

**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
 PROPRIETARY INFORMATION THAT IS  
 SAMSUNG ELECTRONICS CO.'S PROPERTY.  
 DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
 EXCEPT AS AUTHORIZED BY SAMSUNG.

# SUZHOU-D

CPU : AMD Caspin  
 Chip Set : AMD RX881+SB710  
 Remarks : Tigris Platform

Model Name : Suzhou-D  
 PBA Name : MAIN  
 PCB Code : GCE :  
                   NAN :  
                   HAN :  
 Dev. Step : PV  
 Revision : 1.0  
 T.R. Date : 2009.11.10

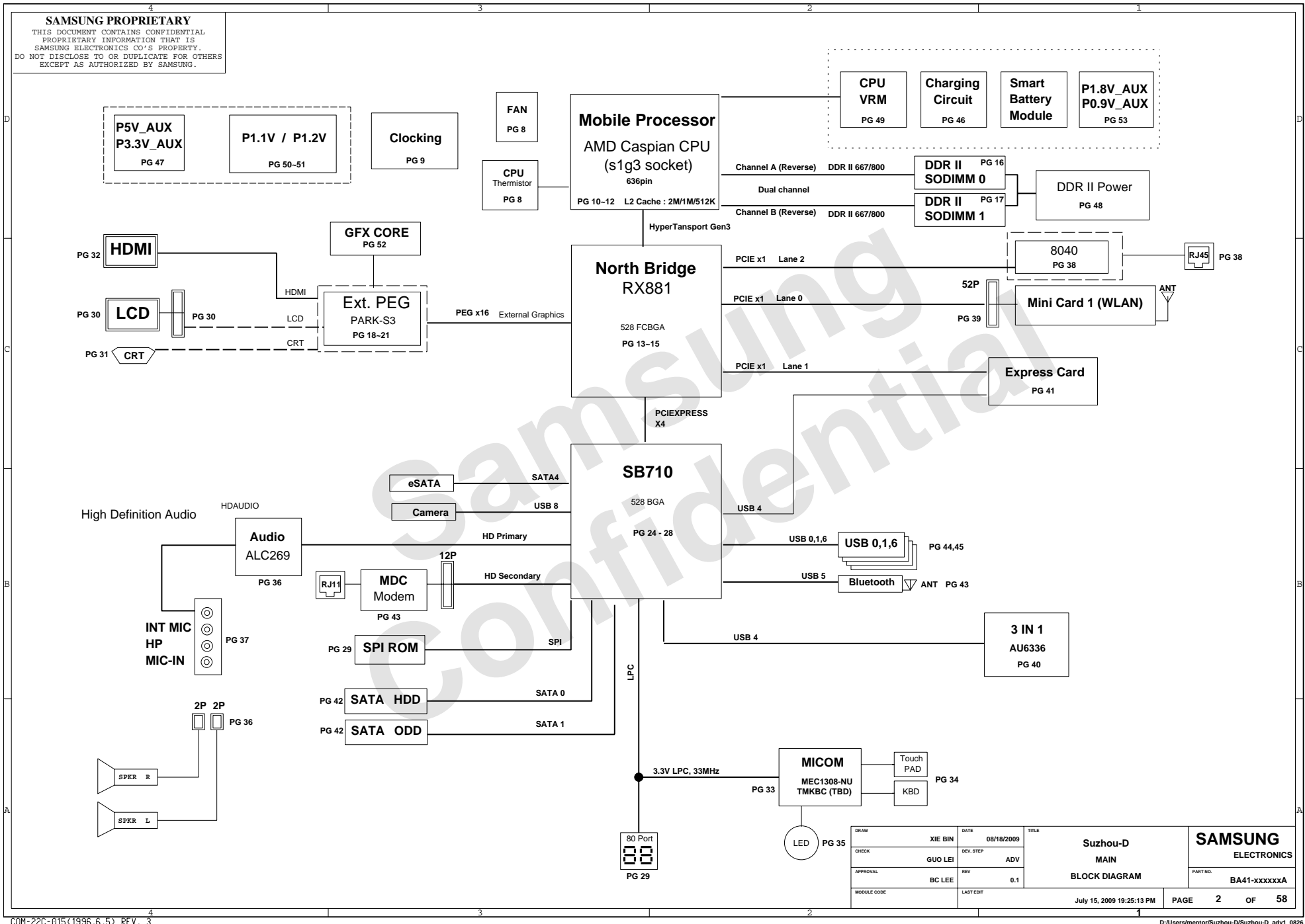
Design	CHECK	APPROVAL
XIE BIN	GUO LEI	BC LEE

■ Owner : SEC Mobile R & D      Signature : X

## Table of Contents

Page. 1	----	COVER
Page. 2	----	OPERATION BLOCK DIAGRAM
Page. 3	----	BOARD INFORMATION
Page. 4	----	POWER DIAGRAM
Page. 5	----	POWE RAILS ANALYSIS
Page. 6	----	TIMING DIAGRAM, POWER ON
Page. 7	----	CLOCK DISTRIBUTION
Page. 8	----	THERMAL SENSOR&FAN CONTROL
Page. 9	----	CLOCK GEN.
Page. 10~12	----	S1g3 CPU
Page. 13~15	----	RX881M
Page. 16~17	----	SODIMM DDR2
Page. 18~22	----	SB710
Page. 23	----	SPI BIOS ROM
Page. 24~27	----	PARK-S3
Page. 28~29	----	gDDR3
Page. 30	----	LVDS (LCD CONNECTOR)
Page. 31	----	CRT CONNECTOR
Page. 32	----	HDMI CONNECTOR
Page. 33	----	MICOM
Page. 34	----	KBD CONN & TOUCHPAD
Page. 35	----	LED LOGIC
Page. 36~37	----	AUDIO
Page. 38	----	LOM(Marvell 88E8040)
Page. 39	----	WLAN
Page. 40	----	MEMORY CARD (AU6336)
Page. 41	----	EXPRESS CARD
Page. 42	----	HDD & ODD
Page. 43	----	MDC CONN. & BLUETOOTH
Page. 44	----	USB CONNECTOR
Page. 45	----	SUB BOARD_POWER SWITCH
Page. 46	----	CHARGER
Page. 47	----	P3.3V_AUX & P5.0V_AUX & P12V_ALW
Page. 48	----	DDR2 POWER & P0.9V_AUX
Page. 49	----	CPU VRM
Page. 50~51	----	CHIPSET POWER(P1.1V & P1.2V)
Page. 52	----	GFX POWER
Page. 53	----	gDDR3 POWER & P1.0V
Page. 54	----	SWITCHED POWER (P5.0V & P3.3V & P 2.5V & P1.8V & P1.2V_AUX)
Page. 55	----	POWER DISCHARGER
Page. 56	----	MOUNT HOLE
Page. 57	----	TEST POINT

DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG ELECTRONICS PART NO. BA41-xxxxxxA
CHECK	GUO LEI	DEV. STEP	ADV		MAIN	
APPROVAL	BC LEE	REV	0.1		COVER	
MODULE CODE		LAST EDIT	July 15, 2009 19:25:13 PM	PAGE	1 OF 58	



**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

**BOARD INFORMATION****SCHEMATIC ANNOTATIONS AND BOARD INFORMATION****Voltage Rails**

VDC	Primary DC system power supply (7 to 21V)
CPU_CORE0	Core Voltage for CPU
CPU_CORE1	Core Voltage for CPU
EGFX_CORE	Core Voltage for GPU
P1.1V	VTT for M92, RX881
P1.2V	Core Voltage for SB710
P3.3V_MICOM	3.3V always power rail (for Micom)
P1.5V	1.5V switched power rail (off in S3-S5)
P1.8V	1.8V switched power rail (off in S3-S5)
P1.8V_AUX	1.8V power rail for DDR (off in S4-S5)
P0.9V_AUX	0.9V power rail for DDR (off in S3-S5)
P3.3V	3.3V switched power rail (off in S3-S5)
P3.3V_AUX	3.3V switched on power rail (off in S4-S5)
P5.0V	5.0V switched power rail (off in S3-S5)
P5.0V_AUX	5.0V switched on power rail (off in S4-S5)
P5.0V_STB	5.0V always power rail
P12.0V_ALW	12.0V always power rail

**Crystal / Oscillator**

TYPE	FREQUENCY	DEVICE	USAGE
Crystal	32.768KHz	SB710	Real Time Clock
Crystal	10MHz	MICOM	MEC1308-NU
Crystal	14.318MHz	CLOCK-Generator	CK-505
Crystal	25MHz	LAN	88E8040
Crystal	25MHz	SATA	SB710

**I<sup>2</sup>C / SMB Address**

Devices	Address	Hex	Bus
SB710	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 (Clock Generator)	1101 0010	D2h	Clock, Unused Clock Output Disable

**USB PORT Assign**

PORT #	ASSIGNED TO
0	SYSTEM PORT 0
1	SYSTEM PORT 1
2	NC
3	NC
4	3 IN 1
5	Bluetooth
6	SYSTEM PORT 2
7	NC
8	Camera
9	NC
10	EXPRESS CARD

**PCI Express Assign**

PORT #	ASSIGNED TO
0	Mini Card (WLAN)
1	EXPRESS CARD
2	LOM
3	NC
4	NC
5	NC

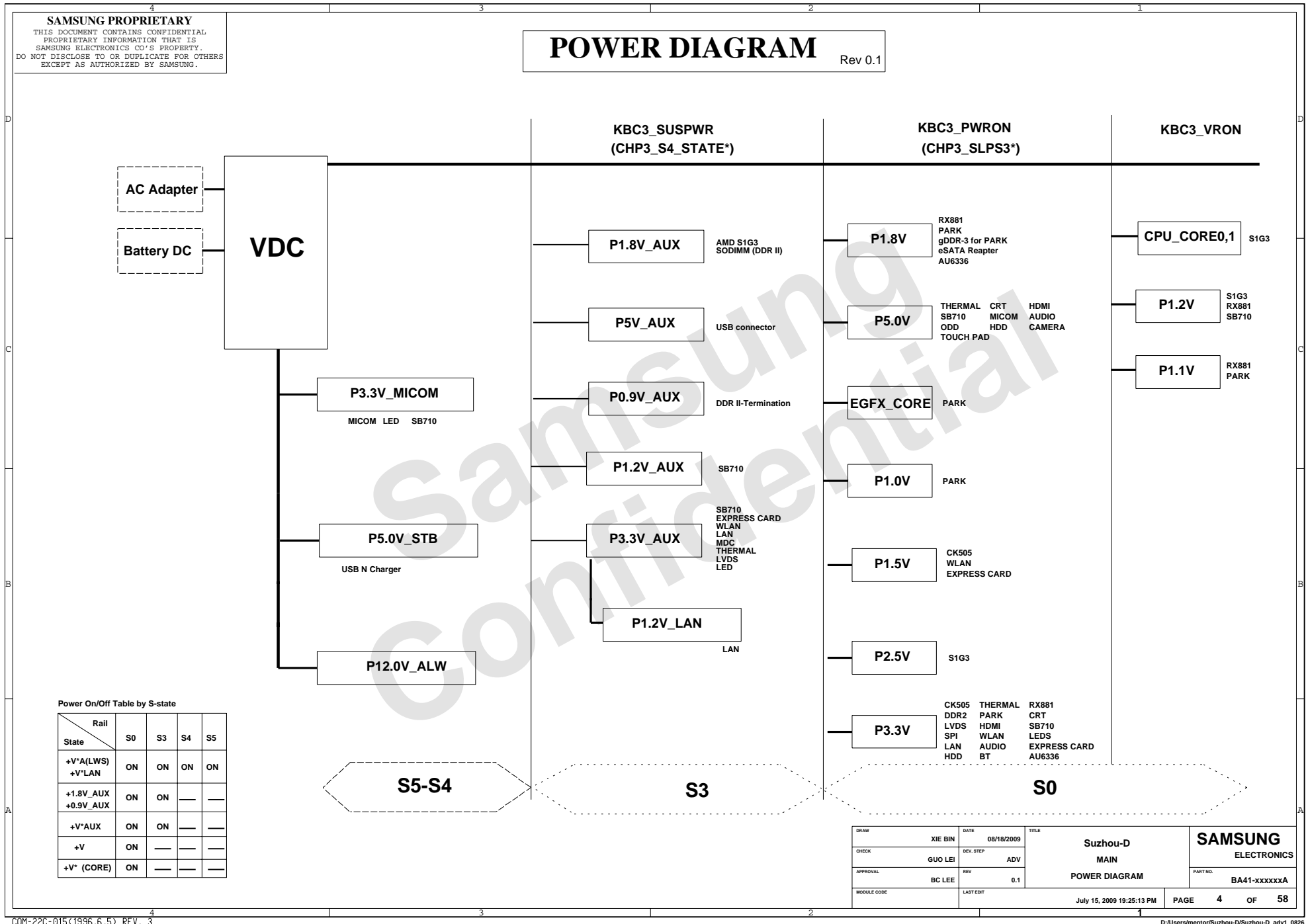
**LCD Pannel Detect (TBD)**

Devices	Resolution	PANNEL_DETECT_0(strap0)

**REVISION HISTORY**

See rev notes for more information.

DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	ADV	MAIN		
APPROVAL	BC LEE	REV	0.1	BOARD INFORMATION	PART NO.	BA41-xxxxxxA
MODULE CODE		LAST EDIT	July 15, 2009 19:25:13 PM	PAGE	3	OF 58

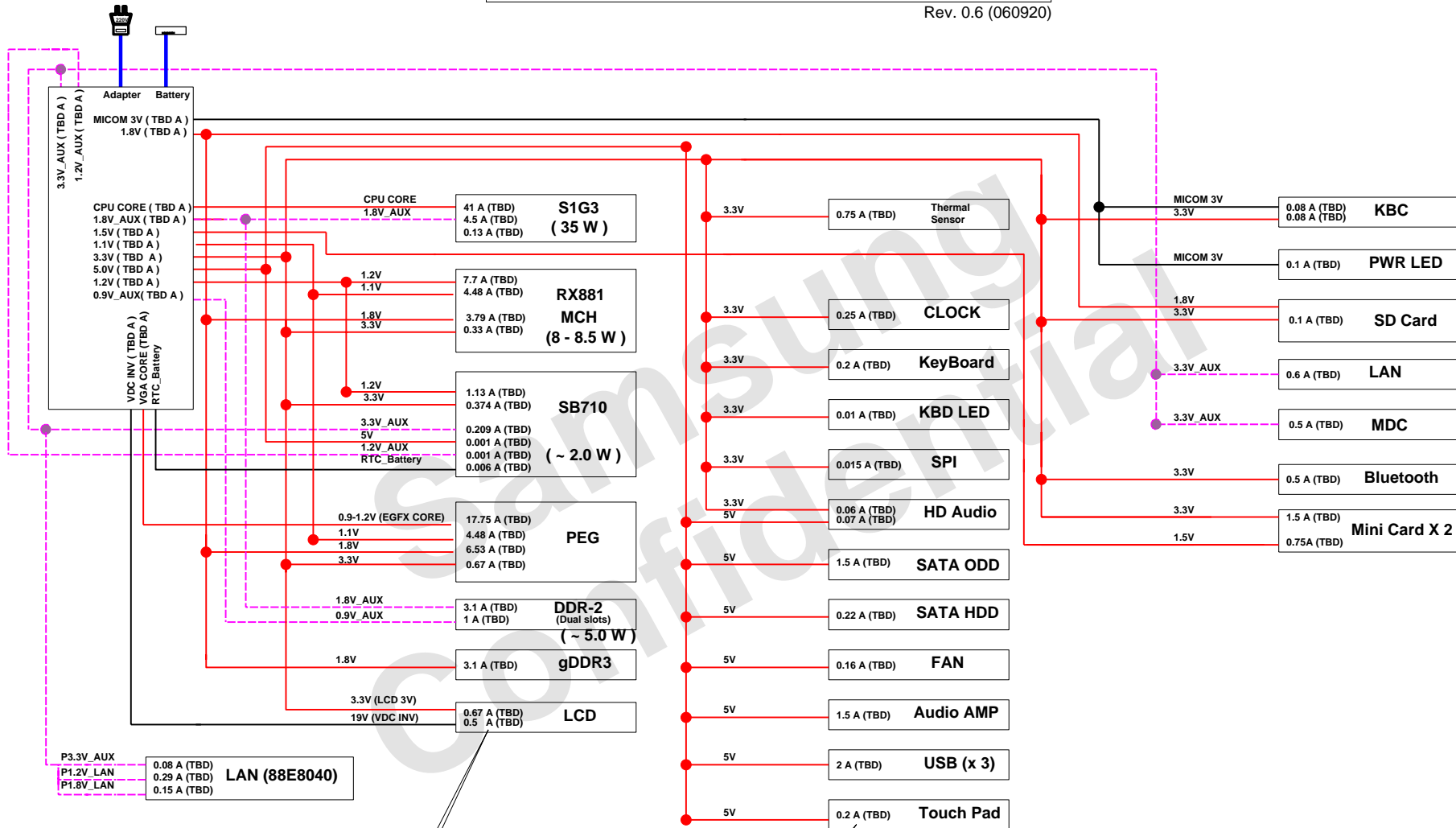


## SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

## POWER RAILS ANALYSIS

Rev. 0.6 (060920)

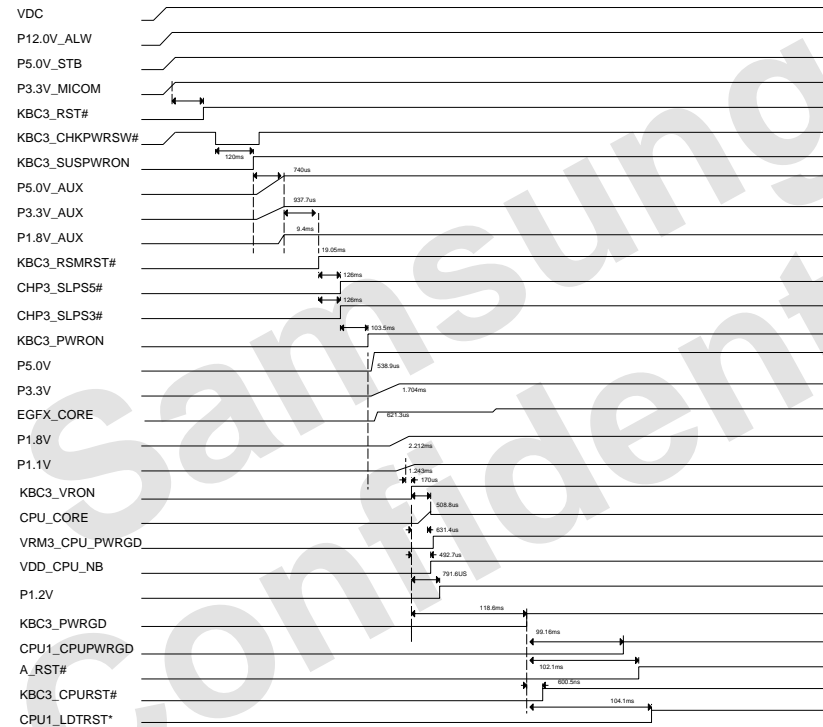


Value by Datasheet/Application notes (Value by measurement)

