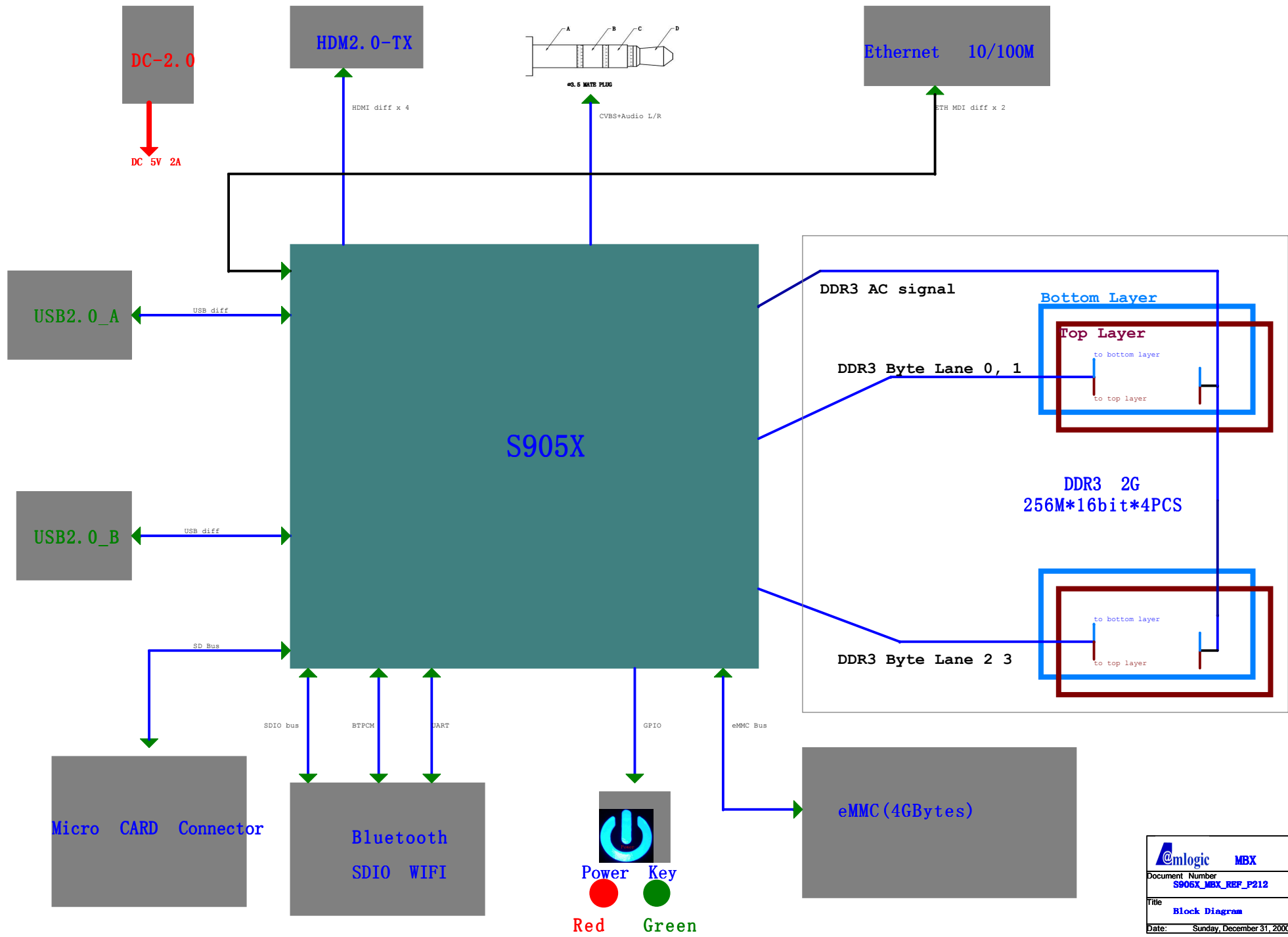
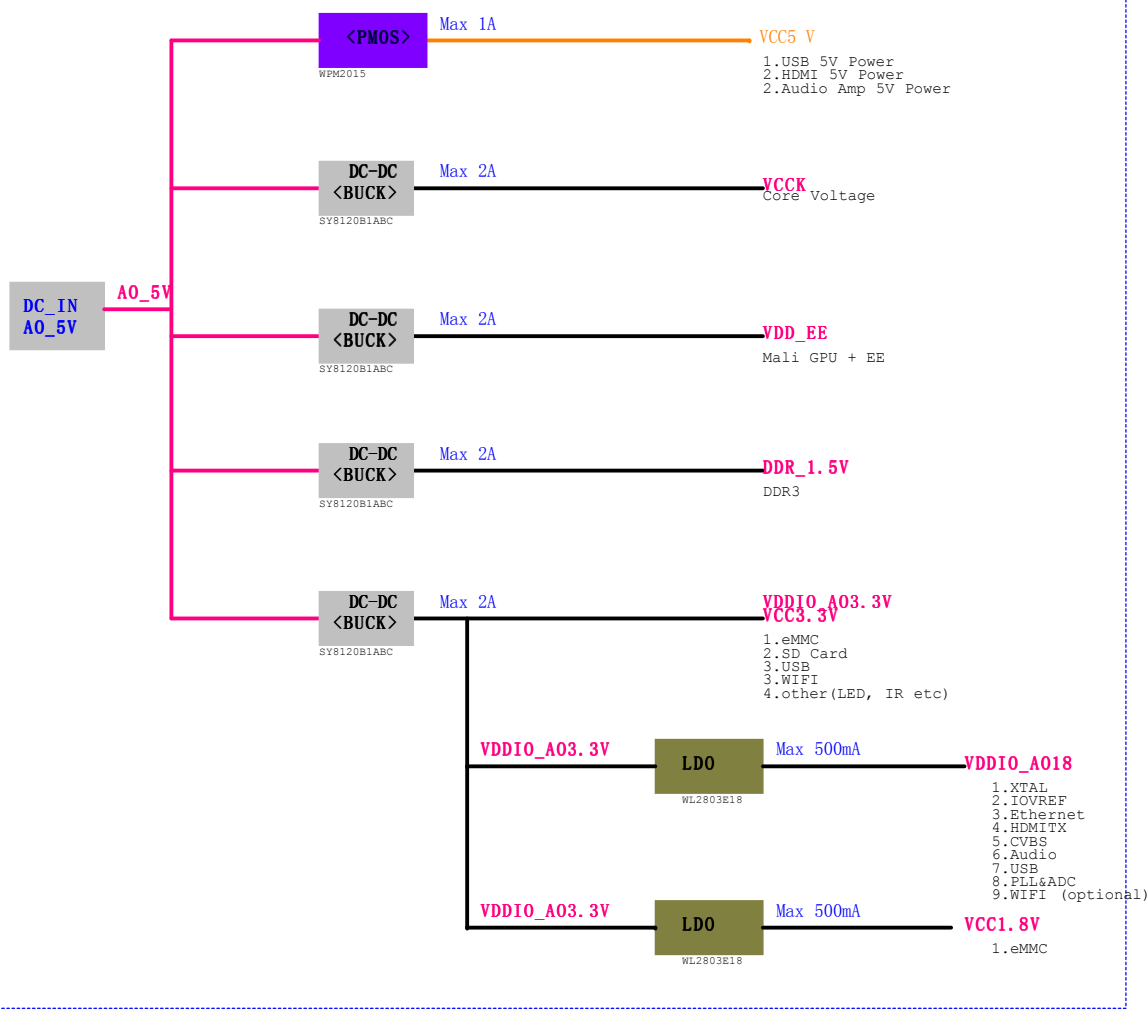


