The theory of Wi-Fi Extender Smart Lamp model ZH01-WB by Coolwi LLC

1. Power Unit: Provide the power supply to Wi-Fi, LED and USB port.
2. Transmitter module: Transmit data by modulating on a 2412-2462MHz carrier. Wi-Fi module's crystal oscillator frequency is 20.00MHz. The module used IEEE 802.11 b/g/n and MIMO technique (2 input, 2 output). IEEE 802.11b used DSSS technique, IEEE 802.11g/n used OFDM technique. IEEE 802.11b has 11Mbps data rate, IEEE 802.11g has 54Mbps data rate, IEEE 802.11n(20) has 65Mbps data rate and IEEE 802.11n(40) has 135Mbps data rate.
3. Antenna 1 is a PCB module (model: DXL-H002-0A) connected via a permanent connector, the antenna gain is 4.0dBi.
4. Antenna 2 is a PCB module (model: DXL-H002-0A) connected via a permanent connector, the antenna gain is 4.0dBi.
5. Power supply: A wall-plug-in accessory that provides +12V at 1.2A.
6. USB port: The other device can be charging by this port, it can't connect to PC. It's an output port.
7. Extender function: The range extender connects wirelessly to the router or access point, picks up the signal and retransmits it. provide two wireless interfaces, ra0 and cli0. Which provide the Access Point (AP) AP and station function , respectively . And receive other AP Wi-Fi signal ,demodulated , processed ,then re-modulated ,amplified.
   As shown below: Extender Wi-Fi channel follow AP(router).