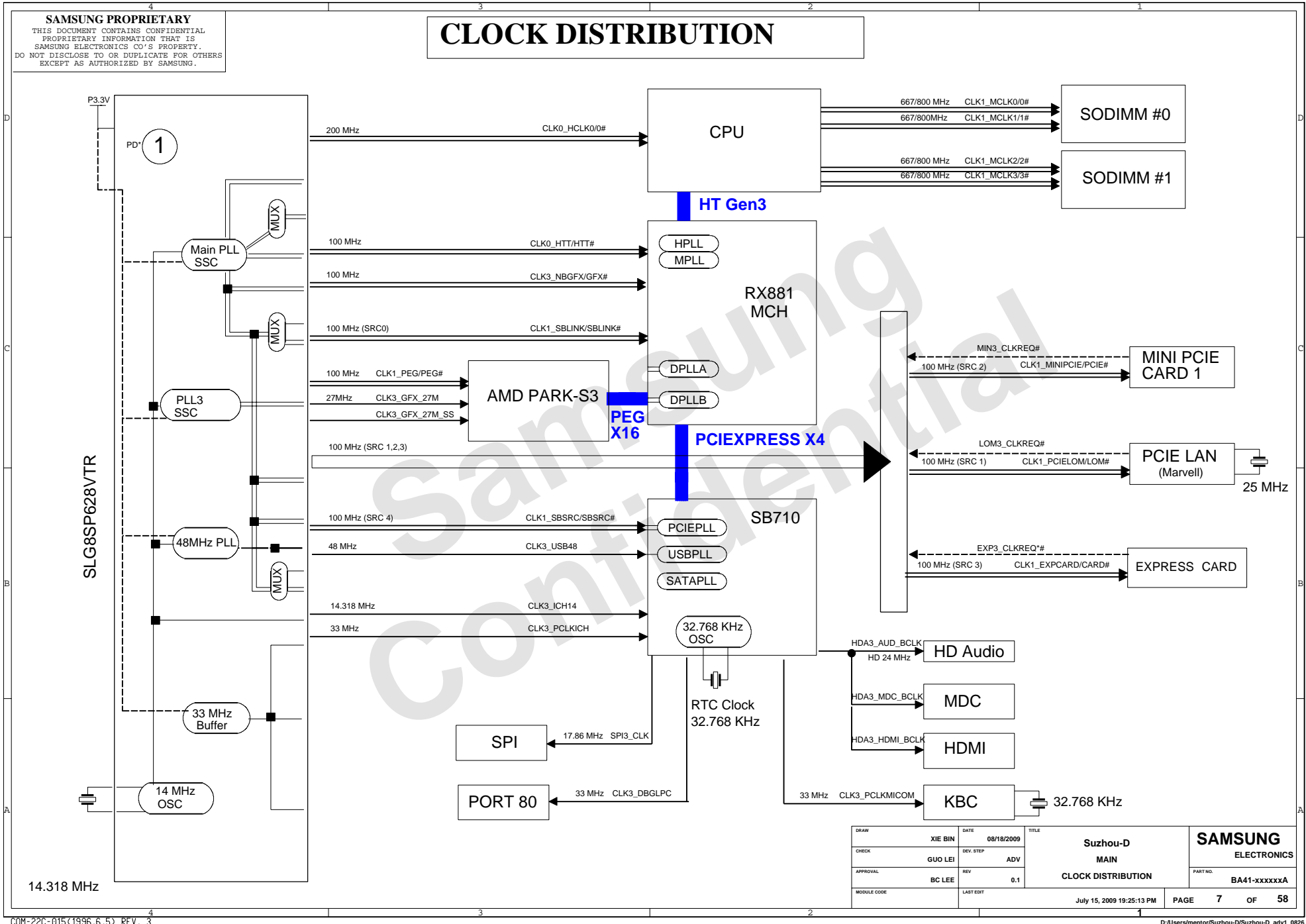
DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV	MAIN	POWER RAILS ANALYSIS	ELECTRONICS
APPROVAL	BC LEE	REV	0.1			PART NO.
MODULE CODE		LAST EDIT				BA41-xxxxxxA
				July 15, 2009 19:25:13 PM	PAGE	5 OF 58

**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

**Timing Diagram, Power ON** Rev..1.0 2009-08-27

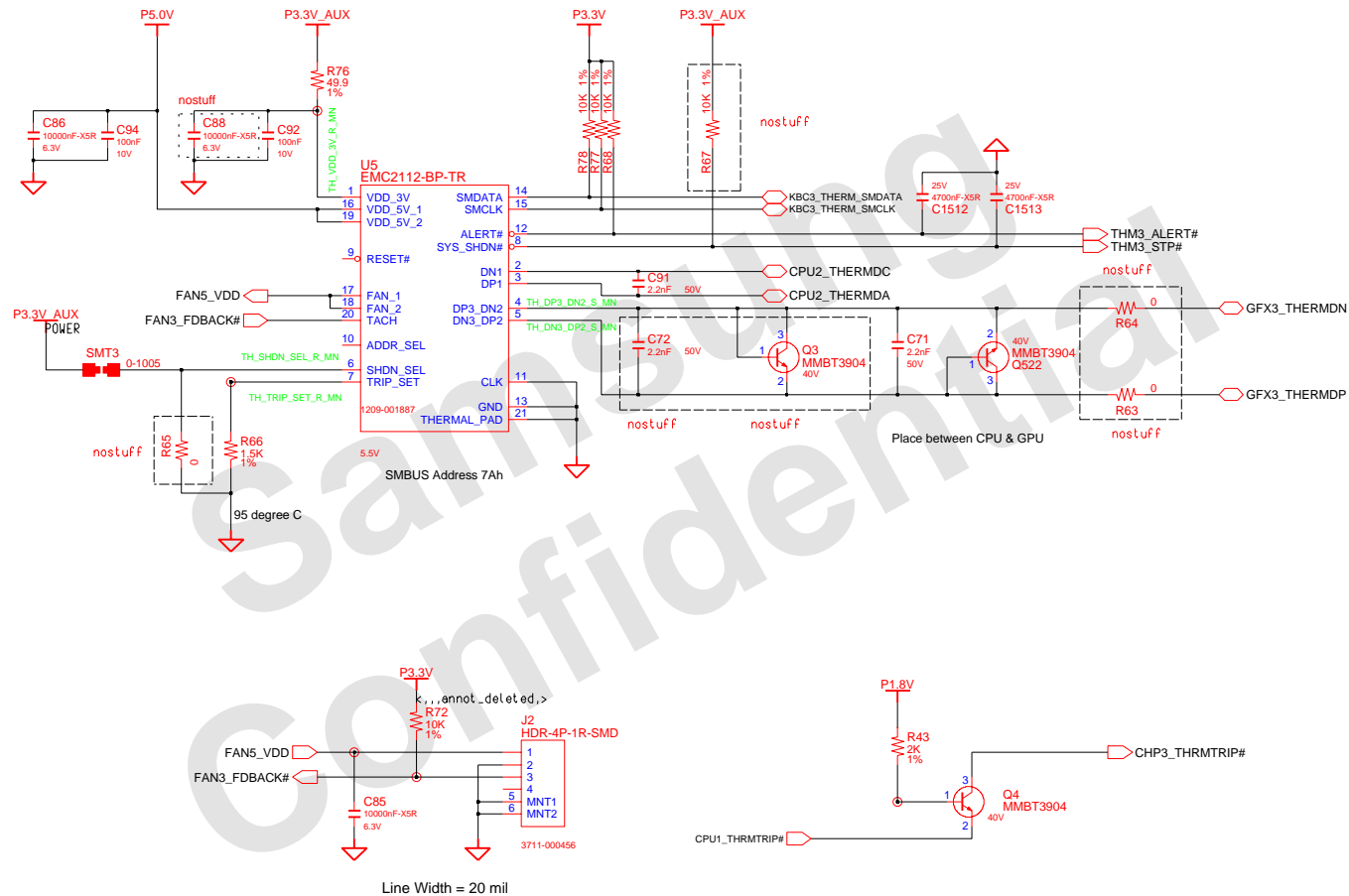
DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV	MAIN		ELECTRONICS
APPROVAL	BC LEE	REV	0.1	TIMING DIAGRAM		PART NO.
MODULE CODE		LAST EDIT	July 15, 2009 19:25:13 PM			BA41-xxxxxxA
				PAGE	6	OF 58



# SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

## THERMAL SENSOR & FAN CONTROL



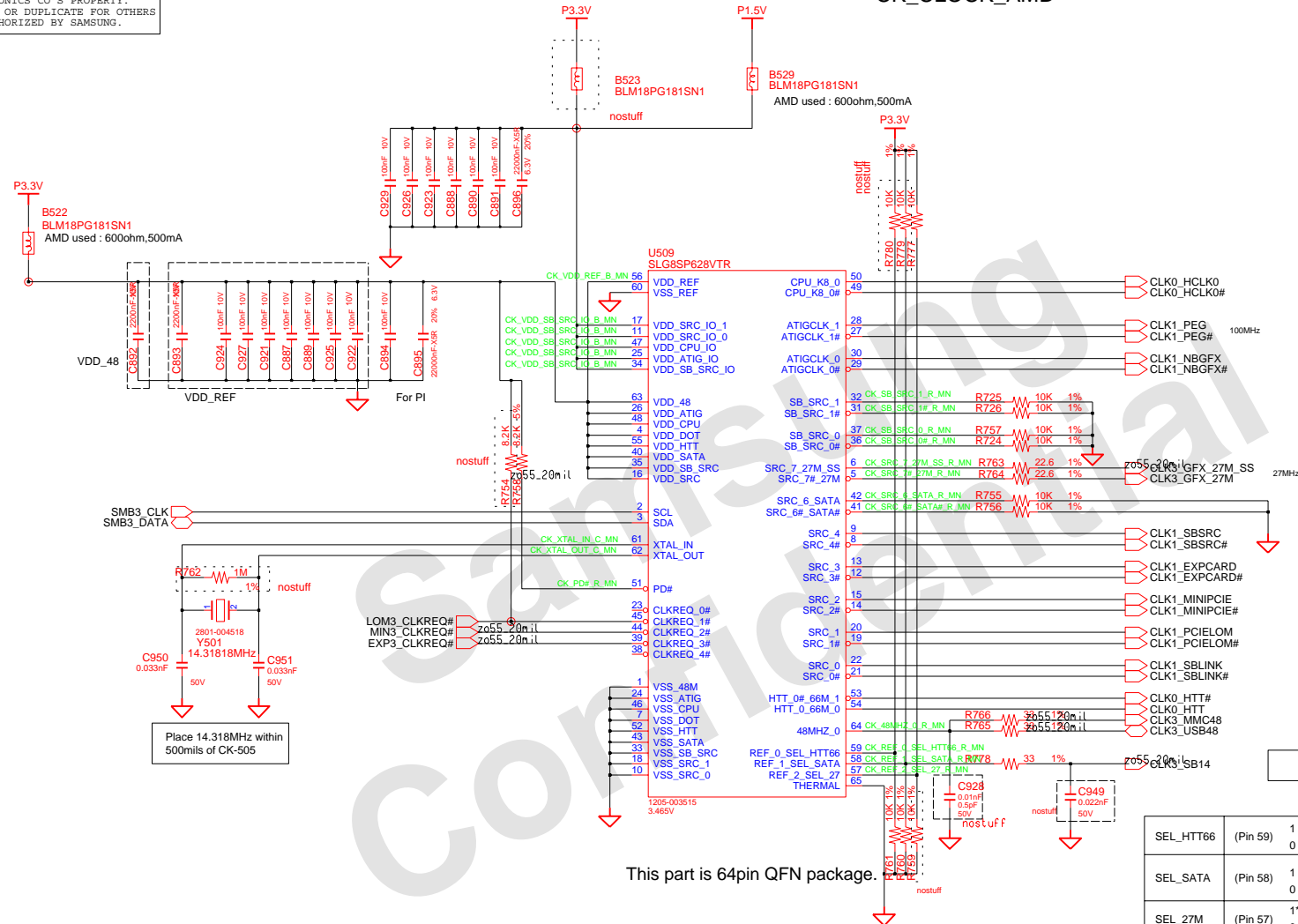
### SHDN\_SEL MODE

0	CH1(CPU MODE)
HIGH Z	CH3(DIODE MODE)
1	N/A (SHDN# NOT USED)

DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV		THERMAL SENSOR	ELECTRONICS
APPROVAL	BC LEE	REV	0.1		EMC2112	PART NO.
MODULE CODE		LAST EDIT	July 15, 2009 19:25:13 PM			BA41-xxxxxA
			PAGE	8	OF	58

**SAMSUNG PROPRIETARY**  
THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

## CK\_CLOCK\_AMD



This part is 64pin QFN package.

SB710 : 1.1V (OSC\_14MHz)

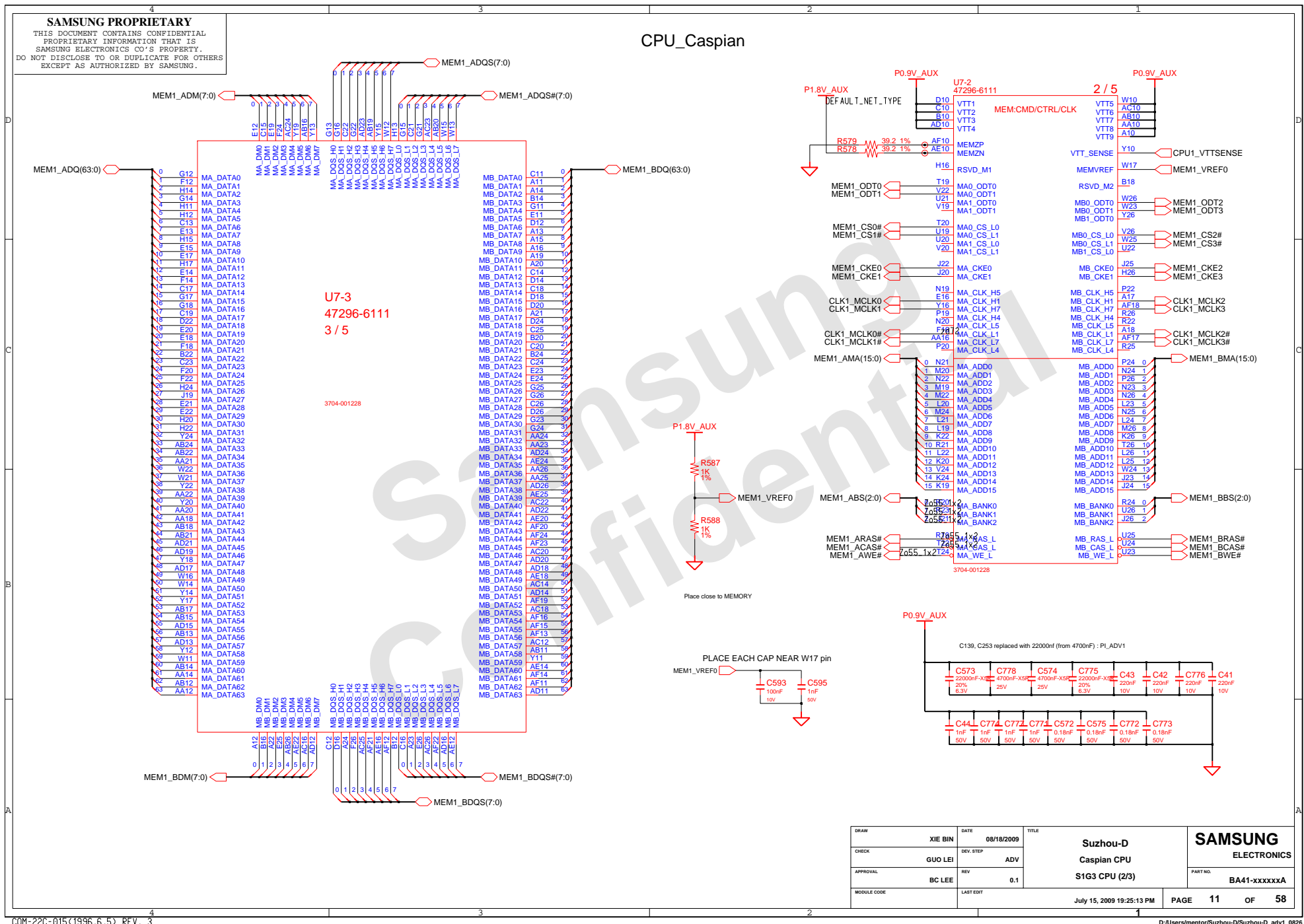
DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV	Main Clock Circuit		ELECTRONICS
APPROVAL	BC LEE	REV	0.1	CK for AMD CPU		PART NO.
MODULE CODE		LAST EDIT				BA41-xxxxxxA
				July 15, 2009 19:25:13 PM	PAGE	9 OF 58

DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D Caspian CPU S1G3 CPU (1/3)	SAMSUNG		
CHECK	GUO LEI	DEV. STEP	ADV			ELECTRONICS		
APPROVAL	BC LEE	REV	0.1			PART NO.	BA41-xxxxxxA	
MODULE CODE	LAST EDIT					July 15, 2009 19:25:13 PM	PAGE	10 OF 58

## CPU\_Caspian

## SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
 PROPRIETARY INFORMATION THAT IS  
 SAMSUNG ELECTRONICS CO.'S PROPERTY.  
 DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
 EXCEPT AS AUTHORIZED BY SAMSUNG.

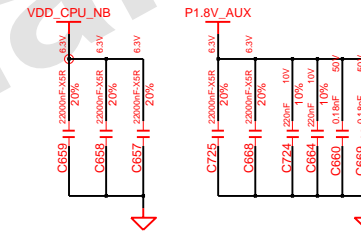
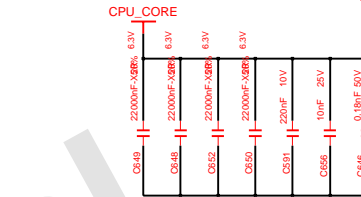
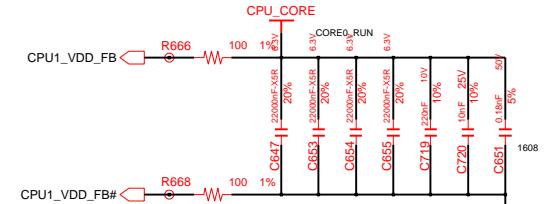
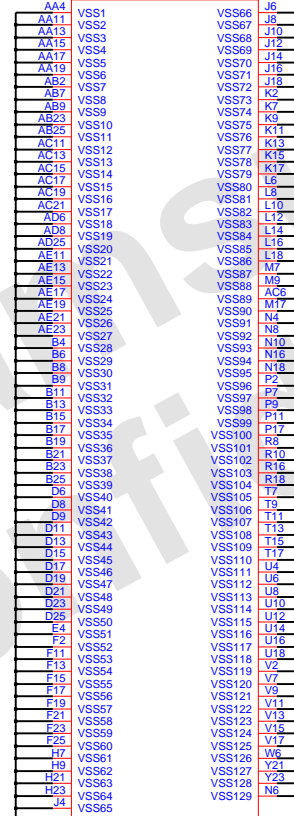
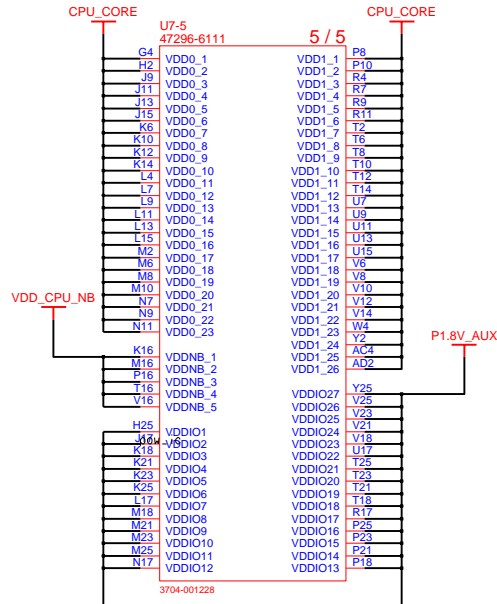


DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D
CHECK	GUO LEI	DEV. STEP	ADV	Caspian CPU	
APPROVAL	BC LEE	REV	0.1	S1G3 CPU (2/3)	
MODULE CODE		LAST EDIT		July 15, 2009 19:25:13 PM	
PAGE 11 OF 58					

# SAMSUNG PROPRIETARY

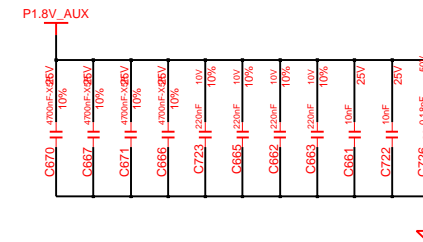
THIS DOCUMENT CONTAINS CONFIDENTIAL  
 PROPRIETARY INFORMATION THAT IS  
 SAMSUNG ELECTRONICS CO.'S PROPERTY.  
 DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
 EXCEPT AS AUTHORIZED BY SAMSUNG.

## CPU\_Caspian



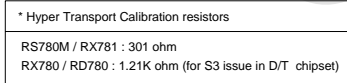
Bottom side decoupling

Decoupling between processor and Memory  
 Place close to processor as possible




DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV	Caspian CPU	ELECTRONICS	
APPROVAL	BC LEE	REV	0.1	S1G3 CPU (3/3)	PART NO.	BA41-xxxxxA
MODULE CODE		LAST EDIT		July 15, 2009 19:25:13 PM	PAGE	12 OF 58

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.



