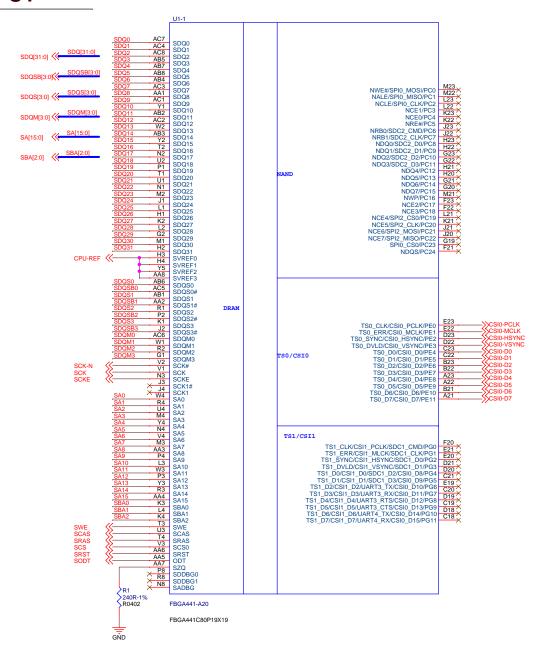
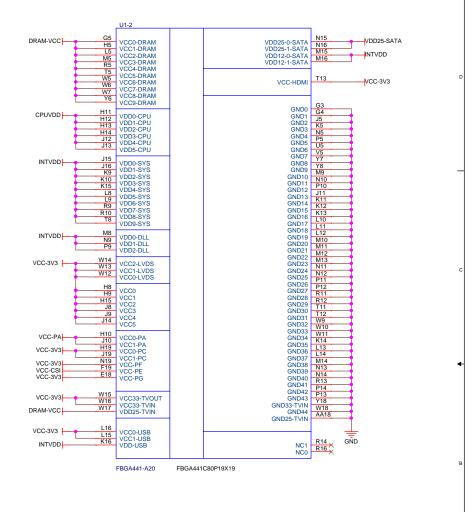
**BLOCK** CAN TWI2 **EEPROM EEPROM** PWM0 Ext Port 1 TWI4 IR-OUT **SPI0,1** UART2,3,5,6 TWI1 Camera CSI0/TS UART0 Ext Port 2 LCD(RGB/LVDS) LCD ADC0 TWI3 TP **MAIN CHIP UART7** Ext Port 3 **A20 BGA-441PIN HDMI OUT HDMI GPIO** TVOUT CVBS USB0 **USB DEVICE GMAC** Ethernet 1000/100/10M USB1 **USB HOST** USB2 MIC RTC **Audio Codec BACKUP BAT** HeadSet PMU AXP209 **Power System** 5V Micro USB TWI0 osc SATA SD/MMC 0 DRAMC HDD SD Card DDR3 2X16 RESET POWER ON 2.5" 24MHz 32768Hz Differential pairs Z0= 90 ohm +/-5 ohm Differential pairs Z0= 100ohm +/-5 ohm A20\_Banana\_Pi BLOCK Monday, December 16, 2013 Sheet

