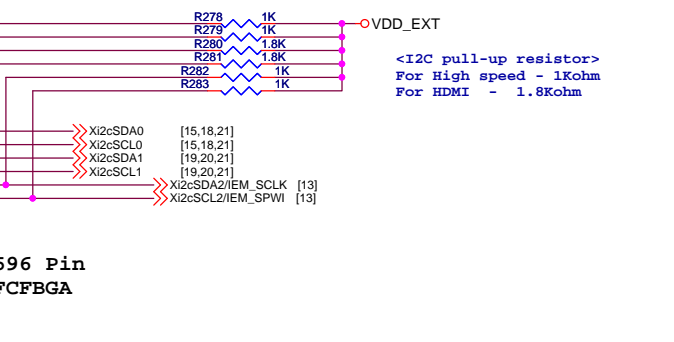
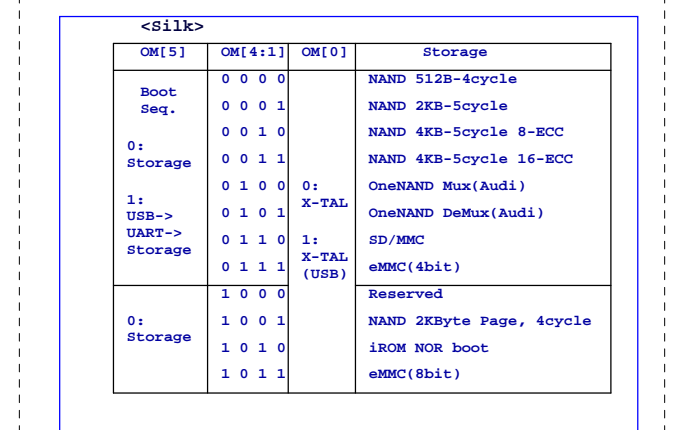
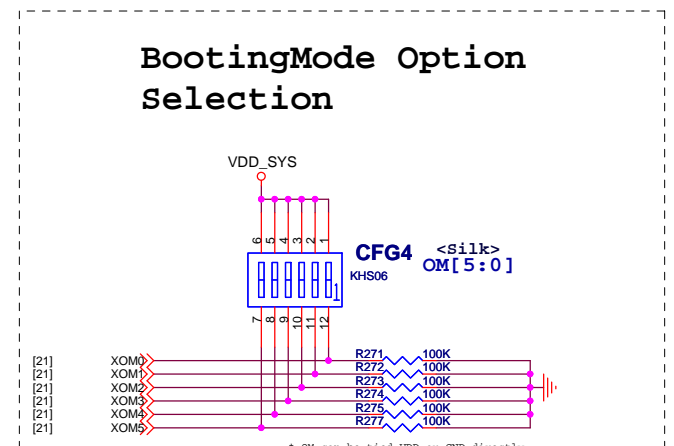
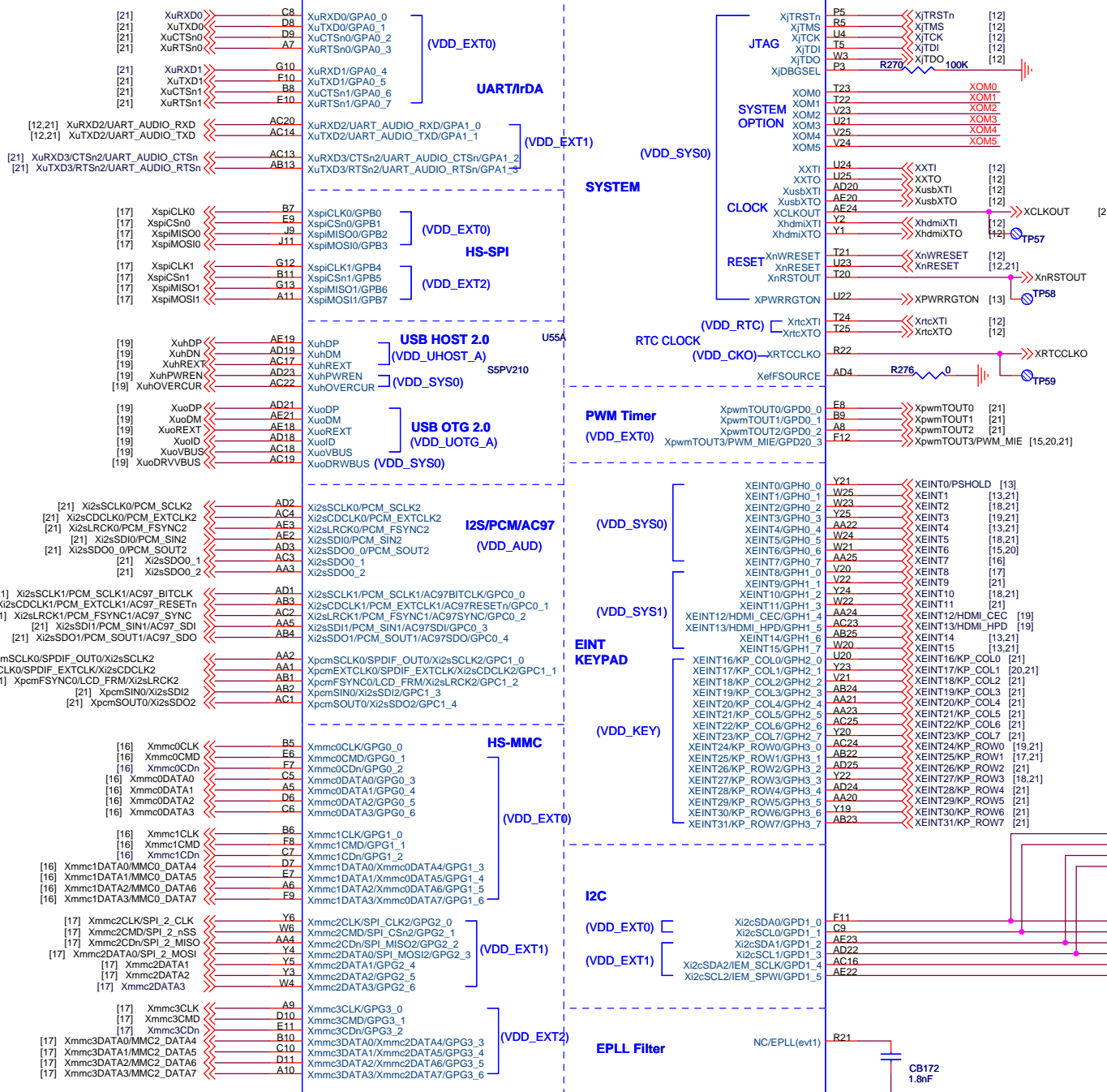
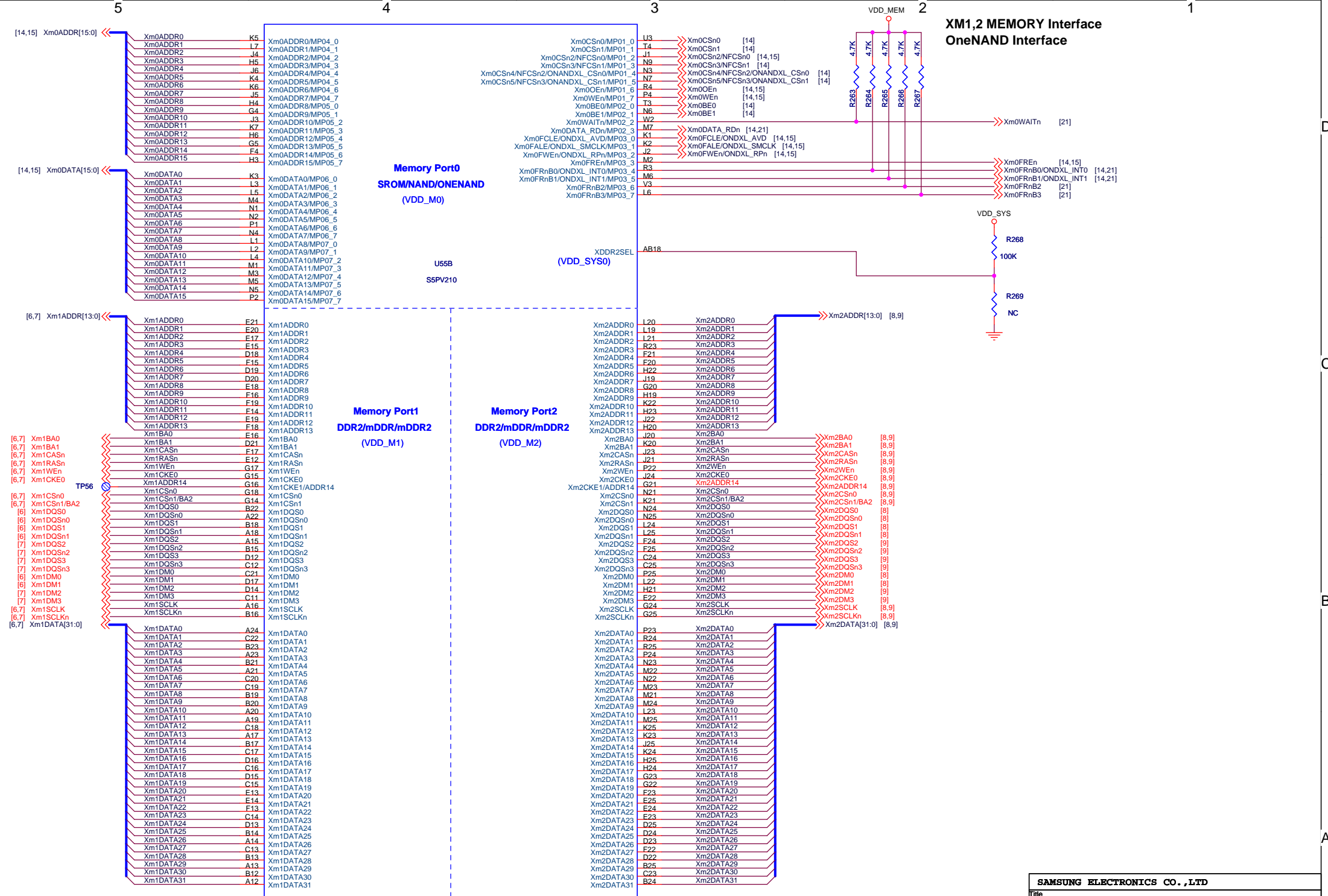


# SMDK\_S5PV210\_CPU B'd (S5PV210 Evaluation Board) Schematics

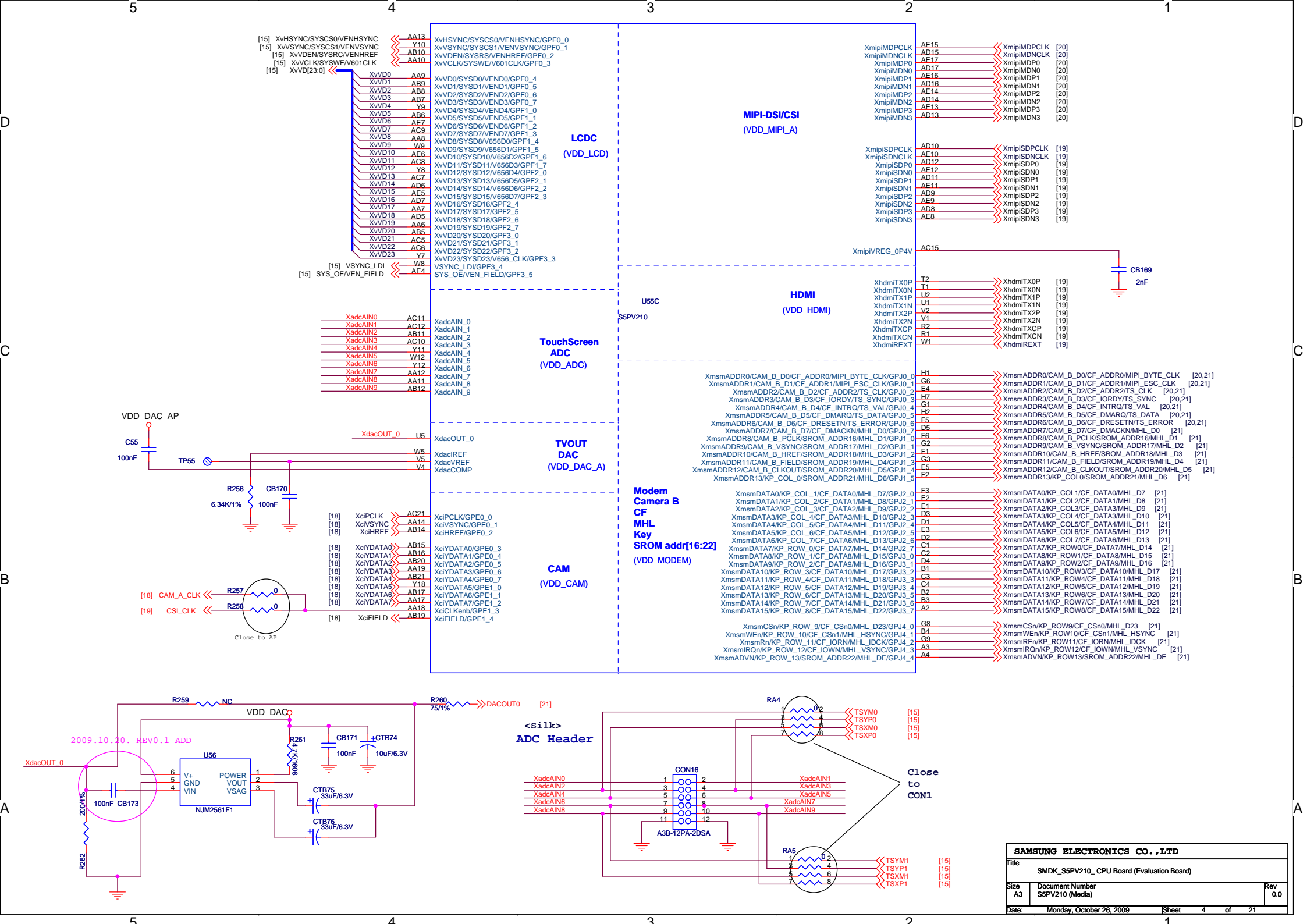
Revision	Date	Description
Rev 0.0	2009. 09	Preliminary Version