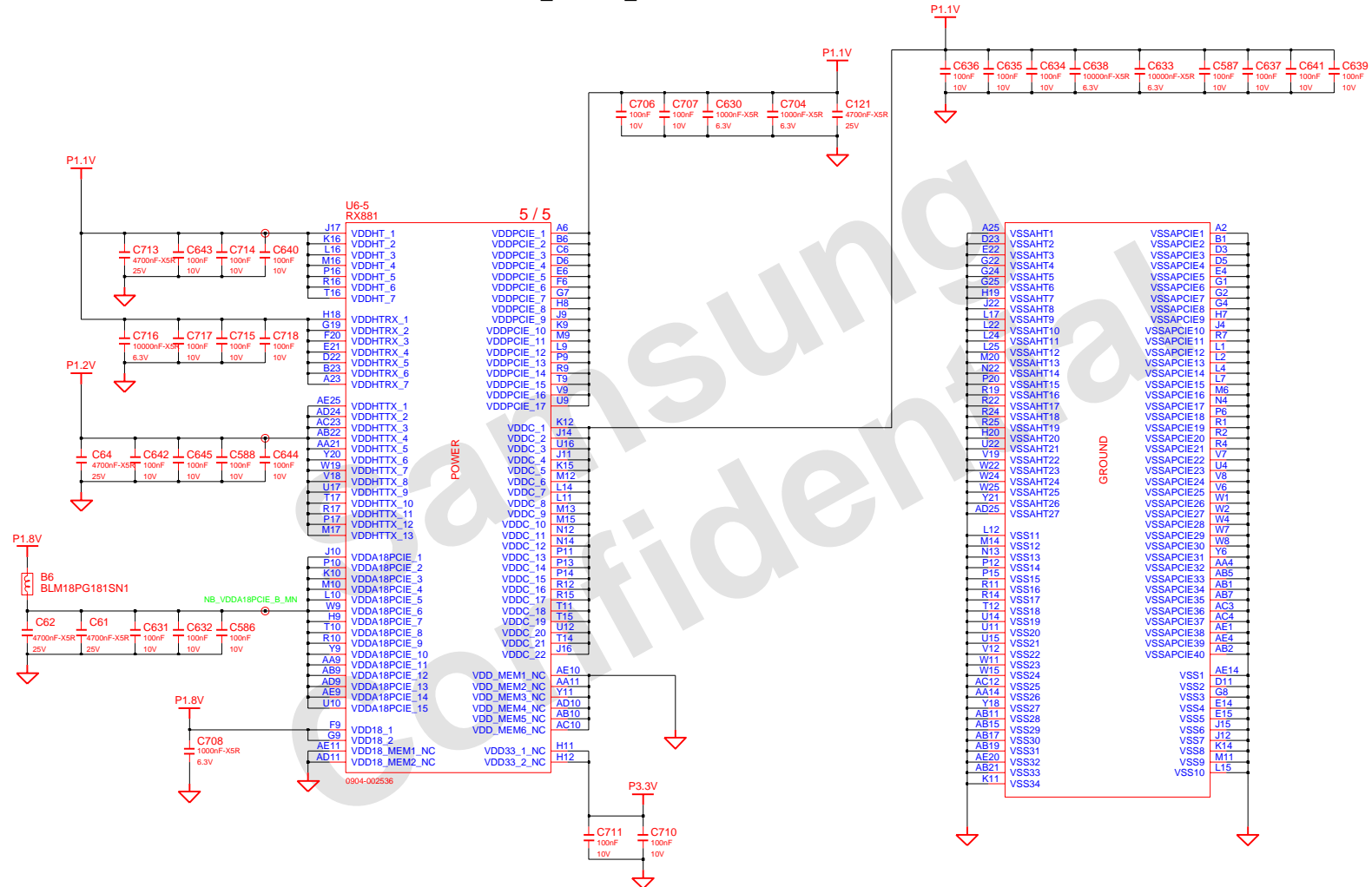
Place near MCH & Heatsink

DRAW		XIE BIN		DATE	08/18/2009		TITLE	Suzhou-D MCH RX881 (1/3)				
CHECK		GUO LEI		DEV. STEP		ADV				PART NO.		
APPROVAL		BC LEE		REV		0.1				BA41-xxxxxxA		
MODULE CODE		LAST EDIT								July 15, 2009 19:25:13 PM		PAGE

D:/Users/mentor/Suzhou-D/Suzhou-D\_adv1\_0826

**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
 PROPRIETARY INFORMATION THAT IS  
 SAMSUNG ELECTRONICS CO.'S PROPERTY.  
 DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
 EXCEPT AS AUTHORIZED BY SAMSUNG.

**NB\_RX881\_AMD**


DRAW	XIE BIN	DATE	08/18/2009	TITLE  Suzhou-D MCH RX881 (3/3)		<b>SAMSUNG</b> ELECTRONICS			
CHECK	GUO LEI	DEV. STEP	ADV						
APPROVAL	BC LEE	REV	0.1						
MODULE CODE		LAST EDIT		July 15, 2009 19:25:13 PM		PAGE	15	OF	58

DDR1-1  
DDR2-SODIMM-200P-RVS  
1/2

MEM1\_AMA[15:0] 0 102 A0 D00 5 0  
1 101 A1 D01 7 0  
2 100 A2 D02 17 2  
3 99 A3 D03 19 2  
4 98 A4 D04 19 2  
5 97 A5 D05 6 5  
6 94 A6 D06 14 5  
7 92 A7 D07 16 7  
8 93 A8 D08 23 8  
9 91 A9 D09 25 8  
10 105 A10 AP D09 35 10  
11 90 A11 D10 37 11  
12 89 A12 D11 20 12  
13 116 A13 D12 22 13  
14 86 A14 D13 36 14  
15 84 A15 D14 38 15  
MEM1\_ABS[2] 85 A16 BA2 D15 43 16  
107 BA0 D17 45 17  
MEM1\_ABS[0] 106 BA1 D18 57 19  
MEM1\_ABS[1] 110 S0\* D19 44 20  
MEM1\_CS0# 115 S1\* D20 46 21  
MEM1\_CS1# 30 C0 D21 58 22  
0.0015F S50721 32 C0\* D22 58 22  
C582 164 CK1 D23 61 24  
0.0015nF SOV 166 CK1\* D24 75 27  
MEM1\_CKE0 80 CKE0 D25 62 28  
MEM1\_CKE1 113 CAS\* D26 64 29  
MEM1\_ACAS# 108 RAS\* D27 74 30  
MEM1\_ARAS# 109 WE\* D28 76 31  
MEM1\_AWE# C033 D29 123 33  
MEM1\_SAG R 109 SA0 D30 125 33  
R566 10K 1% MEM1\_SAI R 1020 SA1 D31 134 34  
SMB3\_CLK 197 SCL D32 137 35  
SMB3\_DATA 195 SDA D33 126 36  
MEM1\_ODT0 114 ODT0 D34 134 38  
MEM1\_ODT1 119 ODT1 D35 136 39  
MEM1\_ADM[7:0] 114 ODT0 D40 141 40  
MEM1\_ODT1 119 ODT1 D41 143 41  
MEM1\_ADM[7:0] 0 D42 151 42  
1 26 D43 153 43  
2 52 D44 140 44  
3 67 D45 142 45  
4 130 D46 152 46  
5 147 D47 154 47  
6 170 D48 157 48  
7 185 D49 158 49  
MEM1\_AQS[7:0] 0 D50 175 50  
1 D51 173 51  
2 D52 178 52  
3 D53 176 53  
4 D54 160 54  
5 D55 174 55  
6 D56 176 56  
7 D57 177 57  
MEM1\_AQDS[7:0] 6 D58 181 58  
169 D59 189 59  
188 D60 191 59  
MEM1\_AQDS#(7:0) 0 D61 180 60  
1 D62 182 61  
2 D63 192 62  
3 D64 194 63  
4 D65 186 64  
5 D66 186 65  
6 D67 186 66  
7 D68 186 67

ME POWER RAIL UNDER ME ENABLE

DDR1-2  
DDR2-SODIMM-200P-RVS  
2/2

P1.8V\_AUX

P3.3V

C553  
100nF  
10V

C554  
2200nF-XSR  
10V

C831  
100nF  
10V

C830  
1nF  
50V

MCH3\_EXTT50#

MEM1\_VREF1

VDD1  
VDD2  
VDD3  
VDD4  
VDD5  
VDD6  
VDD7  
VDD8  
VDD9  
VDD10  
VDD11  
VDD12  
VSS1  
VSS2  
VSS3  
VSS4  
VSS5  
VSS6  
VSS7  
VSS8  
VSS9  
VSS10  
VSS11  
VSS12  
VSS13  
VSS14  
VSS15  
VSS16  
VSS17  
VSS18  
VSS19  
VSS20  
VSS21  
VSS22  
VSS23  
VSS24  
VSS25  
VSS26  
VSS27  
VSS28  
VSS29  
VSS30  
VSS31  
VSS32  
VSS33  
VSS34  
VSS35  
VSS36  
VSS37  
VSS38  
VSS39  
VSS40  
VSS41  
VSS42  
VSS43  
VSS44  
VSS45  
VSS46  
VSS47  
VSS48  
VSS49  
VSS50  
VSS51  
VSS52  
VSS53  
VSS54  
VSS55  
VSS56  
VSS57

VREF

GND0  
GND1

3709-001341

Place close to MEMORY

ME POWER RAIL UNDER ME ENABLE

Place near SO-DIMM0

P1.8V\_AUX

Place near SO-DIMM

XC5001 300µF

2.5V

OXI

nostuff

C606 220nF/10V

C672 220nF/10V

C596 220nF/10V

C607 10V

C598 220nF/10V

C679 10V

C599 100nF/10V

C605 100nF/10V

C597 100nF/10V

nostuff

P3.3V

R676 1% 10K MCH3\_EXTTS0#

R677 1% 10K MCH3\_EXTTS1#

Array resistors & Single resistors used to improve layout & routing.

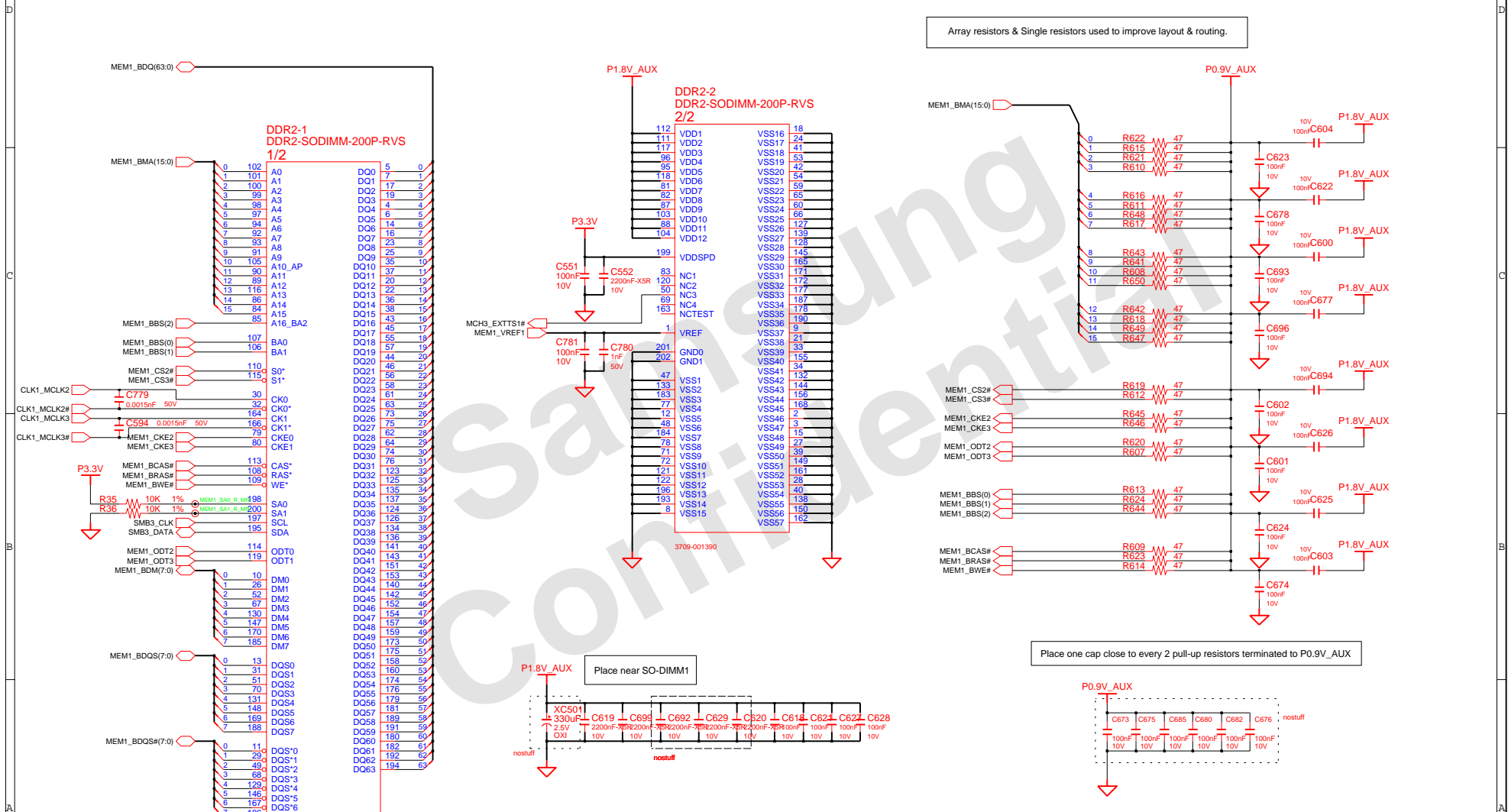
MEM1\_AMA(15:0)

The schematic diagram illustrates the P1.8V\_AUX power plane, showing the placement of decoupling capacitors and their connections to various components. The components are organized into two main sections: a top section with components R601 through R640 and R595 through R640, and a bottom section with components R605, R591, R634, R638, R606, R593, R592, R602, R633, R590, R600, and R594. Each component is connected to the P1.8V\_AUX plane via a decoupling capacitor (C615, C688, C686, C683, C613, C611, C689, C681, C684, C609, C608, C614, C612, C617, C610) and a 10V voltage source. The capacitors are labeled with their values (100nF or 10V) and the voltage source is labeled 10V. The components are connected to the P1.8V\_AUX plane via a 10V voltage source. The components are connected to the P1.8V\_AUX plane via a 10V voltage source.

Place one cap close to every 2 pull-up resistors terminated to P0.9V\_AUX

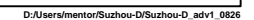
DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D  SODIMM_DDR2  SODIMM_DDR2 (1/2)	<b>SAMSUNG</b> ELECTRONICS		
CHECK	GUO LEI	DEV. STEP	ADV					
APPROVAL	BC LEE	REV	0.1			PART NO.	BA41-xxxxxxA	
MODULE CODE	LAST EDIT					July 15, 2009 19:25:13 PM	PAGE	16

Array resistors & Single resistors used to improve layout & routing.

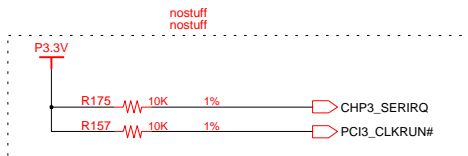
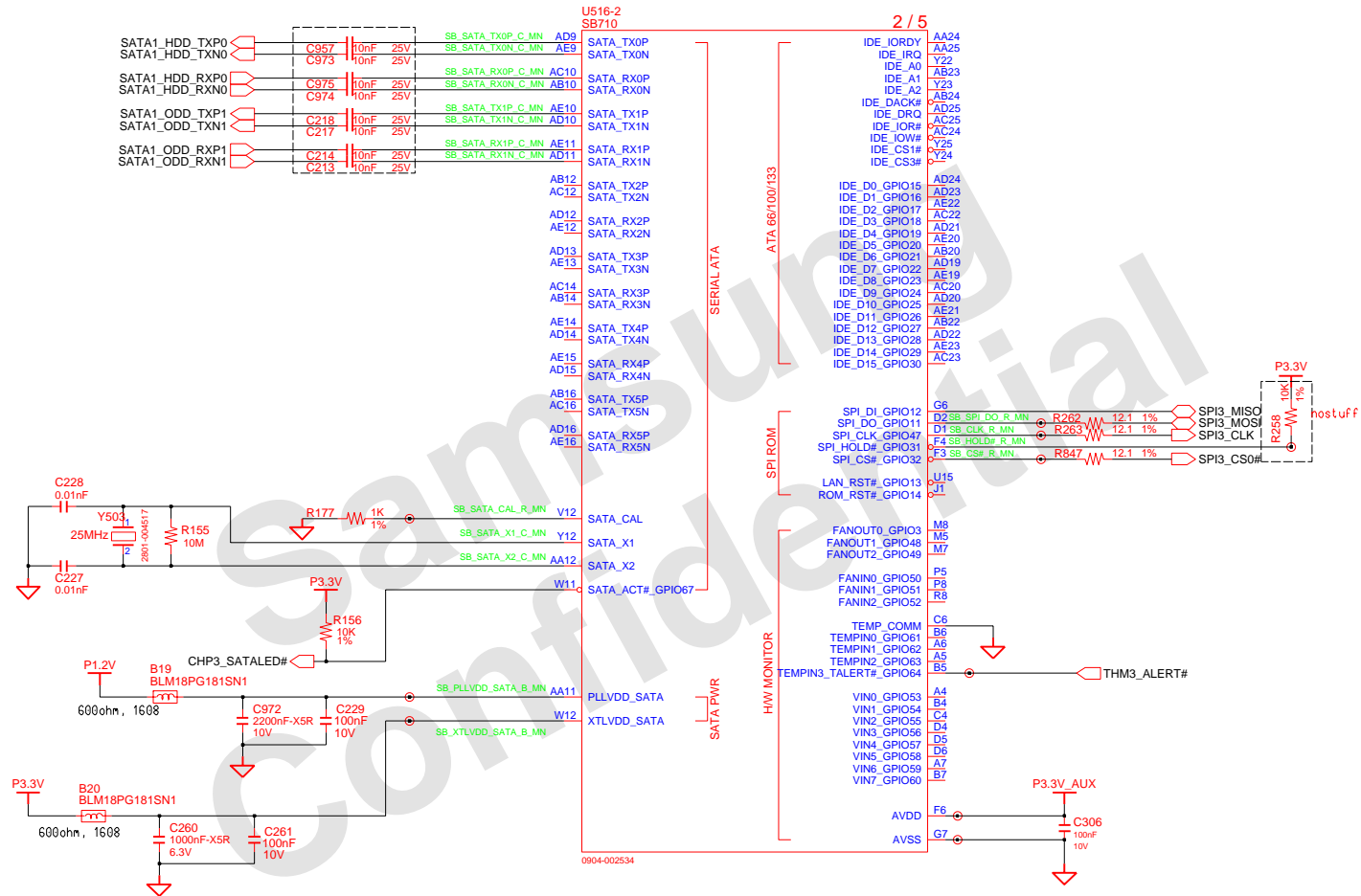


DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D SODIMM_DDR2 SODIMM_DDR2 (2/2)	<b>SAMSUNG</b> ELECTRONICS		
CHECK	GUO LEI	DEV. STEP	ADV					
APPROVAL	BC LEE	REV	0.1			PART NO.	BA41-xxxxxxA	
MODULE CODE	LAST EDIT					July 15, 2009 19:25:13 PM	PAGE	17

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.