# Block Diagram of S905X\_4PCS\_DDR3\_REF

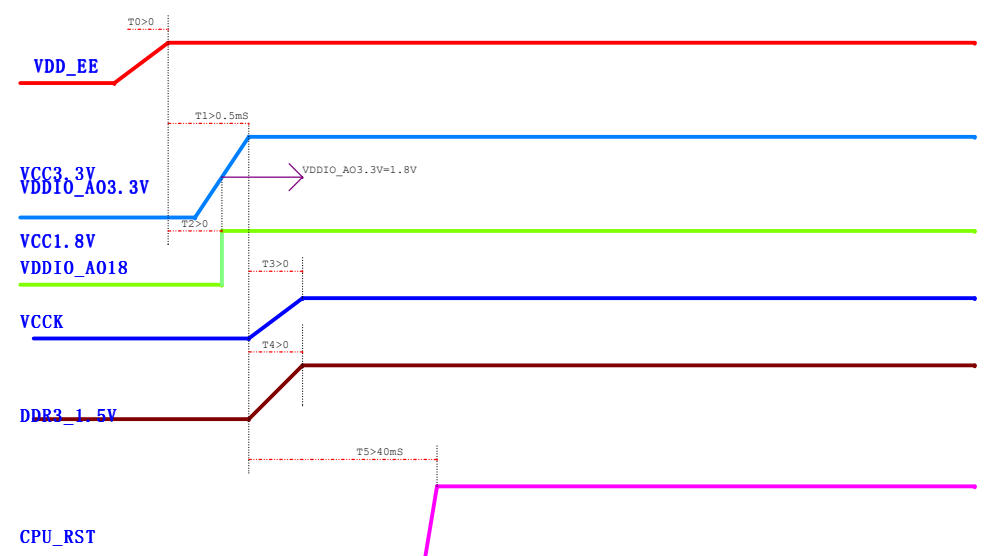


		Drawn by: Shangqing Sun
Document Number <b>S905X_MBX_REF_P212</b>	Size A3	Drawn Date: 2016-7-26
Title <b>Block Diagram</b>	Rev V03	Checked by: <Checked>
Date: Sunday, December 31, 2000	Sheet 01	Checked Date: checked date
		of 14

# Power Tree :



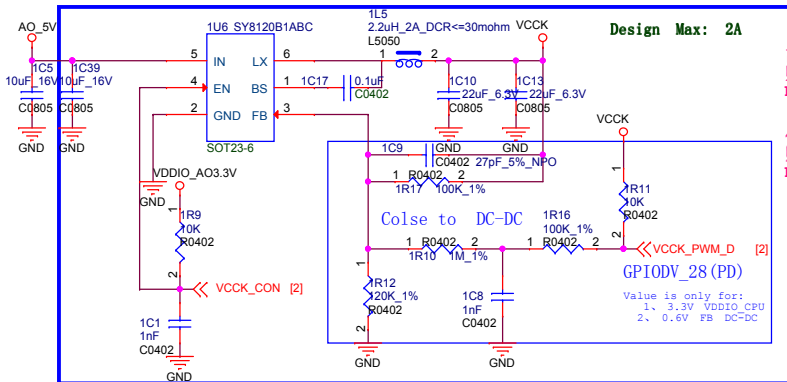
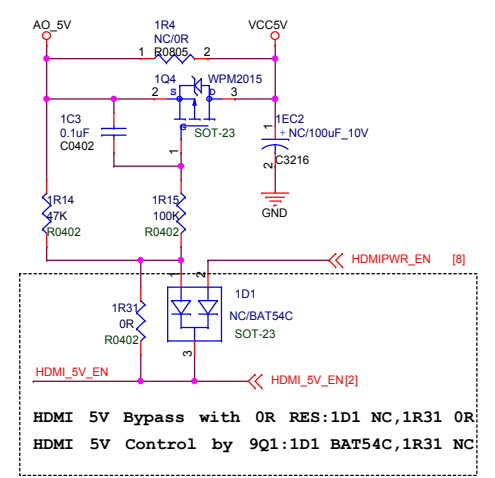
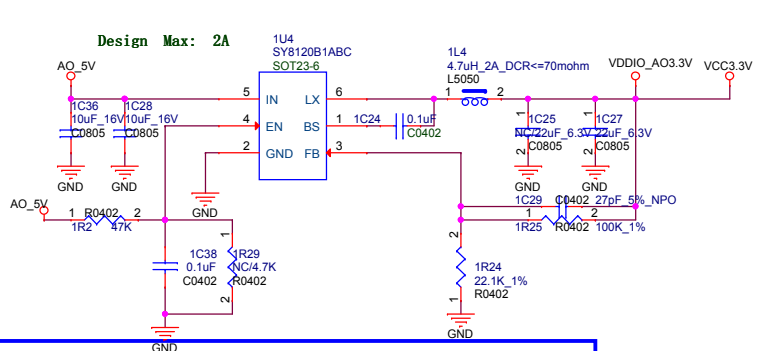
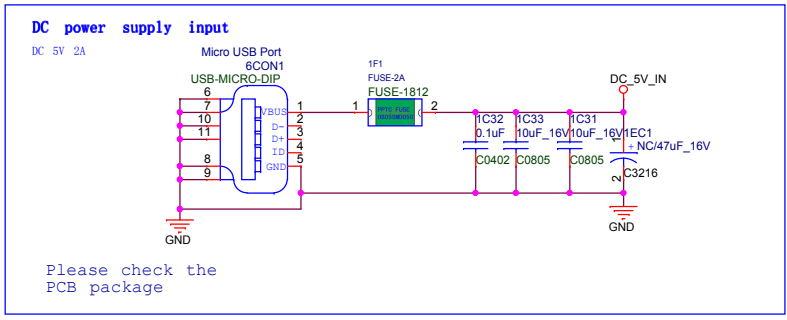
# Power On Sequence :



Page index

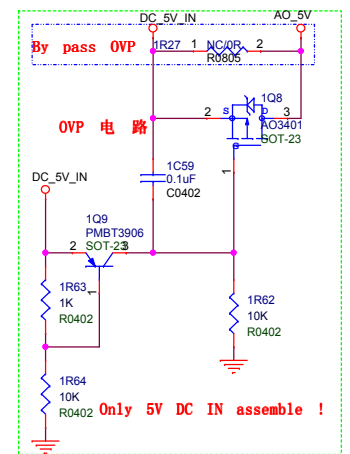
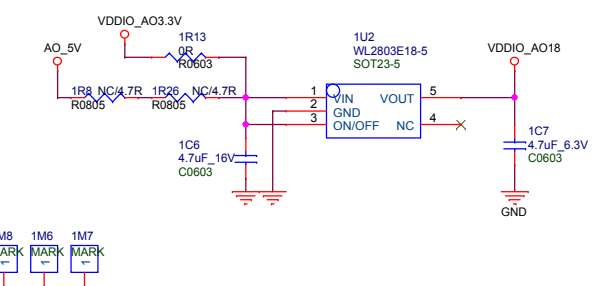
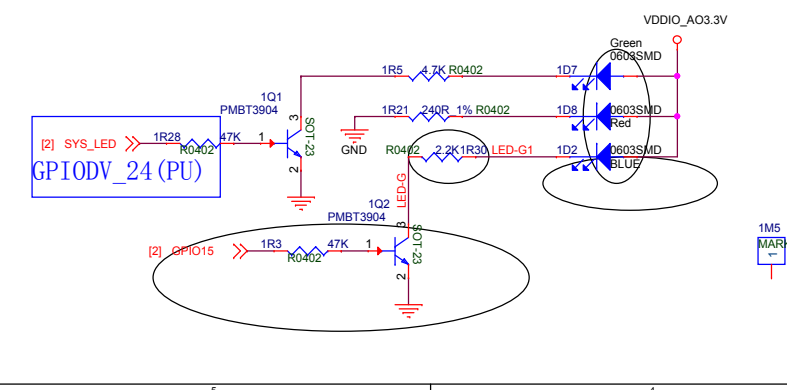
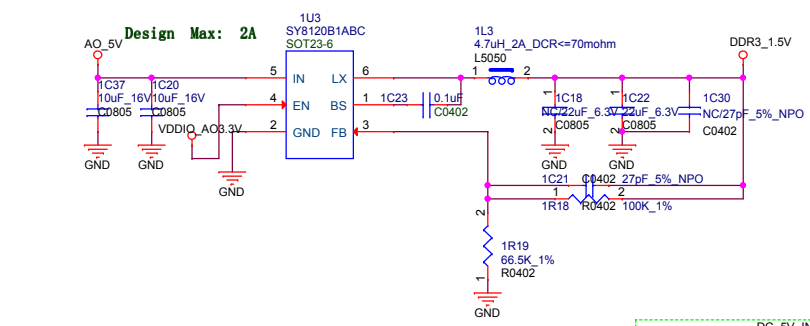
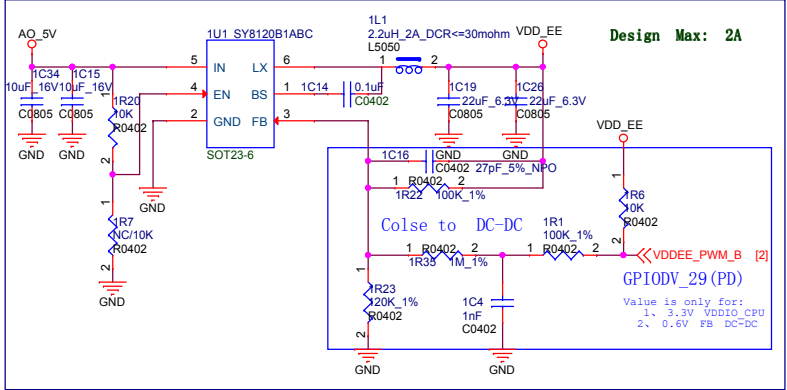
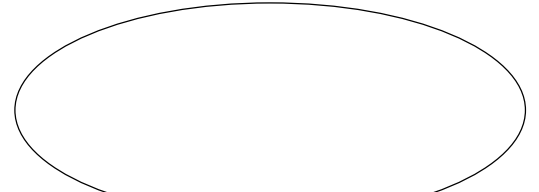
- 00 Power Block Diagram
- 01 Block diagram of MBX
- P01 POWER
- P02 CPU
- P03 DDR3
- P04 eMMC
- P05 Ethernet
- P06 USB&CARD&KEY
- P07 WIFI&BT
- P08 HDMI&CVBS
- P09 Audio