## CPU<sub>1</sub>

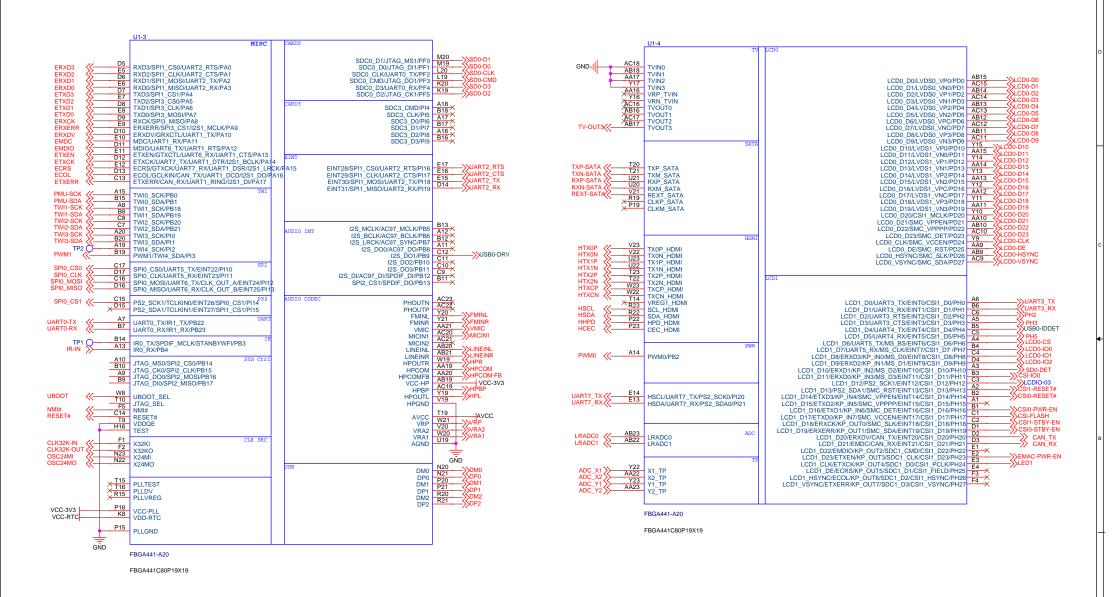




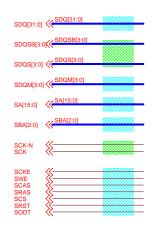


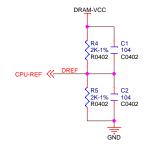
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	A20_Banana_Pi				
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## CPU<sub>2</sub>