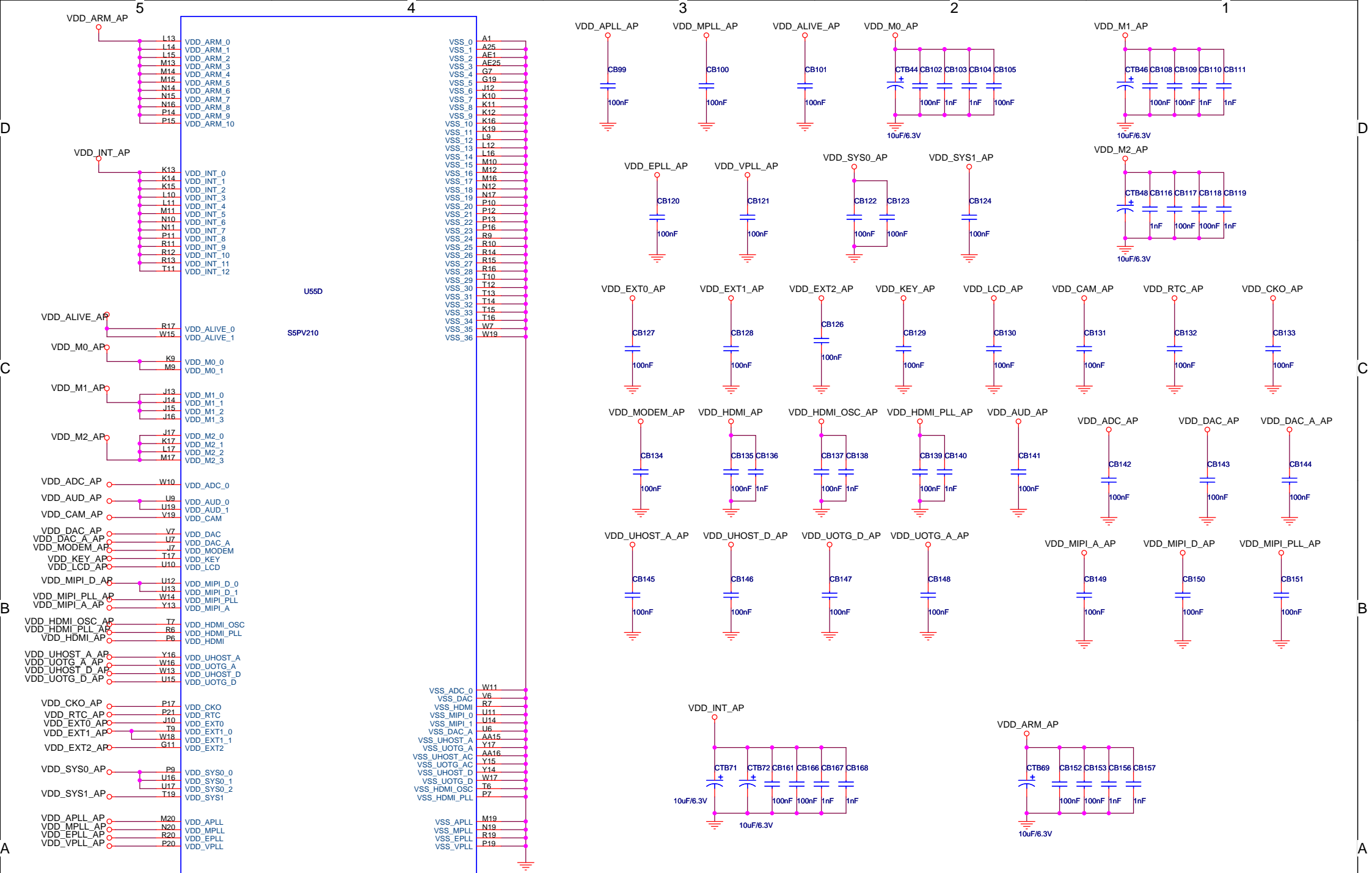
Table of Contents		Part Reference
<b>Page</b>	<b>Function</b>	<b>&lt;Component&gt;&lt;Number&gt;</b>
01	Revision History	U : Component or Regurator IC
02	S5PV210 (SYS&Connectivity)/ Boot Option	C : Capacitor
03	S5PV210 (MCP & SROM Memory)	CB : Capacitor Bypass
04	S5PV210 (Media)	CT : Capacitor Tantal
05	S5PV210 (Gen_Power)	CTB : Capacitor Tantal Bypass
06	XM1 DDR2(1Gbit *2) #0,1	J : Jumper
07	XM1 DDR2(1Gbit *2) #2,3	JB : CPU To Base connector
08	XM2 DDR2(1Gbit *2) #0,1	JP : Jumper Power
09	XM1 DDR2(1Gbit *2) #2,3	R : Resistor
10	Power Jumper shunt	RA : Resistor Array
11	Power (DC jack & Regulator)	RP : Resistor Power
12	Reset/ Clock Source/ JTAG	VR : Variable Resistor
13	Power (PMIC)	L : Inductor
14	Memory (SROM EBI IF)	FB : Ferrite Bead
15	OneNAND / LCD I/F(NonMIPI)	OSC : Oscillator
16	MMC #0	X : X-tal (Crystal)
17	MMC #1/#2/ HS-SPI	Q : Transistor or FET
18	Camera A-Port I/F	D : Diode
19	HDMI/ MIPI-CSI/ MIPI-HSI/ USB	ZD : Zener Diode
20	MIPI-DSI	LED : LED Diode
21	B2B Connector(CPU)	SW : SWitch Tact/Push
		CON : CONnector
		CFG : ConFiGure switch (DIP/Slide)
		TP : Test Point (SMD)
		TPH : Test Point Hole (Through Hole)
		MTH: Mount Through Hole
		MOD : MODule Interface connector

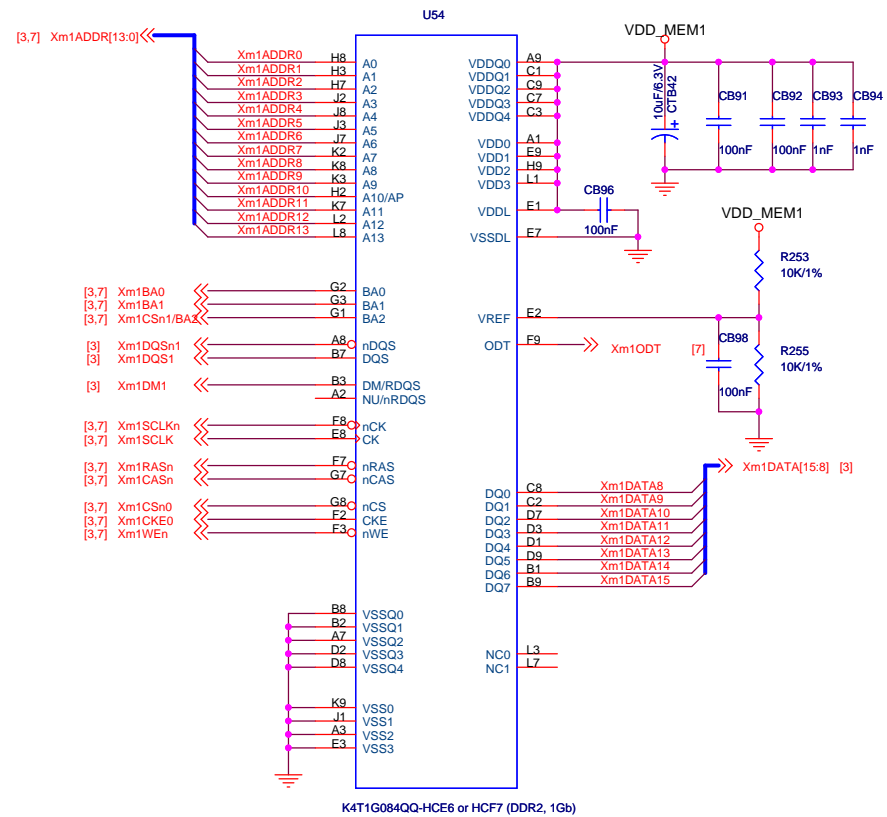
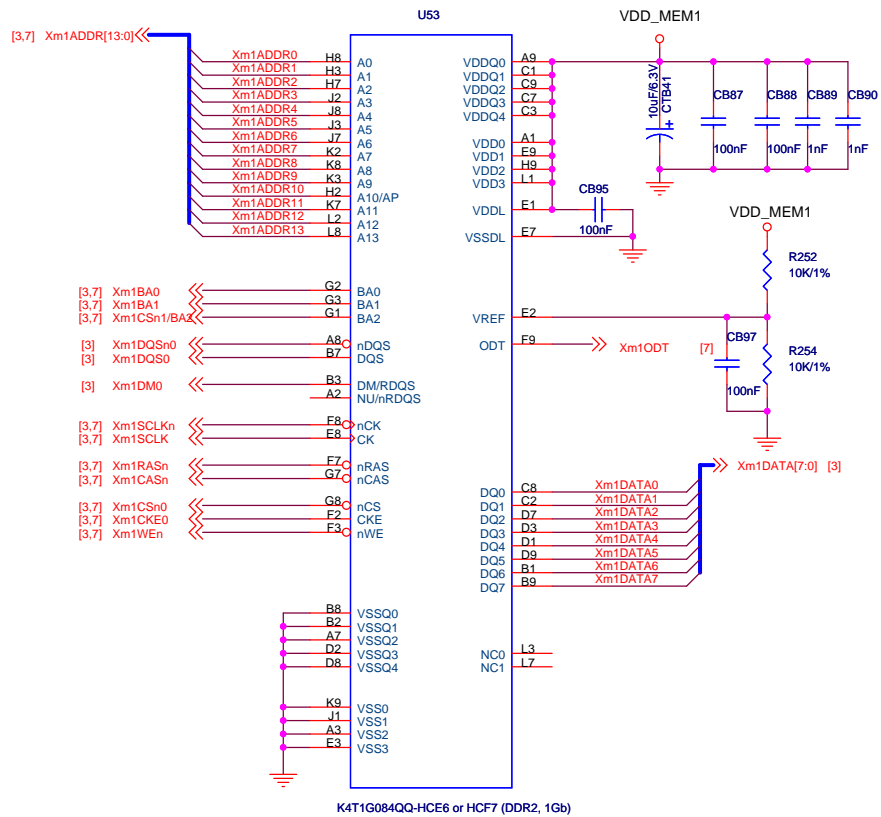




SAMSUNG ELECTRONICS CO., LTD		
Title	SMDK_SSPV210_CPU Board (Evaluation Board)	
Size	Document Number	Rev
A3	SSPV210 (DDR2 & SROM Memory)	0.0
Date:	Monday, October 26, 2009	Sheet 3 of 21

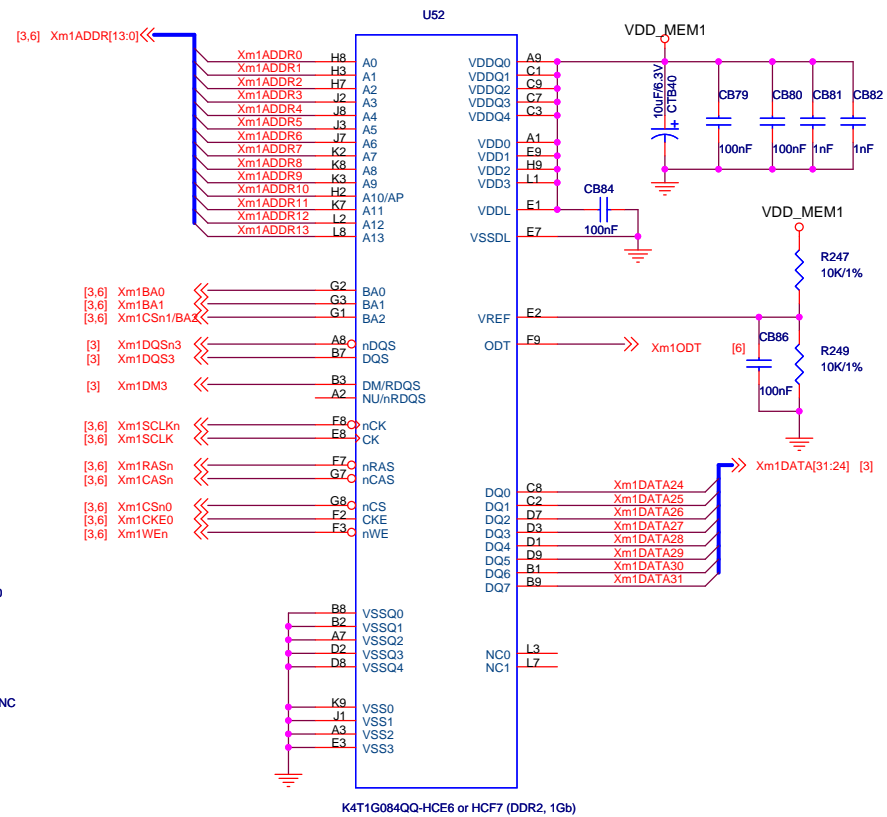
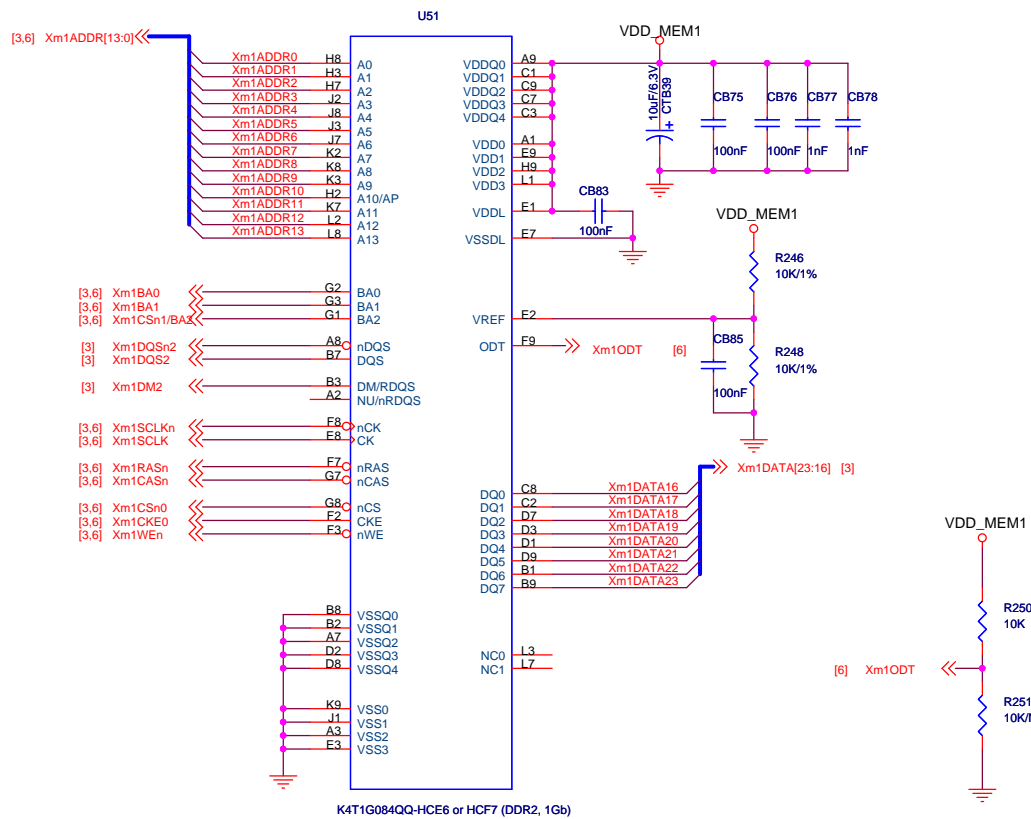






