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MICOM / BIOS

SCALA2-AMD

CPU : ZACATE
 Chip Set : HUDSON-M1
 GFX : SEYMOUR-S3
 Remarks : AMD Brazos Platform

Model Name : SCALA2-AMD
 PBA Name : MAIN
 PCB Code : BA41-01533A (GCE)
 BA41-01534A (NY)
 BA41-01532A (HAN)
 Dev. Step : MP
 Revision : 1.0
 T.R. Date : 2011.03.11

Design	CHECK	APPROVAL
<i>Cun jia jun</i>	<i>Lei Guo</i>	<i>BC LEE</i>

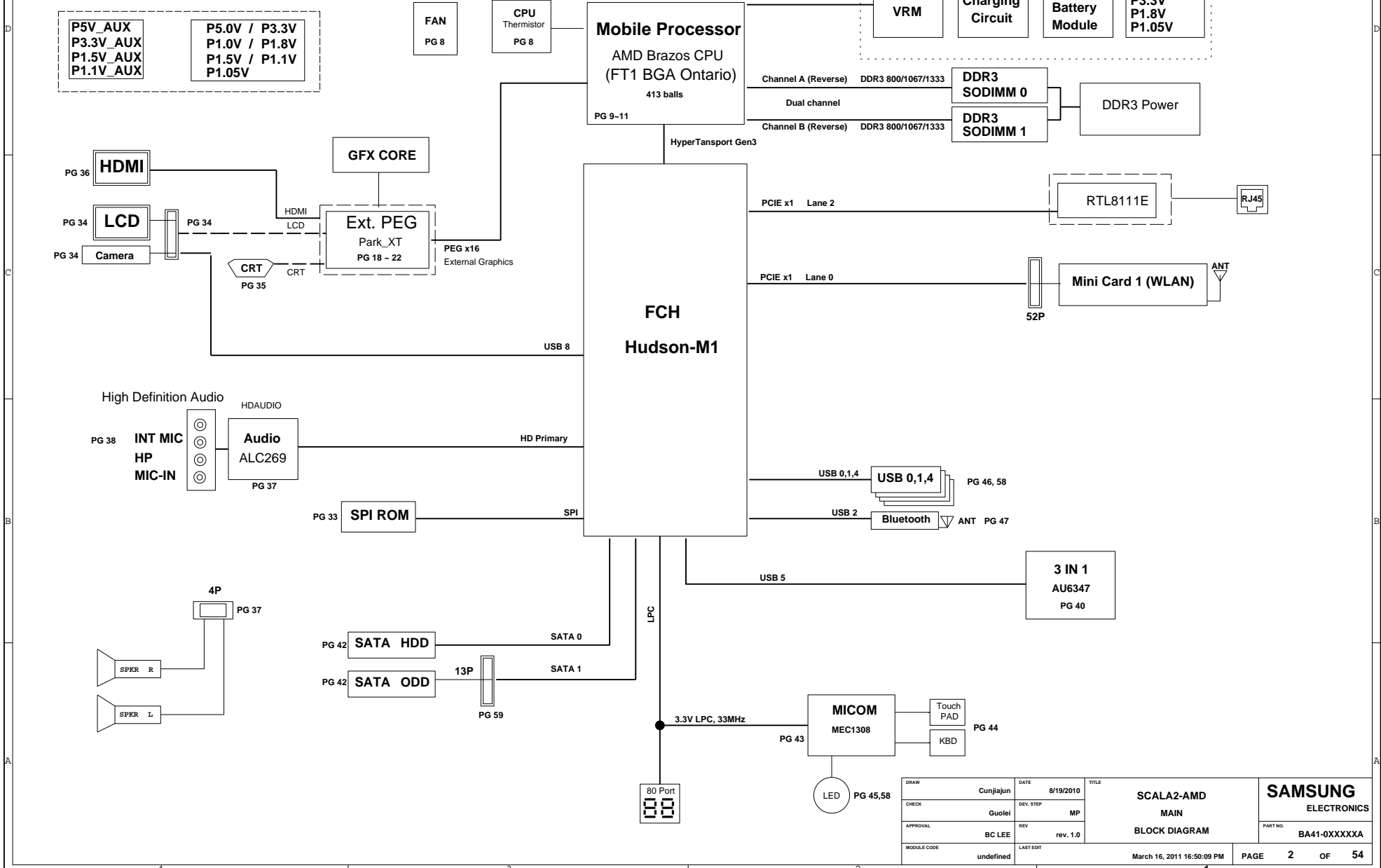
■ Owner : SEC IT Solution N/P LAB Signature : wanni

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- sheet49 : Power - CPU VRM
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- sheet51 : Power - P1.8V /P1.0V
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- sheet53 : Power - Power Discharge
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DRAW	Cunjiajun	DATE	03/11/2011	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	MAIN		
APPROVAL	BC LEE	REV	rev. 1.0	COVER		PART NO. BA41-0XXXXXA
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	1	OF 54

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BLOCK DIAGRAM



DRAW	Cunjajun	DATE	8/19/2010	TITLE	SCAL2-AMD MAIN	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	BLOCK DIAGRAM	PART NO. BA41-0XXXXXA	
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE	undefined	LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	2	OF 54

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BOARD INFORMATION

SCHEMATIC ANNOTATIONS AND BOARD INFORMATION

Voltage Rails		Active in
VDC P12.0V_ALW P3.3V_MICOM P5.0V_ALW P5.0V_STB	Primary DC system power supply (7 to 21V) 12.0V always power rail 3.3V always power rail (for Micom) 5.0V always power rail 5.0V always power rail	S4 - S5
P5.0V_AUX P3.3V_AUX P1.5V_AUX	5.0V switched on power rail (off in S4-S5) 3.3V switched on power rail (off in S4-S5) 1.5V power rail for DDR (off in S4-S5)	S3
P5.0V P3.3V P1.8V P1.5V P1.05V P0.75V	5.0V switched power rail (off in S3-S5) 3.3V switched power rail (off in S3-S5) 1.8V switched power rail (off in S3-S5) 1.5V switched power rail (off in S3-S5) 1.05V power rail for chipset (off in S3-S5) 0.9V power rail for DDR (off in S3-S5)	S0
VCC_CORE IGFX_CORE EGFX_CORE P1.05V (VCCP)	Core Voltage for CPU Core Voltage for IGFX Core Voltage for GPU VCC for Arrandale & IBEX Peak	S0

USB PORT Assign		PCI Express Assign	
PORT #	ASSIGNED TO	PORT #	ASSIGNED TO
0	SYSTEM PORT 0	1	Mini Card 1 (WLAN)
1	SYSTEM PORT 1	2	NC
2	Mini PCI Express	3	NC
3	Multi Memory Card Controller	4	LAN CONTROLLER
4	NC	5	NC
5	NC	6	NC
6	NC (N/A WITH HM55)	7	NC (N/A WITH HM55)
7	NC (N/A WITH HM55)	8	NC (N/A WITH HM55)
8	NC		
9	SYSTEM PORT 2 (SUB BOARD)		
10	Bluetooth		
11	Camera		
12	NC		
13	NC		

SATA PORT Assign	
PORT #	ASSIGNED TO
0	HDD
1	ODD
2	(N/A WITH HM55)
3	(N/A WITH HM55)
4	
5	

Crystal / Oscillator			
TYPE	FREQUENCY	DEVICE	USAGE
Crystal	32.768KHz	IBEX-PEAK	Real Time Clock
Crystal	14.318MHz	CLOCK-Generator	CK-505
Crystal	25MHz	LAN	Intel LAN

LCD Pannel Detect		
Devices	Resolution	PANNEL_DETECT_0
LTN140AT17	HD(1366x768)	SEC3250

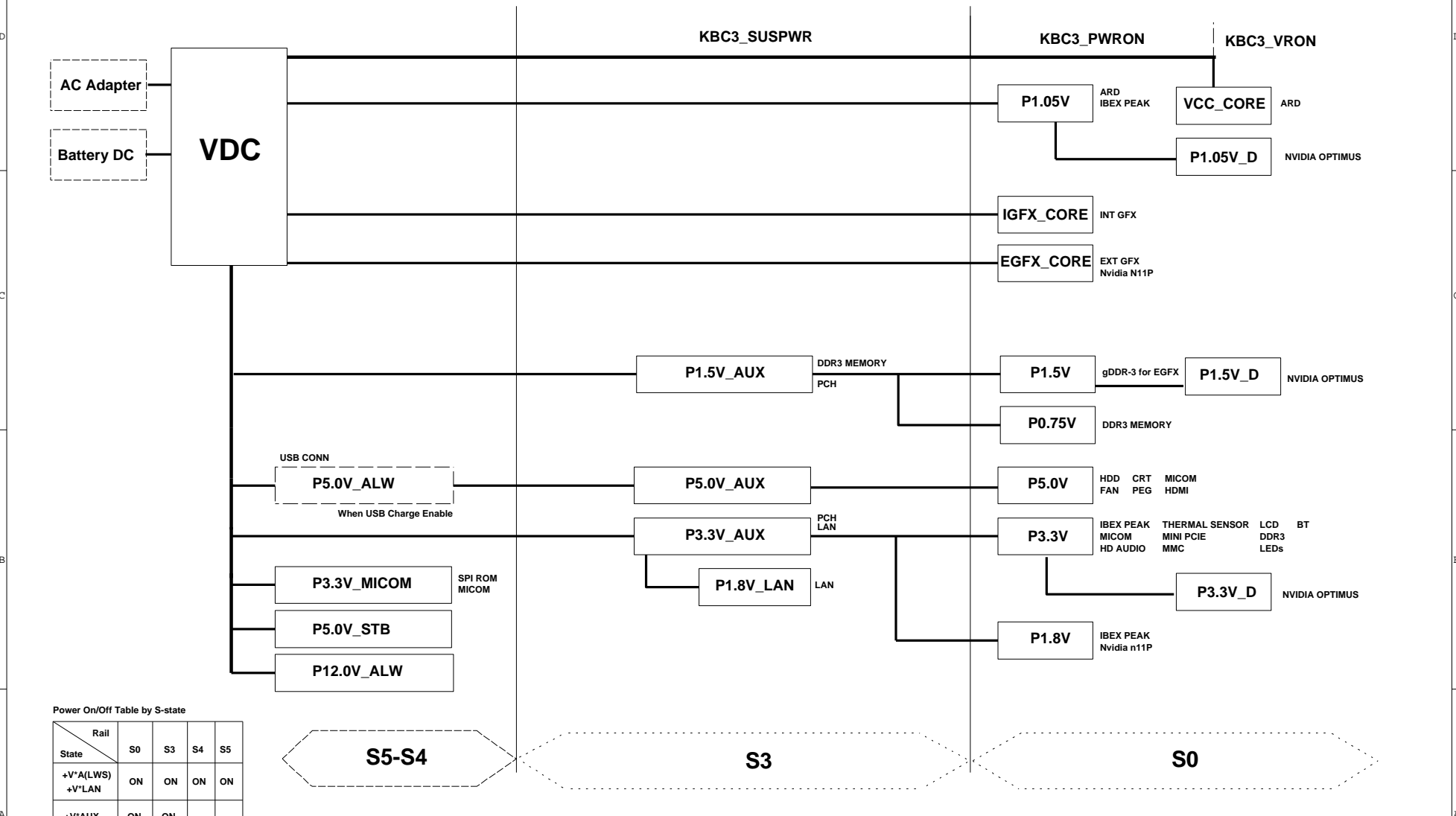
I ² C / SMB Address			
Devices	Address	Hex	Bus
IBEX PEAK	Master	-	SMBUS Master
CPU Thermal Sensor	0111 101x	7Ah	Thermal Sensor
SODIMM0	1010 000x	A0h	-
SODIMM1	1010 010x	A4h	-
Thermal Sensor on SODIMM0	0011 000x	30h	-
Thermal Sensor on SODIMM1	0011 010x	34h	-
CK-505M Shrink(Clock Generator)	1101 001x	D2h	Clock, Unused Clock Output Disable
Thermal Sensor on board	1101 100x	98h	-
Power thermal management TS	1101 011x	96h	-

DRAW	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP	MAIN		
APPROVAL	BC LEE	REV	rev. 1.0	BOARD INFO		
MODULE CODE	undefined	LAST EDIT	March 16, 2011 16:50:09 PM	PAGE 3 OF 54		

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POWER DIAGRAM



Power On/Off Table by S-state

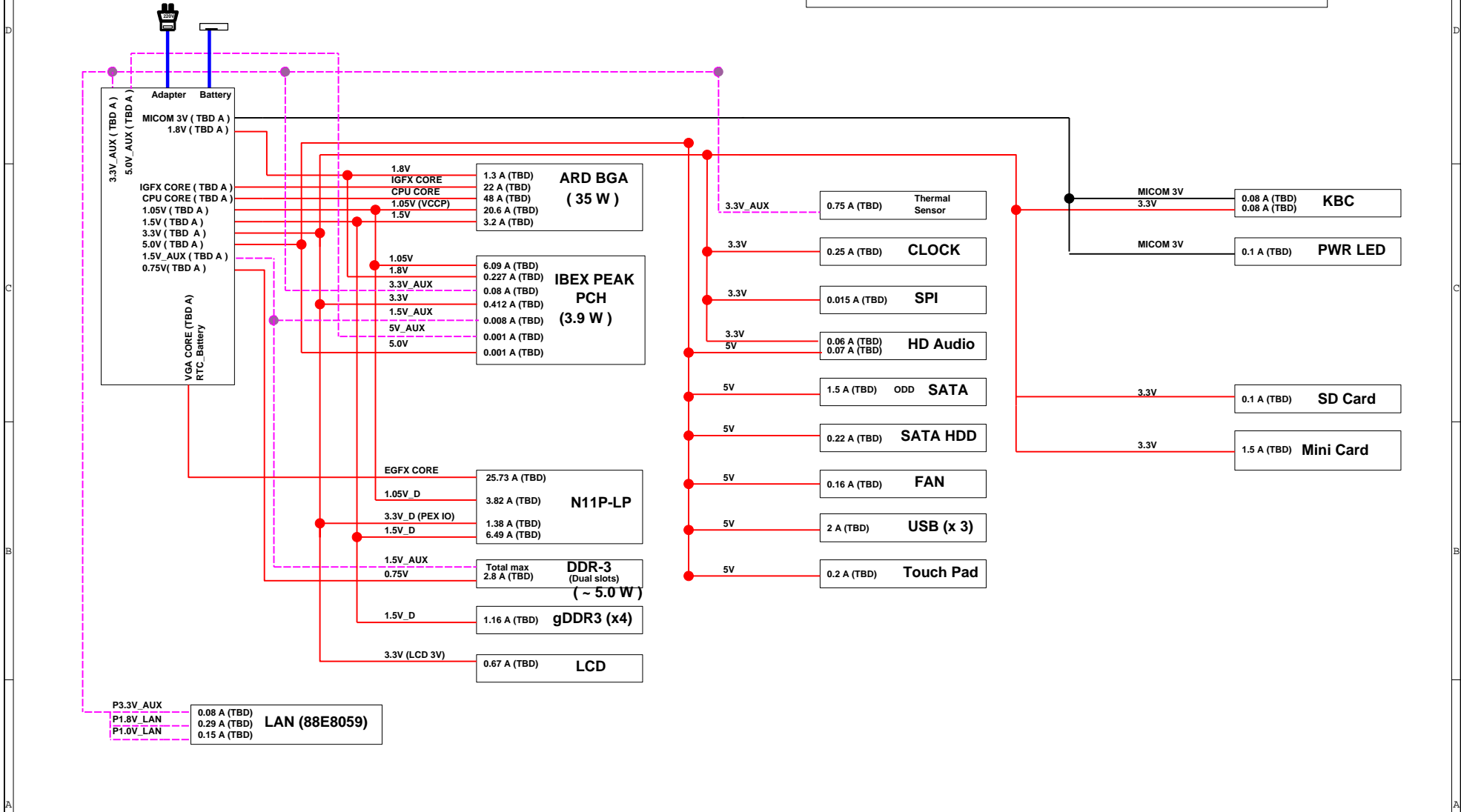
Rail \ State	S0	S3	S4	S5
+V ^A (LWS)	ON	ON	ON	ON
+V ^A LAN	ON	ON	—	—
+V ^A AUX	ON	ON	—	—
+V	ON	—	—	—
+V [*] (CORE)	ON	—	—	—

DRAW	Cunjajun	DATE	5/10/2010	TITLE	SCALA2-AMD MAIN POWER DIAGRAM	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE	undefined	LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	4 OF 54	

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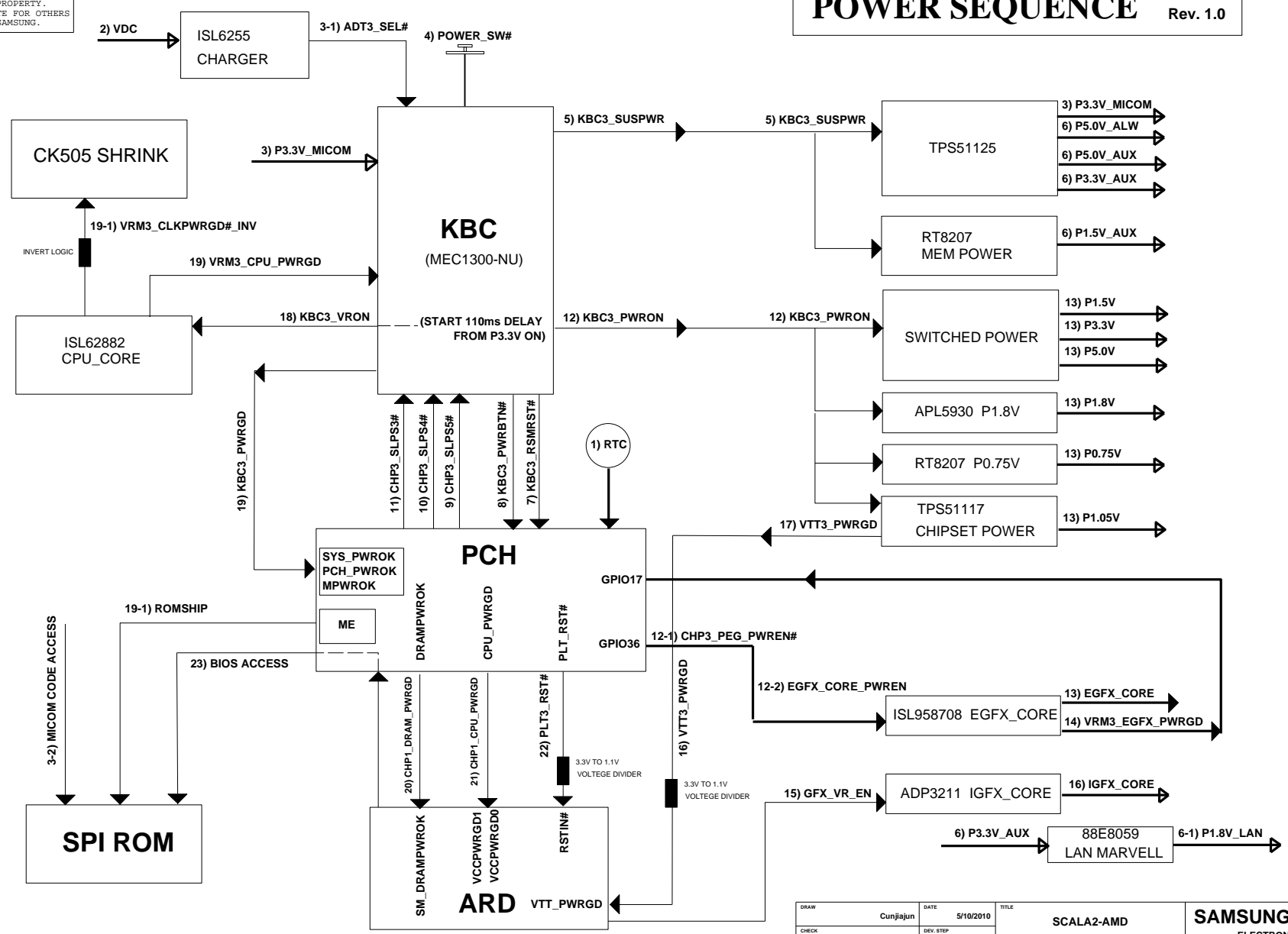
POWER RAILS ANALYSIS



DRAW	Cunjajun	DATE	5/10/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	MAIN		
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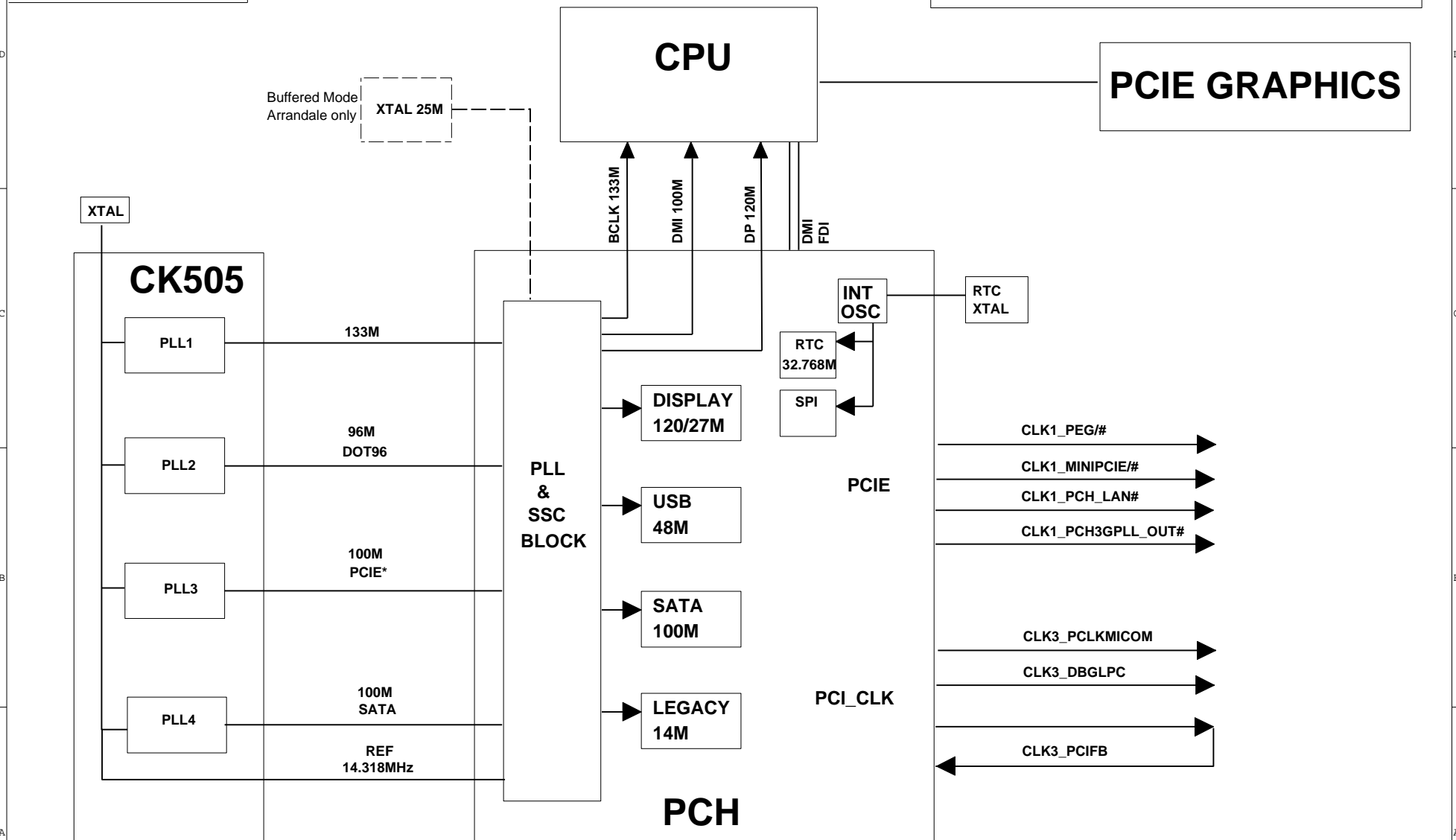
POWER SEQUENCE Rev. 1.0



DRAW	Cunjajun	DATE	5/10/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	MAIN	POWER SEQUENCE	
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE	undefined	LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	6	OF 54

CLOCK DISTRIBUTION Rev. 1.0

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DRAW	Cunjajun	DATE	5/10/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP	MAIN		
APPROVAL	BC LEE	REV	rev. 1.0	CLOCK DIAGRAM		
MODULE CODE	undefined	LAST EDIT	March 16, 2011 16:50:09 PM	PAGE 7 OF 54		

