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Scala_14L

CPU : Intel Penryn
Chip Set : Intel Cantiga & ICH9M
Remarks : Montevina Platform

Model Name : Scala_14L

PCB Code : GCE BA41-01335A
NY BA41-01334A
HAN BA41-01336A

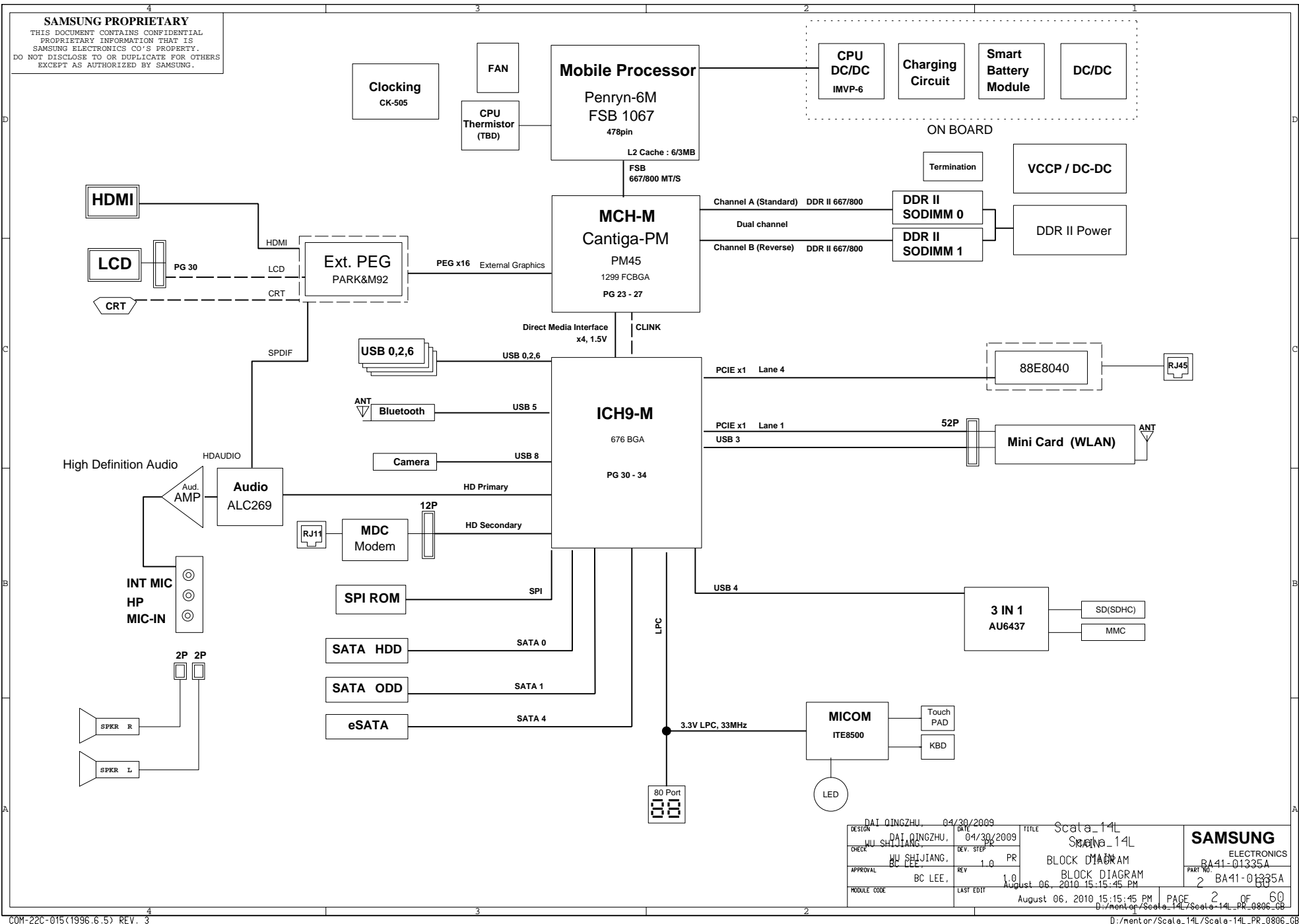
Dev. Step : PR

Revision : 1.0

T.R. Date : 2010.06.17

DESIGN	CHECK	APPROVAL
Dai Qingzhu	Wu Shijiang	BC LEE

DESIGN	DAI QINGZHU,	DATE	8/16/2009	TITLE	Scala_14L	SAMSUNG ELECTRONICS
CHECK	WU SHIJIANG,	DEV. STEP	PR			
APPROVAL	BC LEE,	REV	1.0	COVER	PART NO. BA41-01335A	
MODULE CODE		LAST EDIT	August 06, 2010 15:15:45 PM	PAGE	1	OF 60



BOARD INFORMATION

SCHEMATIC ANNOTATIONS AND BOARD INFORMATION

PCI Devices

Devices	IDSEL#	REQ/GNT#	Interrupts
Cardbus	AD25	3	A,B,C
USB	AD29(internal)	-	USB2.0 #0 (USB0) : A USB2.0 #1 (USB1) : D USB2.0 #2 (USB4) : C USB2.0 #3 (USB5) : E USB2.0 #4 (EHCI) : H
Hub to PCI	AD30(internal)	-	-
LPC bridge/IDE/AC97/SMBUS	AD31(internal)	-	B
Internal MAC	AD24(internal)	-	E
AC Link	-	-	B
GLAN	-	-	F

Voltage Rails

VDC	Primary DC system power supply (9 to 20V)
VCC_CORE	Core Voltage for CPU
P1.05V (VCCP)	VTT for CPU, Crestline & ICH9-M
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	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_ALW	5.0V always power rail

Crystal / Oscillator

TYPE	FREQUENCY	DEVICE	USAGE
Crystal	32.768KHz	ICH9-M	Real Time Clock
Crystal	10MHz	MICOM	HD64F2169/2160
Crystal	14.318MHz	CLOCK-Generator	CK-505
Crystal	25MHz	LAN	RealTek 88E8057

LCD Pannel Detect (TBD)

Devices	Resolution	PANNEL_DETECT_0

I²C / SMB Address

Devices	Address	Hex	Bus
ICH9-M	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 001x	D2h	Clock, Unused Clock Output Disable

REVISION HISTORY

See rev notes for more information.

USB PORT Assign		PCI Express Assign	
PORT #	ASSIGNED TO	PORT #	ASSIGNED TO
0	SYSTEM PORT 0	0	NC
1	SYSTEM PORT 1	1	Mini Card 1 (WLAN)
2	SYSTEM PORT 2	2	NC
3	NC	3	LOM
4	NC	4	Mini Card 2 (ROBSON or DVB-T)
5	Bluetooth	5	NC
6	Mini PCI Express 2		
7	Camera		
8	NC		
9	NC		

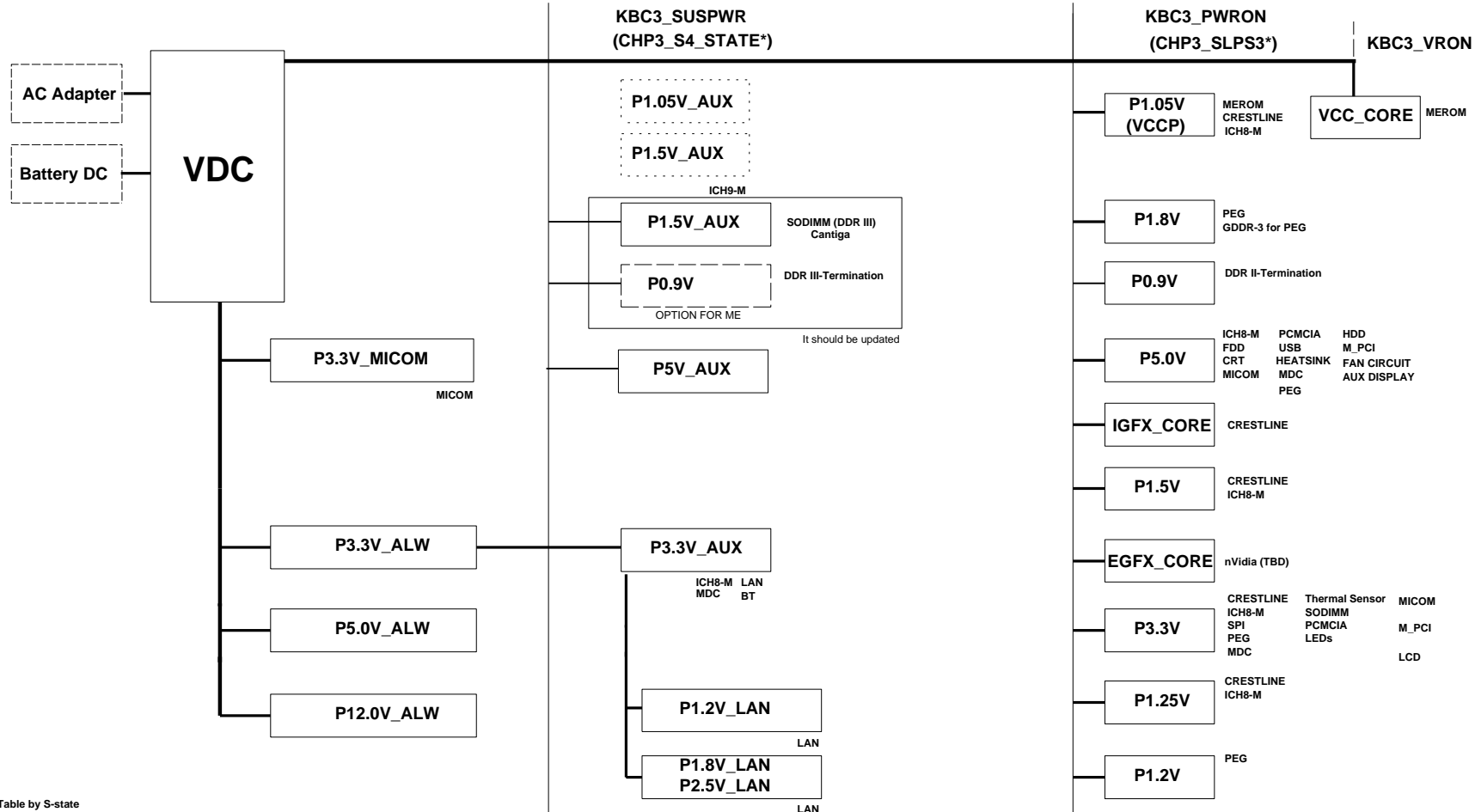
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DESIGN	DAI QINGZHU,	DATE	8/16/2009	TITLE	Scala_14L	SAMSUNG ELECTRONICS PART NO. BA41-01335A
CHECK	WU SHIJIANG,	DEV. STEP	PR		MAIN	
APPROVAL	BC LEE,	REV	1.0		BCAFDINFO	
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POWER DIAGRAM

Rev 0.1



Power On/Off Table by S-state

Rail	S0	S3	S4	S5
State	S0	S3	S4	S5
+V*(LWS)	ON	ON	ON	ON
+V*LAN	ON	ON	ON	ON
+1.8V_AUX	ON	ON	ON	ON
+0.9V	ON	ON	ON	ON
+V*AUX	ON	ON	ON	ON
+V	ON	ON	ON	ON
+V* (CORE)	ON	ON	ON	ON

S5-S4

S3

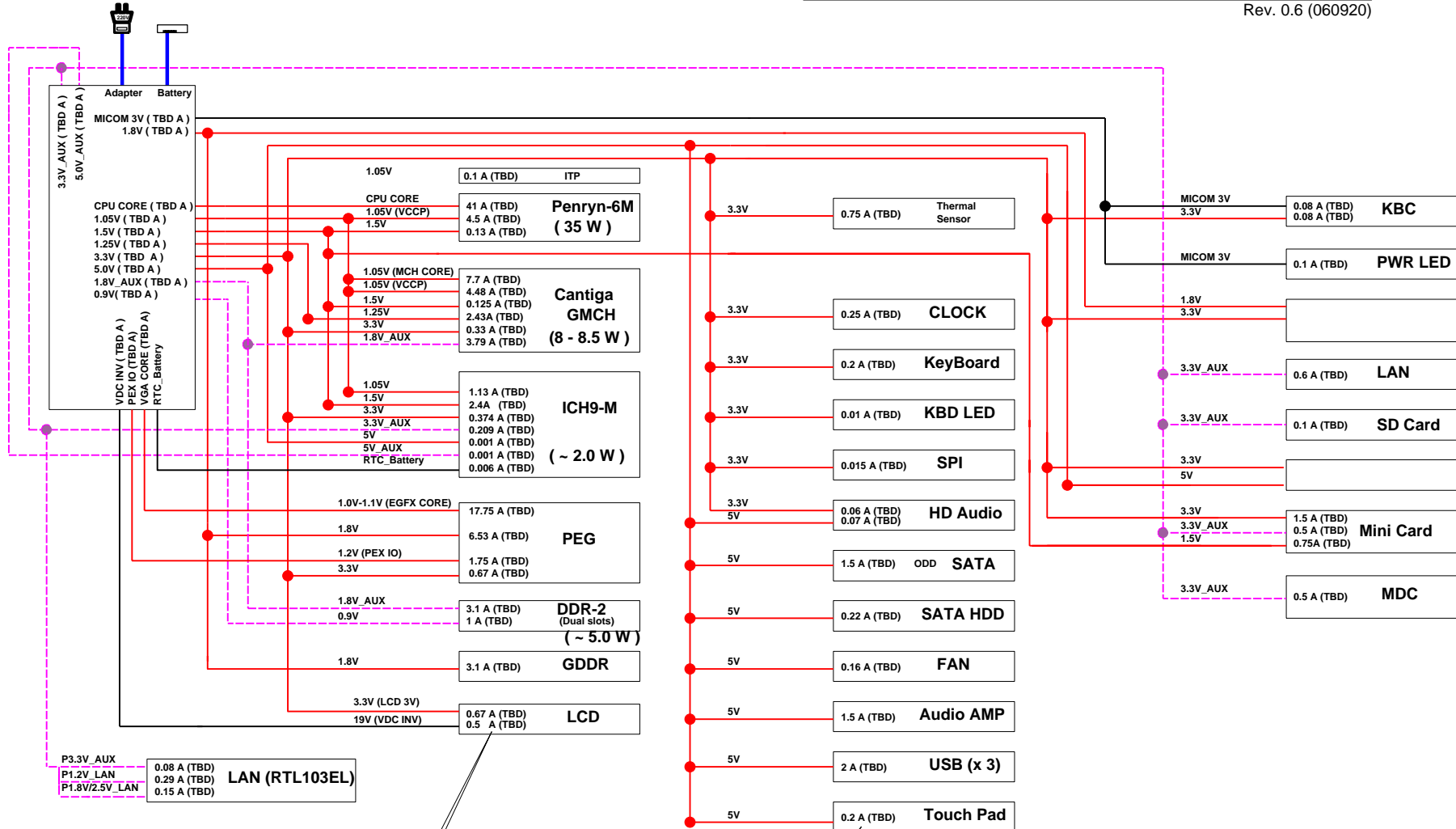
S0

DESIGN	DAI QINGZHU,	DATE	8/16/2009	TITLE	Scala_14L	SAMSUNG ELECTRONICS
CHECK	WU SHIJIANG,	DEV. STEP	PR	MAIN		
APPROVAL	BC LEE,	REV	1.0	POWER DIAGRAM	PART NO.	BA41-01335A
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POWER RAILS ANALYSIS

Rev. 0.6 (060920)