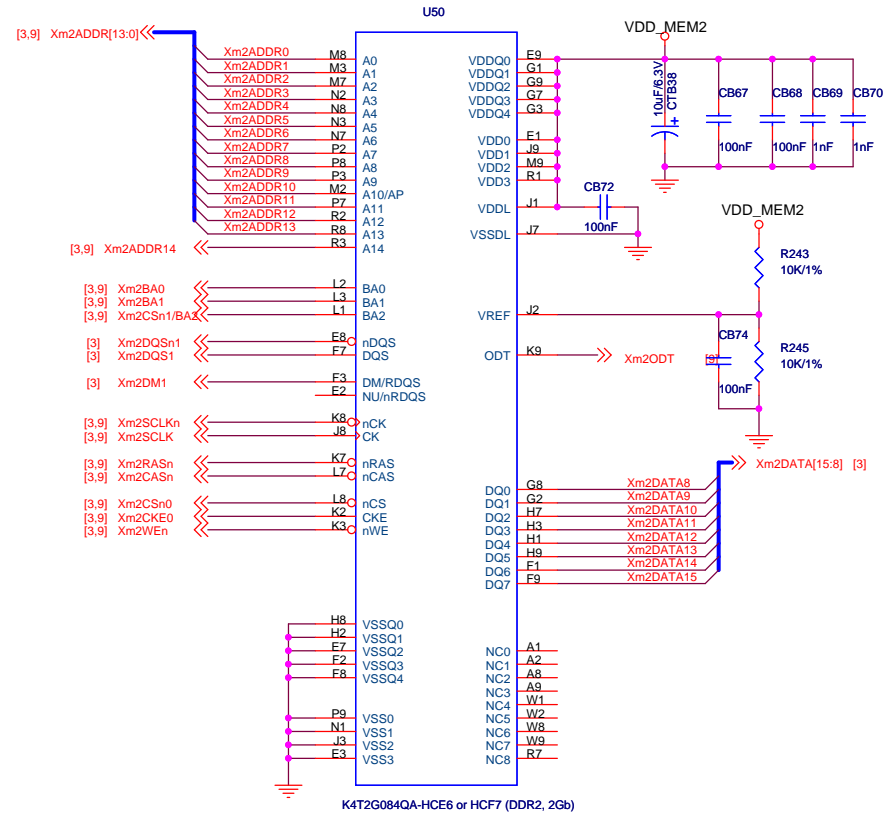
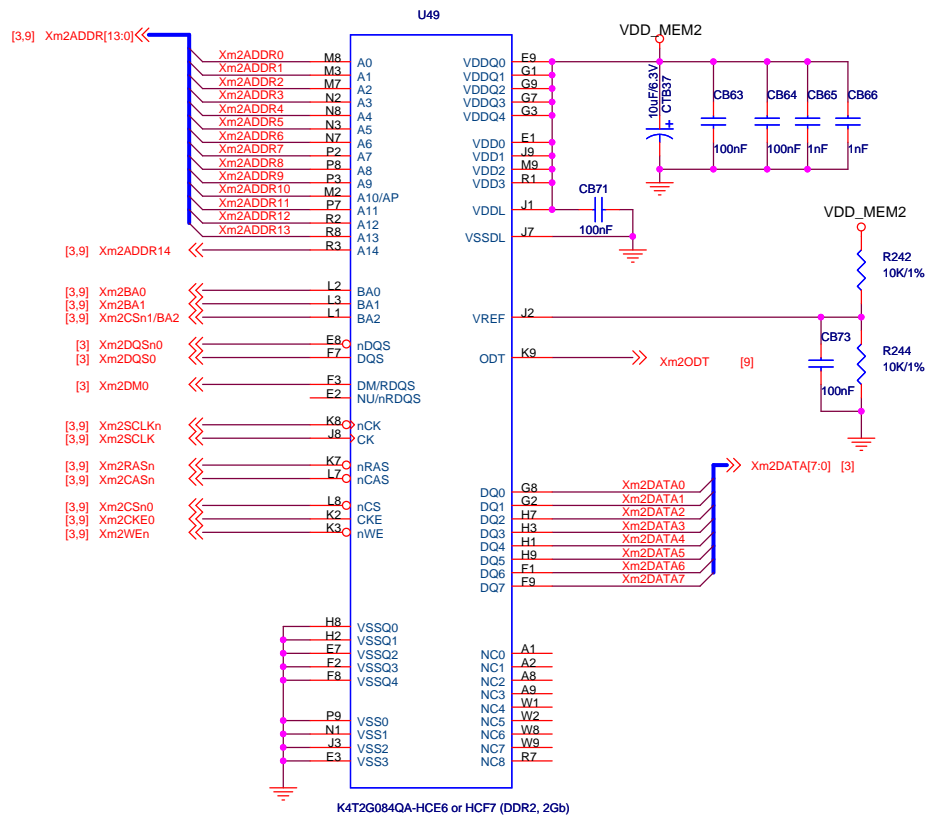
### XM1 DDR2(For 1Gbit x8)

<b>SAMSUNG ELECTRONICS CO., LTD</b>		
Title: SMDK_S5PV210_POP CPU Board (Evaluation Board)		
Size: A3	Document Number: DDR2(1Gbit*4) XM1 #1,2	Rev: 0.0
Date: Monday, October 26, 2009	Sheet: 6	of 21



## XM1 DDR2(For 1Gbit x8)

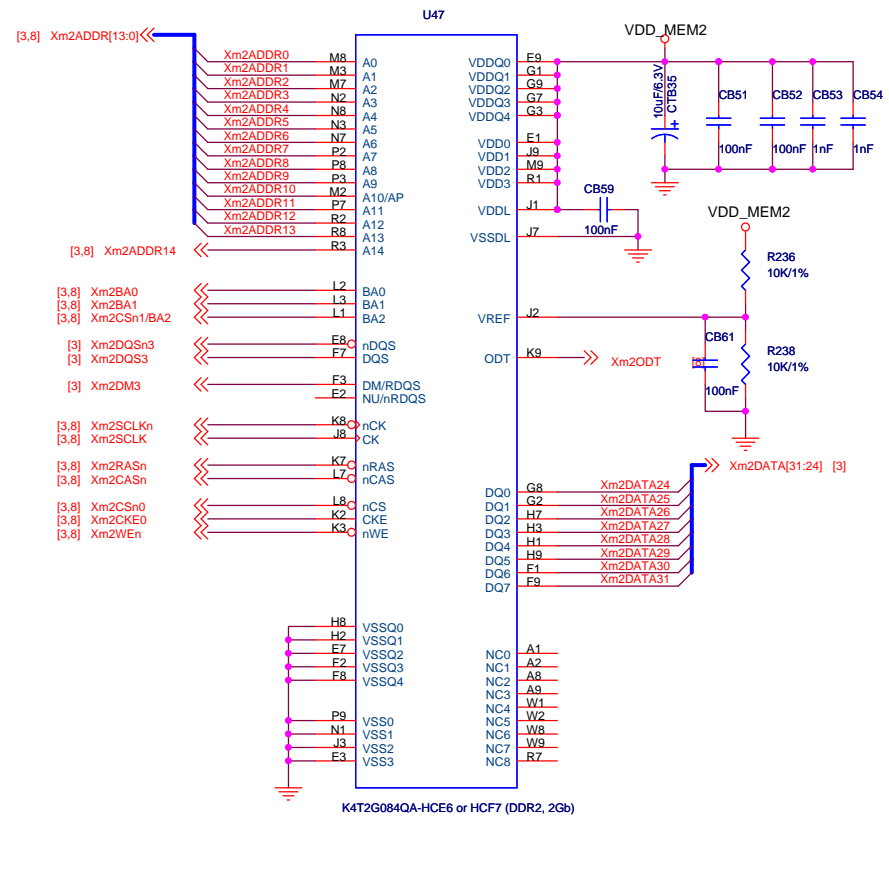
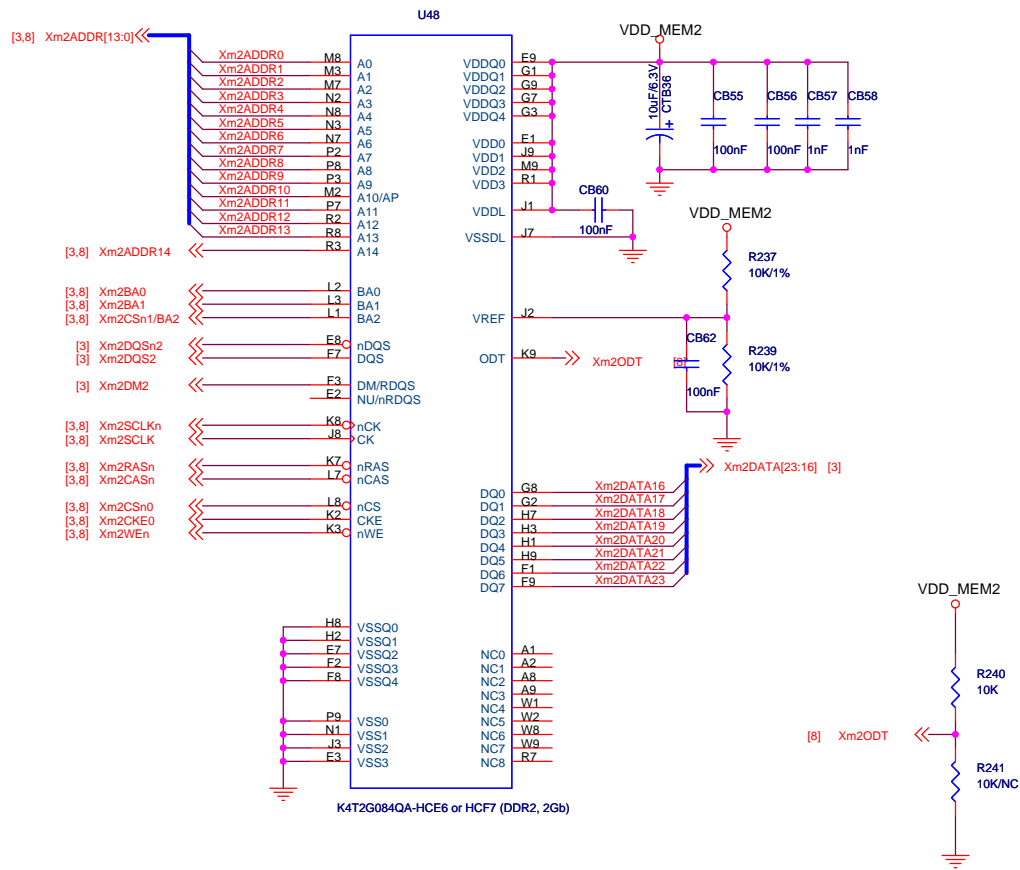
<b>SAMSUNG ELECTRONICS CO., LTD</b>		
Title SMDK_S5PV210_CPU Board (Evaluation Board)		
Size A3	Document Number DDR2(1Gbit*4) XM1 #2,3	Rev 0.0
Date:	Monday, October 26, 2009	Sheet 7 of 21



