Operation Principle

1. CPU, U6, 88W8510 have a 32-bit RISC processor integrated, operation frequency is 160MHz. It needs an external 40 MHz crystal for reference frequency; this crystal is also used for RF module. This chip is responsible to control RF-Baseband Transceiver (88W8010), Flash IC and LED. This chip also has MII interface integrated to communicate with 10/100 Ethernet Switch.

2. FLASH, U13,MX29LV800CTTC-70G, 8Mbits Flash, bottom sector, 70ns. It is used to store the normal and test firmware.

3. Integrated 2.4GHz ISM Band RF-Baseband Transceiver, U1, 88W8010 which is integrated all RF-Baseband receive and Transmit function. On-Chip PA with up to +22dBm output power in 802.11b mode and +16dBm output power in 802.11g mode for 2.4GHz ISM transmission. Fully integrated frequency synthesizers with optimized phase noise performance for OFDM applications.

4. Components:

WAN port	Connect the 10/100BaseT cabling (RJ45 connector) for the External LAN, WAN, or DSL/Cable Modem here.
LAN ports 1-4	These four LAN ports are where you will connect networked devices, such as PCs, print servers, and anything else you want to put on your network.
Reset Button	Used to reboot, reset to factory default
	Rest to factory default - Before power-on hold on reset button, until power up 5 seconds and then release reset button
	Reboot - After power-on push the reset button one time
Antenna hole	Put one 2 dbi fix antenna or detachable antenna
Power port	Connect 12V 0.8A Linear Power Adapter

5. Power part:

   There are several regulators are used on the board. U23, MP1410 is used to transfer

   DC12V to DC3.3V; U8 CM2860KIM89 are used to transfer DC3.3V to DC2.5V.

   U20 CM1117 are used to transfer DC3.3V to DC1.6V

6. LED part:

LED		Color	Controlled by	Description
Power		Green	FW	**On** - power on **Off** - no power
Status		Red	FW	**On** - Error condition. **Off** - Normal operation **Blinking** - This LED blinks during start up.
LAN	100	Orange	HW	**On** - Link at 100Mbps **Off** - Link at 10Mbps
	Link/Act	Green	HW	**Blinking** - receiving/transmitting data
WAN		Green	HW	**On** - WAN connection is established **Off** - No WAN connection available **Blinking** - data is being transmitted or received via the WAN port.
WLAN		Green	FW	**On** - Wireless connection available; Wireless Access Point is ready for use. **Off** - No Wireless connection available. **Blinking** - Data is transmitted or received via the Wireless access point. This includes "network traffic" as well as u

7. Switch button, SW1, it is used to reset the 88W8510.

8. Multilayer Chip Band-Pass Filters, BP1, BF2520-B2R4CACT, 2.4GHz~2.5GHz,

   Insertion loss @ 1.5db(max), VSWR @ 2

9. Multilayer Chip Baluns, BA1, BL2012-05B2450T, 50ohm, Insertion loss @ 1.0db(max), VSWR @ 2

10. GaAs IC SPDT Switch, U2, AS179-92, features low insertion loss and positive voltage operation with very low

    DC power consumption.