

## **2.4GHz RF X-BOX Wireless Controller Device Working Principle**

1. It is a 2.4G RF product. It works at the frequency of ISM Band (2.4GHZ). There are up to 80 channels, and the frequency interval between each channel is 1M Hz.
2. Evenly Randomized Frequency Hopping method is implemented in the RF technology.
3. It works in “Slave” Mode. We call it “Device.”

### **The working procedures are:**

- a) When power on, the Device will search all of the channels, to see whether there is a Host.
- b) If there is a Host, the Device will identify by the data received, to see whether it can be connected with the Host.
- c) If it can connect to the Host, then the Device will respond to the Host.
- d) The Host builds up the connection after receiving the response from the Device.
- e) The Host sends the command request to the Device for getting the Axes and Buttons value.
- f) The Device sends Axes and Button value to the Host.
- g) The Host identifies the data received and does the error detection and the error correction.
- h) The Host sends Motor commands to the Device.
- i) The Device will handle the Motor behaviors by the Motor data value that sent from the Host.
- j) Repeat from step e) to step i).