### XM2 DDR2(For 2Gbit x8)

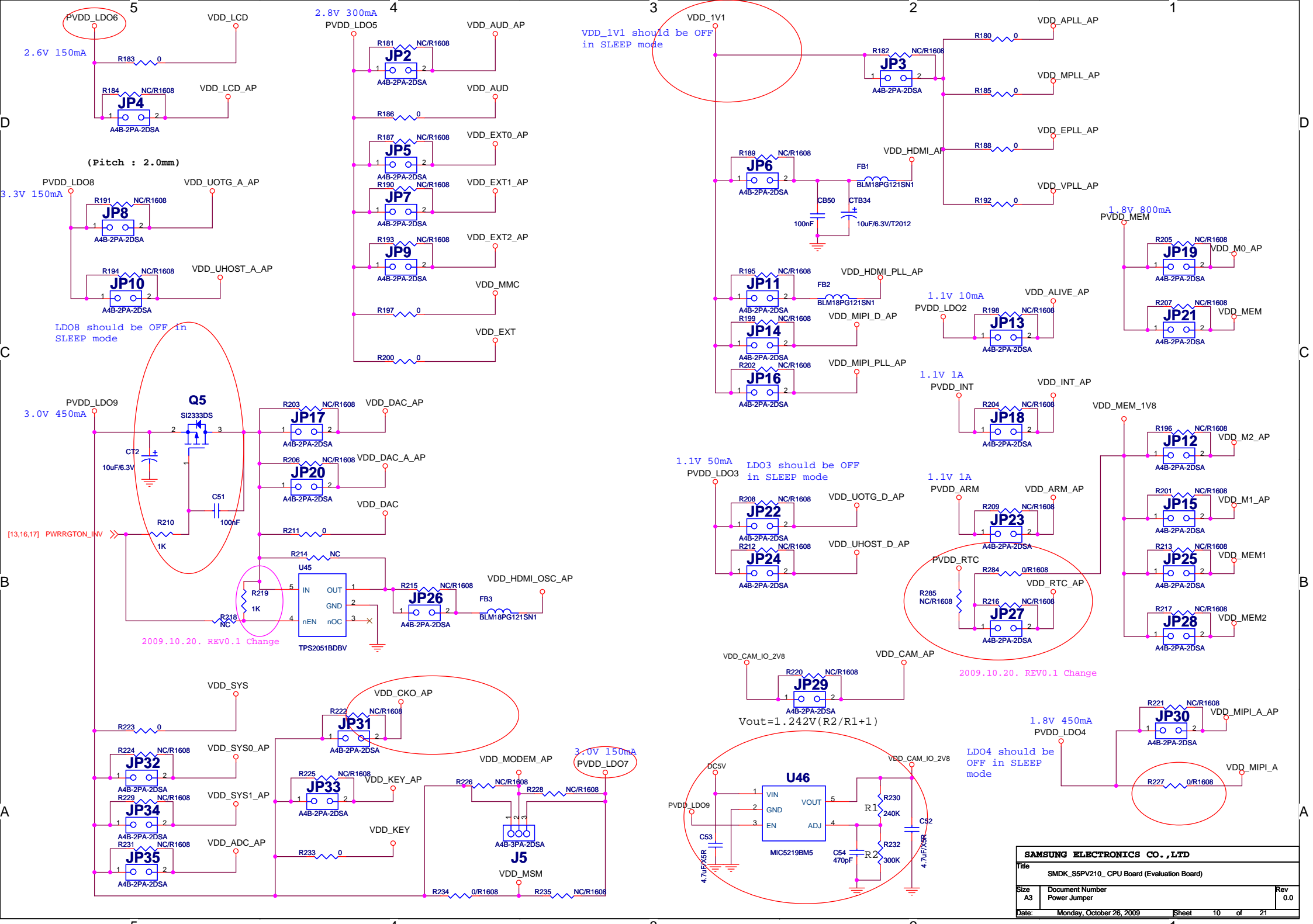
<b>SAMSUNG ELECTRONICS CO., LTD</b>		
Title: SMDK_S5PV210_CPU Board (Evaluation Board)		
Size: A3	Document Number: DDR2(2Gbit*4) XM2 #0,1	Rev: 0.0
Date: Monday, October 26, 2009	Sheet: 8	of 21





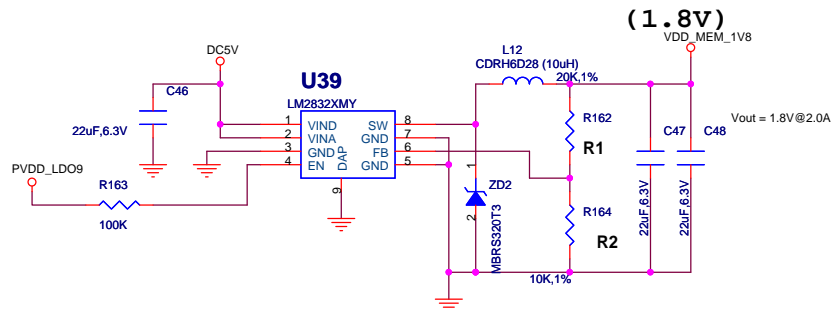
### XM2 DDR2(For 2Gbit x8)

SAMSUNG ELECTRONICS CO.,LTD		
Title	SMDK_S5PV210_POP CPU Board (Evaluation Board)	
Size	Document Number	Rev
A3	DDR2(2Gbit*4) XM2 #2,3	0.0
Date:	Monday, October 26, 2009	Sheet 9 of 21

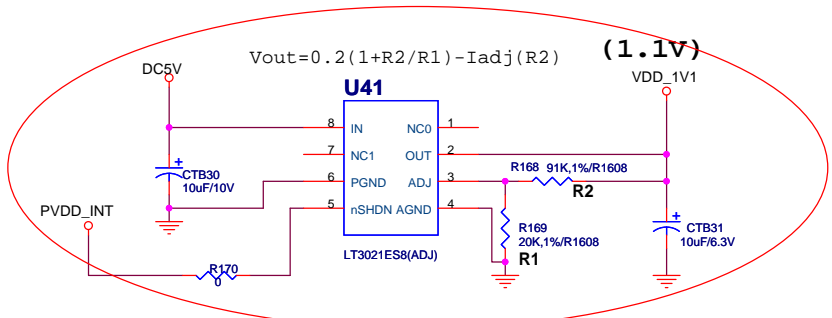


$$V_{out} = 0.60(1 + R1/R2)$$

$$R1 = R2(V_{out}/0.60V - 1)$$

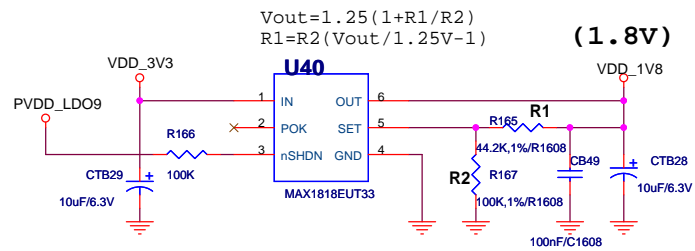


$$V_{out} = 0.2(1 + R2/R1) - I_{adj}(R2)$$



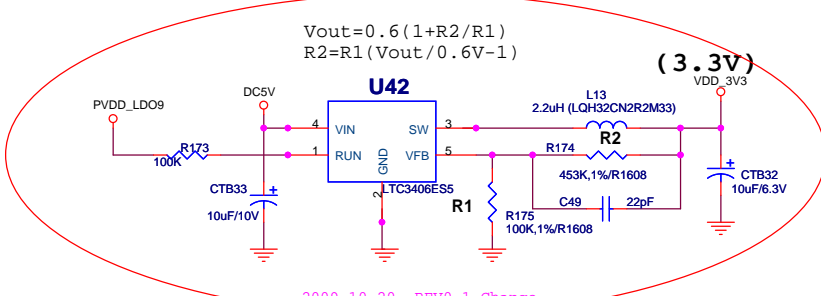
$$V_{out} = 1.25(1 + R1/R2)$$

$$R1 = R2(V_{out}/1.25V - 1)$$

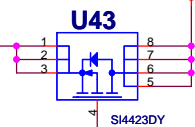
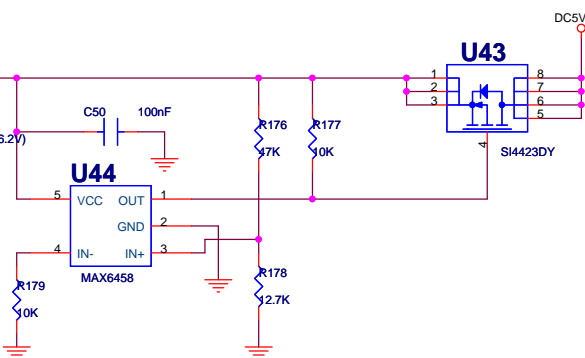
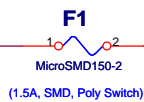
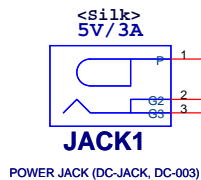
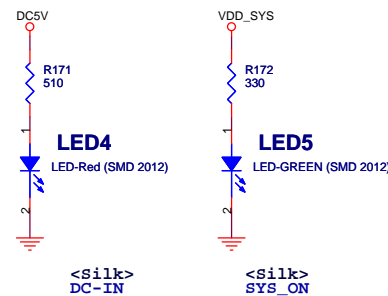


$$V_{out} = 0.6(1 + R2/R1)$$

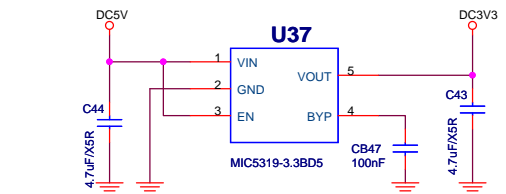
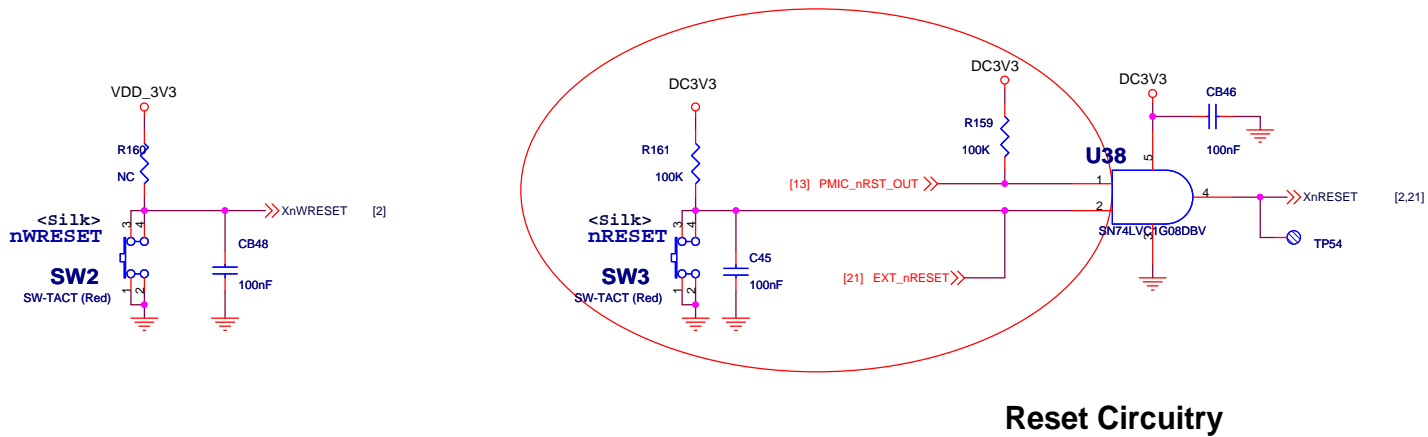
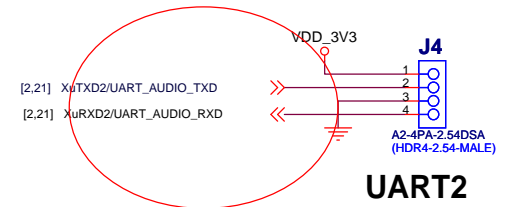
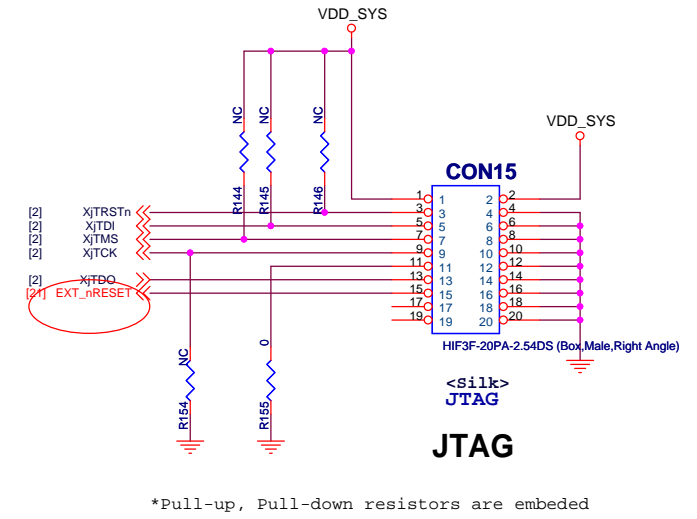
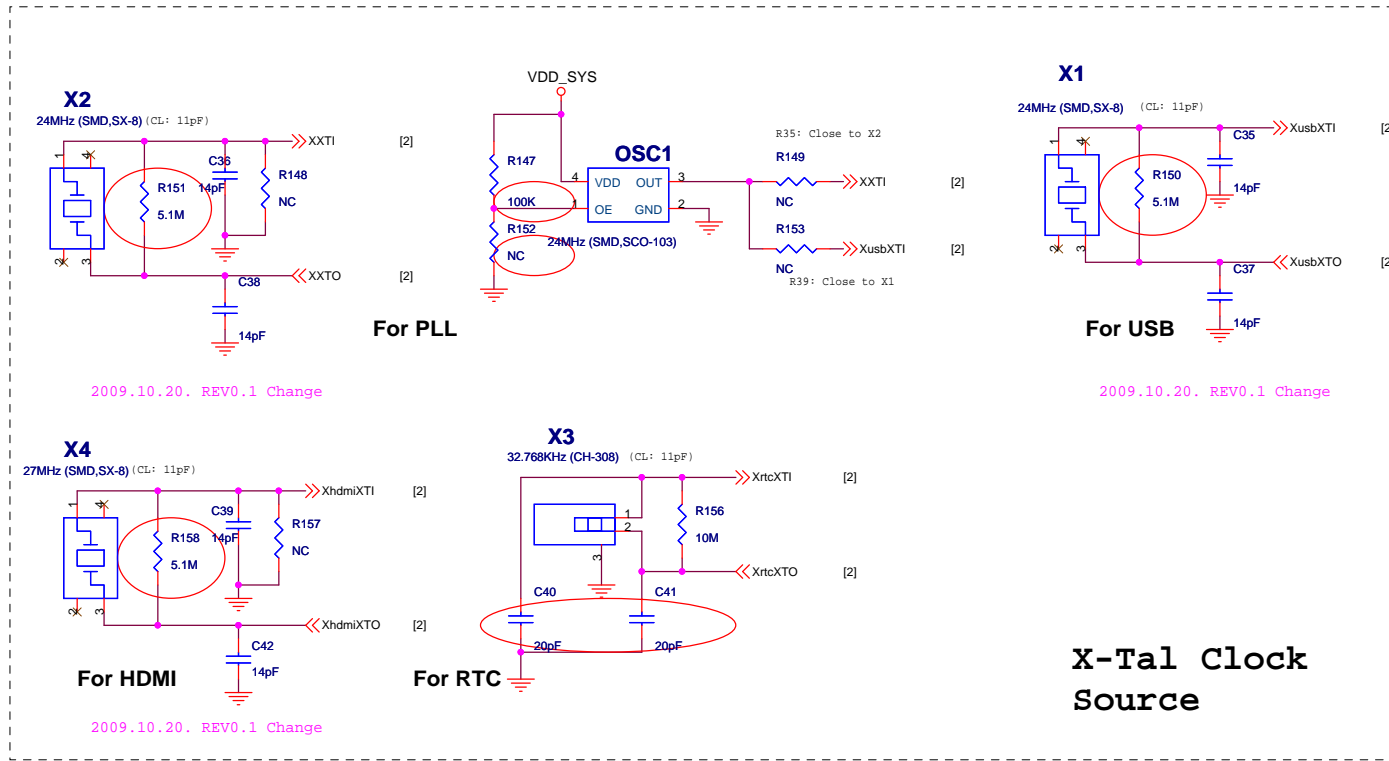
$$R2 = R1(V_{out}/0.6V - 1)$$