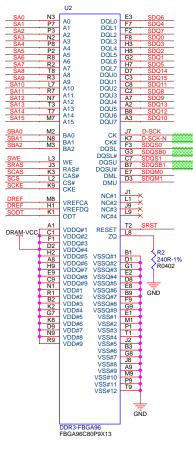


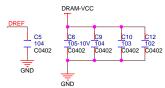
## DDR3-16BITX2

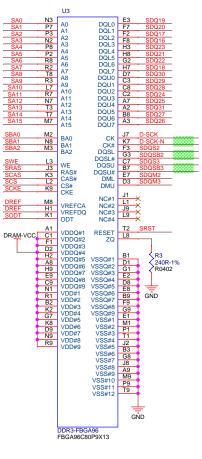


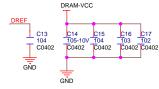


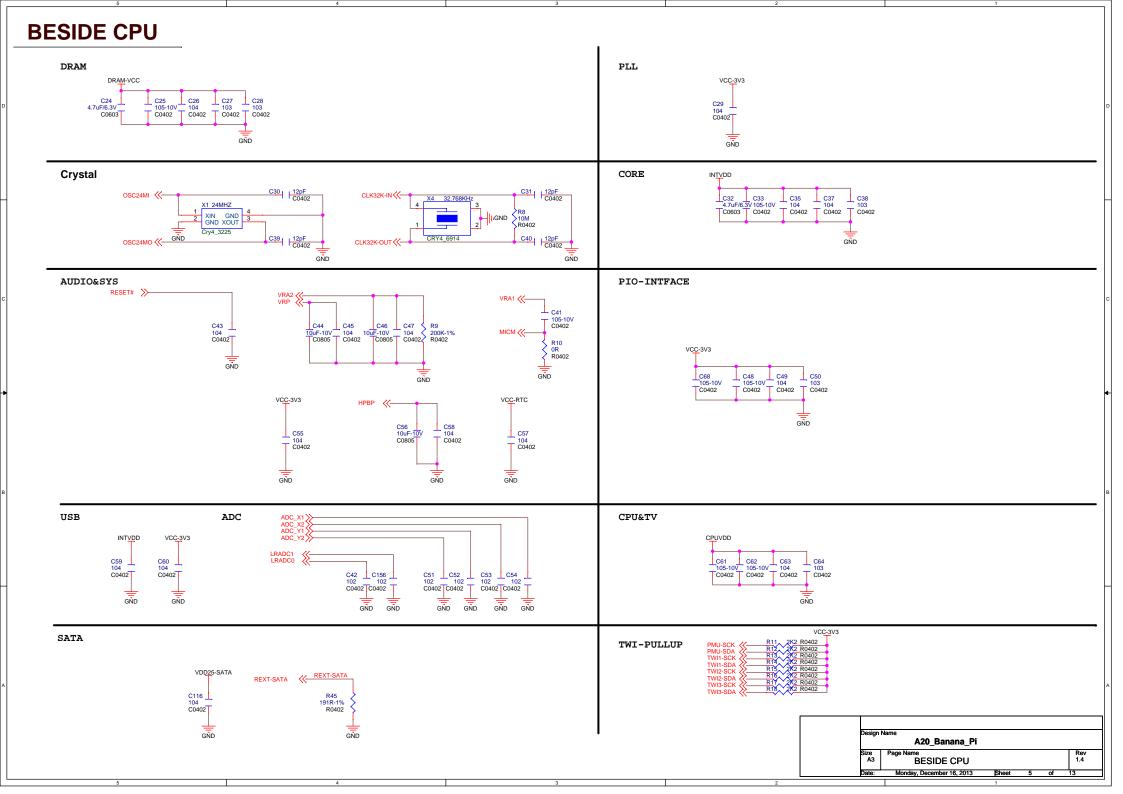




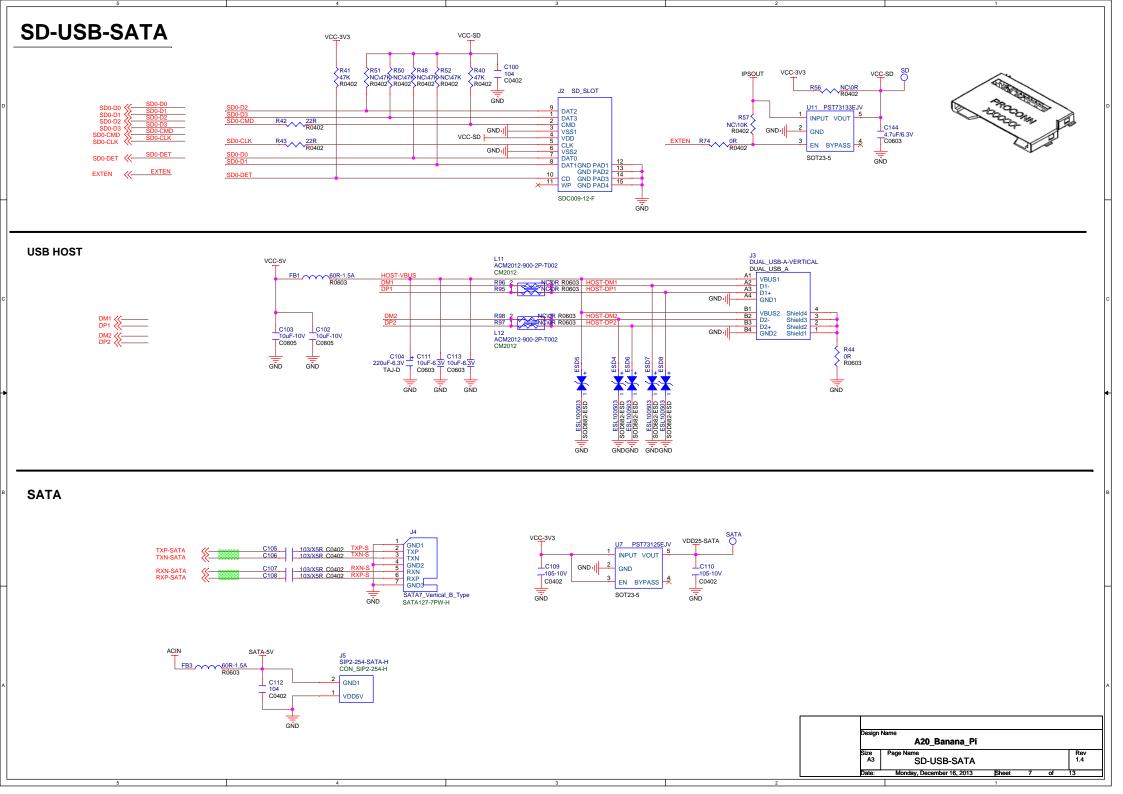








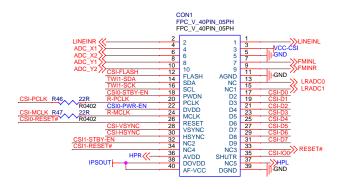
#### Power PMU-AXP209 DRAM-VCC DRAM-VCC DC-IN CPUVDD USB0-DRV // USB0-DRV VCC-3V3 VCC-3V3 RESET# ACIN ->> RESET# GND GND GND DC1 INTVDD -->> NMI# VCC-3V3 INTVDD VBUS D-AVCC PMU-SCK PMU-SCK PMU-SCK PMU-SDA D+ ID R37 2 C71 R23 C72 105-10V 2K2 105-10V C0402 R0402 C0402 VCC-RTC EXTEN EXTEN GND R0603 C74 22uF-6.3V C0805 GND | IPSOUT R24 IPSOUT<sub>IPSOUT</sub> SHIELD1 47K LDO3 SHIFL D2 T 10uF-10V C0805 R0402 SHIELD3 GND-I C75 TAJ-B SHIELD4 100uF-6.3V Micro USB SMD RESET# MICRO-USB-5P-D GND GND GND GND R27 100R R0402 C76 105-10V C0402 C77 105-10V — C0402 BIAS IPSOUT VBAT-AGND BAT2 APS 1.25V INTVDD GND:|| C79 4.7uF/6.3V LDO3IN EXTEN GND I LDO3 BATSENSE GPIO0/LDO GPIO1 DRAM-VCC INTVDD VBAT-CH CHSENSE DCDC3 GND