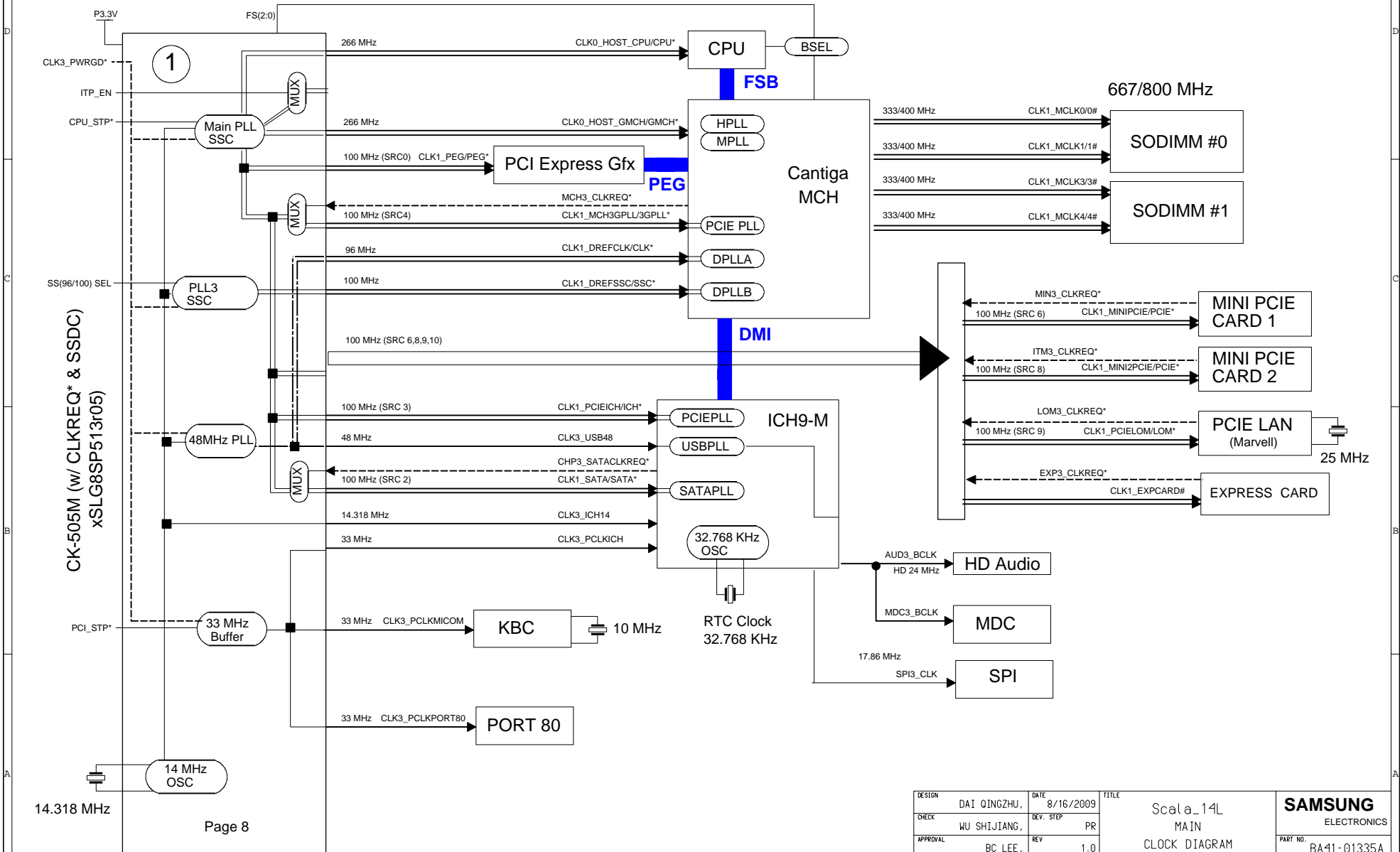


Value by Datasheet/Application notes (Value by measurement)

DESIGN	DAI QINGZHU,	DATE	8/16/2009	TITLE	Scala_14L	SAMSUNG ELECTRONICS
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APPROVAL	BC LEE,	REV	1.0	POWER RAILS		
MODULE CODE		LAST EDIT	August 06, 2010 15:15:45 PM			
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CLOCK DISTRIBUTION Rev. 0.1

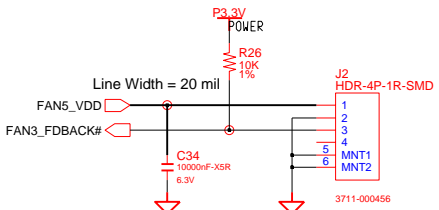
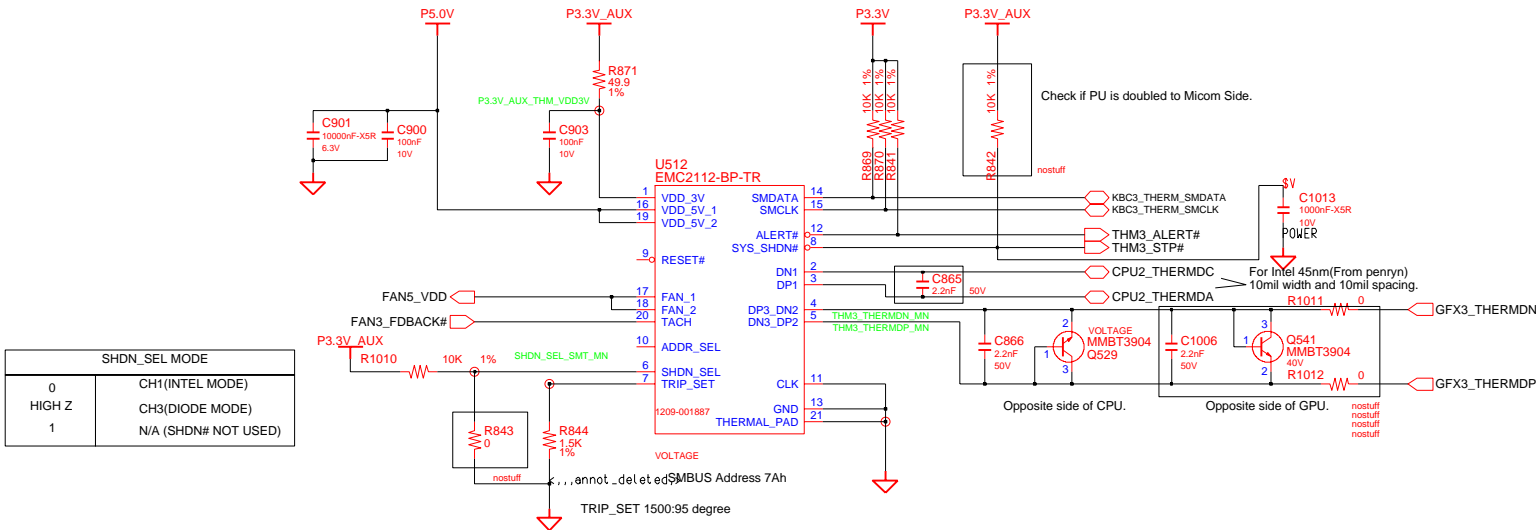


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DESIGN	DAI QINGZHU,	DATE	8/16/2009	TITLE	Scale_14L	SAMSUNG ELECTRONICS
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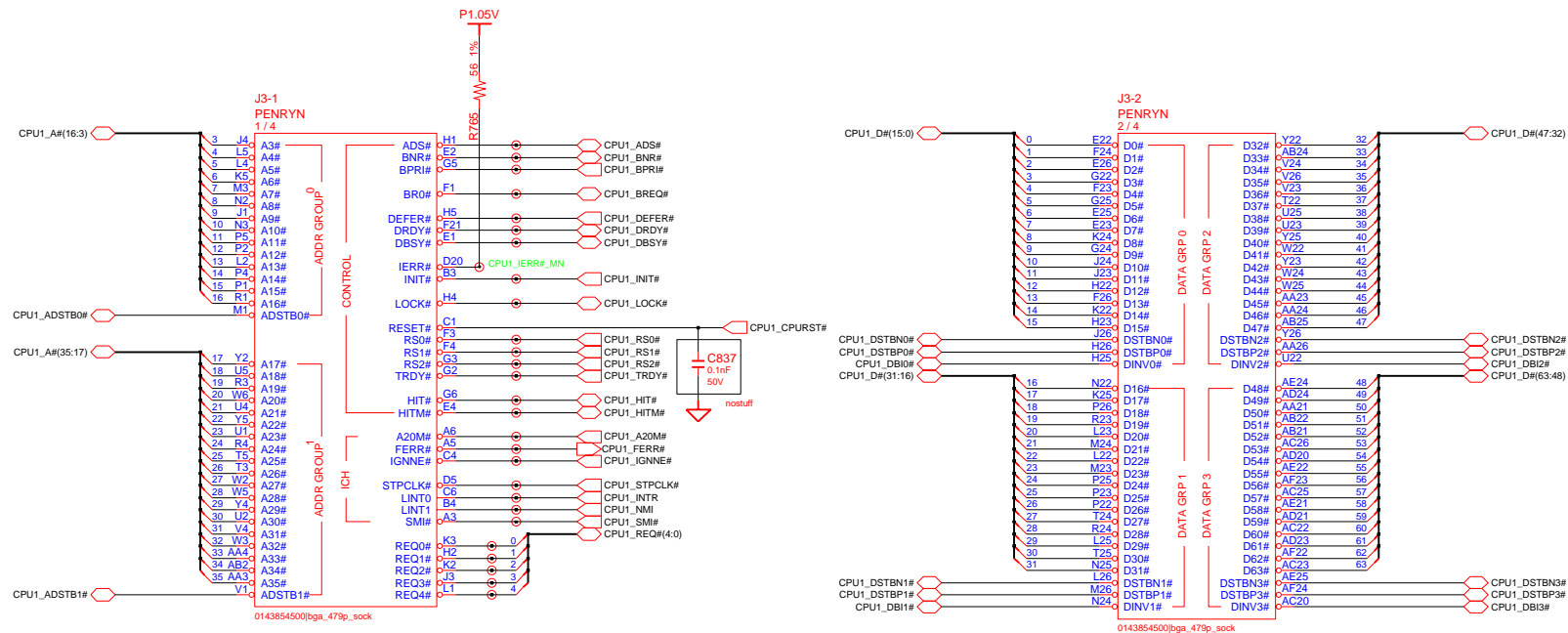
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THERMAL SENSOR & FAN CONTROL

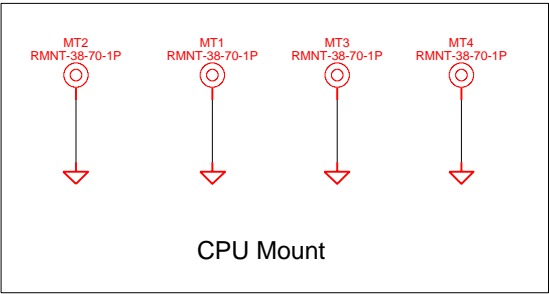


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APPROVAL	BC LEE,	REV	1.0			
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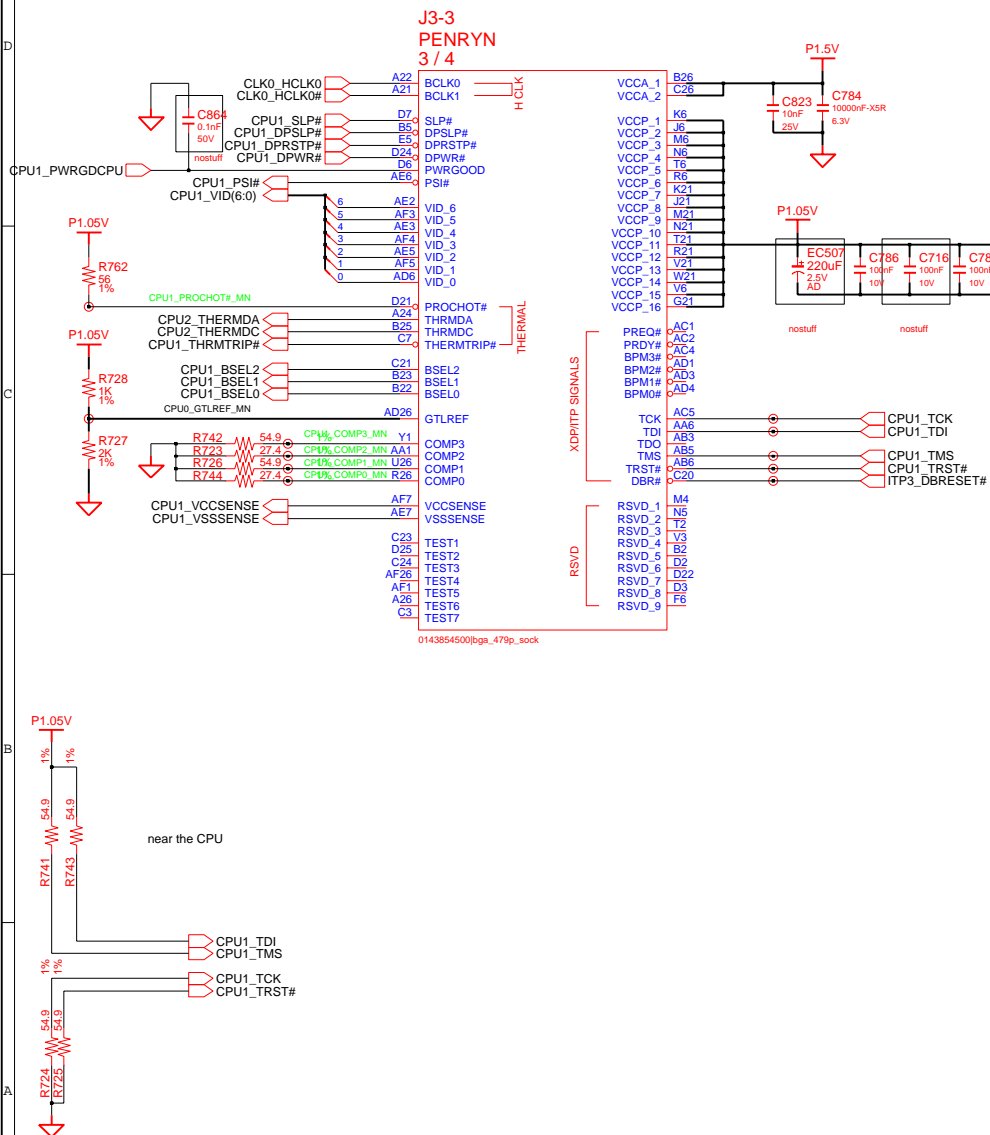


CPU Socket: 3704-001153



DATE	11/8/2006	TITLE	Scala_14L CPU PENRYN (1/3)	SAMSUNG ELECTRONICS
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APPROVAL	BC LEE,	REV	1.0	
MODULE CODE	undefined	LAST EDIT	August 06, 2010 15:15:45 PM	PAGE 9 OF 60

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CPU Core Voltage Table IMVP-6

Active Mode		Active/Deeper Sleep Dual Mode Region		Deeper Sleep/Extended Deeper Sleep Dual Mode Region	
VID(6:0)	Voltage	VID(6:0)	Voltage	VID(6:0)	Voltage
0 0 0 0 0 0 0	1.5000 V	0 1 0 1 0 0 0	1.0000 V	1 0 1 0 0 0 1	0.4875 V
0 0 0 0 0 0 1	1.4875 V	0 1 0 1 0 0 1	0.9875 V	1 0 1 0 0 1 0	0.4750 V
0 0 0 0 0 1 0	1.4750 V	0 1 0 1 0 1 0	0.9750 V	1 0 1 0 0 1 1	0.4625 V
0 0 0 0 0 1 1	1.4625 V	0 1 0 1 1 0 1	0.9625 V	1 0 1 0 1 0 0	0.4500 V
0 0 0 0 1 0 0	1.4500 V	0 1 0 1 1 0 0	0.9500 V	1 0 1 0 1 0 1	0.4375 V
0 0 0 0 1 0 1	1.4375 V	0 1 0 1 1 1 0	0.9375 V	1 0 1 0 1 1 0	0.4250 V
0 0 0 0 1 1 0	1.4250 V	0 1 0 1 1 1 1	0.9250 V	1 0 1 0 1 1 1	0.4125 V
0 0 0 0 1 1 1	1.4125 V	0 1 1 0 1 1 1	0.9125 V	1 0 1 1 0 0 0	0.4000 V
0 0 0 1 0 0 0	1.4000 V	0 1 1 0 0 0 0	0.9000 V	1 0 1 1 0 0 1	0.3875 V
0 0 0 1 0 0 1	1.3875 V	0 1 1 0 0 0 1	0.8875 V	1 0 1 1 0 1 0	0.3750 V
0 0 0 1 0 1 0	1.3750 V	0 1 1 0 0 1 0	0.8750 V	1 0 1 1 0 1 1	0.3625 V
0 0 0 1 0 1 1	1.3625 V	0 1 1 0 1 0 1	0.8625 V	1 0 1 1 1 0 0	0.3500 V
0 0 0 1 1 0 0	1.3500 V	0 1 1 0 1 0 0	0.8500 V	1 0 1 1 1 0 1	0.3375 V
0 0 0 1 1 0 1	1.3375 V	0 1 1 0 1 1 0	0.8375 V	1 0 1 1 1 1 0	0.3250 V
0 0 0 1 1 1 0	1.3250 V	0 1 1 0 1 1 1	0.8250 V	1 0 1 1 1 1 1	0.3125 V
0 0 0 1 1 1 1	1.3125 V	0 1 1 1 0 0 0	0.8125 V	1 1 0 0 0 0 0	0.3000 V
0 0 1 0 0 0 0	1.3000 V	0 1 1 1 0 0 0	0.8000 V	1 1 0 0 0 0 1	0.2875 V
0 0 1 0 0 0 1	1.2875 V	0 1 1 1 0 0 1	0.7875 V	1 1 0 0 0 1 0	0.2750 V
0 0 1 0 0 1 0	1.2750 V	0 1 1 1 0 1 0	0.7750 V	1 1 0 0 0 1 1	0.2625 V
0 0 1 0 0 1 1	1.2625 V	0 1 1 1 1 0 1	0.7625 V	1 1 0 0 1 0 0	0.2500 V
0 0 1 0 1 0 0	1.2500 V	0 1 1 1 1 0 0	0.7500 V	1 1 0 0 1 0 1	0.2375 V
0 0 1 0 1 0 1	1.2375 V	0 1 1 1 1 1 0	0.7375 V	1 1 0 0 1 1 0	0.2250 V
0 0 1 0 1 1 0	1.2250 V	0 1 1 1 1 1 1	0.7250 V	1 1 0 0 1 1 1	0.2125 V
0 0 1 0 1 1 1	1.2125 V	0 1 1 1 1 1 1	0.7125 V	1 1 0 1 0 0 0	0.2000 V
0 0 1 1 0 0 0	1.2000 V	1 0 0 0 0 0 0	0.7000 V	1 1 0 1 0 0 1	0.1875 V
0 0 1 1 0 0 1	1.1875 V	1 0 0 0 0 0 1	0.6875 V	1 1 0 1 0 1 0	0.1750 V
0 0 1 1 0 1 0	1.1750 V	1 0 0 0 0 1 0	0.6750 V	1 1 0 1 0 1 1	0.1625 V
0 0 1 1 0 1 1	1.1625 V	1 0 0 0 1 0 1	0.6625 V	1 1 0 1 1 0 0	0.1500 V
0 0 1 1 1 0 0	1.1500 V	1 0 0 0 1 0 0	0.6500 V	1 1 0 1 1 0 1	0.1375 V
0 0 1 1 1 0 1	1.1375 V	1 0 0 0 1 0 1	0.6375 V	1 1 0 1 1 1 0	0.1250 V
0 0 1 1 1 1 0	1.1250 V	1 0 0 0 1 1 0	0.6250 V	1 1 0 1 1 1 1	0.1125 V
0 0 1 1 1 1 1	1.1125 V	1 0 0 1 0 0 0	0.6125 V	1 1 1 0 0 0 0	0.1000 V
0 1 0 0 0 0 0	1.1000 V	1 0 0 1 0 0 1	0.6000 V	1 1 1 0 0 0 1	0.0875 V
0 1 0 0 0 0 1	1.0875 V	1 0 0 1 0 1 0	0.5875 V	1 1 1 0 0 1 0	0.0750 V
0 1 0 0 0 1 0	1.0750 V	1 0 0 1 0 1 1	0.5750 V	1 1 1 0 1 0 0	0.0625 V
0 1 0 0 0 1 1	1.0625 V	1 0 0 1 1 0 0	0.5625 V	1 1 1 0 1 0 1	0.0500 V
0 1 0 0 1 0 0	1.0500 V	1 0 0 1 1 0 1	0.5500 V	1 1 1 0 1 1 0	0.0375 V
0 1 0 0 1 0 1	1.0375 V	1 0 0 1 1 1 0	0.5375 V	1 1 1 0 1 1 1	0.0250 V
0 1 0 0 1 1 0	1.0250 V	1 0 0 1 1 1 1	0.5250 V	1 1 1 1 0 0 0	0.0125 V
0 1 0 0 1 1 1	1.0125 V	1 0 0 1 1 1 1	0.5125 V	1 1 1 1 0 0 1	0.0000 V
		1 0 1 0 0 0 0	0.5000 V	1 1 1 1 0 1 0	0.0000 V
				1 1 1 1 0 1 1	0.0000 V
				1 1 1 1 1 0 0	0.0000 V
				1 1 1 1 1 0 1	0.0000 V
				1 1 1 1 1 1 0	0.0000 V
				1 1 1 1 1 1 1	0.0000 V
					**11111111 : OV power good asserted.
Active		Deeper Stp			
DPRSLPVR	0	DPRSLPVR	1		
DPRSTP*	1	DPRSTP*	0		
PSI2*	0 or 1	PSI2*	0 or 1		