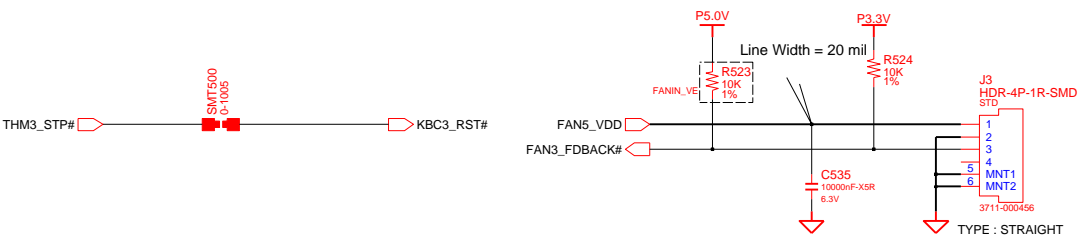
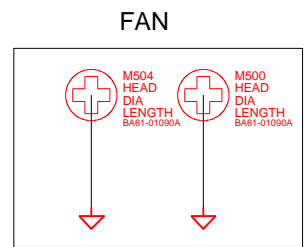
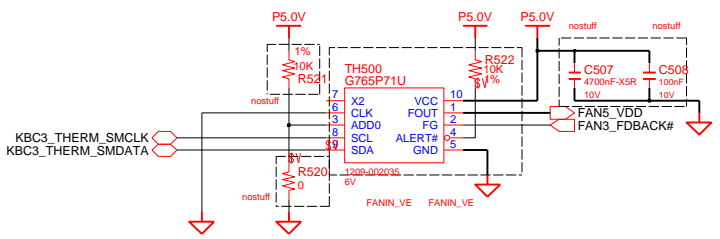
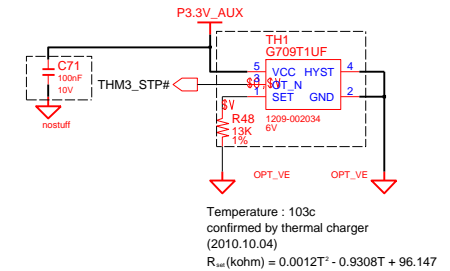
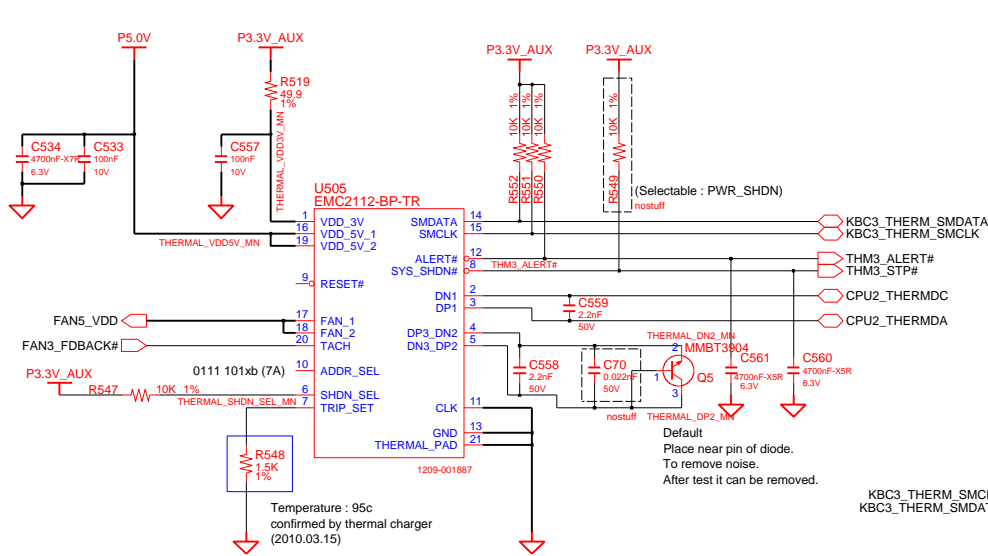
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THERMAL SENSOR & FAN CONTROL

ADDRESSSEL MODE	
0	0101 111xb
✓ HIGH Z	0111 101xb (7A)
1	0101 110xb

SHDNSEL MODE	
0	INTEL TR MODE
✓ 1	AMD CPU/DIODE MODE EXT.DIODE 2 MODE

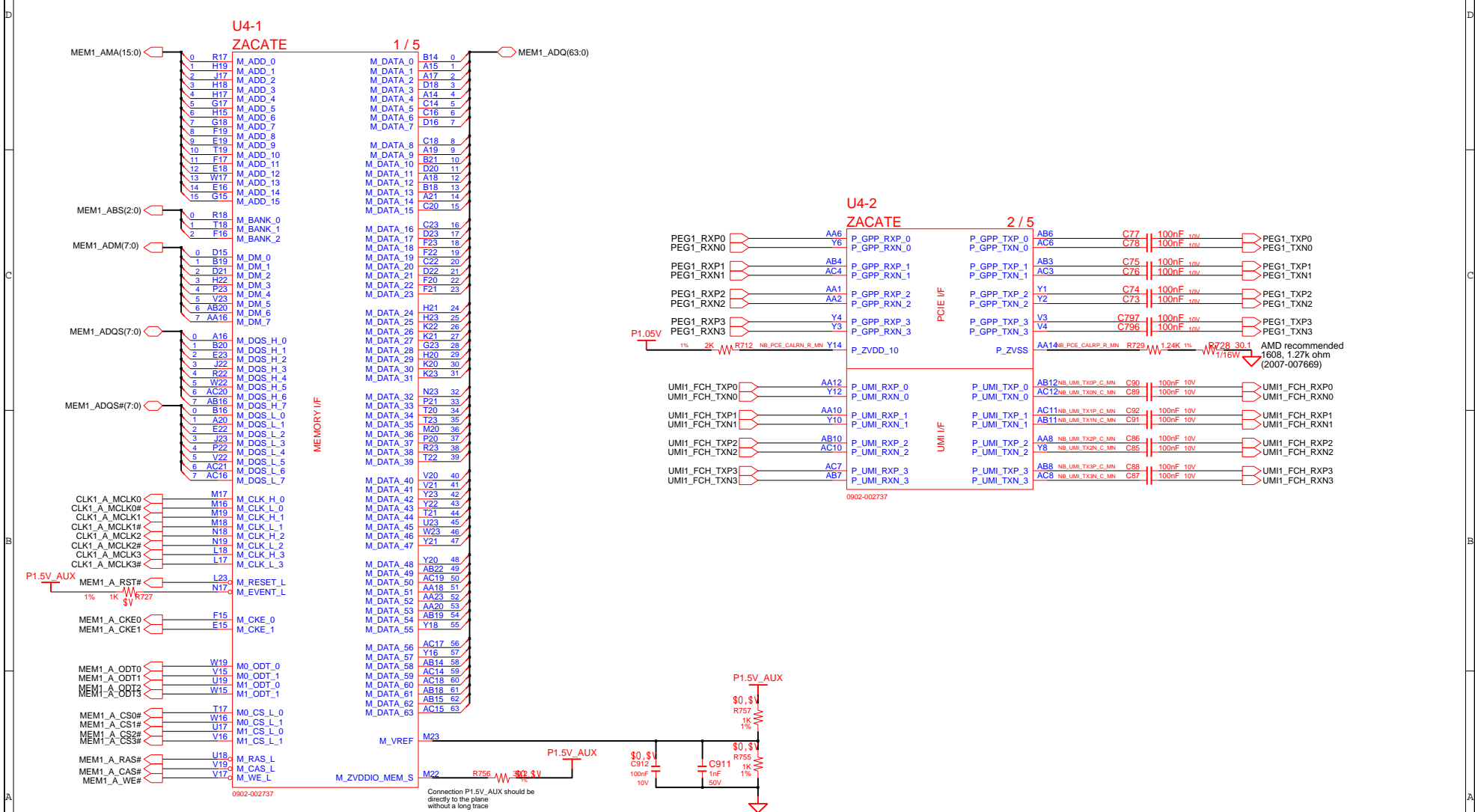


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CHECK	Guolei	DEV. STEP	MP	THERMAL SENSOR EMC2112	PART NO.	
APPROVAL	BC LEE	REV	rev. 1.0		BA41-0XXXXXA	
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	8	OF 54

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CPU_ZACATE



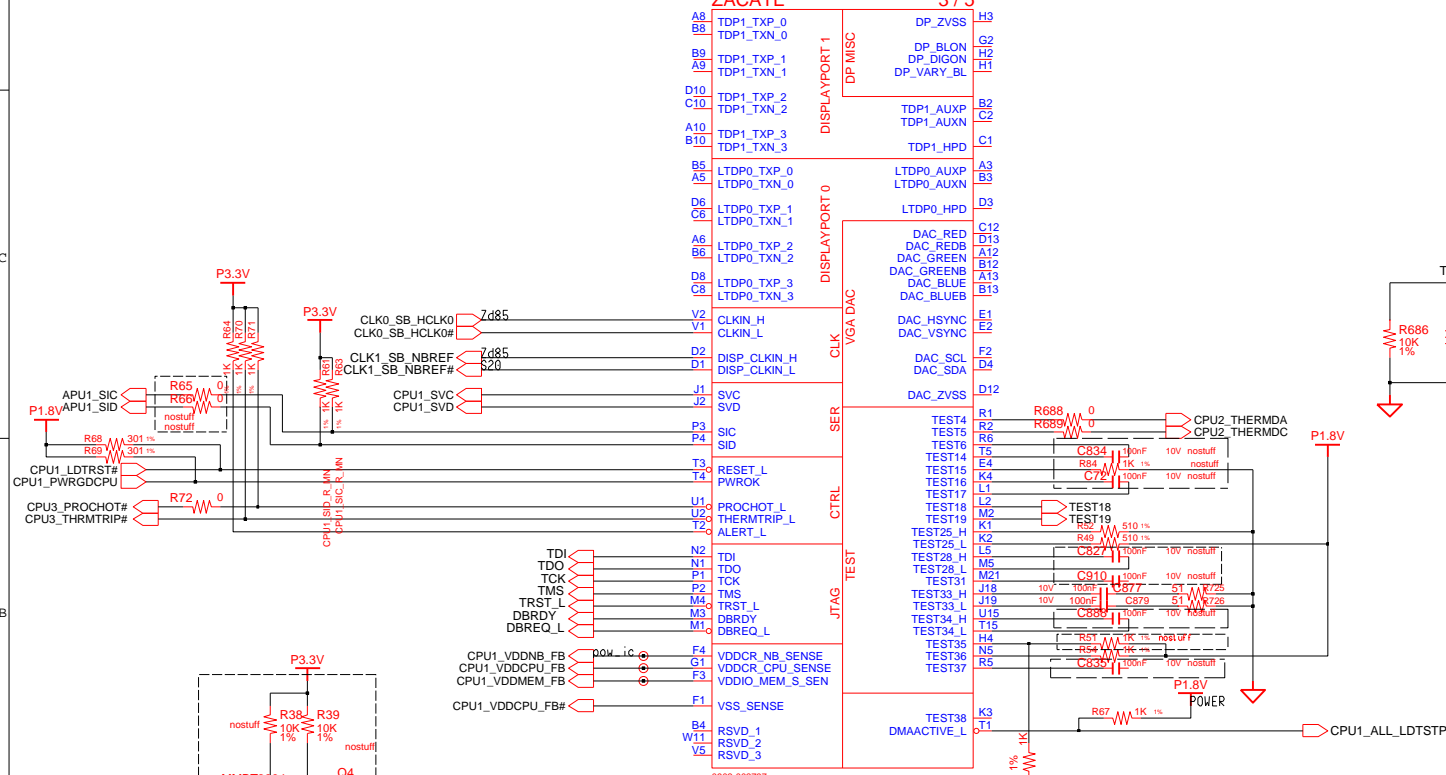
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APPROVAL	BC LEE	REV	rev. 1.0	culv		PART NO. BA41-0XXXXXA
MODULE CODE	undefined	LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	9	OF 54

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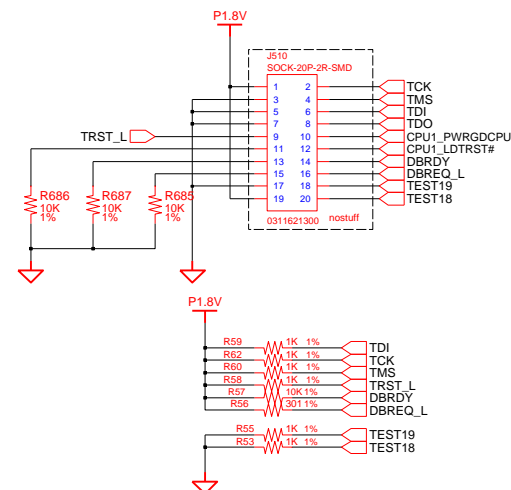
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CPU_ZACATE

U4-3 ZACATE



HDT HEADER



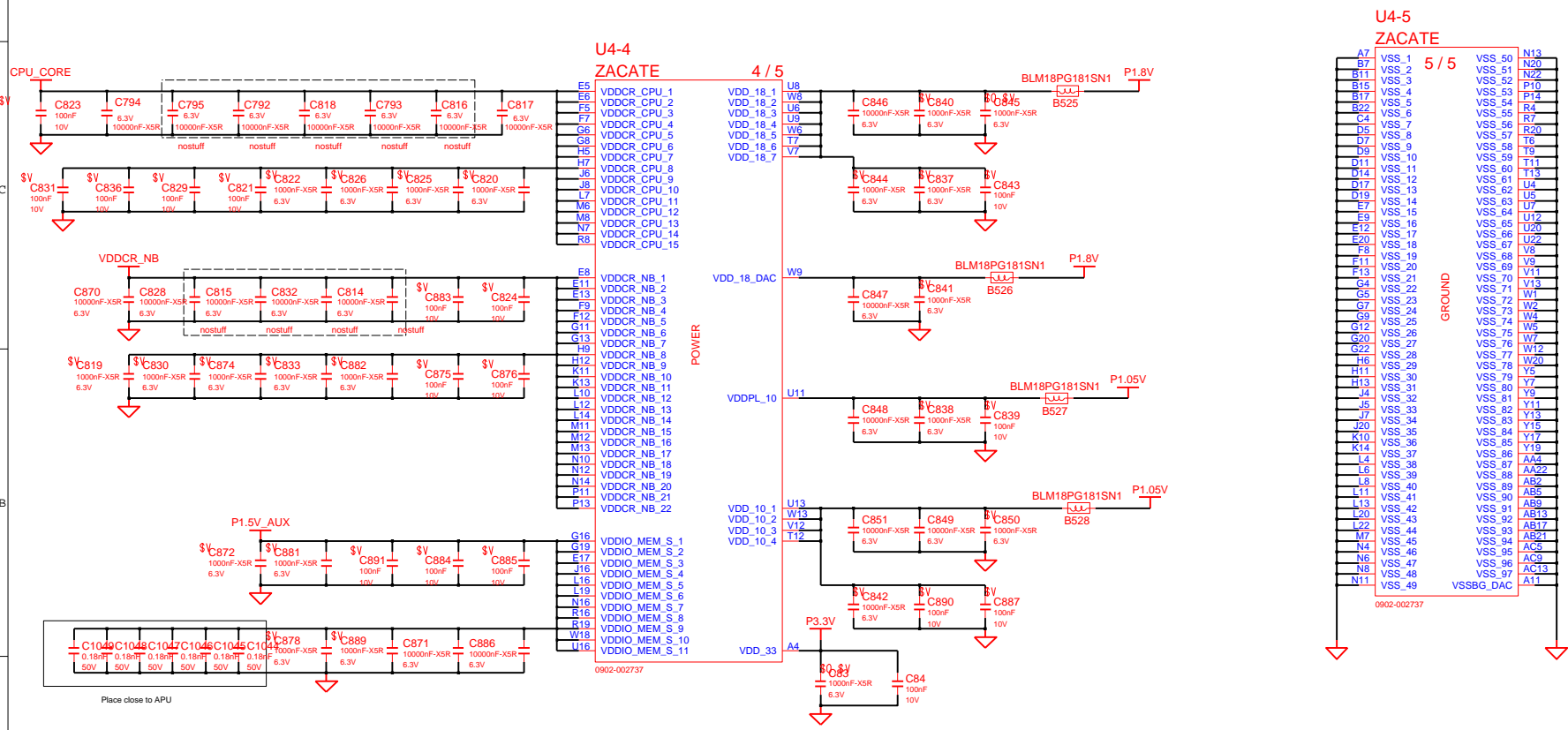
Pull down to Vss with a resistor of 1K
Pull up resistor to VDD_18; not installed by default:1K

DRAW	Cunjajun	DATE	9/23/2008	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP		CPU	
APPROVAL	BC LEE	REV	rev. 1.0		culv	
MODULE CODE	undefined	LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	10	OF 54

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CPU_ZACATE



DESIGN	Cunjiajun	DATE	1/29/2010	TITLE	SCALA2-AMD CPU_IC UNDEFINED	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT				
				March 16, 2011 16:50:09 PM	PAGE 11 OF 54	

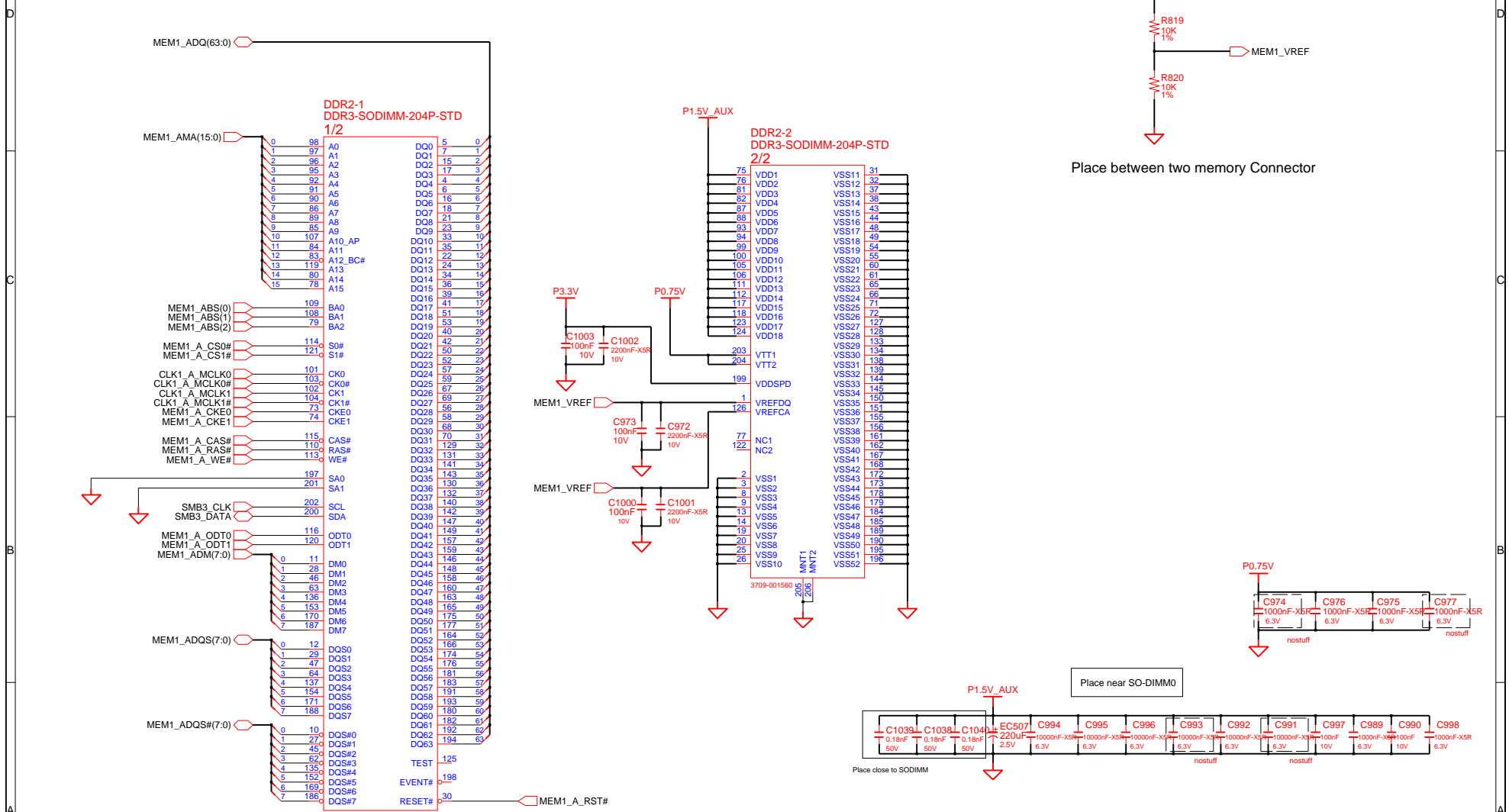
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DDR SO-DIMM #0

Height : 8 mm (STANDARD)

P/N : 3709-001615 (FOXCONN)

P/N : 3709-001622 (CONCRAFT)



Place between two memory Connector

Place near SO-DIMM0

Place close to SODIMM

DRAW	Currijajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP		SODIMM B	
APPROVAL	BC LEE	REV	rev. 1.0		DDR3	PART NO. BA41-0XXXXXA
MODULE CODE		LAST ENT				PAGE 12 OF 54

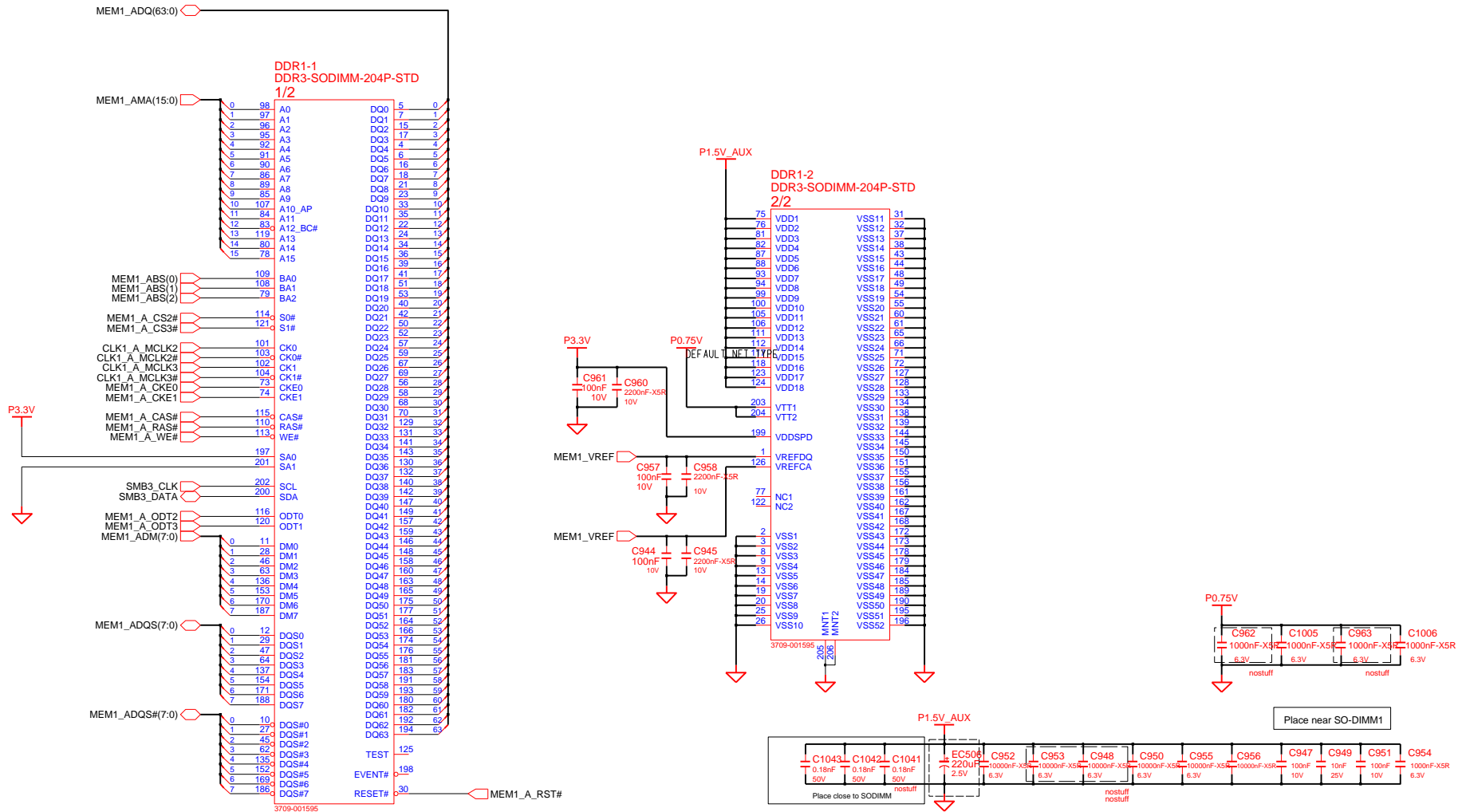
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DDR SO-DIMM #1

Height : 4 mm (STANDARD)

P/N : 3709-001560 (FOXCONN)

P/N : 3709-001607 (CONCRAFT)



DRAW	Currijajun	DATE	8/19/2010	TITLE	SCALA2-AMD SODIMM A	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0		DDR3	PART NO. BA41-0XXXXXA
MODULE CODE		LAST ENT		March 16, 2011 16:50:09 PM	PAGE	13 OF 54