		Drawn by: Shenling Sun	
Document Number <b>S905X_MBX_REF_P212</b>		Size A3	Drawn Date: 2018-7-26
Title <b>Power Block Diagram</b>		Rev V03	Checked by: <Checked>
Date: Sunday, December 31, 2000	Sheet 02 of 14	checked Date: checked date	



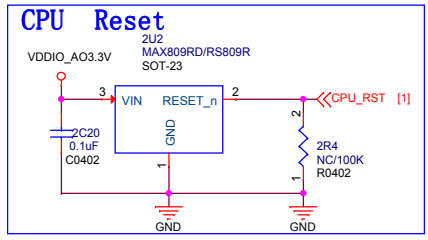
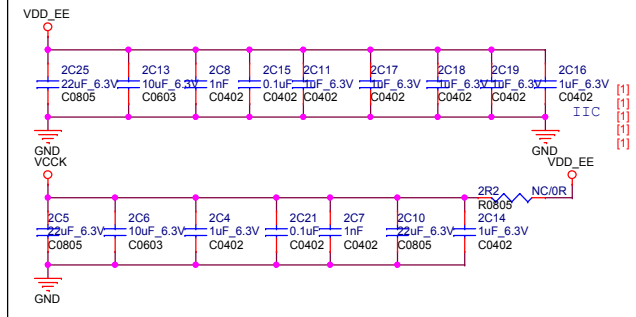
高拍配置, VCC5V & VDD5V 分开供电, BOM设置如下  
贴: U6/L5/C39/C10/C13/C17/C19/C8/1R9/1R17/1R12/1R16  
NC: 2R2

低拍配置, VCC5V & VDD5V 合并供电, BOM设置如下  
贴: 2R2  
NC: U6/L5/C39/C10/C13/C17/C19/C8/1R9/1R17/1R12/1R16

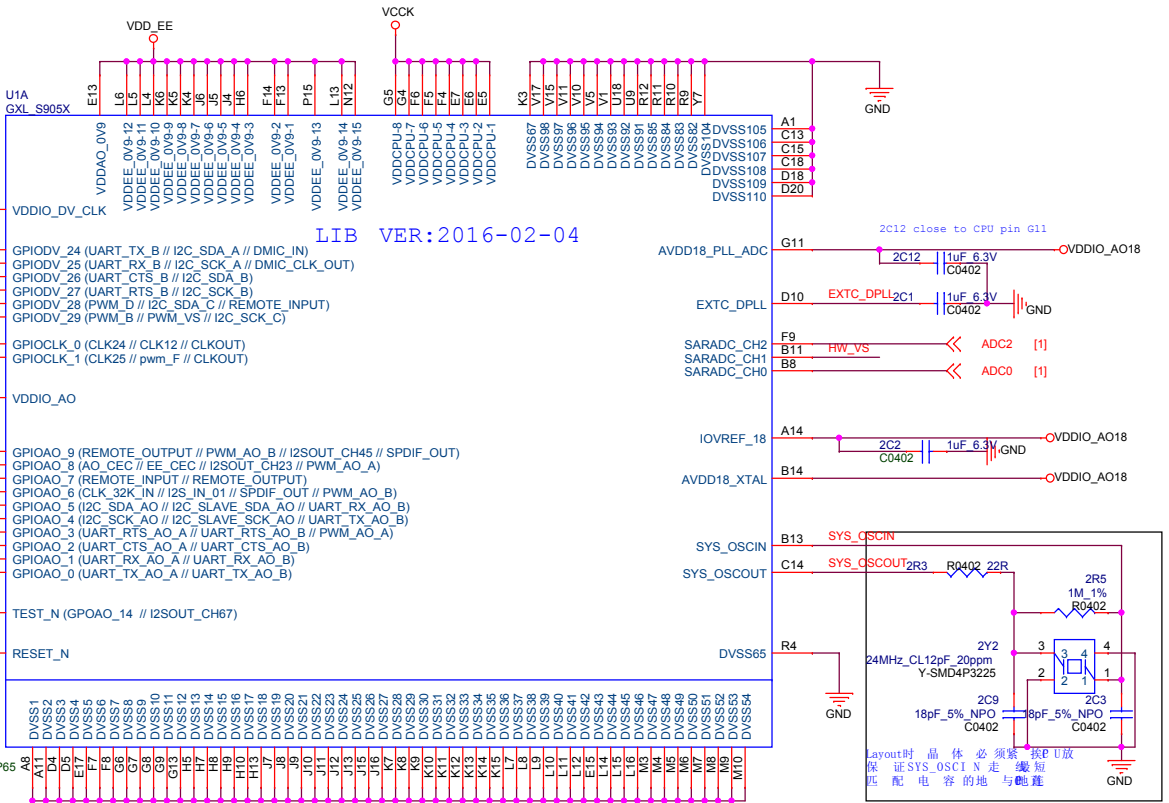
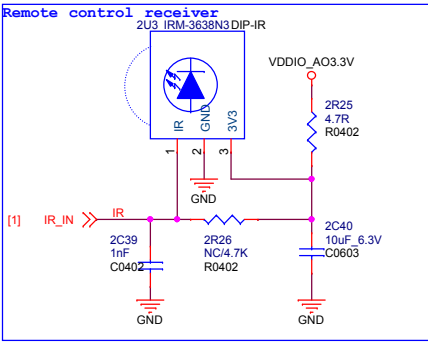
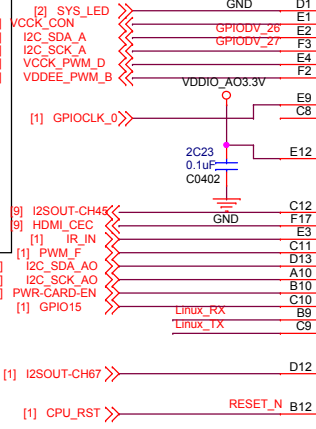
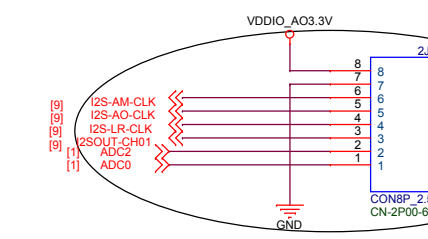
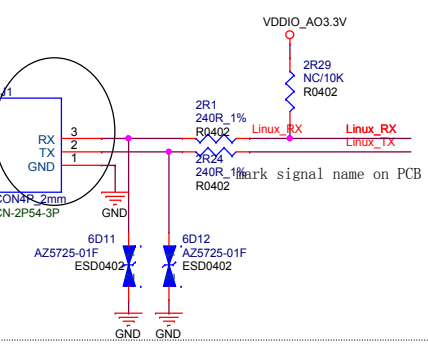


		Drawn by:	ShaoJing Sun
		Drawn Date:	2016-7-26
Document Number <b>S905X_MBX_REF_P212</b>		Size:	A3
Title <b>Power</b>		Rev:	V03
Date:	Sunday, December 31, 2000	Checked by:	<Checked>
		checked date:	checked date
		Sheet:	03 of 14