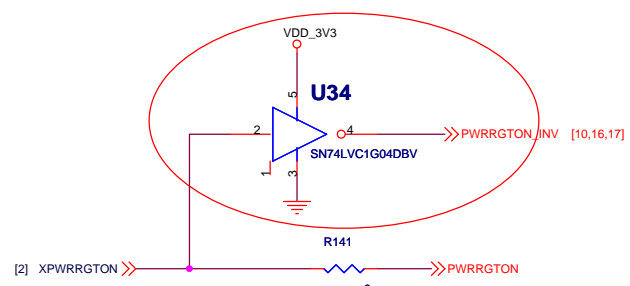
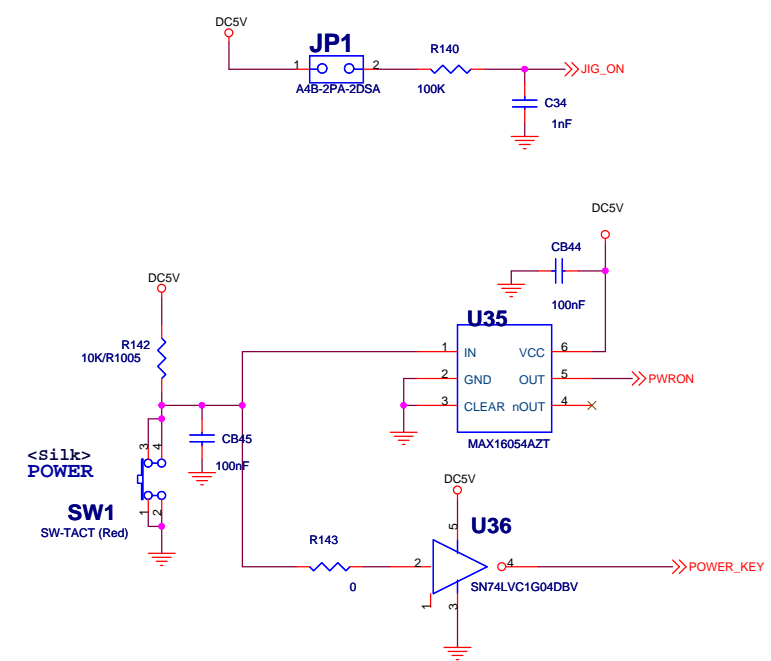
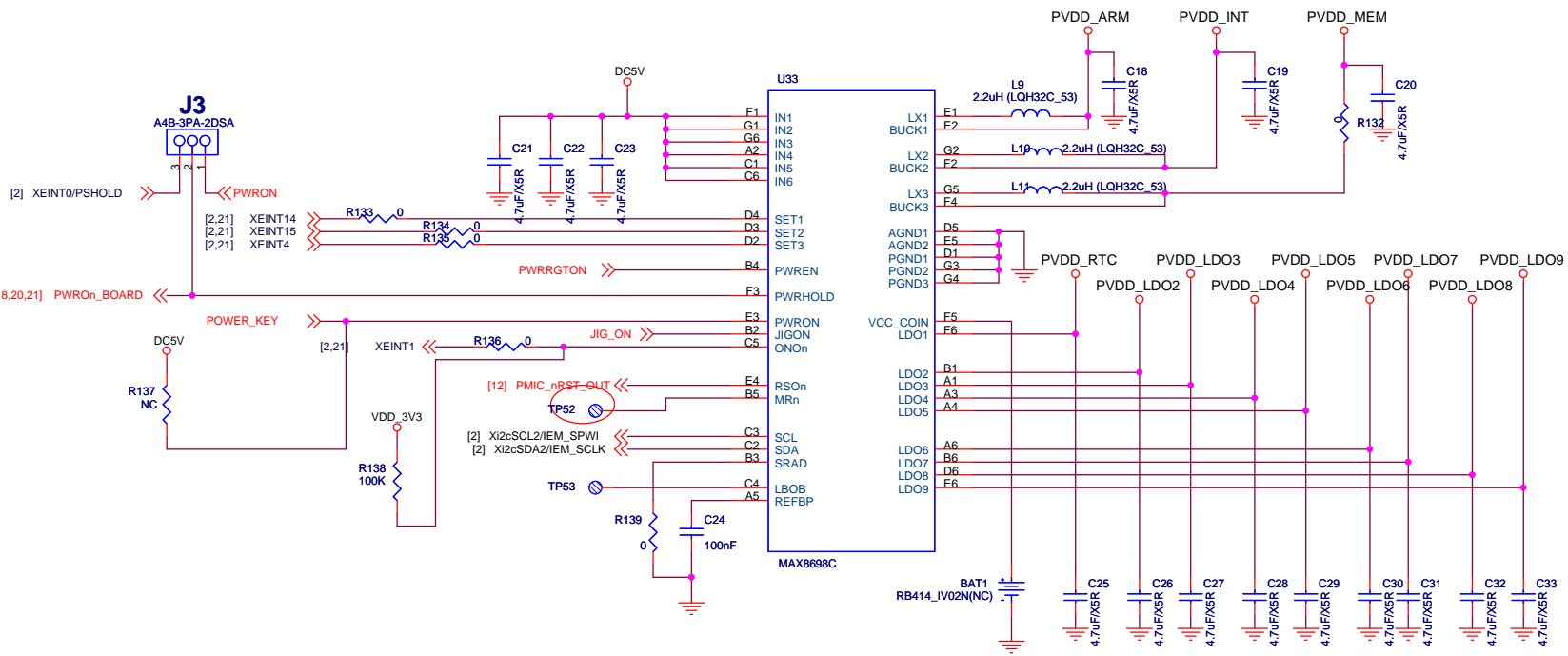
2009.10.20. REV0.1 Change



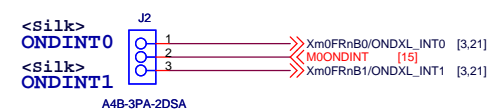
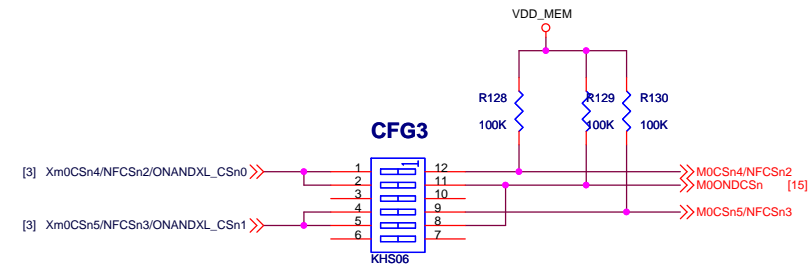
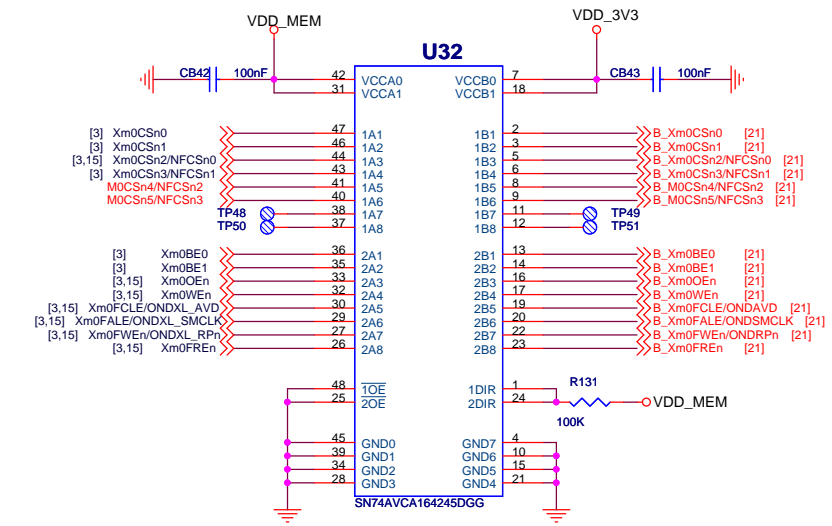
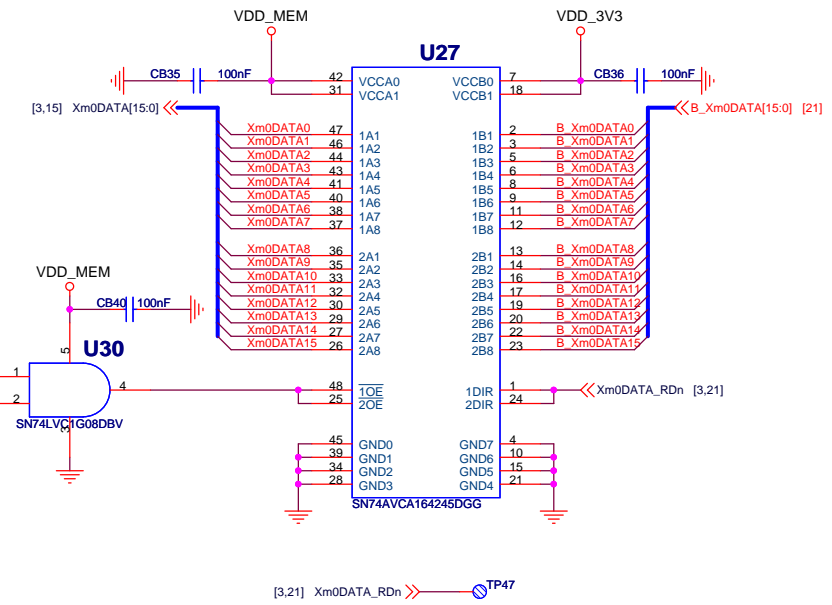
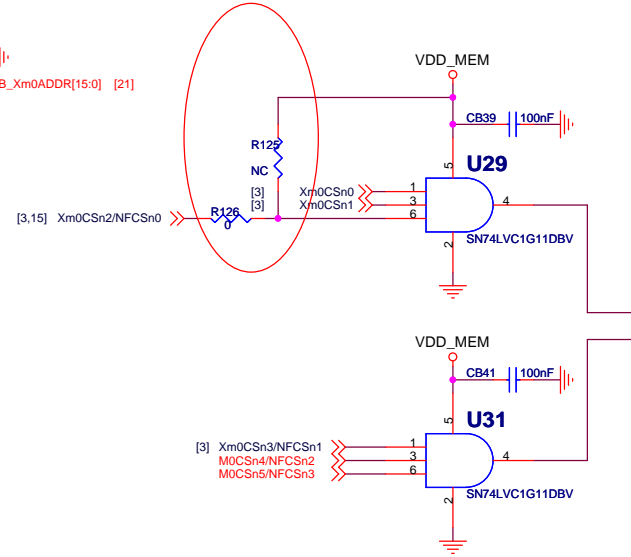
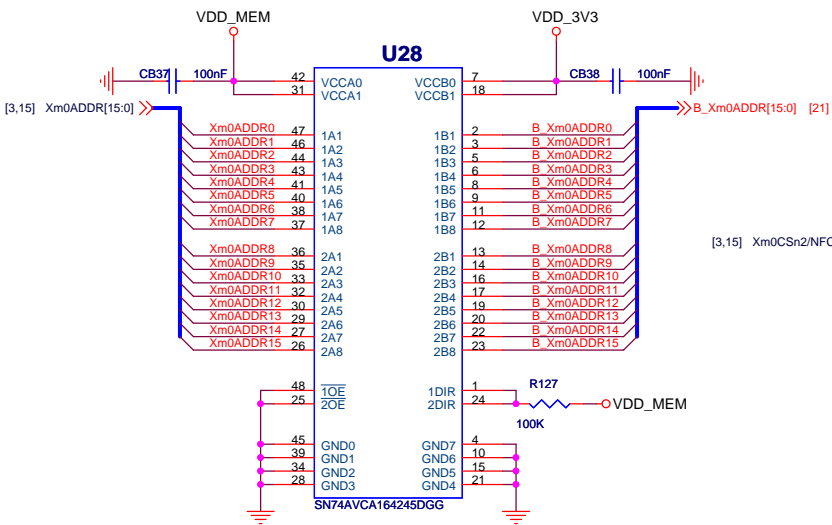
SAMSUNG ELECTRONICS CO., LTD		
Title	SMDK_S5PV210_CPU Board (Evaluation Board)	
Size	Document Number	Rev
A3	Power(DCJack&Regulator)	0.0
Date:	Monday, October 26, 2009	Sheet 11 of 21



<b>SAMSUNG ELECTRONICS CO., LTD</b>		
Title SMDK_S5PV210_POP CPU Board (Evaluation Board)		
Size A3	Document Number Reset / Clock source / JTAG	Rev 0.0
Date: Monday, October 26, 2009	Sheet 12	of 21



