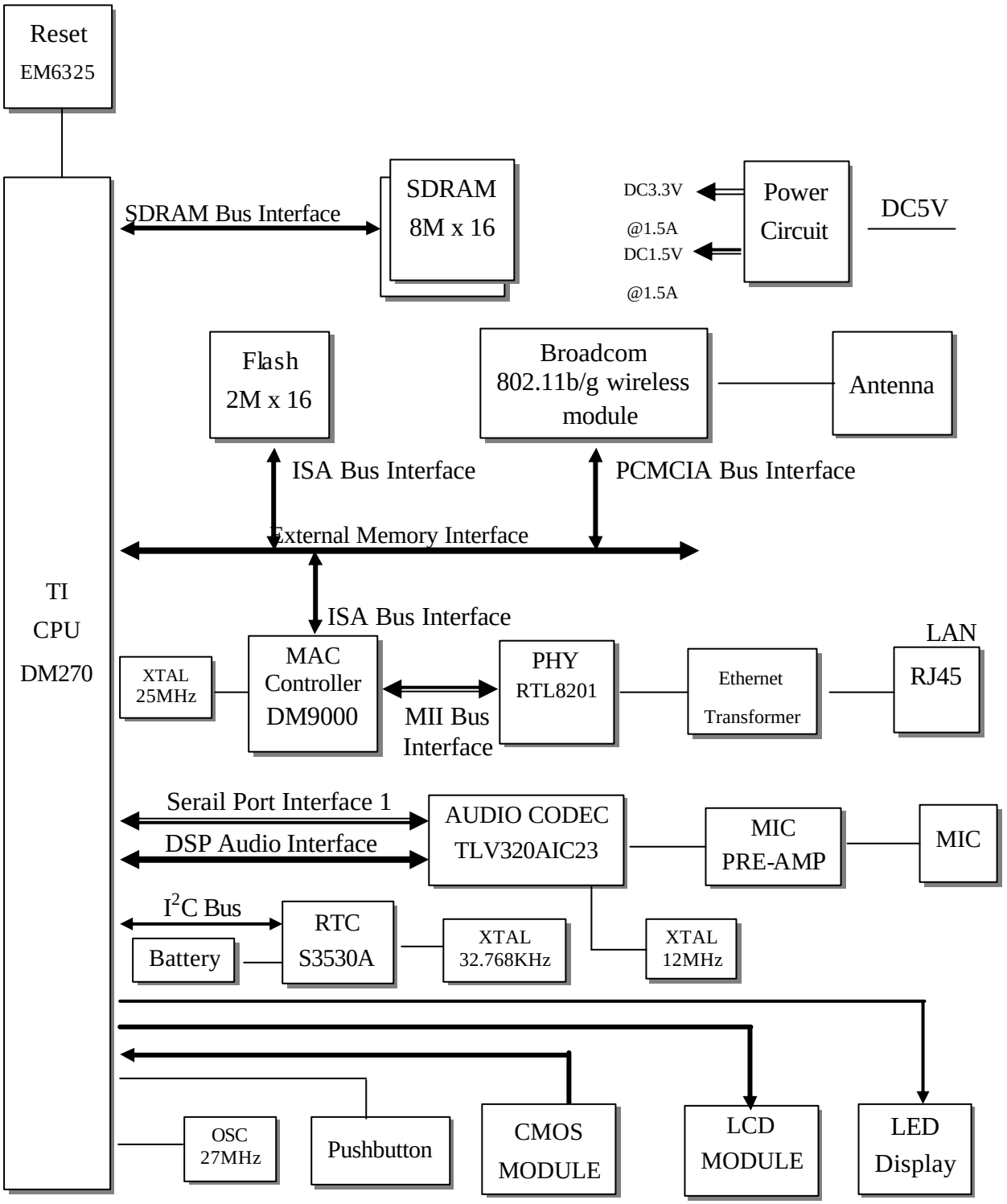
WVC54G SPECIFICATIONS

1. INTRODUCTION

The Wireless Network Camera is a device which is able to provide video streaming images through Local-Area-Network and Internet. It supports both Ethernet or 802.11g WLAN. With a CMOS type digital image sensor and advanced MPEG-4 technology, it is able to display high quality video over Wireless LAN, LAN, and Internet.

2. BLOCK DIAGRAM



3. FUNCTION DESCRIPTION

This project uses the TI TMS320DM270 Digital Media Processor which include an ARM7 CPU core and a DSP subsystem to process image and voice data.

Video images captured by the CMOS image sensor are processed by the video encoder using MPEG-4 technology and transmitted over the internet through the Ethernet or 802.11g WLAN interface. The LAN interface supports 10/100BaseT with Auto-MDIX function whereas the wireless LAN interface supports 802.11b and 802.11g.

This device also supports voice that can be transferred and recorded simultaneously with the video images. The analog signals captured by a microphone are digitized by the audio codec and processed by the DSP subsystem.

There is a LCD module to display the IP address of the device and several LEDs to display the status of the camera, LAN and wireless interfaces. Refer to Table 1.

This device derives its power from a 5V DC power adapter which needs to be converted to 1.5V, and 3.3V DC.

The functional requirements of the system are as follows:

1. CPU	TI TMS320DM270
2. CODE SIZE	4 Mbytes expandable to 8Mbytes
3. SDRAM	32Mbytes expandable to 64Mbytes
4. RTC	Seiko S-3530A
5. Image Sensor	CMOS, VGA 644x484 pixels, Effective:640x480 pixels
6. Audio Analog Codec	TI TLV320AIC23
7. LAN MAC	Davicom DM9000
8. LAN PHY	Realtek RTL8201CP, Auto-MDIX
9. Wireless Module	Broadcom 802.11b/g PCMCIA Module (mini-PCI connector)
10. LCD Display	Display full IP address
11. Antenna	3.3dBi, 2.4GHz
12. Debug Support	Provide JTAG interface for S/W Development Serial port
13. LEDs	See Table 1.
14. EMC	FCC Class B (RF), CE_RF, RSS-210, ICES-003
15. PCB Size	140*68 mm
16. PCB Layout	4 layers
17. PCB Power input	5V/2A, 2.5mm

Table1. LED Status

LED	Color	Control	Activity	Actions
Power	Green	F/W	Off	Camera is Powered Off
			On	Camera is Powered On
			Blink	Camera is booting
Active	Green	F/W	Off	Camera is not capturing video
			Blink	Camera is capturing video
LAN	Green	H/W	On	Ethernet Connection is detected
			Blink	Sending/Receiving Data
Wireless	Green	F/W	On	Wireless Connection is detected
			Blink	Sending/Receiving Data