# CPU U1A Power



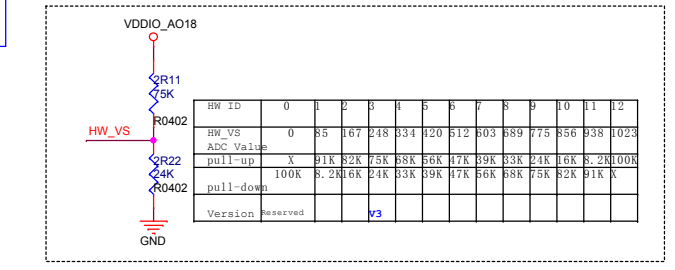
For Linux Debug 请务必慎



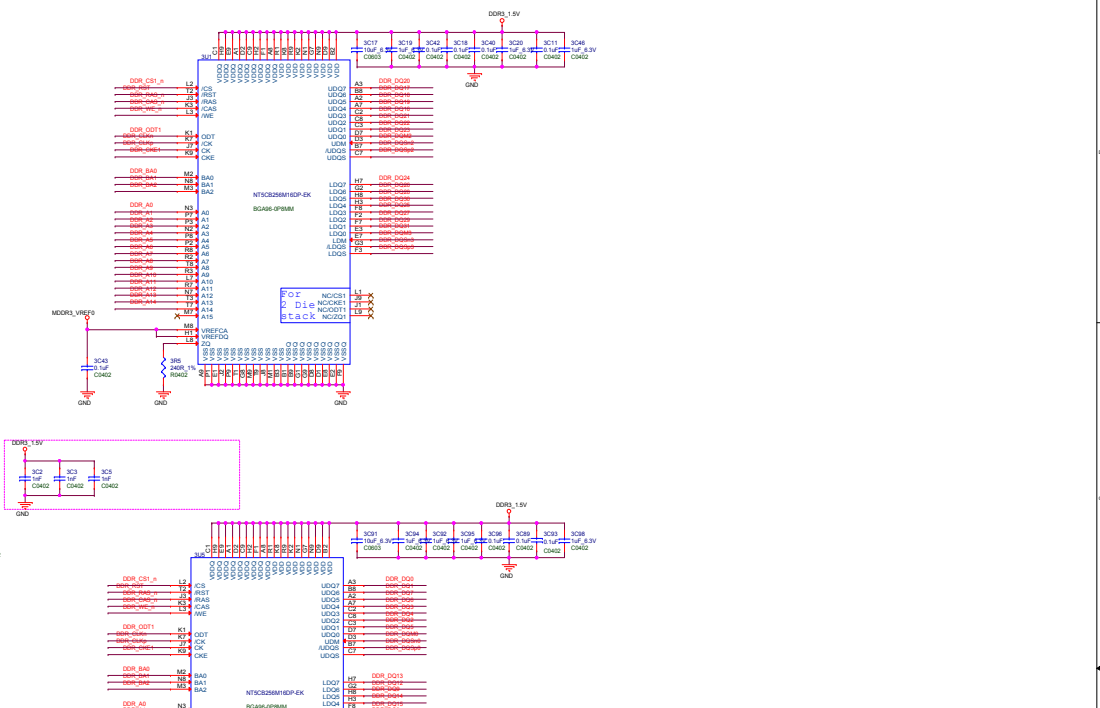
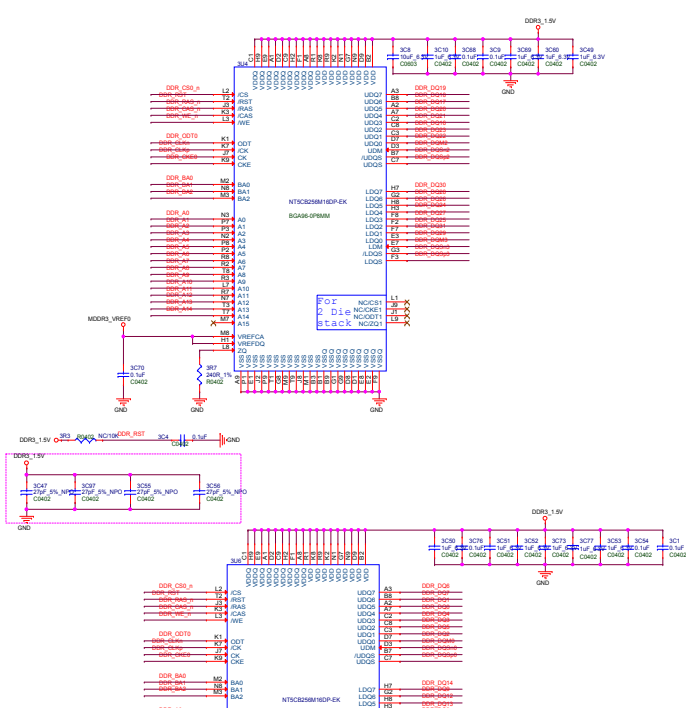
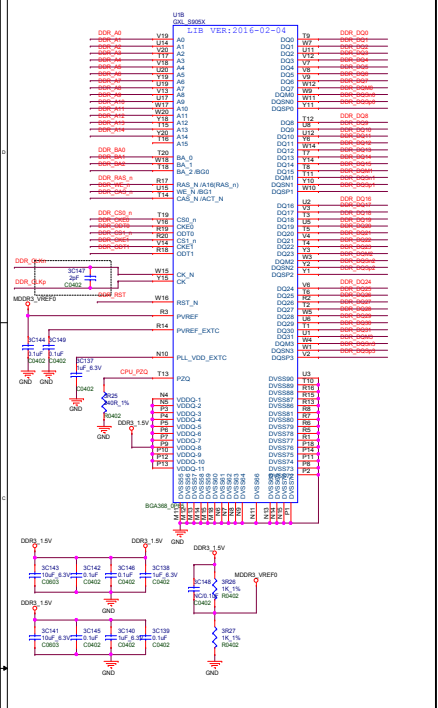
**BGA 焊接说明**

- 1) 散热片，PCB 需要 100-120 度烘烤 4 小时，确保芯片和 PCB 充分干燥，否则焊接过程中水汽爆裂会造成芯片损坏。
- 2) 需要有正反面同时加温的设备，以免 PCB 变形损坏。
- 3) 自行手工焊，需要有熟手操作人员，否则建议外发专门的 BGA 焊厂进行焊接。

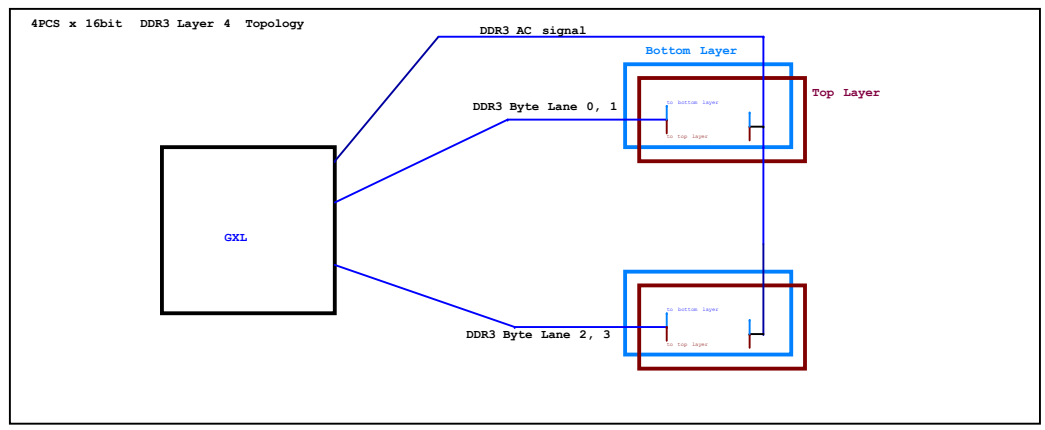
CPU 焊接不良或者焊接损坏，会对调板带来极大困难。



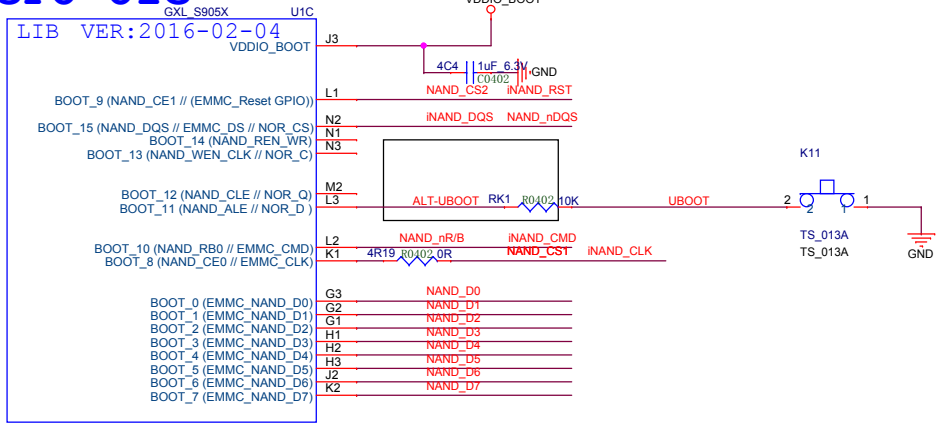
Layout 时晶体必须紧贴 B 面放置，保证 SYS\_OSC1N 走线短，匹配电容的地与晶座。