*Yonah Processor (2.33 GHz / 800 MHz : TBD)

GTLREF : Keep the Voltage divider within 0.5"
of the first GTLREF0 pin with Zo=55ohm trace.
Minimize coupling of any switching signals to this net.

COMP0.2(COMP1.3) should be connected with Zo=27.4ohm(55ohm)
trace shorter than 1/2" to their respective Banias socket pins.

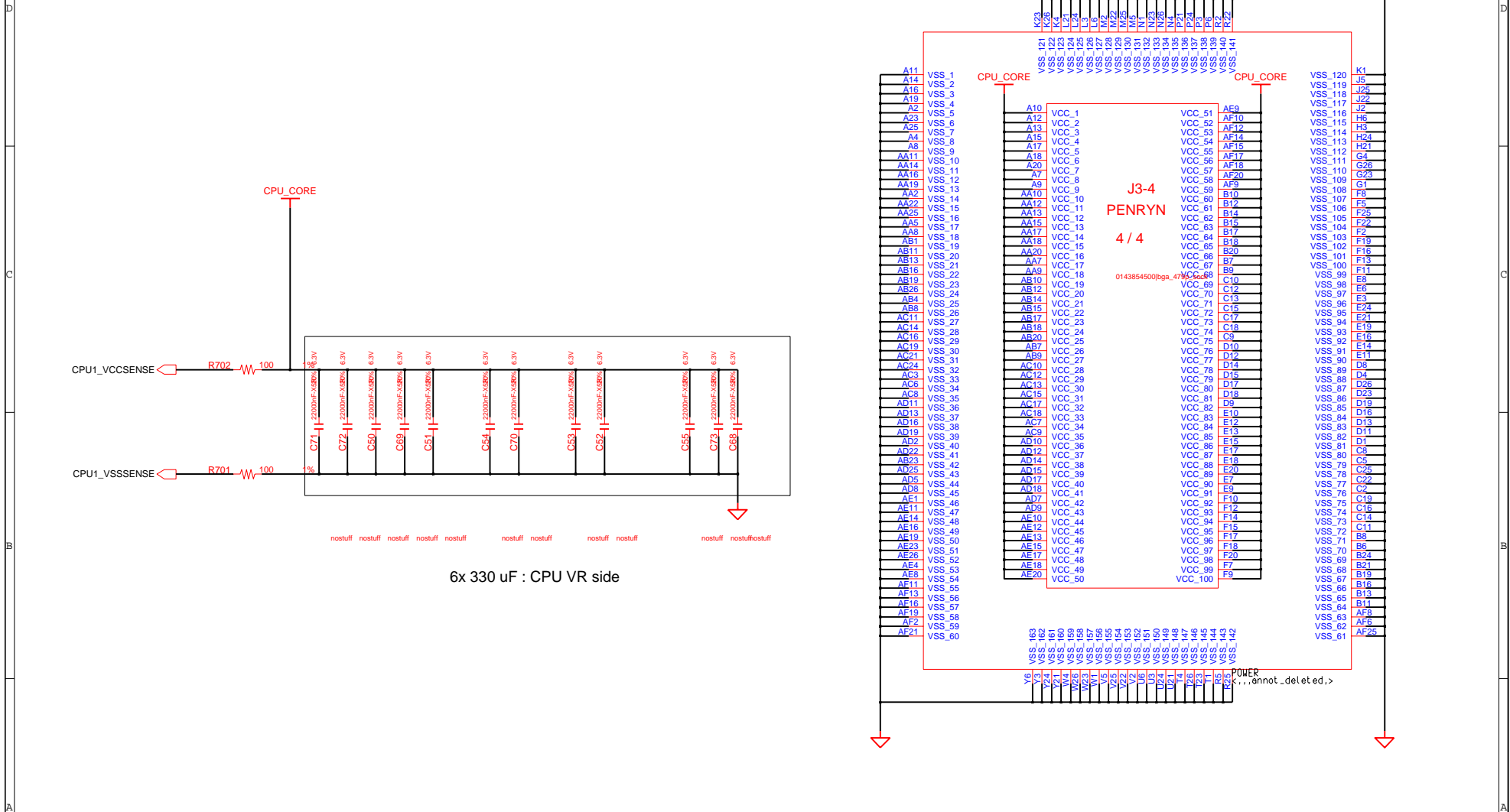
GND test points within 100mil of the VCC/VSSense at the end of the line.
Route the VCC/VSSense as a Zo=55ohm traces with equal length.
Observe 3:1 spacing b/w VCC/VSSense lines and 25mil away
(preferred 50mil) from any other signal. And GND via 100mil away
from each of the VCC/VSS test point vias.

BSEL

FSB 1067 MHz		Pull-down
FSB 800 MHz		BSEL0, BSEL1, BSEL2 BSEL0, BSEL2

DRAW	DAI QINGZHU	DATE	11/8/2006	TITLE	Scala_14L	SAMSUNG
CHECK	WU SHIJIANG	DEV. STEP	PR		CPU	ELECTRONICS
APPROVAL	BC LEE	REV	1.0		PENRYN (2/3)	PART NO. BA41-01335A
MODULE CODE	undefined	LAST EDIT	August 06, 2010 15:15:45 PM	PAGE	10	OF 60

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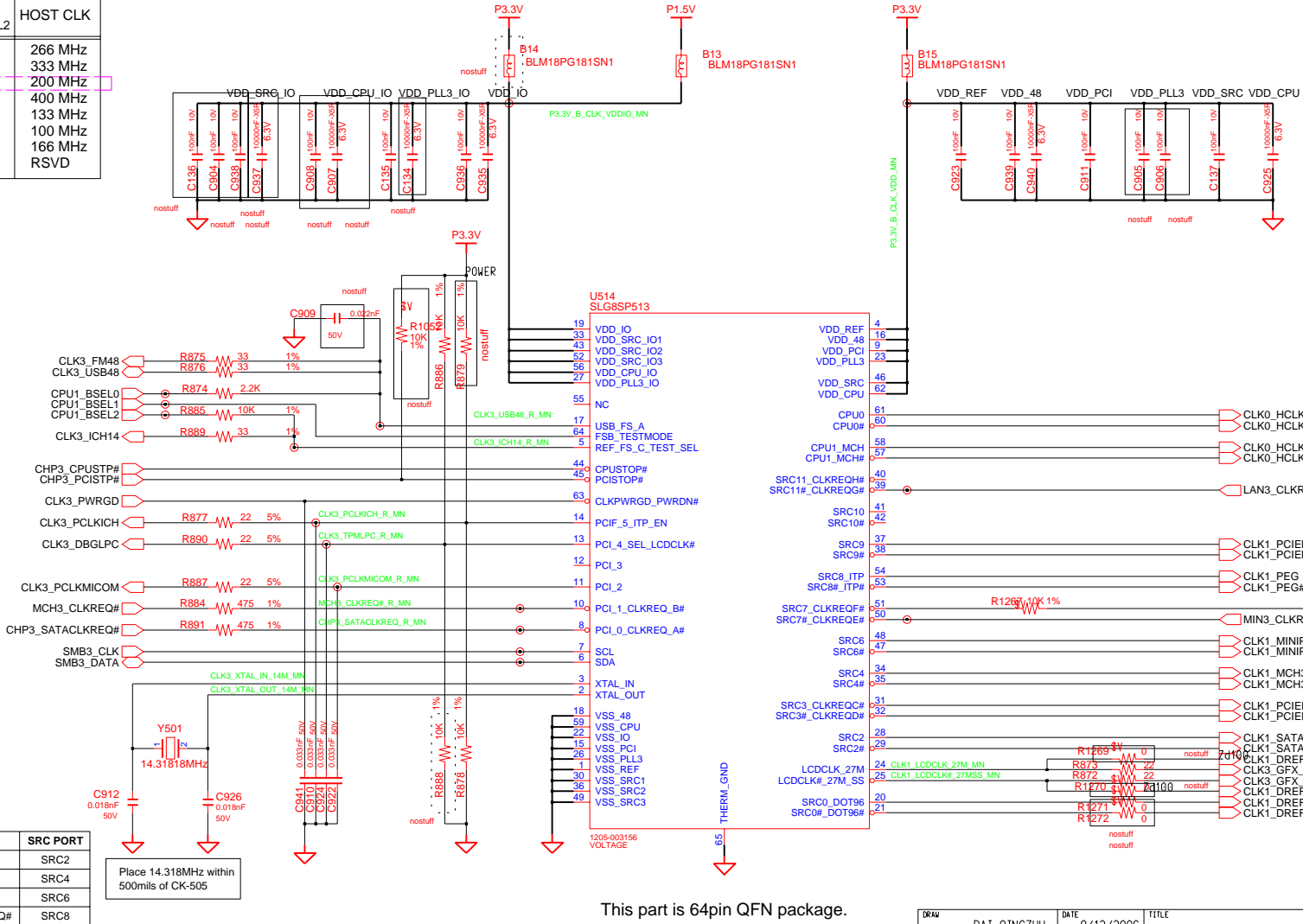


DATE	11/8/2006		TITLE	Scala_14L CPU	SAMSUNG ELECTRONICS	
CHECK	WU SHIJIANG,	PR				DEV. STEP
APPROVAL	BC LEE,	1.0				REV
MODULE CODE			LAST EDIT	PENRYN (3/3)	PART NO. BA41-01335A	
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CK505M

FSA	FSB	FSC	HOST CLK
BSEL0	BSEL1	BSEL2	
0	0	0	266 MHz
0	0	1	333 MHz
0	1	0	200 MHz
0	1	1	400 MHz
1	0	0	133 MHz
1	0	1	100 MHz
1	1	0	166 MHz
1	1	1	RSVD



This part is 64pin QFN package.

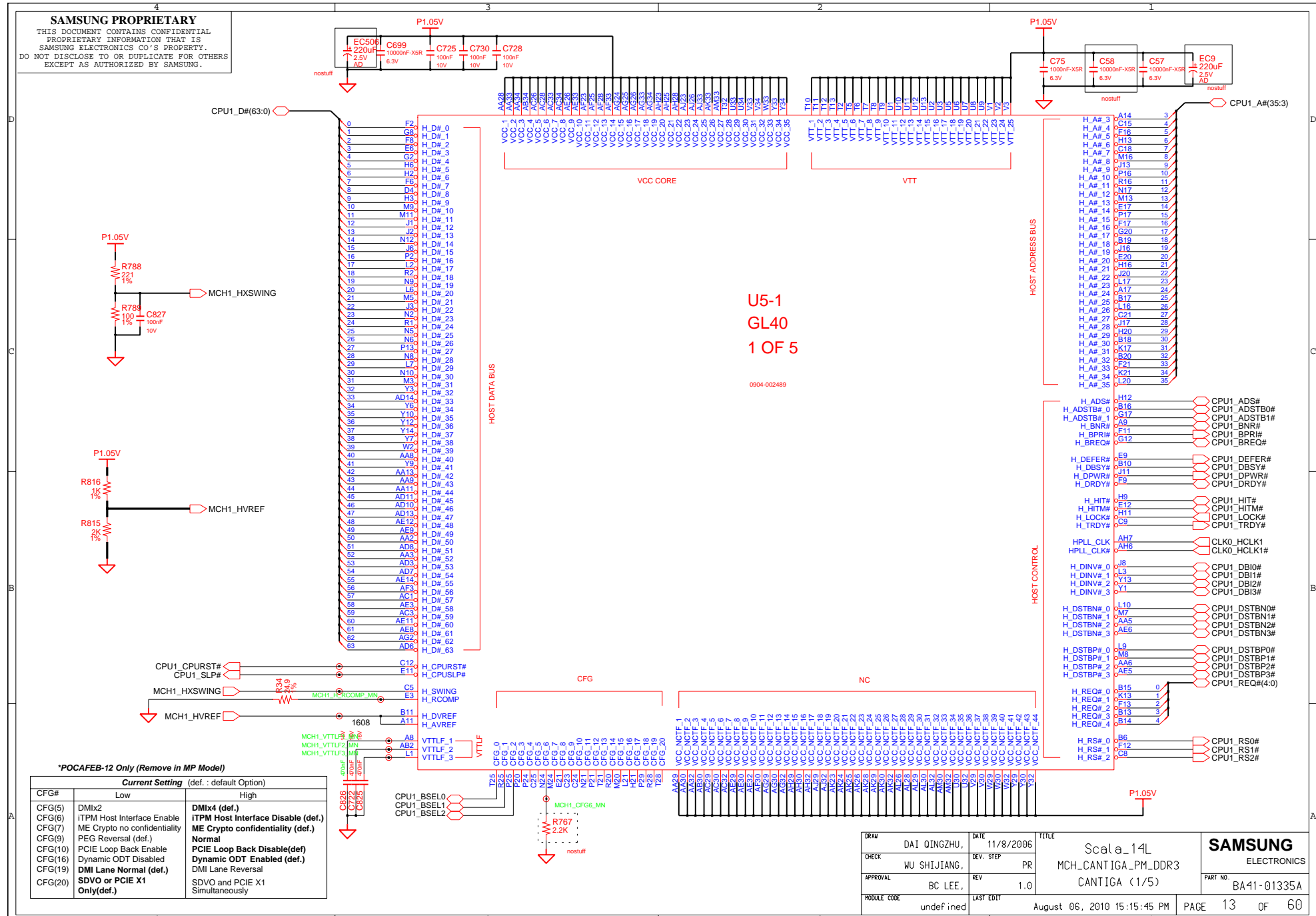
LOT: 1205-003159
SL: 1205-003533

CLK REQ	DEVICE	SRC PORT
CLK REQ A	SATA	SRC2
CLK REQ B	GMCH	SRC4
CLK REQ E	MINI CARD	SRC6
CLK REQ F	EXP3_CLKREQ#	SRC8

SEL_LCDCCLK*	Pin 20/21	Pin 24/25
LOW	DOT_96/DOT_96#	PEG_CLK/PEG_CLK#
HIGH	SRC_0/SRC_0#	27M & 27M_SS

DAI QINGZHU,	8/12/2006	TITLE	Scala_14L	SAMSUNG ELECTRONICS
WU SHIJIANG,	PR	Main_Clock_Circuit	CK_Clock_505M	
BC LEE,	REV	1.0		PART NO. BA41-01335A
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U5-1
GL40
1 OF 5

