

A: The sequence of the jump frequency will be settle by the host. The method is the host to be connected to the device, The sequence data S(8bit) and Host ID(16bit) will bring through scan the RSSI of RF Module in different channel, and the data will be transmitted to the device. Then the both side will calculate to the next number(F) by same agument(S).

The way of bring sequence is as follows:

N: the numbers of useful channel

S: number of seed(8bit)=S7-S0

P: replacement control(21bit)=P20-P0, Each 3 bit become one figure,

as follow:

$$Q_6 = P_{20}P_{19}P_{18} \quad Q_5 = P_{17}P_{16}P_{15} \quad Q_4 = P_{14}P_{13}P_{12}$$

$$Q_3 = P_{11}P_{10}P_9 \quad Q_2 = P_8P_7P_6 \quad Q_1 = P_5P_4P_3$$

$$Q_0 = P_2P_1P_0$$

$$Q_i \neq Q_j \quad (0 \leq i < 6, i < j \leq 6) \text{ to be request!}$$

$$F: \text{the figure of the sequence} \quad (0 \leq F < N)$$

Suppose the S to be S(k) in K cycle. It means the channel of the (K+1) cycle will be F(K+1) channel.

$$1. S(k+1) = S(k) + 1 = S(k+1)_7 \sim S(k+1)_0$$

$$2. S(k+1)'s \text{ Bit6} \sim \text{Bit0 will conversion to } R(k+1) = r(k+1)_7 \sim r(k+1)_0$$

$$r(k+1)_i = S(k+1)_{Q_i} (0 \leq i < 6), \quad r(k+1)_7 = s(k+1)_7 \text{ to be request!}$$

$$3. F(k+1) = R(k+1) \bmod N$$

So we got to know from above procedure, S data is come from the device, then transmitter the data to the device. And the above replace control data P is calculate from 16bit Host ID of host by the Host and Device both side.

B: Receiver input bandwidth and behaviour for repeated single or multiple packets:

The input bandwidth of the receiver is 1 MHz.

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 (e.g. single of multislot packet) 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 packet 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.

Example of a hopping sequence in data mode:

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40, 21, 44, 23, 42, 53, 46, 55, 48, 33, 52, 35, 50, 65, 54,
67, 56, 37, 60, 39, 58, 69, 62, 71, 64, 25, 68, 27, 66, 57,
70, 59, 72, 29, 76, 31, 74, 61, 78, 63, 01, 41, 05, 43, 03,
73, 07, 75, 09, 45, 13, 47, 11, 77, 15, 00, 64, 49, 66, 53,
68, 02, 70, 06, 01, 51, 03, 55, 05, 04