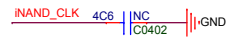
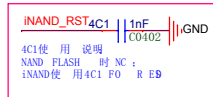
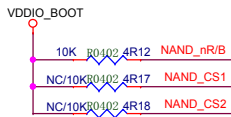
适合4PCS DDR3 放在正反2面的4层板B a  
 若需要其他类型PCB Layout, 原路更改  
 请向Amlogic 询



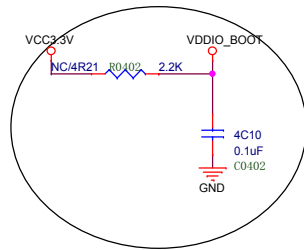
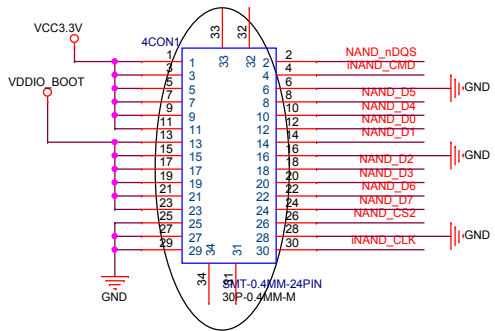
# CPU U1C



BGA368\_OP65



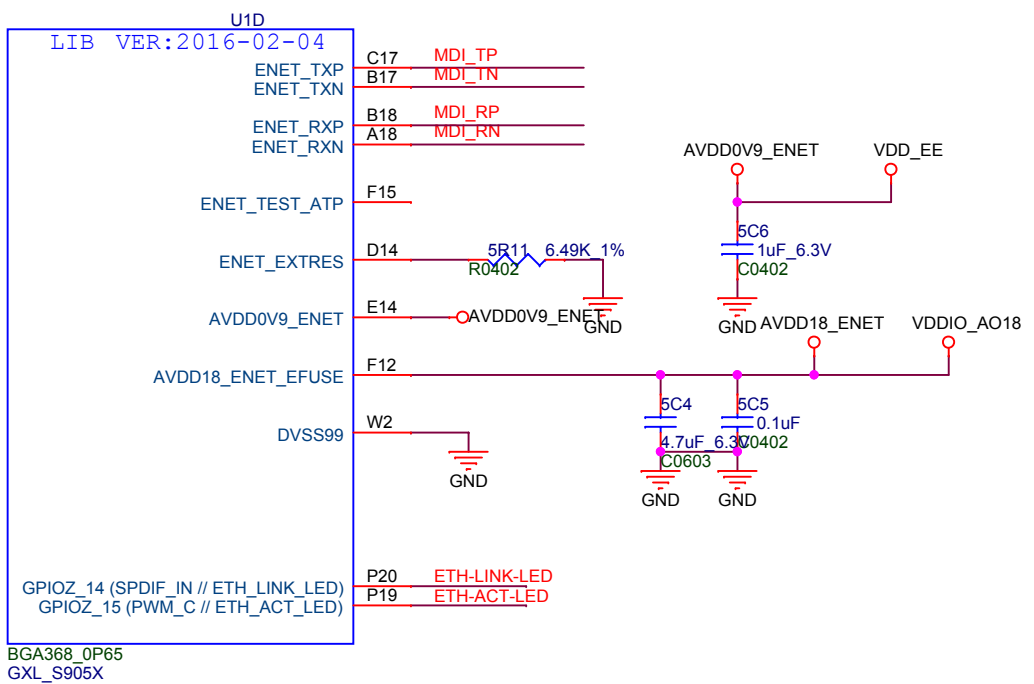
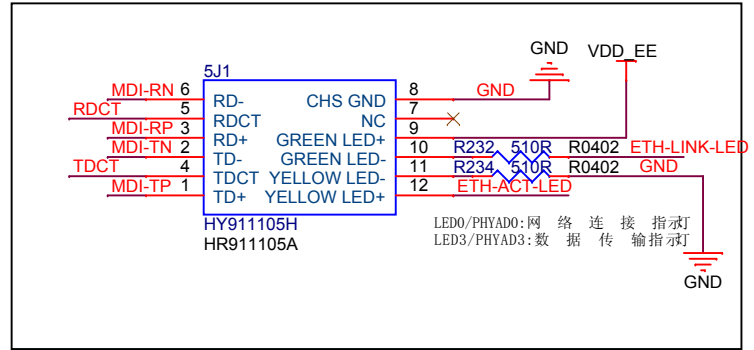
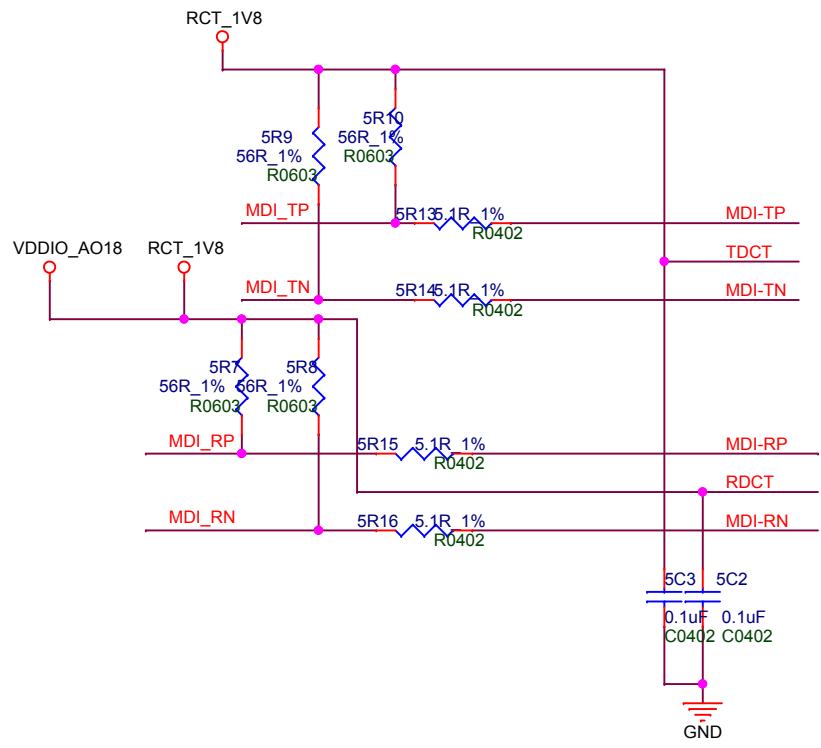
## Flash daughter board



高指配置，eMC IO使用.8v供电，跑R200模式  
BOM 设置如下：  
贴 4R22/1U7/1C2/1C11/4R15  
NC 4R21

低指配置，eMC IO使用.3v供电，跑R2  
BOM 设置如下：  
贴 4R21  
NC 4R22/1U7/1C2/1C11/4R15

		Drawn by:
Document Number <b>S905X_MBX_REF_P212</b>		Shenling.Sun Drawn Date: 2016-7-26
Title <b>FLASH</b>	Size A3	Checked by: <Checked>
Rev V03	Checked Date: checked date	
Date: Sunday, December 31, 2000	Sheet 06	of 14



		Drawn by: Shunqing.Sun	
		Drawn Date: 2016-7-26	
Document Number S905X_MBX_REF_P212		Size A4	Checked by: <Checked>
Title Ethernet		Rev V03	Checked Date: checked date
Date: Sunday, December 31, 2000		Sheet	07 of 14

