
F5D7230-4 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 +19dBm 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
Power port	Connect 4.5V/1.5A Linear Power Adapter

5. Power part:

There are several regulators are used on the board. U4 AME8815AEBT330Z is used to transfer 4.5V to 3.3V ; U20,CM1117 is used to transfer DC3.3V to DC1.6V ; U8 CM2860KIM89 is used to transfer DC3.3V to DC2.5V.

6. LED part:

LED	Color	Controlled by	Description
Power	Green	FW	On - power on Off - no power
Internet	Green	FW	On - connected to internet Blinking - attempt to connect to internet.
LAN	Orange	HW	10Mbps:Blinking - receiving/ transmitting data
	Green	HW	100Mbps:Blinking - receiving/ transmitting data
Modem	Green	HW	On - WAN connection is established Off - No WAN connection available Blinking - data is being transmitted or received via the WAN port.
Wireless	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 user data.

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, HWS314, features low insertion loss and positive voltage operation with very low DC power consumption.