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Jinmao

CPU : Arrandale PGA
 Chip Set : Intel Ibex Peak
 GFX : N12M / INT.GFX
 Remarks : Calpella Platform

Model Name : Jinmao
 PBA Name : MAIN
 PCB Code : BA41-01432A (GCE)
 BA41-01433A (NY)
 BA41-01434A (HAN)
 BA41-01435A (GBM)

Dev. Step : PR
 Revision : 1.0
 T.R. Date : 2010.11.26

Design	CHECK	APPROVAL
<i>MS YANG</i>	<i>MK KIM</i>	<i>BL LEE</i>

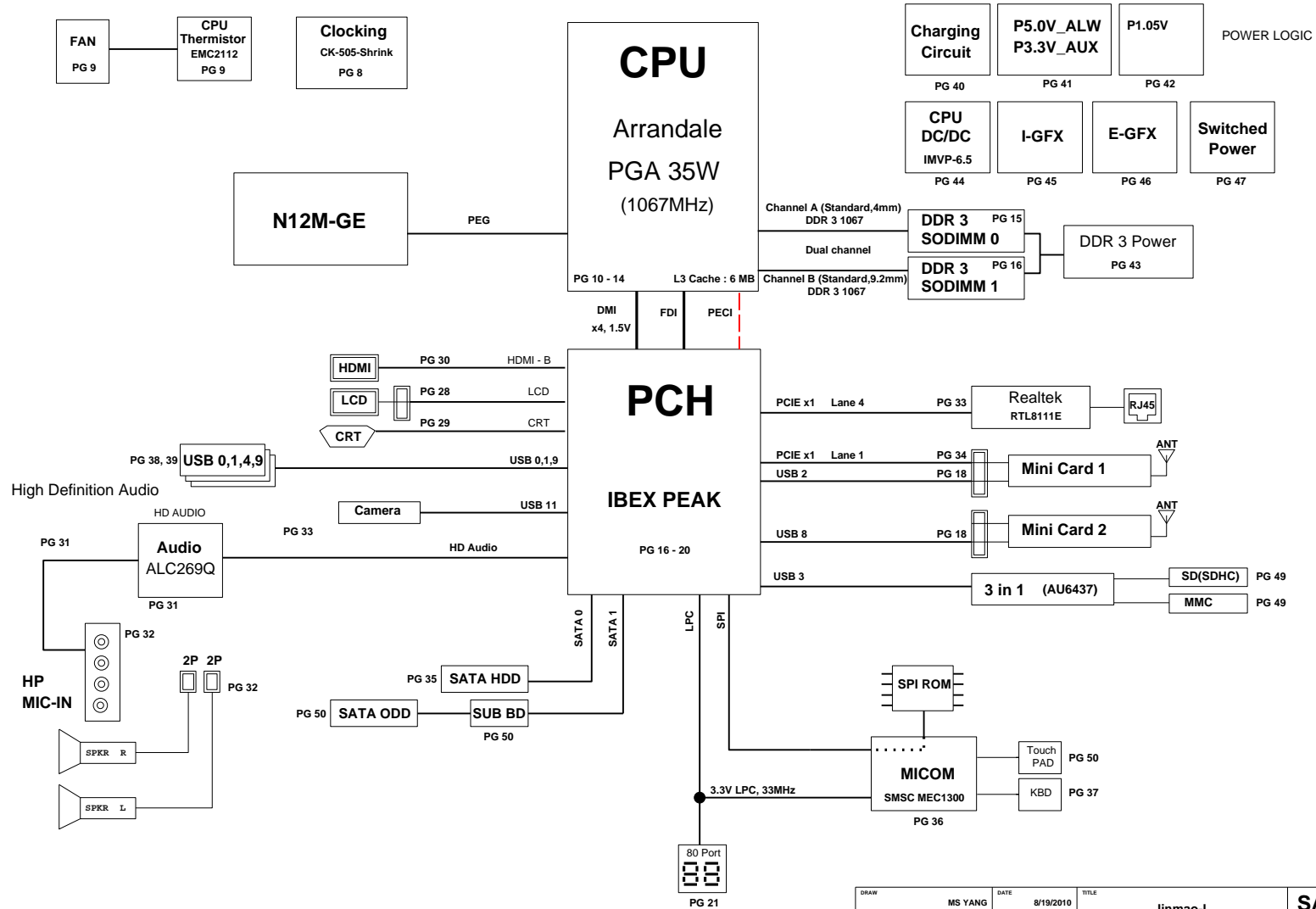
■ Owner : SEC IT Solution N/P LAB Signature : mansu

sheet01 : Cover	sheet31 : Audio - ALC269
sheet02 : BLOCK DIAGRAM	sheet32 : Audio - HP/MIC WOOFER(2.1CH)
sheet03 : BOARD INFORMATION	sheet33 : LAN (Realtek 8111E)
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sheet16 : PCH-IbexPeak	sheet46 : Power - Switched Power 1
sheet17 : PCH-IbexPeak	sheet47 : Power - Power Discharge
sheet18 : PCH-IbexPeak	sheet48 : 3-in-1 card (AU6437)
sheet19 : PCH-IbexPeak	sheet49 : ODD Sub B'd
sheet20 : PCH-IbexPeak	sheet50 : Touchpad & LED
sheet21 : 80 port	sheet51 : MOUNT HOLE
sheet22 : N12M-GE2	sheet52 : Power - Switched Power 2
sheet23 : N12M-GE2	
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sheet25 : N12M-GE2	
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sheet27 : GFX memory	
sheet28 : LVDS / CAMERA	
sheet29 : CRT	
sheet30 : HDMI	

DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV.STEP	PR	MAIN		
APPROVAL	BL LEE	REV	rev. 1.0	COVER		PART NO. BA41-01432A
MODULE CODE		LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	1	OF 52

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BLOCK DIAGRAM



DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L MAIN	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	BLOCK DIAGRAM	PART NO.	
APPROVAL	BL LEE	REV	rev. 1.0		BA41-01432A	
MODULE CODE	undefined	LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	2	OF 52

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BOARD INFORMATION

SCHEMATIC ANNOTATIONS AND BOARD INFORMATION

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

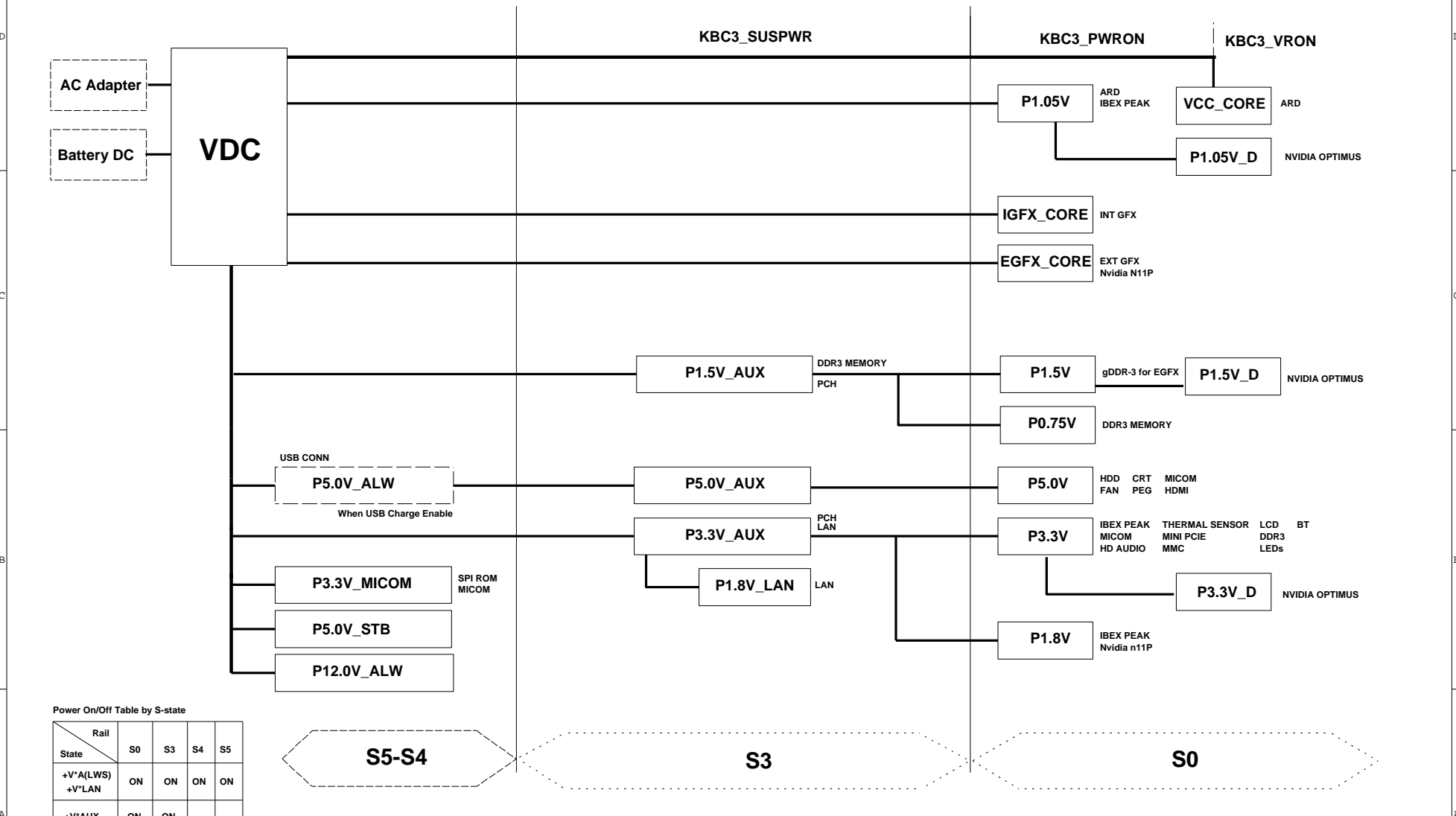
I ² C / SMB Address			
Devices	Address	Hex	Bus
IBEX PEAK	Master	-	SMBUS Master
CPU Thermal Sensor	0111 101x	7Ah	Thermal Sensor
SODIMM0	1010 000x	A0h	-
SODIMM1	1010 010x	A4h	-
Thermal Sensor on SODIMM0	0011 000x	30h	-
Thermal Sensor on SODIMM1	0011 010x	34h	-
CK-505M Shrink(Clock Generator)	1101 001x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

DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L MAIN BOARD INFO	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR			
APPROVAL	BL LEE	REV	rev. 1.0			
MODULE CODE	undefined	LAST EDIT	November 22, 2010 15:53:34 PM	PAGE		

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POWER DIAGRAM



Power On/Off Table by S-state

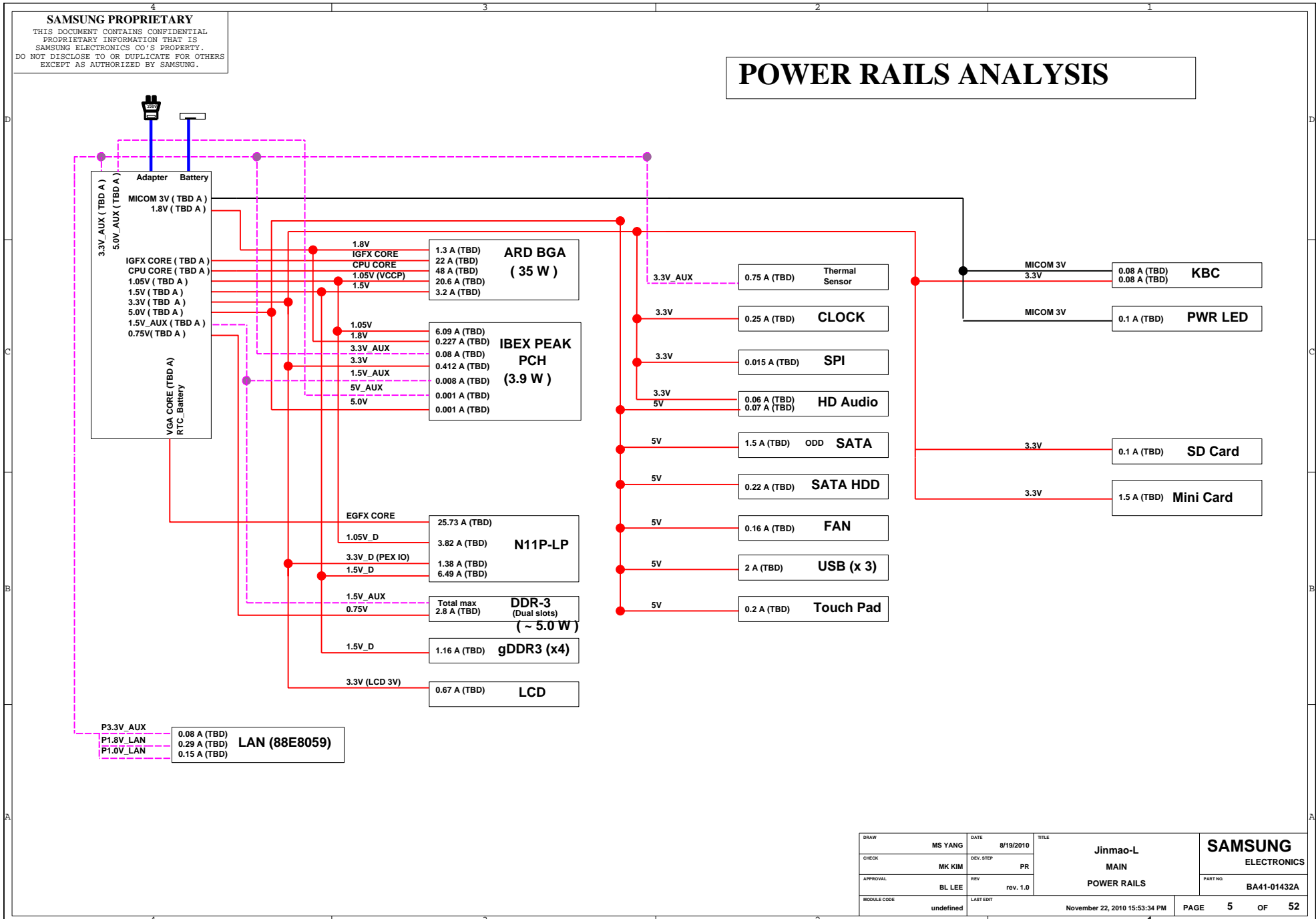
Rail \ State	S0	S3	S4	S5
+V ^A (LWS)	ON	ON	ON	ON
+V ^A LAN	ON	ON	ON	ON
+V ^A AUX	ON	ON	—	—
+V	ON	—	—	—
+V [*] (CORE)	ON	—	—	—

DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L MAIN	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	POWER DIAGRAM	PART NO.	
APPROVAL	BL LEE	REV	rev. 1.0		BA41-01432A	
MODULE CODE	undefined	LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	4	OF 52

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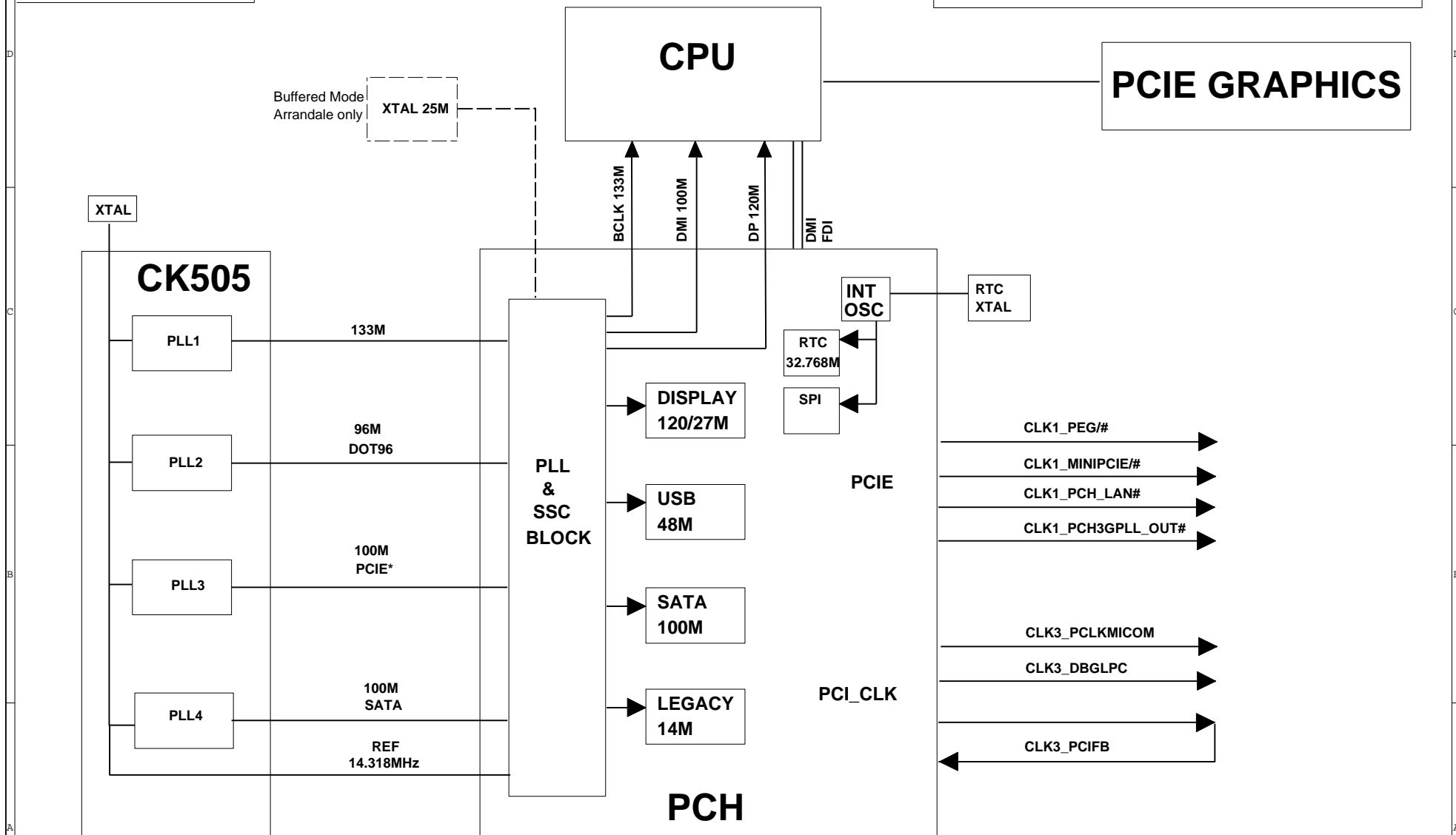
POWER RAILS ANALYSIS



DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L MAIN	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	POWER RAILS	PART NO. BA41-01432A	
APPROVAL	BL LEE	REV	rev. 1.0			
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CLOCK DISTRIBUTION Rev. 1.0



DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	MAIN	MAIN	
APPROVAL	BL LEE	REV	rev. 1.0	CLOCK DIAGRAM		PART NO. BA41-01432A
MODULE CODE	undefined	LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	7	OF 52

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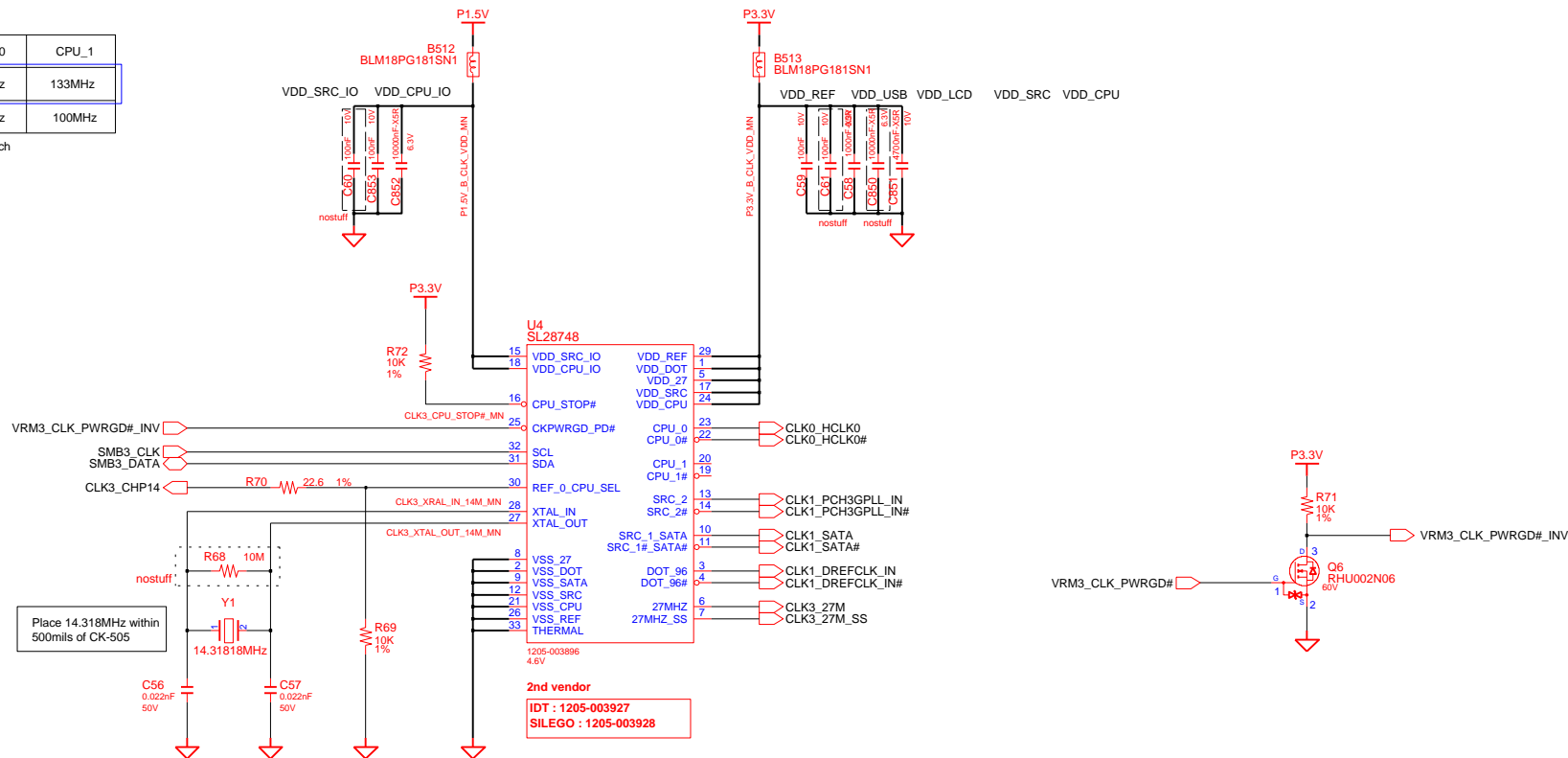
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CK505M SHRINK VERSION

CPU_MODE SEL

Pin 30	CPU_0	CPU_1
CPU_SEL = 0	133MHz	133MHz
CPU_SEL = 1	100MHz	100MHz

*CPU_SEL During CK_PWRGD Latch



DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L CLOCK	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR			
APPROVAL	BL LEE	REV	rev. 1.0		CK505-SHRINK	PART NO. BA41-01432A
MODULE CODE		LAST EDIT		November 22, 2010 15:53:34 PM	PAGE	8 OF 52

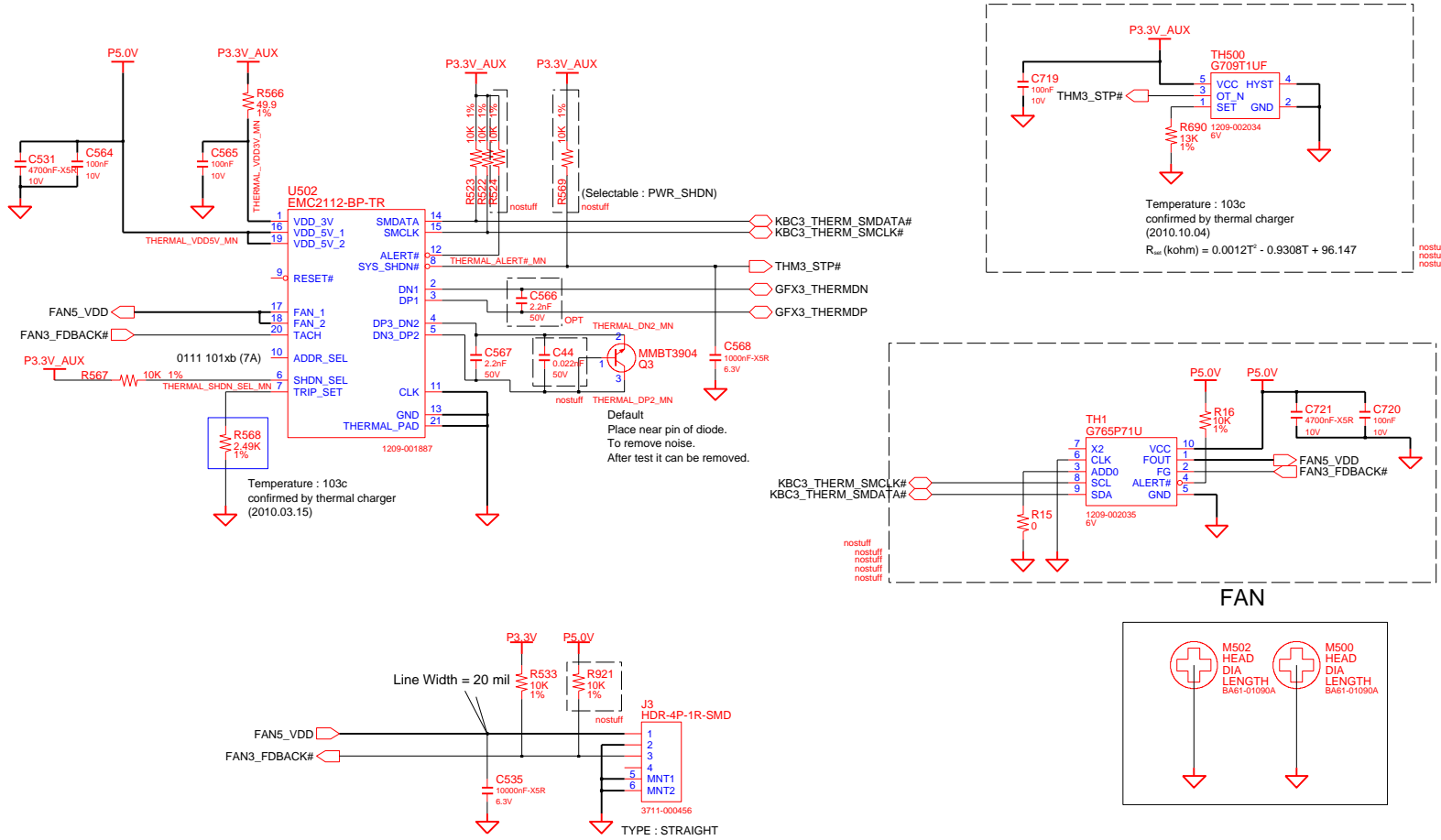
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THERMAL SENSOR & FAN CONTROL

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

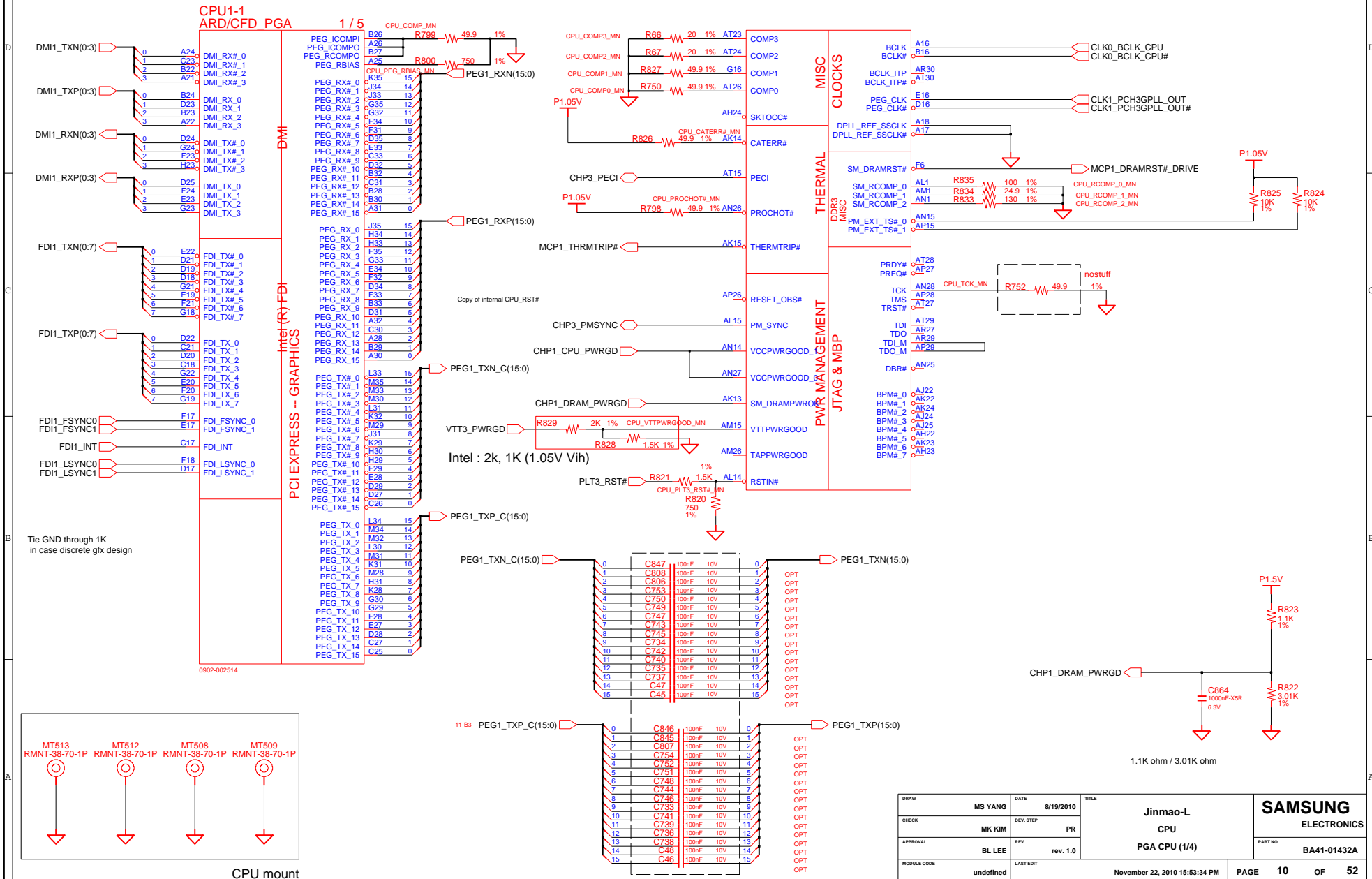


DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV.STEP	PR	THERMAL SENSOR		
APPROVAL	BL LEE	REV	rev. 1.0	THERMAL SENSOR EMC2112	PART NO.	BA41-01432A
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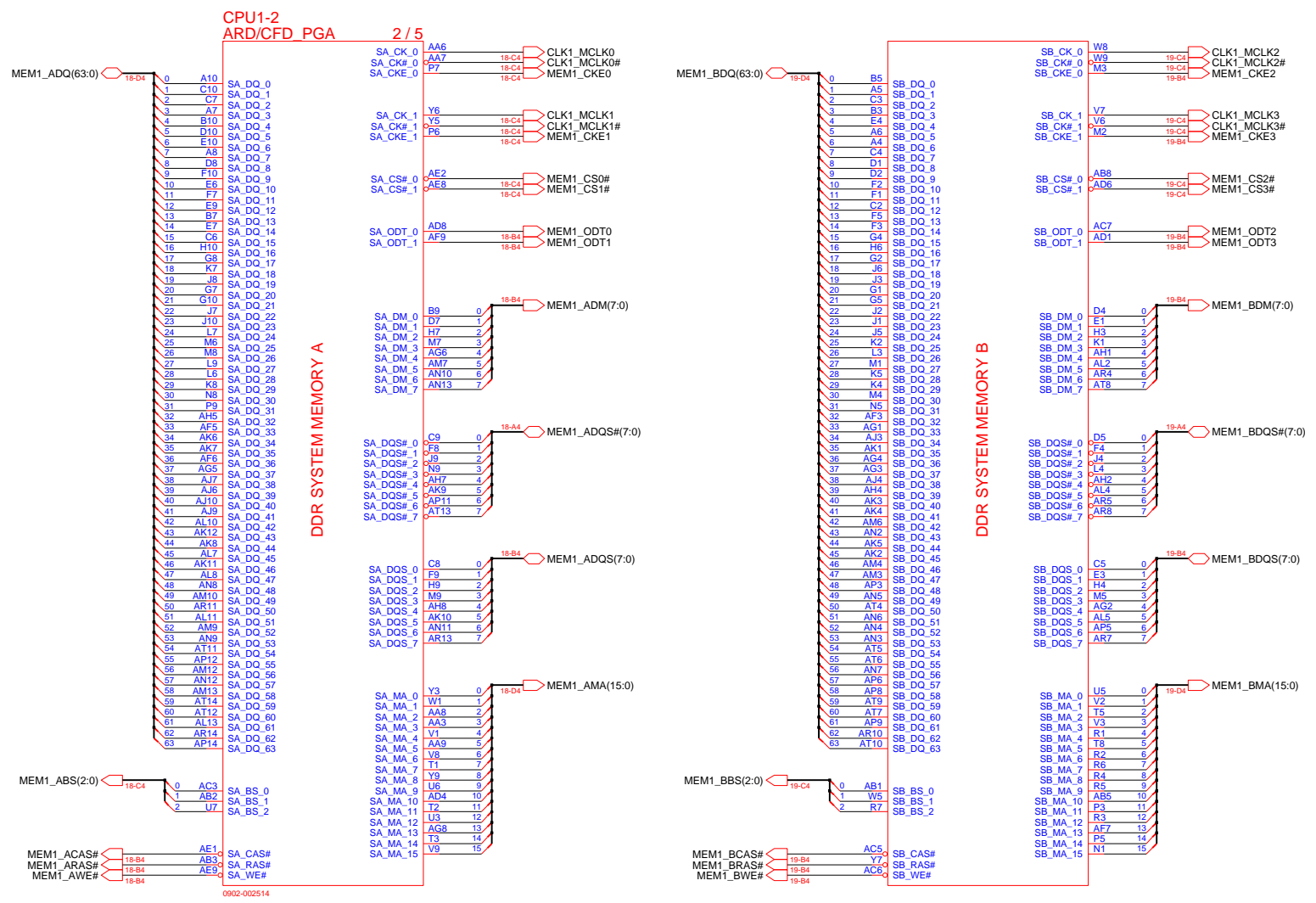
ARRANDALE PROCESSOR (DMI,PEG, FDI)



DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV.STEP	PR		CPU	
APPROVAL	BL LEE	REV	rev. 1.0		PGA CPU (1/4)	PART NO. BA41-01432A
MODULE CODE	undefined	LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	10	OF 52

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CPU-2
ARD/CFD PGA 2/5

DDR SYSTEM MEMORY A

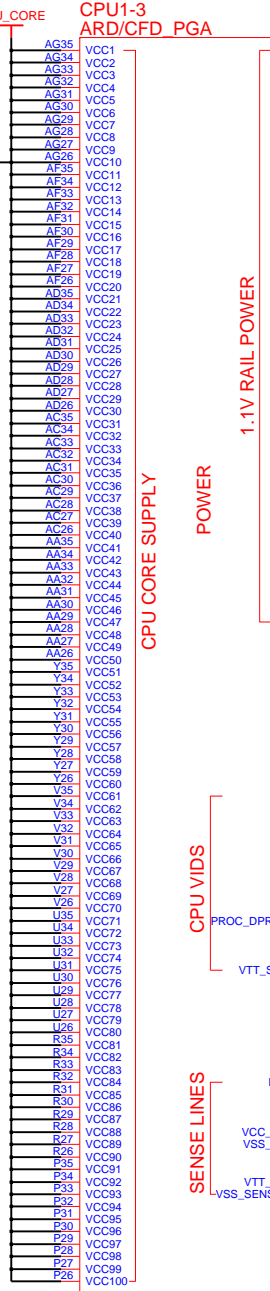
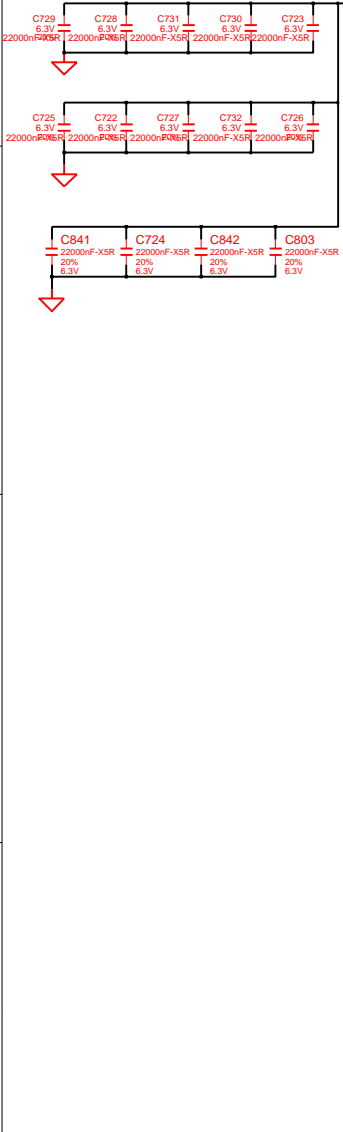
DDR SYSTEM MEMORY B