# CPU UIE

U1E  
GXL S905X  
LIB VER:2016-02-04

AVDD33\_USB H12 VDDIO\_A018  
AVDD18\_USB G12

USBOTG\_B\_VBUS E16  
USBOTG\_B\_DM C16  
USBOTG\_B\_DP C16  
USBOTG\_B\_ID D15  
USBB\_TXRTUNE D17  
USBHOST\_A\_DM B15  
USBHOST\_A\_DP A15  
USBA\_TXRTUNE D16

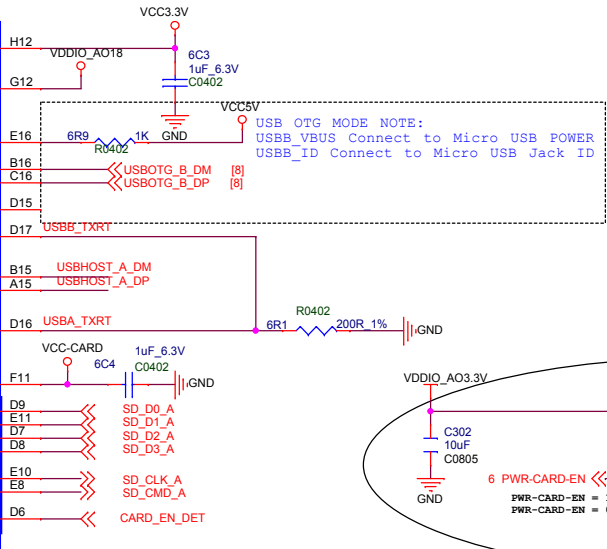
VDDIO\_CARD F11  
CARD\_1-A (SDCARD\_D0 // JTAG\_TDO)  
CARD\_0-A (SDCARD\_D1 // JTAG\_TDI)  
CARD\_5-A (SDCARD\_D2 // UART\_RX\_AO\_A)  
CARD\_4-A (SDCARD\_D3 // UART\_TX\_AO\_A)  
CARD\_2-A (SDCARD\_CLK // JTAG\_CLK)  
CARD\_3-A (SDCARD\_CMD // JTAG\_TMS)  
CARD\_8-A (GPIO) D6

PRINT 使用 一 组 C A R D ball, 不可同时使用

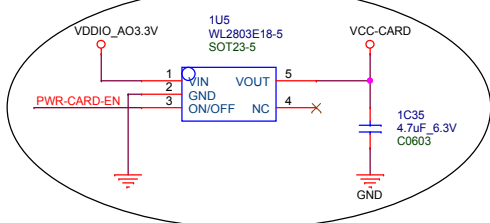
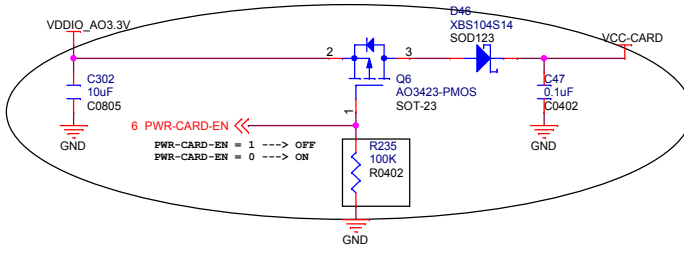
CARD\_1-B (SDCARD\_D0 // JTAG\_TDO) N17  
CARD\_0-B (SDCARD\_D1 // JTAG\_TDI) M16  
CARD\_5-B (SDCARD\_D2 // UART\_RX\_AO\_A) P17  
CARD\_4-B (SDCARD\_D3 // UART\_TX\_AO\_A) N16  
CARD\_2-B (SDCARD\_CLK // JTAG\_CLK) L17  
CARD\_3-B (SDCARD\_CMD // JTAG\_TMS) M17  
CARD\_8-B (GPIO) P16

BGA368\_0P65

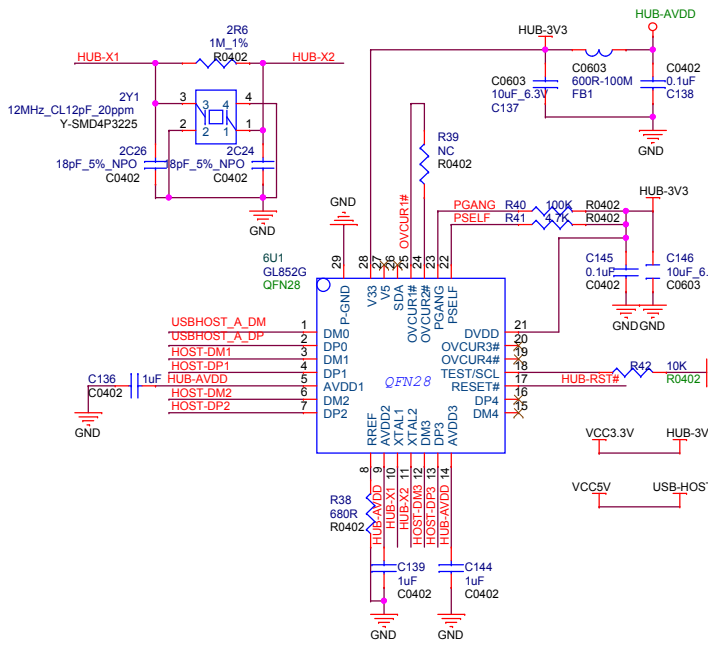
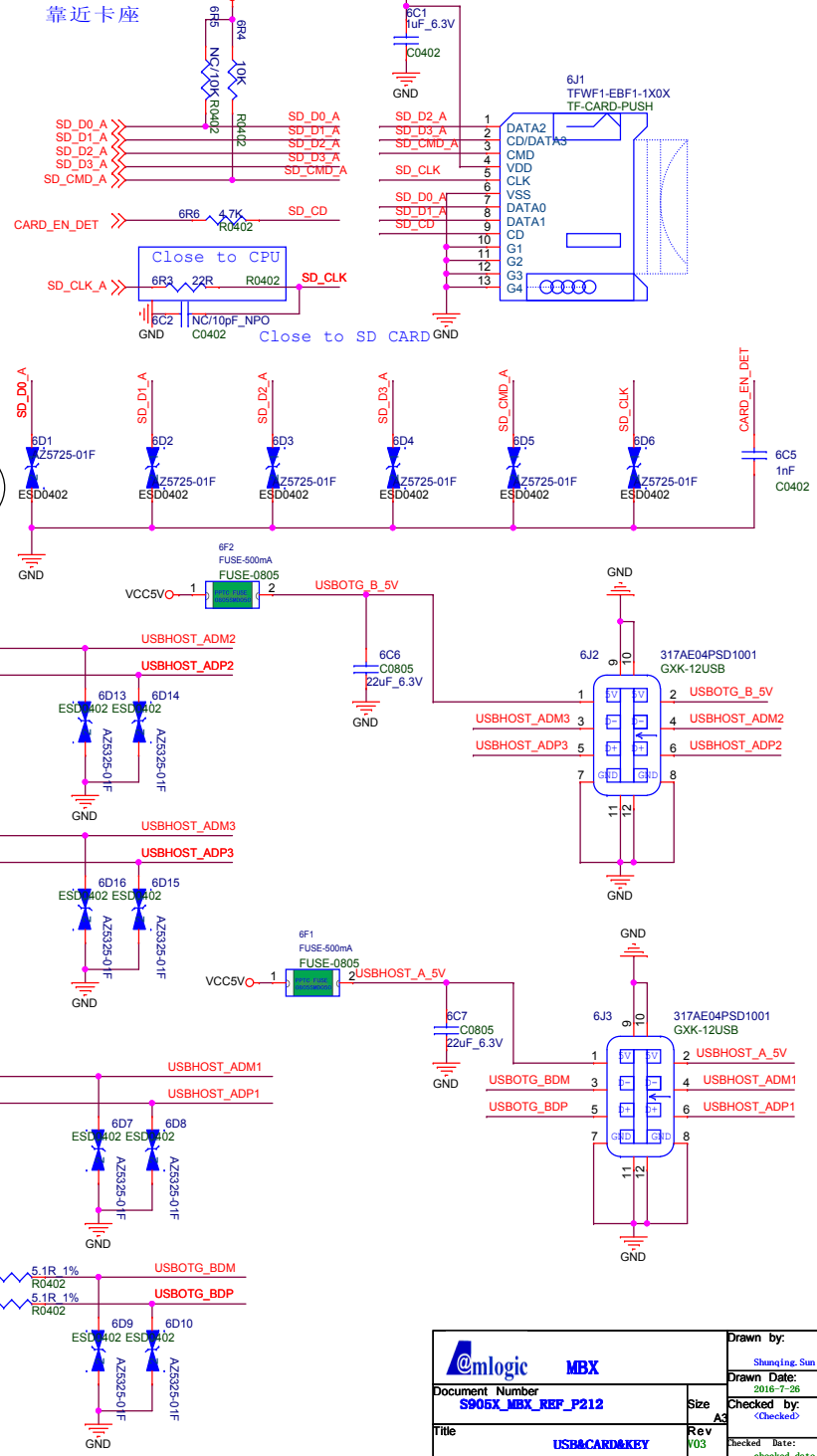
# Card Power