Rout to connector side closely

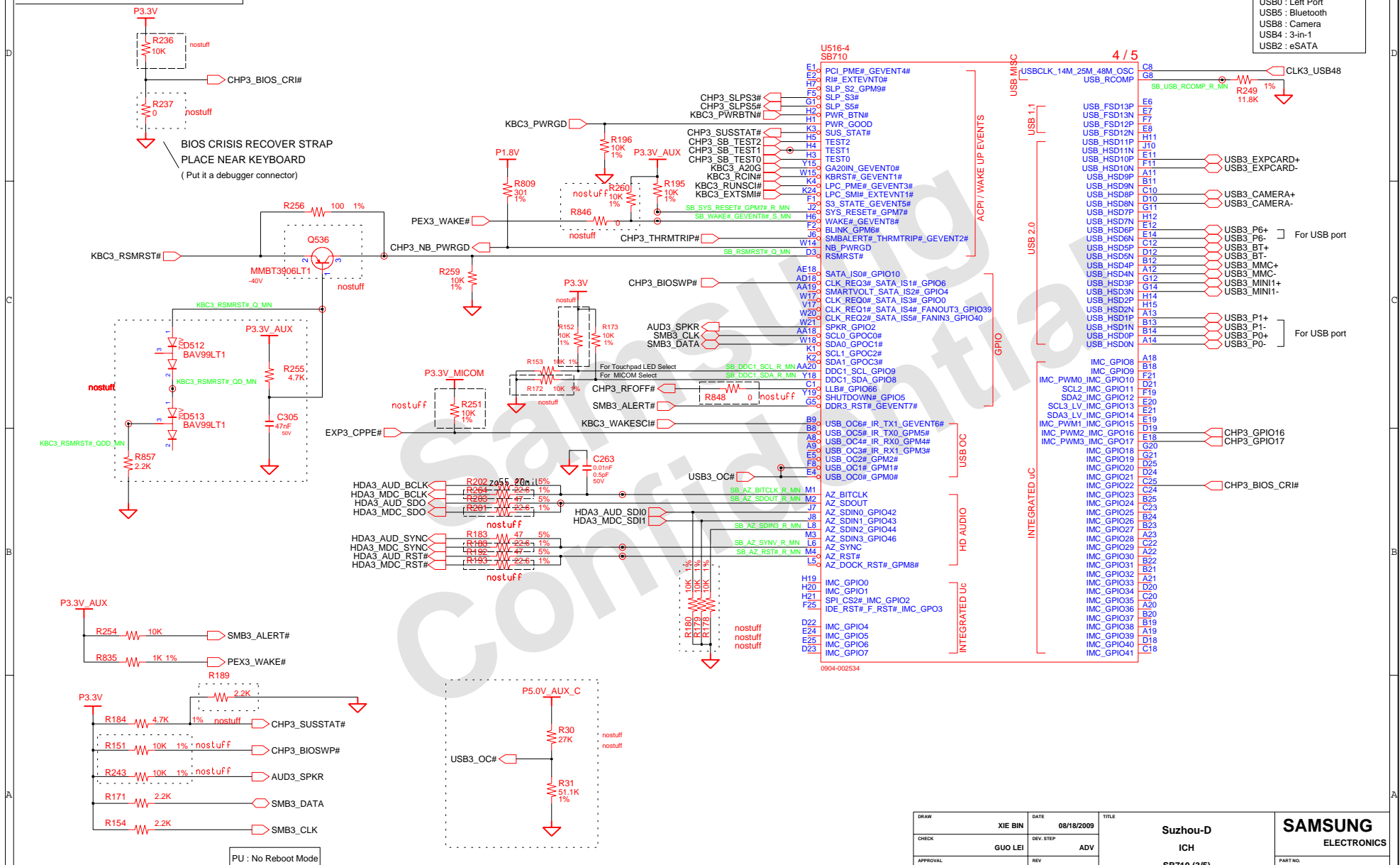


LPC option ; These are used with LPC

DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D ICH SB710 (2/5)	<div>SAMSUNG</div> ELECTRONICS			
CHECK	GUO LEI	DEV. STEP	ADV						
APPROVAL	BC LEE	REV	0.1						
MODULE CODE		LAST EDIT							July 15, 2009 19:25:13 PM
						PART NO.			BA41-xxxxxxA

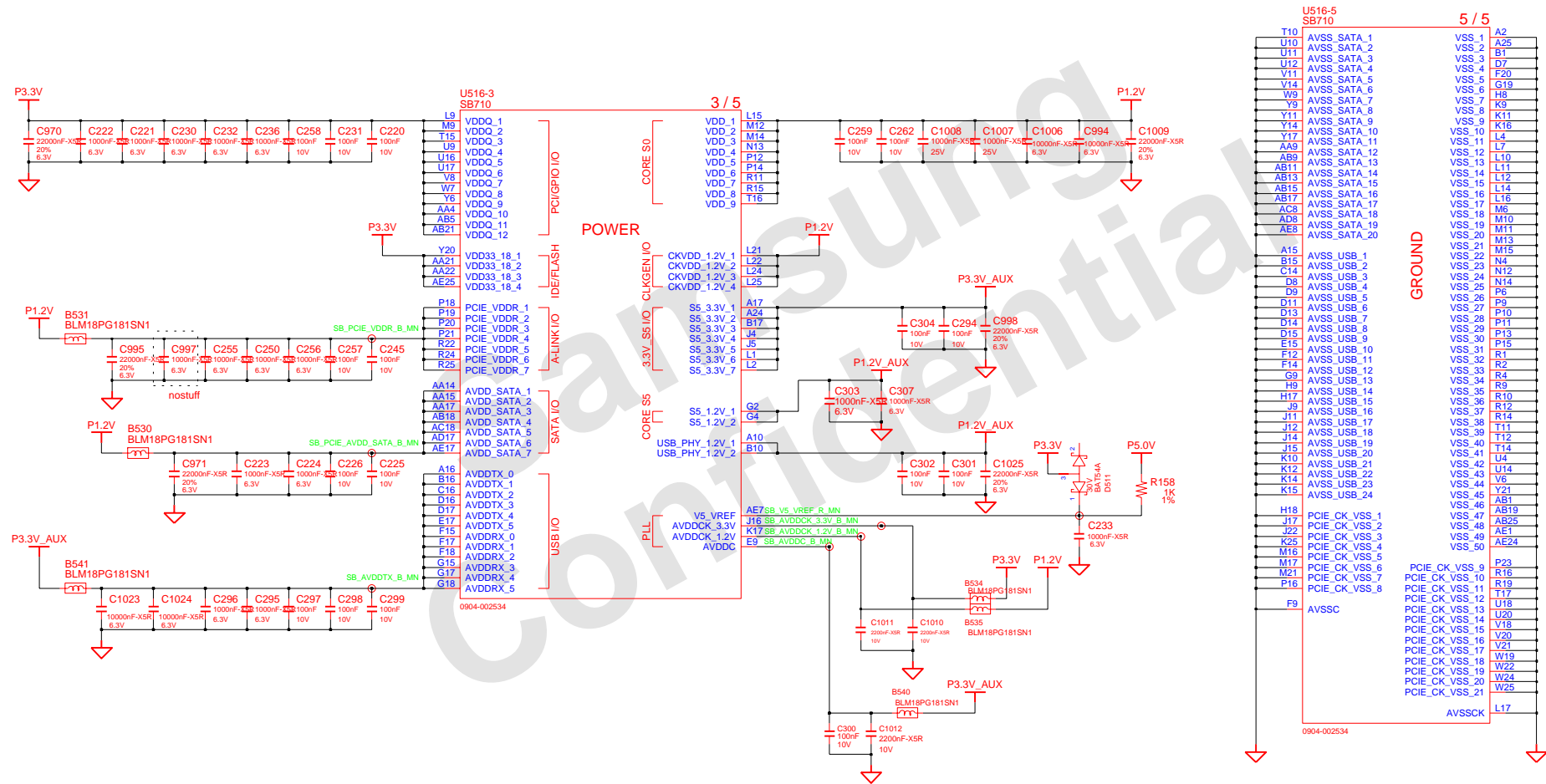
THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.


USB1, 6 : Right Port  
USB0 : Left Port  
USB5 : Bluetooth  
USB8 : Camera  
USB4 : 3-in-1  
USB2 : eSATA



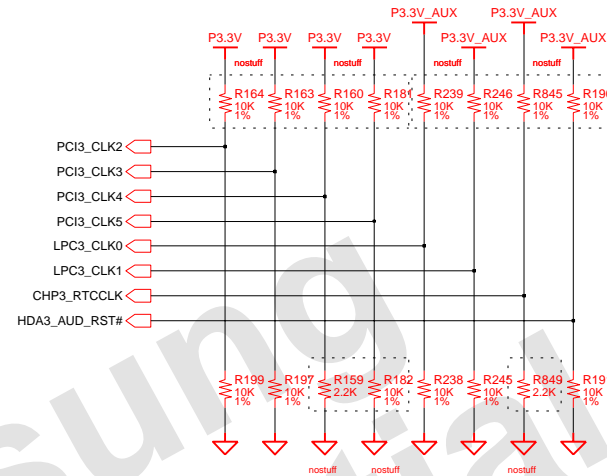
DRAW	XIE BIN	DATE	08/18/2009	TITLE  Suzhou-D ICH SB710 (3/5)	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	ADV		
APPROVAL	BC LEE	REV	0.1		
PART NO.			BA41-xxxxxxA		
MODULE CODE	LAST EDIT			July 15, 2009 19:25:13 PM	PAGE 20 OF 58

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.



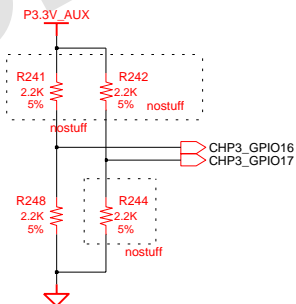
DRAW	XIE BIN	DATE	08/18/2009	TITLE  Suzhou-D ICH SB710 (4/5)			
CHECK	GUO LEI	DEV. STEP	ADV				
APPROVAL	BC LEE	REV	0.1		PART NO.	BA41-xxxxxxA	
MODULE CODE	LAST EDIT				July 15, 2009 19:25:13 PM	PAGE	21 OF 58

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.



	PC13_AD(28)	PC13_AD(27)	PC13_AD(26)	PC13_AD(25)	PC13_AD(24)	PC13_AD(23)
STRAP HIGH	USE LONG RESET	USE PCI PLL	USE ACPI BCLK	USE IDE PLL	USE DEFAULT PCIE STRAPS	BOOTFAILTIMER DISABLED
STRAP LOW	USE SHORT RESET	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	BOOTFAILTIMER ENABLED

	PCI3_CLK2	PCI3_CLK3	PCI3_CLK4	PCI3_CLK5	LPC3_CLK0	LPC3_CLK1	RTC_CLK	AUD_RST#
STRAP HIGH	BOOTFAIL TIMER ENABLED	USER DEBUG STRAPS	RESERVED	RESERVED	EC ENABLED	CLKGEN ENABLED	INTERNAL RTC	ENABLE PCI MEM BOOT
STRAP LOW	BOOTFAIL TIMER DISABLED	IGNORE DEBUG STRAPS	RESERVED	RESERVED	EC DISABLED	CLKGEN DISABLED	EXRERNAL RTC (PD on X1, Apply 32KHz to RTC_CLK)	DISABLE PCI MEM BOOT



GPIO17	GPIO16
ROM TYPE	
NC, NC = RSVD	
NC, L = SPI ROM	
L, NC = LPC ROM	
L, L = FWH ROM	

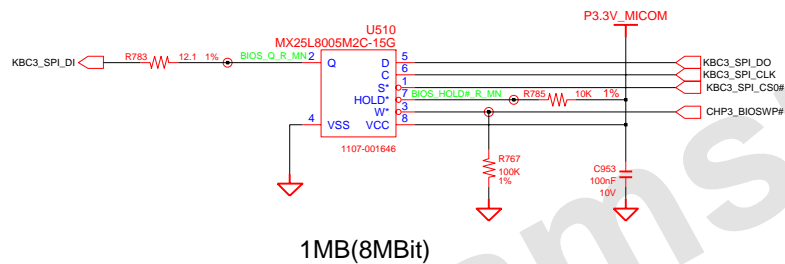
Remove SB\_TEST pins for mass production. (For ASIC debug only - AMD)

COM-22C-015(1996.6.5) REV. 3

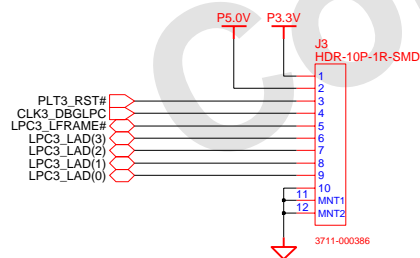
## SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

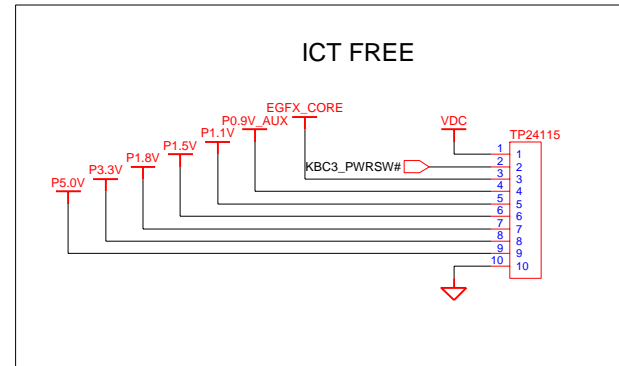
## SPI\_BIOS\_ROM



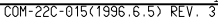
## 80H DECODER CONNECTOR



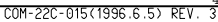
02	VERIFY REAL MODE	66	CONFIGURE ADVANCE CACHE REG.
03	DISABLE NMI	6A	DISPLAY EXTERNAL CACHE SIZE
04	GET CPU TYPE	6B	DISPLAY SHADOW MESSAGE
06	INIT. SYSTEM H/W	6E	DISPLAY NON-DISPOSABLE SEGMENT
08	INIT. CHIPSET REG.	70	DISPLAY ERROR MESSAGE
09	SET IN POST FLAG	72	CHECK FOR CONFIGURATION ERROR
0A	INIT CPU REG	74	TEST REAL-TIME CLOCK
0B	CPU CACHE ON	76	CHECK FOR KEYBOARD ERROR
0C	INIT CACHE TO POST	7C	SETUP HARDWARE INTERRUPT VECTOR
0E	INIT I/O VALUE	7E	TEST COPROCESSOR IF PRESENT
0F	ENABLE LOCAL BUS IDE	80	DISABLE ON-BOARD I/O PORT
10	INIT. POWER MANAGER	82	DETECT AND INSTALL EXT.RS232C
11	LOAD ALTERNATE REG.	84	DETECT AND INSTALL EXT.PARALLEL
13	PCI BUS MASTER RESET	86	RE-INIT. ON-BOARD I/O PORT
14	WITH INITIAL POST VALUE	88	INIT. BIOS DATA ROM
16	INIT. KEYBOARD CONTROLLER	8A	INIT. EXTENDED BIOS DATA AREA
18	CHECK CHECKSUM	8C	INIT. FDD CONTROLLER
20	8254 TIMER INIT.	9A	SHADOW OPTION ROMS
22	8237 DMA CONTROLLER INIT.	9C	SETUP POWER MANAGEMENT
24	RESET INTERRUPT CONTROLLER	9E	ENABLE H/W INTERRUPT
26	TEST DRAM REFRESH	A0	SET TIME OF DAY
28	TEST 8742 KEYBOARD CONTROLLER	A4	INIT. TYPEMATIC RATE
2A	SET ES SEGMENT REG. TO 4GB	A8	ERASE F2 PROMPT
2C	AUTO SIZING DRAM	AA	SCAN FOR F2 KEY STROKE
2E	COMPUTE THE CPU SPEED	AC	ENTER SETUP
30	TEST CMOS RAM	AE	CLEAR IN POST FLAG
32	SHADOW SYSTEM BIOS ROM	B0	CHECK FOR ERRORS
34	AUTO SIZING CACHE	B2	POST DONE-PREPARE TO BOOT O/S
36	CONFIGURE ADVANCED CHIPSET REG.	B4	ONE BEEP
38	LOAD ALTERNATE REG. WITH CMOS VALUE	B6	CHECK PASSWORD (OPTION)
40	INIT. INTERRUPT VECTOR	B8	ACPI INIT
42	INIT. BIOS INTERRUPT	BA	DMI INIT
44	CHECK ROM COPYRIGHT NOTICE	BE	CLEAR SCREEN
46	INIT. I20 SUPPORT IF INSTALLED	C0	TRY BOOT WITH INT19
48	CHECK VIDEO CONFIGURE AGAINST CMOS	C2	INTERRUPT HANDLER ERROR
4A	INIT. PCI BUS AND DEVICE	D2	UNKNOWN INTERRUPT ERROR
4C	INIT. ALL VIDEO BIOS ROM	D4	PENDING INTERRUPT ERROR
4E	SHADOW VIDEO BIOS ROM	D6	SHUTDOWN 5
50	DISPLAY CPU TYPE AND SPEED	DA	SHUTDOWN ERROR
52	TEST KEYBOARD	DC	EXTENDED BLOCK MOVE
54	SET KEYCLICK IF ENABLED	DE	SHUTDOWN 10
56	ENABLE KEYBOARD	89	ENABLE NMI
58	TEST FOR UNEXPECTED INTERRUPTS	90	INIT. HDD CONTROLLER
5A	DISPLAY "PRESS... SETUP"	91	INIT. LOCAL BUS HDD CONTROLLER
5C	TEST RAM BETWEEN 512K AND 640K	92	JUMP TO USER PATCH 2
60	TEST EXTENDED MEMORY	94	DISABLE A20 ADDRESS LINE
62	TEST EXTENDED MEMORY ADDRESS LINE	96	CLEAR HUGE ES SEGMENT REG.
64	JUMP TO USER PATCH 1	98	SEARCH FOR OPTION ROMS



DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV		SPI_BIOS_ROM	ELECTRONICS
APPROVAL	BC LEE	REV	0.1		SPI_BIOS_ROM	PART NO.
MODULE CODE		LAST EDIT				BA41-xxxxxxA
				July 15, 2009 19:25:13 PM	PAGE	23 OF 58



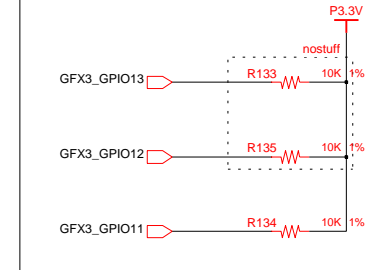
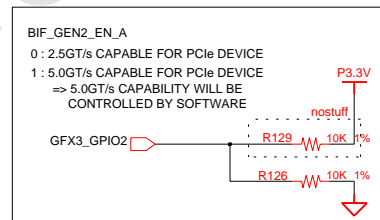
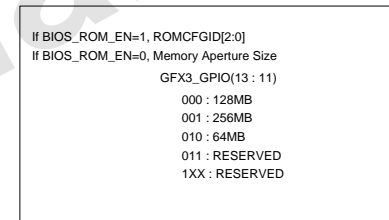
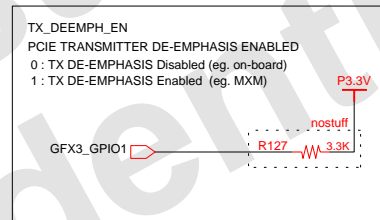
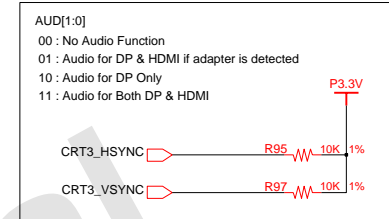
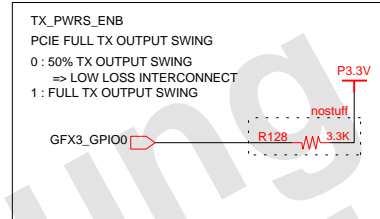
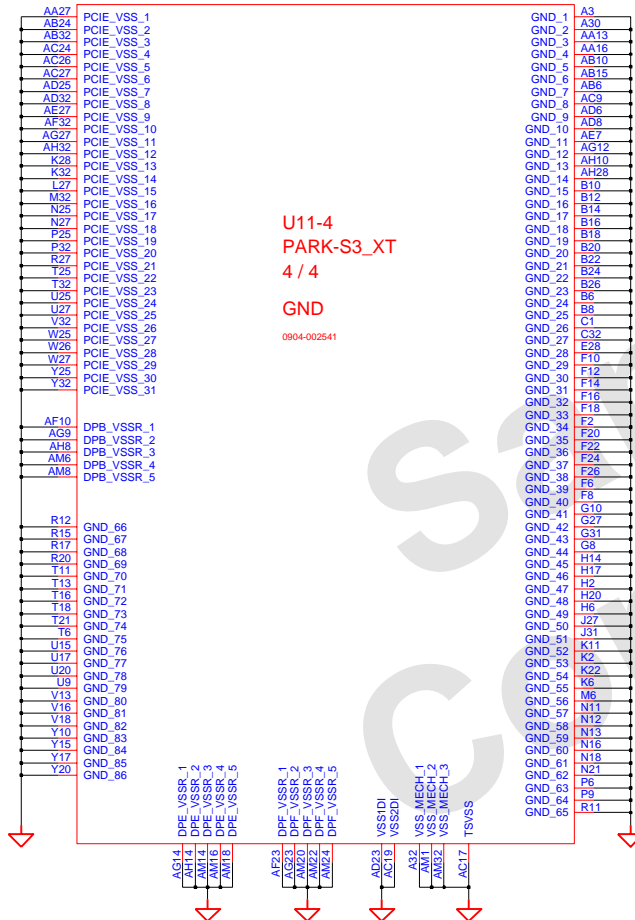




## SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

## PARK Straps

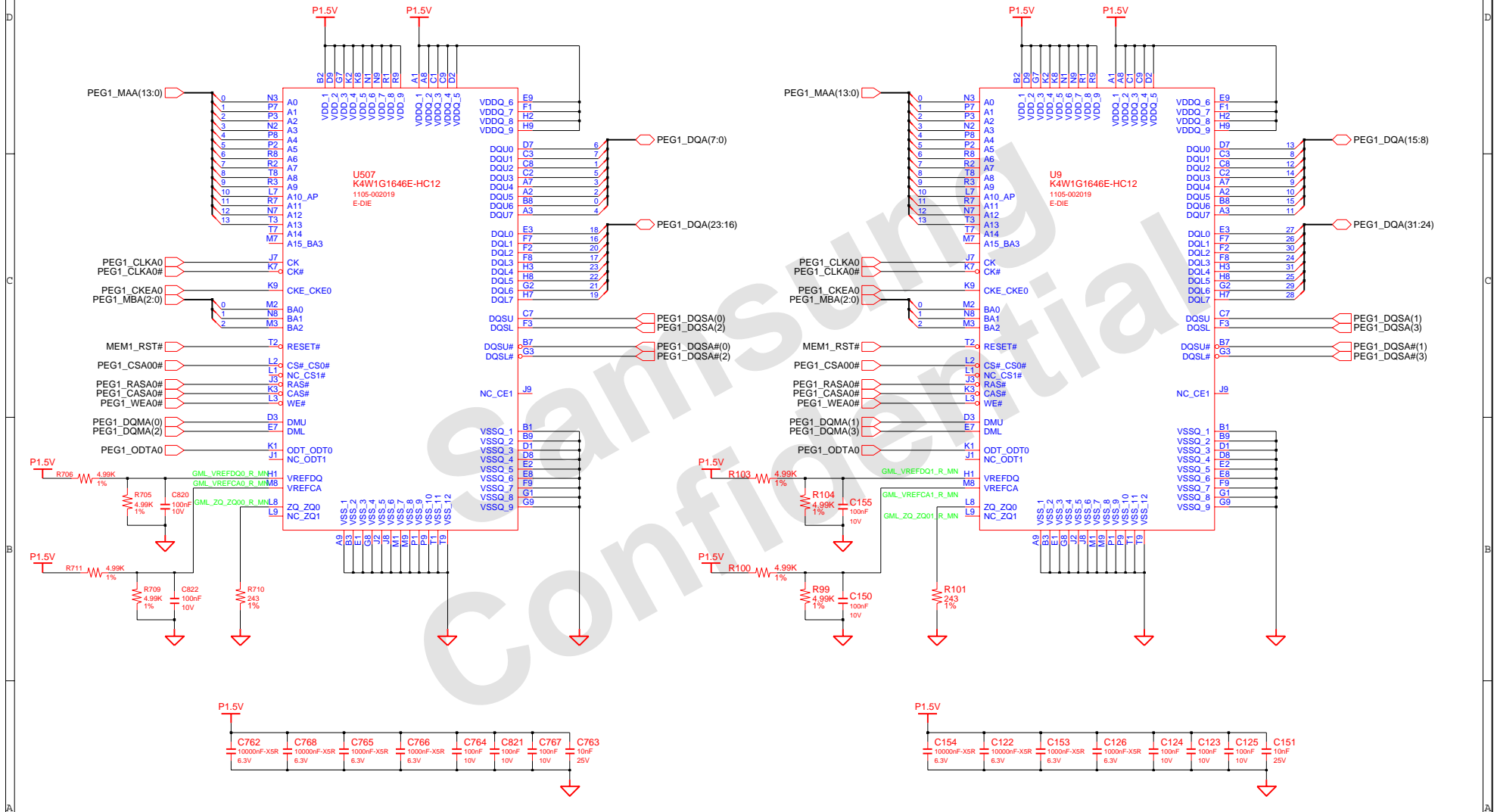


DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	ADV	GFX	GFX	
APPROVAL	BC LEE	REV	0.1	PARK-S3-XT (4/4)	PART NO.	BA41-xxxxxxA
MODULE CODE		LAST EDIT	July 15, 2009 19:25:13 PM	PAGE	27	OF 58

**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

**A-channel Lower Data**



PEG1\_CLKA0  $\rightarrow$  R708  $\rightarrow$  56 1%  $\rightarrow$  C823  $\rightarrow$  10nF 25V  
PEG1\_CLKA0#  $\rightarrow$  R707  $\rightarrow$  56 1%  $\rightarrow$  PEG1\_CLKA0\_R\_MN

DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D
CHECK	GUO LEI	DEV. STEP	ADV	GRAPHICS_MEMORY	
APPROVAL	BC LEE	REV	0.1	gDDR3 (1/2)	
MODULE CODE		LAST EDIT			

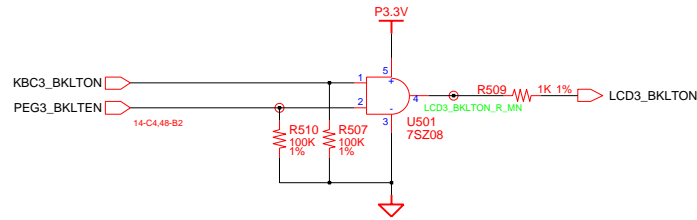
July 15, 2009 19:25:13 PM	PAGE	28	OF	58
---------------------------	------	----	----	----

DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D GRAPHICS MEMORY	<div>SAMSUNG ELECTRONICS</div>	
CHECK	GUO LEI	DEV. STEP	ADV				
APPROVAL	BC LEE	REV	0.1				
MODULE CODE	LAST EDIT		July 15, 2009 19:25:13 PM				PAGE

**SAMSUNG PROPRIETARY**  
THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

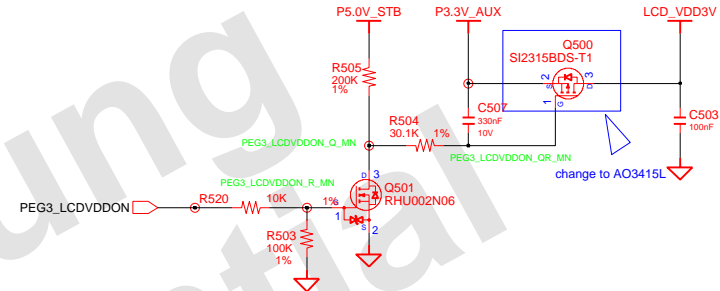
# LVDS

## Backlight On

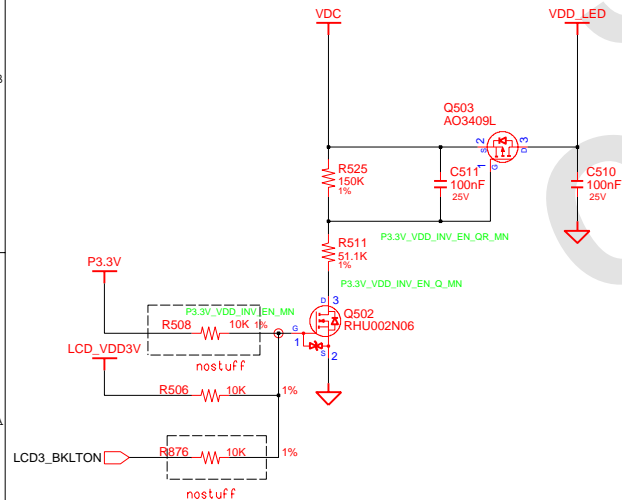


## LCD Power

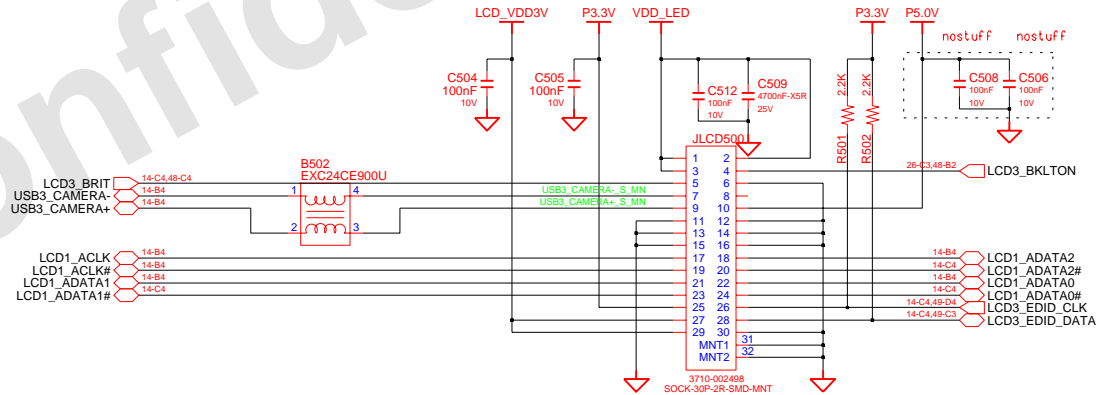
EBL Purpose



## Converter Power



## Camera + LCD Connector

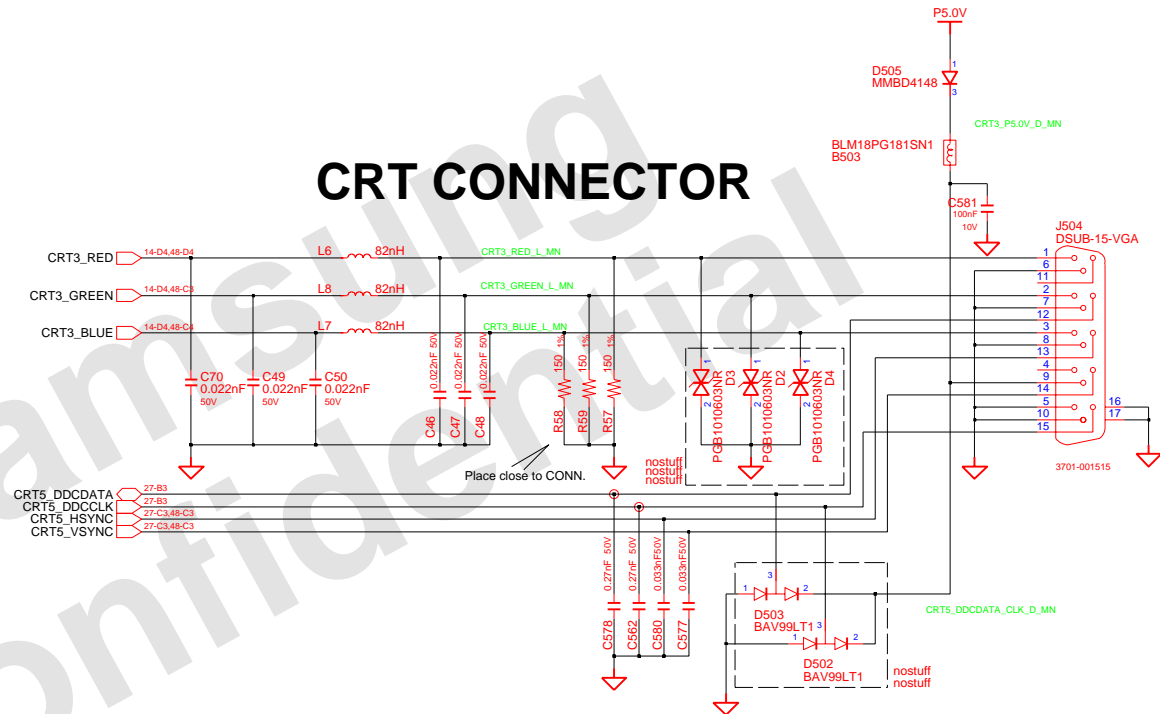
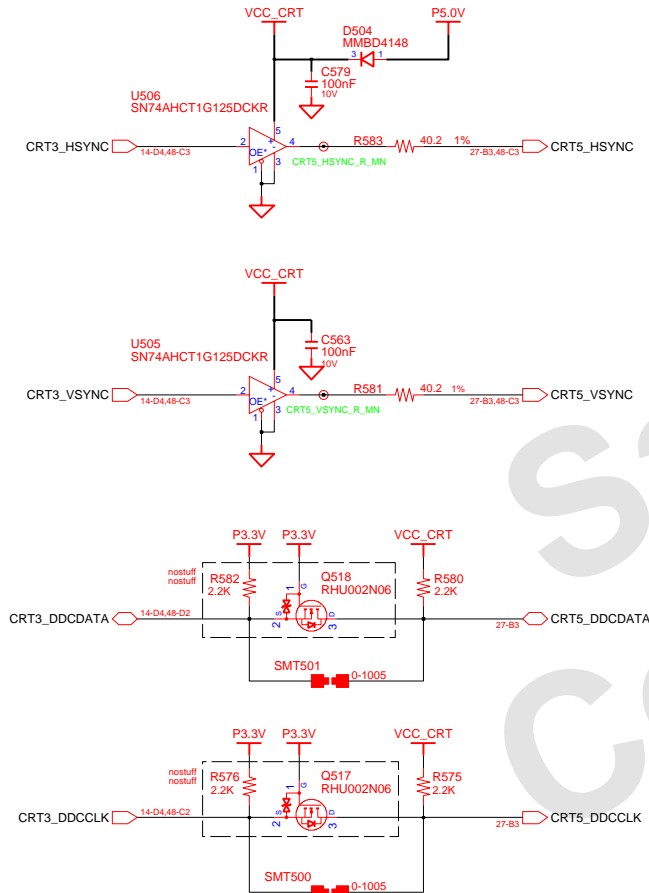


DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	ADV			PART NO. BA41-xxxxxA
APPROVAL	BC LEE	REV	0.1	GRAPHICS_IF (1/2)		
MODULE CODE		LAST EDIT		July 15, 2009 19:25:13 PM	PAGE 30 OF 58	

# CRT

## CRT CONNECTOR

**SAMSUNG PROPRIETARY**  
THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

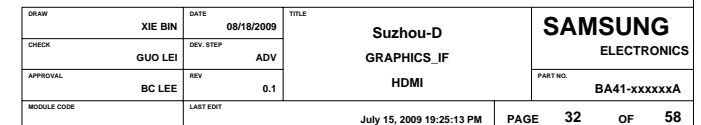


Check "CRT3\_DDCCLK/DATA" Voltage Level  
2N06 Can be replaced with SM6K2

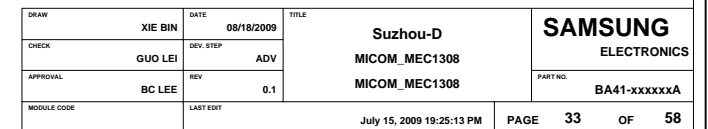
DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV			ELECTRONICS
APPROVAL	BC LEE	REV	0.1	GRAPHICS_IF (2/2)		PART NO.
MODULE CODE		LAST EDIT	July 15, 2009 19:25:13 PM			BA41-xxxxxA
				PAGE	31	OF 58

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

J506  
HDMI-19P-FEMALE



THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

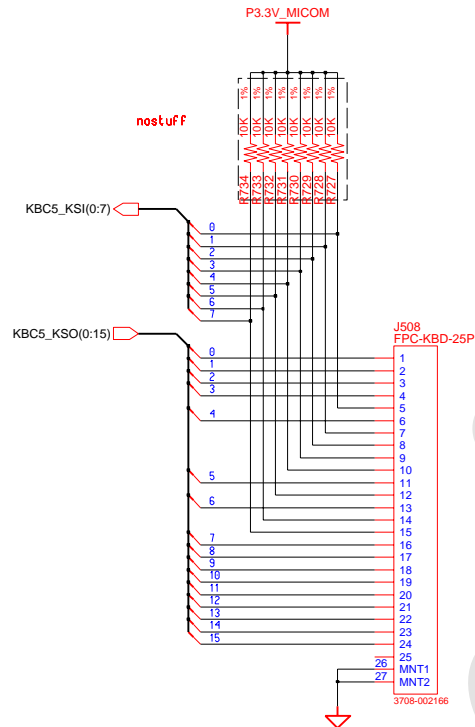


# SAMSUNG PROPRIETARY

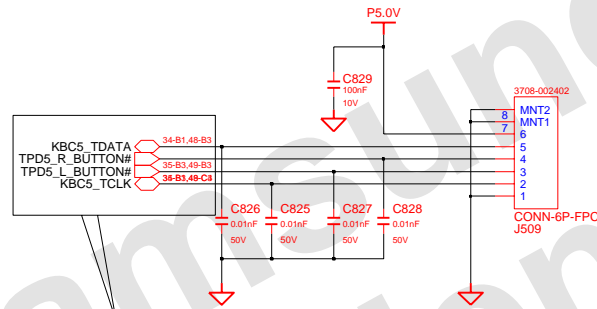
THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

## Micom Glue Logic

### KEYBOARD

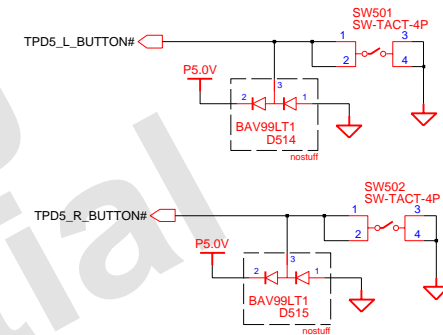


### TOUCHPAD

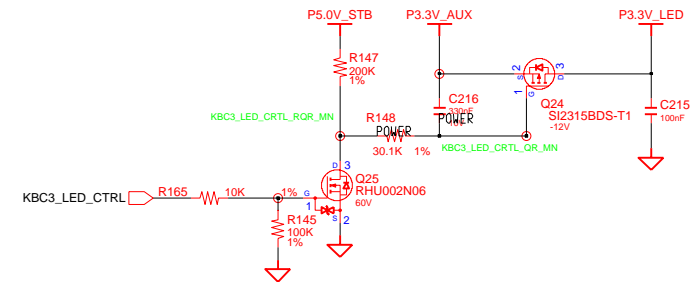


Confirm that there are PU on Touch PAD module side or micom.

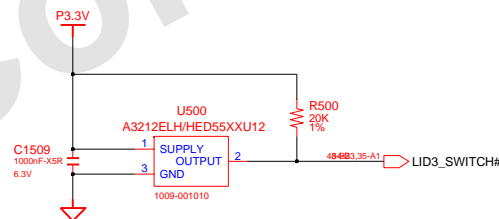
### TOUCHPAD BUTTON



### TOUCHPAD LED POWER



### LID SWITCH



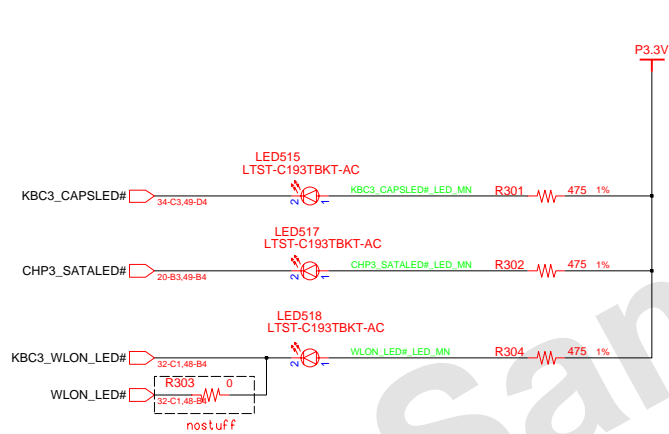
DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	ADV			PART NO. BA41-xxxxxA
APPROVAL	BC LEE	REV	0.1		MICOM_GLUE	
MODULE CODE		LAST EDIT	July 15, 2009 19:25:13 PM	PAGE	34	OF 58

**SAMSUNG PROPRIETARY**

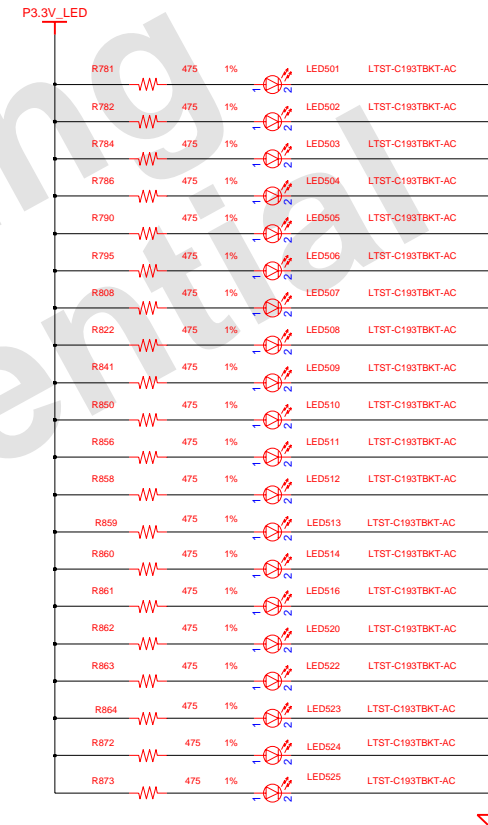
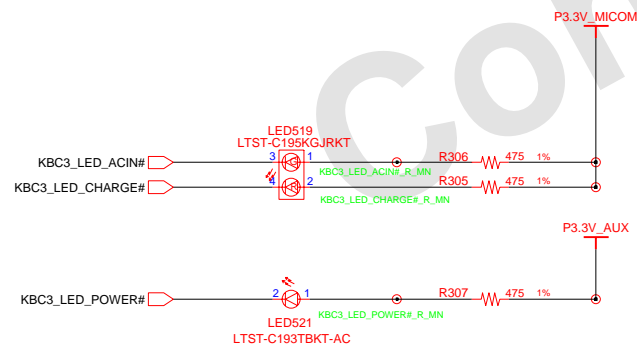
THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