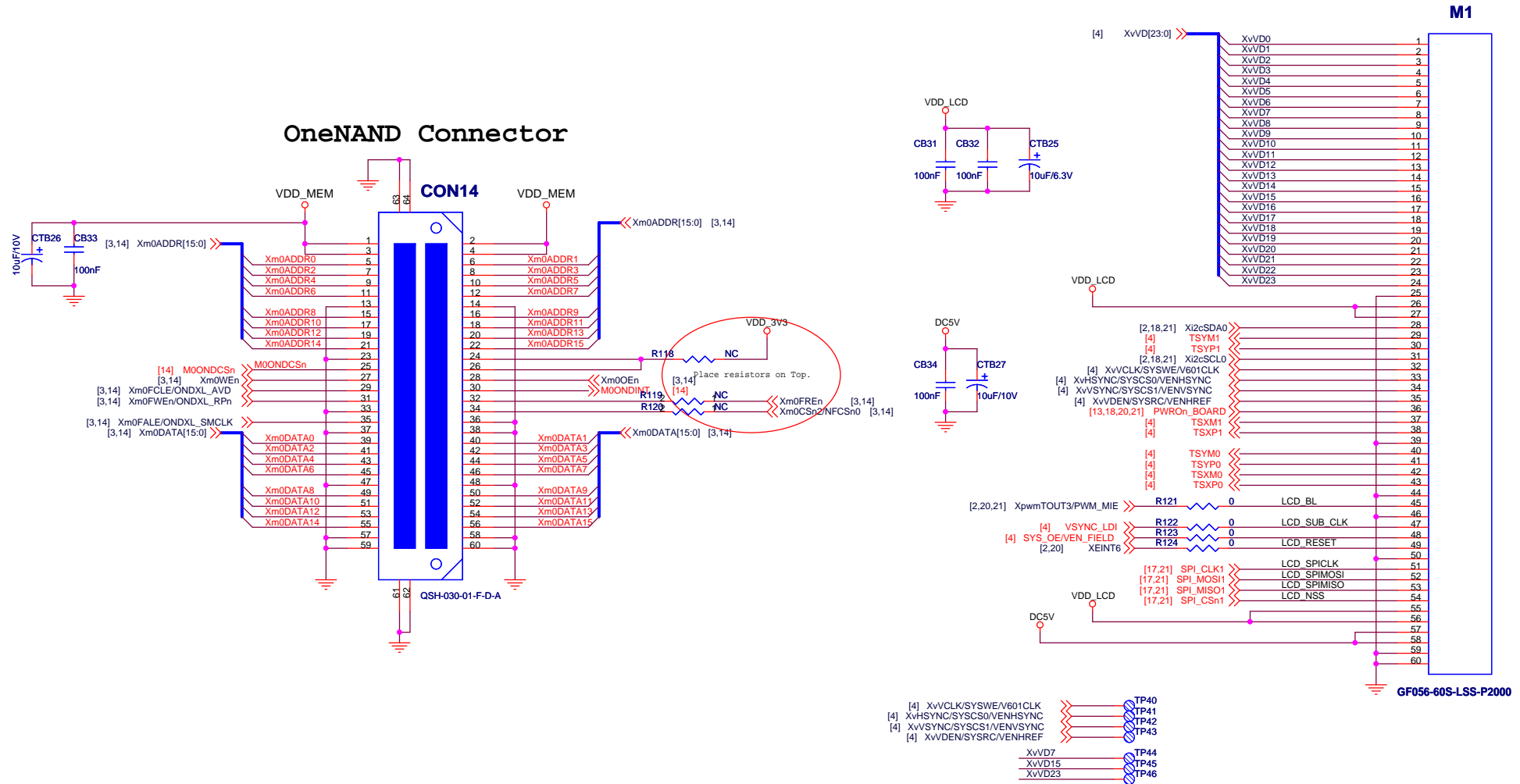
<b>SAMSUNG ELECTRONICS CO., LTD</b>		
Title: SMDK_SSPV210_CPU Board (Evaluation Board)		
Size: A3	Document Number: Power - PMIC Socket	Rev: 0.0
Date: Monday, October 26, 2009	Sheet: 13	of 21

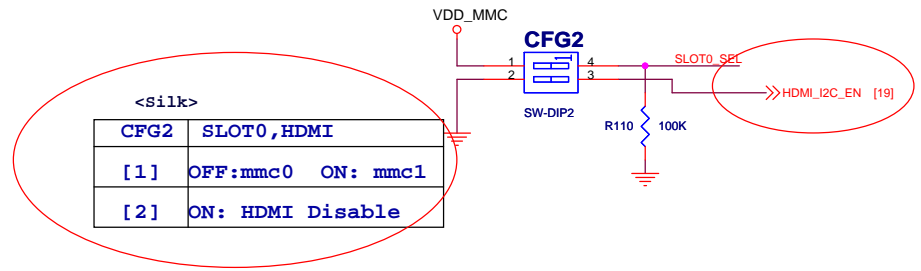
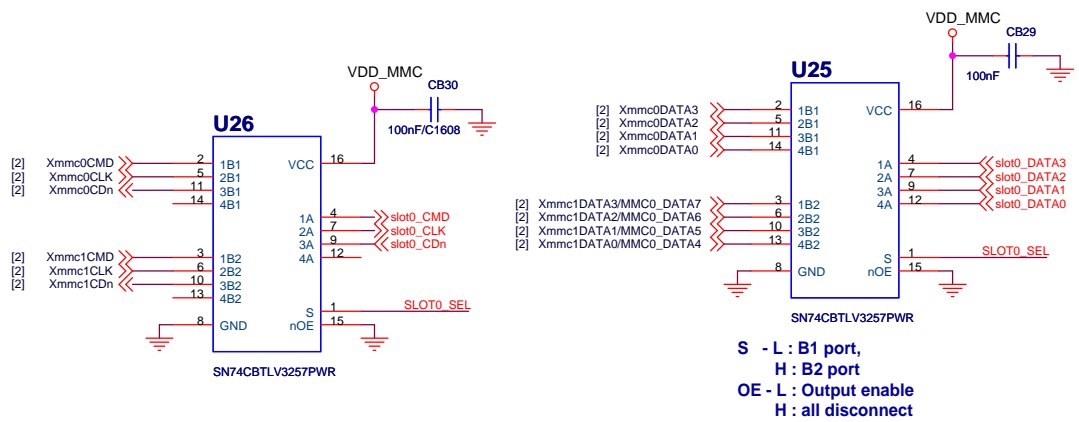
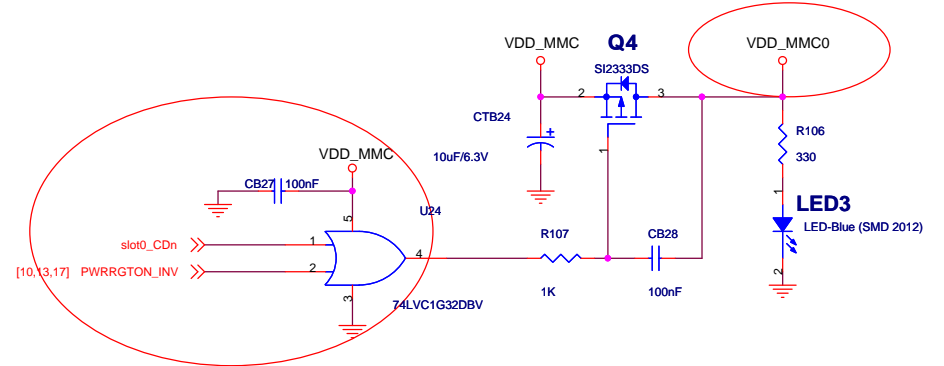
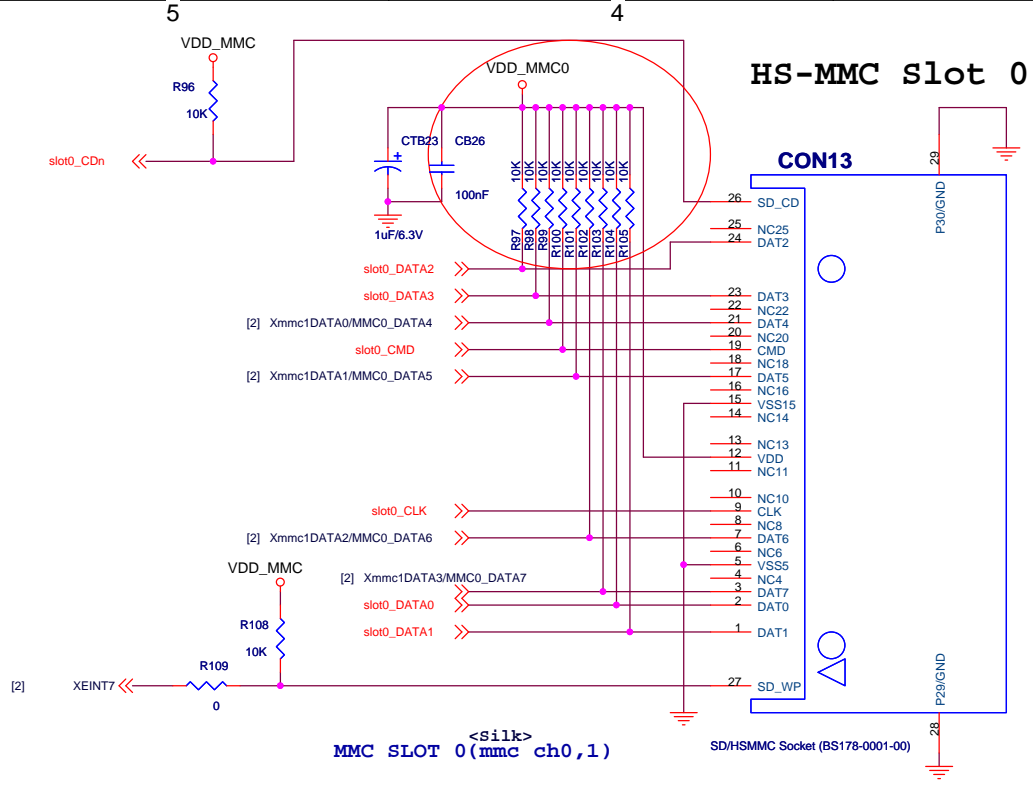


<Silk>

CS4	CS5	
1	4	Base B'd
2	5	EXT. OND
3	6	POP. OND

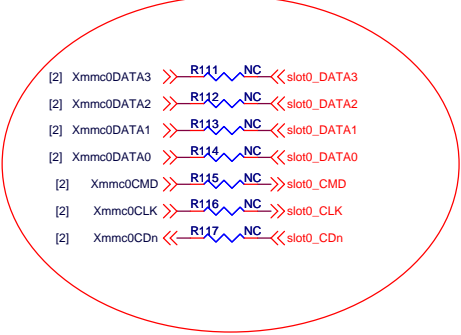
# TFT LCD FPC Cable Interface (MODULE Board)





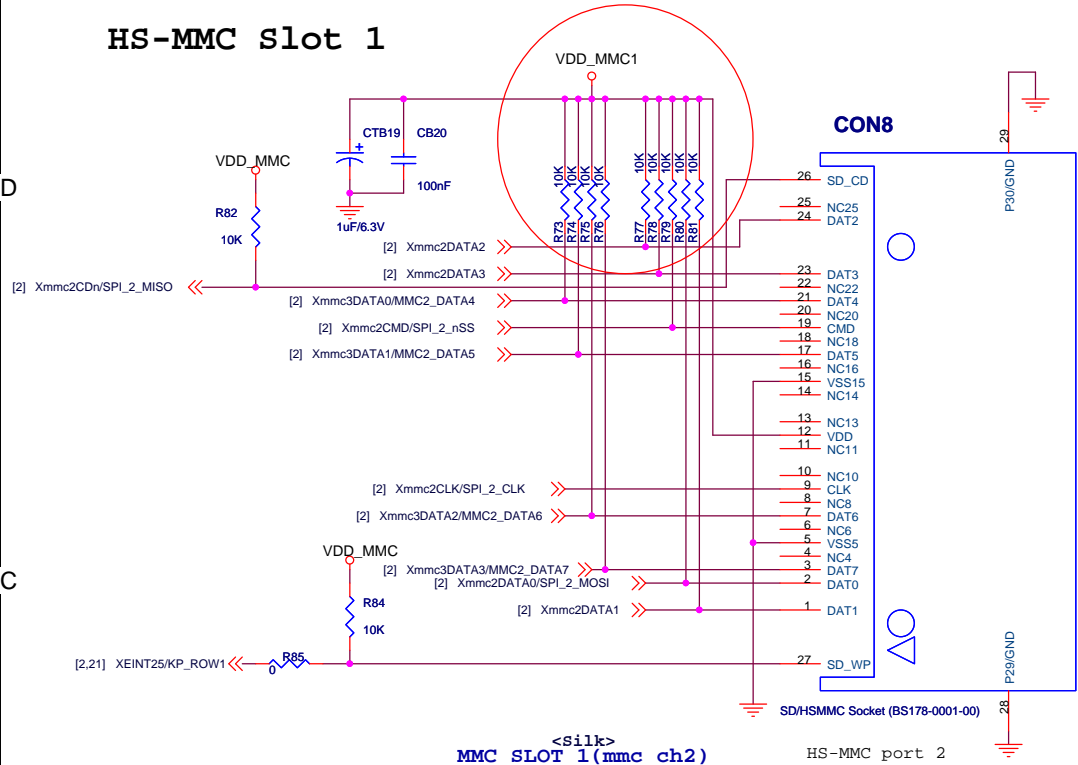
<silks>

CFG2	SLOTO, HDMI
[1]	OFF: mmc0 ON: mmc1
[2]	ON: HDMI Disable



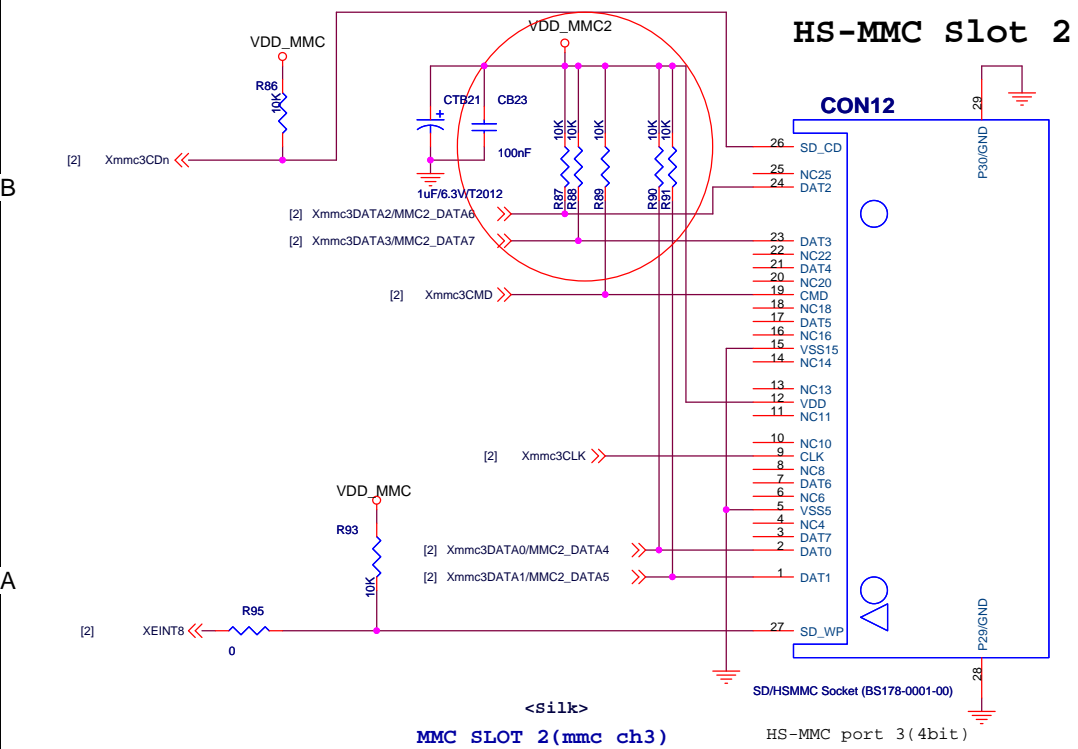


# HS-MMC slot 1

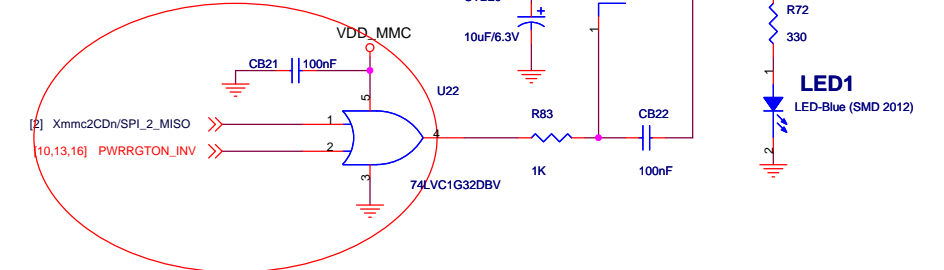


<Silk>  
MMC SLOT 1(mmc ch2)