不能同时使用两组SD Card



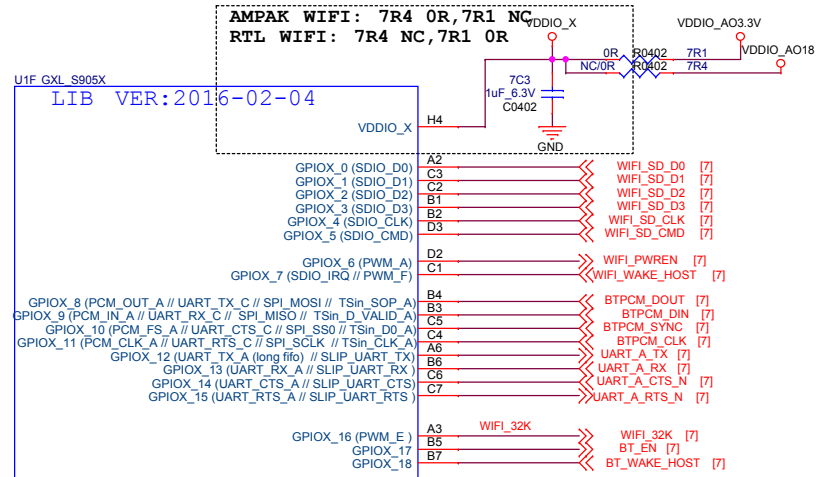
# SD card



		Drawn by: Shenling Sun Drawn Date: 2016-7-26 Checked by: <Checked>
Document Number <b>S905X_MBX_REF_P212</b>	Size A3	Checked Date: checked date
Title <b>USB&amp;CARD&amp;KEY</b>	Rev V03	checked Date: checked date
Date: Sunday, December 31, 2000	Sheet 08 of 14	

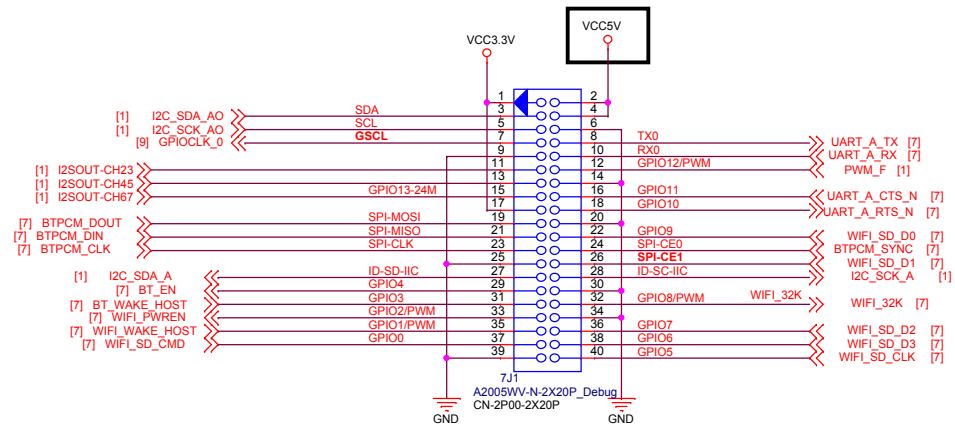


AP6181/RTL8189ETV WIFI ONLY  
 AP6212/RTL8723BS WIFI+BT  
 AP6330 WIFI+BT+FM  
 AP6335 WIFI+BT+FM (SDIO 3.0)



### Input/output connector

2.54mm 90° pitch dual row input/output connector

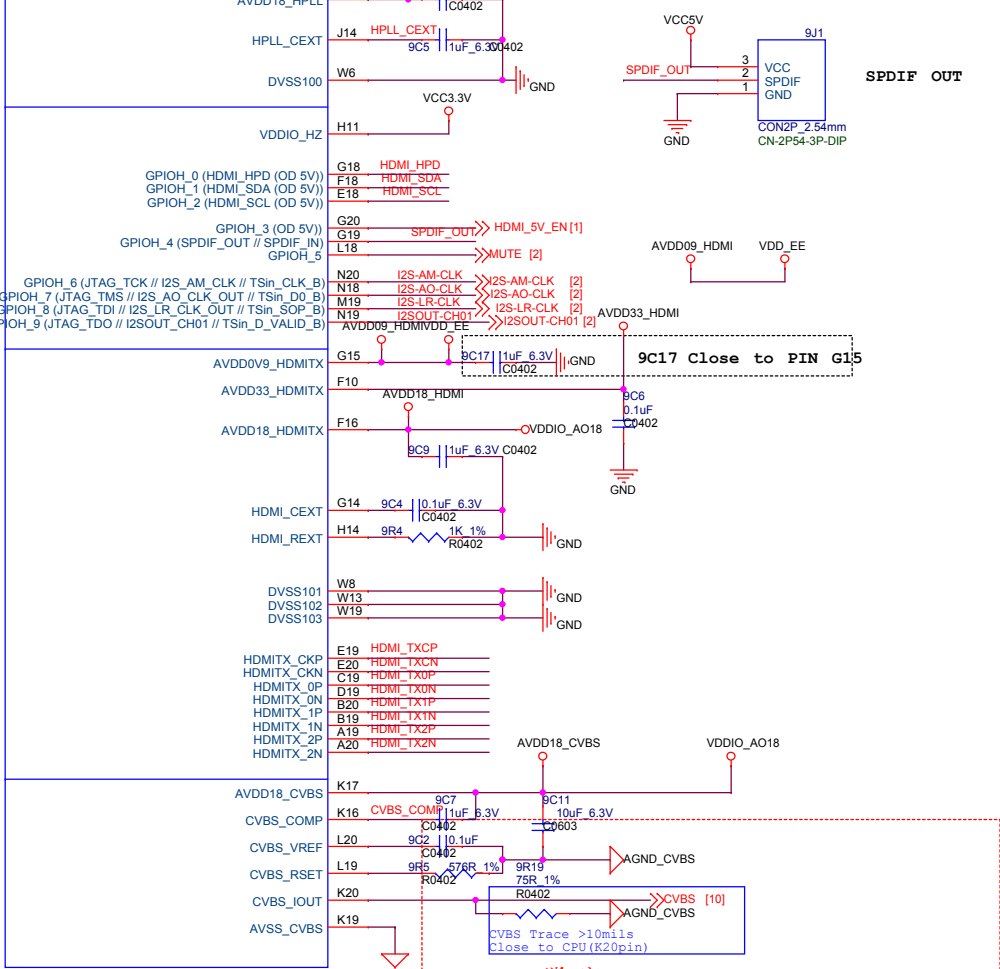


BGA368\_OP65

		Drawn by: Shenlong_Sun	
Document Number <b>S905X_MBX_REF_P212</b>		Drawn Date: 2016-9-26	
Title <b>Wifi&amp;BT</b>		Size A3	Checked by: <Checked>
Date: Sunday, December 31, 2000		Rev V03	Checked Date: checked date
Sheet 09 of 14			