R106 R0805 0R03-1% VIN1 PGND3 L6 IND-5x5 4.7uH@1.5A,DCR<0.1R LX1 PGND1 C82 22uF-6.3V 102 C0805 C0402 C158 105-10V C0402 VIN3 R29 1K5 R0402 47 IPSOUT LDO24IN DRAM-VCC IRO C191 4.7uF/6.3V C84 C81 47pF C0402 102 C159 C160 4.7uF/6.3V 10uF-10V C0603 C0805 T C0402 GND GND 3 41 TS-018 R32 47K C0603 AVCC R30 150K-1% R0402 R31 100K-1% | I-GND TS-018 R0402 GND GND U5 C86 4.7uF/6.3V C0603 II-GND GND EN FB 1N4148 SOD123 GND GND IPSOUT GND: GND GND L2 \_\_\_\_\_IND-5x5 4.7uH@1.5A,DCR<0.1R 1.4V O CPUVDD SY8008B-AAC 4.7uF/6.3V C0603 AVCC C88 22uF-6.3V C0805 SOT23-5 C90 L3 IND-5x5 4.7uH@1.5A,DCR<0.1F CPUVDD 104 C0402 IPSOUT R33 100R R0402 694 GND C92 22uF-6.3V C0805 C93 TS-018 GND 102 T C0402 TS-018 R34 2K R0402 GND GND GND GND GND VCC-3V3 VCC-3V3 C94 47pF C0402 NC\Bat GND BAT1 C95 4.7uF/6.3V C0603 R0402 XH414H II06E D7 U6 Bat\_SMD414 LED-R EN FB LED0805 IPSOUT GND I GND GND L4 IND-5x5 3 R38 4.7uH@1.5A,DCR<0.1R SY8008B-AAC C97 22uF-6.3 SOT23-5 R0402 C98 104 C0402 C0805 GND GND GND A20 Banana Pi Rev 1.4 POWER Monday, December 16, 2013