0902-002514

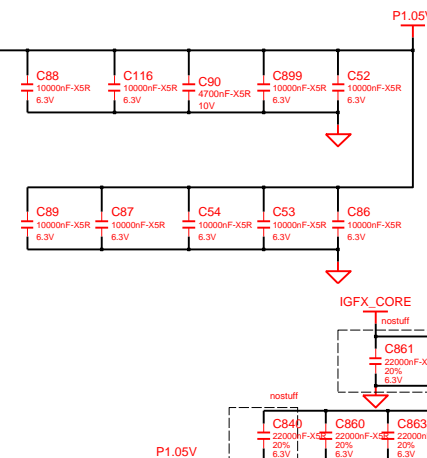
DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L CPU	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		PGA CPU (2/4)	
APPROVAL	BL LEE	REV	rev. 1.0			PART NO. BA41-01432A
MODULE CODE	undefined	LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	11	OF 52

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14x 22 uF : CPU VR side

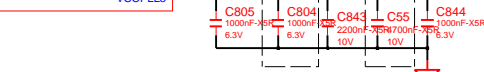
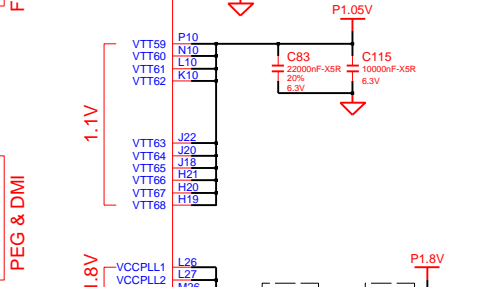
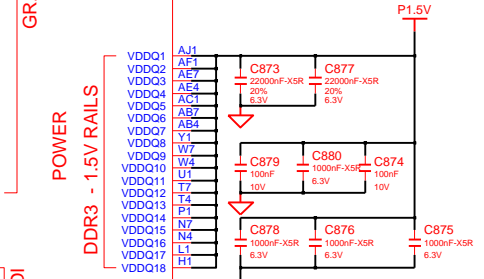
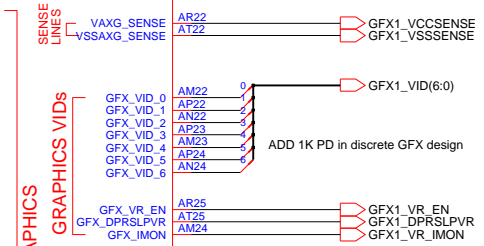


ALL VTT DECAP IS SHARED



**VTT POWER SELECTION

VTT_SEL	VOLTAGE	CPU
1	P1.05V	ARRANDALE
0	P1.1V	CLARKS FIELD



	1uF	10uF	22uF	330uF
w Proddizer	25 pcs	0 pcs	16 pcs	0 pcs
w/o Proddizer	25 pcs	16 pcs	12 pcs	4 pcs

DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		CPU	
APPROVAL	BL LEE	REV	rev. 1.0		PGA CPU (3/4)	PART NO. BA41-01432A
MODULE CODE		LAST EDIT				

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**CPU1-5
ARD/CFD_PG45 / 5**

AT20	VSS1	VSS81	AE34
AT17	VSS2	VSS82	AE33
AR3	VSS3	VSS83	AE32
AR28	VSS4	VSS84	AE31
AR26	VSS5	VSS85	AE30
AR24	VSS6	VSS86	AE29
AR23	VSS7	VSS87	AE28
AR20	VSS8	VSS88	AE27
AR17	VSS9	VSS89	AE26
AR15	VSS10	VSS90	AE6
AR12	VSS11	VSS91	AD10
AR6	VSS12	VSS92	AC3
AR3	VSS13	VSS93	AC2
AP20	VSS15	VSS95	AB35
AP17	VSS16	VSS96	AB34
AP13	VSS17	VSS97	AB33
AP10	VSS18	VSS98	AB32
AP7	VSS19	VSS99	AB31
AP4	VSS20	VSS100	AB30
AP2	VSS21	VSS101	AB29
AN34	VSS22	VSS102	AB28
AN31	VSS23	VSS103	AB27
AN23	VSS24	VSS104	AB26
AN20	VSS25	VSS105	AB6
AN17	VSS26	VSS106	Y8
AM29	VSS27	VSS107	Y4
AM27	VSS28	VSS108	Y2
AM25	VSS29	VSS109	W35
AM20	VSS30	VSS110	W34
AM17	VSS31	VSS111	W33
AM14	VSS32	VSS112	W32
AM11	VSS33	VSS113	W31
AM8	VSS34	VSS114	W29
AM5	VSS35	VSS115	W28
AM2	VSS36	VSS116	W27
AL34	VSS37	VSS117	W26
AL31	VSS38	VSS118	W25
AL23	VSS39	VSS119	W10
AL20	VSS40	VSS120	U8
AL17	VSS41	VSS121	U4
AL12	VSS42	VSS122	T35
AL8	VSS43	VSS123	T34
AL3	VSS44	VSS124	T33
AK29	VSS45	VSS125	T32
AK25	VSS46	VSS126	T31
AK22	VSS47	VSS127	T30
AK17	VSS48	VSS128	T29
AK12	VSS49	VSS129	T28
AK8	VSS50	VSS130	T27
AJ35	VSS51	VSS131	T26
AJ32	VSS52	VSS132	T25
AJ27	VSS53	VSS133	T24
AJ24	VSS54	VSS134	T23
AJ21	VSS55	VSS135	T22
AJ17	VSS56	VSS136	T21
AJ14	VSS57	VSS137	P8
AJ11	VSS58	VSS138	P2
AJ8	VSS59	VSS139	N35
AJ5	VSS60	VSS140	N34
AH35	VSS61	VSS141	N33
AH32	VSS62	VSS142	N32
AH29	VSS63	VSS143	N31
AH27	VSS64	VSS144	N30
AH26	VSS65	VSS145	N29
AH23	VSS66	VSS146	N28
AH20	VSS67	VSS147	N27
AH17	VSS68	VSS148	N26
AH13	VSS69	VSS149	N25
AH9	VSS70	VSS150	N6
AH6	VSS71	VSS151	M10
AH3	VSS72	VSS152	L35
AG10	VSS73	VSS153	L32
AF6	VSS74	VSS154	L29
AF4	VSS75	VSS155	L8
AF2	VSS76	VSS156	L5
AE35	VSS77	VSS157	L2
	VSS78	VSS158	K34
	VSS79	VSS159	K33
	VSS80	VSS160	K30

K27	VSS161	VSS81	AE34
K9	VSS162	VSS82	AE33
K6	VSS163	VSS83	AE32
K3	VSS164	VSS84	AE31
J32	VSS165	VSS85	AE30
J30	VSS166	VSS86	AE29
J21	VSS167	VSS87	AE28
J19	VSS168	VSS88	AE27
H35	VSS169	VSS89	AE26
H32	VSS170	VSS90	AE6
H28	VSS171	VSS91	AD10
H24	VSS172	VSS92	AC3
H22	VSS173	VSS93	AC2
H18	VSS174	VSS95	AB35
H15	VSS175	VSS96	AB34
H13	VSS176	VSS97	AB33
H11	VSS177	VSS98	AB32
H8	VSS178	VSS99	AB31
H5	VSS179	VSS100	AB30
H2	VSS180	VSS101	AB29
G34	VSS181	VSS102	AB28
G31	VSS182	VSS103	AB27
G20	VSS183	VSS104	AB26
G9	VSS184	VSS105	AB6
G6	VSS185	VSS106	Y8
G3	VSS186	VSS107	Y4
F30	VSS187	VSS108	Y2
F27	VSS188	VSS109	W35
F25	VSS189	VSS110	W34
F22	VSS190	VSS111	W33
F19	VSS191	VSS112	W32
F16	VSS192	VSS113	W31
E35	VSS193	VSS114	W29
E32	VSS194	VSS115	W28
E29	VSS195	VSS116	W27
E24	VSS196	VSS117	W26
E21	VSS197	VSS118	W25
E18	VSS198	VSS119	W10
E13	VSS199	VSS120	U8
E11	VSS200	VSS121	U4
E8	VSS201	VSS122	T35
E5	VSS202	VSS123	T34
D33	VSS203	VSS124	T33
D30	VSS204	VSS125	T32
D26	VSS205	VSS126	T31
D9	VSS206	VSS127	T30
D6	VSS207	VSS128	T29
D3	VSS208	VSS129	T28
C34	VSS209	VSS130	T27
C32	VSS210	VSS131	T26
C29	VSS211	VSS132	T25
C28	VSS212	VSS133	T24
C24	VSS213	VSS134	T23
C22	VSS214	VSS135	T22
C20	VSS215	VSS136	T21
C19	VSS216	VSS137	P8
C16	VSS217	VSS138	P2
B31	VSS218	VSS139	N35
B25	VSS219	VSS140	N34
B21	VSS220	VSS141	N33
B18	VSS221	VSS142	N32
B17	VSS222	VSS143	N31
B13	VSS223	VSS144	N30
B11	VSS224	VSS145	N29
B8	VSS225	VSS146	N28
B4	VSS226	VSS147	N27
A29	VSS227	VSS148	N26
A27	VSS228	VSS149	N25
A23	VSS229	VSS150	N6
A9	VSS230	VSS151	M10
	VSS231	VSS152	L35
	VSS232	VSS153	L32
	VSS233	VSS154	L29

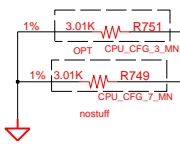
VSS

NCTF

AT35
AT1
AR34
B2
B1
A35

AP25	RSVD1	RSVD32	AJ13
AL25	RSVD2	RSVD33	AJ12
AL24	RSVD3	RSVD34	AH25
AL22	RSVD4	RSVD35	AK26
AJ33	RSVD5	RSVD36	AL26
AG9	RSVD6	RSVD_NCTF_37	AR2
M27	RSVD7	RSVD38	AJ26
L28	RSVD8	RSVD39	AJ27
HT	SA_DIMM_VREFDQ		
HT	SB_DIMM_VREFDQ		
G25	RSVD11		
G17	RSVD12	RSVD_NCTF_40	AP1
E31	RSVD13	RSVD_NCTF_41	AT2
E30	RSVD14	RSVD_NCTF_42	AT3
		RSVD_NCTF_43	AR1
AM30	CFG_0	RSVD45	AL28
AM28	CFG_1	RSVD46	AL29
AP31	CFG_2	RSVD47	AP30
AL32	CFG_3	RSVD48	AP32
AL30	CFG_4	RSVD49	AL27
AM31	CFG_5	RSVD50	AT131
AM29	CFG_6	RSVD51	AP33
AM32	CFG_7	RSVD52	AR33
AK32	CFG_8	RSVD53	AT33
AK31	CFG_9	RSVD_NCTF_54	AT34
AK28	CFG_10	RSVD_NCTF_55	AT35
AJ28	CFG_11	RSVD_NCTF_56	AR35
AN30	CFG_12	RSVD_NCTF_57	AR32
AN32	CFG_13	RSVD58	
AJ32	CFG_14		E15
AJ29	CFG_15	RSVD_TP_59	F15
AJ30	CFG_16	RSVD_TP_60	A2
AK30	CFG_17	KEY	D15
H16	RSVD_TP_86	RSVD62	C15
		RSVD63	AJ15
		RSVD64	AH15
		RSVD65	
B19	RSVD15		AA5
A19	RSVD16		AA4
A20	RSVD17	RSVD_TP_66	R8
B20	RSVD18	RSVD_TP_67	AD3
U9	RSVD19	RSVD_TP_68	AD2
T9	RSVD20	RSVD_TP_69	AA2
AC9	RSVD21	RSVD_TP_70	AA1
AB9	RSVD22	RSVD_TP_71	R9
		RSVD_TP_72	AG7
		RSVD_TP_73	AE3
C1	RSVD_NCTF_23	RSVD_TP_74	
A3	RSVD_NCTF_24	RSVD_TP_75	
		RSVD_TP_76	V4
		RSVD_TP_77	V5
		RSVD_TP_78	N2
J29	RSVD26	RSVD_TP_79	AD5
J28	RSVD27	RSVD_TP_80	AD7
		RSVD_TP_81	W3
		RSVD_TP_82	W2
A34	RSVD_NCTF_28	RSVD_TP_83	N3
A33	RSVD_NCTF_29	RSVD_TP_84	AE5
		RSVD_TP_85	AD9
C35	RSVD_NCTF_30		
B35	RSVD_NCTF_31		

RESERVED



Clarksfield : SA_DIMM_VRREFDQ, 100K PD
SB_DIMM_VRREFDQ, 100K PD
Arrandale : SA_DIMM_VRREFDQ, NC
SB_DIMM_VRREFDQ, NC

CFG Straps for Processor

PCI Express Configuration Select	
CFG0	1 : Single PEG 0 : Bifunction enabled
PCI Express Static Lane Reversal	
CFG3	1 : Normal operation 0 : Lane Reversed
Display Port Presence	
CFG4	1 : Disabled - No DP device is connected to eDP 0 : Enabled - (DP device is connected to eDP
PCIe 2.0 SUPPORT	
CFG7	1 : Normal operation 0 : PCIe2.0 Jitter support

CRB is NC
EDS/DG is GND recommend

(VSS) RSVDB6

DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		CPU	
APPROVAL	BL LEE	REV	rev. 1.0		PGA CPU (4/4)	PART NO.
MODULE CODE		LAST EDIT				BA41-01432A
November 22, 2010 15:53:34 PM						PAGE 13 OF 52

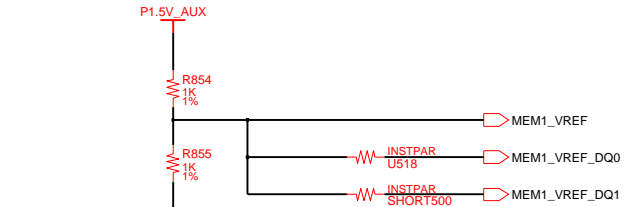
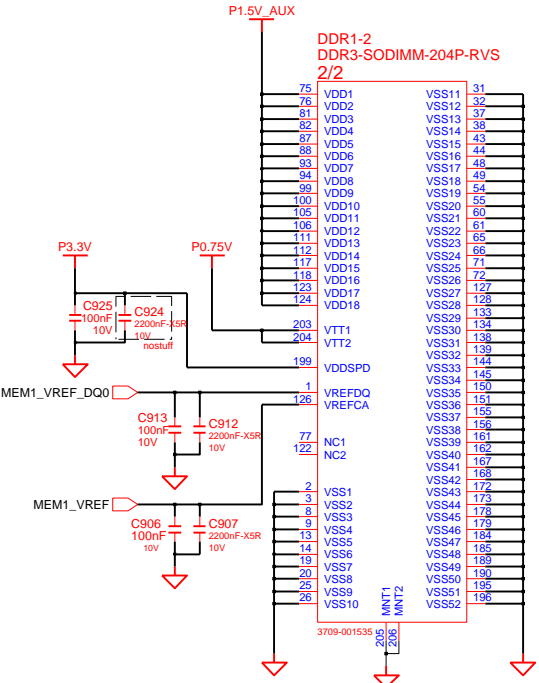
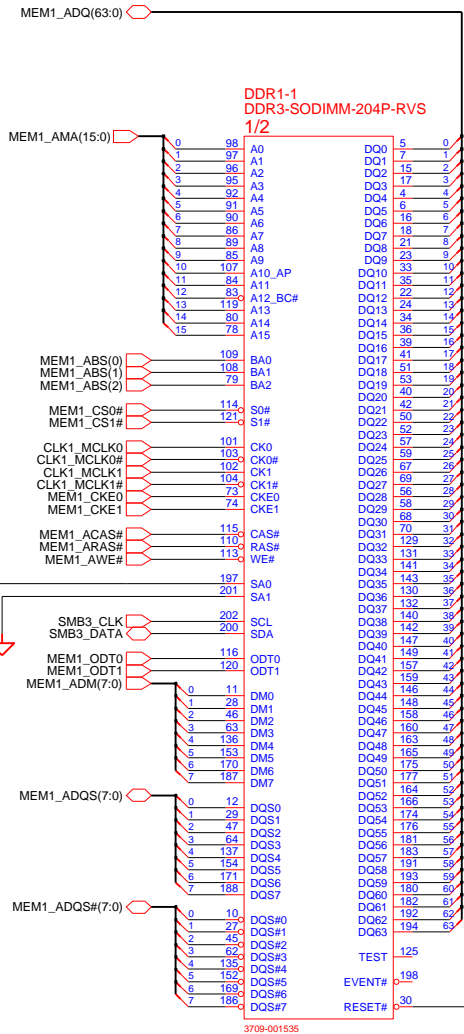
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DDR SO-DIMM #0

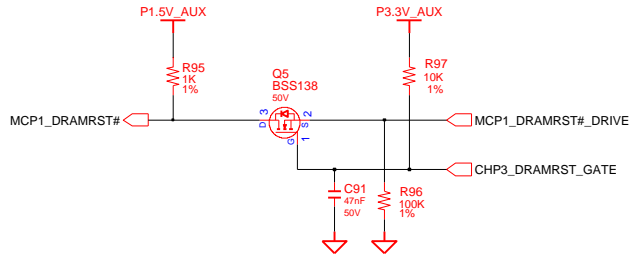
Height : 9.2 mm (REVERSE)

P/N : 3709-001535 (FOXCONN)

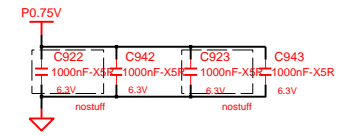
P/N : 3709-001609 (CONCRAFT)