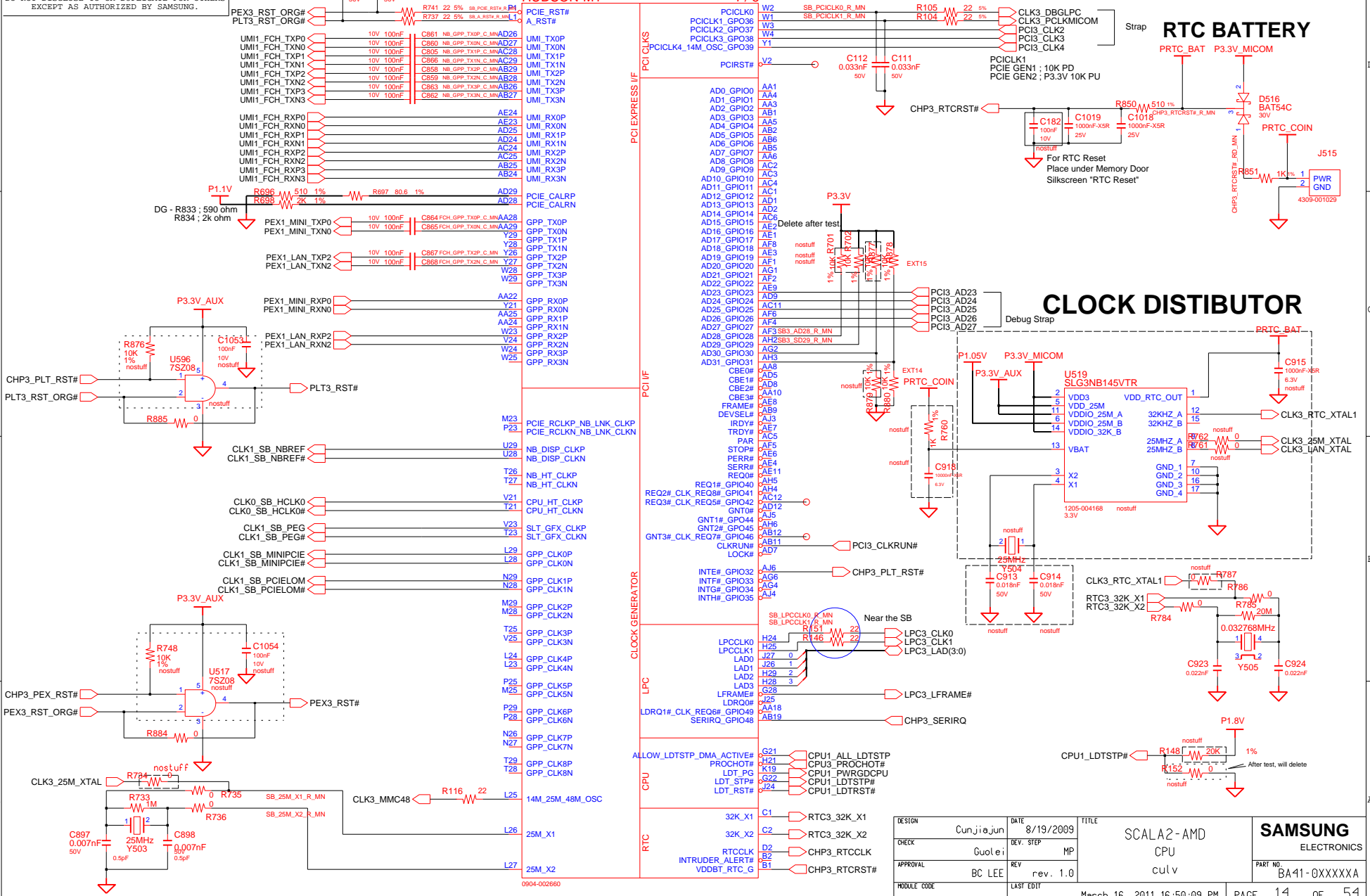
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FCH_HUDSON

HUDSON-M1

1 / 5



RTC BATTERY

CLOCK DISTIBUTOR

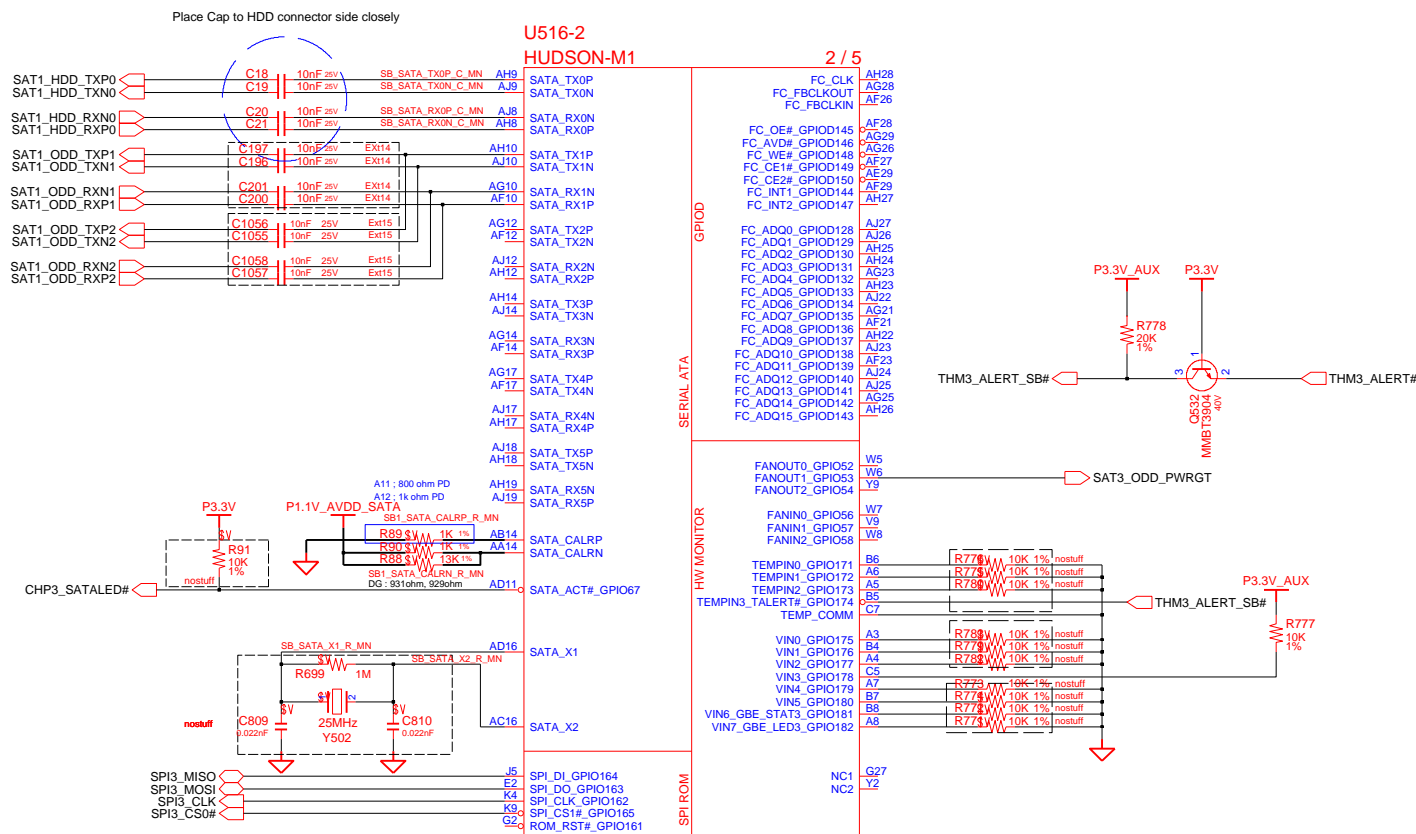
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CHECK	Guolei	DEV. STEP	MP	CPU	
APPROVAL	BC LEE	REV	rev. 1.0	culv	
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	14 OF 54

SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA

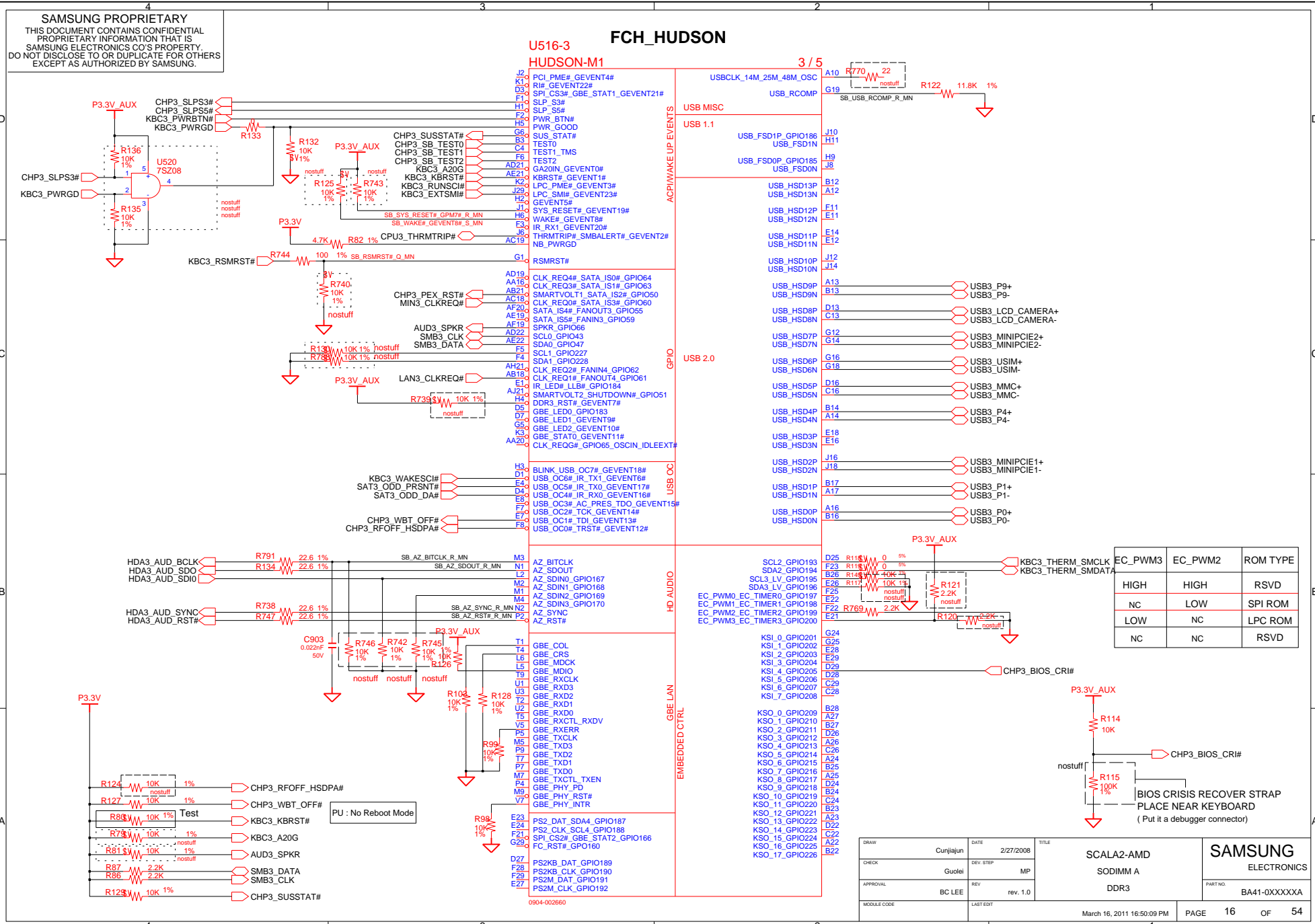
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FCH_HUDSON



DESIGN	Cunjiajun	DATE	3/25/2010	TITLE	SCAL2-AMD MAIN CLOCK DIAGRAM	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Cuotei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	15 OF 54	

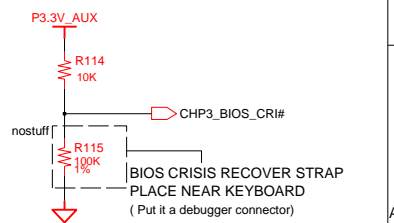


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U516-3 FCH_HUDSON

Signal	Pin	Component
USB_MISC	A10	R770, 22k, nostuff
USB_MISC	G19	R122, 11.8K, 1%
USB 1.1	J10	USB_FSD1P_GPIO186
USB 1.1	H11	USB_FSD1N
USB 1.1	H9	USB_FSD0P_GPIO185
USB 1.1	J8	USB_FSD0N
USB 2.0	B12	USB_HSD13P
USB 2.0	A12	USB_HSD13N
USB 2.0	F11	USB_HSD12P
USB 2.0	E11	USB_HSD12N
USB 2.0	E14	USB_HSD11P
USB 2.0	E12	USB_HSD11N
USB 2.0	J12	USB_HSD10P
USB 2.0	J14	USB_HSD10N
USB 2.0	A13	USB3_P9+
USB 2.0	B13	USB3_P9-
USB 2.0	D13	USB3_LCD_CAMERA+
USB 2.0	C13	USB3_LCD_CAMERA-
USB 2.0	G12	USB3_MINIPCI2+
USB 2.0	G14	USB3_MINIPCI2-
USB 2.0	G16	USB3_USIM+
USB 2.0	G18	USB3_USIM-
USB 2.0	D16	USB3_MMC+
USB 2.0	C16	USB3_MMC-
USB 2.0	B14	USB3_P4+
USB 2.0	A14	USB3_P4-
USB 2.0	E18	USB3_MINIPCI1+
USB 2.0	E16	USB3_MINIPCI1-
USB 2.0	J16	USB3_P1+
USB 2.0	J18	USB3_P1-
USB 2.0	B17	USB3_P0+
USB 2.0	A17	USB3_P0-
USB 2.0	A16	USB3_P0+
USB 2.0	B16	USB3_P0-

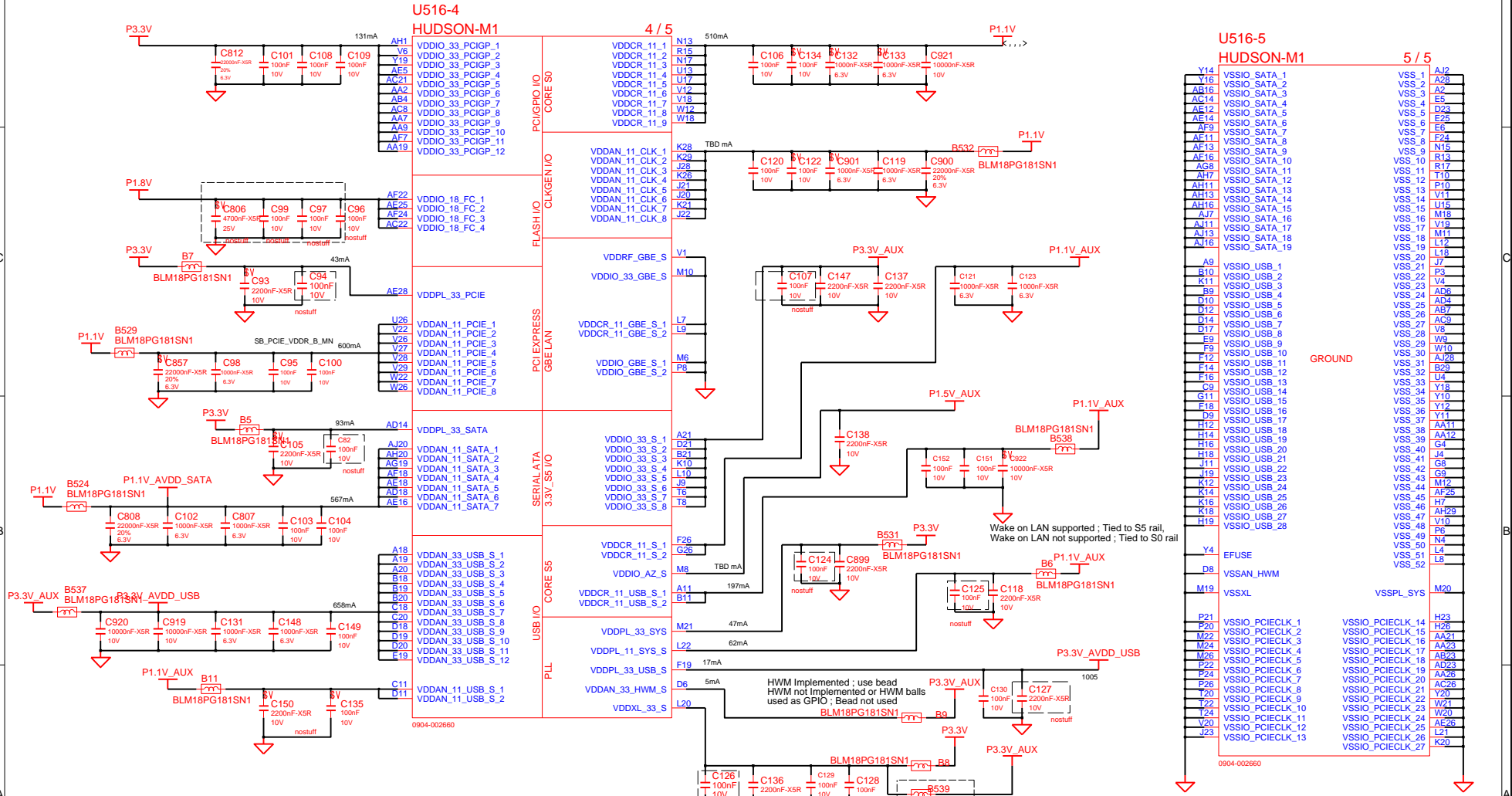
EC_PWM1	EC_PWM2	ROM TYPE
HIGH	HIGH	RSVD
NC	LOW	SPI ROM
LOW	NC	LPC ROM
NC	NC	RSVD



DRAW	Curjiajun	DATE	2/27/2008	TITLE	SCALA2-AMD
CHECK	Guolei	DEV. STEP	MP		SODIMM A
APPROVAL	BC LEE	REV	rev. 1.0		DDR3
MODULE CODE		LAST ENT			
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FCH_HUDSON



DRAW	Currijun	DATE	2/27/2008	TITLE	
CHECK	Guolei	DEV. STEP	MP		
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MODULE CODE		LAST ENT			

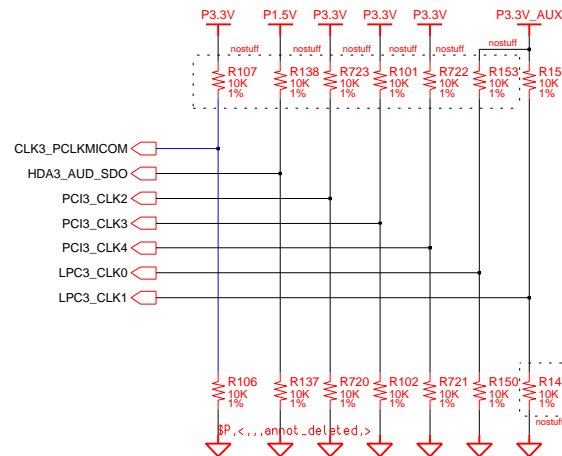
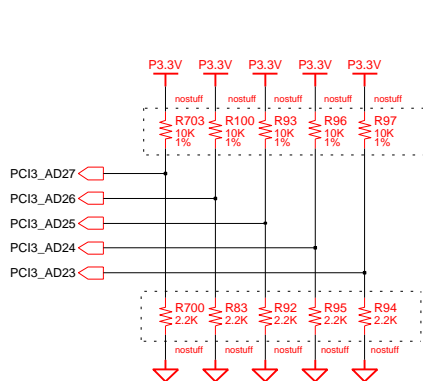
SCALE2-AMD	
SODIMM B	
DDR3	
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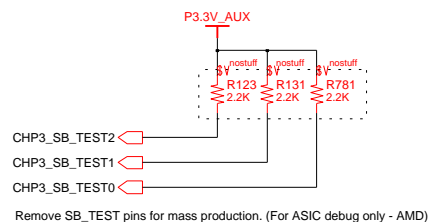
Strap



DEBUG STRAPS

	PCI3_AD(27)	PCI3_AD(26)	PCI3_AD(25)	PCI3_AD(24)	PCI3_AD(23)
	Bypass PCI PLL	ILA auto run Enable	Bypass FC CLK	I2C-ROM Enable	Booting from PCI memory
STRAP HIGH	USE PCI PLL DEFAULT	DISABLE ILA AUTORUN DEFAULT	USE FC PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	DISABLE PCI MEM BOOT DEFAULT
STRAP LOW	BYPASS PCI PLL	ENABLE ILA AUTORUN	BYPASS FC PLL	USE EEPROM PCIE STRAPS	ENABLE PCI MEM BOOT

	HDA3_AUD_SDO AZ_SDOOUT	PCI3_CLK2	PCI3_CLK3	PCI3_CLK4	LPC3_CLK0	LPC3_CLK1
PULL HIGH	LOW POWER MODE	Watchdog Timer Enabled	USE DEBUG STRAP	non_Fusion CLOCK MODE	EC ENABLE	CLKGEN ENABLE DEFAULT
PULL LOW	PERFORMANCE MODE DEFAULT	Watchdog Timer Disabled DEFAULT	IGNORE DEBUG STRAP DEFAULT	FUSION CLOCK MODE DEFAULT	EC DISABLED DEFAULT	CLKGEN DISABLED

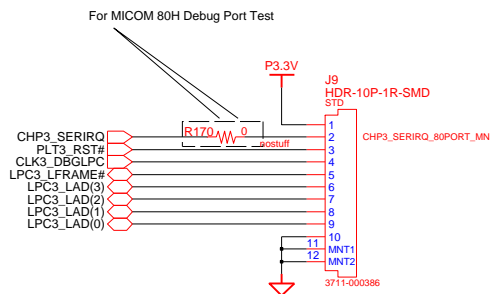


DESIGN	Curjiajun	DATE	8/19/2010	TITLE	SCAL2-AMD CPU BGA CPU (4/5)	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT				
				March 16, 2011 16:50:09 PM	PAGE	18 OF 54

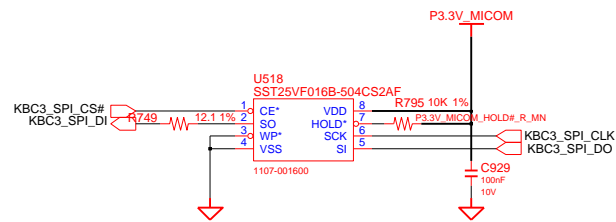
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80H PORT DEBUG



BE CAUTION SPI ROM SIZE!!



DESIGN	Curjiajun	DATE	8/19/2010	TITLE	SCALA2-AMD DEBUG PORT 80H DECODER	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE 19 OF 54		