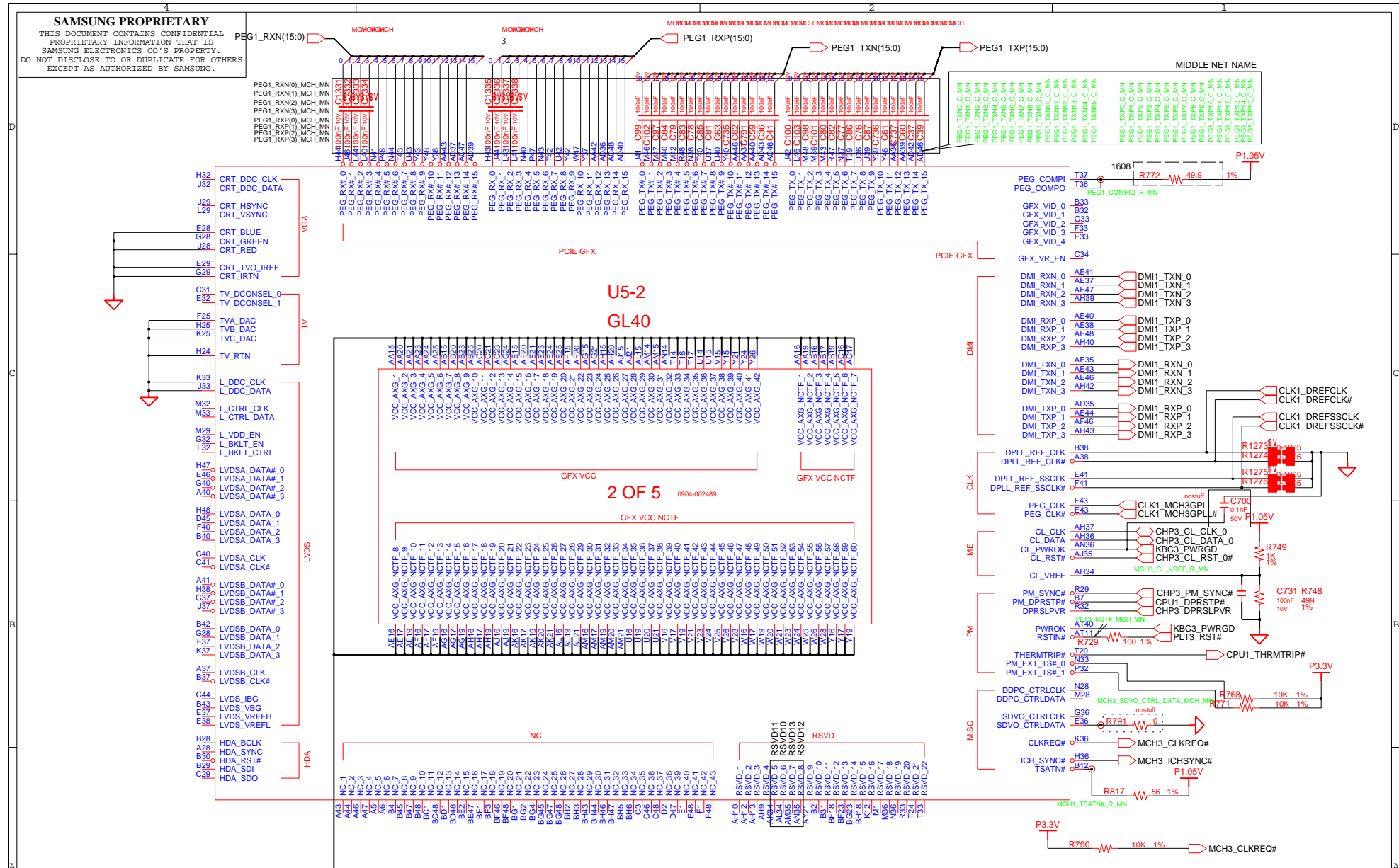
0904-002489

*POCAFEB-12 Only (Remove in MP Model)

CFG#	Low	High
CFG(5)	DMix2	DMix4 (def.)
CFG(6)	ITPM Host Interface Enable	ITPM Host Interface Disable (def.)
CFG(7)	ME Crypto no confidentiality	ME Crypto confidentiality (def.)
CFG(9)	PEG Reversal (def.)	Normal
CFG(10)	PCIe Loop Back Enable	PCIe Loop Back Disable(def)
CFG(16)	Dynamic ODT Disabled	Dynamic ODT Enabled (def.)
CFG(19)	DMI Lane Normal (def.)	DMI Lane Reversal
CFG(20)	SDVO or PCIe X1 Only(def.)	SDVO and PCIe X1 Simultaneously

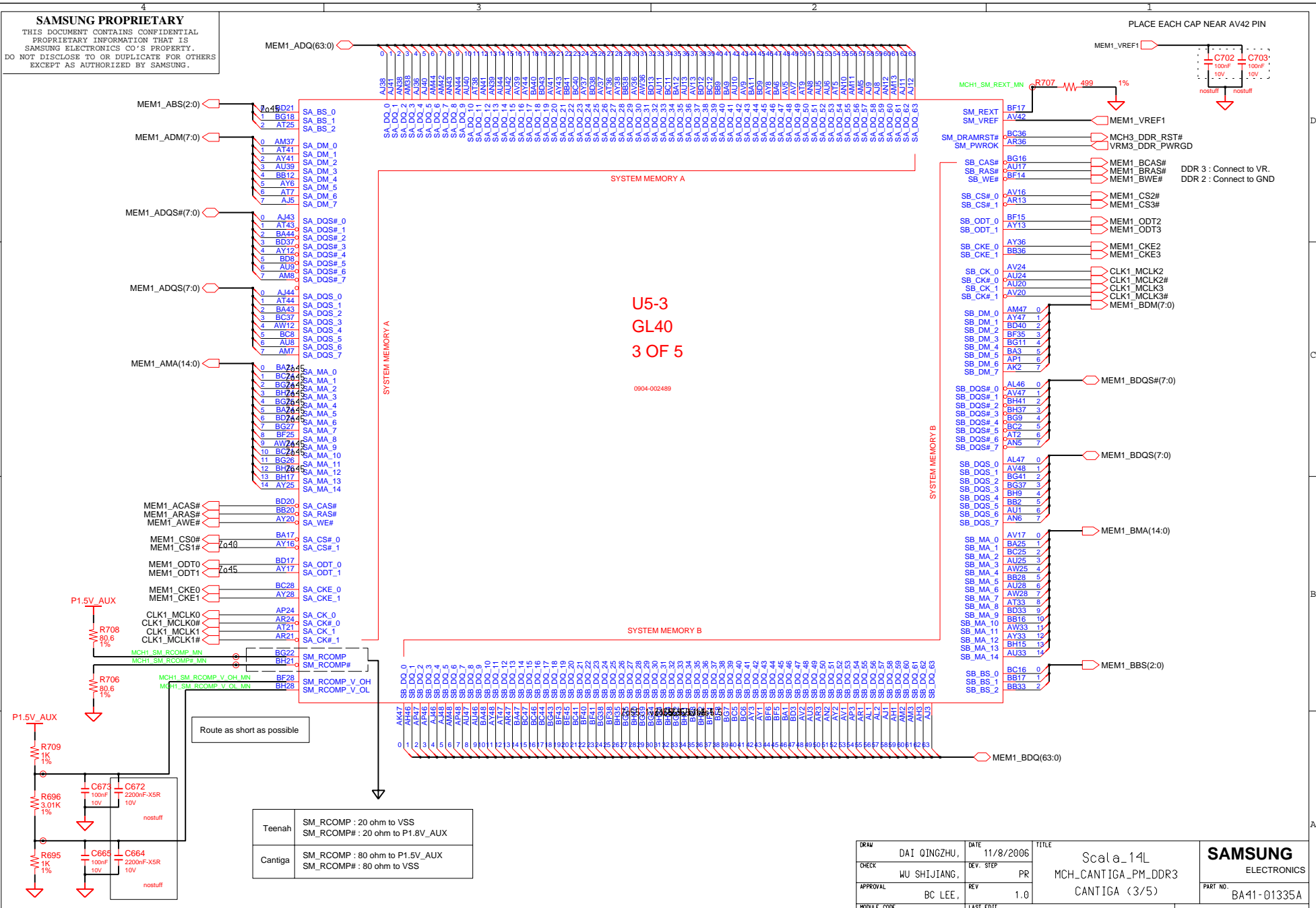
DAI QINGZHU,	11/8/2006	Scal_14L	SAMSUNG
WU SHIJIANG,	PR	MCH_CANTIGA_PM_DDR3	ELECTRONICS
BC LEE,	REV 1.0	CANTIGA (1/5)	PART NO. BA41-01335A
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DAI QINGZHU,	11/8/2006	Scalap14L	SAMSUNG ELECTRONICS PART NO. BA41-01335A
WU SHIJIANG,	PR	MCH_CANTIGA_PM_DDR3	
BC LEE,	REV 1.0	CANTIGA (2/5)	
undefined	LAST EDIT	August 06, 2010 15:15:45 PM	PAGE 14 OF 60

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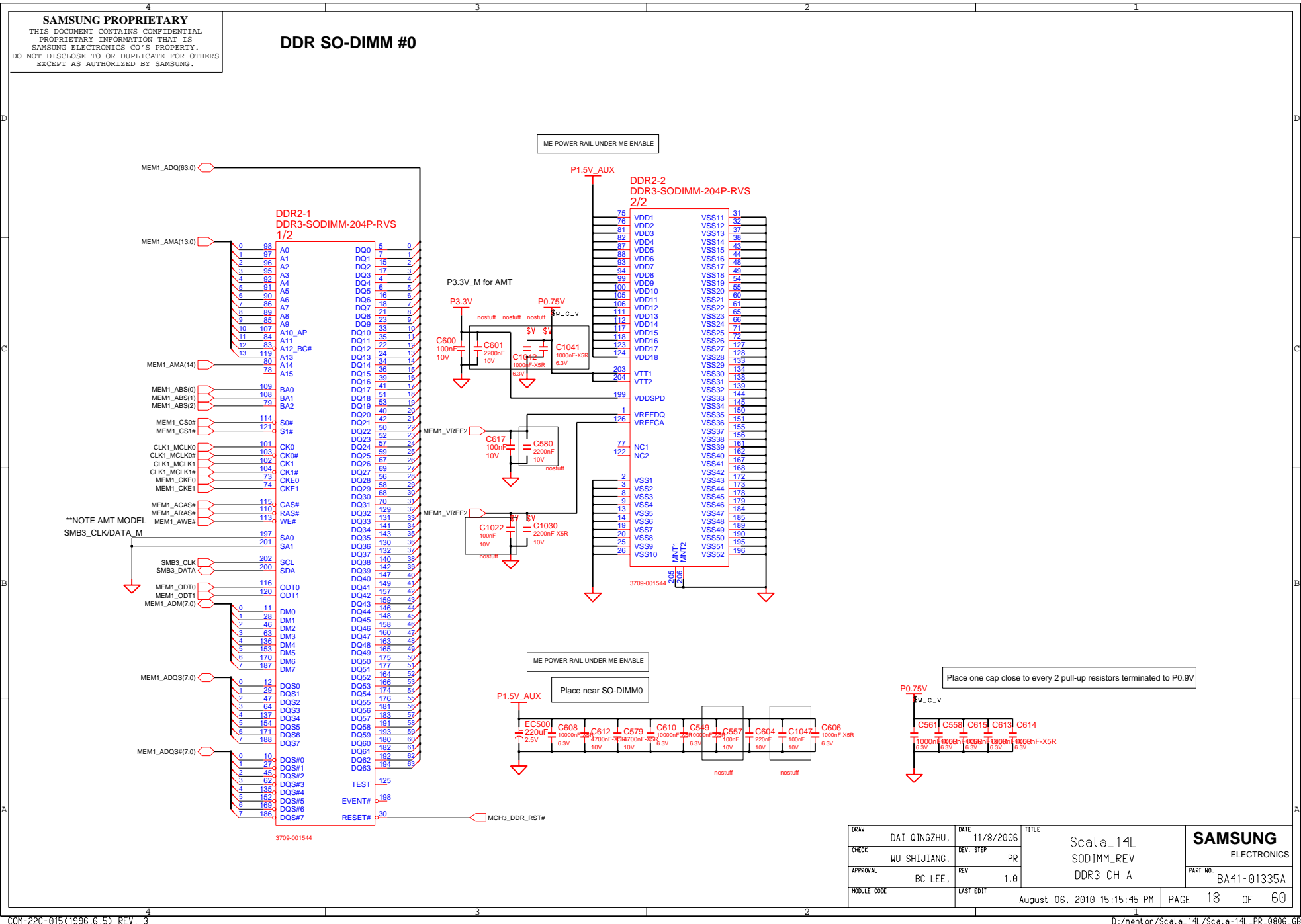