# LEDs

## FUNCTION KEY LED



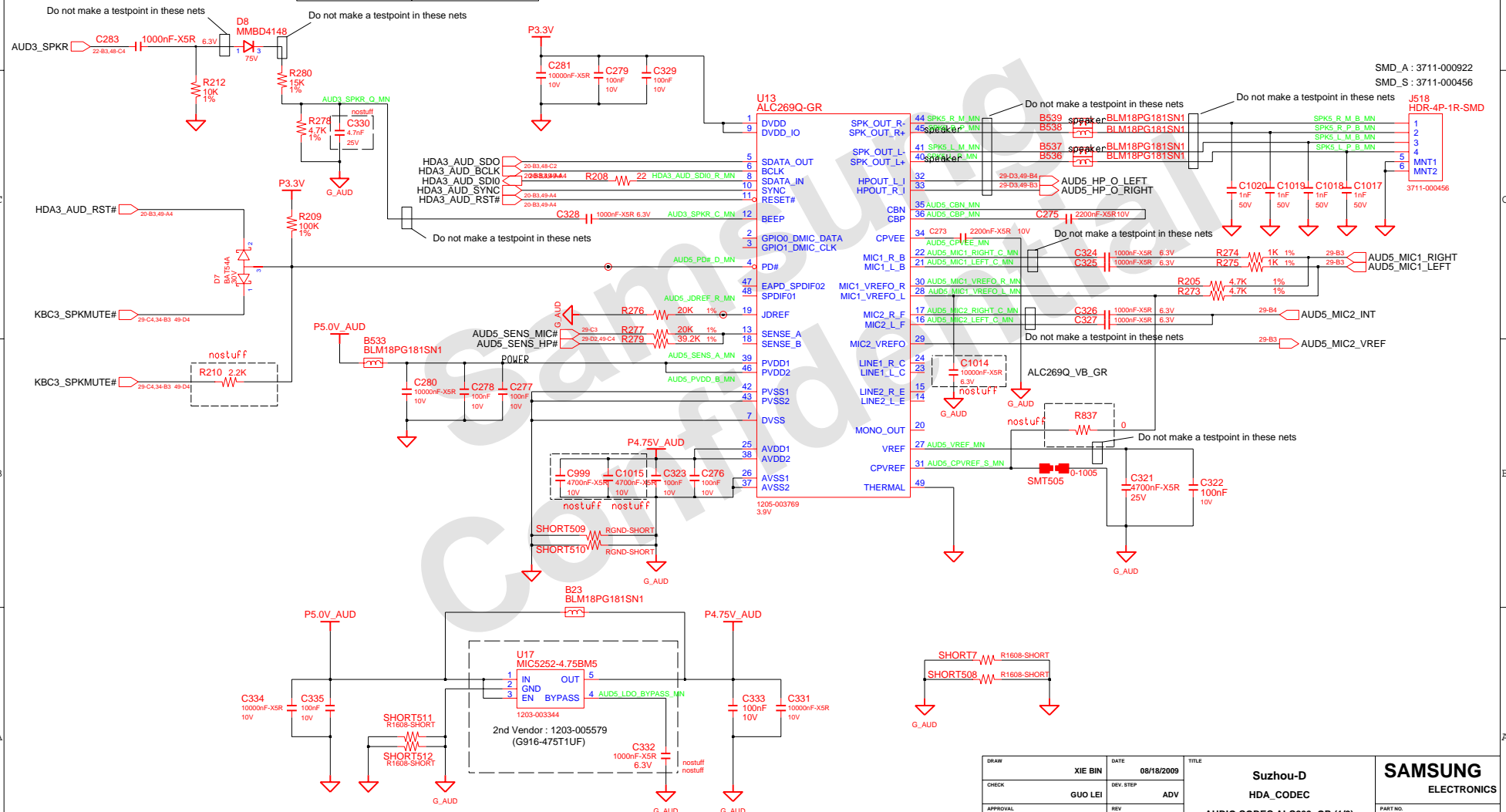
## ADAPTERIN/CHARGING LED



DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	ADV	LED_SWITCH	LED_SWITCH	
APPROVAL	BC LEE	REV	0.1			PART NO. BA41-xxxxxxA
MODULE CODE		LAST EDIT		July 15, 2009 19:25:13 PM	PAGE	35 OF 58

THIS DOCUMENT CONTAINS CONFIDENTIAL  
 PROPRIETARY INFORMATION THAT IS  
 SAMSUNG ELECTRONICS CO'S PROPERTY.  
 DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
 EXCEPT AS AUTHORIZED BY SAMSUNG.

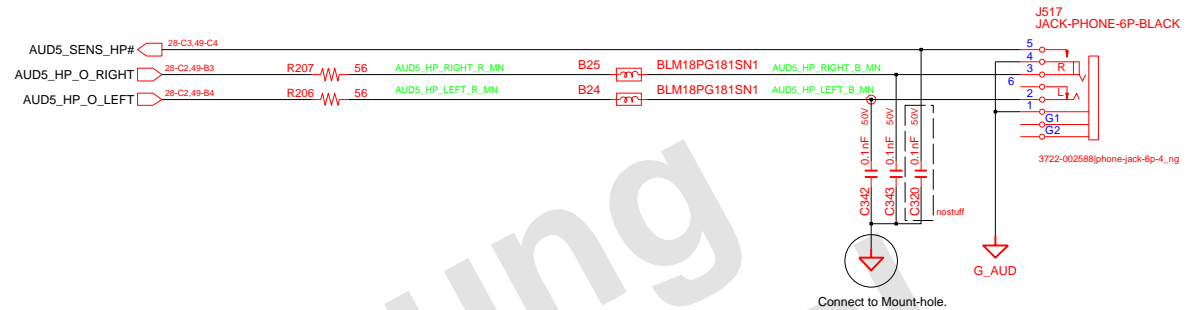
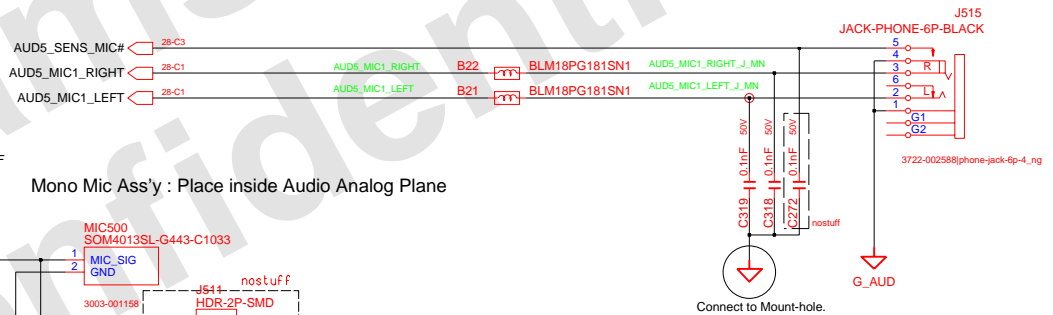
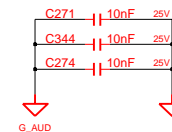
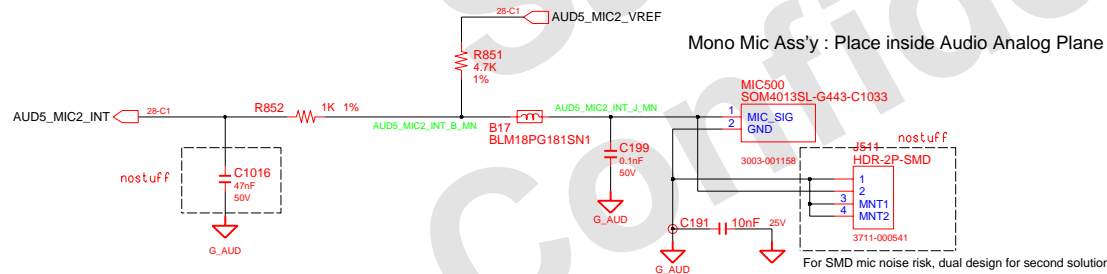
Codec Pin9 Setting	
S/B with Low Voltage IO	S/B without Low Voltage IO
Pin9 : 1.5V	Pin9 : 3.3V



DRAW	XIE BIN	DATE	08/18/2009	Suzhou-D HDA, CODEC AUDIO CODEC ALC269_GR (1/2)	SAMSUNG ELECTRONICS	
CHECK	GUO LEI	DEV. STEP	ADV			
APPROVAL	BC LEE	REV	0.1		PART NO.	BA41-xxxxxxA
MODULE CODE	LAST EDIT				July 15, 2009 19:25:13 PM	PAGE 36 OF 58

**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

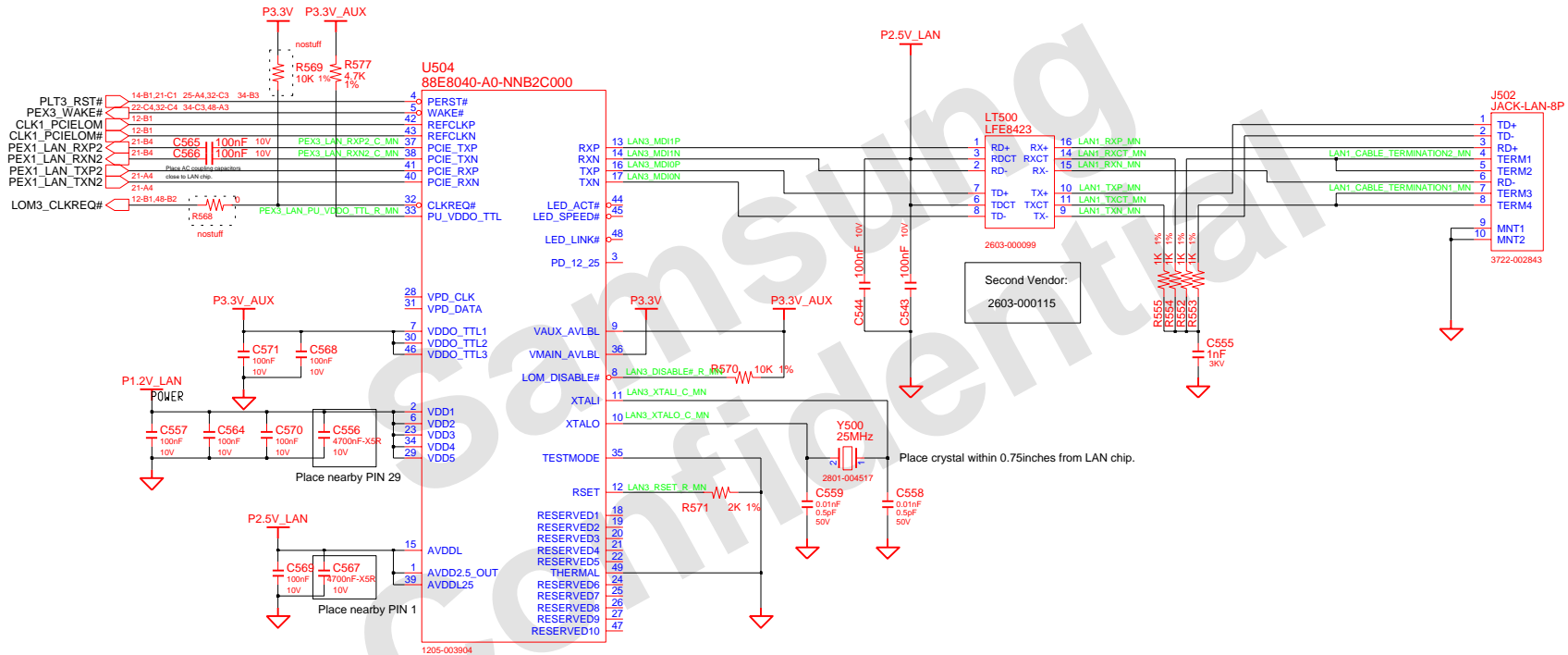
**HEADPHONE**

**MIC JACK**

**Mono Mic Ass'y : Place inside Audio Analog Plane**


DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	ADV	HDA_CODEC		
APPROVAL	BC LEE	REV	0.1	AUDIO CODEC ALC269_GR (2/2)	PART NO.	BA41-xxxxxxA
MODULE CODE		LAST EDIT		July 15, 2009 19:25:13 PM	PAGE	37 OF 58

# SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

## LAN Controller (Marvell 88E8040)



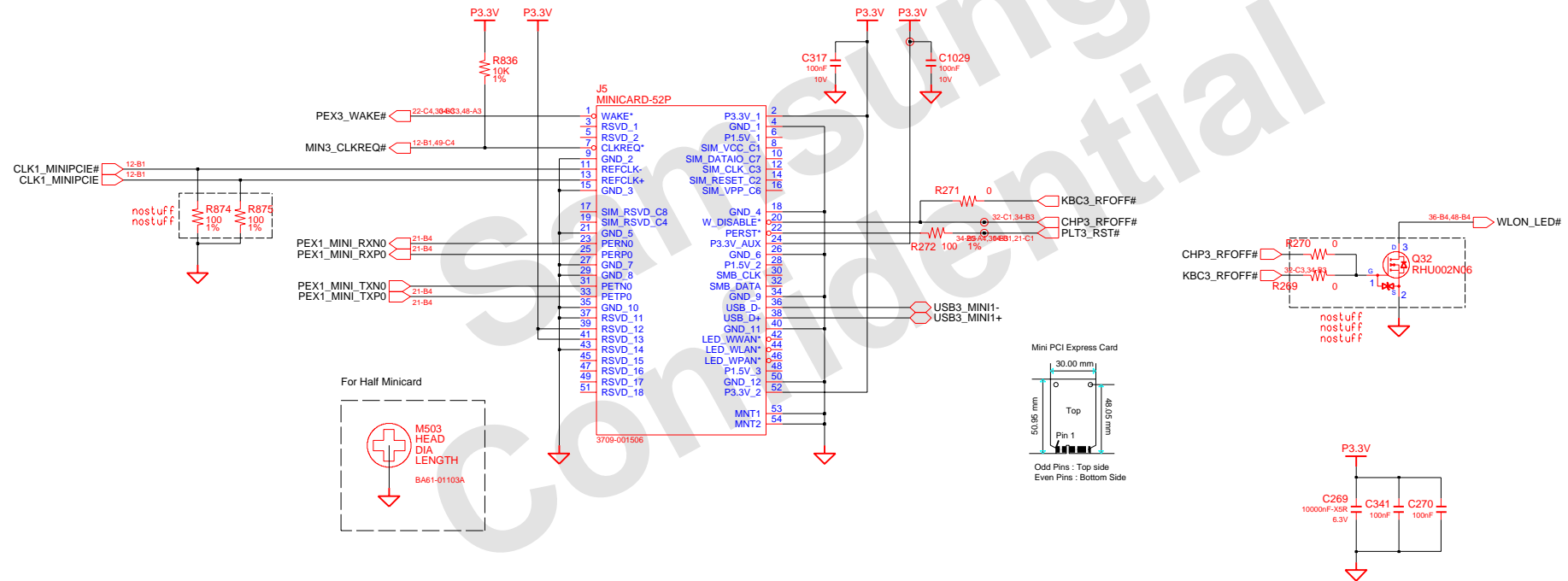
DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV	LAN	LAN	ELECTRONICS
APPROVAL	BC LEE	REV	0.1	LAN_Marvell 88E8040	PART NO.	BA41-xxxxxxA
MODULE CODE		LAST EDIT		July 15, 2009 19:25:13 PM	PAGE	38 OF 58

# SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

## Wireless LAN

WLAN, 4mm

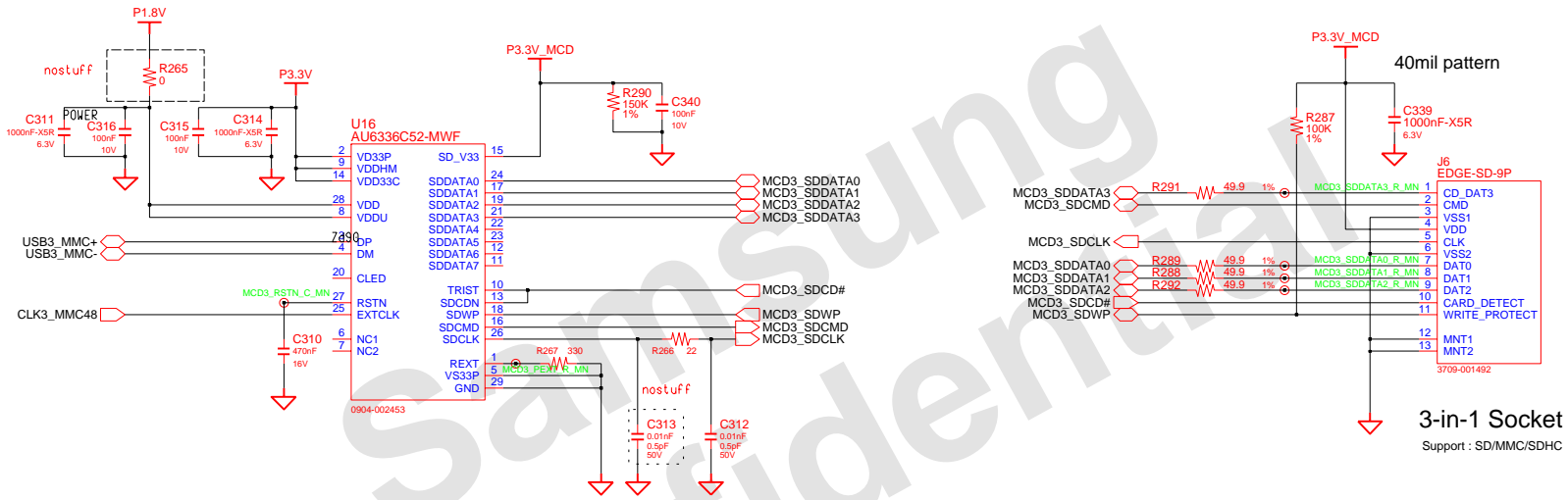


DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV	MINI_PCIE_CONN	ELECTRONICS	
APPROVAL	BC LEE	REV	0.1	Wireless LAN	PART NO.	BA41-xxxxxxA
MODULE CODE		LAST EDIT		July 15, 2009 19:25:13 PM	PAGE	39 OF 58

# SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

## Card Reader (AU6336)



MCD3_SD_SPD	SD v1.0 Clock Option
PU / PD : No Stuff	24 MHz (default)
PU : Stuff, PD : No Stuff	15 MHz

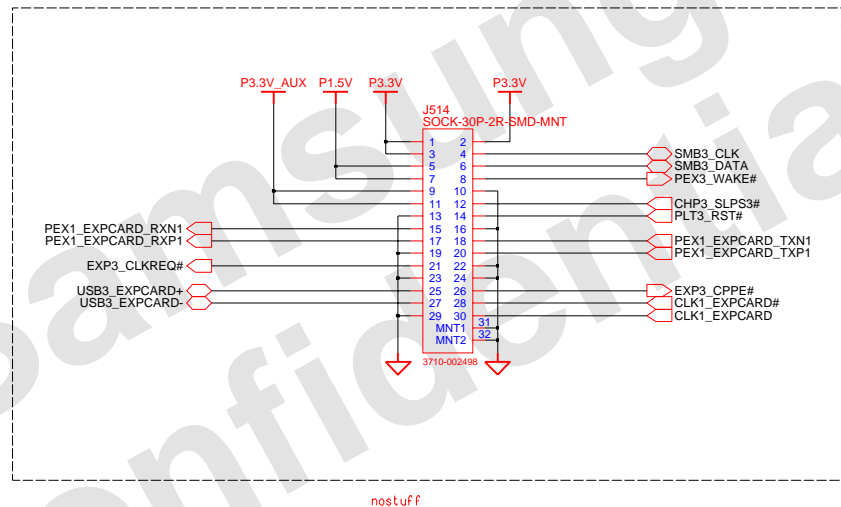
MCD3_CLK_IN	827S Clock Source option
PU : X, PD : X	12MHz, fixed S/N
PU : No Stuff, PD : Stuff	12MHz, no S/N
PU : Stuff, PD : No Stuff	48MHz

DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D MULTICARD 3 IN 1 CARD	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	ADV			
APPROVAL	BC LEE	REV	0.1			
PART NO.			BA41-xxxxxxA			
MODULE CODE	LAST EDIT			July 15, 2009 19:25:13 PM	PAGE	40 OF 58