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U959-1

SEYMOUR_S3

1 / 5

CPU发过来，无电压

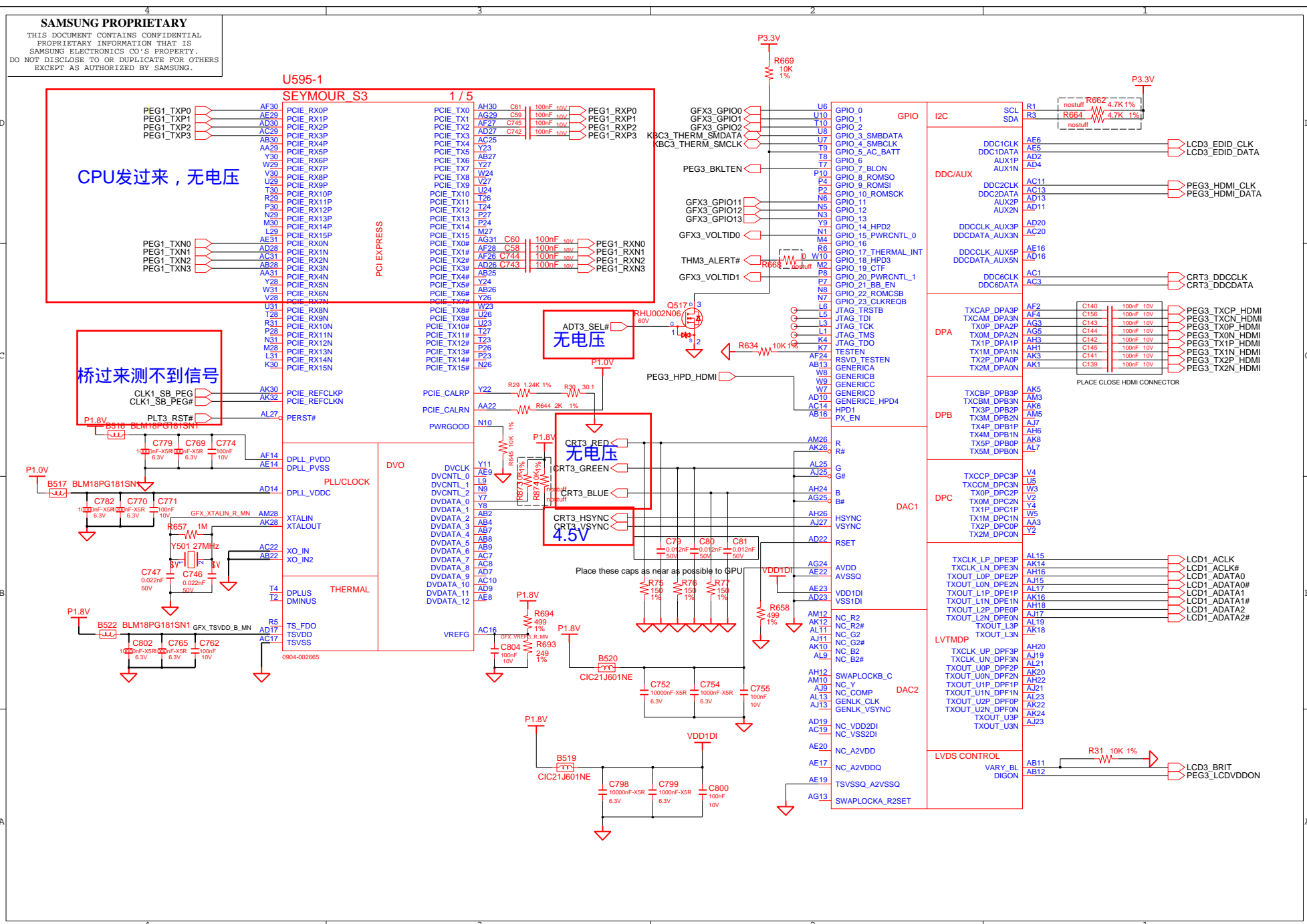
桥过来测不到信号

ADT3_SEL# 无电压

无电压

4.5V

Place these caps as near as possible to GPU



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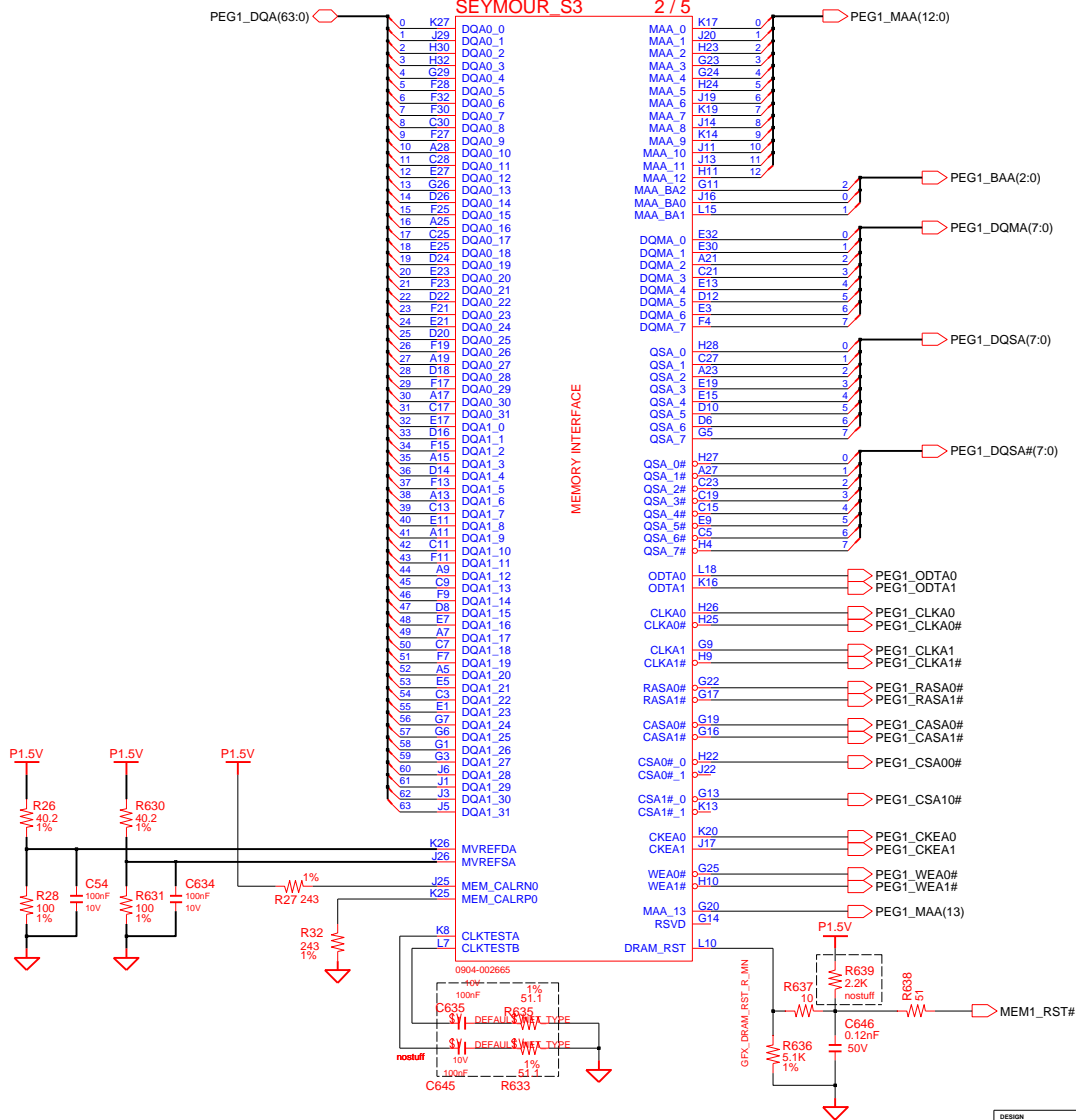
4

3

2

1

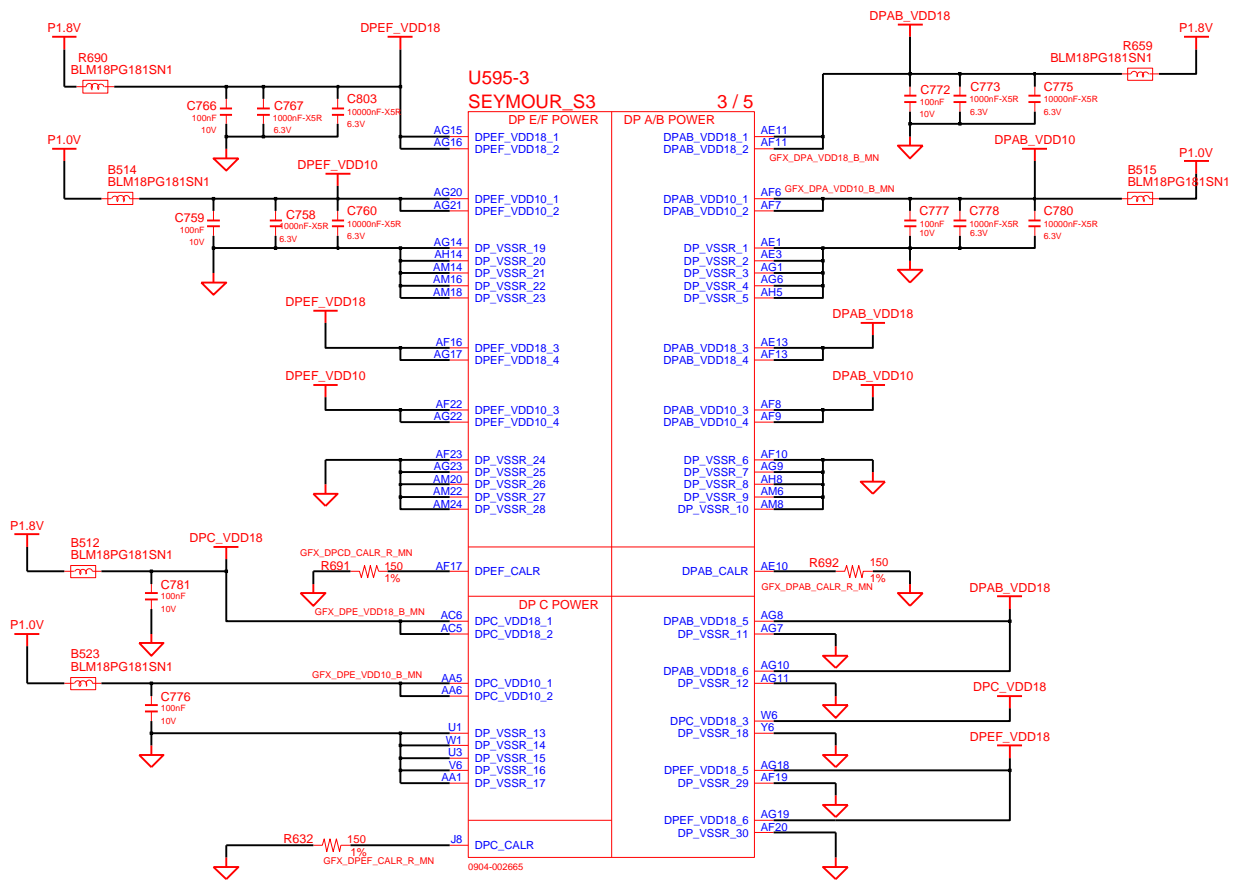
U595-2 SEYMOUR S3 2 / 5



DESIGN	Cunjajun	DATE	09/16/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	Programmable Oscillator		
APPROVAL	BC LEE	REV	rev. 1.0			PART NO. BA41-0XXXXXA
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	21	OF 54

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U595-3 SEYMOUR S3

DP E/F POWER

DP A/B POWER

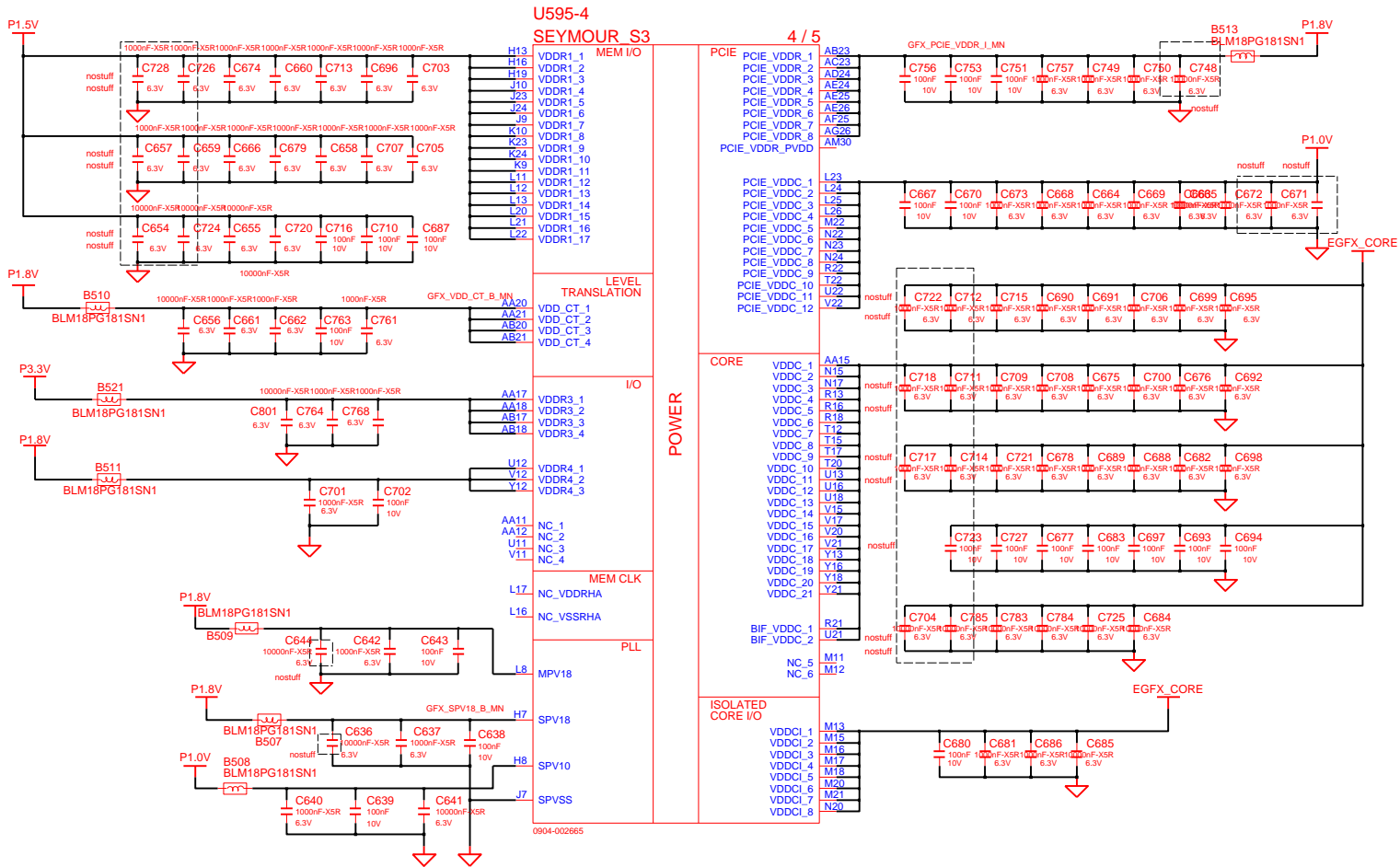
DP C POWER

0904-002665

DESIGN	Cunjajun	DATE	09/16/2010	TITLE	SCALA2-AMD Programmable Oscillator	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	22 OF 54	

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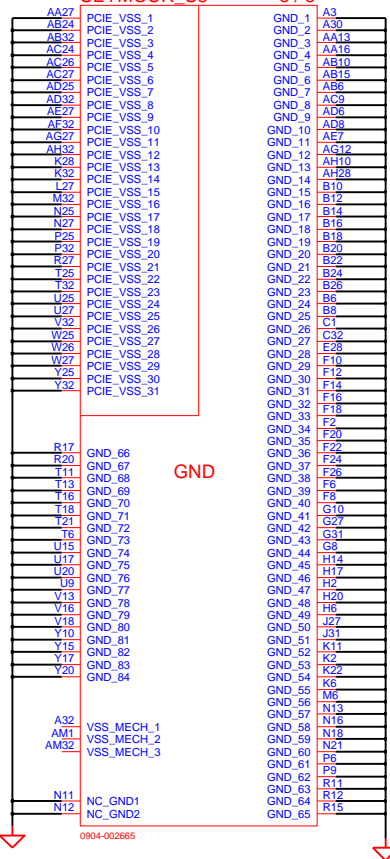


DESIGN	Cunjajun	DATE	09/16/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	Programmable Oscillator		
APPROVAL	BC LEE	REV	rev. 1.0			PART NO. BA41-0XXXXXA
MODULE CODE		LAST EDIT		March 16, 2011 16:50:09 PM	PAGE	23 OF 54

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**U595-5
 SEYMOUR_S3 5 / 5**

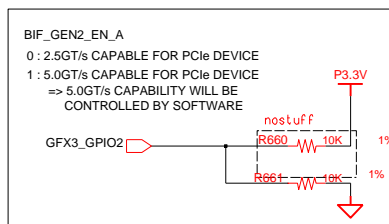
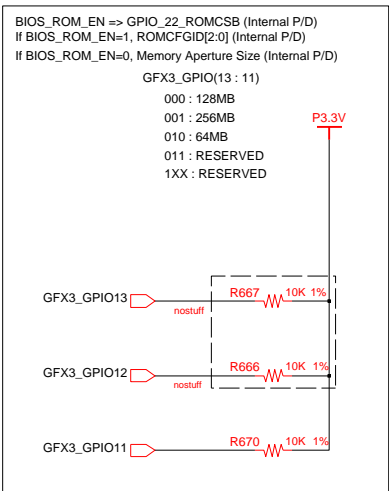
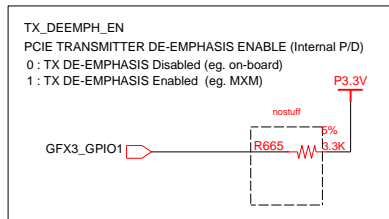
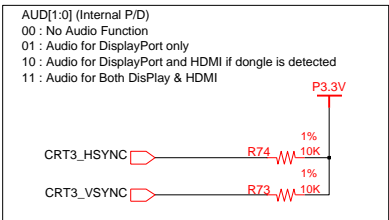
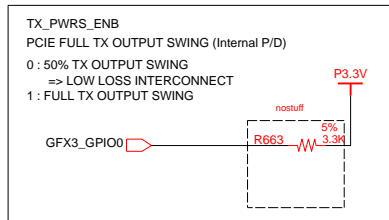


DESIGN	Cunjajun	DATE	09/16/2010	TITLE	SCALA2-AMD Programmable Oscillator	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	24	OF 54

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SEYMOUR/WHISTLER S3 Straps

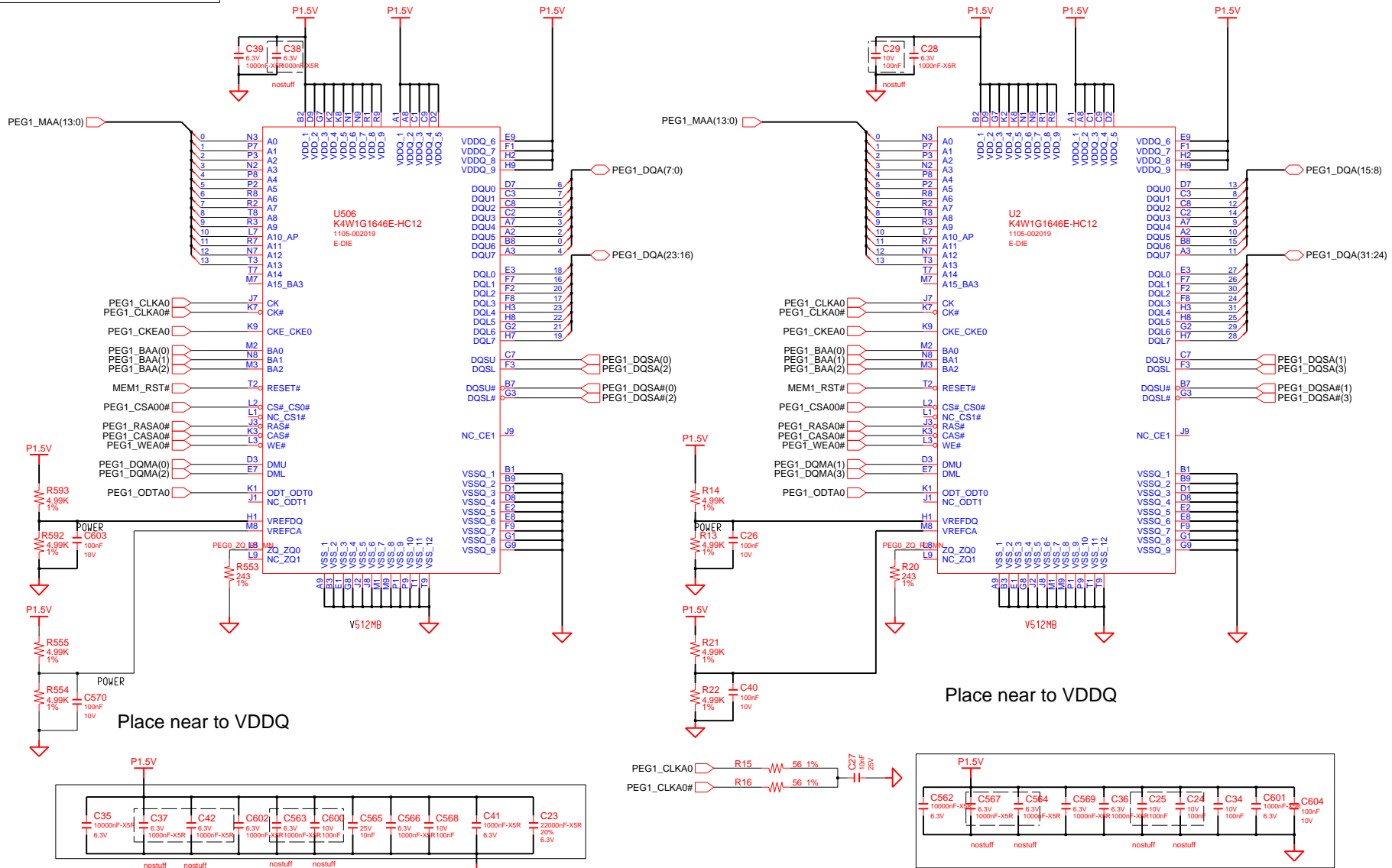


DESIGN	Cunjiajun	DATE	9/3/2009	TITLE	SCAL2-AMD ICH SB710 (1/5)	SAMSUNG ELECTRONICS
CHECK	Cuolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE 25 OF 54		

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A-Channel #0



Place near to VDDQ

Place near to VDDQ

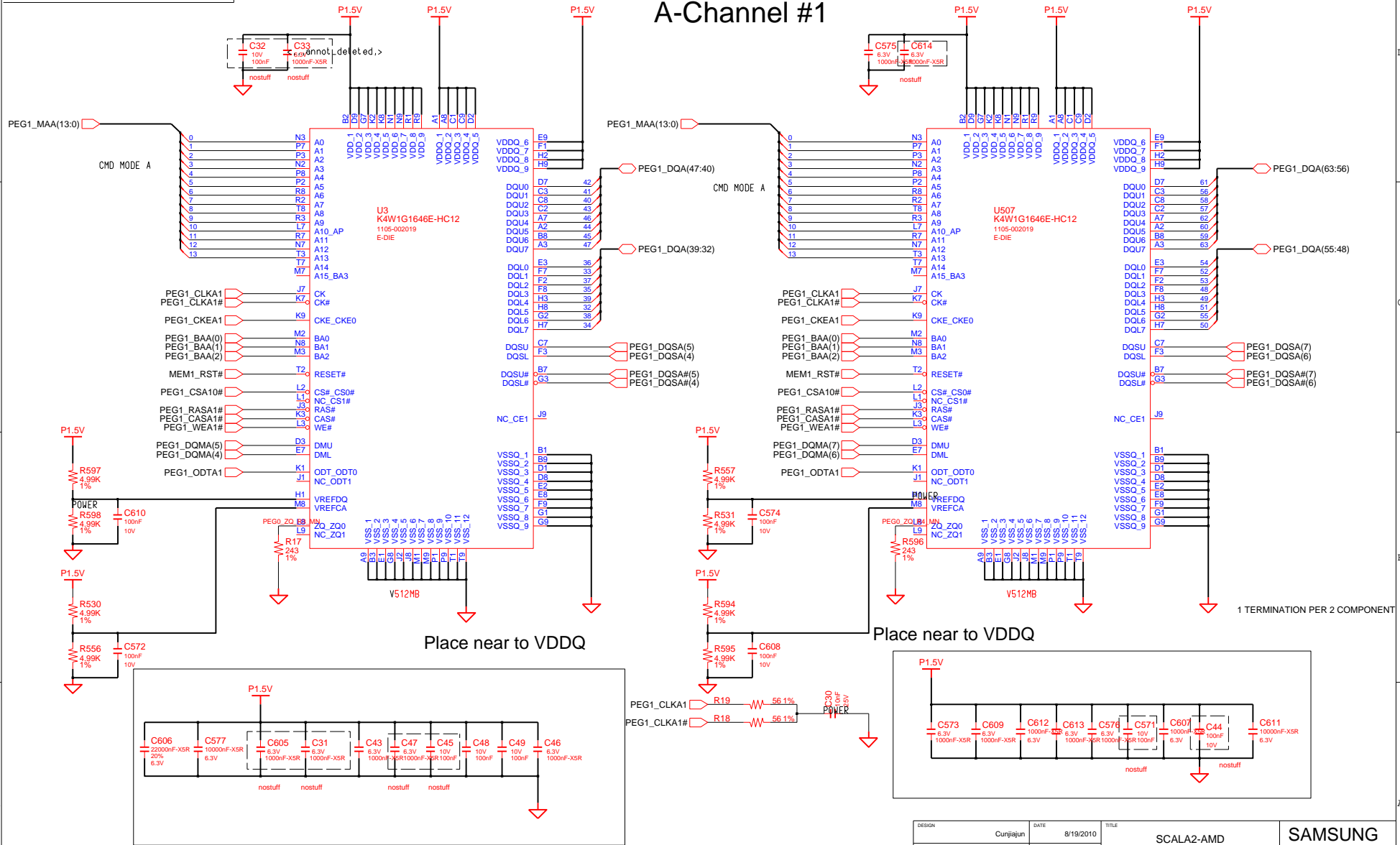
DESIGN	Curjiajun	DATE	8/19/2010	TITLE	SCALA2-AMD
CHECK	Guolei	DEV. STEP	MP		N11X_40NM(5/5)
APPROVAL	BC LEE	REV	rev. 1.0		N11X_40NM(5/5)
MODULE CODE		LAST EDIT			
				March 16, 2011 16:50:09 PM	PAGE 26 OF 54

SAMSUNG
ELECTRONICS
PART NO. BA41-0XXXXXA

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A-Channel #1



Place near to VDDQ

Place near to VDDQ

1 TERMINATION PER 2 COMPONENT

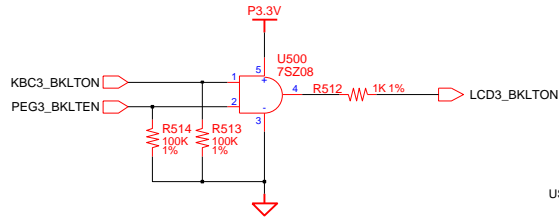
DESIGN	Curjiajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP		GRAPHIC_MEM A#0	
APPROVAL	BC LEE	REV	rev. 1.0		GRAPHIC_MEM A#0	
MODULE CODE		LAST EDIT				
				March 16, 2011 16:50:09 PM	PAGE	27 OF 54

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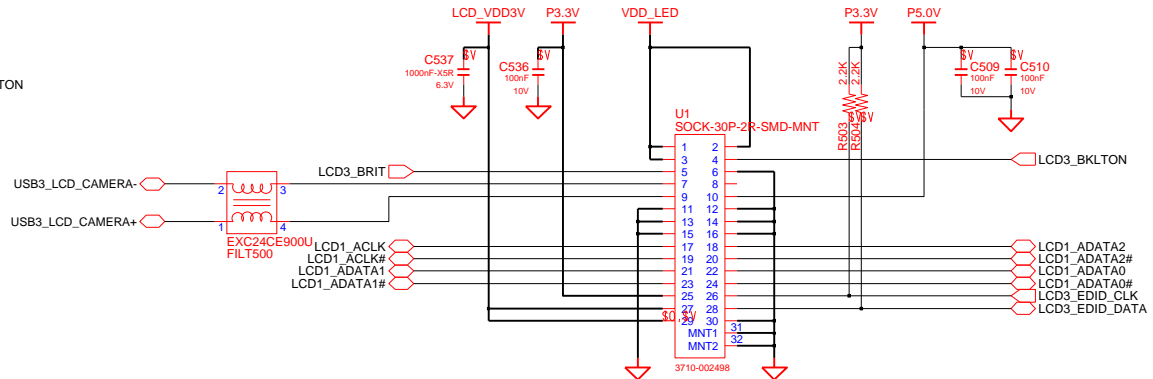
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LVDS LOGIC