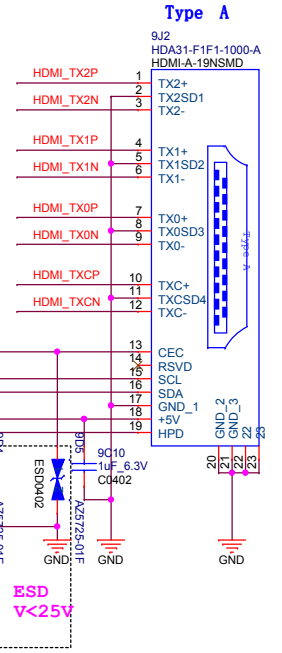
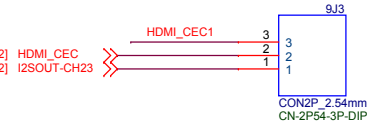
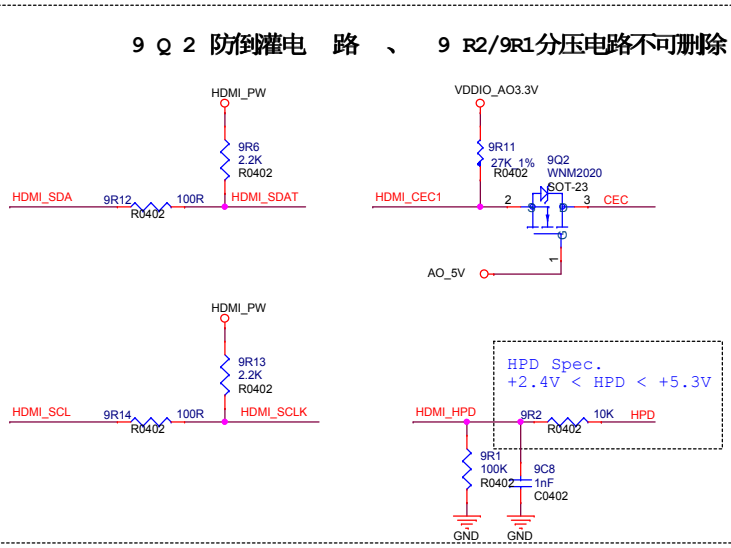
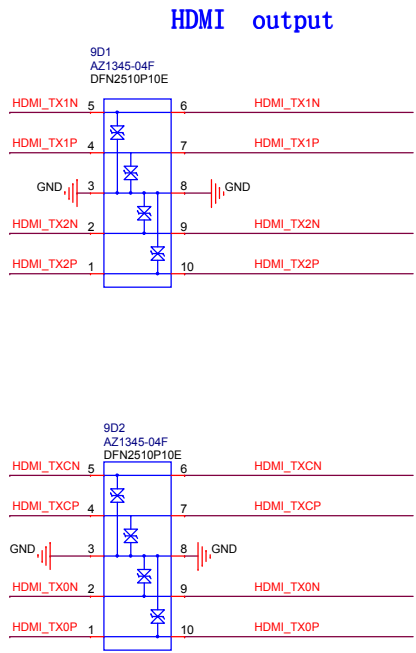
**CPU U1G**

LIB VER:2016-02-04  
AVDD18\_HPLL

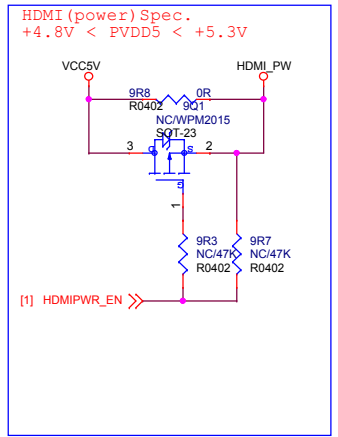


AGND\_CVBS GND

CVBS1.8V 电容C1、Rset9R5、Vr 75R 9R19 要单点接地，相互连线尽量用并要直连 GND 不能形成单点接地，或直连的放到Top层，不放Bottom层，继续连接到L2GND的平面路径；同CPU CVBS AVSS PIN不能单点连接，连接后VDD\_EE电源面须避开B 模块区域

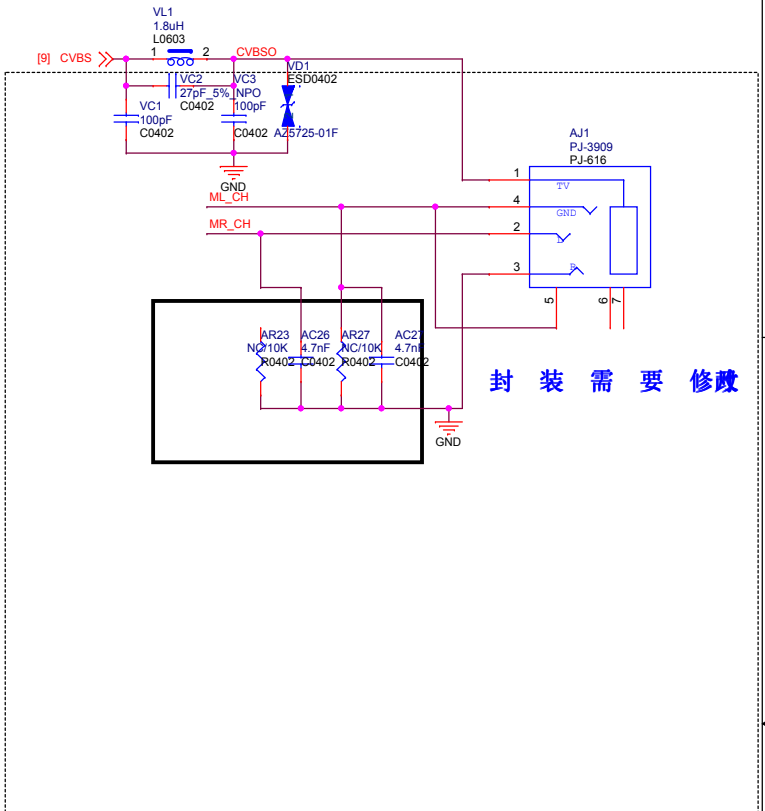
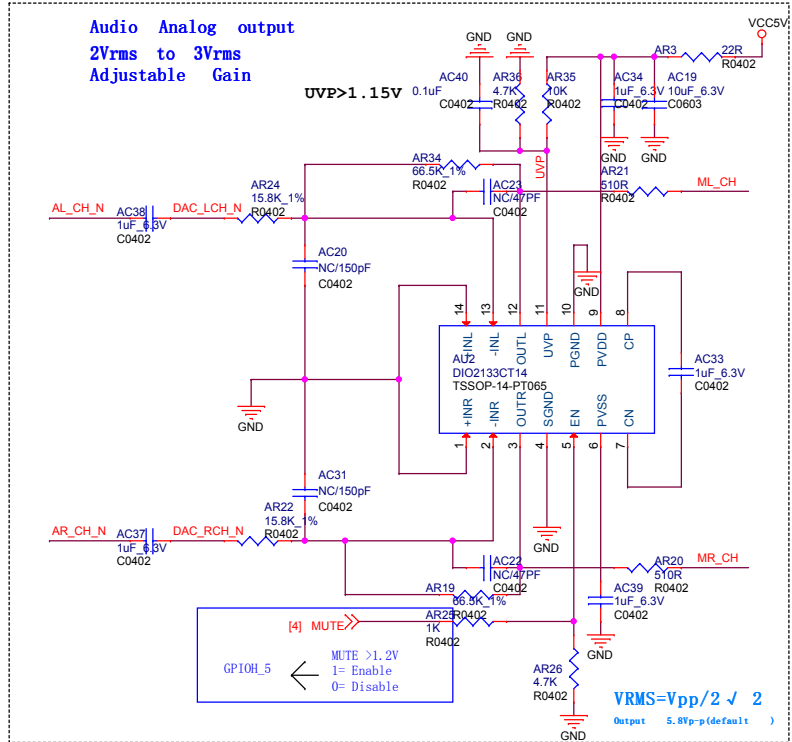
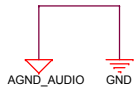
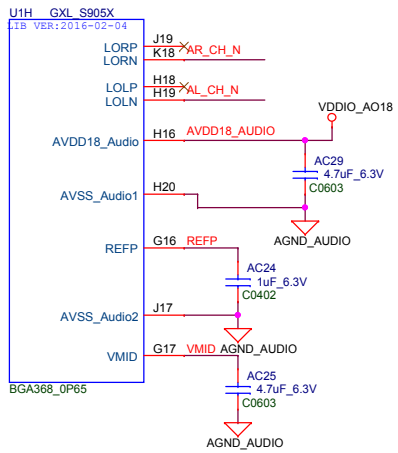


Must USE TVS ESD  
ESD Clamping V<25V



BGA368\_0P65

		Drawn by:	Shaoqing Sun
		Document Number	S905X_MBX_REF_P212
File	HDMI output	Size	A3
Date:	Sunday, December 31, 2000	Rev	V03
		Checked by:	<Checked>
		checked date:	checked date
		Sheet	10 of 14



		Drawn by:	Shiming.Sun
		Drawn Date:	2018-7-26
Document Number <b>S905X_MBX_REF_P212</b>		Size	A3
Title <b>Audio</b>		Rev	03
Date: Sunday, December 31, 2000	Sheet	11	of 14
Checked by:		checked data	