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CHECK	WU SHIJIANG,	DEV. STEP	PR	MCH_CANTIGA_PM_DDR3		
APPROVAL	BC LEE,	REV	1.0	CANTIGA (3/5)		
MODULE CODE		LAST EDIT				
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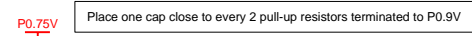
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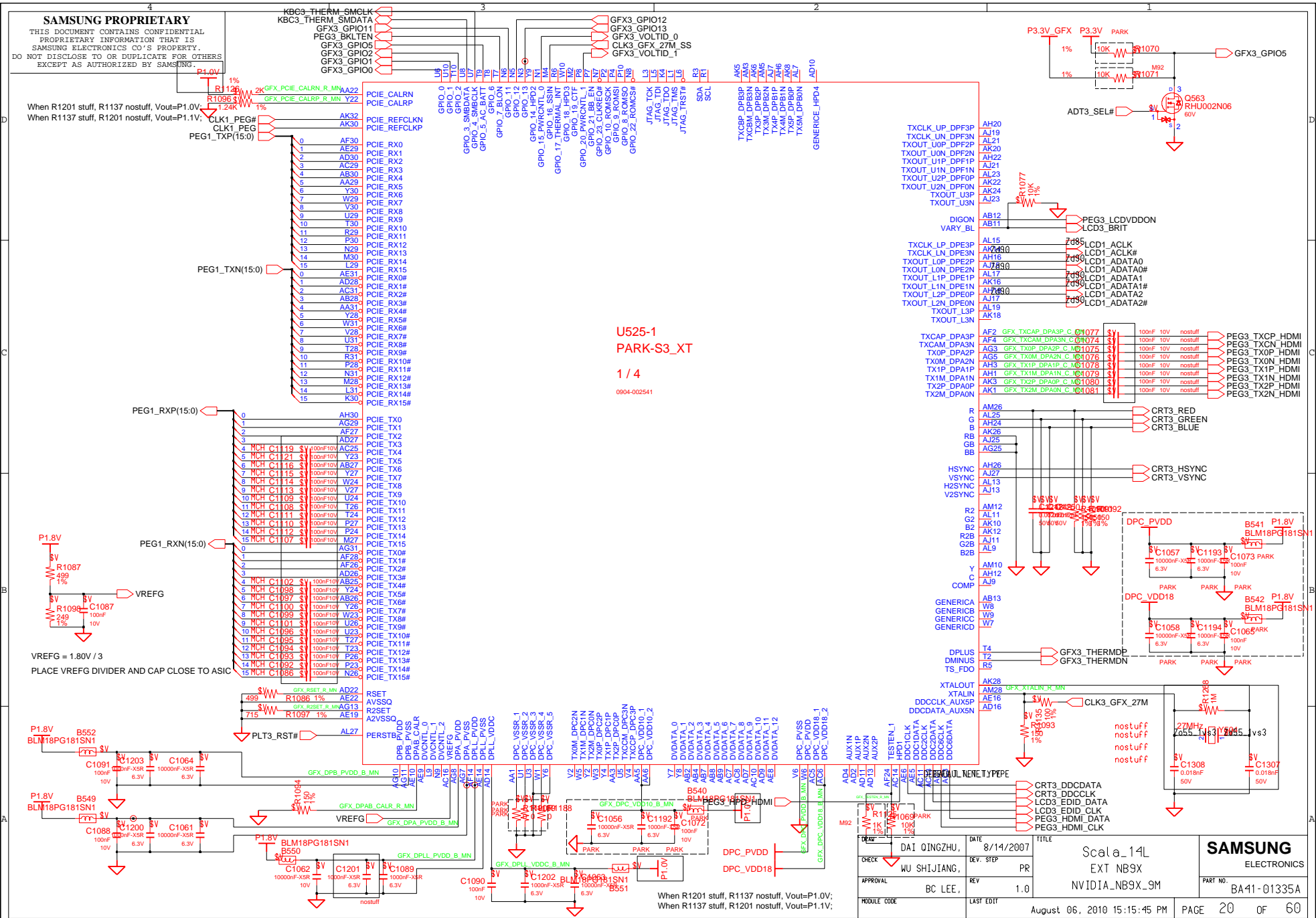
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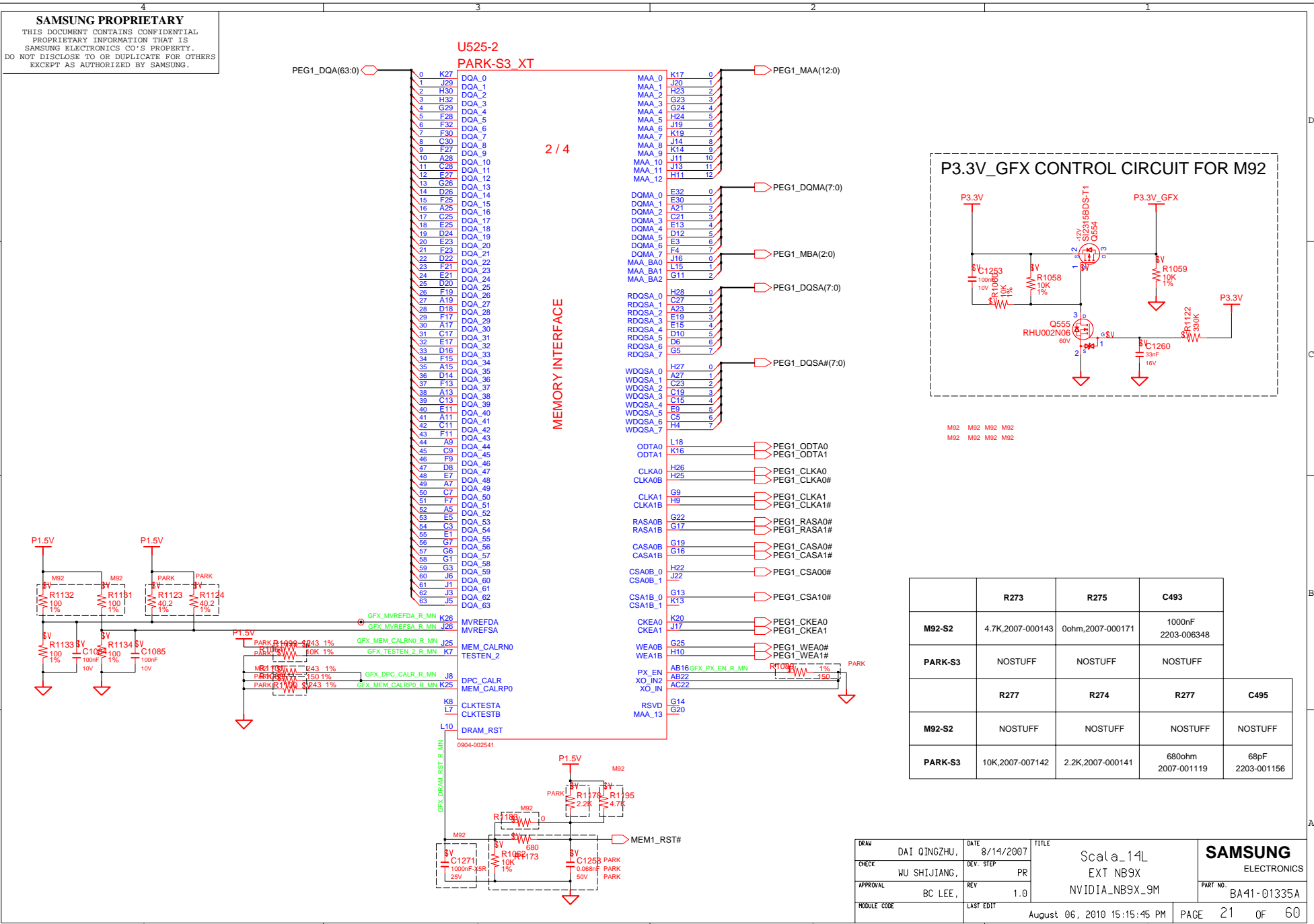
DDR SO-DIMM #1



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



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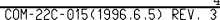


	R273	R275	C493
M92-S2	4.7K,2007-000143	0ohm,2007-000171	1000nF 2203-006348
PARK-S3	NOSTUFF	NOSTUFF	NOSTUFF

	R277	R274	R277	C495
M92-S2	NOSTUFF	NOSTUFF	NOSTUFF	NOSTUFF
PARK-S3	10K,2007-007142	2.2K,2007-000141	680ohm 2007-001119	68pF 2203-001156

DAW	DAI QINGZHU,	DATE	8/14/2007	TITLE	Scala_14L EXT NB9X NVIDIA-NB9X_9M	SAMSUNG ELECTRONICS PART NO. BA41-01335A
CHECK	WU SHIJIANG,	DEV. STEP	PR			
APPROVAL	BC LEE,	REV	1.0			
MODULE CODE		LAST EDIT				
August 06, 2010 15:15:45 PM						PAGE 21 OF 60

When R1201 stuff, R1137 nostuff, Vout=P1.0V;
When R1307 stuff, R1201 nostuff, Vout=P1.1V;

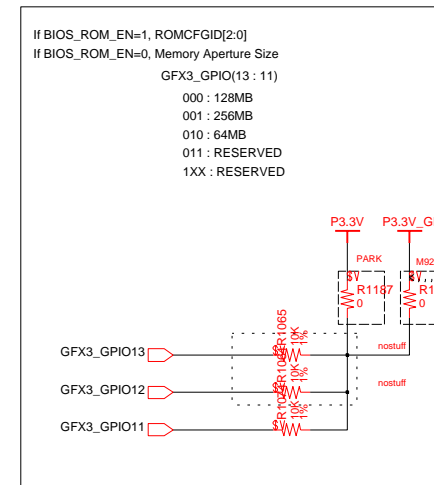
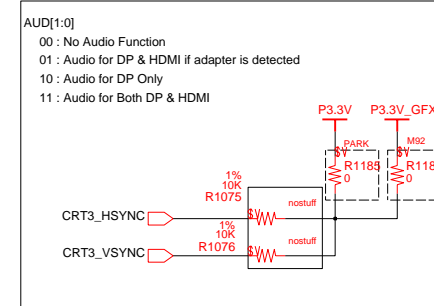
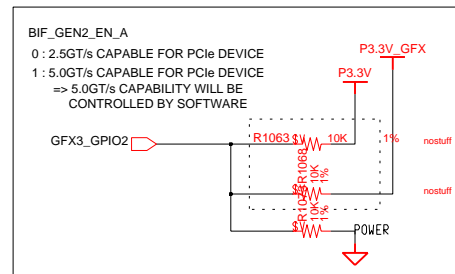
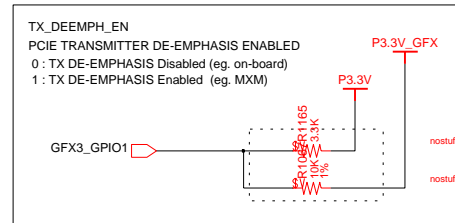
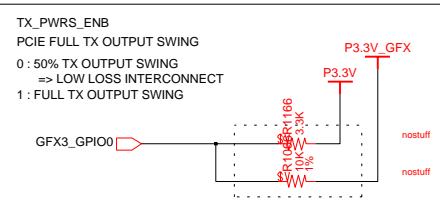


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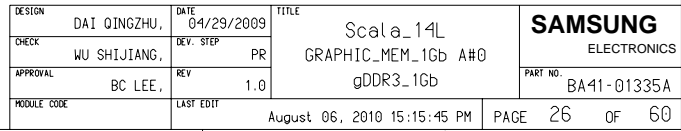
PARK & M92 Straps

U525-4
PARK-S3_XT
4 / 4

GND
0904-002541

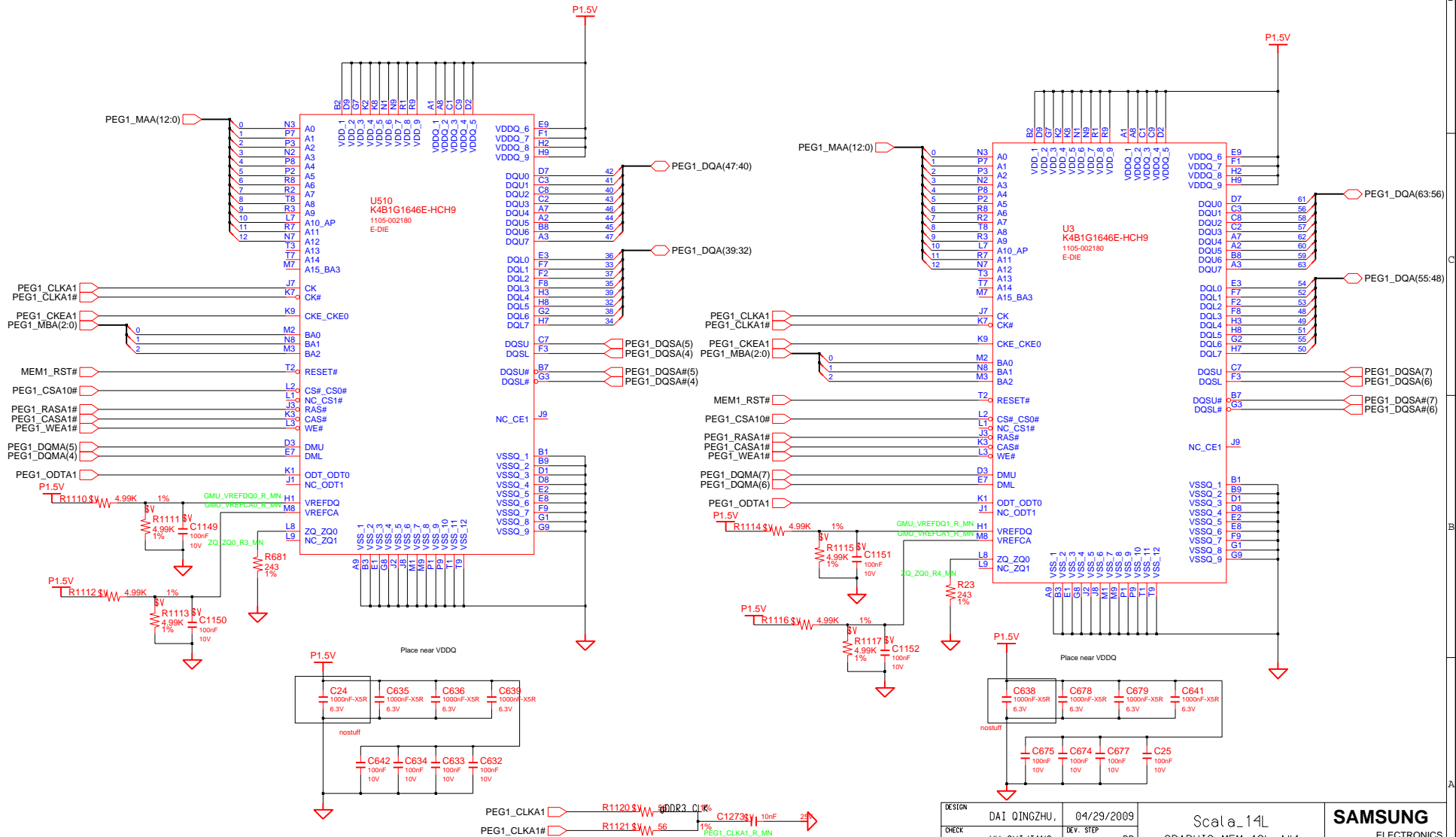


A-channel Lower Data



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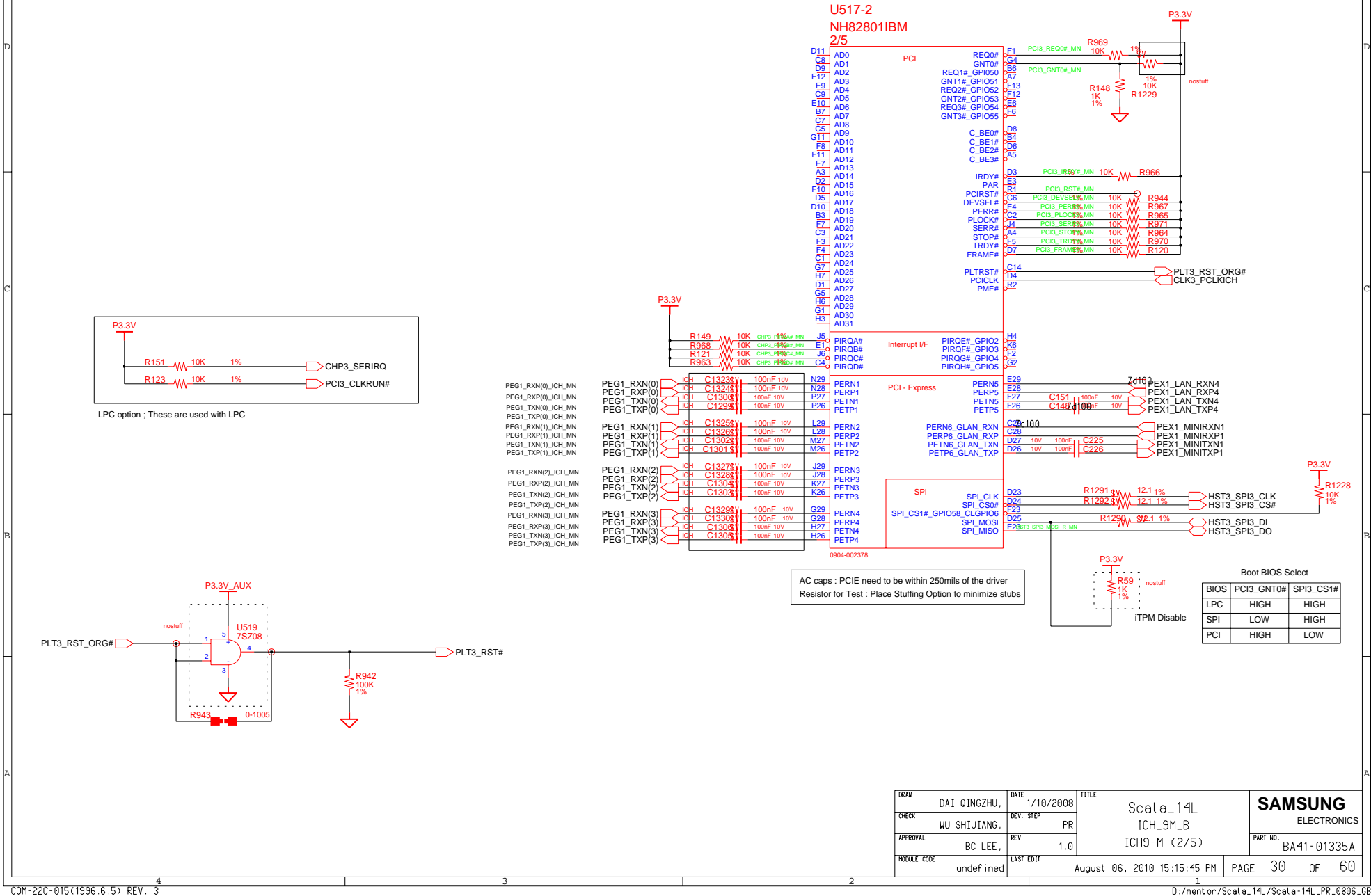
A-channel Upper Data