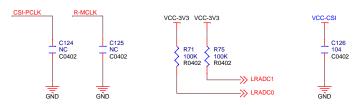
# CSI-HDMI

### **CSI**



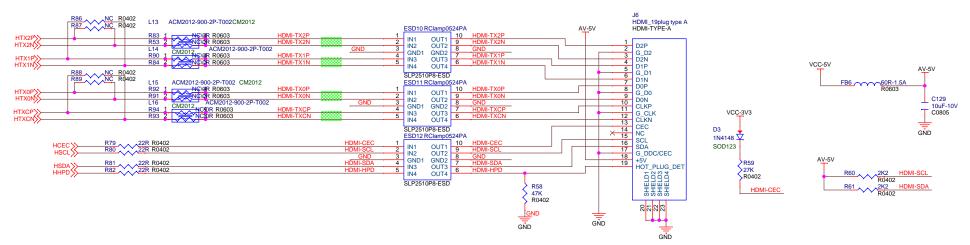


VCC-CSI为电源输入脚,给A20的PIN:F19供电 需与摄像头的I0 供电电压保持一致

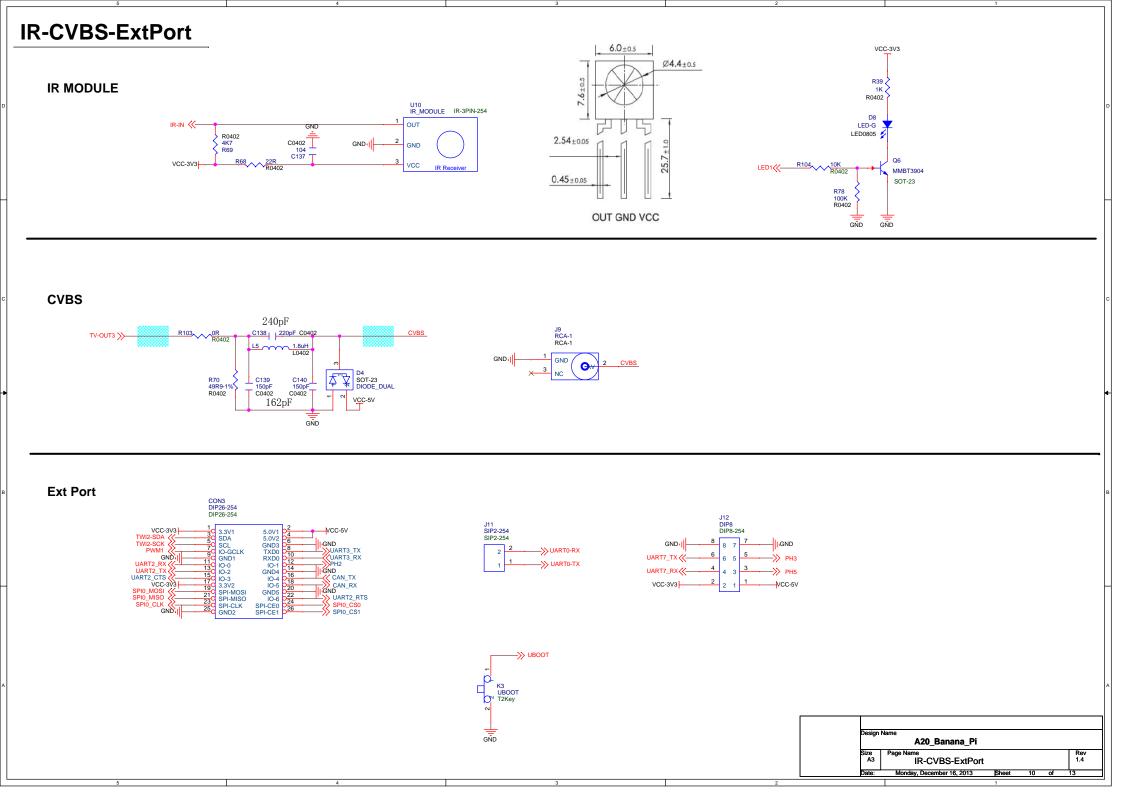


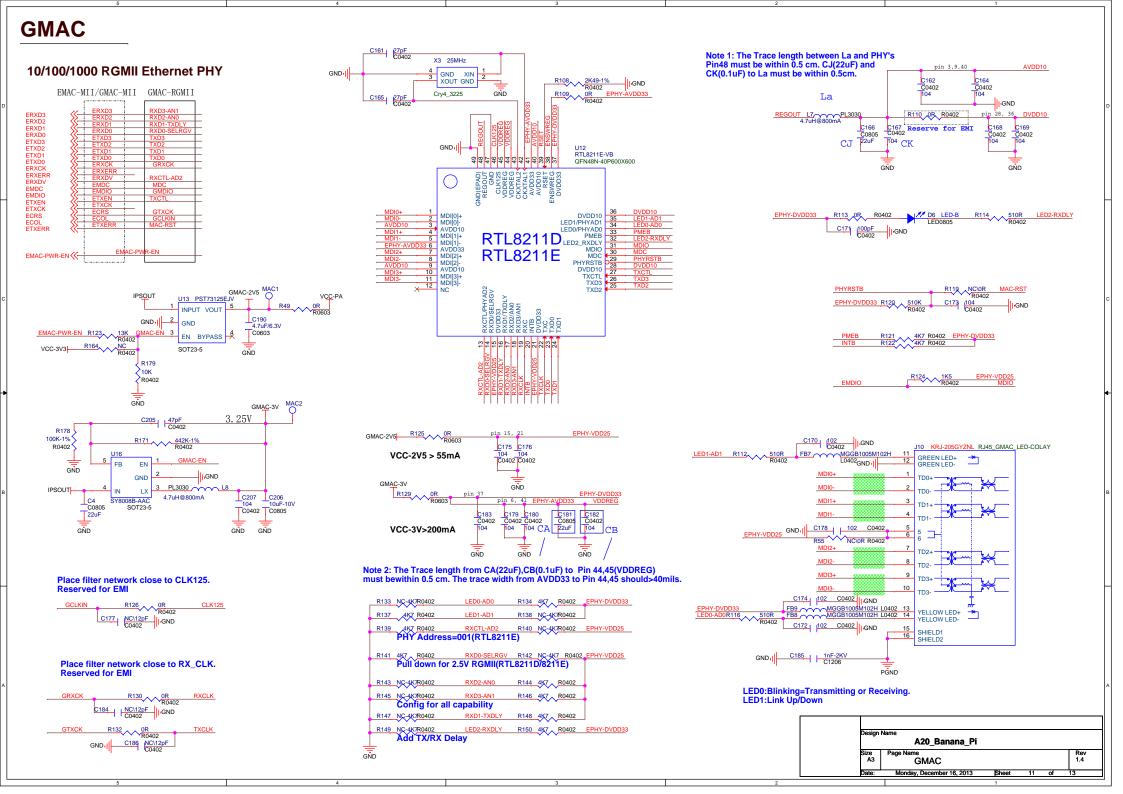
CSI-RESET和CSI-STBY如需要上拉,在子板上增加

### HDMI



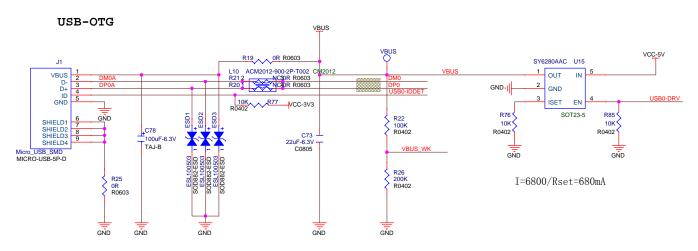
## **AUDIO-LCD-EEPROM** HeadSet Microphone J7 HeadSet\_PJ-3047 FB10 MGGB1005M102H L0402 R62 2K R0402 | 102 | C131 | C131 | C0402 | C133 | C0402 | C C130 4.7uF/6.3V PJ-3047 HPCOM-FB C0603 R64 R65 R66 22R 22R 22R R0402 R0402 R0402 C141 C142 C143 102 102 102 C0402 C0402 C0402 MICIN1 << Micphone MIC\_400CIR180D місм <<-C134 C135 C136 104 104 104 C0402 C0402 C0402 LCD CON2 FPC\_V\_40PIN\_05PH FPC\_V\_40PIN\_05PH TWI3-SDA TWI3-SCK LCD0-I000 LCD0-I01 PWM00 LCD0-I02 LCD0-DE LCD0-VSYNC LCD0-HSYNC LCD0-CS IPSOUT GND | CD0-CS | 22R | | CD0-D23 | CD0-D23 | CD0-D24 | CD0-D24 | CD0-D24 | CD0-D24 | CD0-D16 A20\_Banana\_Pi AUDIO-LCD-EEPROM Monday, December 16, 2013