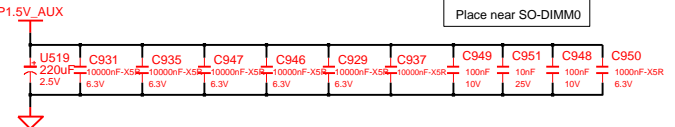
Place between two memory Connector



SA0	0	0
SA1	0	1
SPD ADD	0xA0	0xA4
TS ADD	0x30	0x32



Place near SO-DIMM0



DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		SODIMM A	
APPROVAL	BL LEE	REV	rev. 1.0		DDR3	PART NO. BA41-01432A
MODULE CODE		LAST ENT				PAGE 14 OF 52

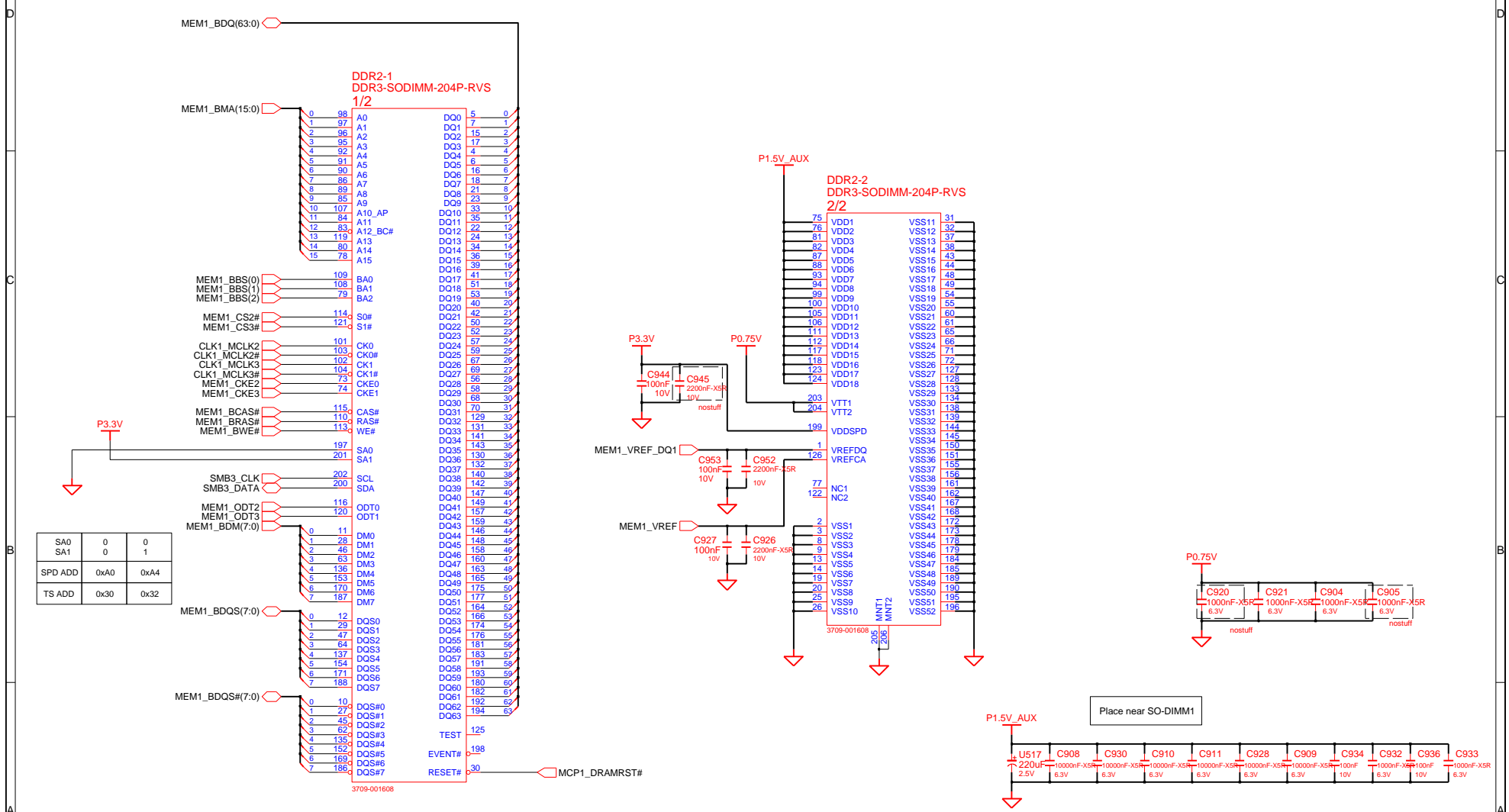
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DDR SO-DIMM #1

Height : 4 mm (REVERSE)

P/N : 3709-001608 (CONCRAFT)



SA0	0	0	0
SA1	0	0	1
SPD ADD	0xA0	0xA4	
TS ADD	0x30	0x32	

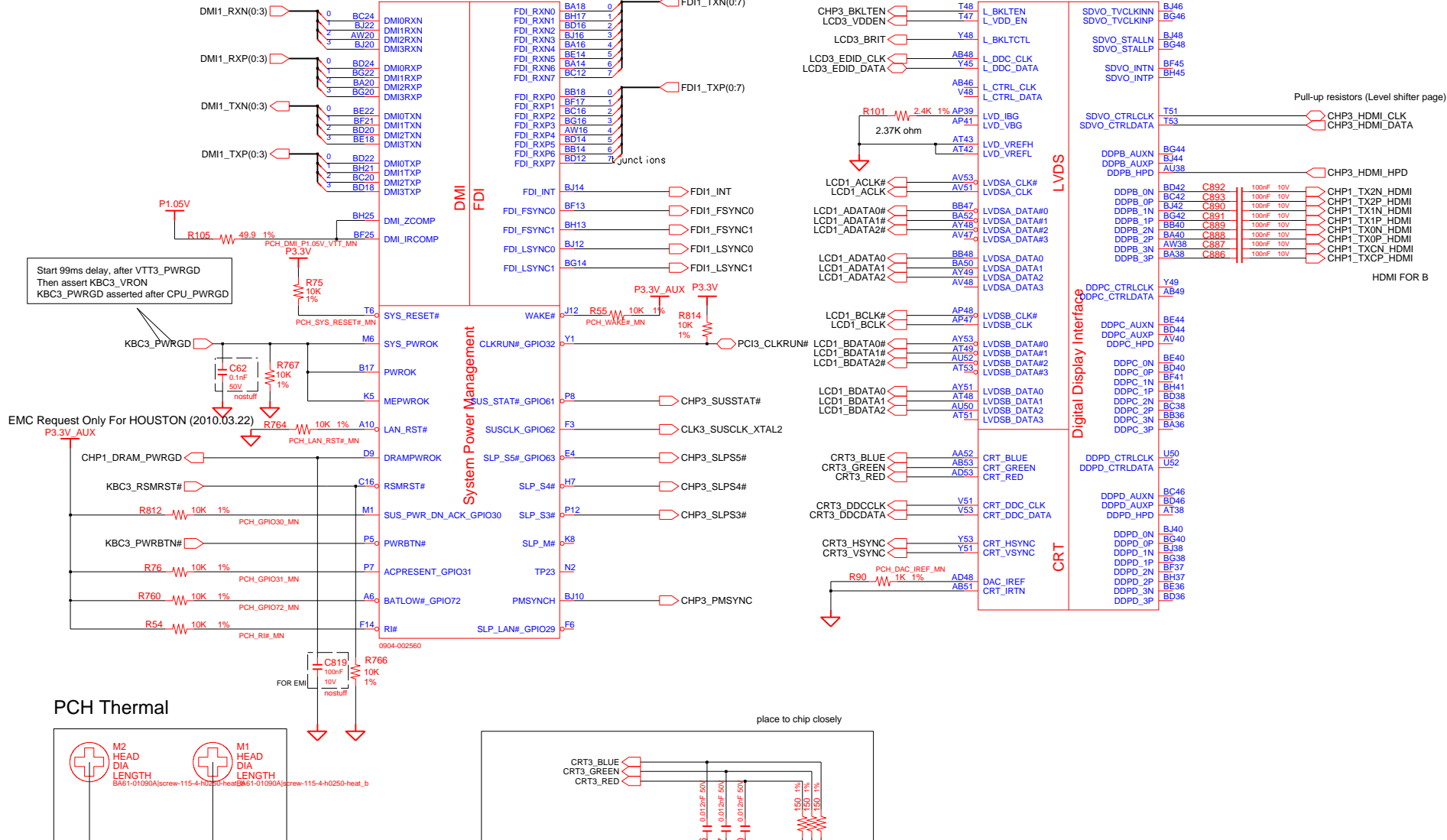
DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		SODIMM B	
APPROVAL	BL LEE	REV	rev. 1.0		DDR3	PART NO. BA41-01432A
MODULE CODE		LAST ENT		November 22, 2010 15:53:34 PM	PAGE	15 OF 52

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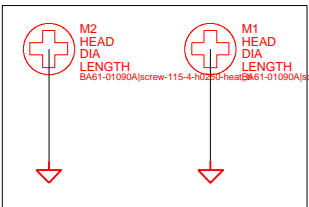
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**U514-2
BD82HM55**

2 / 5

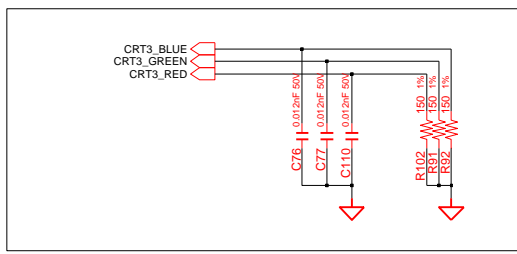


PCH Thermal



NEED UPDATE THE PEM CODE

place to chip closely



DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L PCH IBEX PEAK(2/5)	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR			
APPROVAL	BL LEE	REV	rev. 1.0			PART NO. BA41-01432A
MODULE CODE		LAST EDIT			November 22, 2010 15:53:34 PM	PAGE 17 OF 52

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**U514-3
BD82HM55**

3 / 5

- H40 AD0
- N34 AD1
- C44 AD2
- A38 AD3
- C36 AD4
- J34 AD5
- A40 AD6
- D45 AD7
- E36 AD8
- H48 AD9
- E40 AD10
- C40 AD11
- M48 AD12
- M45 AD13
- F53 AD14
- M40 AD15
- M43 AD16
- J36 AD17
- K48 AD18
- F40 AD19
- AD20 AD20
- K46 AD21
- M51 AD22
- J52 AD23
- K51 AD24
- L34 AD25
- F42 AD26
- A40 AD27
- G46 AD28
- F44 AD29
- M47 AD30
- H36 AD31

- AY9 NV_CE#0
- BD1 NV_CE#1
- AP15 NV_CE#2
- BD8 NV_CE#3
- AV9 NV_DQ#0
- BG8 NV_DQ#1
- AP7 NV_DQ#2
- AP6 NV_DQ#3
- AT6 NV_DQ#4
- AT9 NV_DQ#5
- BB1 NV_DQ#6
- AV6 NV_DQ#7
- BB3 NV_DQ#8
- BA4 NV_DQ#9
- BE4 NV_DQ#10
- BB8 NV_DQ#11
- BB6 NV_DQ#12
- BB7 NV_DQ#13
- BC8 NV_DQ#14
- BJ8 NV_DQ#15
- BJ6 NV_DQ#16
- BG6 NV_DQ#17

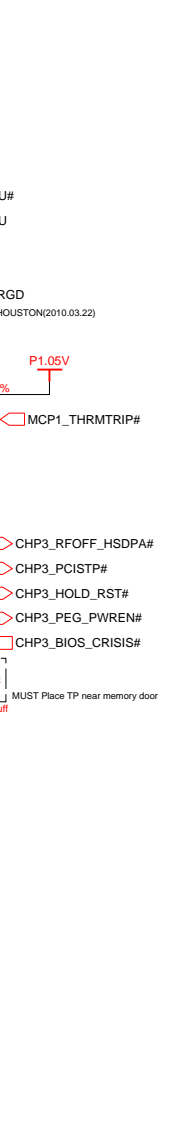
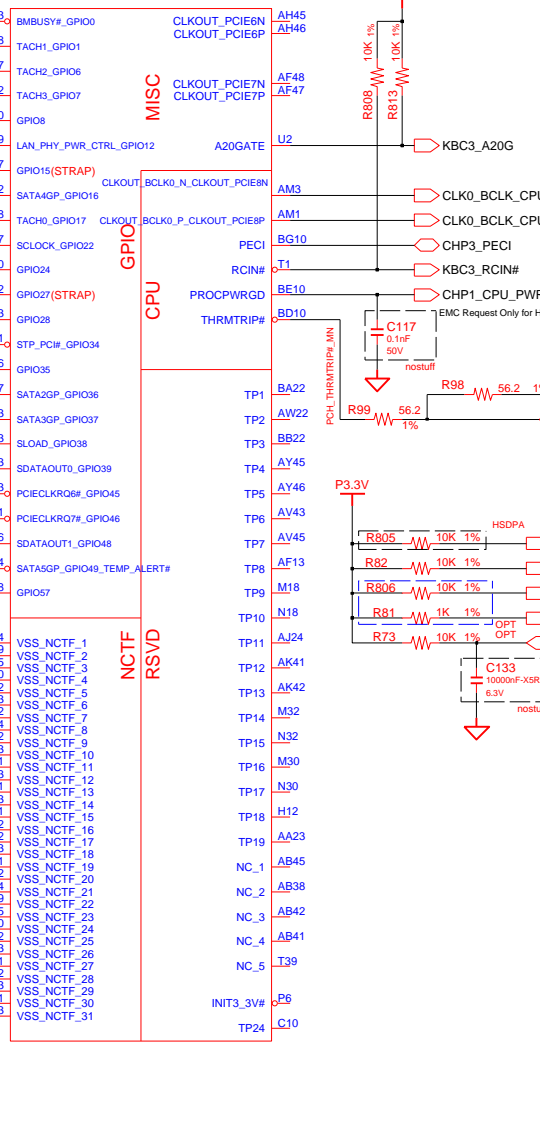
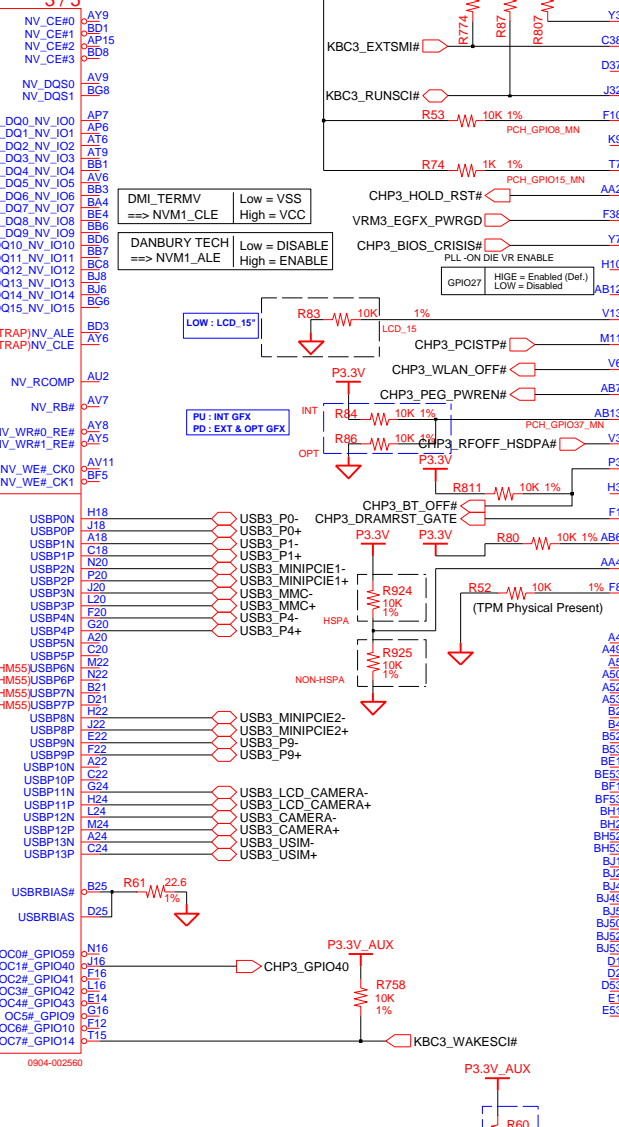
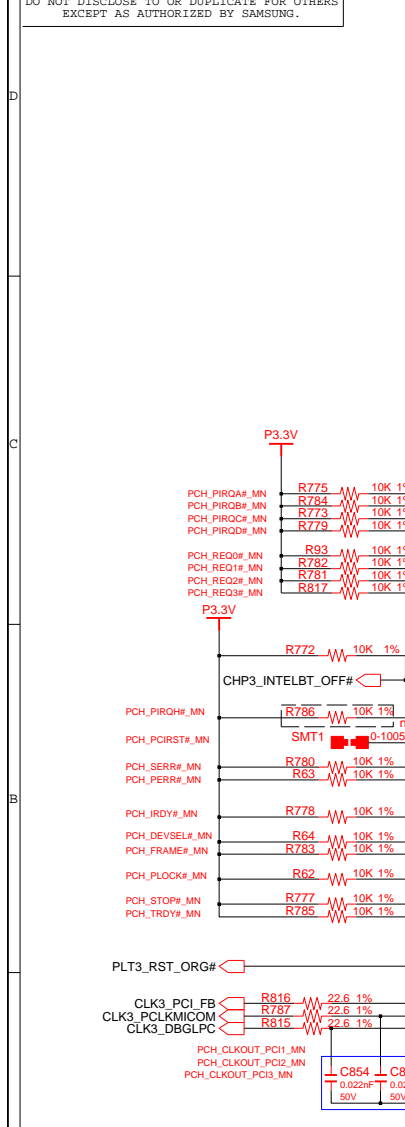
- BD3 NV_DQ#18
- AY6 NV_DQ#19
- AU2 NV_DQ#20
- AV7 NV_DQ#21
- AY8 NV_DQ#22
- AY5 NV_DQ#23
- AV11 NV_DQ#24
- BF5 NV_DQ#25

- H18 USBP0
- J18 USBP1
- A18 USBP2
- C18 USBP3
- N20 USBP4
- P20 USBP5
- J20 USBP6
- L20 USBP7
- F20 USBP8
- G20 USBP9
- A20 USBP10
- C20 USBP11
- M22 USBP12
- N22 USBP13
- B21 USBP14
- D21 USBP15
- H22 USBP16
- J22 USBP17
- E22 USBP18
- F22 USBP19
- C22 USBP20
- G24 USBP21
- H24 USBP22
- M24 USBP23
- A24 USBP24
- C24 USBP25