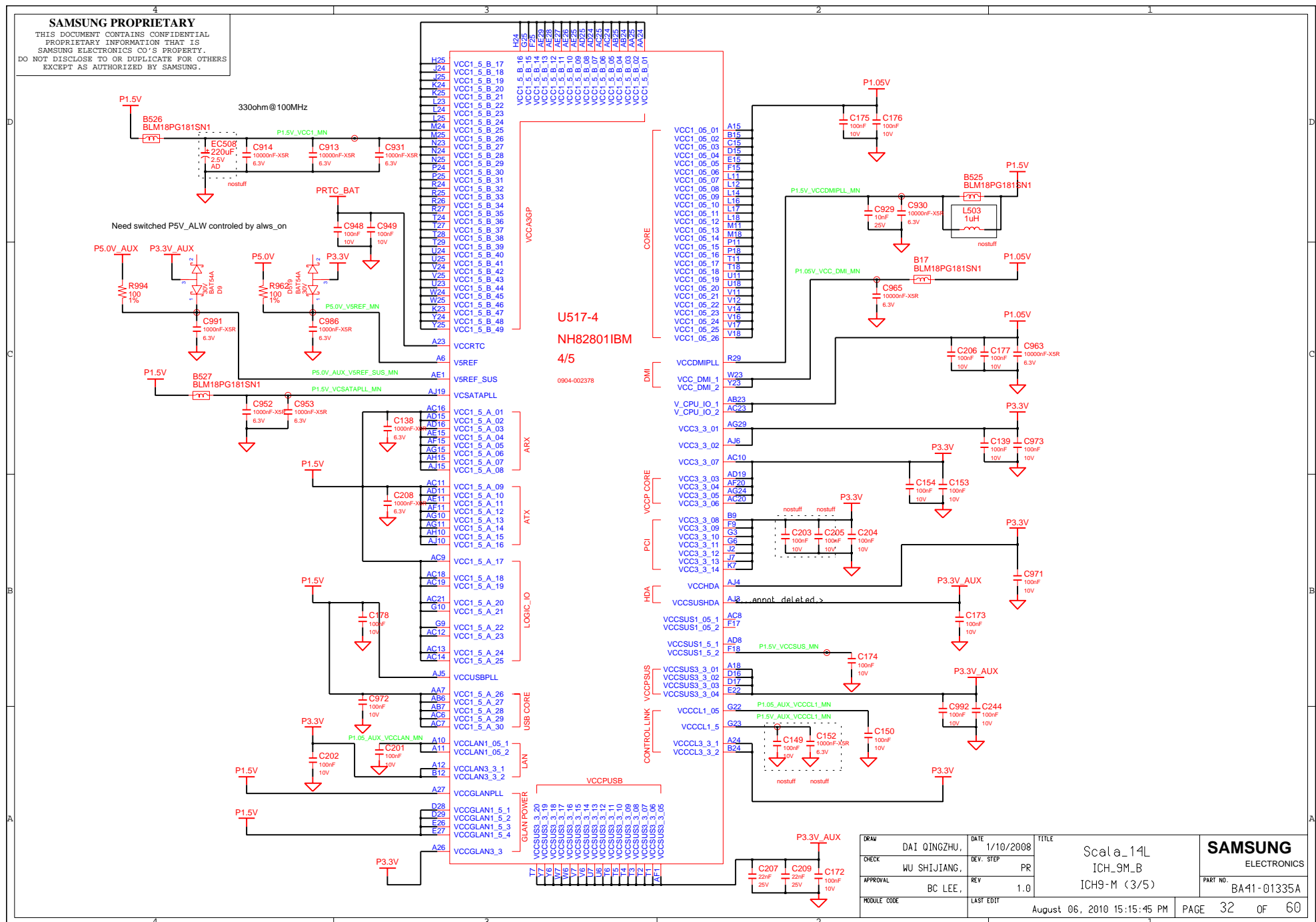
Internal VR Strap
INTVRMEN Pull up VccSus1_05, VccSus1_5, VccCL1_5 VccLAN1_05, VccCL1_05



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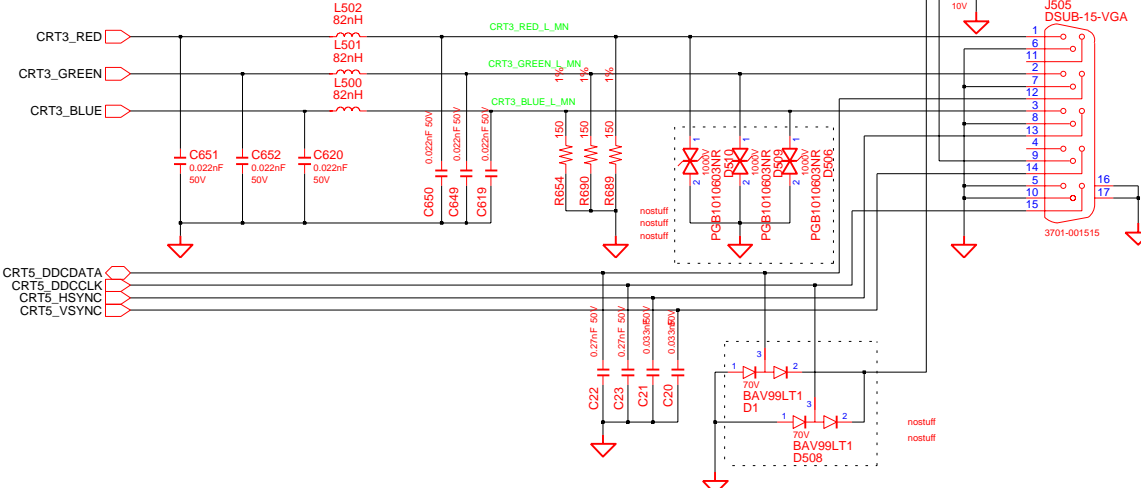
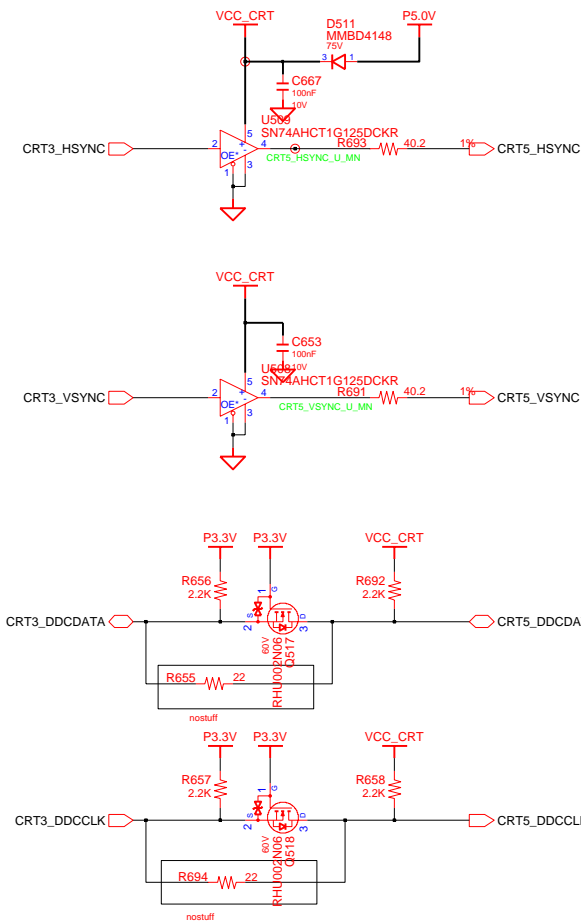


DRAW	DAI QINGZHU,	DATE	1/10/2008	Scale_14L ICH_9M_B ICH9-M (5/5)	
CHECK	WU SHIJIANG,	DEV. STEP	PR		
APPROVAL	BC LEE,	REV	1.0		
MODULE CODE	LAST EDIT		August 06, 2010 15:15:45 PM		

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CRT

CRT CONNECTOR



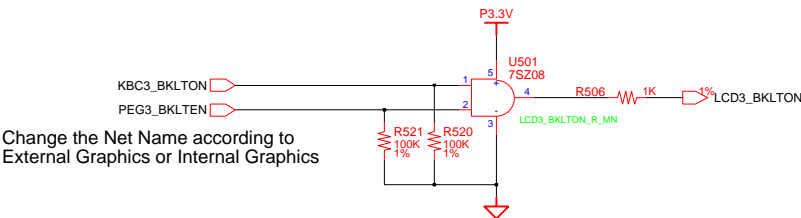
Check "CRT3_DDCCLK/DATA" Voltage Level
2N06 Can be replaced with SM6K2

DESIGN	DAI QINGZHU,	DATE	01/08/2009	TITLE	Scala_14L	SAMSUNG ELECTRONICS
CHECK	WU SHIJIANG,	DEV. STEP	PR	GRAPHICS_IF	BA41-01335A	
APPROVAL	BC LEE,	REV	1.0	CRT	PART NO.	
MODULE CODE		LAST EDIT	August 06, 2010 15:15:45 PM	PAGE	35	OF 60

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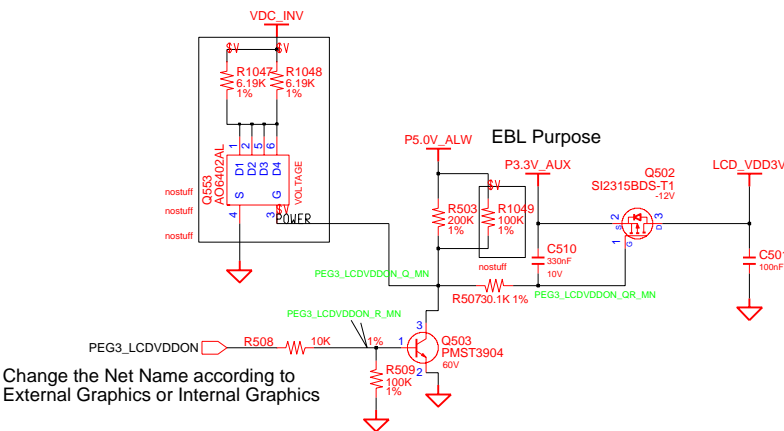
LVDS

Backlight On



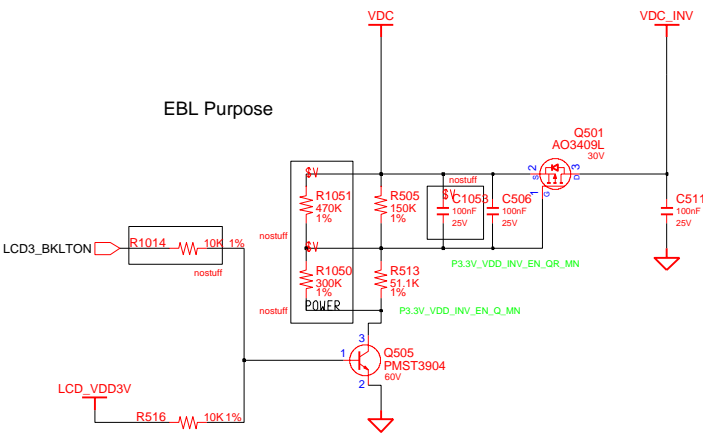
Change the Net Name according to
External Graphics or Internal Graphics

LCD Power



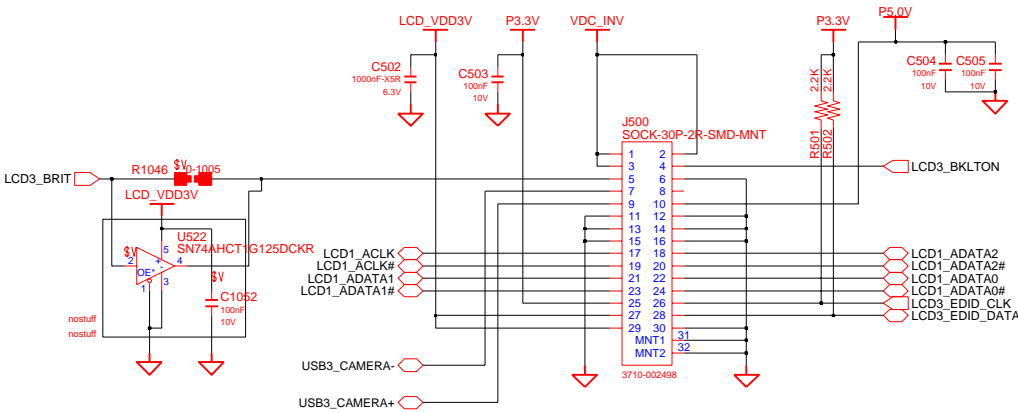
Change the Net Name according to
External Graphics or Internal Graphics

Inverter Power



EBL Purpose

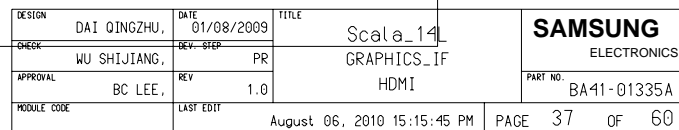
1Ch. LCD Connector



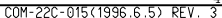
DESIGN	DAI QINGZHU,	DATE	01/08/2009	TITLE	Scala_14L	SAMSUNG ELECTRONICS
CHECK	WU SHIJIANG,	DEV. STEP	PR	GRAPHICS_IF		
APPROVAL	BC LEE,	REV	1.0	LVDS		PART NO.
MODULE CODE		LAST EDIT	August 06, 2010 15:15:45 PM			BA41-01335A
					PAGE	36 OF 60

HDMI

HDMI port for External Graphics



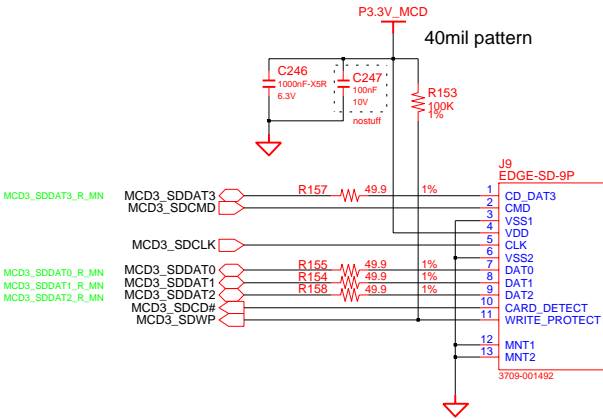
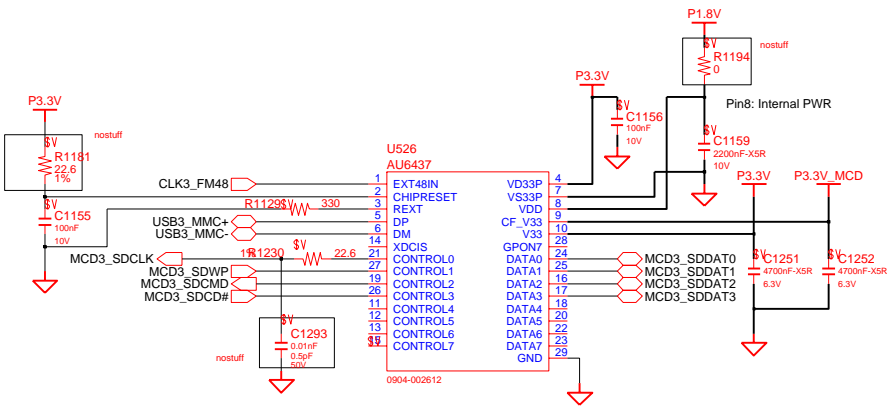
Codec Pin9 Setting	
S/B with Low Voltage IO	S/B without Low Voltage IO
Pin9 : 1.5V	Pin9 : 3.3V



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3 IN 1

P3.3V_MCD distance between R5U880 and socket should be less than 2 inches

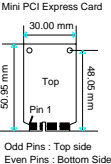
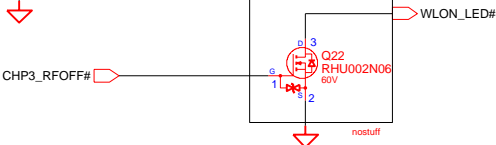
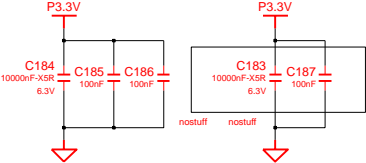
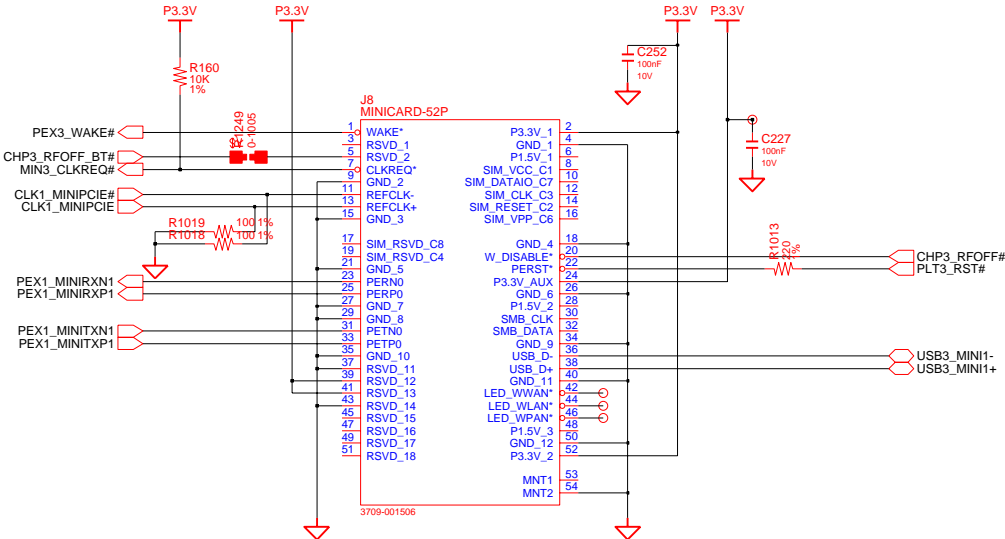


