

Circuit Description

1) power supply

DC 5V power supply go through U14、 U15、 U16、 U17 convert to 3.3V、 1.8 V、 1.2V voltage, to supply the product

2) Minimal System

U2 (Hi3512) is the control chip of whole system ; U3,U4 is DDR2 SDRAM , which mainly responsible for cache of data ; U1 is NOR FLASH , which mainly responsible for system files and data storage ; X2 is 24MHz crystal oscillator , which provides clock signal to U2; X3(32.768KHz) is a part of RTC crystal oscillator.

3) VIDEO

U11 is image sensor , X1 is 50Mhz crystal oscillator , optical signal convert to video signal via U11 , after encoded and compressed by U2, then the compression video signal through good TCP/IP protocol output ; Meanwhile can external SD card stored pictures and video

4) Audio

U5 is audio frequency CODEC chip , MIC collect the sound signal and disposed by U5 coded , then compressed by U2 , after that output through TCP/IP protocol ; At the same time , the U5 can decode and magnify the sound signal , output via EARPHONE to achieve the two-way audio communication.

5) Ethernet and WIFI

U11 is network card IC , data signal disposed by U11 and coupled by network transformer , then go through the RJ45 port, output by network cable to achieve the video monitoring . X5 is 25MHz crystal oscillator , provide clock signal to U11.

6) J4 connects to WIFI module. The J4 motherboard communicates with the WIFI module through the USB interface, and then transmitted by wireless. WIFI module uses the RT3070 chip which supports the IEEE 802.11 b / g / n protocol, the maximum transmission speed is up to 150Mbps, the working frequency band for the 2.4GHz, RF output power is 13 ~ 17 dBm, external 0dB WIFI antenna.

The following specific performance parameters for the WIFI module:

Chipset	Realtek 3070
Host Interface	High speed USB2.0/1.1 interface
Wireless Standards	IEEE 802.11 b/g/n
Data Rate	802.11n: up to 150Mbps (downlink) and 150Mbps (uplink) 802.11g: 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps auto fallback 802.11b: 11 / 5.5 / 2 / 1 Mbps auto fallback
Frequency Band	2.4GHz ISM (Industrial Scientific Medical) Band
Antenna type	External Antenna (0dB)
RF Output Power	13 ~17 dBm (Typical)
Modulation	11n: BPSK, QPSK, 16QAM, 64QAM with OFDM 11g: BPSK, QPSK, 16QAM, 64QAM, OFDM 11b: DQPSK, DBPSK, DSSS, CCK
Data Security	64/128-bit WEP Encryption WPA, WPA-PSK, WPA2, WPA2-PSK. TKIP/AES

7) I/O

MOTOR is controlled by pan/tilt, turn up, down, left and right