- B25 USBRBIAS#
- D25 USBRBIAS
- N16 OC0#_GPIO59
- J16 OC1#_GPIO40
- F16 OC2#_GPIO41
- E14 OC3#_GPIO42
- F14 OC4#_GPIO43
- E14 OC5#_GPIO9
- G16 OC6#_GPIO10
- F12 OC7#_GPIO14
- T15

- N52 CLKOUT_PC10
- P53 CLKOUT_PC11
- P46 CLKOUT_PC12
- P51 CLKOUT_PC13
- P48 CLKOUT_PC14

0904-002560



PLT3_RST_ORG#	SHORT6	0-1005	PLT3_RST#	CHP3_GPIO40	CHP3_GPIO40
CLK3_PCL_FB	R816	22.6 1%			
CLK3_PCLKMCOM	R787	22.6 1%			
CLK3_DBG_LPC	R815	22.6 1%			
PLT3_RST_ORG#	R51	100K 1%			
CHP3_GPIO40	R60	10K 1%			
CHP3_GPIO40	R85	10K 1%			

Drawn	MS YANG	Date	8/19/2010	Title	Jinmao-L
Checked	MK KIM	Dev. Step	PR		PCH
Approved	BL LEE	Rev	rev. 1.0		IBEX PEAK(3/5)
Module Code		Last Edit			
November 22, 2010 15:53:34 PM					
				Page	18 OF 52

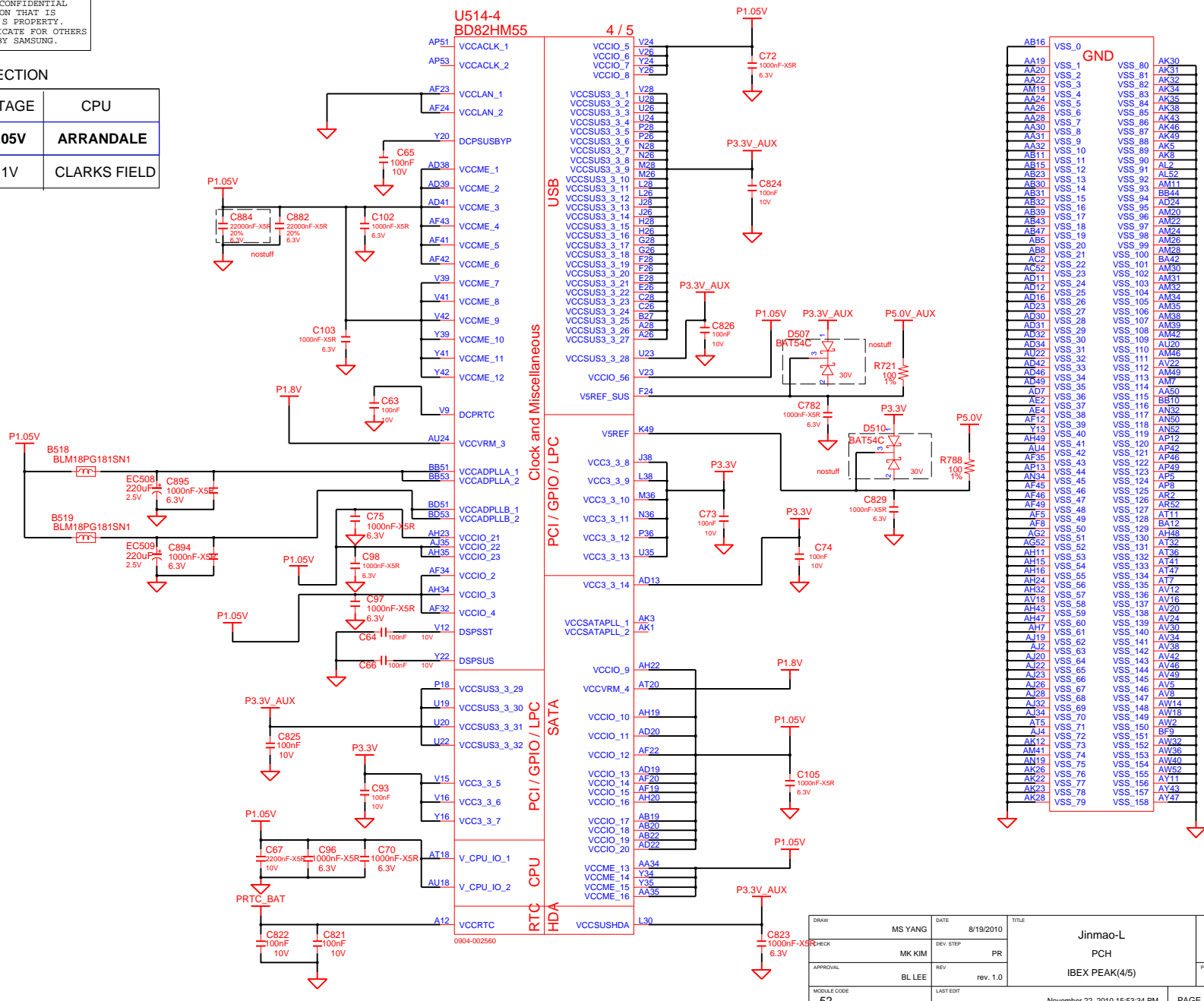
SAMSUNG
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PART NO. BA41-01432A

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****VTT POWER SELECTION**

VTT_SEL	VOLTAGE	CPU
1	P1.05V	ARRANDALE
0	P1.1V	CLARKS FIELD

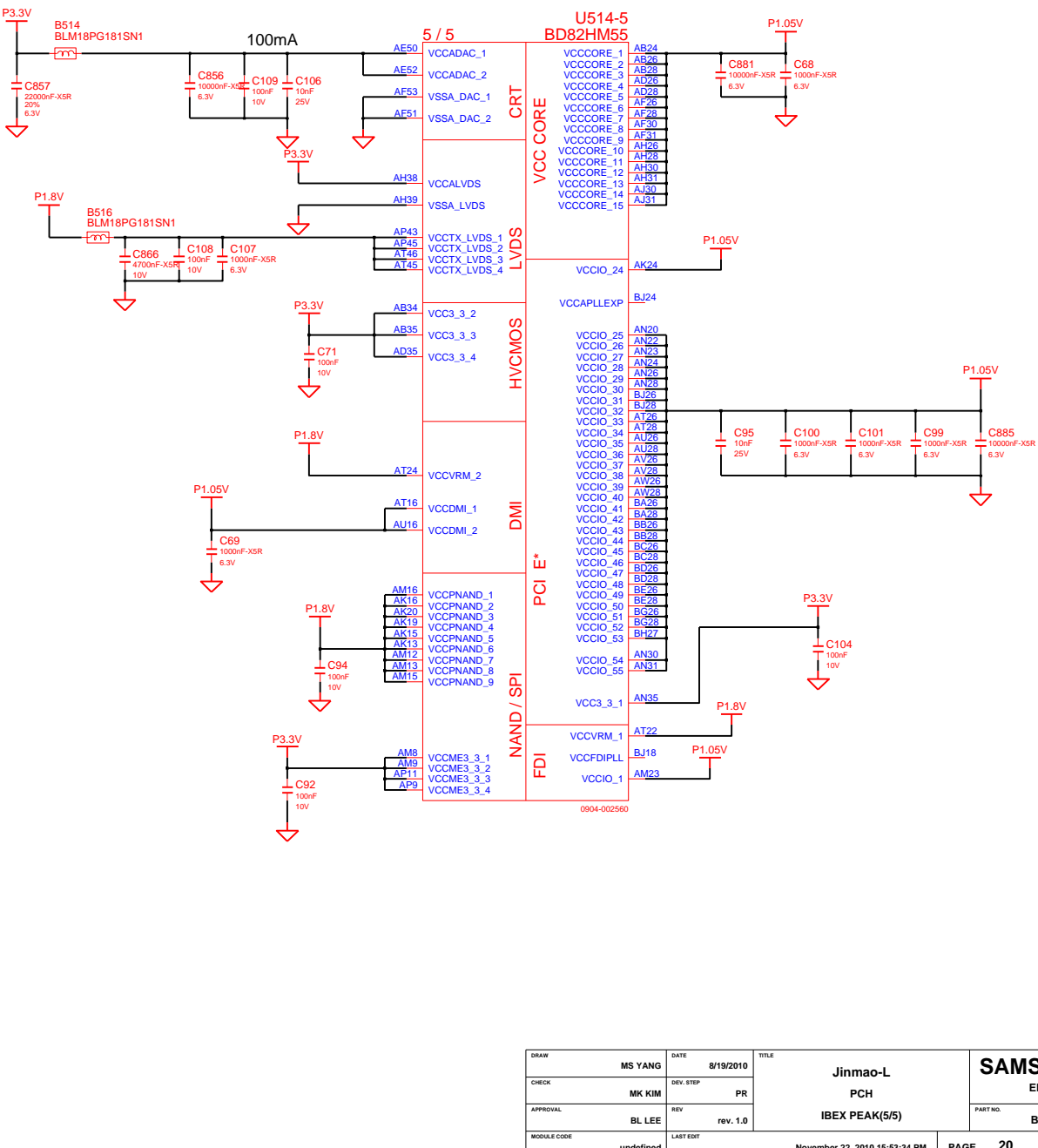


DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		PCH	
APPROVAL	BL LEE	REV	rev. 1.0		IBEX PEAK(4/5)	PART NO. BA41-01432A
MODULE CODE		LAST EDIT				PAGE 19 OF 60

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H49	VSS_255	VSS_159	AY7
H5	VSS_260	VSS_160	B11
J24	VSS_261	VSS_161	B15
K11	VSS_262	VSS_162	B19
K43	VSS_263	VSS_163	B23
K47	VSS_263	VSS_163	B31
K7	VSS_264	VSS_164	B35
L14	VSS_265	VSS_165	B39
L18	VSS_266	VSS_166	B43
L2	VSS_267	VSS_167	B47
L22	VSS_268	VSS_168	B51
L32	VSS_269	VSS_169	B55
L36	VSS_270	VSS_170	B59
L40	VSS_271	VSS_171	BB12
L52	VSS_272	VSS_172	BB16
M12	VSS_273	VSS_173	BB20
M16	VSS_274	VSS_174	BB24
M20	VSS_275	VSS_175	BB28
N38	VSS_276	VSS_176	BB32
M34	VSS_277	VSS_177	BB36
M38	VSS_278	VSS_178	BB40
M42	VSS_279	VSS_179	BB44
M46	VSS_280	VSS_180	BB48
M49	VSS_281	VSS_181	BB52
M5	VSS_282	VSS_182	BB56
M8	VSS_283	VSS_183	BC10
N24	VSS_284	VSS_184	BC14
P11	VSS_285	VSS_185	BC18
AD15	VSS_286	VSS_186	BC22
P22	VSS_287	VSS_187	BC26
P30	VSS_288	VSS_188	BC30
P32	VSS_289	VSS_189	BC34
P34	VSS_290	VSS_190	BC38
P42	VSS_291	VSS_191	BC42
P45	VSS_292	VSS_192	BC46
P47	VSS_293	VSS_193	BC50
R2	VSS_294	VSS_194	BC54
R52	VSS_295	VSS_195	BC58
T12	VSS_296	VSS_196	BC62
T41	VSS_297	VSS_197	BC66
T46	VSS_298	VSS_198	BC70
T49	VSS_299	VSS_199	BC74
T5	VSS_300	VSS_200	BC78
T8	VSS_301	VSS_201	BC82
U30	VSS_302	VSS_202	BC86
U31	VSS_303	VSS_203	BC90
U32	VSS_304	VSS_204	BC94
U34	VSS_305	VSS_205	BC98
P38	VSS_306	VSS_206	BD02
V11	VSS_307	VSS_207	BD06
V16	VSS_308	VSS_208	BD10
V19	VSS_309	VSS_209	BD14
V20	VSS_310	VSS_210	BD18
V22	VSS_311	VSS_211	BD22
V30	VSS_312	VSS_212	BD26
V31	VSS_313	VSS_213	BD30
V32	VSS_314	VSS_214	BD34
V34	VSS_315	VSS_215	BD38
V35	VSS_316	VSS_216	BD42
V38	VSS_317	VSS_217	BD46
V43	VSS_318	VSS_218	BD50
V45	VSS_319	VSS_219	BD54
V46	VSS_320	VSS_220	BD58
V47	VSS_321	VSS_221	BD62
V49	VSS_322	VSS_222	BD66
V5	VSS_323	VSS_223	BD70
V7	VSS_324	VSS_224	BD74
V7	VSS_325	VSS_225	BD78
V8	VSS_326	VSS_226	BD82
W2	VSS_327	VSS_227	BD86
W52	VSS_328	VSS_228	BD90
Y12	VSS_329	VSS_229	BD94
Y15	VSS_330	VSS_230	BD98
Y19	VSS_331	VSS_231	BE02
Y23	VSS_332	VSS_232	BE06
Y28	VSS_333	VSS_233	BE10
Y30	VSS_334	VSS_234	BE14
Y30	VSS_335	VSS_235	BE18
Y31	VSS_336	VSS_236	BE22
Y32	VSS_337	VSS_237	BE26
Y36	VSS_338	VSS_238	BE30
Y43	VSS_339	VSS_239	BE34
Y46	VSS_340	VSS_240	BE38
P49	VSS_341	VSS_241	BE42
Y5	VSS_342	VSS_242	BE46
Y6	VSS_343	VSS_243	BE50
Y8	VSS_344	VSS_244	BE54
P24	VSS_345	VSS_245	BE58
T43	VSS_346	VSS_246	BE62
AD51	VSS_347	VSS_247	BE66
AT8	VSS_348	VSS_248	BE70
AD47	VSS_349	VSS_249	BE74
Y47	VSS_350	VSS_250	BE78
AT12	VSS_351	VSS_251	BE82
AM6	VSS_352	VSS_252	BE86
AT13	VSS_353	VSS_253	BE90
AM5	VSS_354	VSS_254	BE94
AK45	VSS_355	VSS_255	BE98
AK39	VSS_356	VSS_256	BF02
AV14	VSS_357	VSS_257	BF06
	VSS_358	VSS_258	BF10



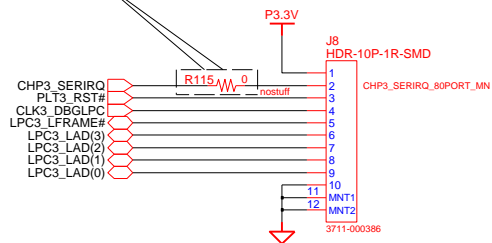
DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		PCH	
APPROVAL	BL LEE	REV	rev. 1.0		IBEX PEAK(5/5)	PART NO. BA41-01432A
MODULE CODE	undefined	LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	20	OF 52

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80H PORT DEBUG

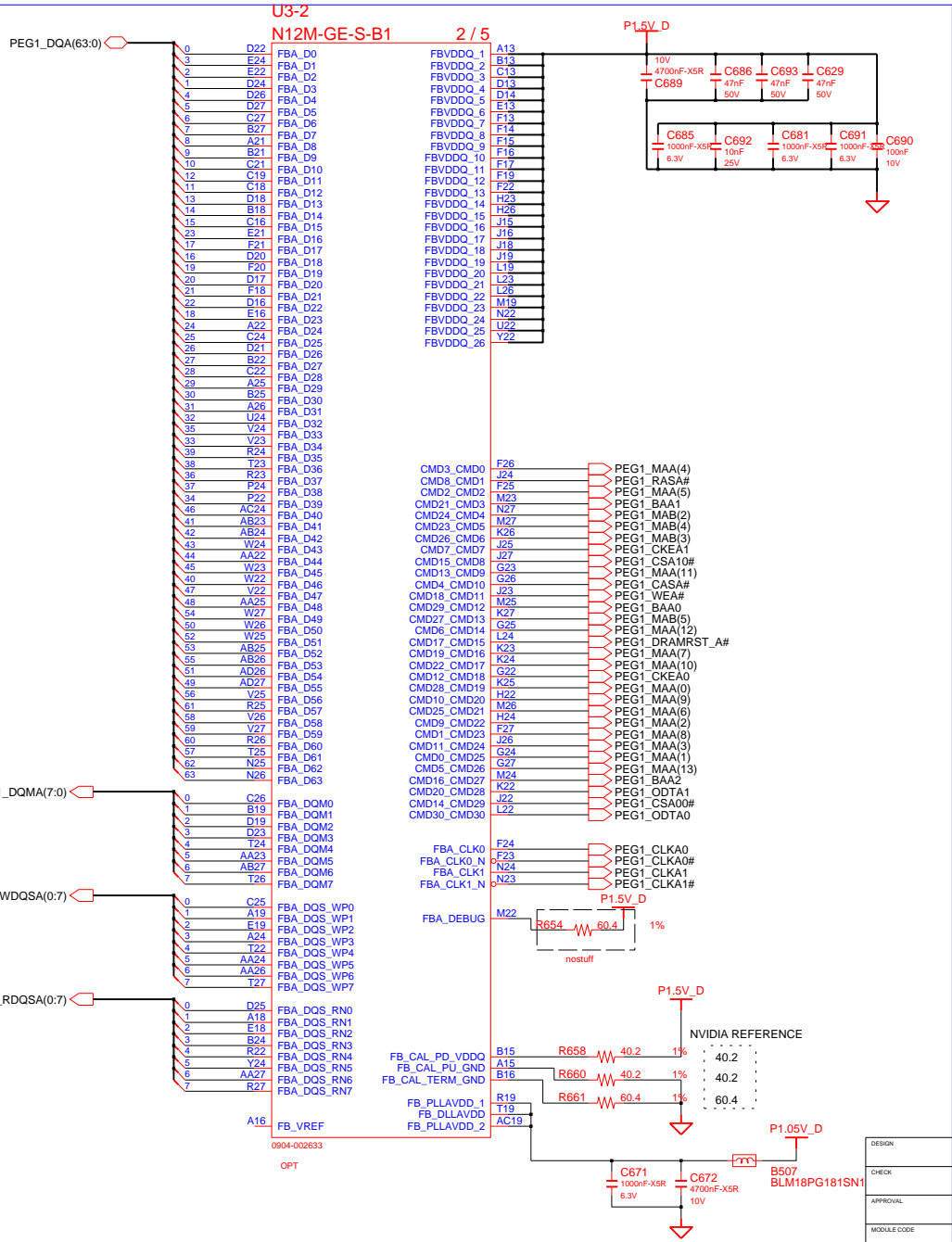
For MICOM 80H Debug Port Test



DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	DEBUG PORT		
APPROVAL	BL LEE	REV	rev. 1.0	80H DECODER		PART NO. BA41-01432A
MODULE CODE		LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	21	OF 52