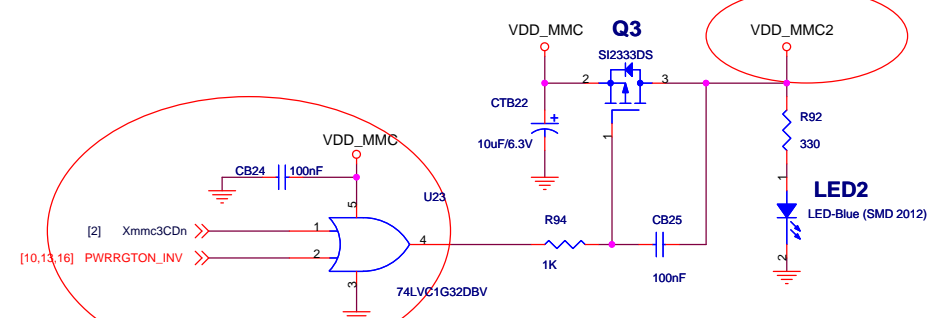
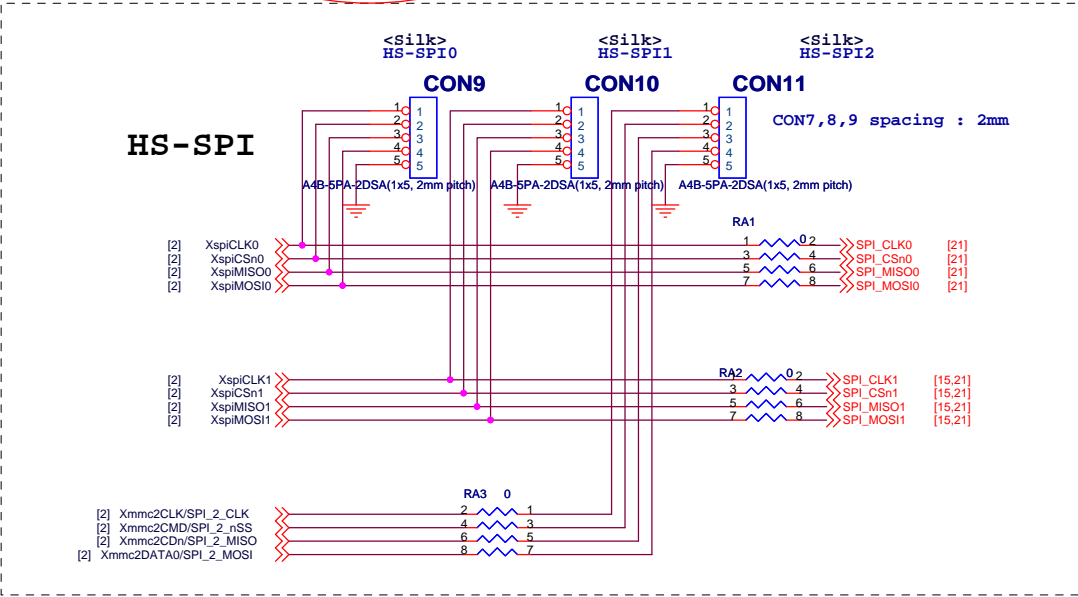
# HS-MMC slot 2



<Silk>  
MMC SLOT 2(mmc ch3)

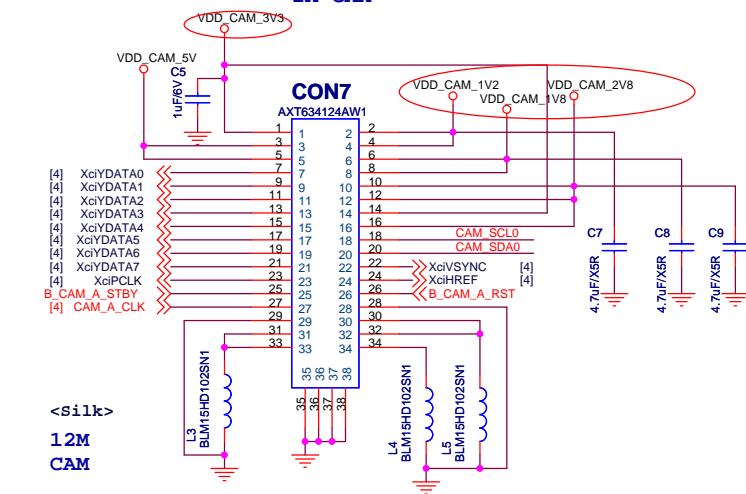
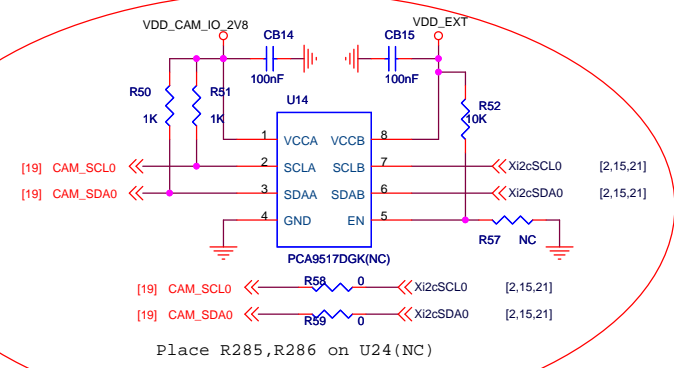
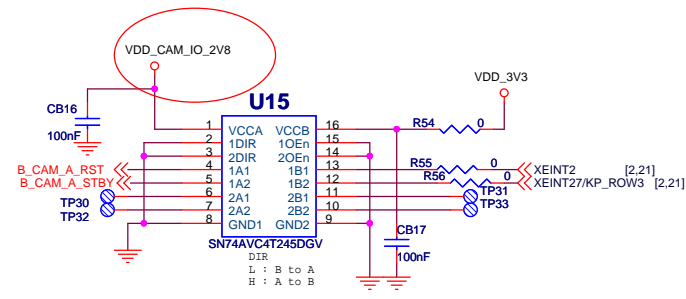
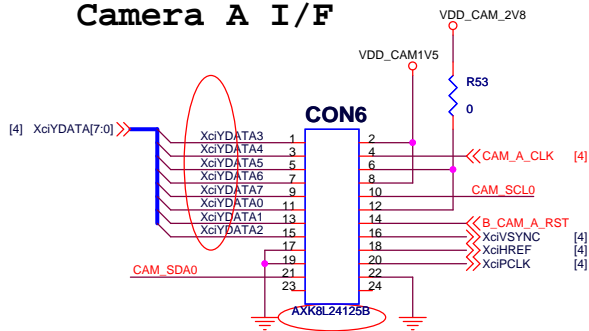


# HS-SPI

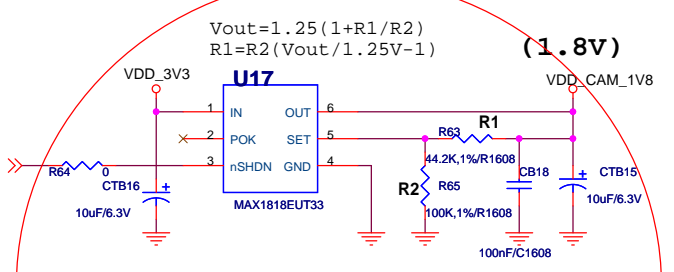
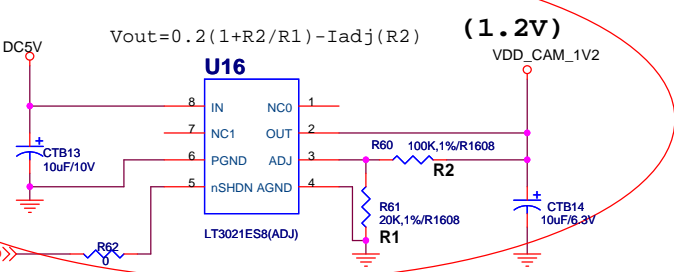


<b>SAMSUNG ELECTRONICS CO.,LTD</b>		
Title SMDK_S5PV210_CPU Board (Evaluation Board)		
Size A3	Document Number MMC#1#2/ HS-SPI	Rev 0.0
Date: Monday, October 26, 2009	Sheet 17	of 21

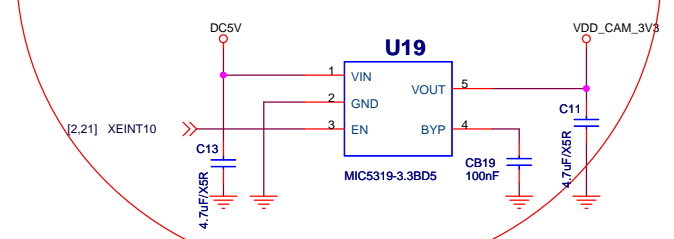
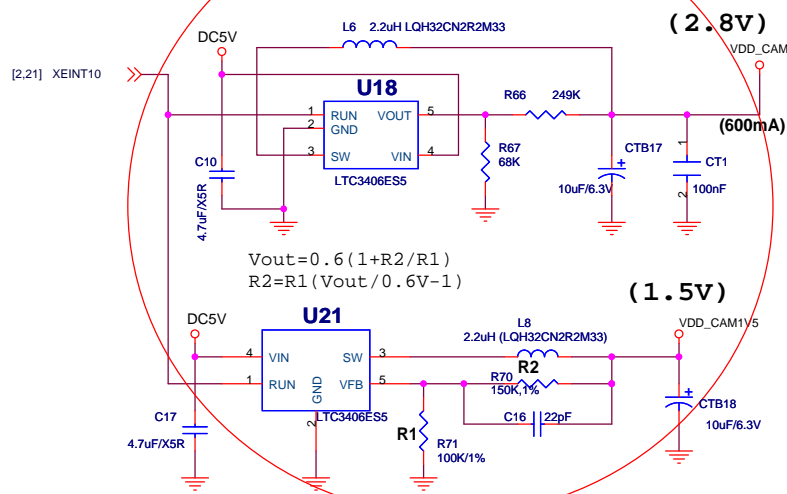
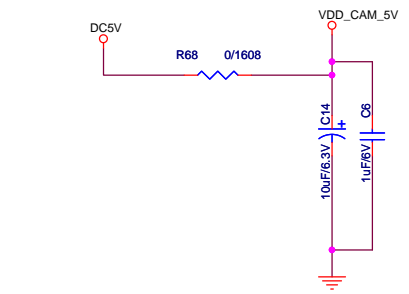
# Camera A I/F



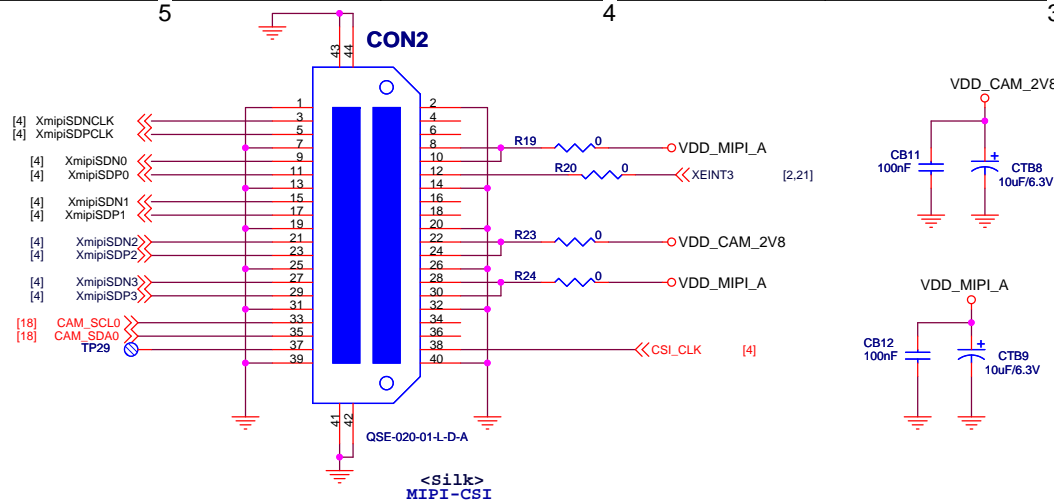
- [4] XciFIELD >> TP34 A\_FIELD
- [4] XciPCLK << TP35 A\_CAMCLK
- [4] XciVSYNC << TP36 A\_CAMVSYNC
- [4] XciHREF << TP37 A\_CAMHREF
- [4] XciYDATA0 << TP38 A\_CAMDATA0
- [4] CAM\_A\_CLK >> TP39 FLASH