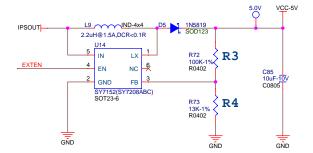








### VCC-5V



Vout = 0.6\*(1+R3/R4)

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### V1.00

1. 第一版

### V1.01

- 1. 调整J10 Transformer线路
- 2. U1的PIN: H10、J10供电由VCC-3V3改为VCC-PA

#### V1.2

- 1. GMAC-3V改为DC-DC供电(U16)
- 2. 增加FB7~FB9(网口灯EMI滤波)
- 3. C178改为102(原来104)
- 4. 增加C185, 1nf-2KV
- 5. IR-IN修正为连接IRO-RX
- 6. R49改为0603封装(原0402)
- 7. 增加FB10~FB12及电容(耳机EMI滤波)
- 8. 增加U11 (SD卡3. 3VLDO)
- 9. SATA座子改为弯插
- 10. 增加USB供电座子DC1
- 11. SATA供电改为ACIN, 只有接DC电源时才能用SATA
- 12. J3增加OTG功能,增加相应DC-DC升压电路(U14、U15), 删除Q1(VBUS连ACIN的MOS管)
- 13. HDMI供电改为VCC-5V
- 14. CON3, J12的VBUS改为VCC-5V
- 15. SD卡删除WP,增加DET
- 16. ACIN的滤波电容C96增加1R电阻

### V1.3

- 1. CON1改为40PIN,增加ADC和AUDIO部分功能口
- 2. J3供电改为VCC-5V

### V1.4

- 1. 去掉Camera的电源LDO
- 2. CON1的PIN22、36、37、38、40、3、5 分别改为CSIO-PWR-EN、HPR、HPL、IPSOUT、IPSOUT、VCC-CSI、GND
- 3. CVBS增加串联电阻R103, R70改为49. 9欧姆
- 4. CON2的PIN7、10分别改为LCDIO-03、PWMO
- 5. EMAC-PWR-EN增加下拉电阻R179, R123改为13K
- 6. J3供电合并为一路,增加220uF钽电容
- 7. 增加电源指示灯D7, I0灯D8
- 8. R75改为100uF钽电容
- 9. C73、C74、C97、C88、C82、C92改为22uF-6. 3V
- 10. 增加C78
- 11. USB和HDMI增加共模滤波器
- 12. SD卡数据线预留上拉电阻
- 13. HDMI 差分线预留并联电阻位置

A20	PIN	使用	不使用
HDMI	T13	VCC-3V3	VCC-3V3
SATA 2.5V	N15, N16	2. 5V	DRAM-VCC(1.5V)
CSIO	F19 (VCC-PE)	VCC-2. 8	VCC-2. 8
CSI1	E18 (VCC-PG)	VCC-2. 8	VCC-3V3
TVIN 2.5V	W17	2.5V	DRAM-VCC(1.5V)
TVIN 3.3V	W16	VCC-3V3	VCC-3V3
TVOUT 3.3V	W15	VCC-3V3	VCC-3V3
LVDS IO	W12, W13, W14	VCC-3V3	VCC-3V3
EMAC IO	J10, H10 (VCC-PA)	3. 0V/2. 5V	VCC-3V3
NAND IO	J19, H19 (VCC-PC)	VCC-3V3	VCC-3V3
SD IO	N19 (VCC-PF)	VCC-3V3	VCC-3V3
USB VDD	K16	INTVDD(1.2V)	VCC-3V3
USB VCC	L15, L16	VCC-3V3	VCC-3V3

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