Backlight On

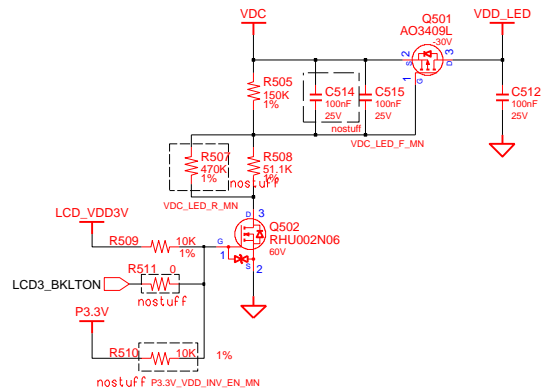


LCD Connector + CAMERA

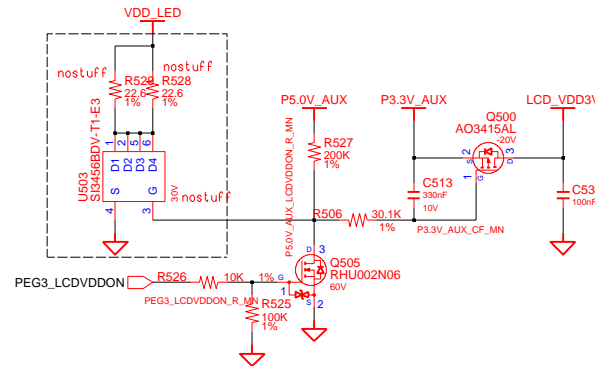


TYPE: ANGLE

LED Power



LCD Power

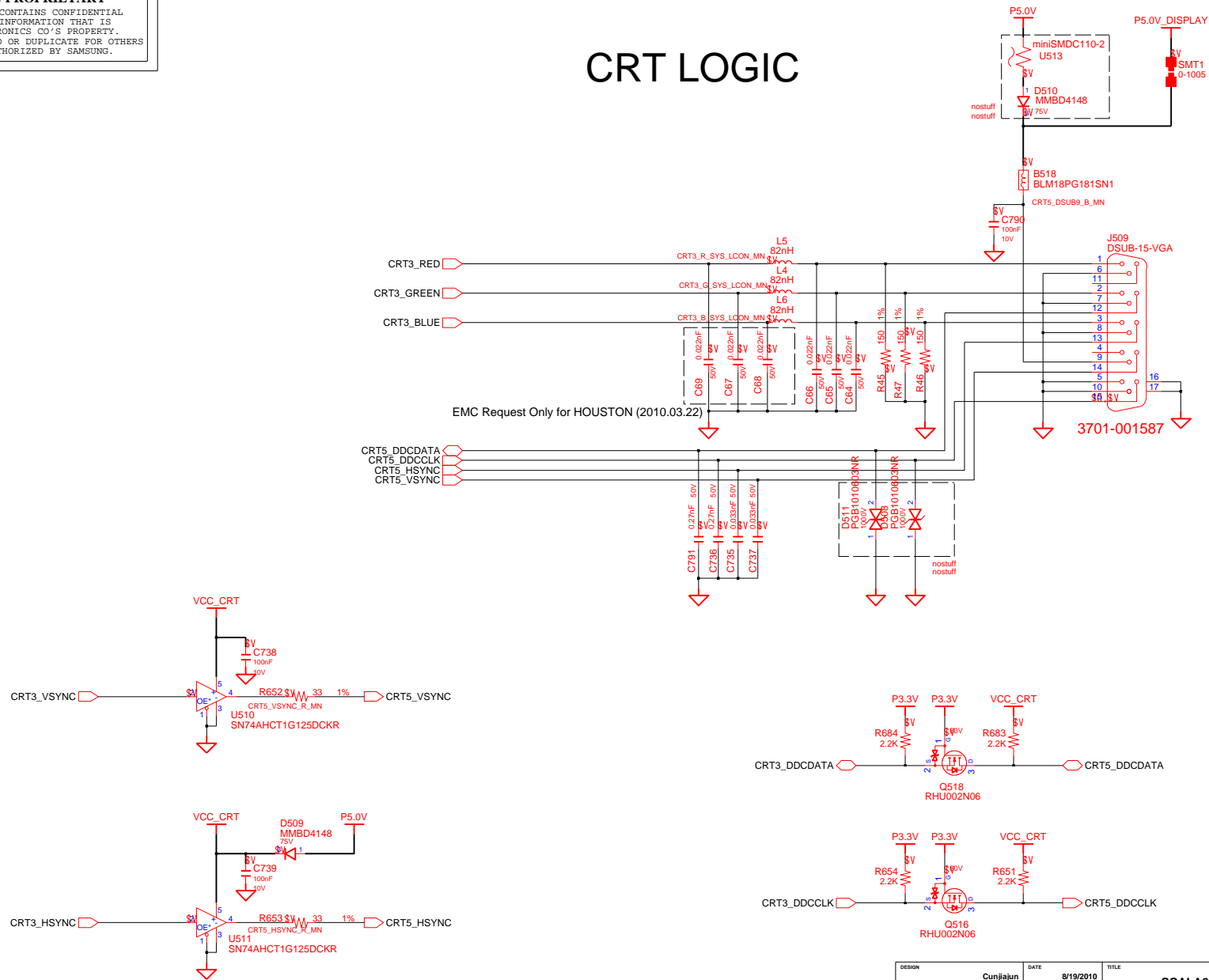


DESIGN	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	GRAPHICS_IF		
APPROVAL	BC LEE	REV	rev. 1.0	LVDS		PART NO. BA41-0XXXXXA
MODULE CODE		LAST EDIT			March 16, 2011 16:50:09 PM	PAGE 28 OF 54

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CRT LOGIC



DESIGN	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD GRAPHICS_IF CRT	SAMSUNG ELECTRONICS PART NO: BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT				
				March 16, 2011 16:50:09 PM	PAGE	29 OF 54

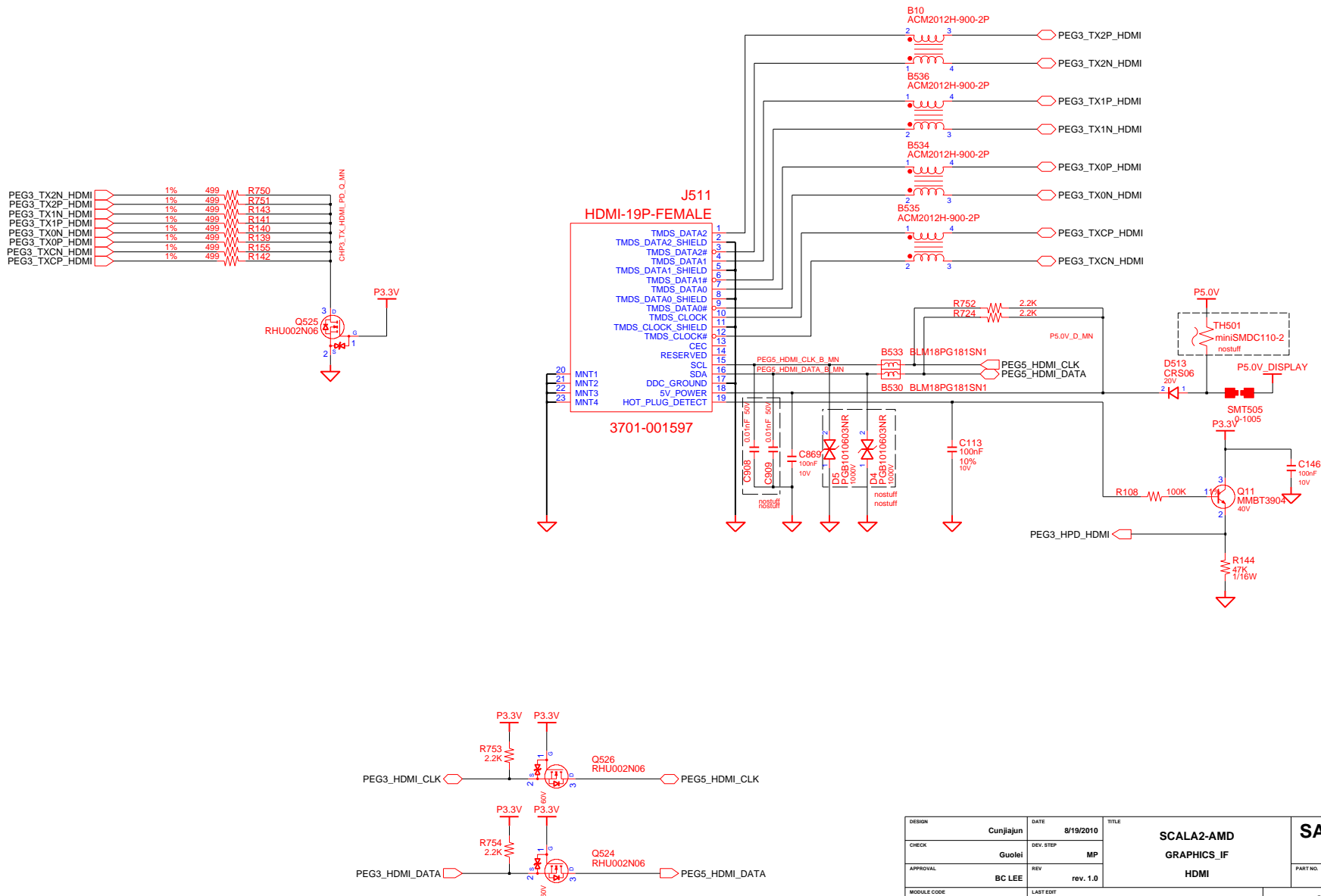
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After checking, Houston need to use CMC for each signal.

(EMC request at 2010.04.15)

HDMI Graphic

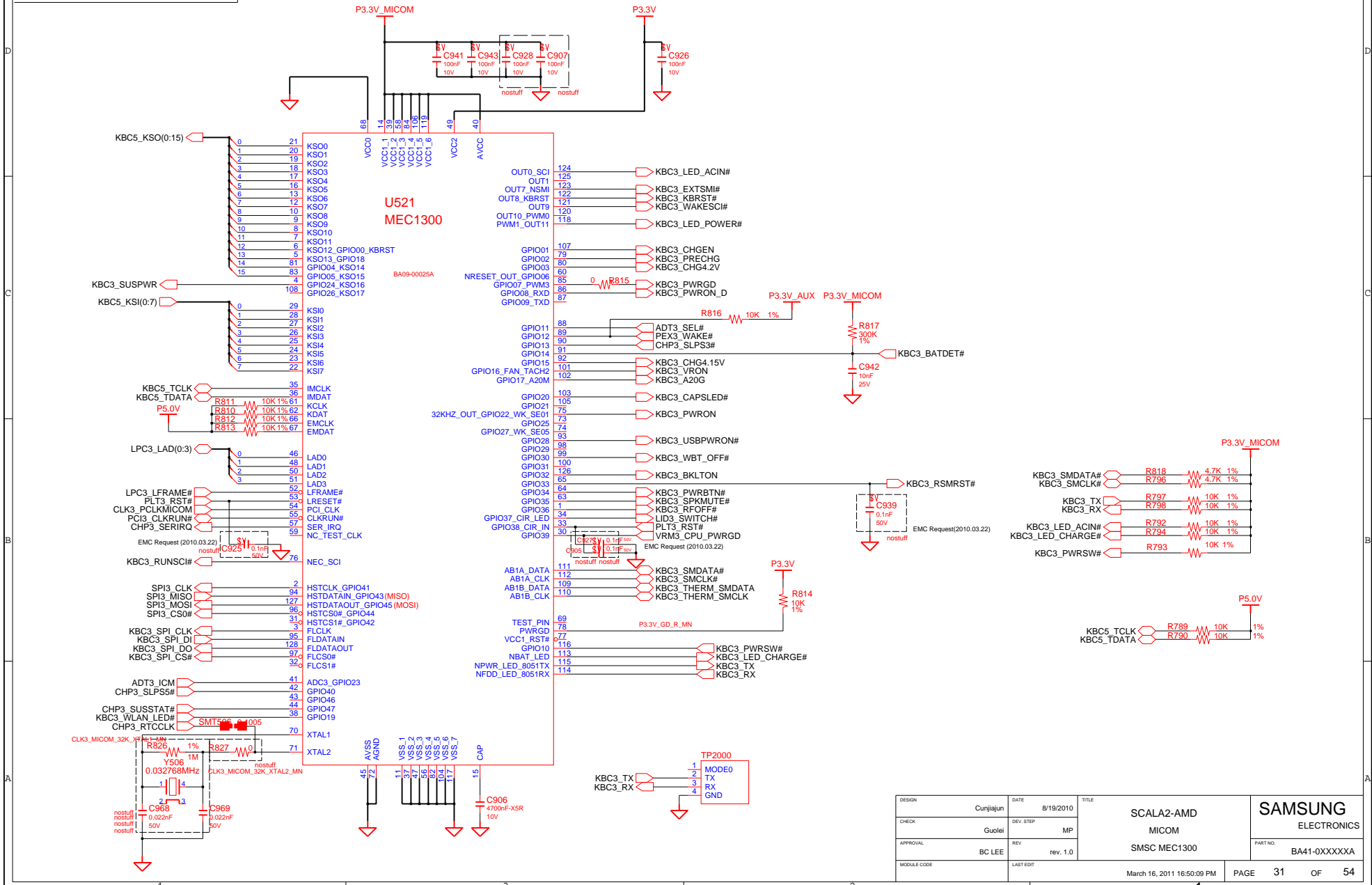


DESIGN	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	GRAPHICS_IF	PART NO.	
APPROVAL	BC LEE	REV	rev. 1.0	HDMI	BA41-0XXXXXA	
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	30	OF 54

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MAIN BOARD (MICOM)

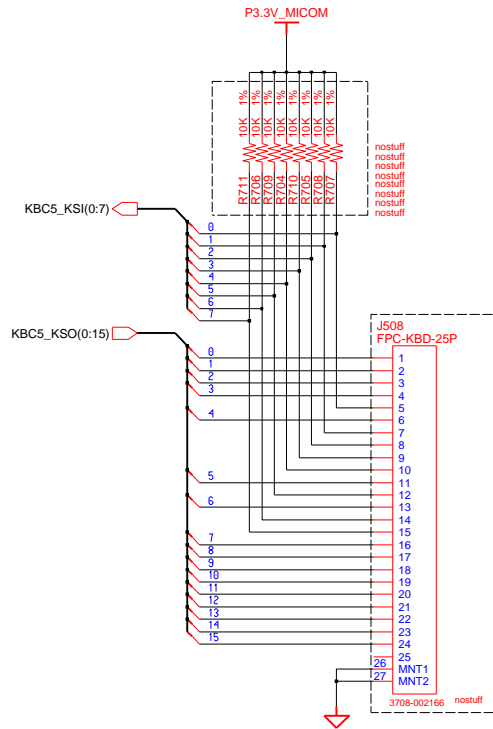


DESIGN	Curjiajun	DATE	8/19/2010	TITLE	SCALA2-AMD MICOM SMSC MEC1300
CHECK	Guolei	DEV. STEP	MP	SAMSUNG ELECTRONICS	
APPROVAL	BC LEE	REV	rev. 1.0		
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	31 OF 54

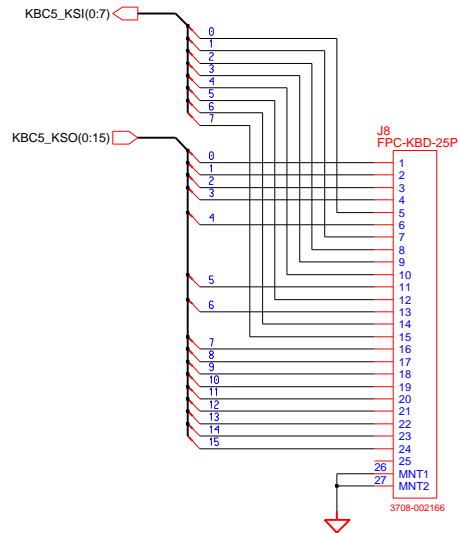
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Micom Glue Logic

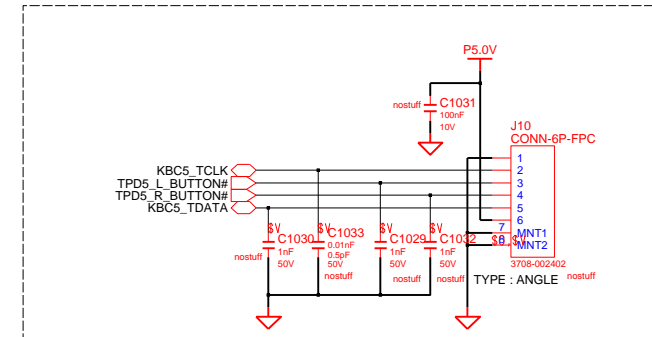
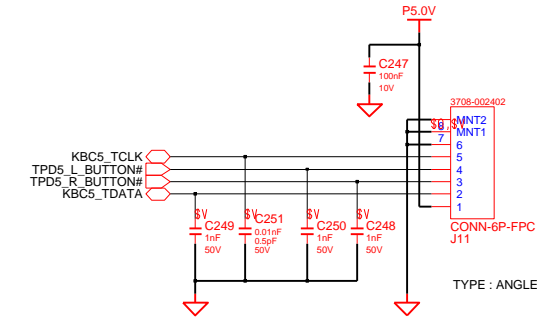
KEYBOARD on TOP



KEYBOARD on Bottom



TOUCHPAD



DRAW	Curjiajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	MICOM GLUE LOGIC	MICOM GLUE LOGIC	
APPROVAL	BC LEE	REV	rev. 1.0	MICOM GLUE LOGIC	PART NO.	BA41-0XXXXXA
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	32	OF 54

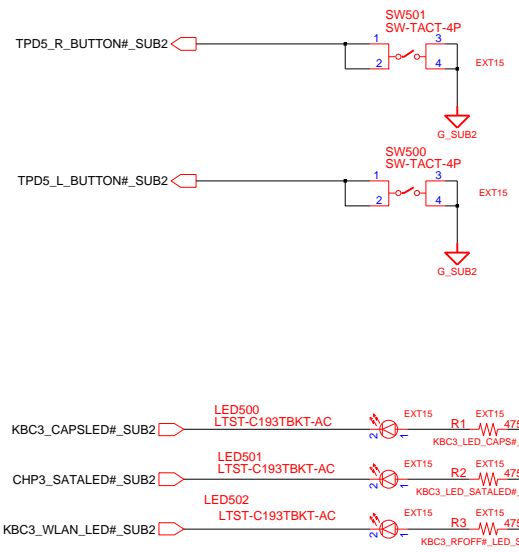
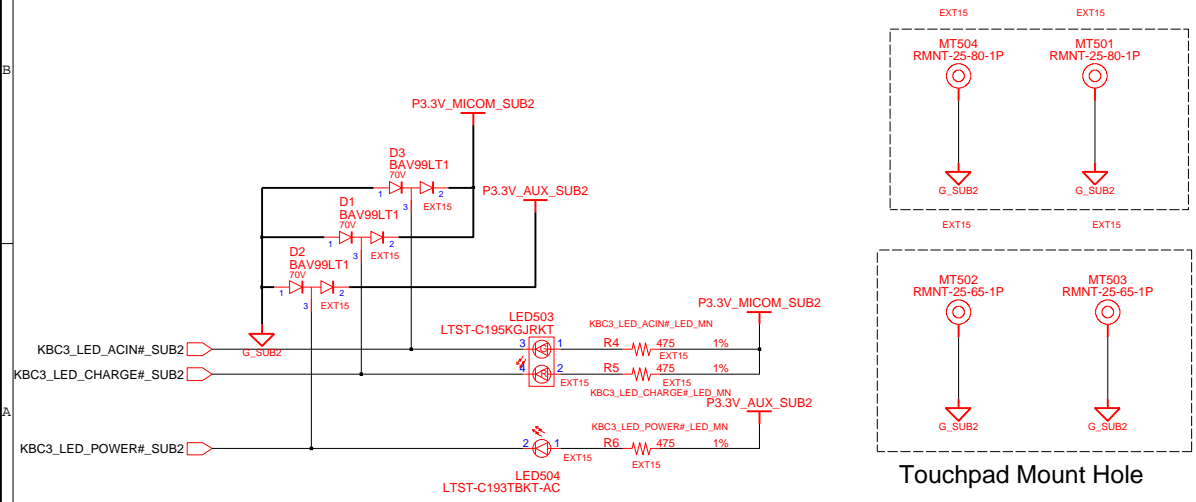
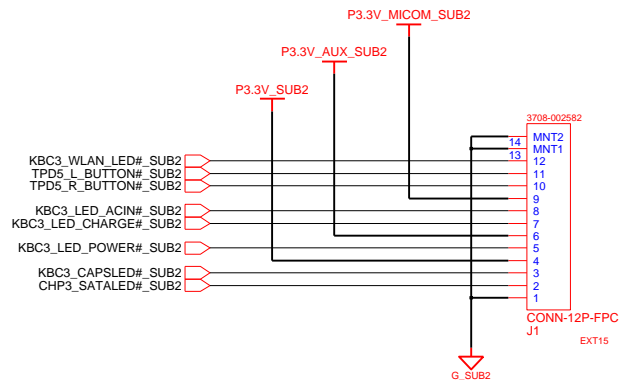
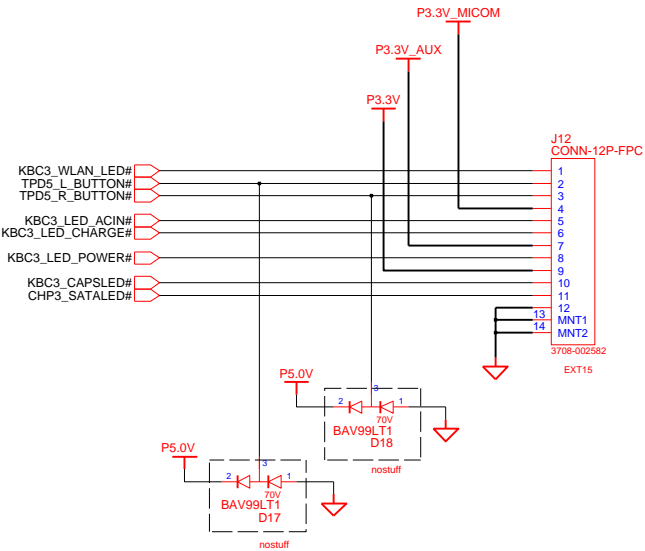
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15.6"

TOUCHPAD MAIN TO SUB

TOUCHPAD SUB TO MAIN



Touchpad Mount Hole

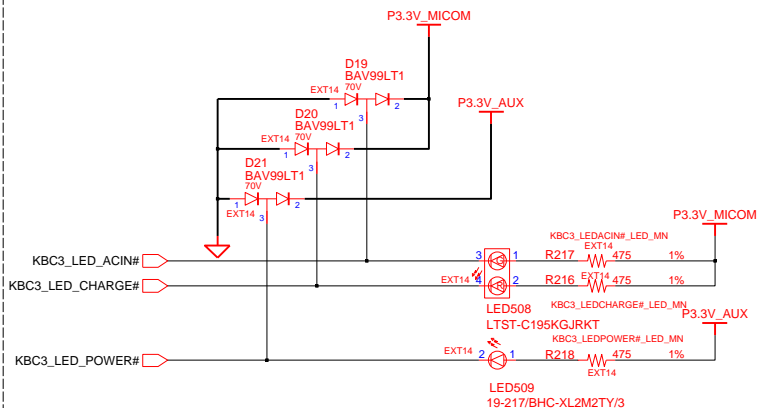
DRAW	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD SUB BOARD4	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	MULTIMEDIA SUB	PART NO.	
APPROVAL	BC LEE	REV	rev. 1.0		BA41-0XXXXXA	
MODULE CODE		LAST EDIT		March 16, 2011 16:50:09 PM	PAGE	33 OF 54

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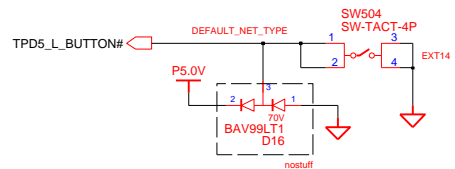
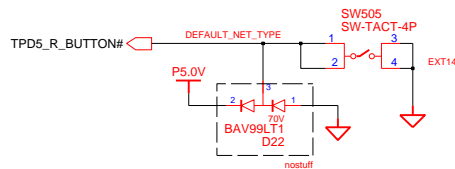
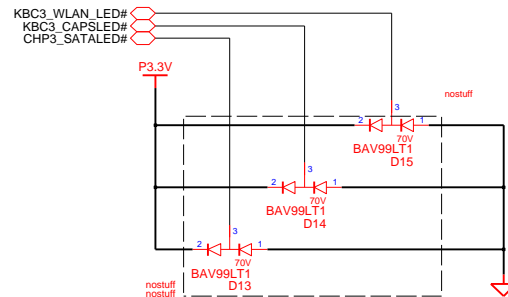
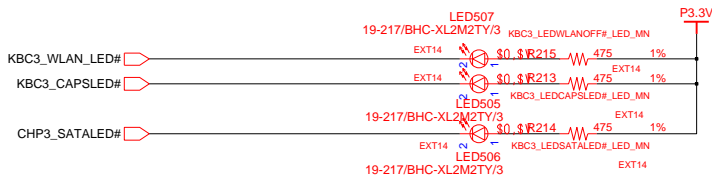
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EXT14

