

The input bandwidth of the receiver is 1MHz. It employs 1600 hoppings per second ,In every connection one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master.

Additionally the type of connection is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings. Repeating of a packer has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.