**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

# Express Card Connector



nostuff

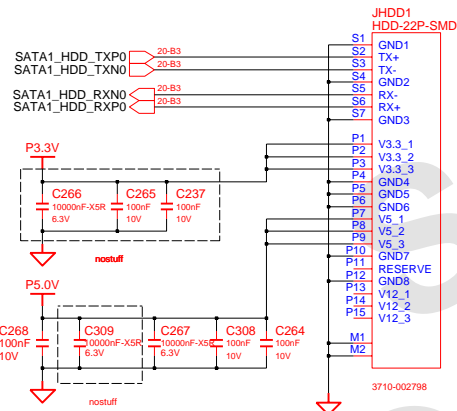
DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	ADV			
APPROVAL	BC LEE	REV	0.1	EXPRESS CARD	PART NO.	BA41-xxxxxxA
MODULE CODE		LAST EDIT		July 15, 2009 19:25:13 PM	PAGE	41 OF 58

**SAMSUNG PROPRIETARY**

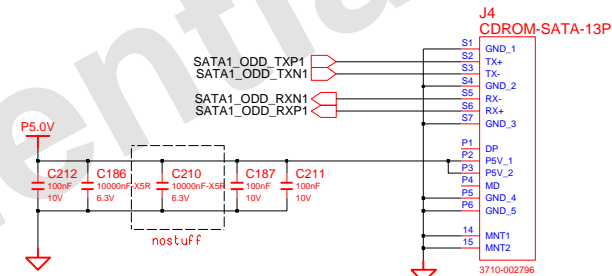
THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

# SATA I/F CONN

## SATA HDD CONN



## ODD CONN



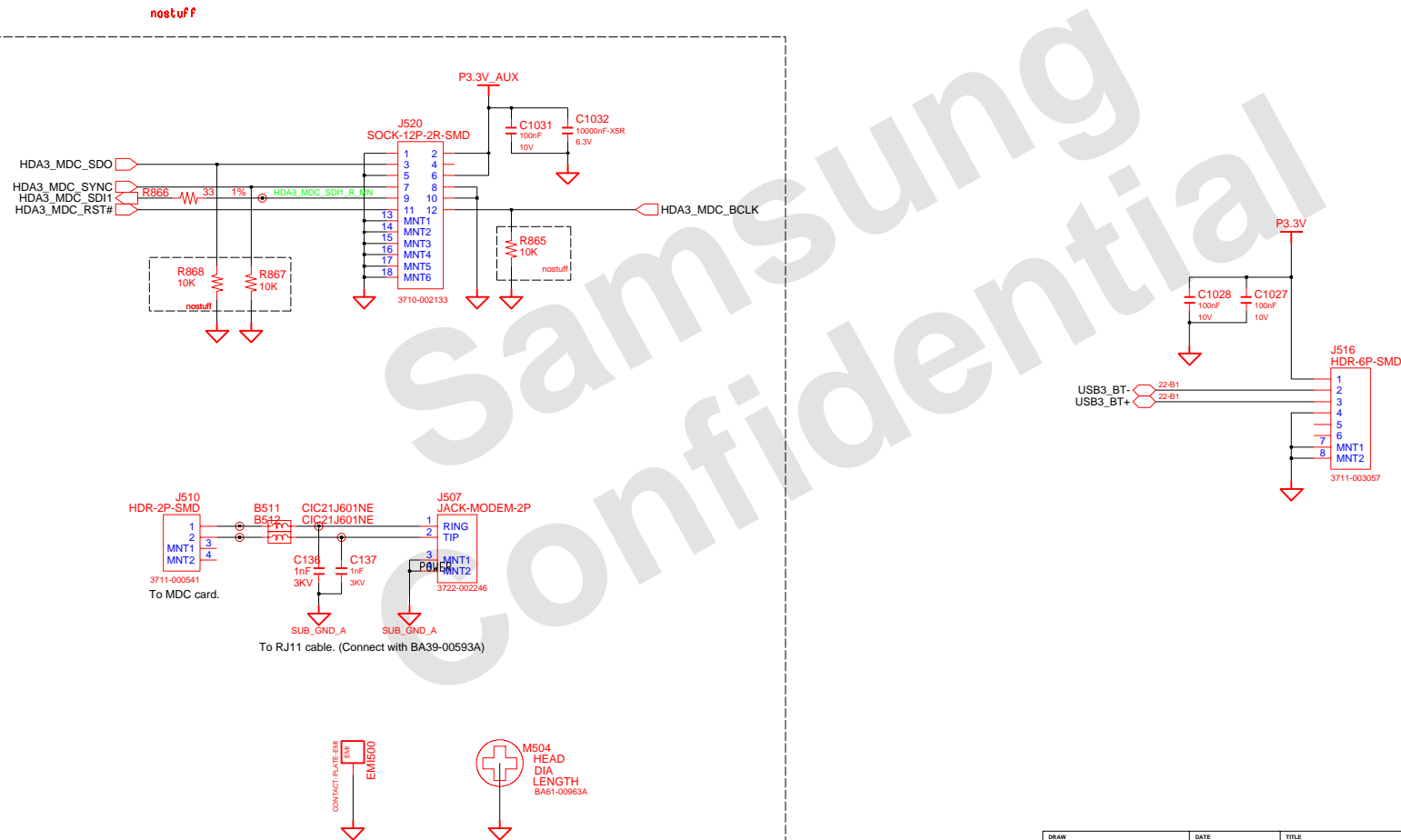
DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D SATA_DEVICES HDD & ODD SUB BONNECTOR	<b>SAMSUNG</b> ELECTRONICS PART NO. BA41-xxxxxxA
CHECK	GUO LEI	DEV. STEP	ADV			
APPROVAL	BC LEE	REV	0.1			
MODULE CODE		LAST EXT				
				July 15, 2009 19:25:13 PM	PAGE 42 OF 58	

# SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

## MDC Connector

## BLUETOOTH

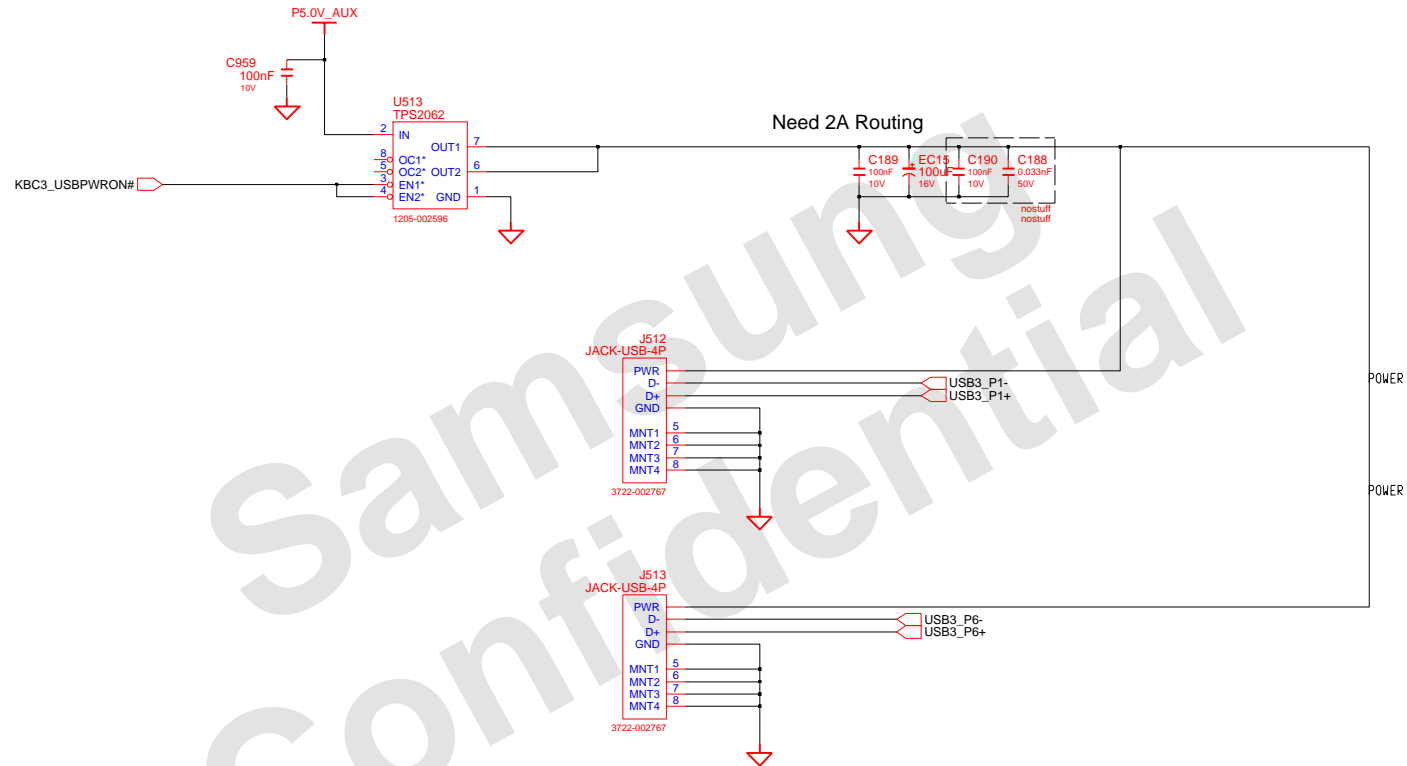


DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV	HDA_MODEM & BLUETOOTH	ELECTRONICS	
APPROVAL	BC LEE	REV	0.1	MODEM & BLUETOOTH	PART NO.	BA41-xxxxxA
MODULE CODE		LAST EDIT	July 15, 2009 19:25:13 PM	PAGE	43	OF 58

**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

# LEFT USB PORT



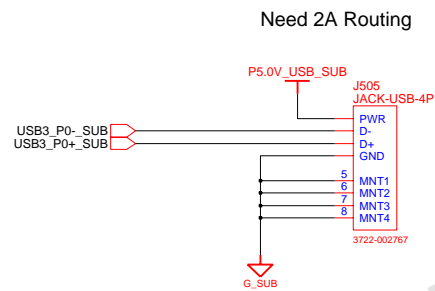
DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	ADV	USB_CONNECTOR	USB_CONNECTOR	
APPROVAL	BC LEE	REV	0.1	USB_CONNECTOR (1/2)	PART NO.	BA41-xxxxxxA
MODULE CODE	LAST EXT				July 15, 2009 19:25:13 PM	PAGE 44 OF 58

**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

# USB PORT & POWER S/W SUB B'D

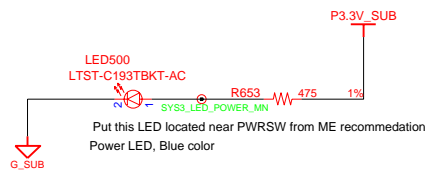
## TOP RIGHT USB PORT



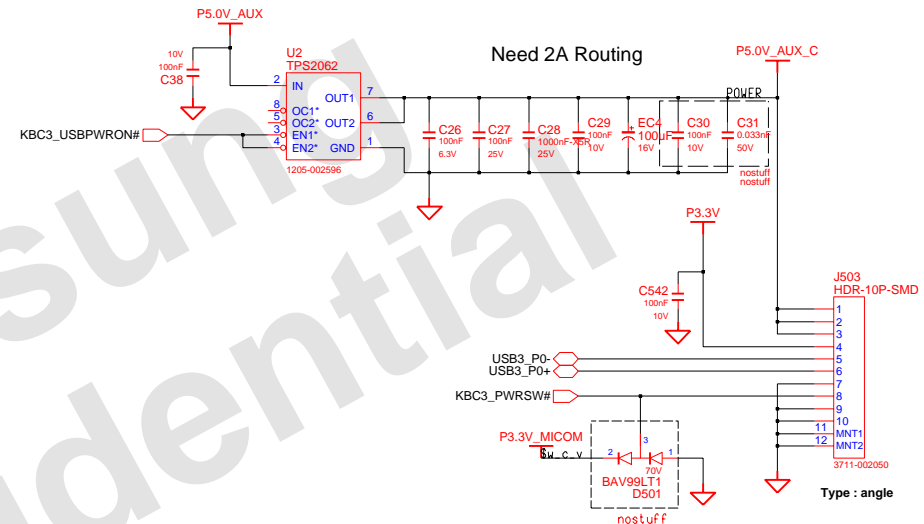
## Power Button



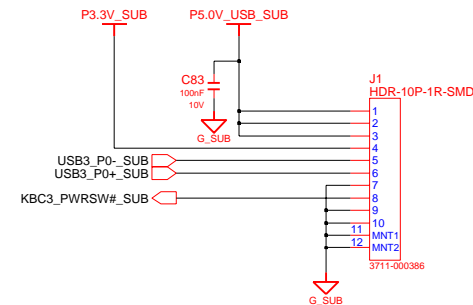
## Power ON LED



## MAIN TO SUB USB CONN



## SUB TO MAIN USB CONN



DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV	USB_CONNECTOR	USB_CONNECTOR	ELECTRONICS
APPROVAL	BC LEE	REV	0.1	USB_CONNECTOR (2/2)	PART NO.	BA41-xxxxxxA
MODULE CODE		LAST EDIT		July 15, 2009 19:25:13 PM	PAGE	45 OF 58

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

Adapter configuration

60W / 3.03A / 96%		90W / 4.32A / 91.2%	
Value	SEC Code	Value	SEC Code
Rtop 200K	2007-007334	10K	2007-007142
Rbot 27.4K	2007-007274	30K	2007-008275

CHARGER (EQ24751BR)

SAMSUNG ELECTRONICS

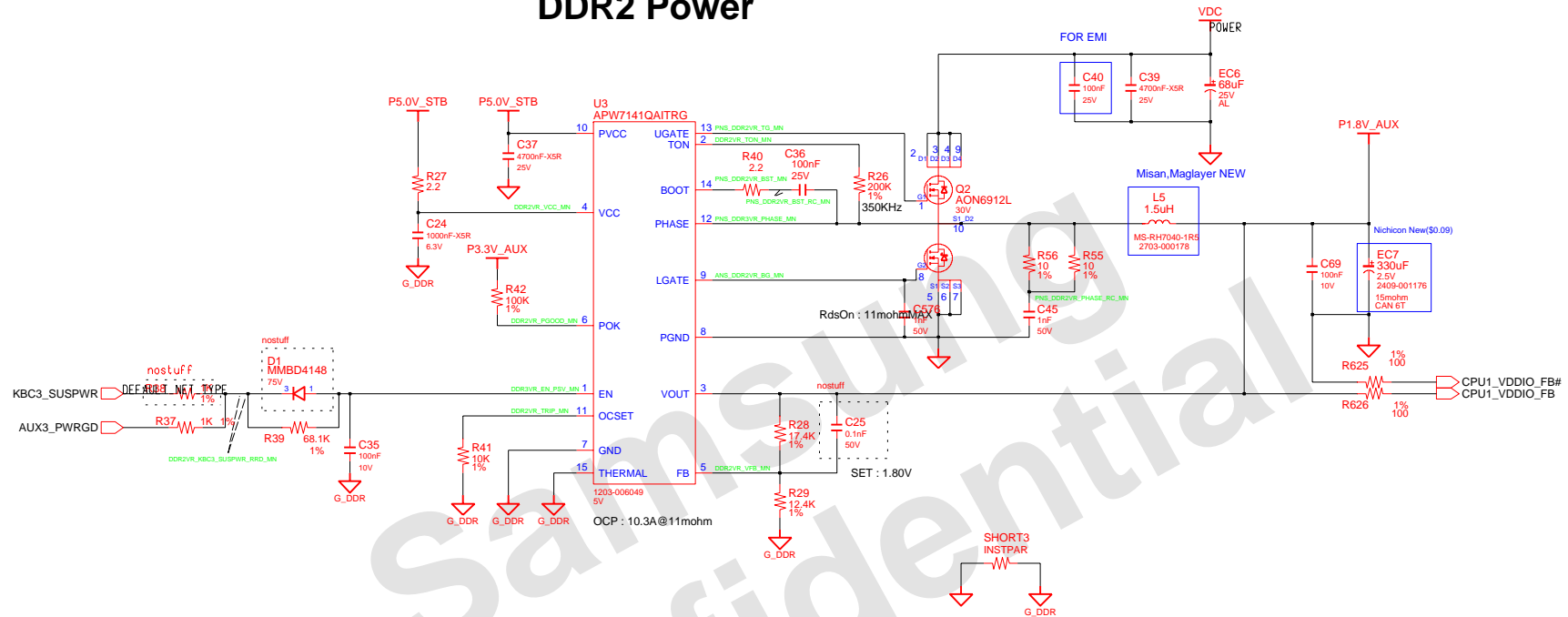
PART NO. BA41-xxxxxxA



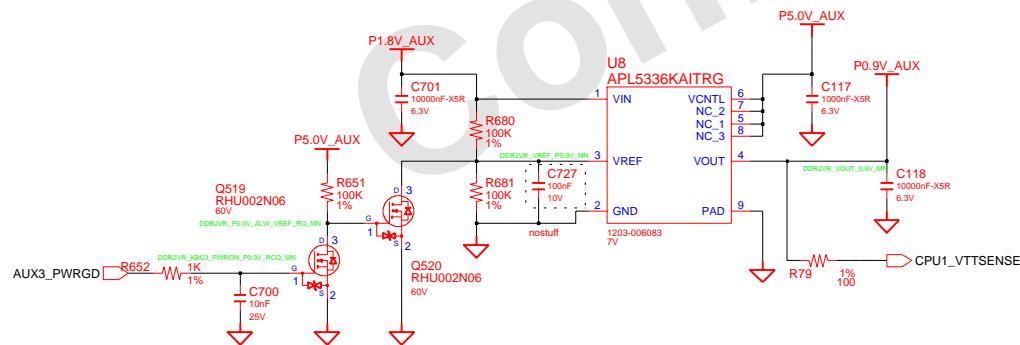
# SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

## DDR2 Power



## DDR2 VTT(P0.9V\_AUX)



DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV	PWR_MEMORY	PWR_MEMORY	ELECTRONICS
APPROVAL	BC LEE	REV	0.1	DDR2 POWER	DDR2 POWER	PART NO.
MODULE CODE		LAST EDIT	July 15, 2009 19:25:13 PM			BA41-xxxxxxA
					PAGE	48 OF 58

# SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

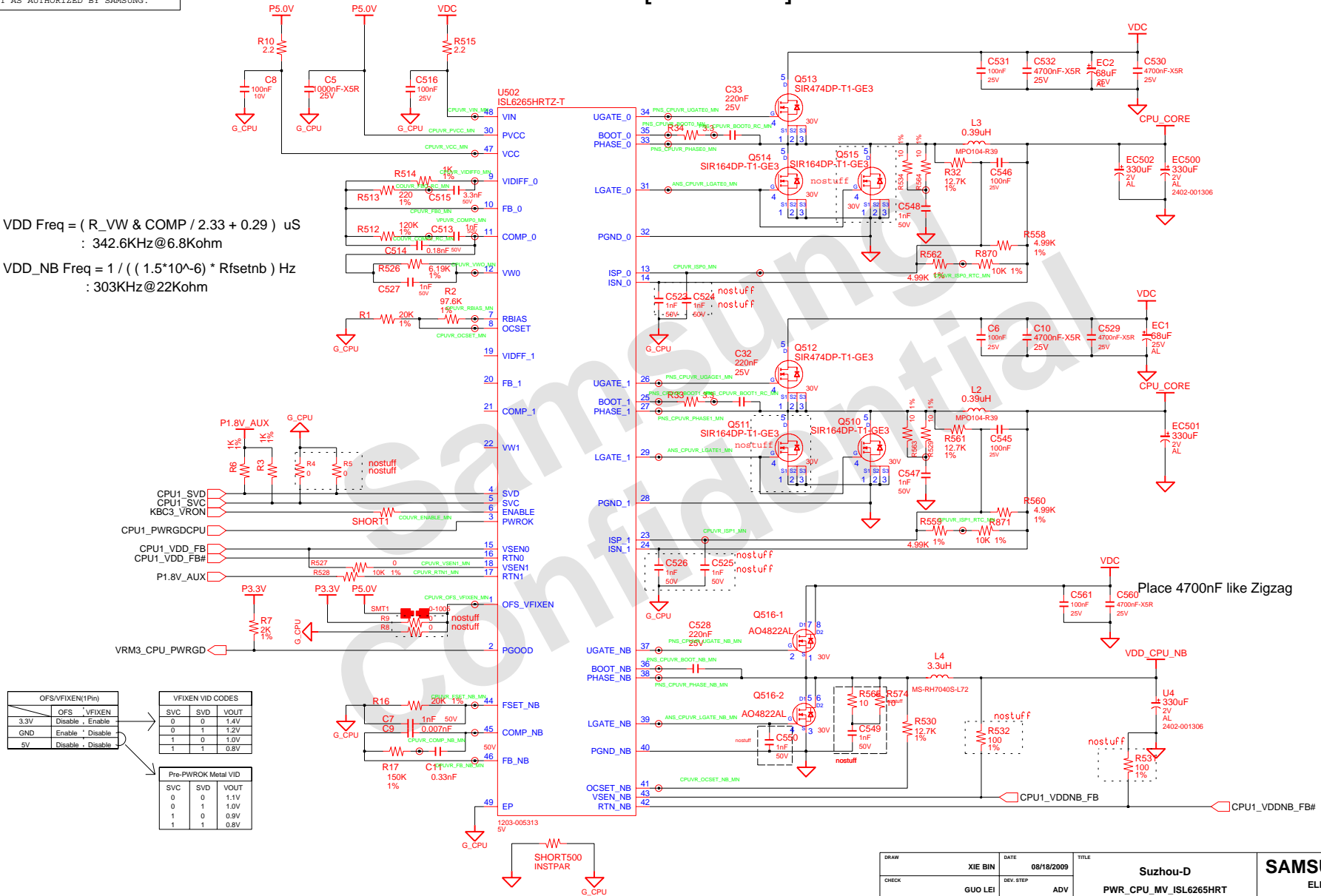
## CPU VRM [INTERSIL]

$$VDD \text{ Freq} = (R\_VW \& COMP / 2.33 + 0.29) \text{ uS}$$

$$: 342.6\text{KHz}@6.8\text{Kohm}$$

$$VDD\_NB \text{ Freq} = 1 / ((1.5 \times 10^{-6}) * Rfsetnb) \text{ Hz}$$

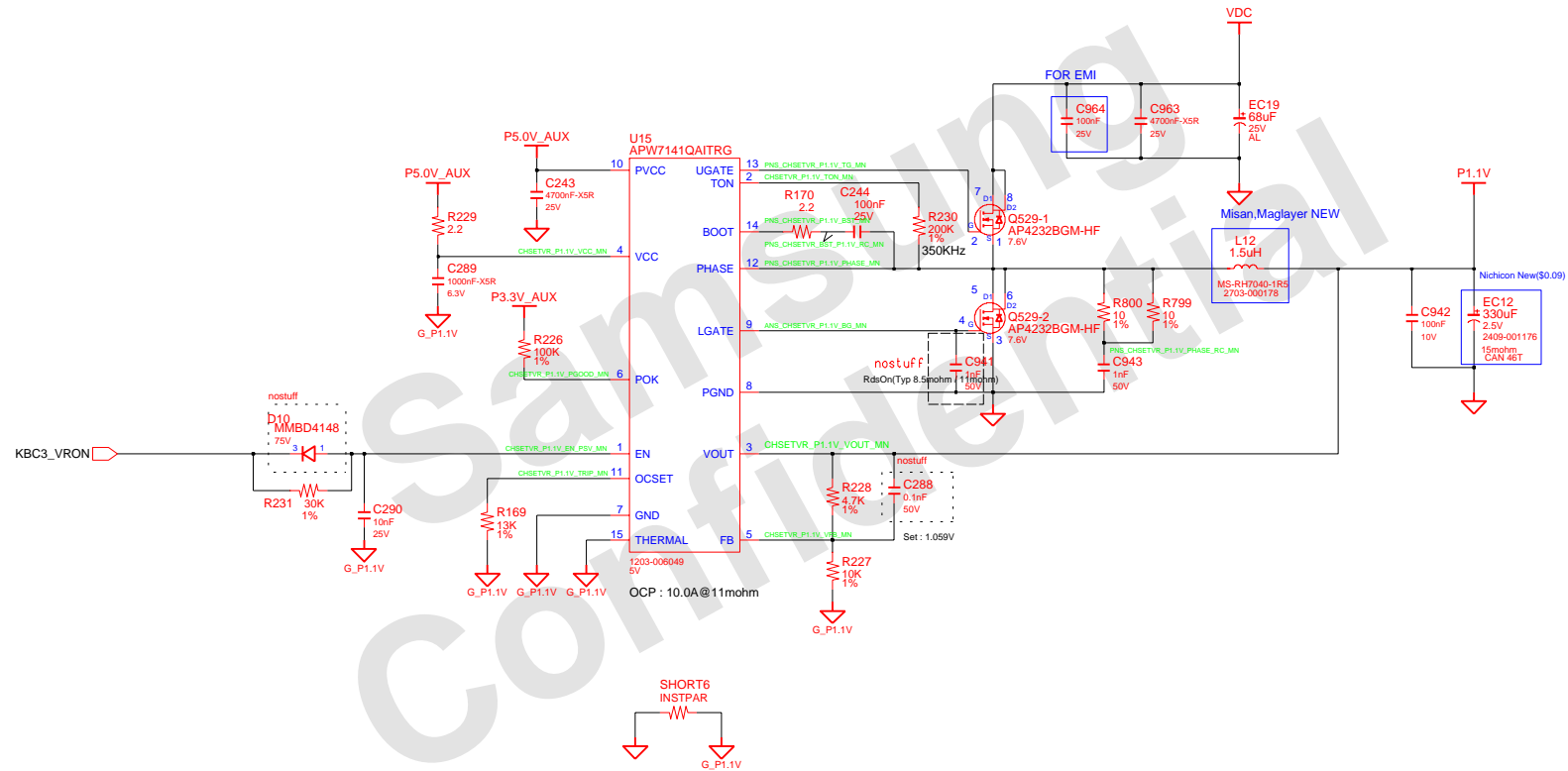
$$: 303\text{KHz}@22\text{Kohm}$$



DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D
CHECK	GUO LEI	DEV. STEP	ADV	PWR_CPU_MV_ISL6265HRT	SAMSUNG ELECTRONICS
APPROVAL	BC LEE	REV	0.1	CPU VRM (IMVP6+)	PART NO. BA41-xxxxxA
MODULE CODE		LAST EDIT			

**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

**CHIPSET POWER(P1.1V)**


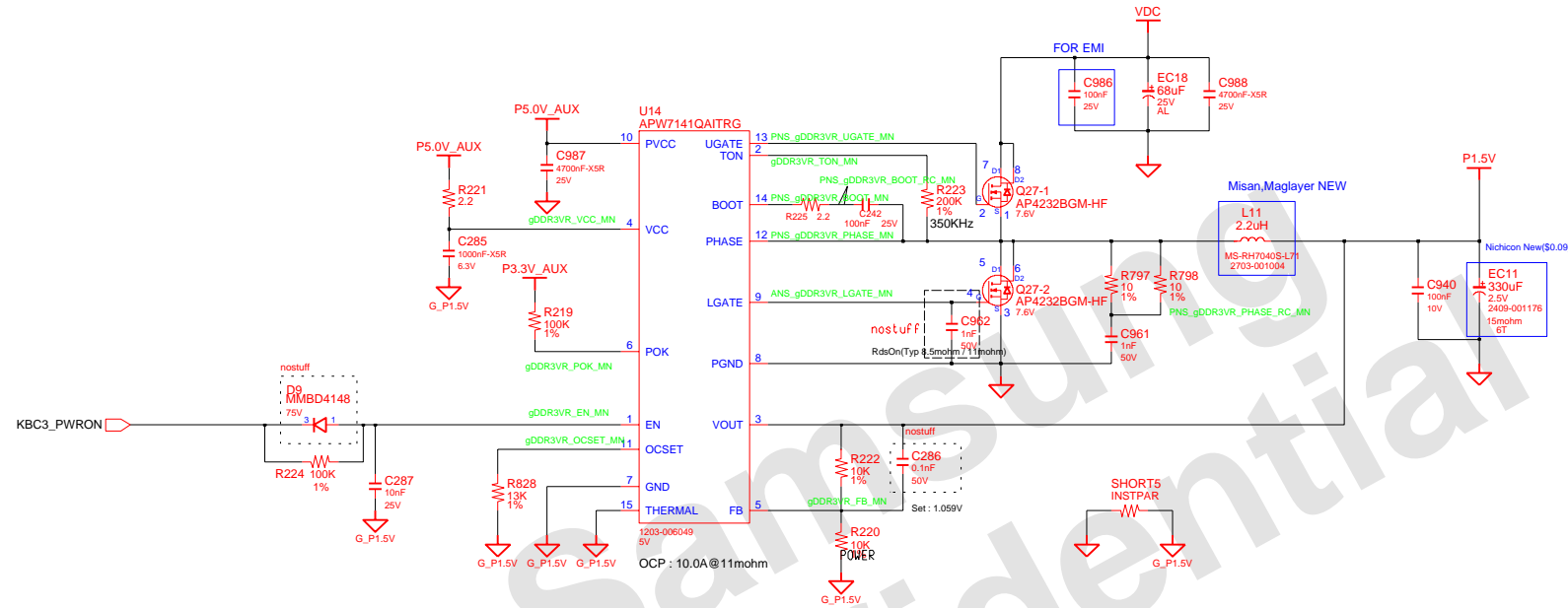
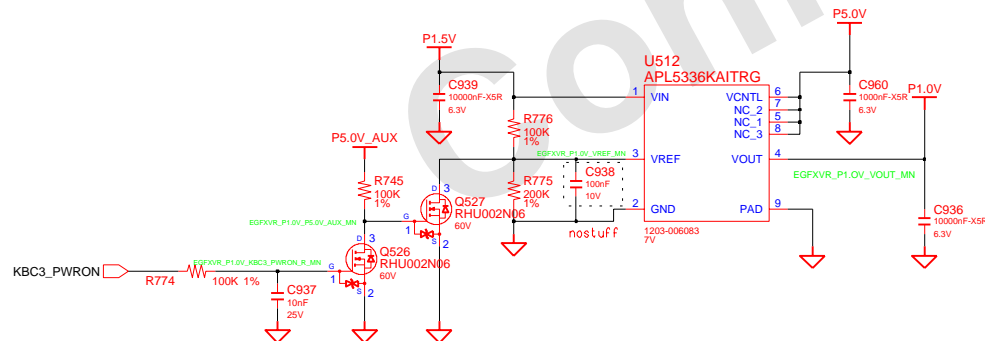
DRAW	XIE BIN	DATE	08/18/2009	Suzhou-D  PWR_MV_RX881  P1.1V		<b>SAMSUNG</b> ELECTRONICS		
CHECK	GUO LEI	DEV. STEP	ADV					PART NO.
APPROVAL	BC LEE	REV	0.1			BA41-xxxxxxA		
MODULE CODE	LAST EDIT			July 15, 2009 19:25:13 PM	PAGE	50	OF	58





**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

**gDDR3 POWER(P1.5V)**

**P1.0V**


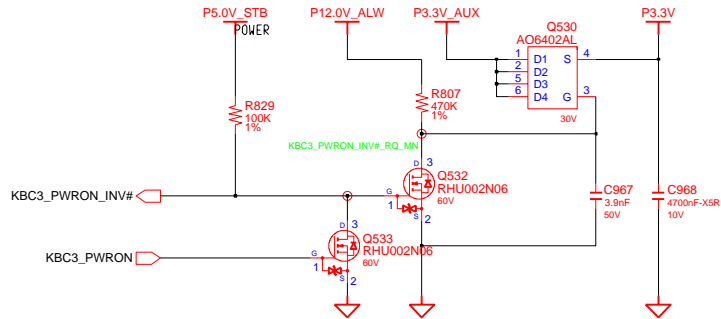
DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV	PWR GFX MEMORY		ELECTRONICS
APPROVAL	BC LEE	REV	0.1	gDDR3 POWER	PART NO.	BA41-xxxxxxA
MODULE CODE		LAST EDIT	July 15, 2009 19:25:13 PM	PAGE	53	OF 58

**SAMSUNG PROPRIETARY**

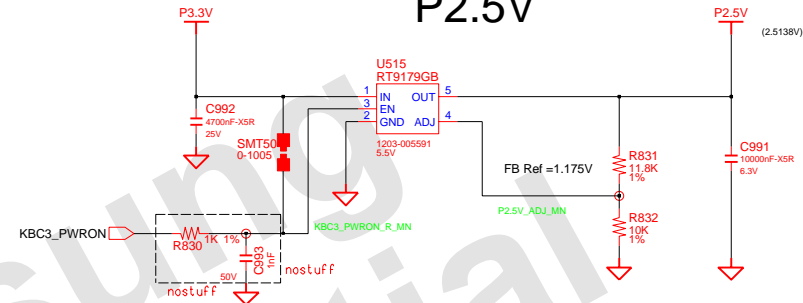
THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

# Switched Power

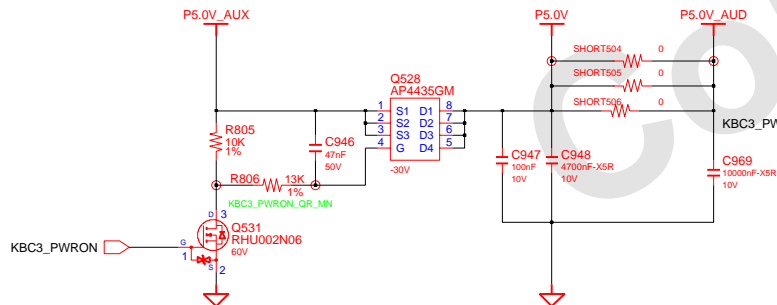
## Switched Power On (P3.3V)



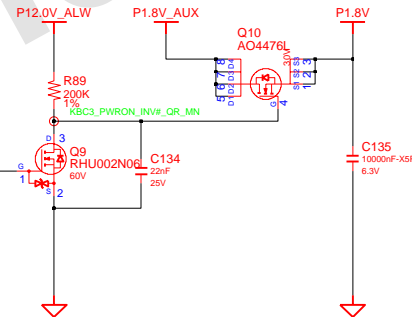
## P2.5V



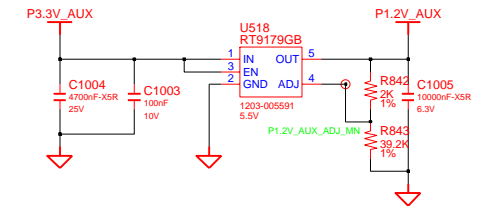
## Switched Power On (P5.0V)



## Switched Power On (P1.8V)



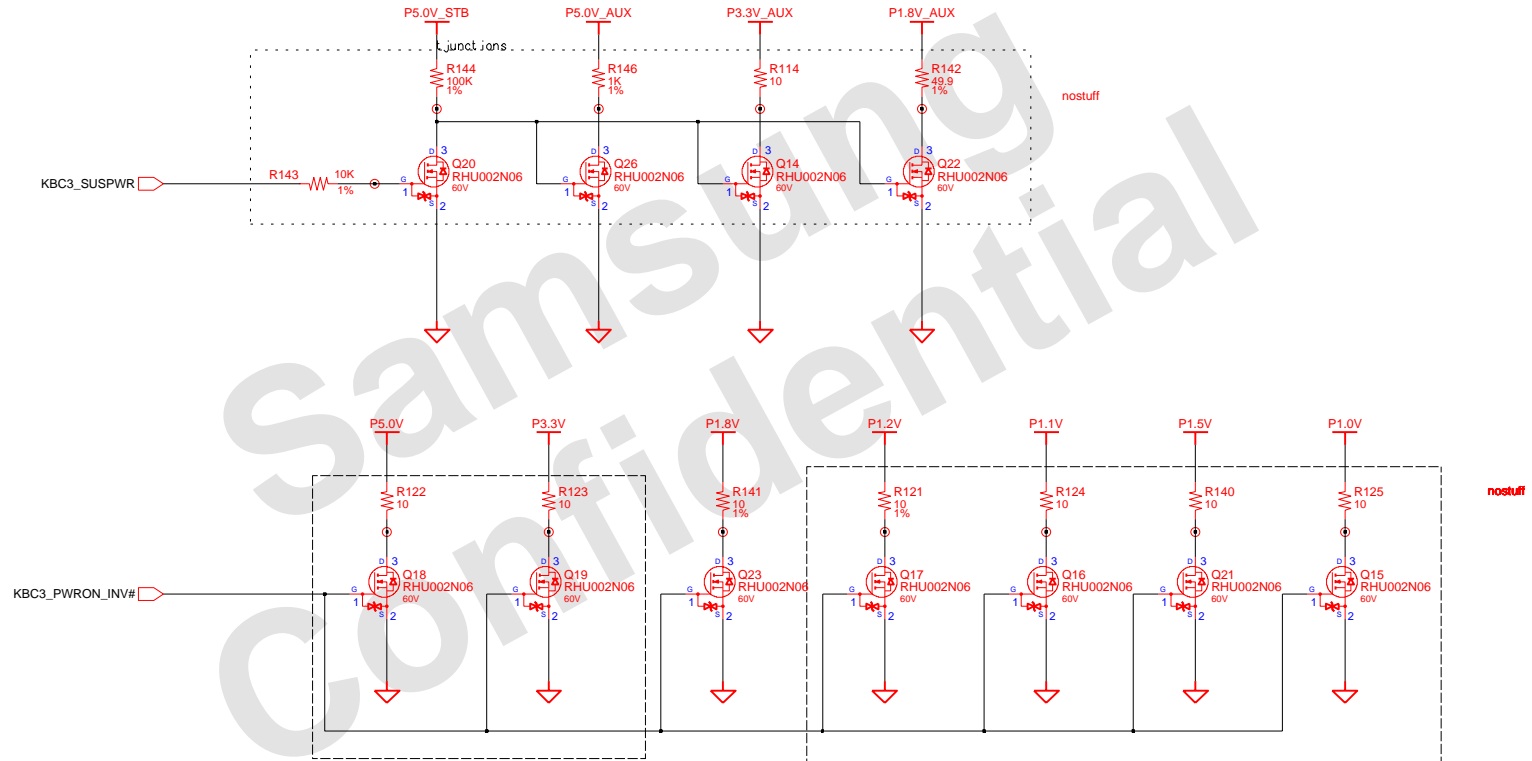
## P1.2V\_AUX



DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG
CHECK	GUO LEI	DEV. STEP	ADV	PWR_SWITCH	PWR_SWITCH	ELECTRONICS
APPROVAL	BC LEE	REV	0.1	SWITCH POWER	SWITCH POWER	PART NO.
MODULE CODE		LAST EDIT				BA41-xxxxxA
					July 15, 2009 19:25:13 PM	PAGE 54 OF 58

**SAMSUNG PROPRIETARY**

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

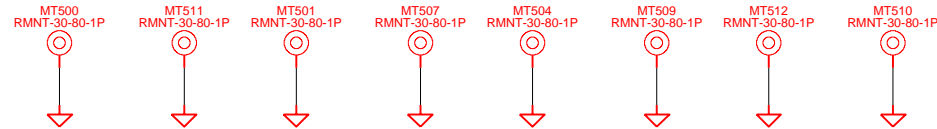
**POWER DISCHARGER**


DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG ELECTRONICS PART NO. BA41-xxxxxxA
CHECK	GUO LEI	DEV. STEP	ADV	PWR_CPU_MV_IDISCHARGER		
APPROVAL	BC LEE	REV	0.1	DISCHARGER LOGIC		
MODULE CODE		LAST EDIT	July 15, 2009 19:25:13 PM	PAGE 55 OF 58		

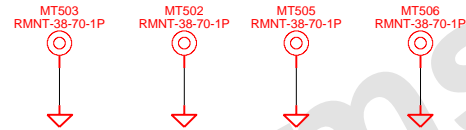
## SAMSUNG PROPRIETARY

THIS DOCUMENT CONTAINS CONFIDENTIAL  
PROPRIETARY INFORMATION THAT IS  
SAMSUNG ELECTRONICS CO.'S PROPERTY.  
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS  
EXCEPT AS AUTHORIZED BY SAMSUNG.

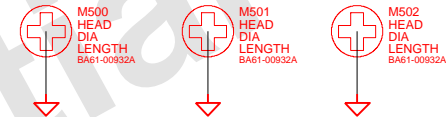
### System boss PAD



### CPU breaket PAD



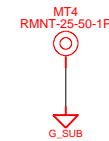
### THERMAL NUT



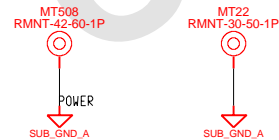
### PCB + bottom



### USB boss PAD



### MODEM boss PAD



DRAW	XIE BIN	DATE	08/18/2009	TITLE	Suzhou-D	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	ADV	MAIN		
APPROVAL	BC LEE	REV	0.1	MOUNT HOLE		
MODULE CODE		LAST EDIT				PART NO. BA41-xxxxxxA
					July 15, 2009 19:25:13 PM	PAGE 56 OF 58