ADAPTERIN/CHARGING LED



ADAPTERIN/CHARGING LED

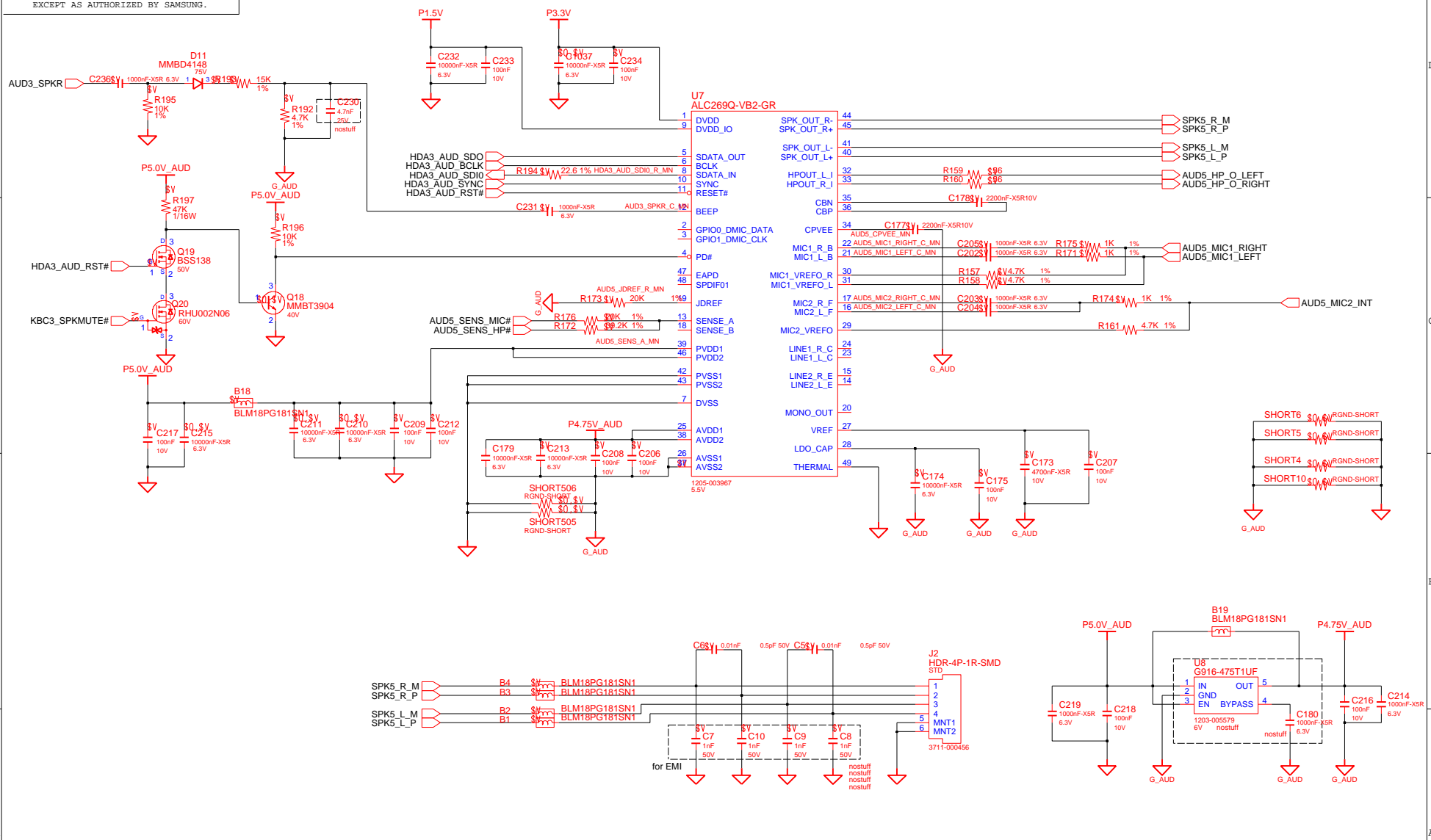


DESIGN	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP		MNT hole	
APPROVAL	BC LEE	REV	rev. 1.0		MNT hole	
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	34	OF 54

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HD AUDIO

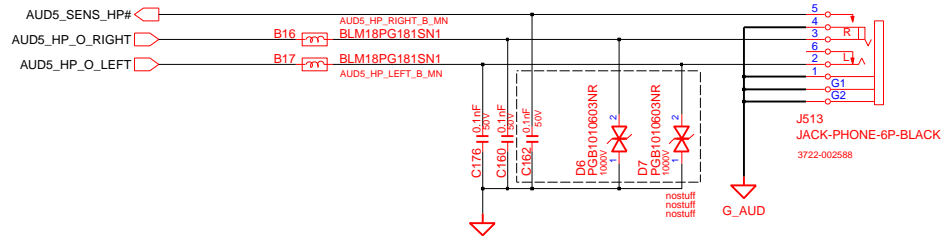


DESIGN	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	HDA_CODEC SUB		
APPROVAL	BC LEE	REV	rev. 1.0	AUDIO CODEC ALC269 SUB	PART NO.	BA41-0XXXXXA
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	35	OF 54

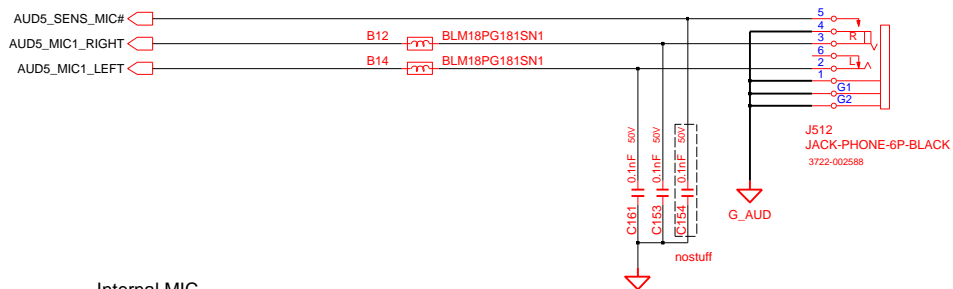
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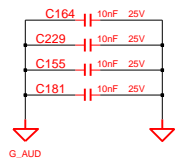
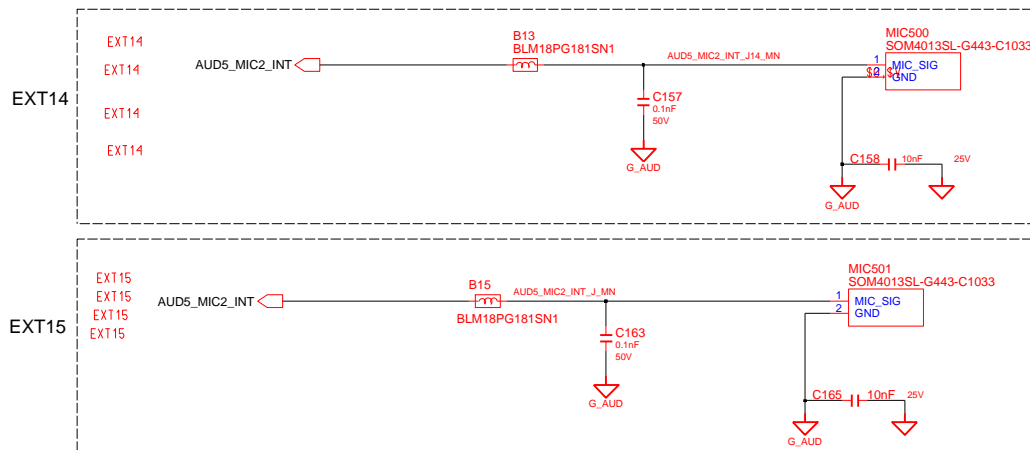
HEADPHONE



MIC JACK



Internal MIC

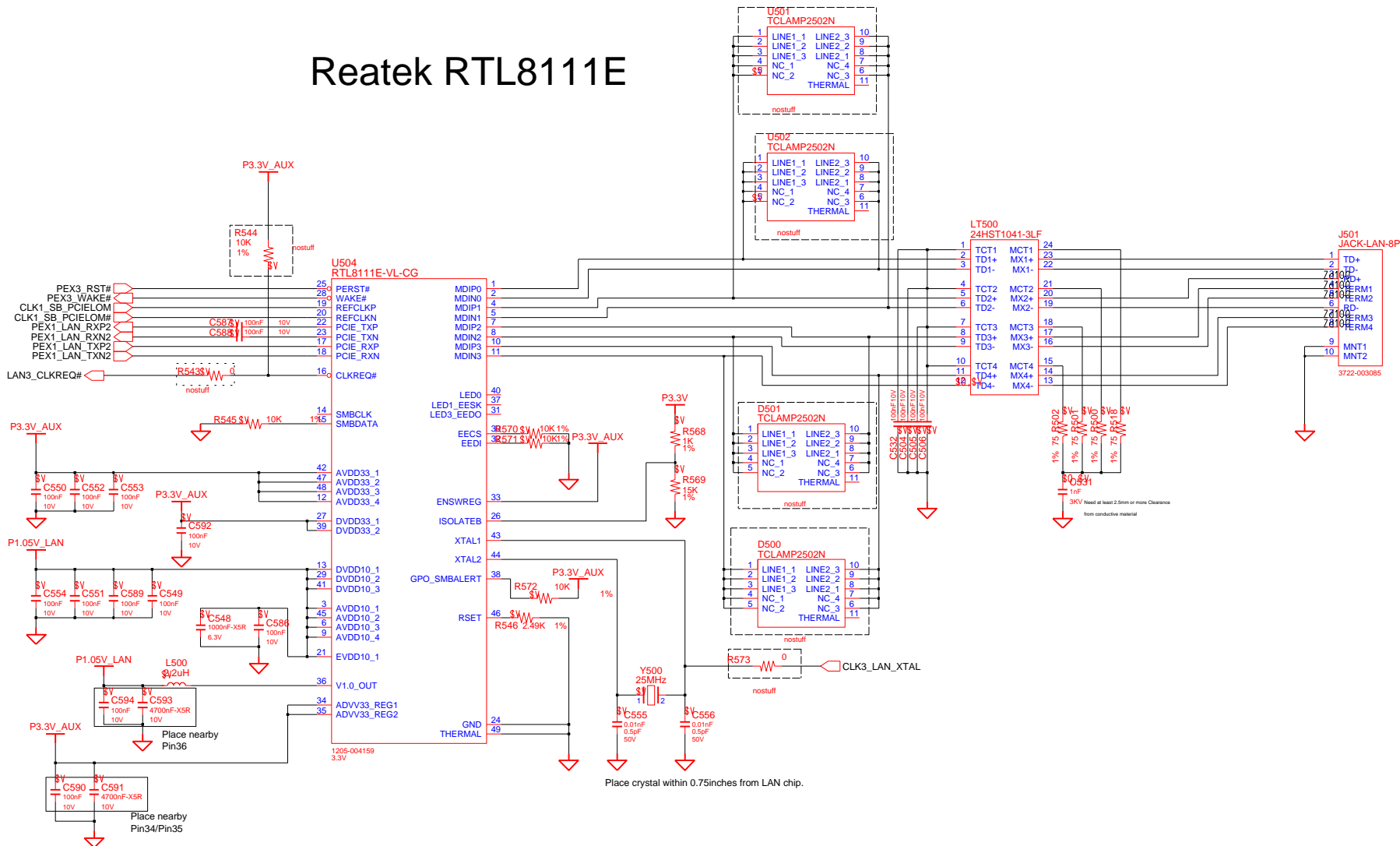


DESIGN	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV.STEP	MP	HDA_CODEC & LED SUB	PART NO.	
APPROVAL	BC LEE	REV	rev. 1.0	AUDIO JACK & LED SUB	BA41-0XXXXXA	
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	36	OF 54

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Reatek RTL8111E



Place crystal within 0.75inches from LAN chip.

DESIGN	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP		LAN	
APPROVAL	BC LEE	REV	rev. 1.0		LAN_Realtek_RTL8111	PART NO. BA41-0XXXXXA
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	37	OF 54

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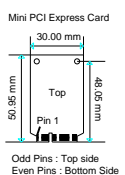
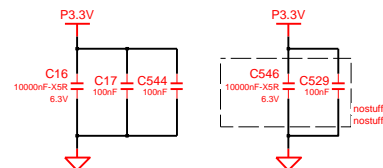
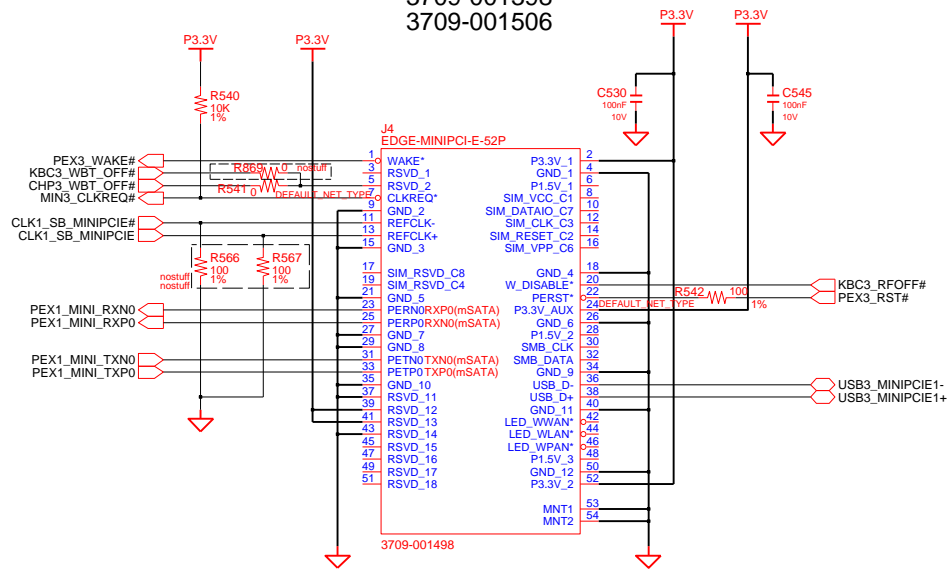
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WLAN

Height : 7.0mm

3709-001398
3709-001506

AMT 6.0 : P3.3V = P3.3V_ALW (Check?)
wake-up pull-up power rail ?
Puma Peak -WiFi (AMT 6.0)
Kilmer Peak - WiFi/WiMax



Odd Pins : Top side
Even Pins : Bottom Side

DESIGN	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD MULTICARD 3 IN 1 CARD(GL827S)	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	38 OF 54	

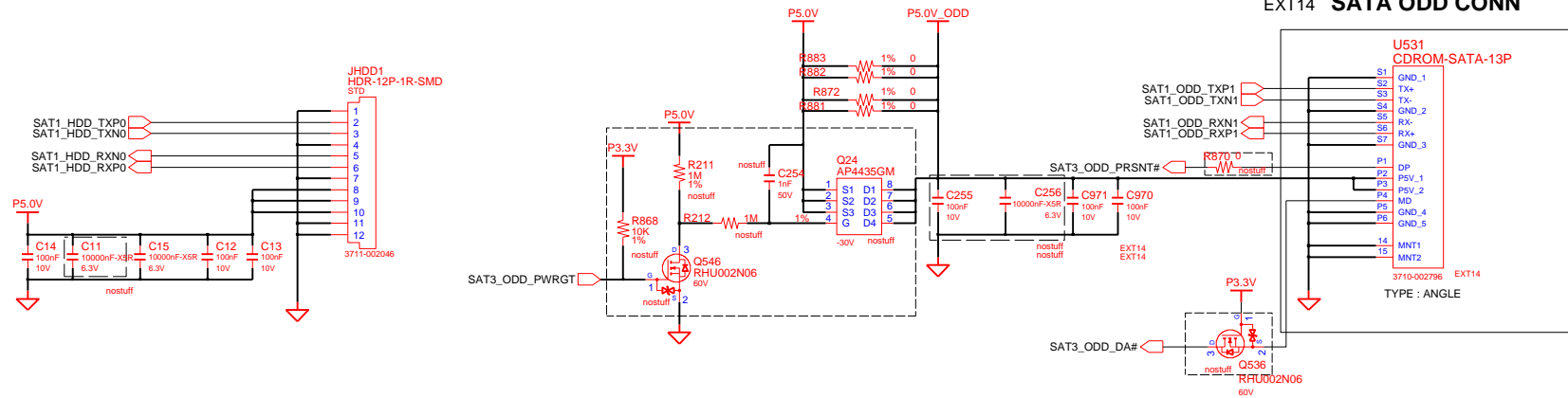
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SATA I/F CONN

SATA HDD CONN

Cable Connector Type



DESIGN	CunjaJun	DATE	8/19/2010	TITLE	SCALA2-AMD SATA I/F SATA I/F	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP			PART NO. BA41-0XXXXXA
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT		March 16, 2011 16:50:09 PM	PAGE 39	OF 54

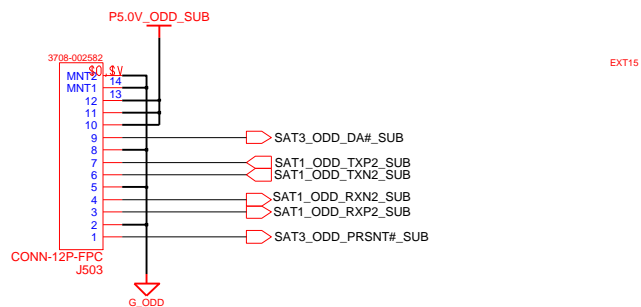
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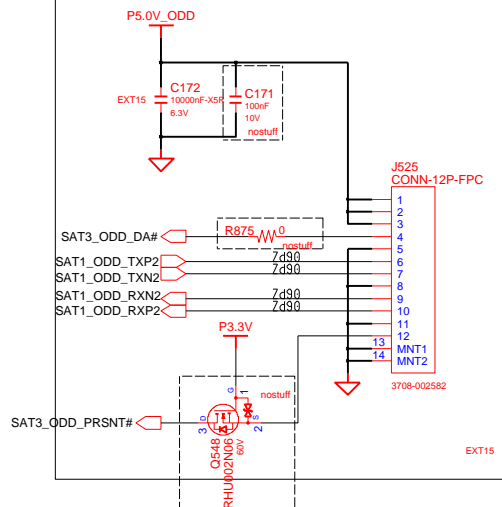
SATA ODD SUB BOARD EXT15

15.6"

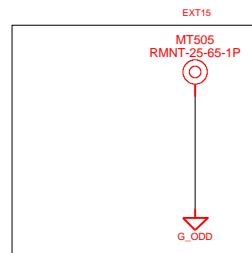
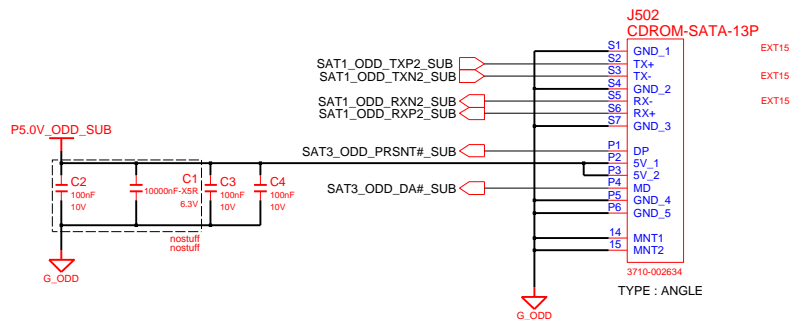
SUB TO MAIN : SATA ODD CONN



MAIN TO SUB : SATA ODD CONN



SATA ODD CONN



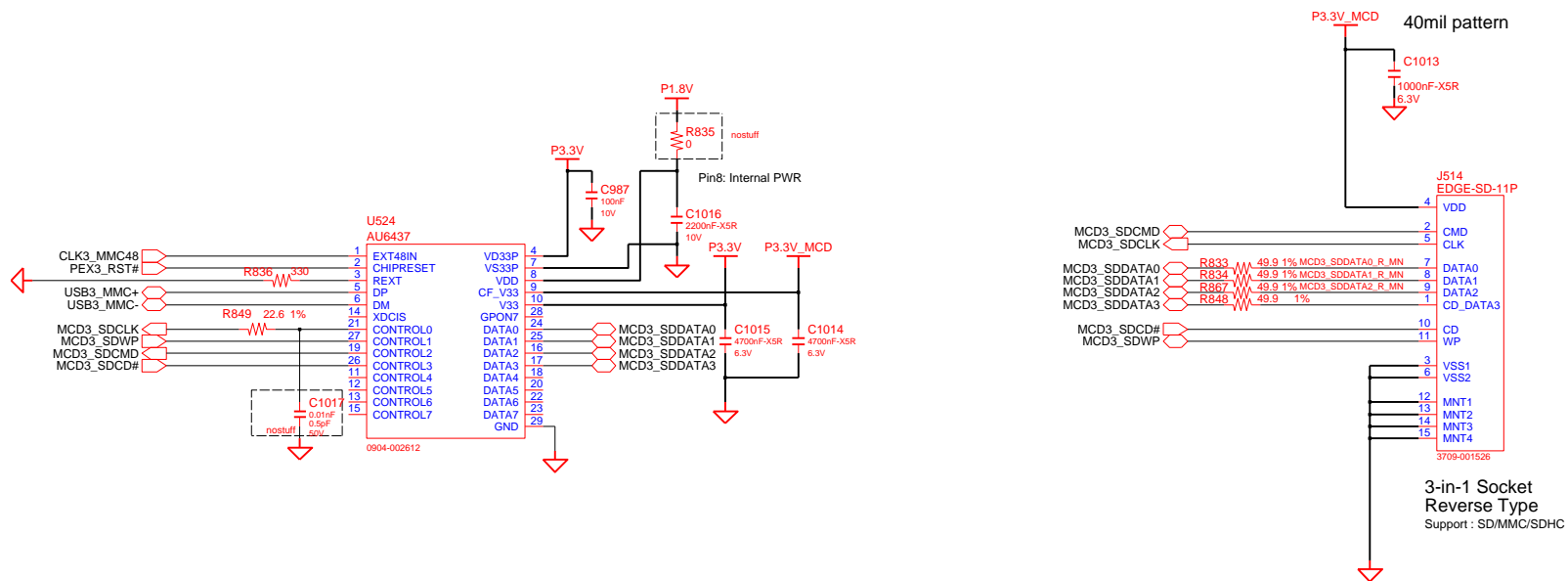
ODD sub board mount hole

DRAW	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD SUB BOARD3 ODD SUB	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT			March 16, 2011 16:50:09 PM	PAGE 40 OF 54

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3 IN 1 CARD (AU6437)



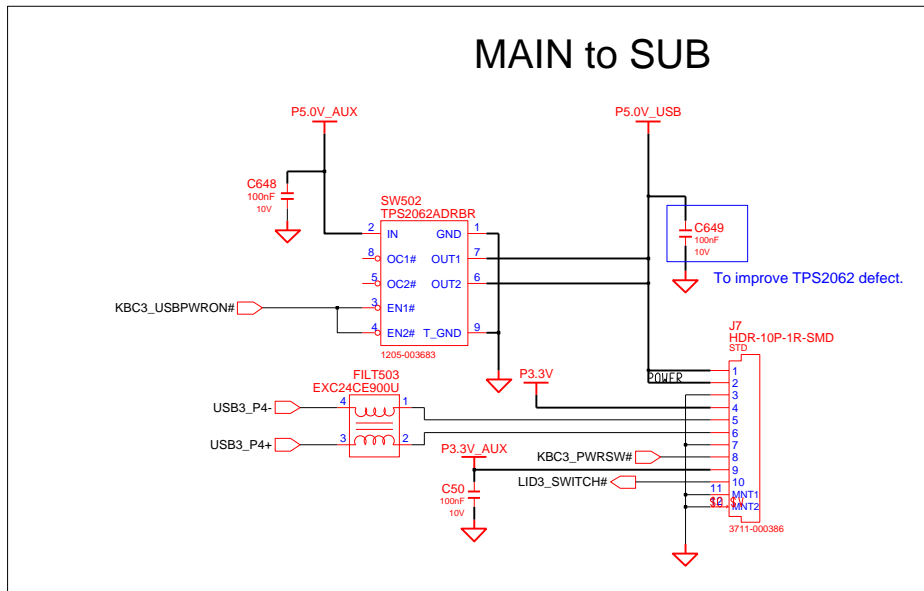
DESIGN	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD SUB BOARD2	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP		3 in 1 SUB	
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	41 OF 54	

