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WGE111 Operation Principle

1. CPU, U6, 88W8510 have a 32-bit RISC processor integrated, operation frequency is 160MHz. It needs an external 44MHz crystal for reference frequency; this crystal is also used for RF module. This chip is responsible to control RF-Baseband Transceiver (88W8000G), Flash IC and LED. This chip also has MII interface integrated to communicate with 10/100 Ethernet Switch.
2. FLASH, U13, MX29LV800TTC-70, 8Mbits Flash, bottom sector, 70ns. It is used to store the normal and test firmware.
3. Integrated 2.4GHz ISM Band RF-Baseband Transceiver, U9, 88W8000G which is integrated all RF-Baseband receive and Transmit function. On-Chip Power Amplifier (PA) with up to +20 dBm output power at the antenna port. It is also integrated programmable frequency synthesizers with integrated VCOs, I/Q generation and CMOS up/down conversion mixers.
4. Components: —

Ethernet port (10/100BaseT)	CONNECT THE 10/100BASET CABLING (RJ45 CONNECTOR) FOR THE EXTERNAL LAN, WAN,
Reset Button	Used to reboot, reset to factory default,
Power Jack	Connect the power adapter here.
2 stop manual switch	Use to set different operation mode, Adhoc and Infrastructure mode

5. Power part: there are several regulators are used on the board. U17, AZ1084S-3 is used to transfer DC5V to DC3V3; U1, U8 AME8805 are used to transfer DC3V3 to DC2V5; U20, 1117-ADJ is used to transfer DC3V3 to DC1V62. The core of CPU is operate at 1.5V.

6. LED part:

LED	Color	Controlled by	Description
Power	Green	FW	on: green; (symbol)
Ethernet Link	Green	FW	Solid Green, whether 10 or 100 Mbps (symbol)
Internet Link/Act	Green	FW	Alternate Blinking: Looking for network association Solid Green LED – wireless connection available
ADHOC Link/Act	Blue	FW	Alternate Blinking: Looking for network association Solid Blue LED – wireless connection available

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

8. Multi-layer Chip Band-Pass Filters, BP2,BP1, LCB22M2450B1, Freq. Range: 2.4~2.5GHz; IL@BW: 1.7dB

9. GaAs IC SPDT Switch, U7, HWS314, features low insertion loss and positive voltage operation with very low DC power consumption.