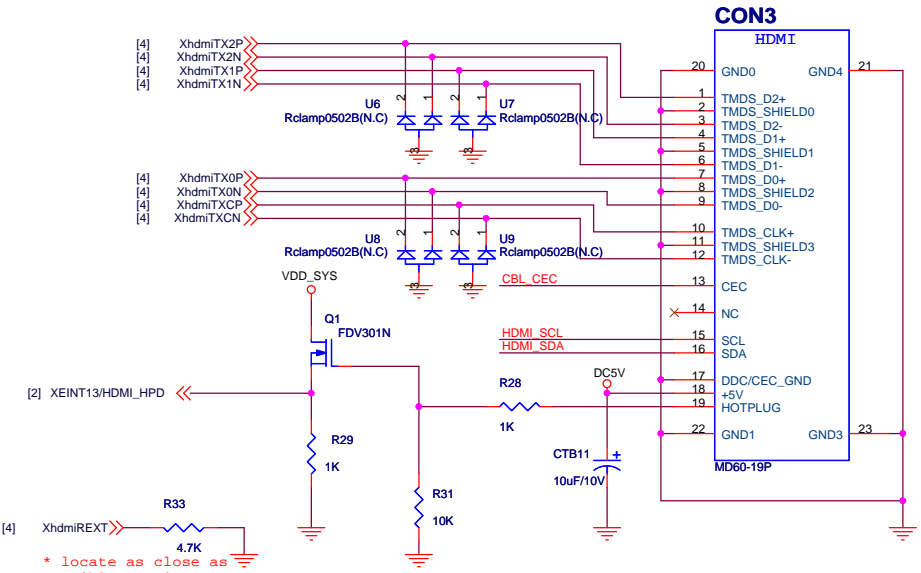
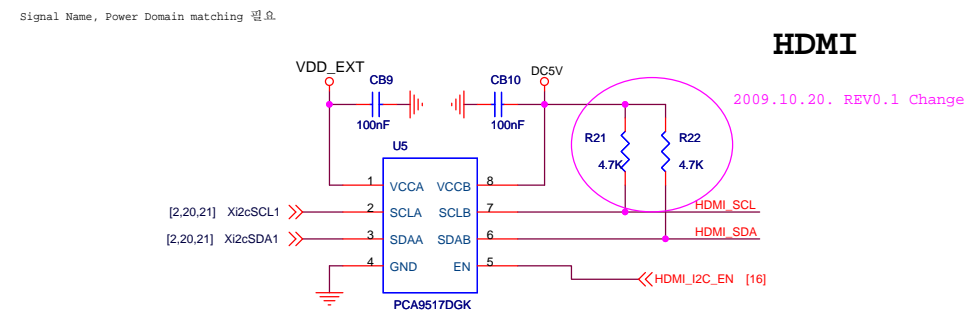
## Power for CAM



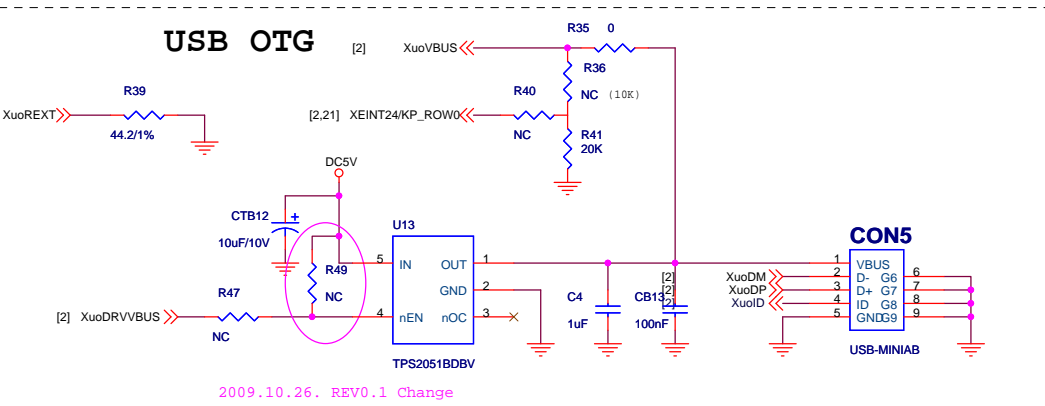
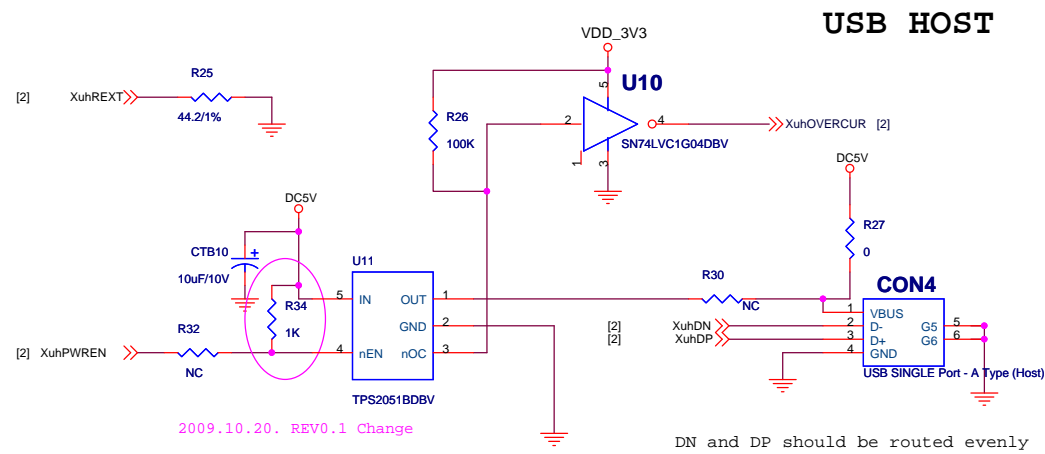
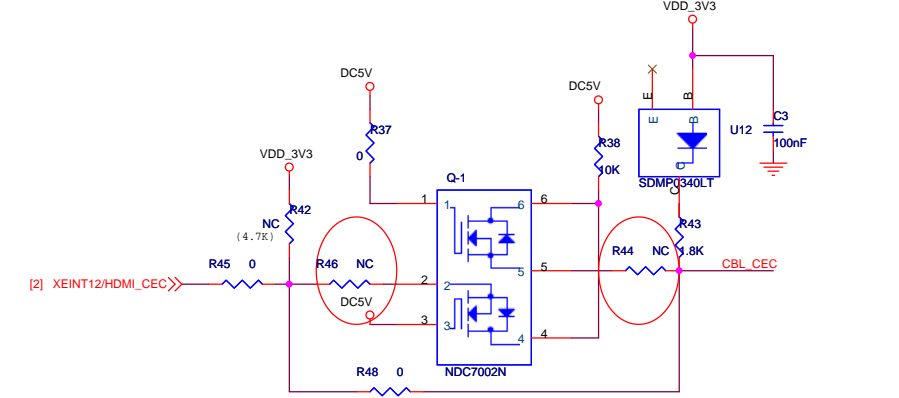
SAMSUNG ELECTRONICS CO., LTD		
Title	SMDK_S5PV210_CPU Board (Evaluation Board)	
Size	Document Number	Rev
A3	MMC#1 / HS-SPI / Camera I/F A Port(Non-MIPI)	0.0
Date:	Monday, October 26, 2009	Sheet 18 of 21



### MIPI-CSI Camera Module Interface

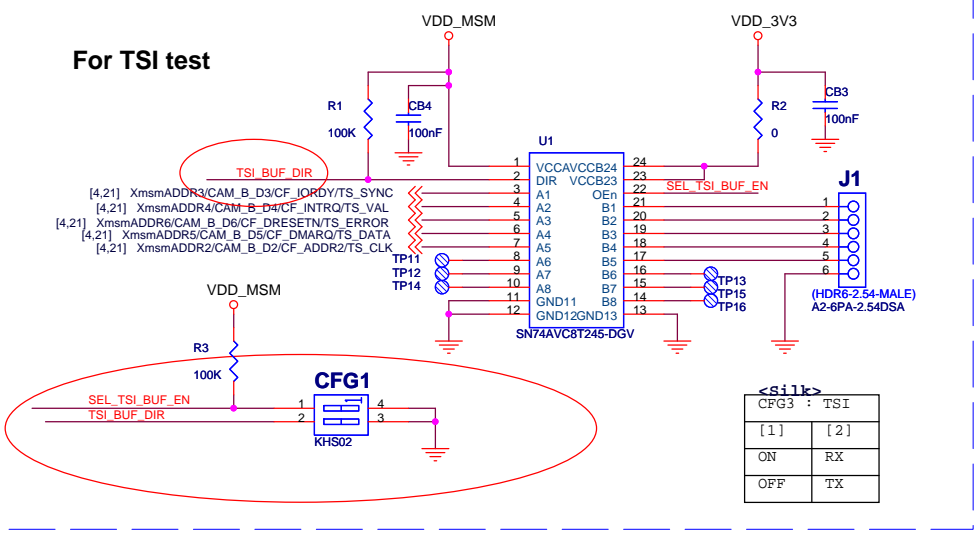


### CEC Isolation Circuit



SAMSUNG ELECTRONICS CO.,LTD			
Title			
SMDK_S5PV210_CPU Board (Evaluation Board)			
Size	Document Number	Document Number	Rev
A3	HDMI/ MIPI-CSI/ MIPI-HS/ USB		0.0
Date:	Monday, October 26, 2009	Sheet	19 of 21

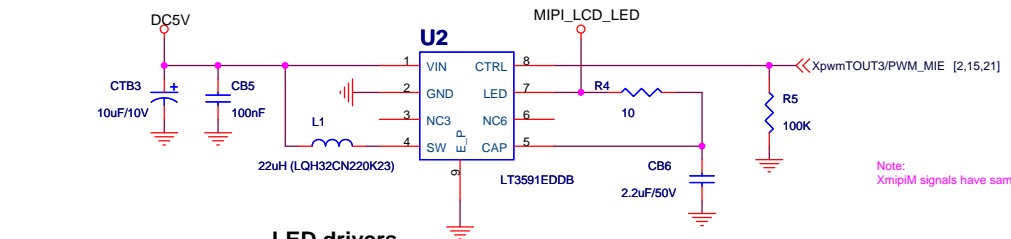
**For TSI test**



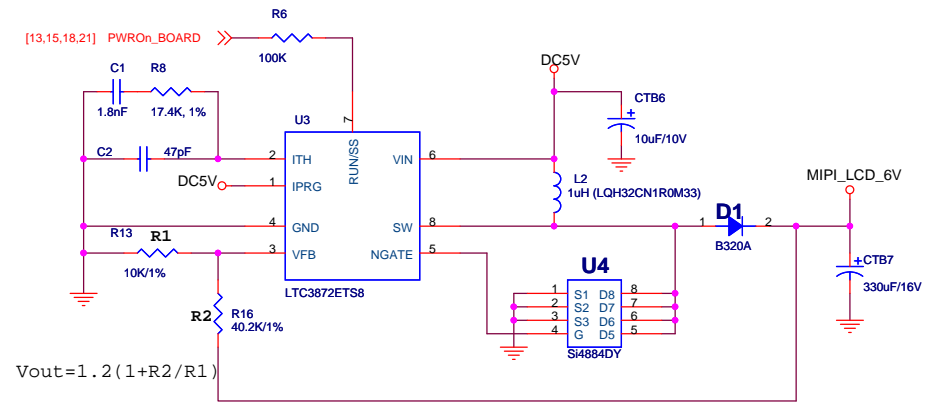
<Silk>

CFG3 : TSI	
[ 1 ]	[ 2 ]
ON	RX
OFF	TX

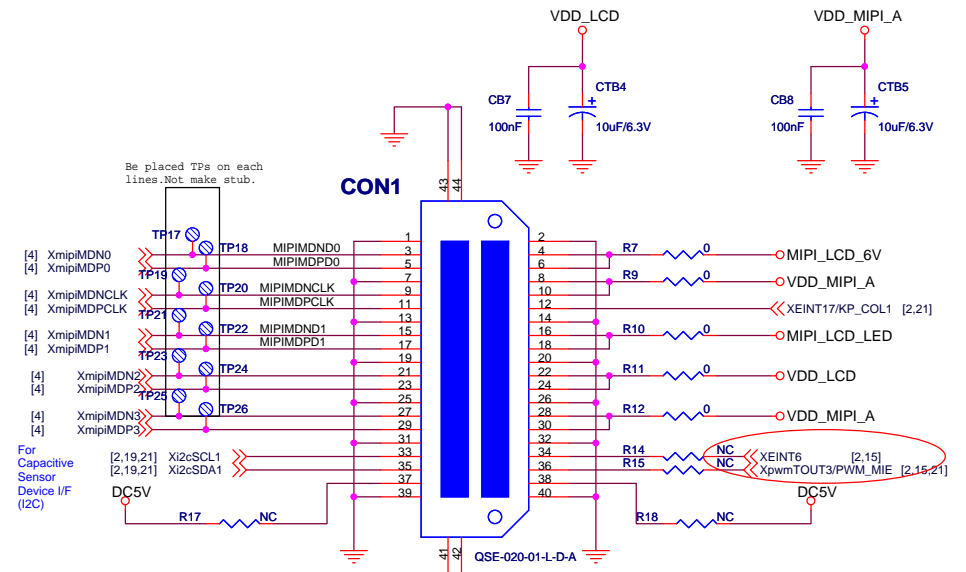
**LED drivers (Common)**



Note: Xmpim signals have same length.



6.0V POWER



<Silk>  
MIPI-DSI  
MIPI-DSI Connector

TP27 XmsmADDR0/CAM\_B\_D0/CF\_ADDR0/MIPI\_BYTE\_CLK [4,21]  
TP28 XmsmADDR1/CAM\_B\_D1/CF\_ADDR1/MIPI\_ESC\_CLK [4,21]

SAMSUNG ELECTRONICS CO.,LTD		
Title	SMDK_SSPV210_CPU Board (Evaluation Board)	
Size	Document Number	Rev
A3	MIPI-DSI/TSI/24C0 IF	0.0
Date:	Monday, October 26, 2009	Sheet 20 of 21