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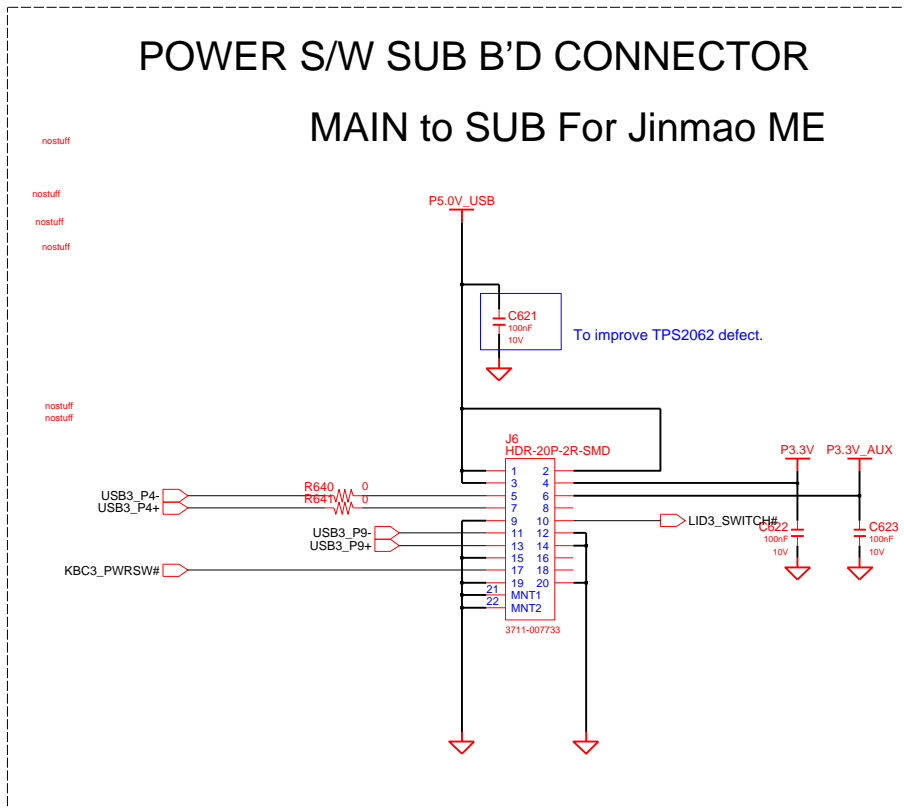
POWER S/W SUB B'D CONNECTOR

MAIN to SUB

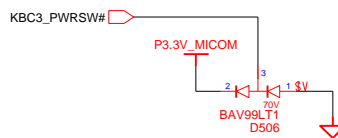
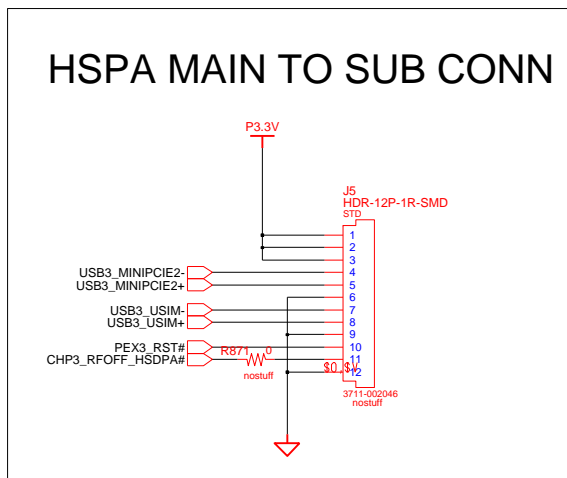


POWER S/W SUB B'D CONNECTOR

MAIN to SUB For Jinmao ME



HSPA MAIN TO SUB CONN

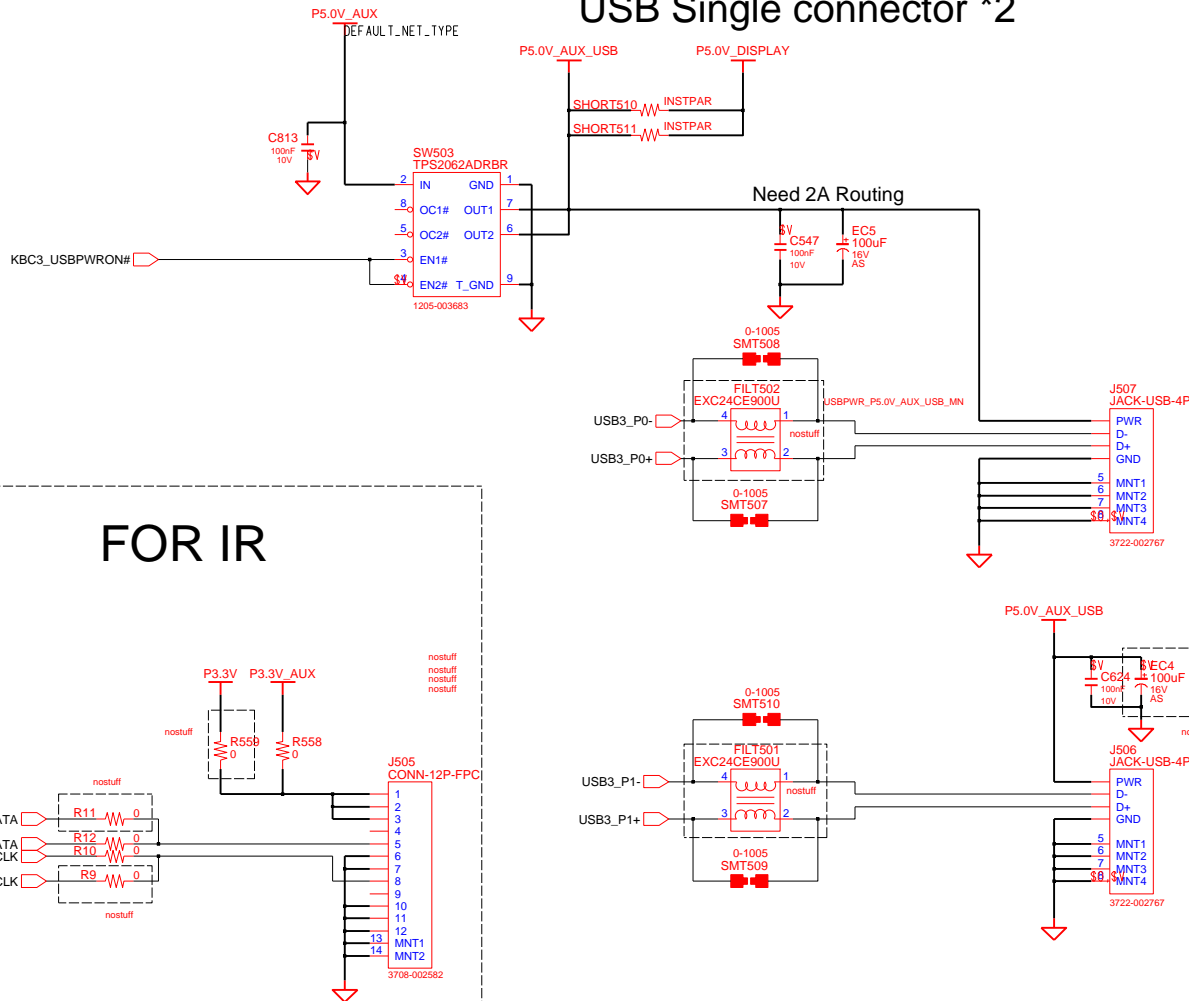


DESIGN	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP	USB_CONN		
APPROVAL	BC LEE	REV	rev. 1.0	USB CONNECTOR		
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE 42 OF 54		

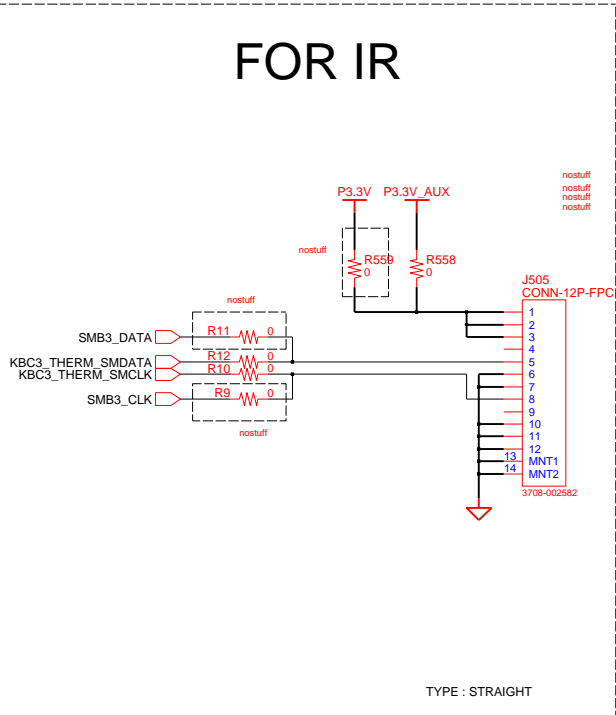
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USB Single connector *2



FOR IR

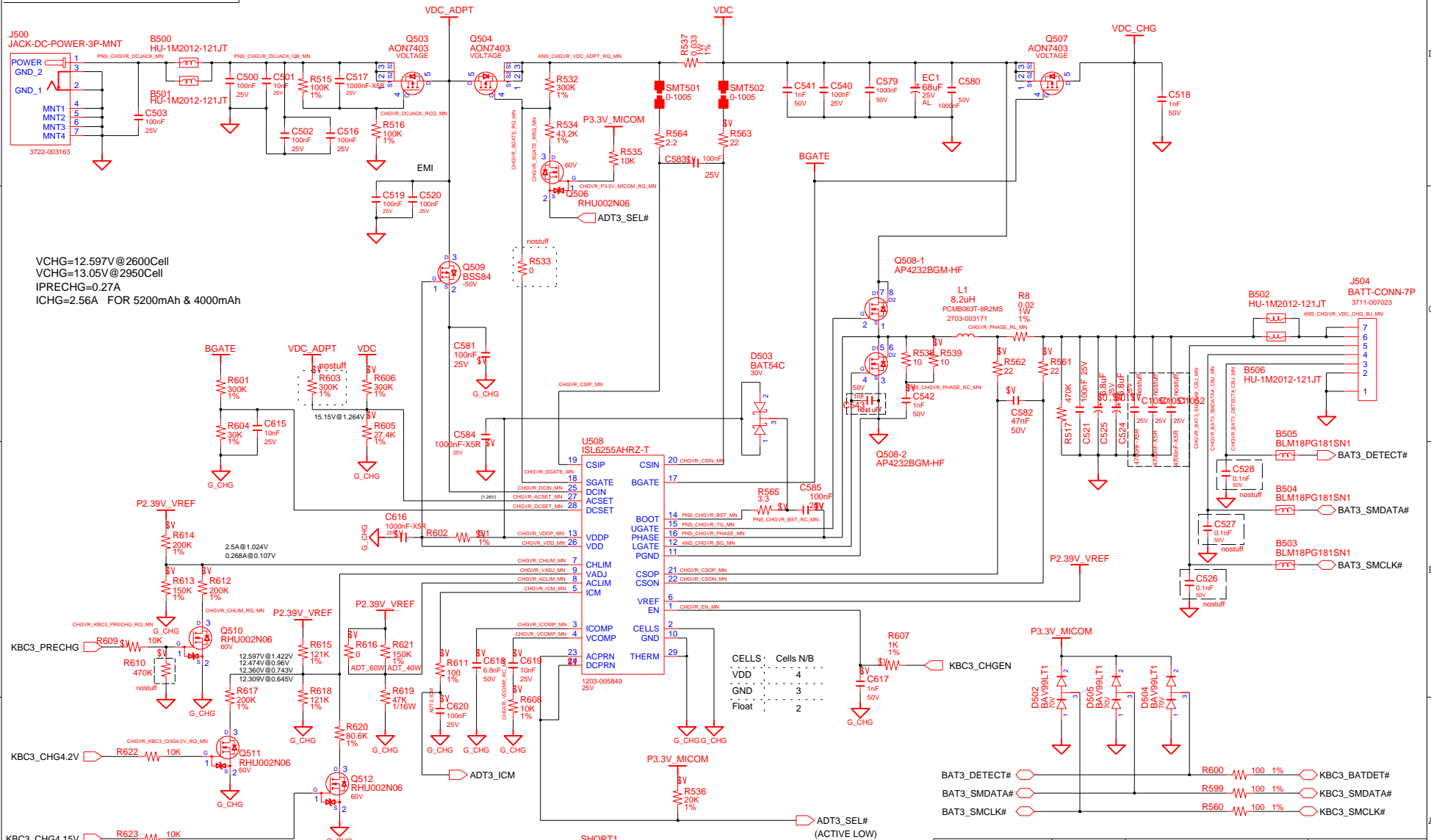


DRAW	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP	USB CONN & BLUETOOTH		
APPROVAL	BC LEE	REV	rev. 1.0	USB		
MODULE CODE		LAST EDIT				
				March 16, 2011 16:50:09 PM	PAGE	43 OF 54

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CHARGER & POWER MANAGEMENT



VCHG=12.597V@2600Cell
 VCHG=13.05V@2950Cell
 IPRECHG=0.27A
 ICHG=2.56A FOR 5200mAh & 4000mAh

KBC3_CHG4.2V	KBC3_CHG4.15V	Unit
High	High	4.10
High	Low	4.16
Low	High	4.12
Low	Low	4.20

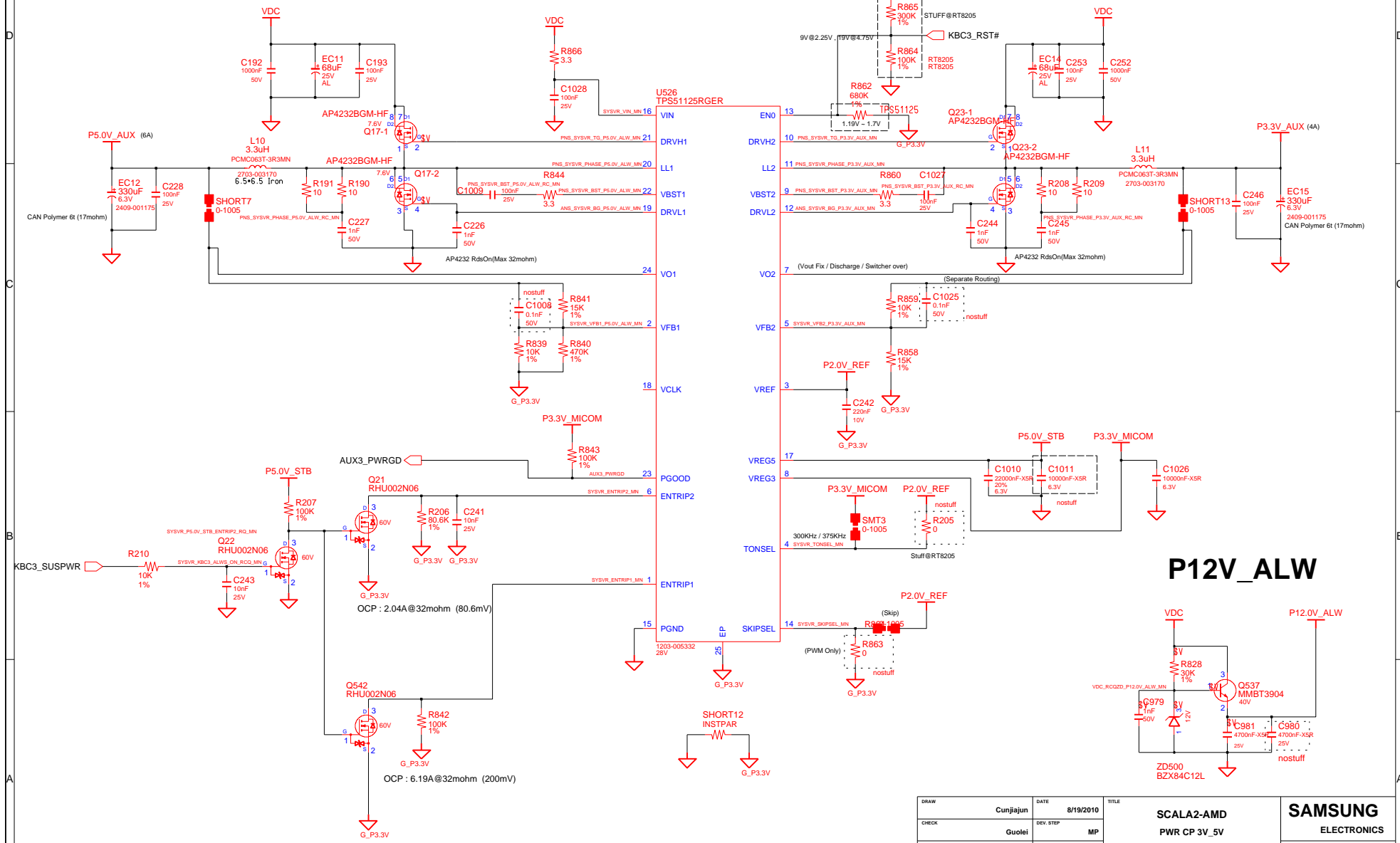
Adapter configuration			
60W / 3.03A		40W / 2.12A	
Value	SEC Code	Value	SEC Code
Rtop	0ohm	2007-000171	150K 2007-007489

DESIGN	Cunjujain	DATE	8/19/2010	TITLE	SCALA2-AMD
CHECK	GuoLei	DEV. STEP	MP	CHARGER	
APPROVAL	BC LEE	REV	rev. 1.0	CHARGER (ISL6255A)	
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	44 OF 54

SAMSUNG
ELECTRONICS
PART NO.
BA41-0XXXXXA

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P3.3V_AUX & P5.0V_AUX



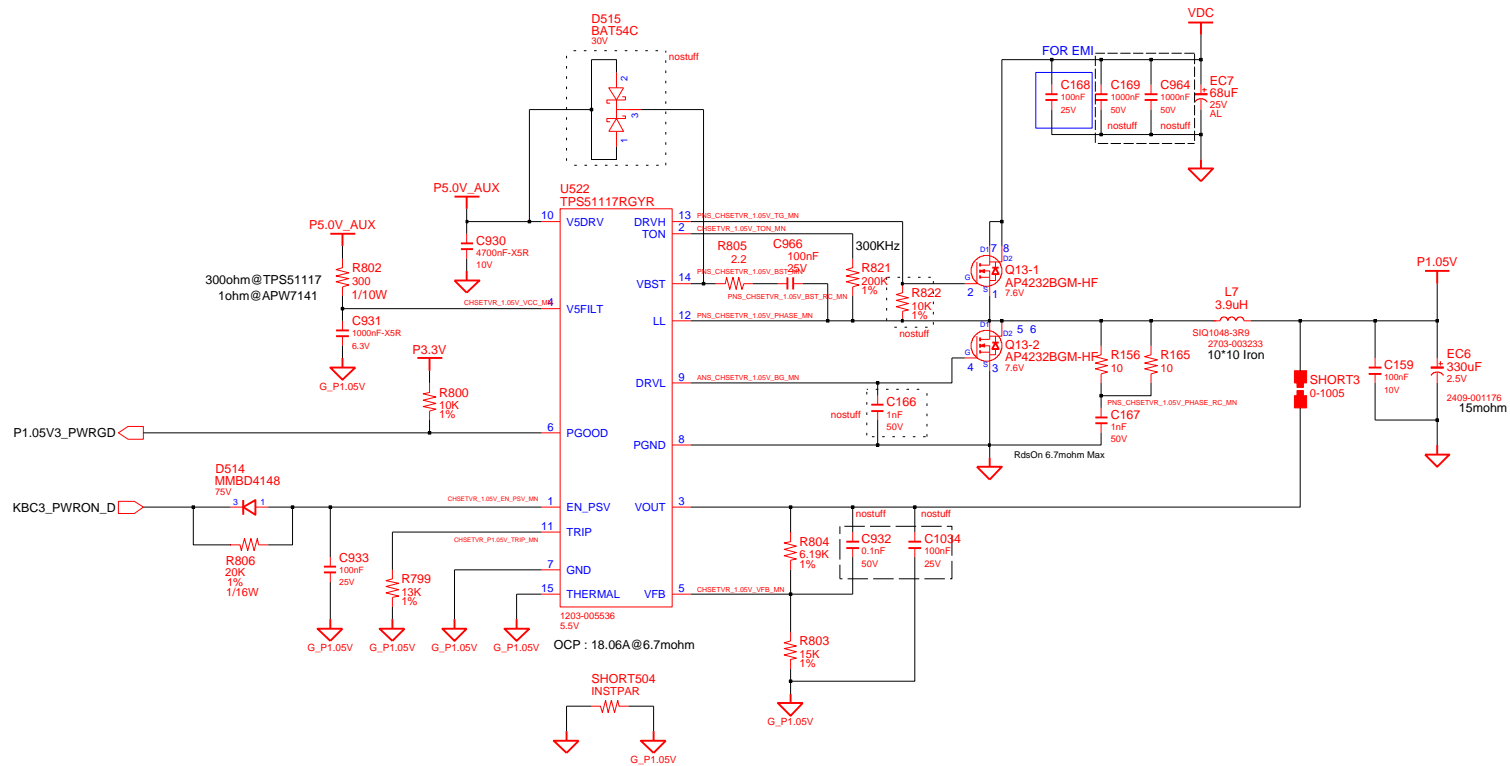
P12V_ALW

DRAW	Cunjajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS	
CHECK	Guolei	DEV. STEP	MP		PWR CP 3V_5V		
APPROVAL	BC LEE	REV	rev. 1.0		P3.3V_AUX / P5.0V_AUX	PART NO.	
MODULE CODE	undefined	LAST EDIT	March 16, 2011 16:50:09 PM			BA41-0XXXXXA	
						PAGE	45 OF 54

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CHIPSET POWER(P1.05V)

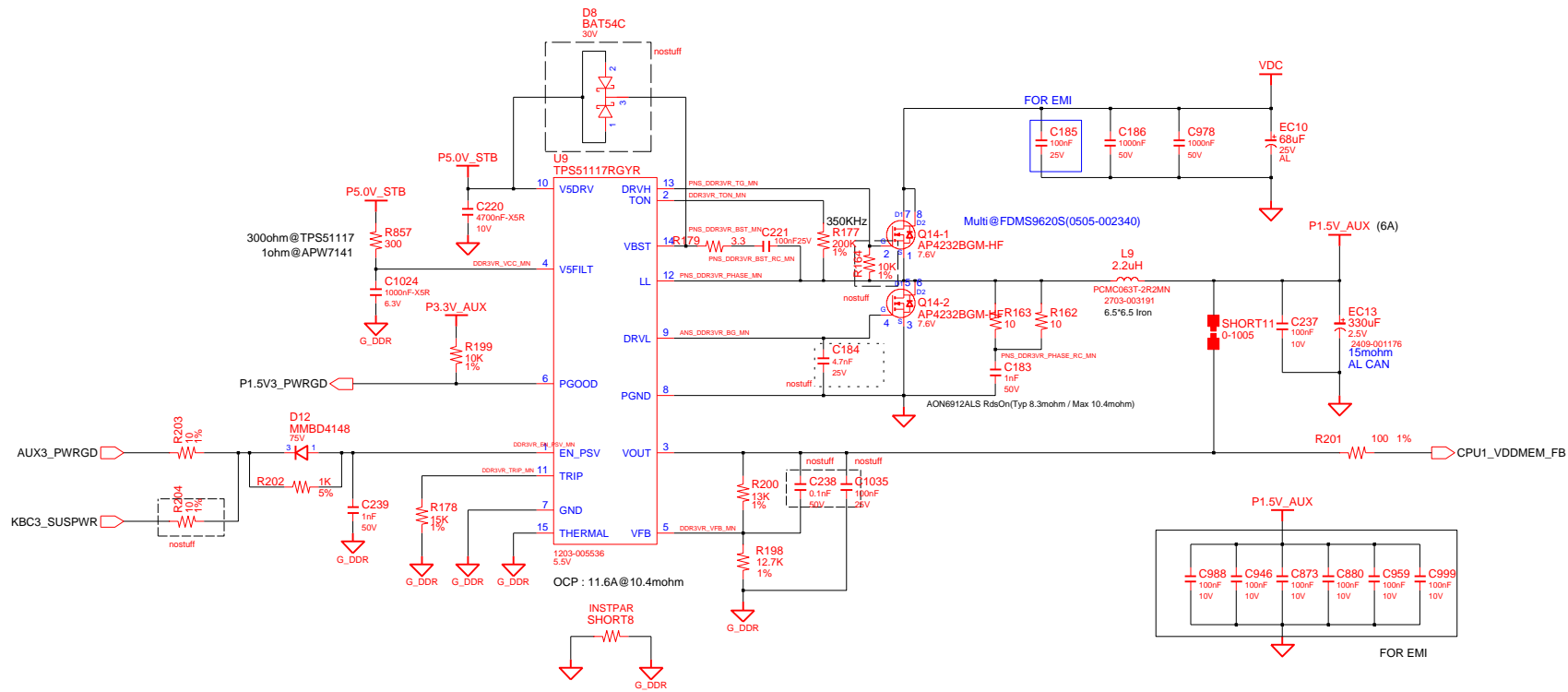


DESIGN	Curjiajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP		P1.05V	
APPROVAL	BC LEE	REV	rev. 1.0		TI TPS51117R	PART NO. BA41-0XXXXXA
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	46	OF 54

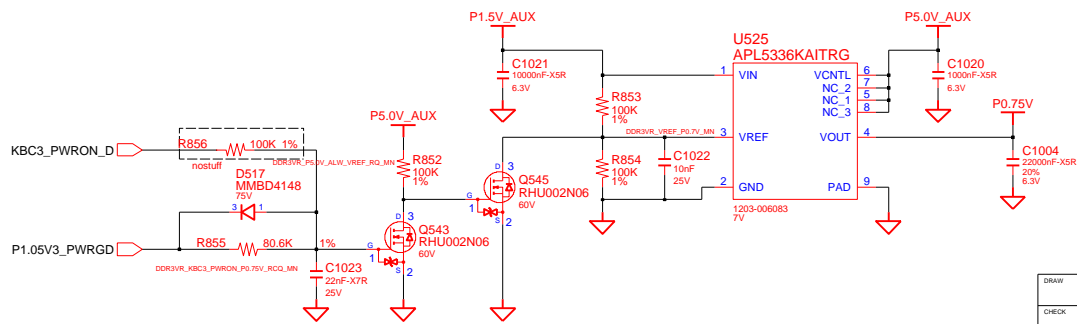
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DDR3 Power