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OPT
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OPT

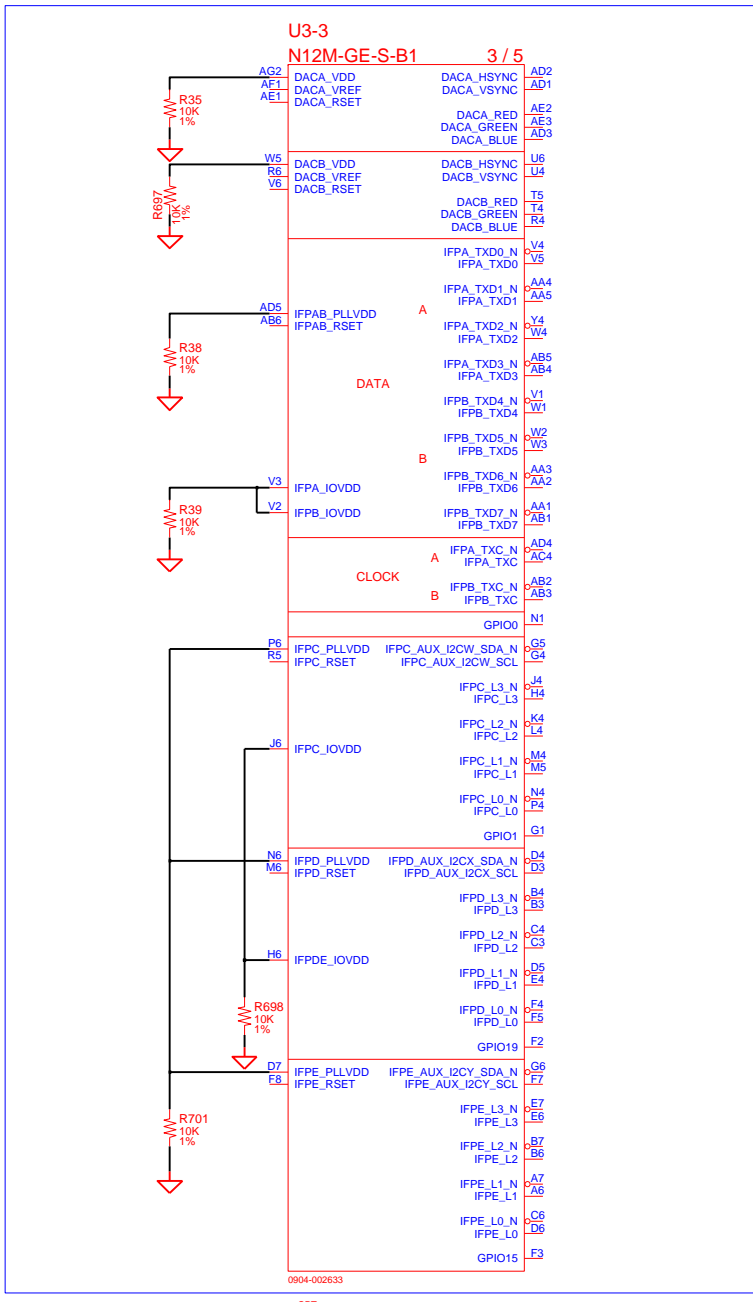
CMD MODE A

OPT
OPT
OPT

DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		N12M_40NM(2/4)	
APPROVAL	BL LEE	REV	rev. 1.0		N12M_40NM(2/4)	PART NO. BA41-01432A
MODULE CODE		LAST EDIT				

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 OPT

0904-002633

OPT

DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	N12M_40NM(3/4)		
APPROVAL	BL LEE	REV	rev. 1.0	N12M_40NM(3/4)		PART NO. BA41-01432A
MODULE CODE		LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	24	OF 52

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Pin	Description	Activate
GPIO(0)	General Purpose	NC
GPIO(1)	HPD-C	NC
GPIO(2)	LCDD0_BL_PWM	High
GPIO(3)	LCDD0_VDD	High
GPIO(4)	LCDD0_BL_EN	High
GPIO(5)	GPU VID0	00 0.8V 10 0.95V
GPIO(6)	GPU VID1	01 0.85V 11 1.03V
GPIO(7)	GPU VID2	NC
GPIO(8)	OVERT	LOW
GPIO(9)	ALERT	NC
GPIO(10)	MEM_VREF	NC
GPIO(11)	SLI_SYNC	NC
GPIO(12)	PWR_LEVEL	NC
GPIO(13)	MEM_VID	NC
GPIO(14)	PWR_CTRL1	NC
GPIO(15)	HPD-E	High
GPIO(16)	FAN_PWM	NC
GPIO(17)	Reserved	NC
GPIO(18)	Reserved	NC
GPIO(19)	HPD-D	NC

Strap option	Bit 3	Bit 2	Bit 1	Bit 0
ROM_SO	XCLK_417	FB_0_BAR_SIZE	SMB_ALT_ADDR	VGA_DEVICE
ROM_SCLK	DEVID[4]	VENID	CLK_CFG	PLL_TERM
ROM_SI	RAMCFG[3]	RAMCFG[2]	RAMCFG[1]	RAMCFG[0]
STRAP2	DEVID[3]	DEVID[2]	DEVID[1]	DEVID[0]
STRAP1	PADCFG[3]	PADCFG[2]	PADCFG[1]	PADCFG[0]
STRAP0	USER[3]	USER[2]	USER[1]	USER[0]
Resistor value	PU to VDD	PD to GND	XCLK417 = 0 27MHz	
5K ohm	1000	0000	RAM CFG (SEC)	
10 Kohm	1001	0001	0011 gDDR3 1Gb	
15K ohm	1010	0010	USER[3:0]=1111 for EDID	
20K ohm	1011	0011	PADCFG[3:0]=0110 for NB	
25K ohm	1100	0100		
30K ohm	1101	0101		
35K ohm	1110	0110		
45K ohm	1111	0111		

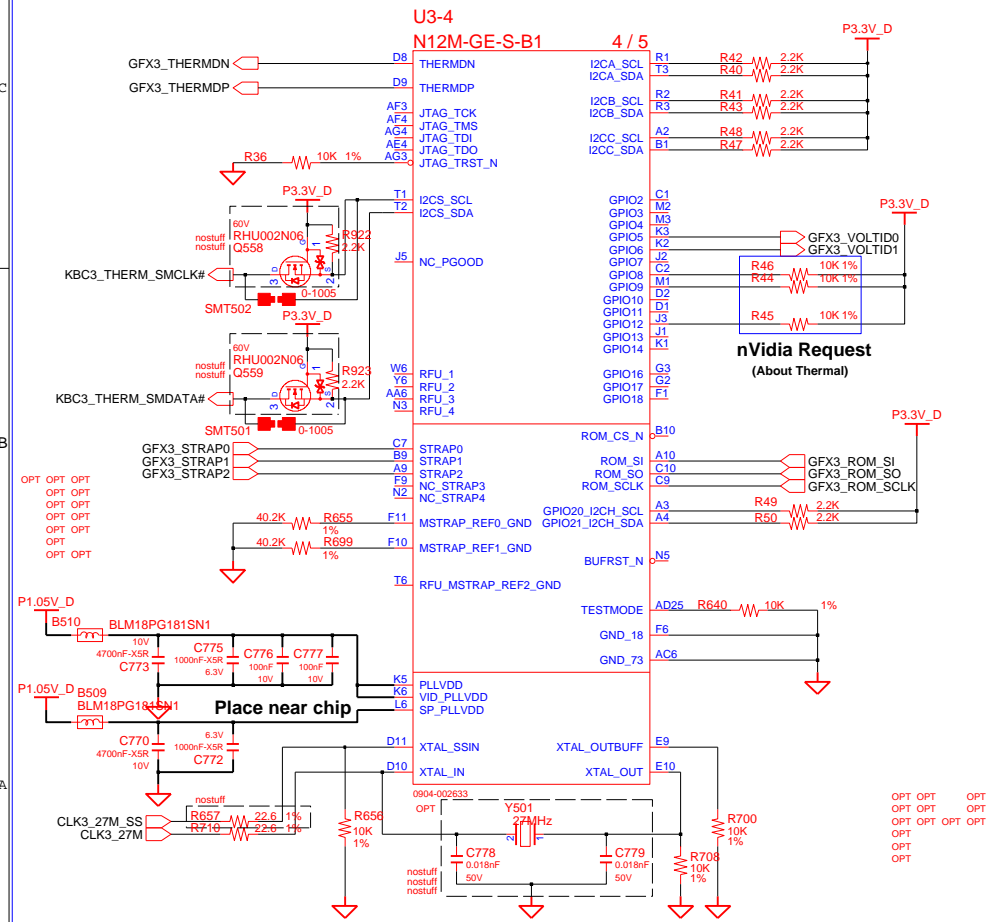
**U3-5
N12M-GE-S-B1**

	Bit3	Bit2	Bit1	Bit0
ROMSO	0	0	0	27M
SCLK	1	0	1	0
SI	0	0	1	1
Strap2	0	0	0	0
Strap1	1	1	1	0
Strap0	1	1	1	1

- B2 GND_1
- B5 GND_2
- B8 GND_3
- B11 GND_4
- B17 GND_5
- B20 GND_6
- B23 GND_7
- B26 GND_8
- E2 GND_9
- E5 GND_10
- E8 GND_11
- E11 GND_12
- E17 GND_13
- E20 GND_14
- E23 GND_15
- E26 GND_16
- H2 GND_17
- H5 GND_19
- J11 GND_20
- J14 GND_21
- J17 GND_22
- K9 GND_23
- K19 GND_24
- L2 GND_25
- L5 GND_26
- L11 GND_27
- L12 GND_28
- L13 GND_29
- L14 GND_30
- L15 GND_31
- L16 GND_32
- L17 GND_33
- M12 GND_34
- M13 GND_35
- M14 GND_36
- M15 GND_37
- M16 GND_38
- P2 GND_39
- P5 GND_40
- P9 GND_41
- P16 GND_42
- P23 GND_43
- P26 GND_44
- P28 GND_45
- T12 GND_46
- T13 GND_47
- T14 GND_48
- T15 GND_49
- T16 GND_50
- U2 GND_51
- U5 GND_52
- U11 GND_53
- U12 GND_54
- U13 GND_55
- U14 GND_56
- U15 GND_57
- U17 GND_58
- U23 GND_59
- U26 GND_60
- V9 GND_61
- V19 GND_62
- W11 GND_63
- W14 GND_64
- W17 GND_65
- Y2 GND_66
- Y5 GND_67
- Y23 GND_68
- Y26 GND_69
- Y28 GND_70
- AC2 GND_71
- AC5 GND_72
- AC8 GND_74
- AC11 GND_75
- AC14 GND_76
- AC17 GND_77
- AC20 GND_78
- AC23 GND_79
- AC26 GND_80
- AF2 GND_81
- AF5 GND_82
- AF8 GND_83
- AF11 GND_84
- AF14 GND_85
- AF17 GND_86
- AF20 GND_87
- AF23 GND_88
- AF26 GND_89

5 / 5

**U3-4
N12M-GE-S-B1**



Function Straps

GFX3_STRAP0	R703	30K 1%	R702	15K 1%	1111	User Strap EDID is used Customer defined 1024 x 768 1280 x 1024	1000 - 1100 0000 - 0001 0010
GFX3_STRAP1	R705	20K 1%	R704	15K 1%	1110	GPU PCIe Interface Strap GB1	0110 0000
GFX3_ROM_SO	R659	4.99K			1111	Int PCIe Clock - 277MHz(default) Aperture Size - 256MB(default) I2C Address of GPU - 0x9E(default) Device Type - 3D Device(Optimus)	
GFX3_ROM_SI	GMEM_1G	R715	20K 1%		0011	Memory Configuration :	64M x 16 gDDR3 128M x 16 gDDR3

Chip Select Straps (N12M-GB1)

GFX3_ROM_SCLK	R706	15K 1%
GFX3_STRAP2	R713	15K 1%

GFX3_ROM_SCLK	N12M-GE	15K PU
GFX3_STRAP2	N12M-GE	15K PU

N12M-GE : 0x0A7A (1010 / 1010)

Chip Select Straps (N11M-GB1)

GFX3_ROM_SCLK	R707	15K 1%
GFX3_STRAP2	R718	4.99K 1%

GFX3_ROM_SCLK	N11M-GE2	15K PU
GFX3_STRAP2	N11M-GE2	5K PD

N11M-GE2 : 0x0A70 (1010 / 0000)

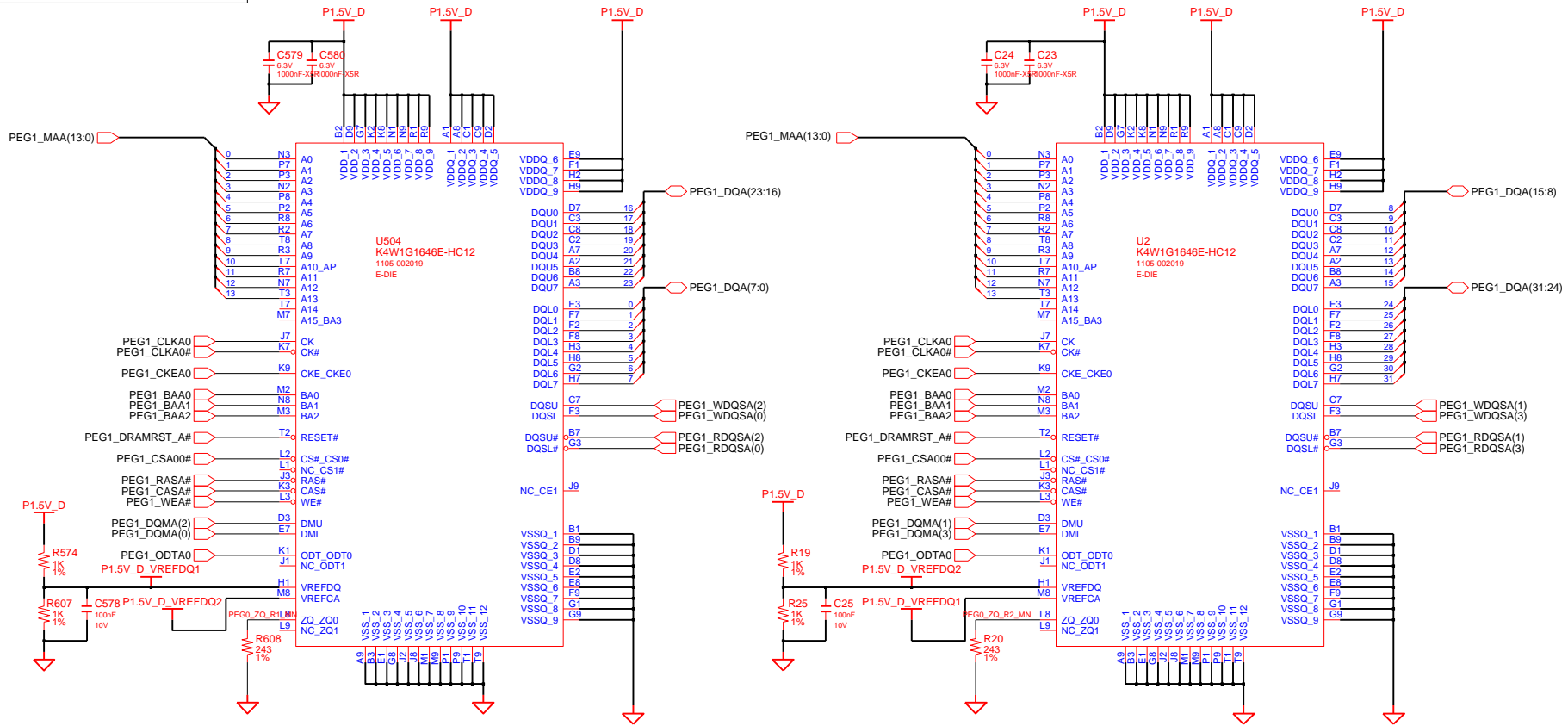
DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		N12M_40NM(4/4)	
APPROVAL	BL LEE	REV	rev. 1.0		N12M_40NM(4/4)	
MODULE CODE		LAST EDIT				

November 22, 2010 15:53:34 PM PAGE 25 OF 52

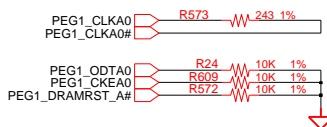
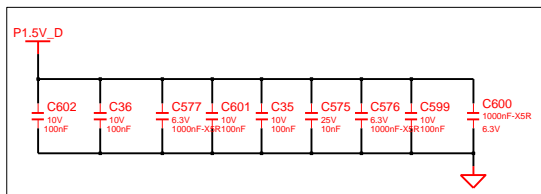
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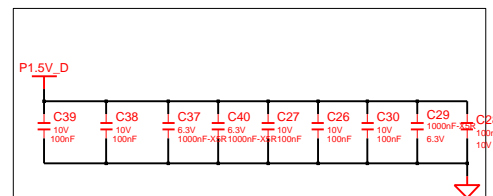
A-Channel #0



