MBR814 OPERATION PRINCIPLE

1. CPU, U6, CN201-A has a unique systems architecture that provides high performance , this architecture includes a MIPS CPU, it can performs at a 170MHz pipeline frequency. It needs an external 25MHz crystal for reference frequency. This chip is responsible to control Switch (88E6060), Flash IC and LED. This chip also has MII interface integrated to communicate with 10/100 Ethernet Switch.

2. FLASH, U13, MX29LV320ABTC-90G, 32Mbits Flash, bottom sector, 90ns. It is used to store the normal and test firmware.

3. Integrated 2.4GHz ISM Band RF-Baseband Transceiver, U1, AR2413 which is integrated all RF-Baseband receive and Transmit function. On-Chip Power Amplifier,GP1214 ,U6,with up to +15 dBm output power at the antenna port.

4. 10/100 Ethernet Switch, U4, 88E6060 support automatic MDI/MDIX crossover for 100BASE-TX and 10 BASE-T ports. Each port works at 10Mbps or 100Mbps, full-duplex or half-duplex mode (forced or auto-negotiated). Flexible LED support for Link, Speed, and TX/RX Activities.

5. Power part: there are several regulators are used on the board. U2,U3,U15, AP1513 is used to transfer DC12V to DC3V3, DC1V8 and DC5V. The core of CPU is operate at 1.8V.

6. LED part:

TABLE

Label	Activity	Description
Power	Green Off	Indicates that the device is powered on Power is not supplied to the router
Diagnostics	Blinking Amber Off	Device is performing the power on diagnostics Device failed diagnostics Device successfully completed the power on diagnostics
Wireless WAN	Green Blinking	The Wireless WAN interface is operating. Data is being transmitted or received by the WAN port
Wireless LAN	Green Blinking	The Wireless LAN interface is operating Data is being transmitted or received by the WAN port
Local (LAN) Ports 1-4	Green Amber Blinking	The LAN port is operating at 100 Mbps The LAN port is operating at 10 Mbps Data is being transmitted or received by the LAN port

7. Push button, S1, it is used to reset to soft reset and factory default configuration and reset to factory default (before power-on hold on reset button, until power up 5 seconds and then release reset button).

8. SWITCH PIN DIODES,S2,SMP1345-518, it' s very Low Insertion Loss.

9. SIRENZA ,Q3, SGA-8343,Low Noise High Gain SiGe HBT Amplifier.

10. This device will function by the setting of the software with this particular PCMCIA Wireless Network Card, model: FPC-1000 (FCC ID: QZX99171001) manufactured by FLARION TECHNOLOGIES, INC., Radio cards other than this PCMCIA Wireless Network Card, model: FPC-1000 will not work with this device.