DDR3 VTT(0.75V)

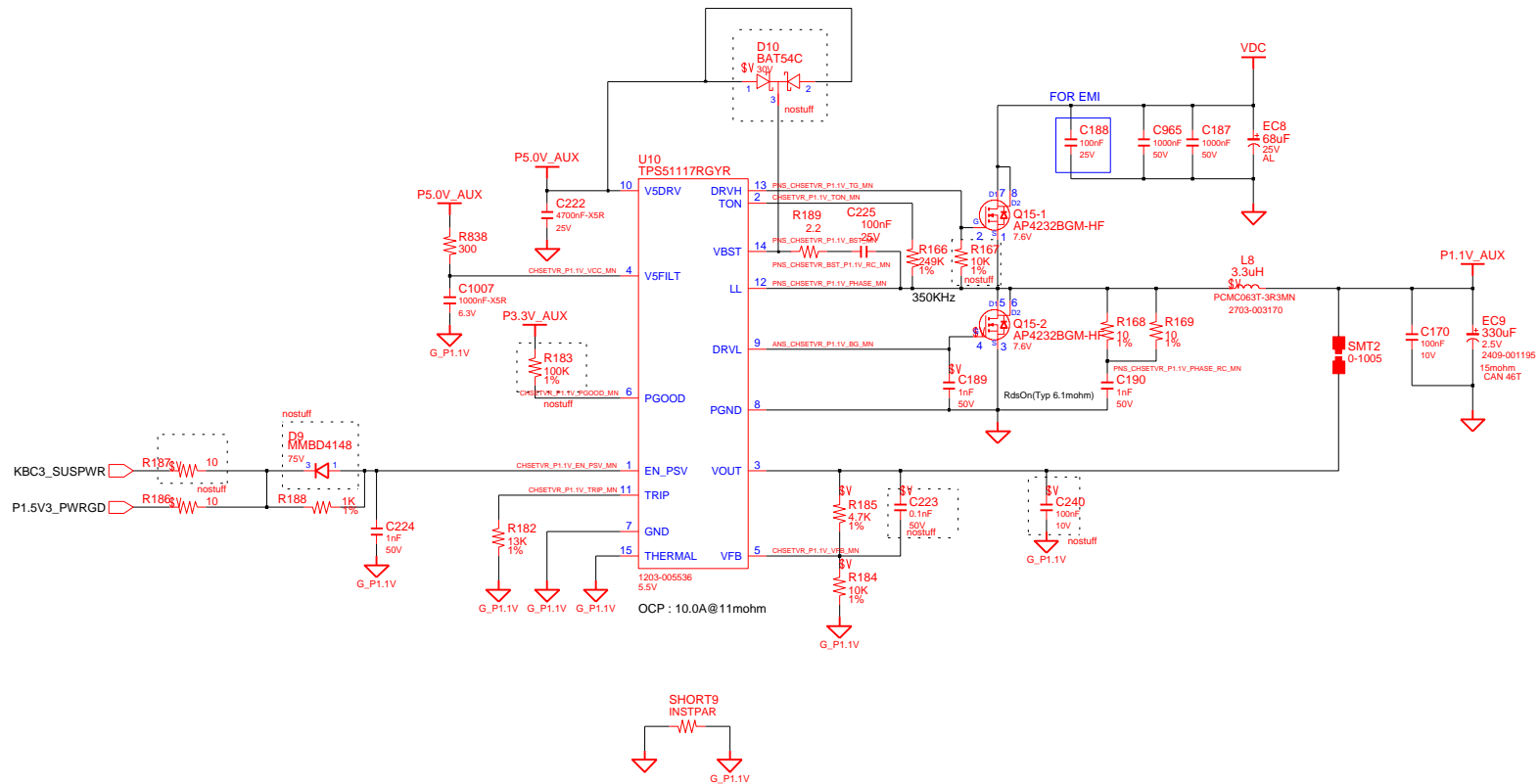


DRAW	Currijajun	DATE	8/19/2010	TITLE	SCALAE2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	PWR MEMORY	RT8207	
APPROVAL	BC LEE	REV	rev. 1.0			PART NO. BA41-0XXXXXA
MODULE CODE	undefined	LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	47	OF 54

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CHIPSET POWER(P1.1V_AUX)



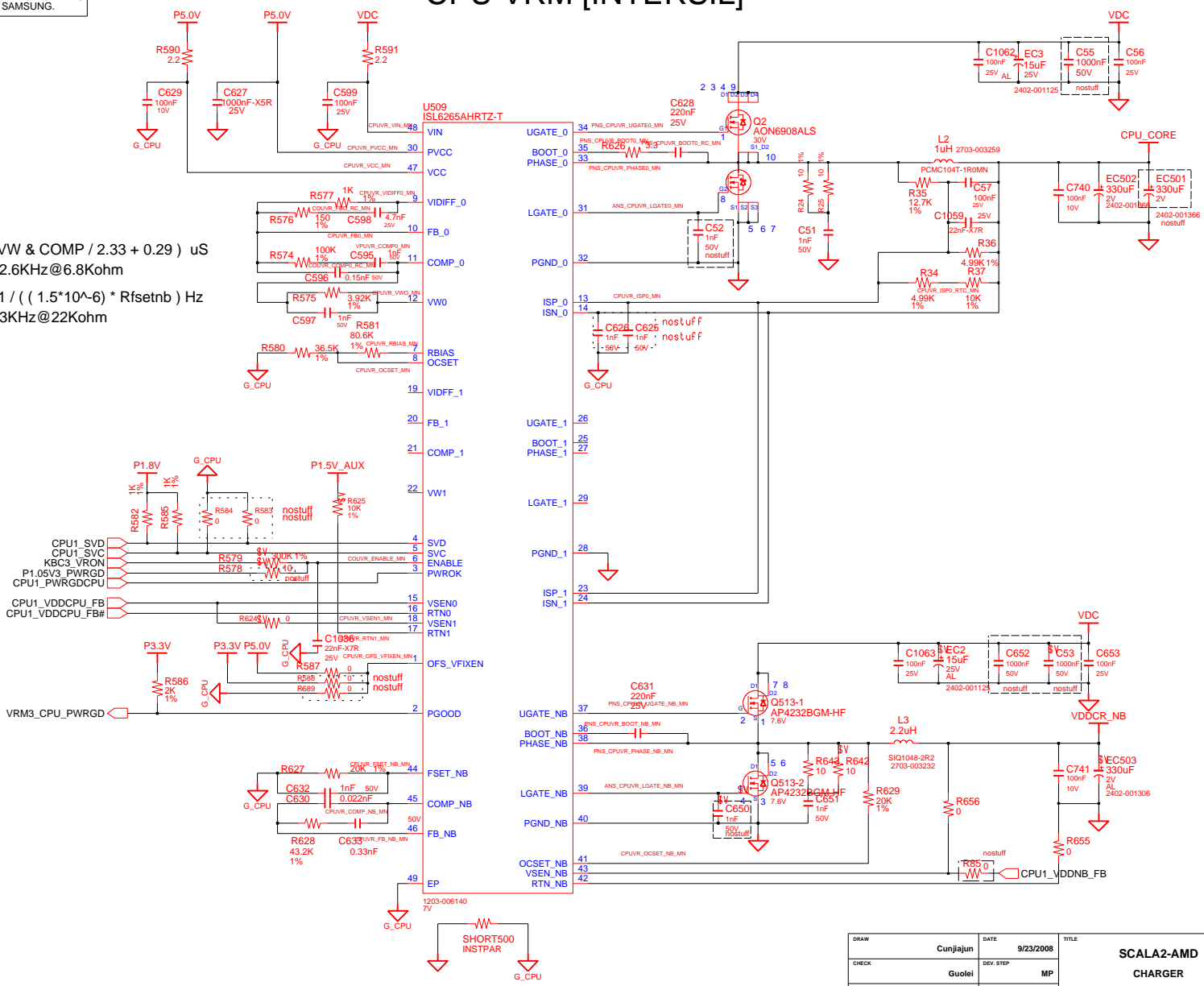
DESIGN	Cunjajun	DATE	9/23/2008	TITLE	SCALA2-AMD USB_CONN	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV.STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0		USB & eSATA	PART NO. BA41-0XXXXXA
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	48	OF 54

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CPU VRM [INTERSIL]

VDD Freq = (R_VW & COMP / 2.33 + 0.29) uS
 : 342.6KHz@6.8Kohm

VDD_NB Freq = 1 / ((1.5*10^-6) * Rfsetnb) Hz
 : 303KHz@22Kohm

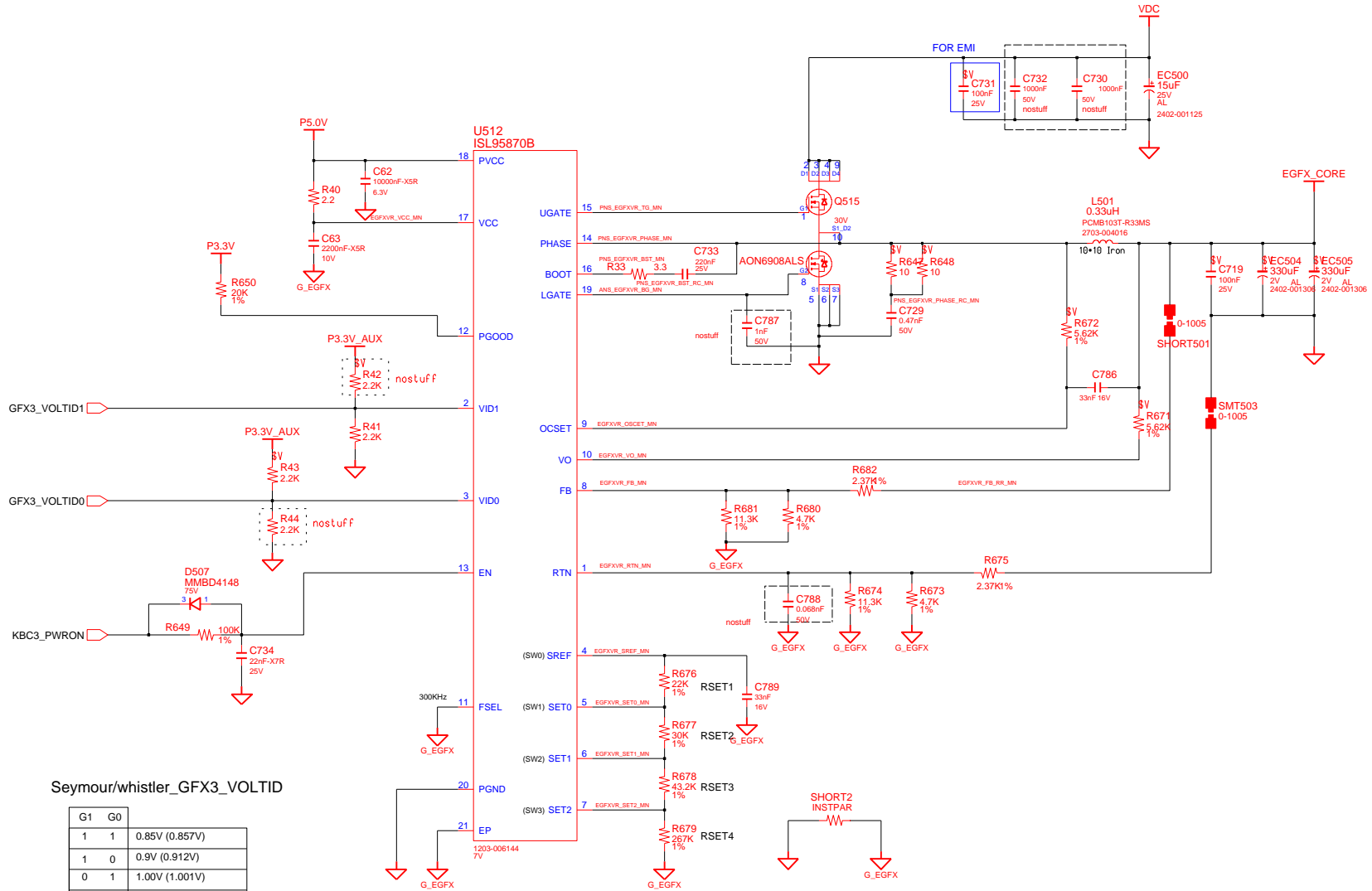


DRAW	Cunjiajun	DATE	9/23/2008	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP		CHARGER	
APPROVAL	BC LEE	REV	rev. 1.0		Intersil ISL6256A	PART NO. BA41-0XXXXXA
MODULE CODE	undefined	LAST EDIT			March 16, 2011 16:50:09 PM	PAGE 49 OF 54

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External GFX Core Power



Seymour/whistler_GFX3_VOLTID

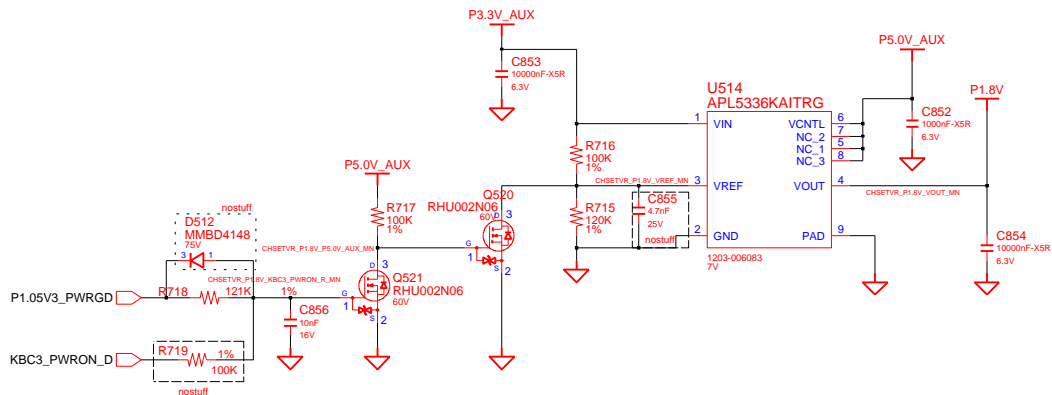
G1	G0	Voltage
1	1	0.85V (0.857V)
1	0	0.9V (0.912V)
0	1	1.00V (1.001V)
0	0	1.15V (1.162V)

DESIGN	Currijajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Guolei	DEV. STEP	MP	PWR_GFX_MV_EXT		
APPROVAL	BC LEE	REV	rev. 1.0	External Graphic Power		PART NO. BA41-0XXXXXA
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	50	OF 54

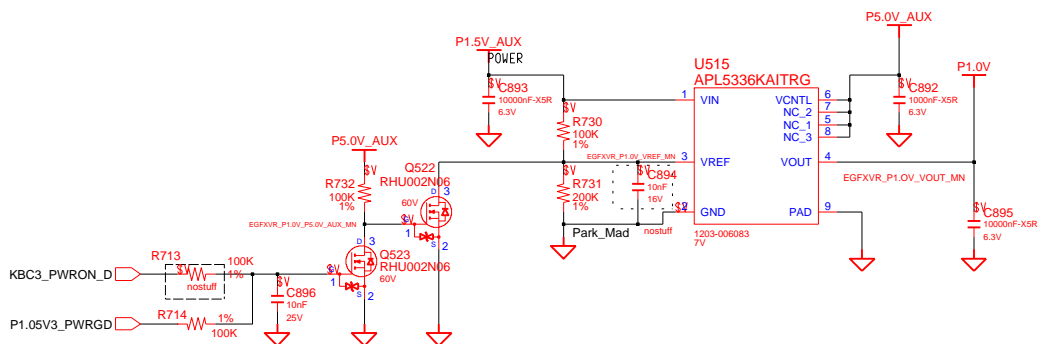
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POWER(P1.8V)



P1.0V

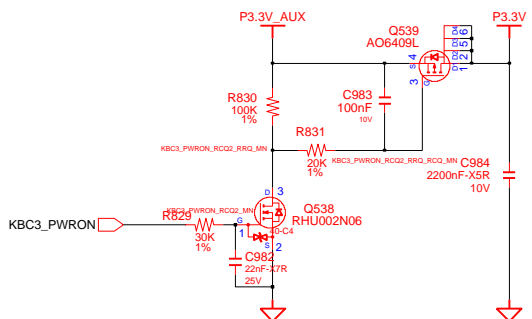


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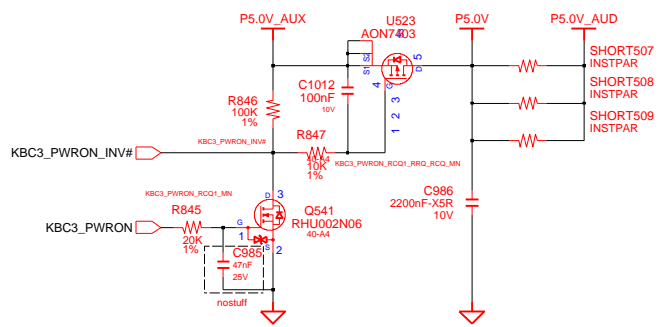
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Switched Power

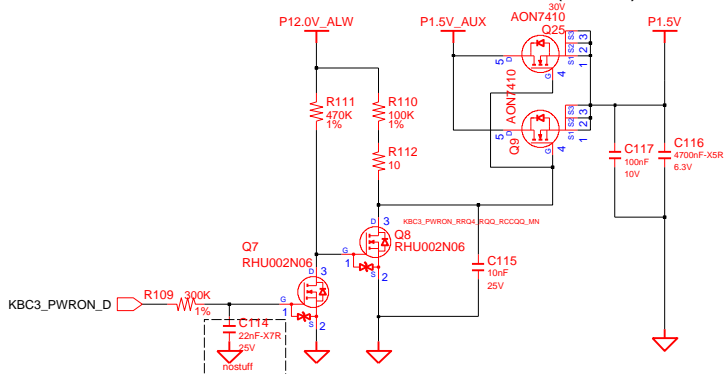
Switched Power On (P3.3V)



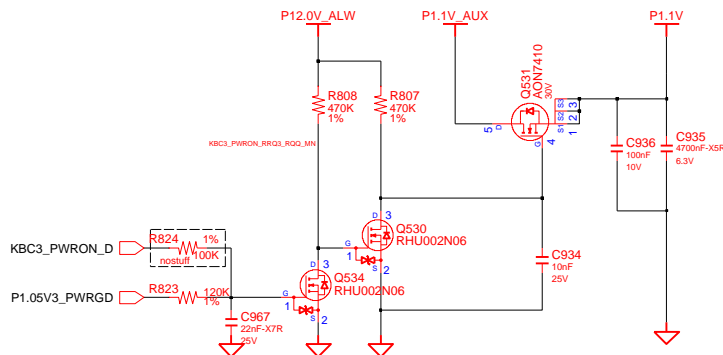
Switched Power On (P5.0V)



Switched Power On (P1.5V)



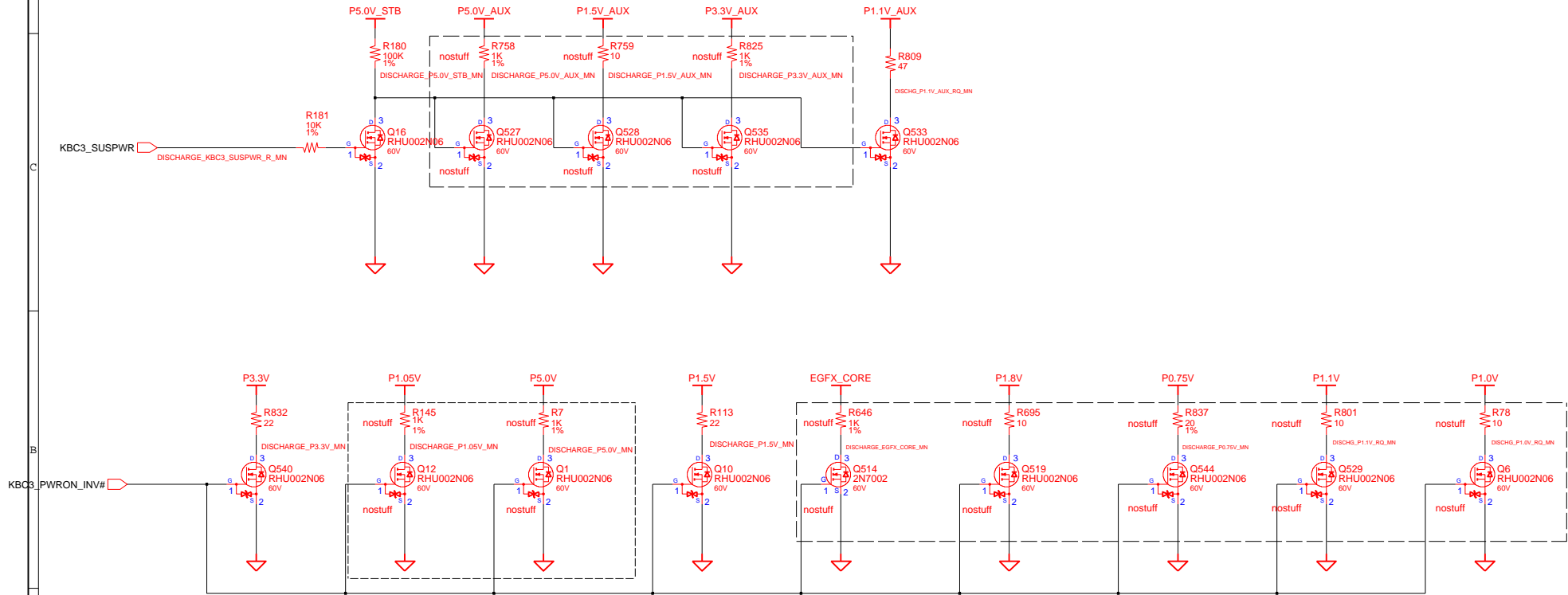
Switched Power On (P1.1V)



DRAW	Cunjiajun	DATE	01/09/2008	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS
CHECK	Cuotei	DEV. STEP	MP	PWR_MV_1.1VTT_1.05V		
APPROVAL	BC LEE	REV	rev. 1.0	TI TPS51125	PART NO.	BA41-0XXXXXA
MODULE CODE	undefined	LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	52	OF 54

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POWER DISCHARGER



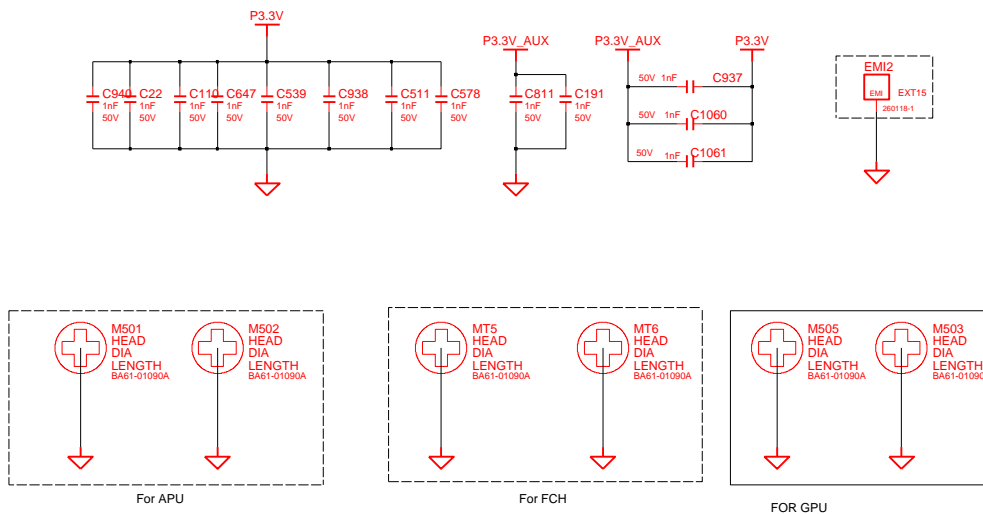
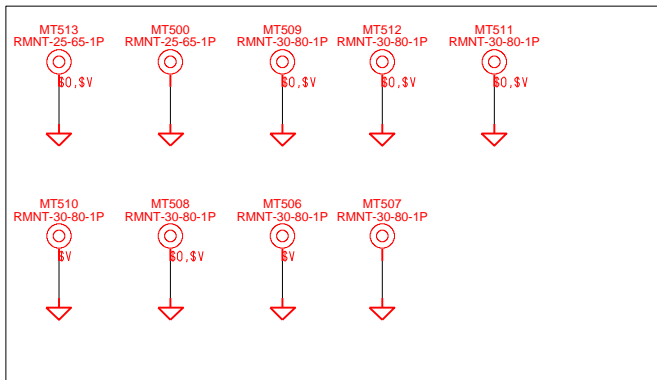
DRAW	Cunjiajun	DATE	8/19/2010	TITLE	SCALA2-AMD	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP	PWR_MV_DISCHARGER		
APPROVAL	BC LEE	REV	rev. 1.0	DISCHARGING LOGIC		
MODULE CODE	undefined	LAST EDIT	March 16, 2011 16:50:09 PM	PAGE	53 OF 54	

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EMI CAP

Mainboard Mount ((25-65)X2EA, (30-80)X7EA)



DRAW	Cunjajun	DATE	5/10/2010	TITLE	SCALA2-AMD Switched PWR 2 FOR OPTIMUS PWR	SAMSUNG ELECTRONICS PART NO. BA41-0XXXXXA
CHECK	Guolei	DEV. STEP	MP			
APPROVAL	BC LEE	REV	rev. 1.0			
MODULE CODE		LAST EDIT	March 16, 2011 16:50:09 PM	PAGE 54 OF 54		