40 mil trace for medica card socket ground

DESIGN	DAI QINGZHU,	DATE	4/29/2009	TITLE	Scala_14L	SAMSUNG ELECTRONICS PART NO. BA41-01335A
CHECK	WU SHIJIANG,	DEV. STEP	PR			
APPROVAL	BC LEE,	REV	1.0			
MODULE CODE		LAST EDIT				
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WLAN, 7mm



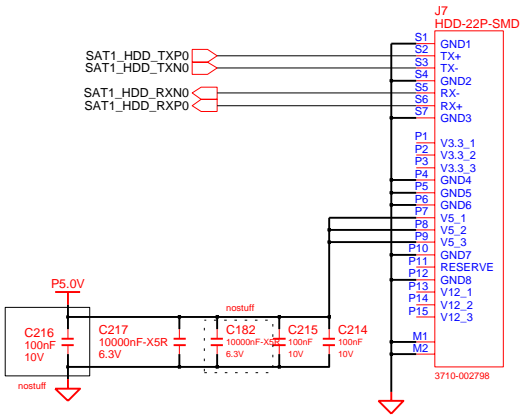
To fix Shirley Peak EMI Issue
Place it at the old rubber area

DESIGN	DAI QINGZHU,	DATE	6/6/2008	TITLE	Scala_14L	SAMSUNG ELECTRONICS
CHECK	WU SHIJIANG,	DEV. STEP	PR		MINI_PCIE_CONN	
APPROVAL	BC LEE,	REV	1.0			
MODULE CODE		LAST EDIT				
August 06, 2010 15:15:45 PM						PAGE 42 OF 60

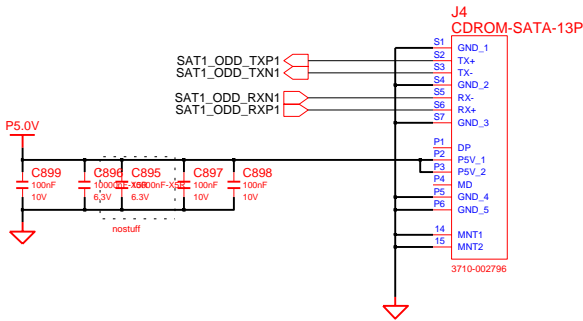
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SATA I/F CONN

SATA HDD CONN



SATA ODD CONN

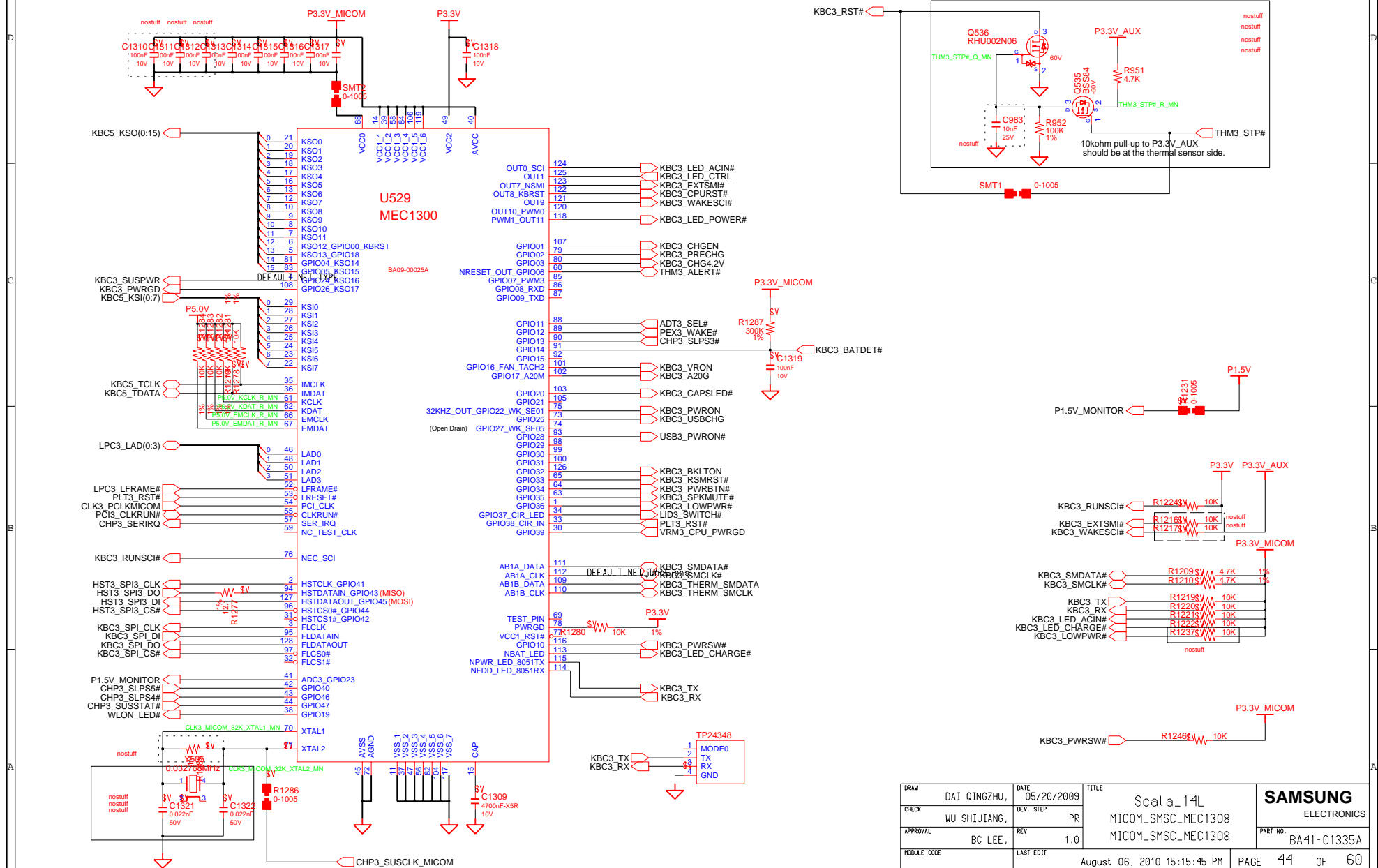


DESIGN	DAI QINGZHU,	DATE	6/6/2008	TITLE	Scala_14L	SAMSUNG ELECTRONICS
CHECK	WU SHIJIANG,	DEV. STEP	PR		SATA.DEVICES	
APPROVAL	BC LEE,	REV	1.0			PART NO. BA41-01335A
MODULE CODE		LAST EDIT	August 06, 2010 15:15:45 PM	PAGE	43	OF 60

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MAIN BOARD (MICOM)

MICOM POWER RESET

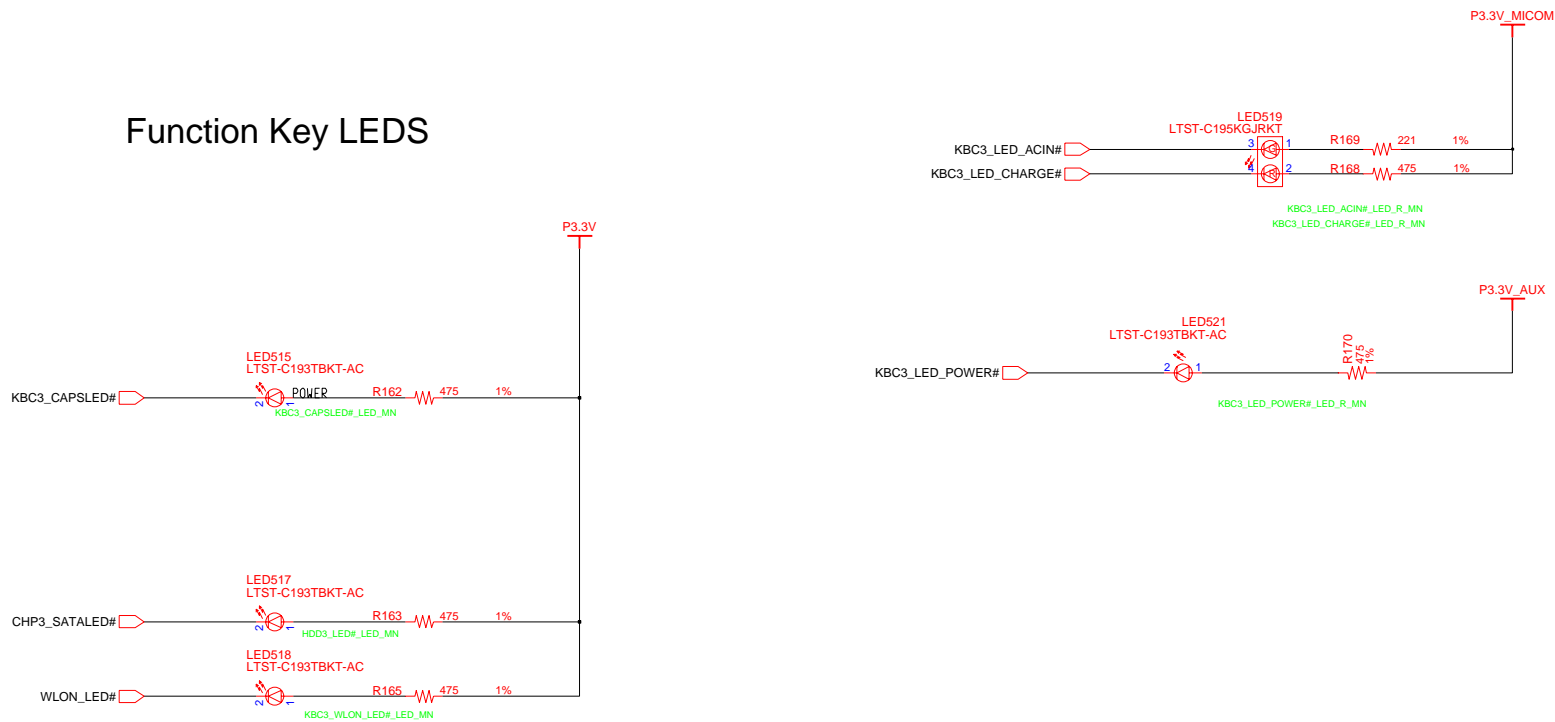


DRAW	DAI QINGZHU,	DATE	05/20/2009	TITLE	Scala_14L	SAMSUNG ELECTRONICS
CHECK	WU SHIJIANG,	DEV. STEP	PR	MICOM_SMSC.MEC1308		
APPROVAL	BC LEE,	REV	1.0	MICOM_SMSC.MEC1308	PART NO.	
MODULE CODE		LAST EDIT			BA41-01335A	
				August 06, 2010 15:15:45 PM	PAGE	44 OF 60

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LED SWITCH LOGIC

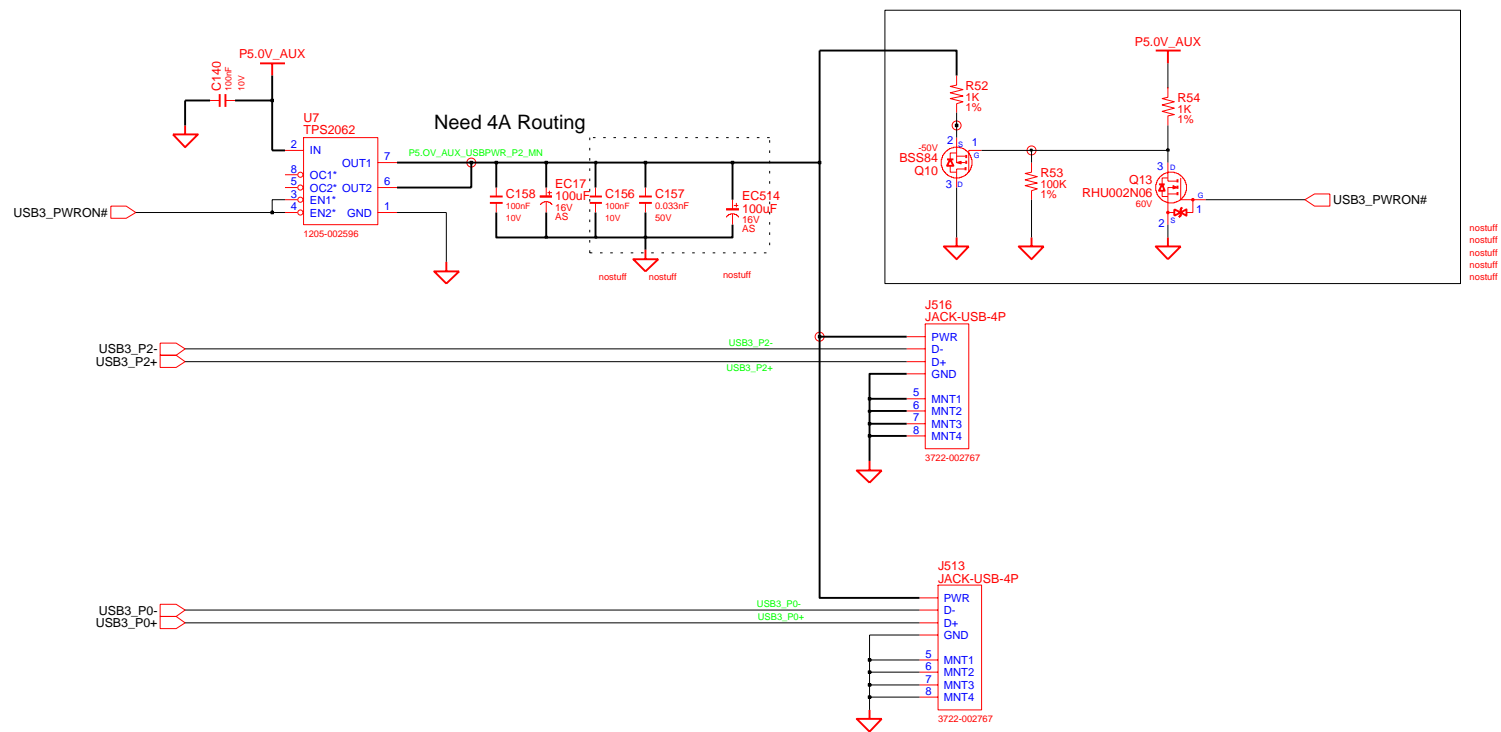
Function Key LEDs



DRAWN	DAI QINGZHU,	DATE	8/12/2006	TITLE	Scala_14L	SAMSUNG ELECTRONICS
CHECK	WU SHUIJANG,	REV. STEP	PR	LED_Switch	LED_Switch	
APPROVAL	BC LEE,	REV	1.0	LED_Switch	LED_Switch	
MODULE CODE		LAST EDIT				
				August 06, 2010 15:15:45 PM	PAGE 46 OF 60	PART NO. BA41-01335A

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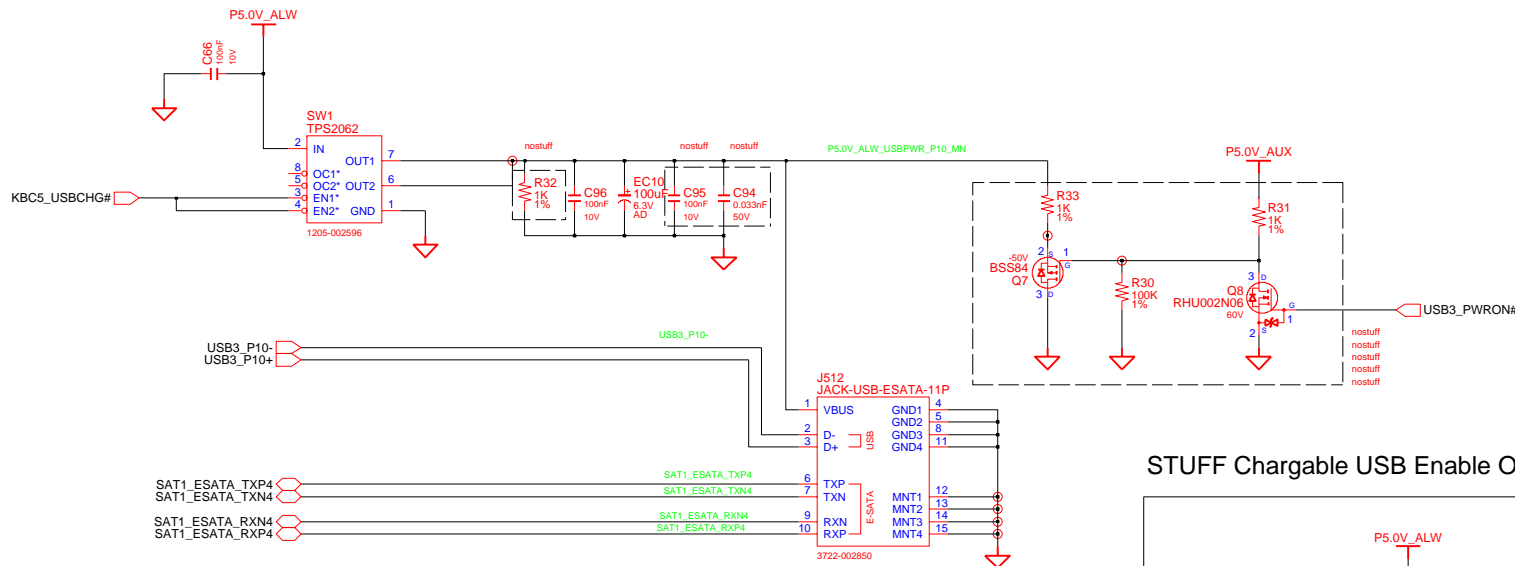
1/2 PORT USB CONNECTOR