Place near to VDDQ



Place near to VDDQ



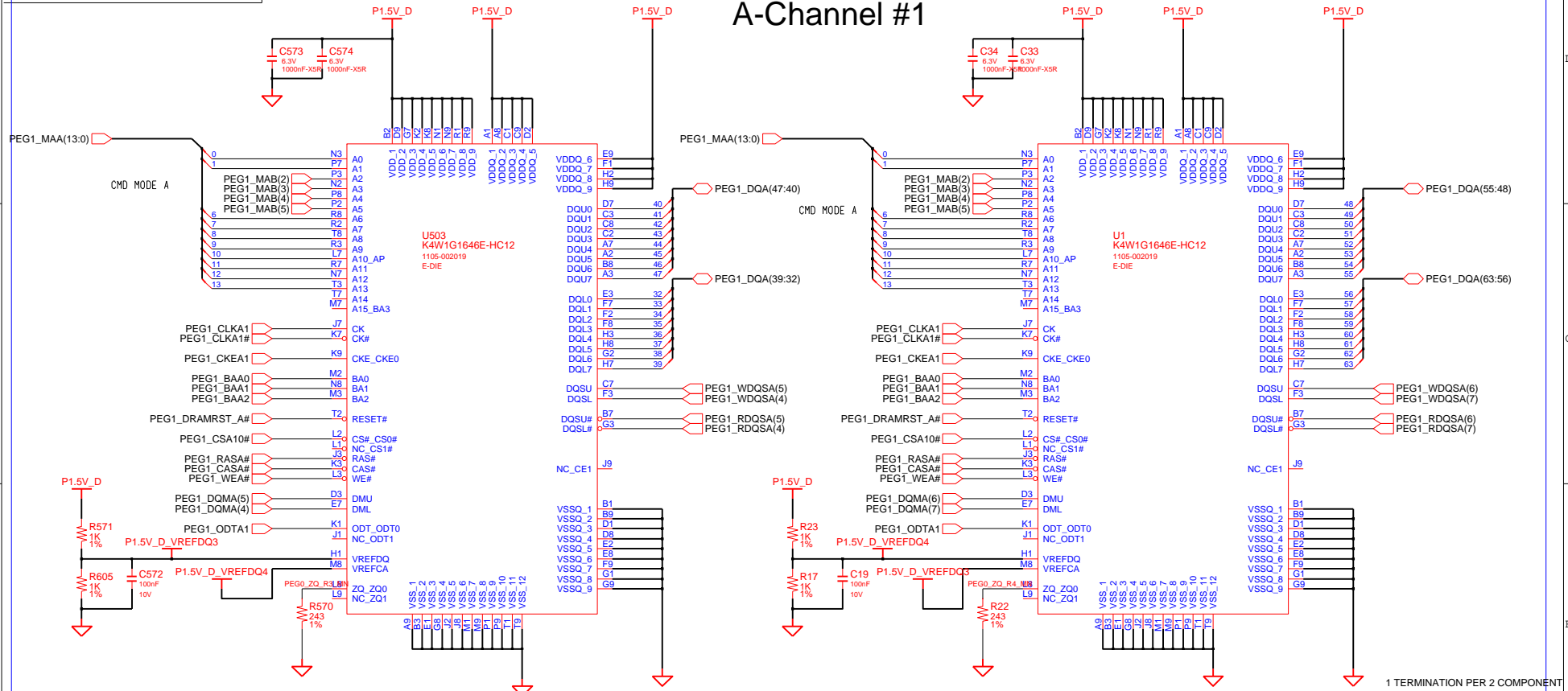
OPT OPT
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DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	GRAPHIC_MEM A#0	PART NO.	
APPROVAL	BL LEE	REV	rev. 1.0	GRAPHIC_MEM A#0	BA41-01432A	
MODULE CODE		LAST EDIT		November 22, 2010 15:53:34 PM	PAGE	26 OF 52

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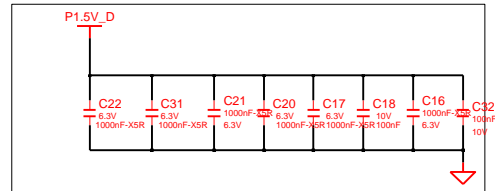
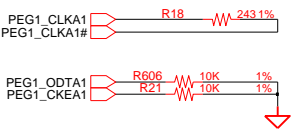
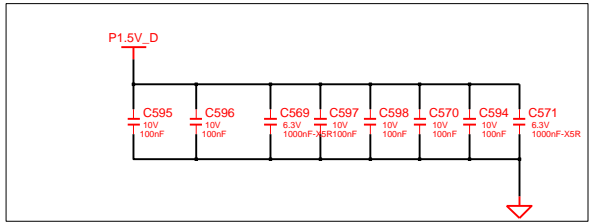
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A-Channel #1



Place near to VDDQ

Place near to VDDQ



1 TERMINATION PER 2 COMPONENT

OPT
OPT
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OPT OPT
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DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		GRAPHIC_MEM A#1	
APPROVAL	BL LEE	REV	rev. 1.0		GRAPHIC_MEM A#1	PART NO. BA41-01432A
MODULE CODE		LAST EDIT				November 22, 2010 15:53:34 PM
						PAGE 27 OF 52

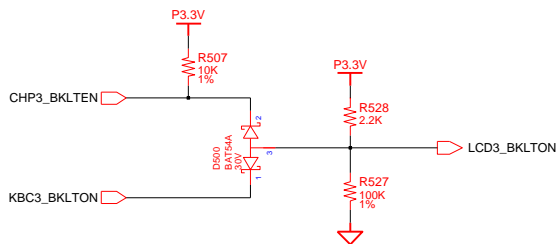
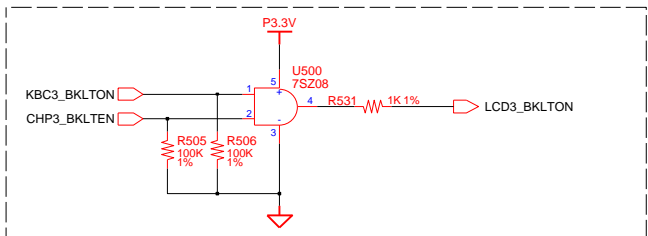
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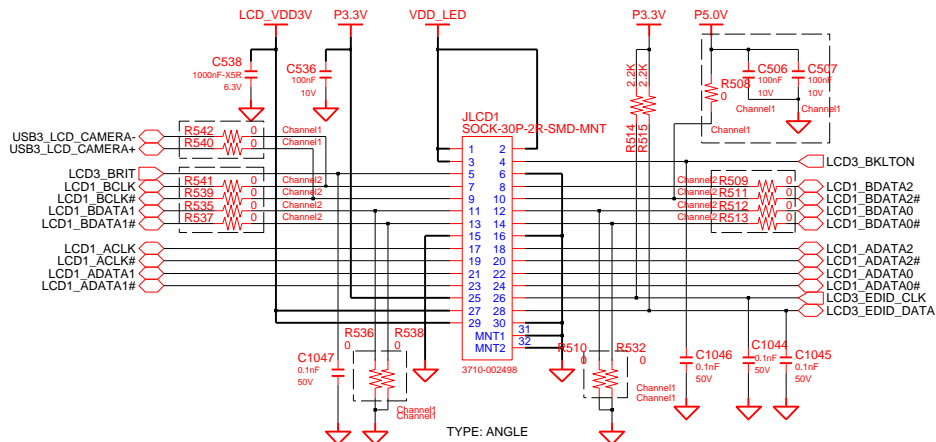
LVDS LOGIC

1Ch. LCD Connector + CAMERA

Backlight On

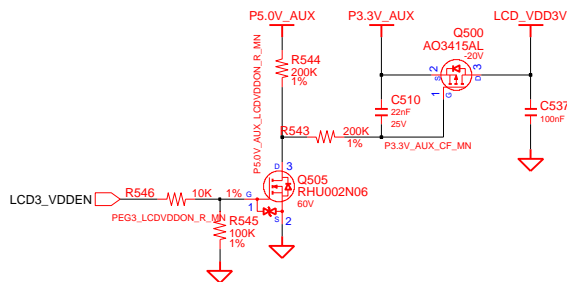


NOTE : Place R20 close to connector to minimize stub

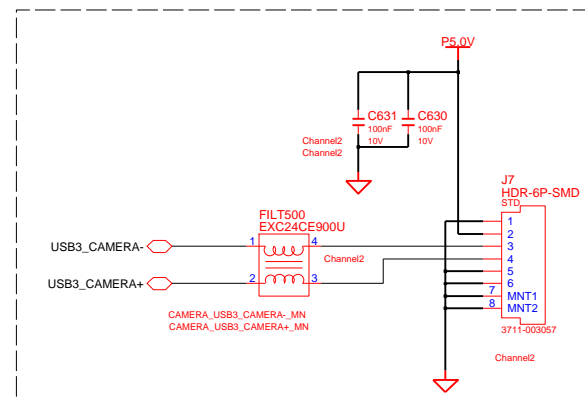
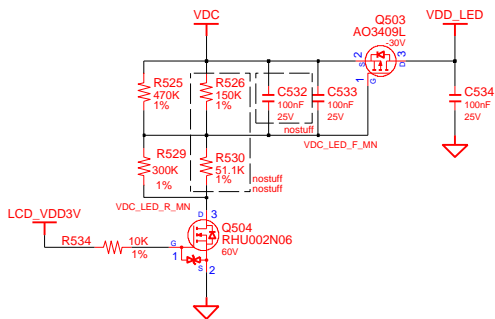


CAMERA CONN FOR 2ch LVDS

LCD Power



LED Power

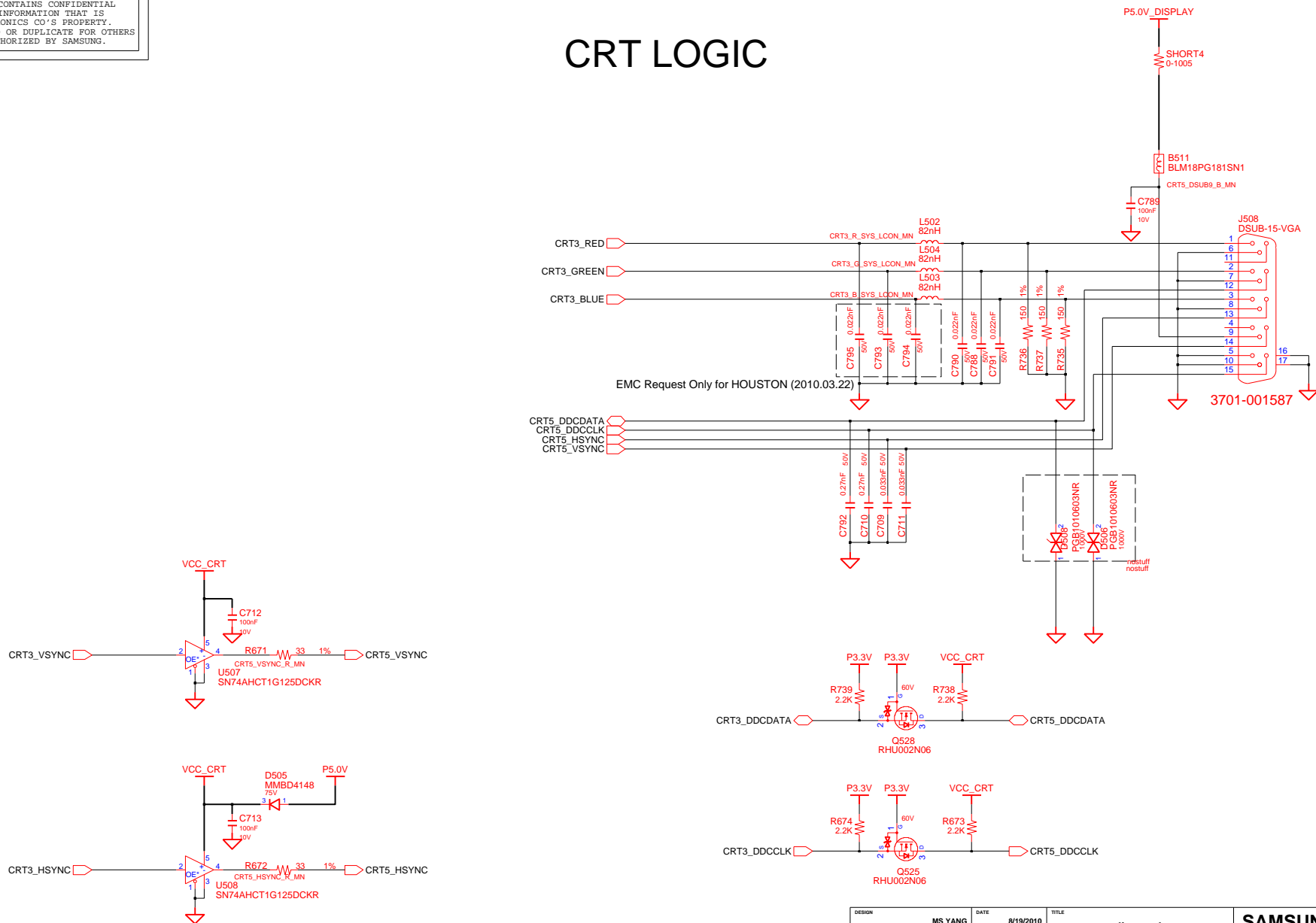


DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV.STEP	PR	GRAPHICS_IF	PART NO.	
APPROVAL	BL LEE	REV	rev. 1.0	LVDS	BA41-01432A	
MODULE CODE		LAST EDIT		November 22, 2010 15:53:34 PM	PAGE 28 OF 52	

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CRT LOGIC



DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		GRAPHICS_IF	
APPROVAL	BL LEE	REV	rev. 1.0		CRT	PART NO. BA41-01432A
MODULE CODE		LAST EDIT		November 22, 2010 15:53:34 PM	PAGE	29 OF 52

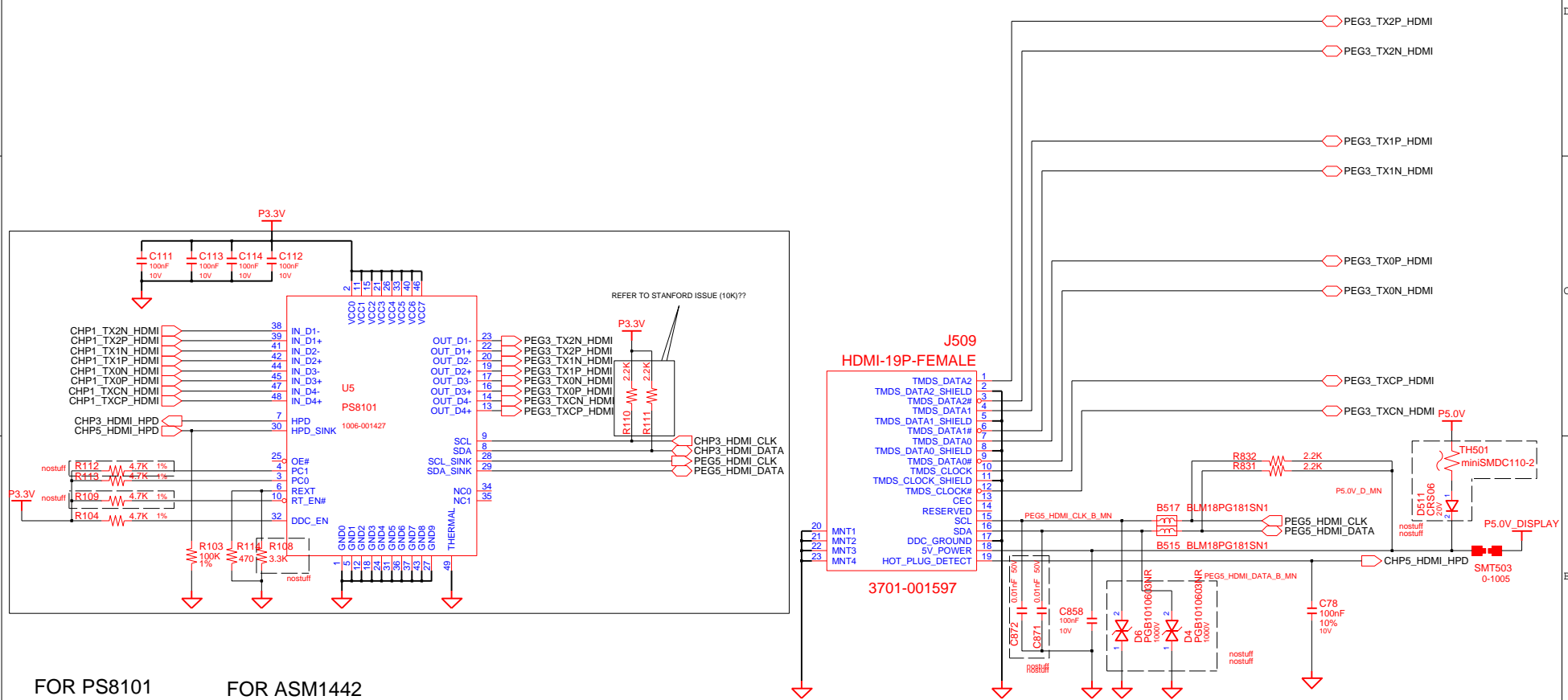
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After checking, Houston need to use CMC for each signal.