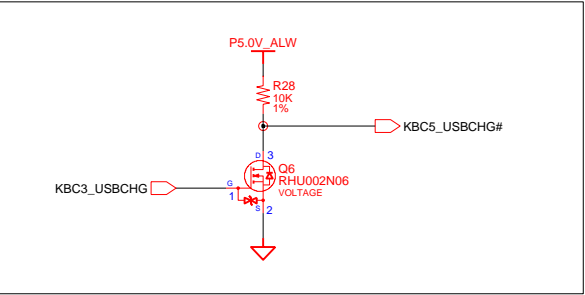
DESIGN	DAI QINGZHU,	DATE	6/6/2008	TITLE	Scala_14L USB_CONN	SAMSUNG ELECTRONICS
CHECK	WU SHIJIANG,	DEV. STEP	PR			PART NO. BA41-01335A
APPROVAL	BC LEE,	REV	1.0			
MODULE CODE		LAST EDIT	August 06, 2010 15:15:45 PM	PAGE	47	OF 60

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eSATA



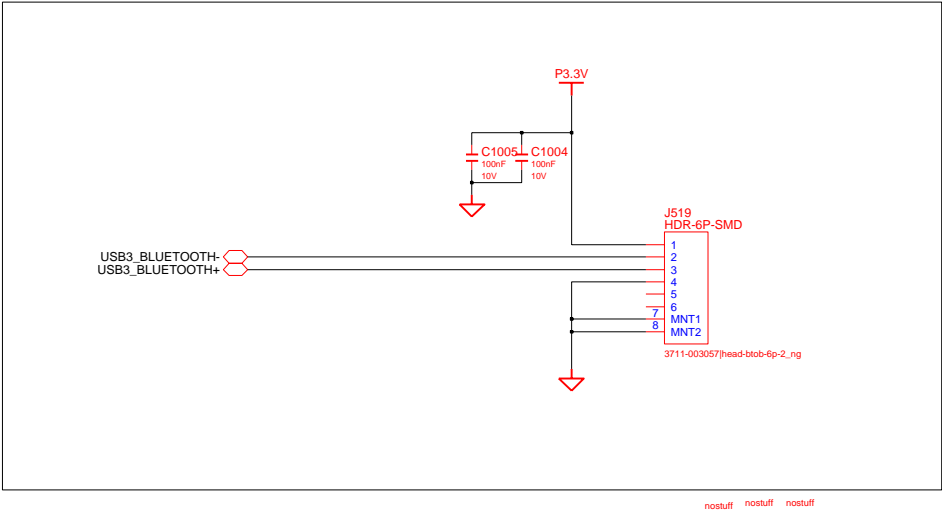
STUFF Chargeable USB Enable ONLY



DESIGN	DAI QINGZHU,	DATE	8/18/2009	TITLE	Scala_14L	SAMSUNG ELECTRONICS PART NO. BA41-01335A
CHECK	WU SHIJIANG,	DEV. STEP	PR	MAIN		
APPROVAL	BC LEE,	REV	1.0	ESATA		
MODULE CODE		LAST EDIT	August 06, 2010 15:15:45 PM	PAGE	48 OF 60	

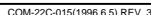
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Bluetooth Interface

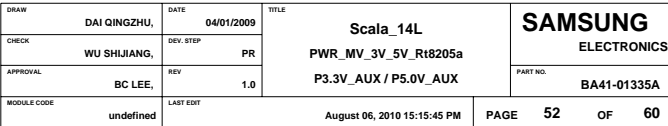


DESIGN	DAI QINGZHU,	DATE	6/6/2008	TITLE	Scala_14L USB_DEVICES	SAMSUNG ELECTRONICS
CHECK	WU SHIJIANG,	DEV. STEP	PR			PART NO. BA41-01335A
APPROVAL	BC LEE,	REV	1.0			
MODULE CODE		LAST EDIT	August 06, 2010 15:15:45 PM	PAGE	50 OF 60	

CHARGER & POWER MANAGEMENT

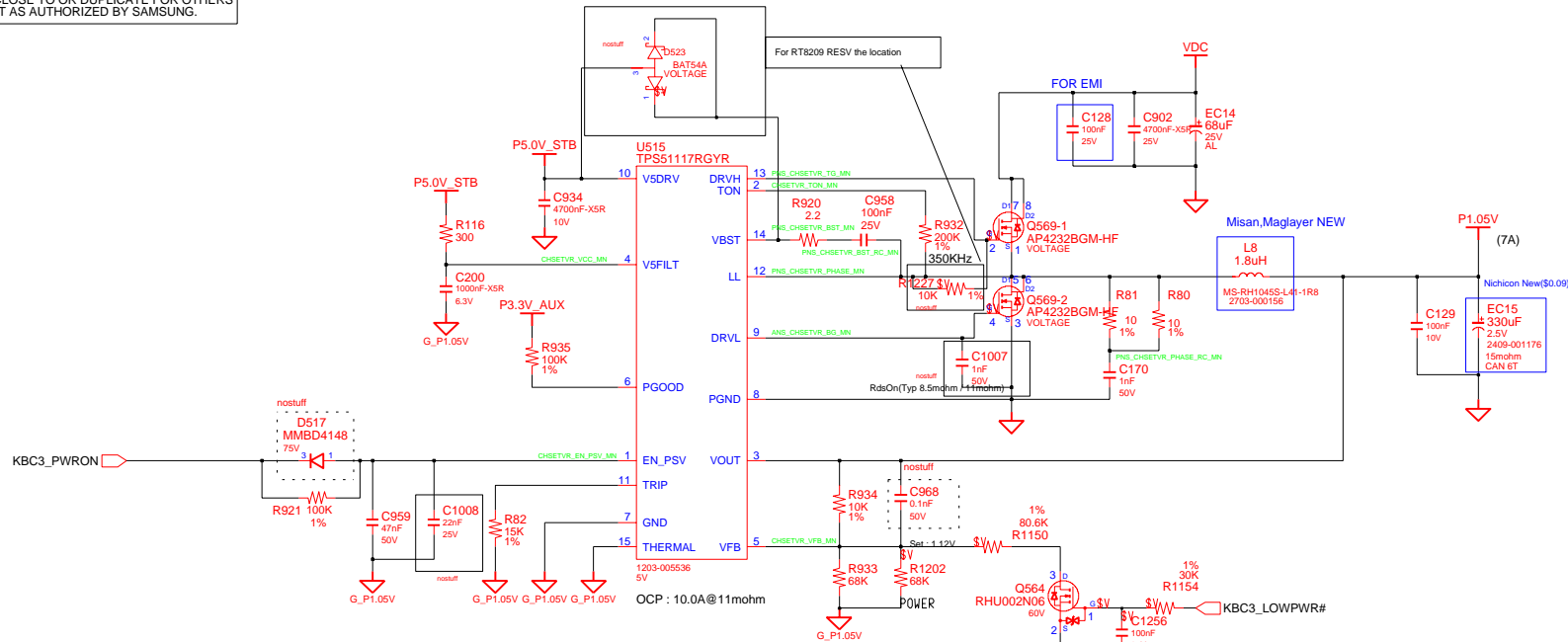


P3.3V_AUX & P5.0V_AUX

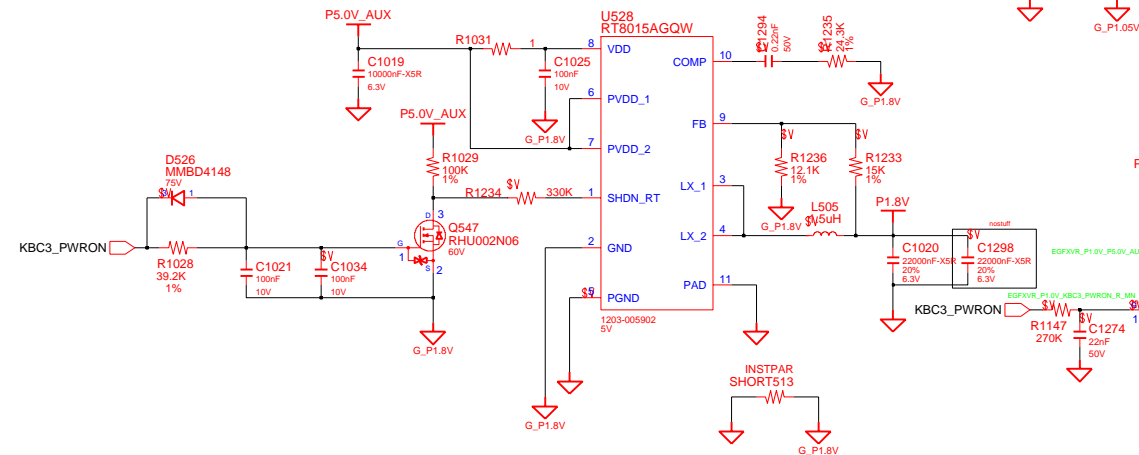


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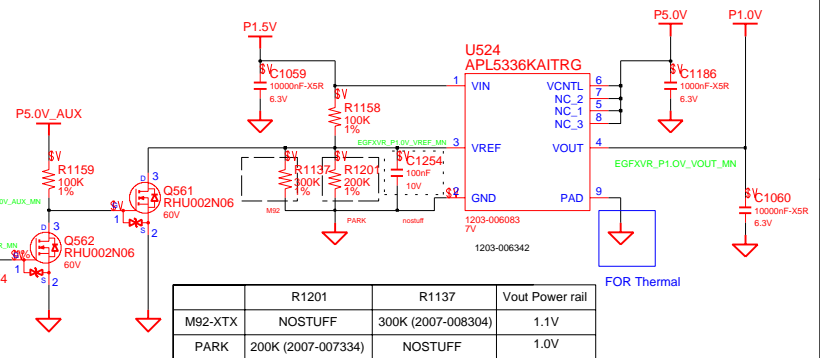
CHIPSET POWER (P1.05V)



P1.8V



P1.1V



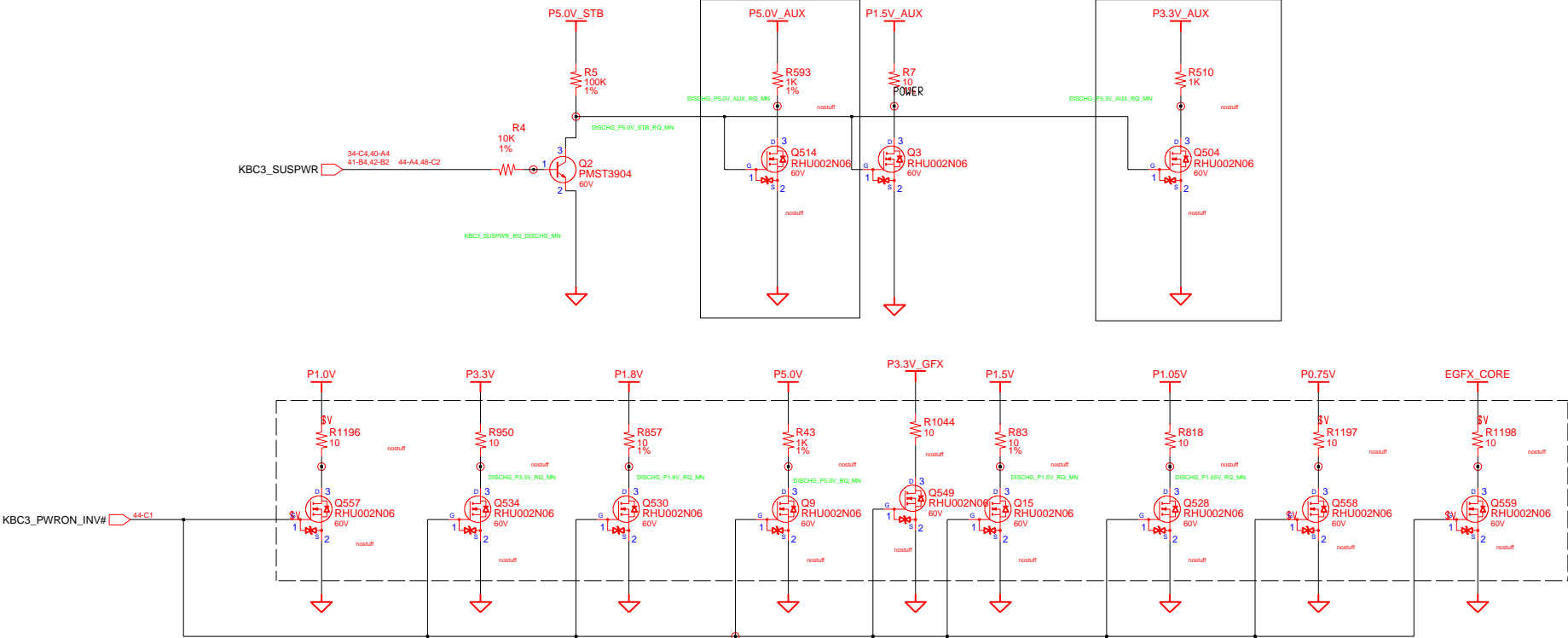
When R1201 stuff, R1137 Nostuff, Vout = 1.0V;
When R1201 Nostuff, R1137 stuff, Vout = 1.1V;

	R1201	R1137	Vout Power rail
M92-XTX	NOSTUFF	300K (2007-008304)	1.1V
PARK	200K (2007-007334)	NOSTUFF	1.0V

DRAW	DAI QINGZHU,	DATE	03/11/2009	TITLE	Scala_14L	SAMSUNG ELECTRONICS
CHECK	WU SHUJIANG,	REV. STEP	PR		PWR_MV_Cantiga	
APPROVAL	BC LEE,	REV	1.0		Chipset Power (P1.05V_M,P1.2V)	PART NO.
MODULE CODE	undefined	LAST EDIT			August 06, 2010 15:15:45 PM	BA41-01335A
						PAGE 54 OF 60

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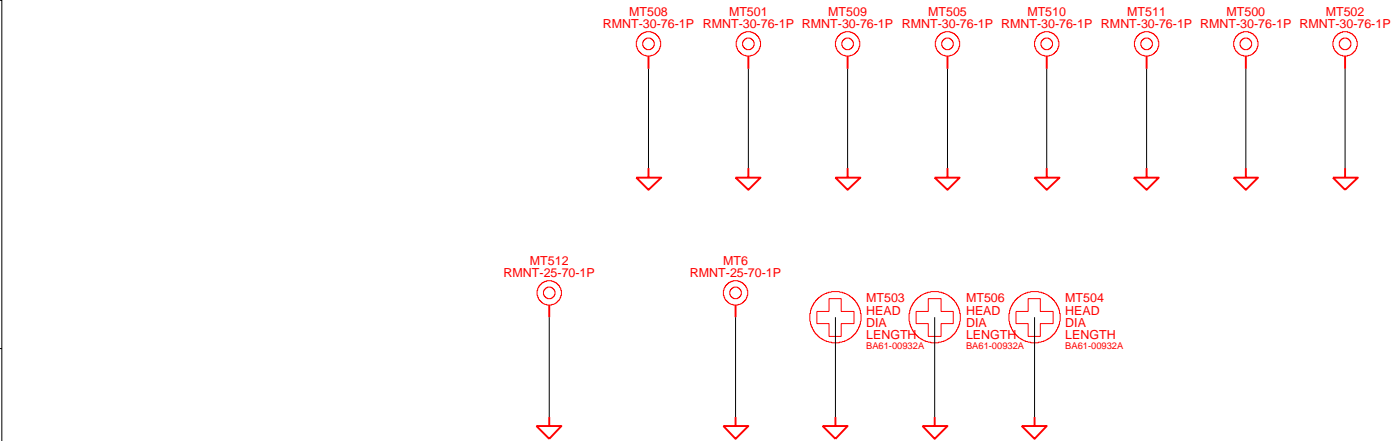
POWER DISCHARGER



DRAW	DAI QINGZHU,	DATE	03/11/2009	TITLE	Scala_14L
CHECK	WU SHUIJANG,	REV. STEP	PR	PWR_MV_DisCharger	
APPROVAL	BC LEE,	REV	1.0	DISCHARGING LOGIC	
MODULE CODE	undefined	LAST EDIT	August 06, 2010 15:15:45 PM	PAGE	58 OF 60

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ELECTRONICS
PART NO.
BA41-01335A

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DESIGN	DAI QINGZHU,	DATE	9/9/2009	Scala_14L MAIN ME		SAMSUNG ELECTRONICS
CHECK	WU SHIJIANG,	DEV. STEP	PR			
APPROVAL	BC LEE,	REV	1.0			
				PART NO.	BA41-01335A	
MODULE CODE	LAST EDIT			August 06, 2010 15:15:45 PM	PAGE 60	OF 60