(EMC request at 2010.04.15)

HDMI Graphic



FOR PS8101

PC1	PC0
00	8dB
01	4dB
10	12dB
11	0dB

FOR ASM1442

CG_2	CG_1	CG_0	Swing	Pre-amp	Slew rate
0	0	0	450mV	0dB	0dB
0	0	1	490mV	0dB	-3dB
0	1	0	450mV	0dB	-3dB
0	1	1	460mV	0dB	-4dB
1	0	0	340mV	0dB	0dB
1	0	1	400mV	2dB	0dB
1	1	0	400mV	2dB	0dB
1	1	1	420mV	0dB	0dB

HDMI Level Shifter	REXT(Pin6)	PC1_CG0(Pin3)	PC1_CG1(Pin4)	RT_EN#_CG2(Pin10)	NC_EQ_0(Pin34)	NC_EQ_1(Pin35)	Note	4-6 CODE
PS8101	499 phm	stuff	nostuff	nostuff	NC	NC		1006-001427
ASM1442	3.4K(3.24-3.3K)	nostuff	nostuff	nostuff	nostuff	nostuff	Internal PU/PD exist CGs nostuff is 450mV swing	1006-001471

FOR ASM1442

EQ_1	EQ_0	Equalization
0	0	12dB
0	1	9dB
1	0	6dB
1	1	3dB

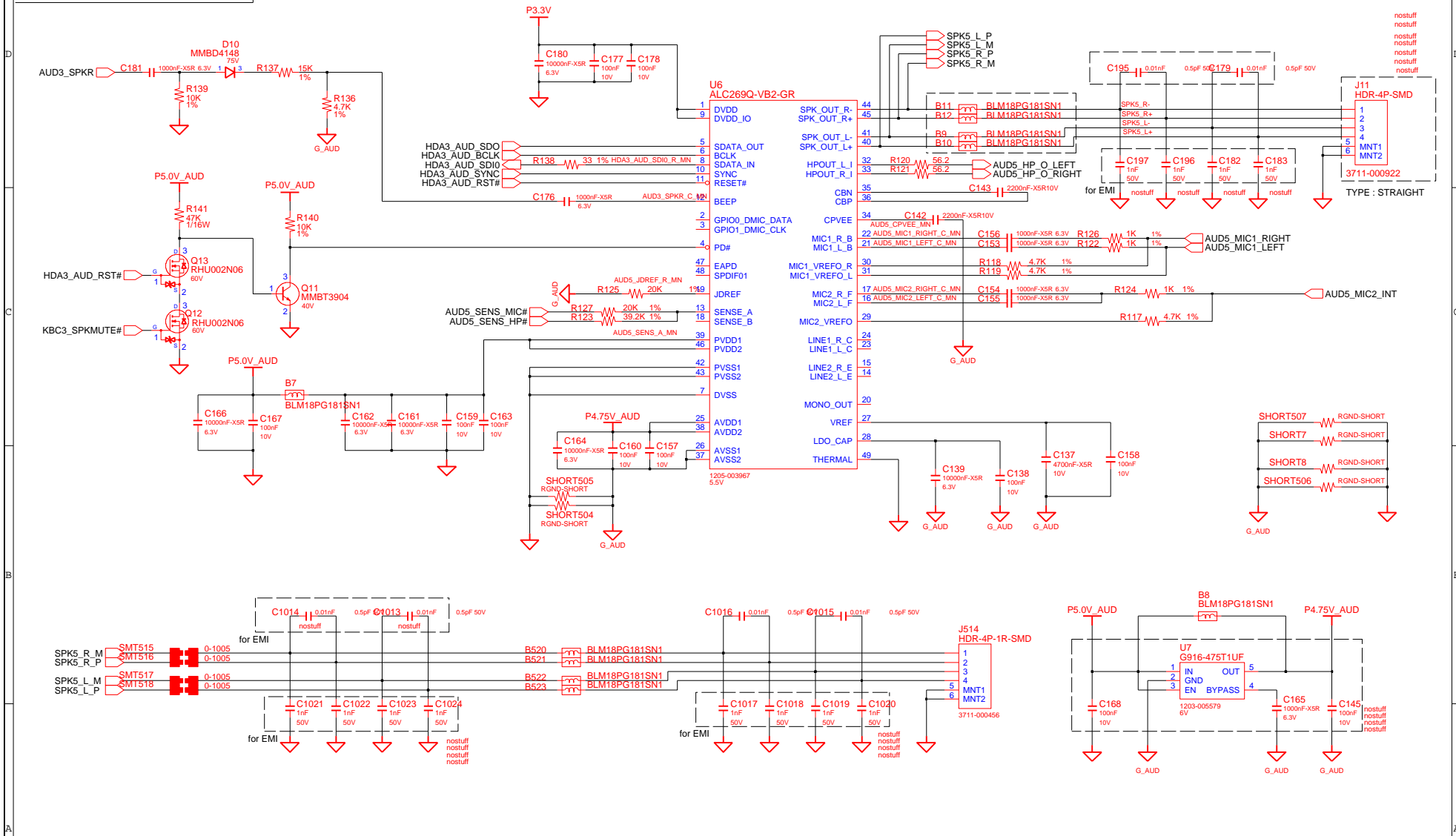
Internal Default Value

N10x/N11x_40nm HDMI/DP/LVDS support only 3.3V voltage tolerance

DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		GRAPHICS_IF	
APPROVAL	BL LEE	REV	rev. 1.0		HDMI	PART NO. BA41-01432A
MODULE CODE		LAST EDIT		November 22, 2010 15:53:34 PM	PAGE	30 OF 52

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HD AUDIO

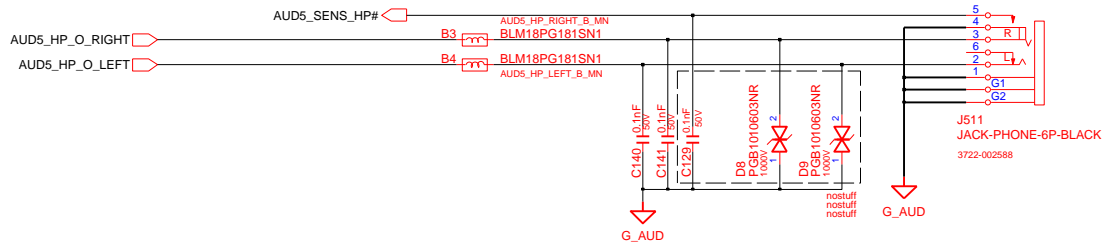


DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		HDA_CODEC SUB	
APPROVAL	BL LEE	REV	rev. 1.0		AUDIO CODEC ALC269 SUB	PART NO. BA41-01432A
MODULE CODE		LAST EDIT			November 22, 2010 15:53:34 PM	PAGE 31 OF 52

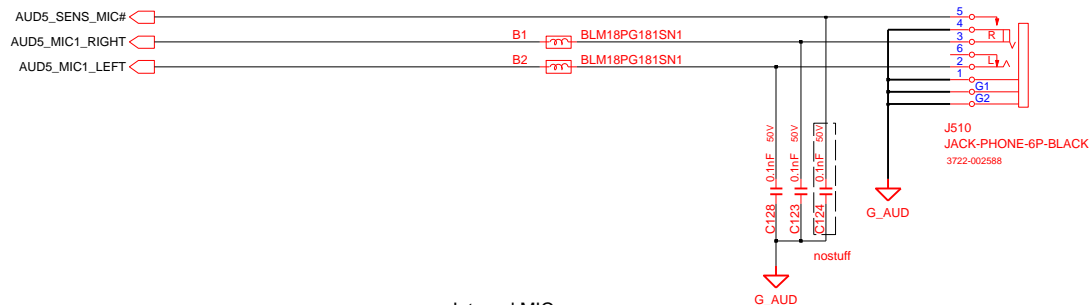
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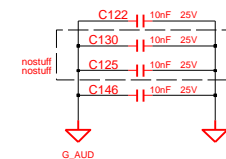
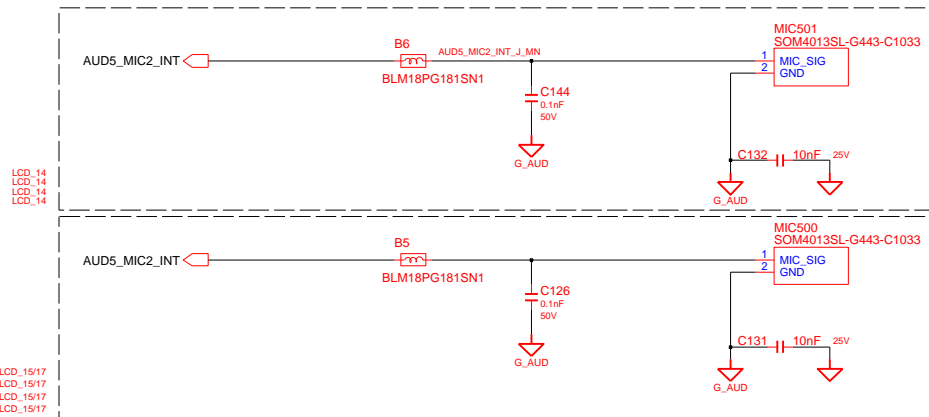
HEADPHONE



MIC JACK



Internal MIC

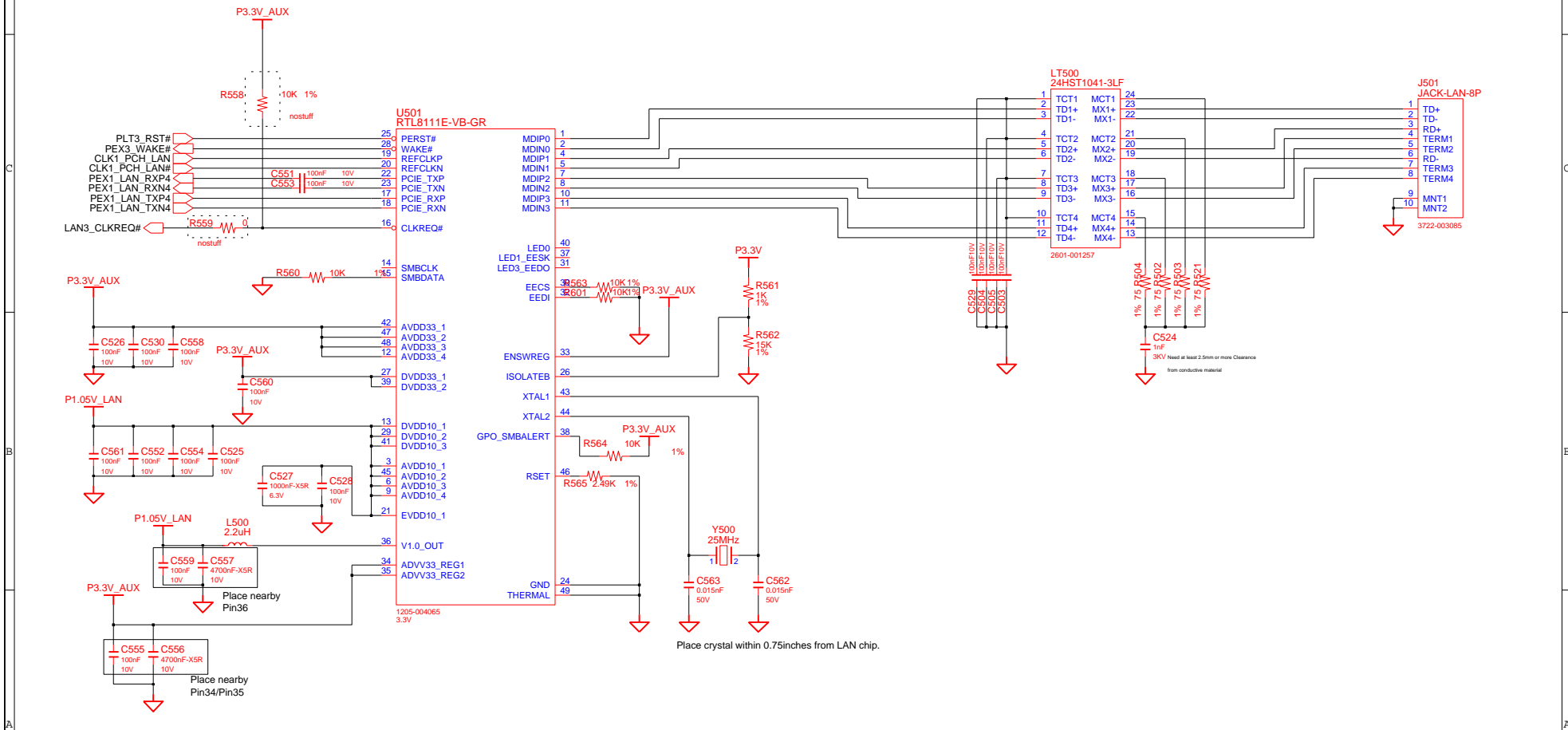


DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV.STEP	PR	HDA_CODEC & LED SUB		
APPROVAL	BL LEE	REV	rev. 1.0	AUDIO JACK & LED SUB	PART NO.	BA41-01432A
MODULE CODE		LAST EDIT		November 22, 2010 15:53:34 PM	PAGE	32 OF 52

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Reatek RTL8111E



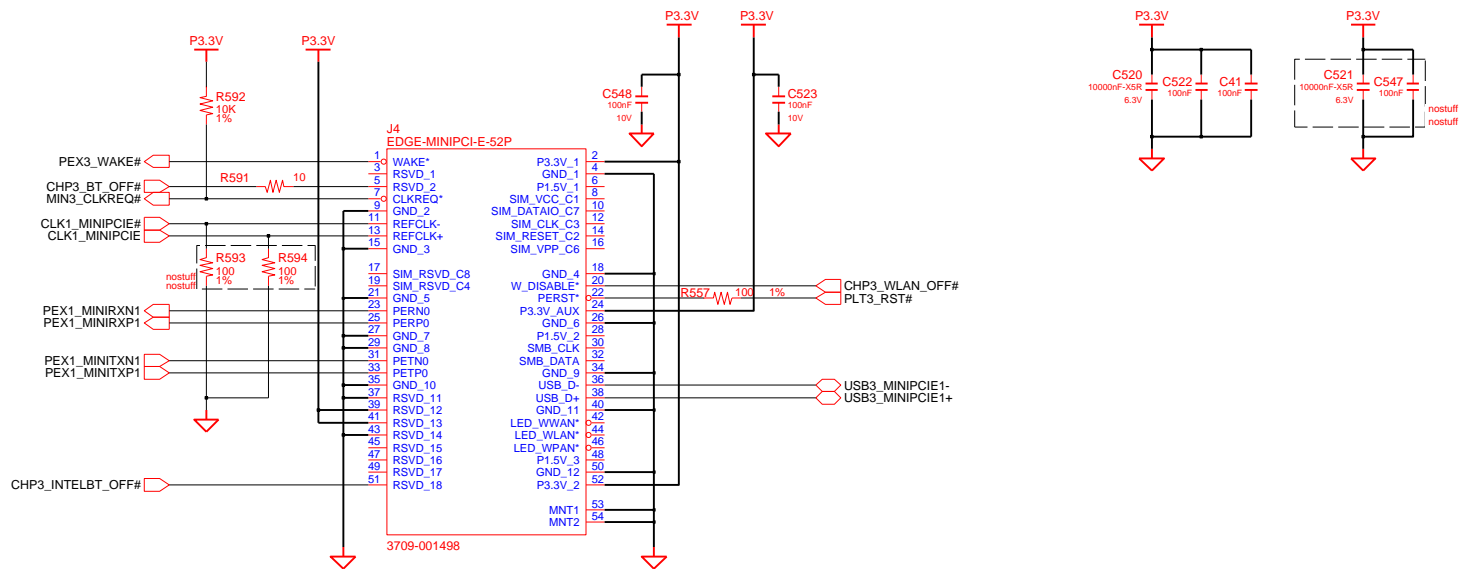
DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L LAN	SAMSUNG ELECTRONICS	
CHECK	MK KIM	DEV. STEP	PR		LAN_Realttek_RTL8111		
APPROVAL	BL LEE	REV	rev. 1.0			PART NO. BA41-01432A	
MODULE CODE		LAST EDIT				November 22, 2010 15:53:34 PM	
						PAGE	33
						OF	52

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WLAN

Height : 4.0mm



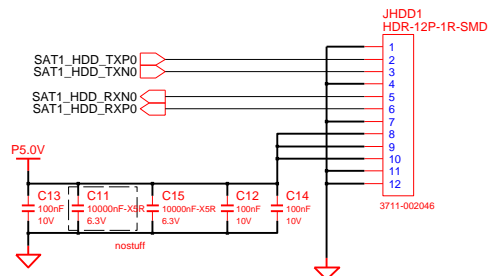
DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV.STEP	PR	WLAN	WLAN	
APPROVAL	BL LEE	REV	rev. 1.0	WLAN	WLAN	PART NO. BA41-01432A
MODULE CODE		LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	34	OF 52

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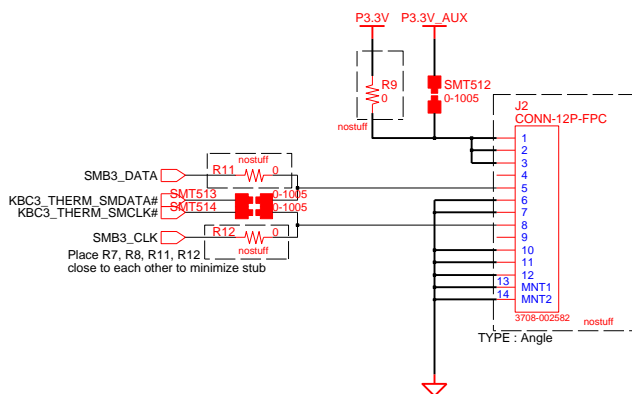
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SATA HDD CONN

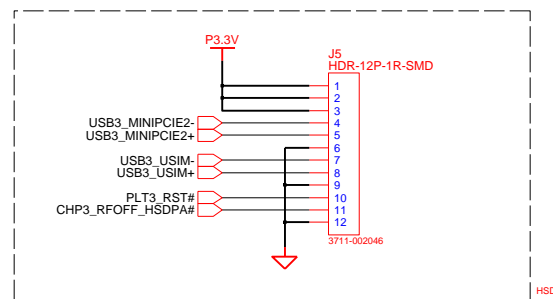
Cable Connector Type



FOR IR



MAIN to HSDPA SUB

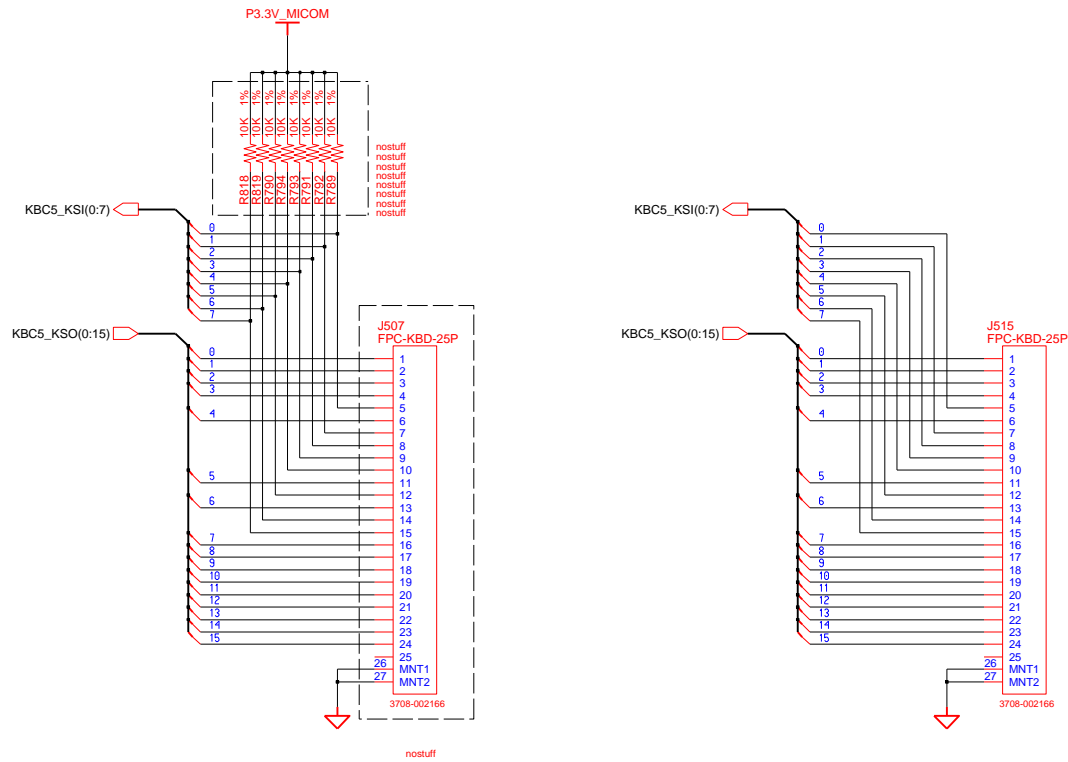


DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	SATA HDD & IR		
APPROVAL	BL LEE	REV	rev. 1.0	SATA HDD & IR	PART NO.	BA41-01432A
MODULE CODE		LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	35	OF 52

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Micom Glue Logic

KEYBOARD



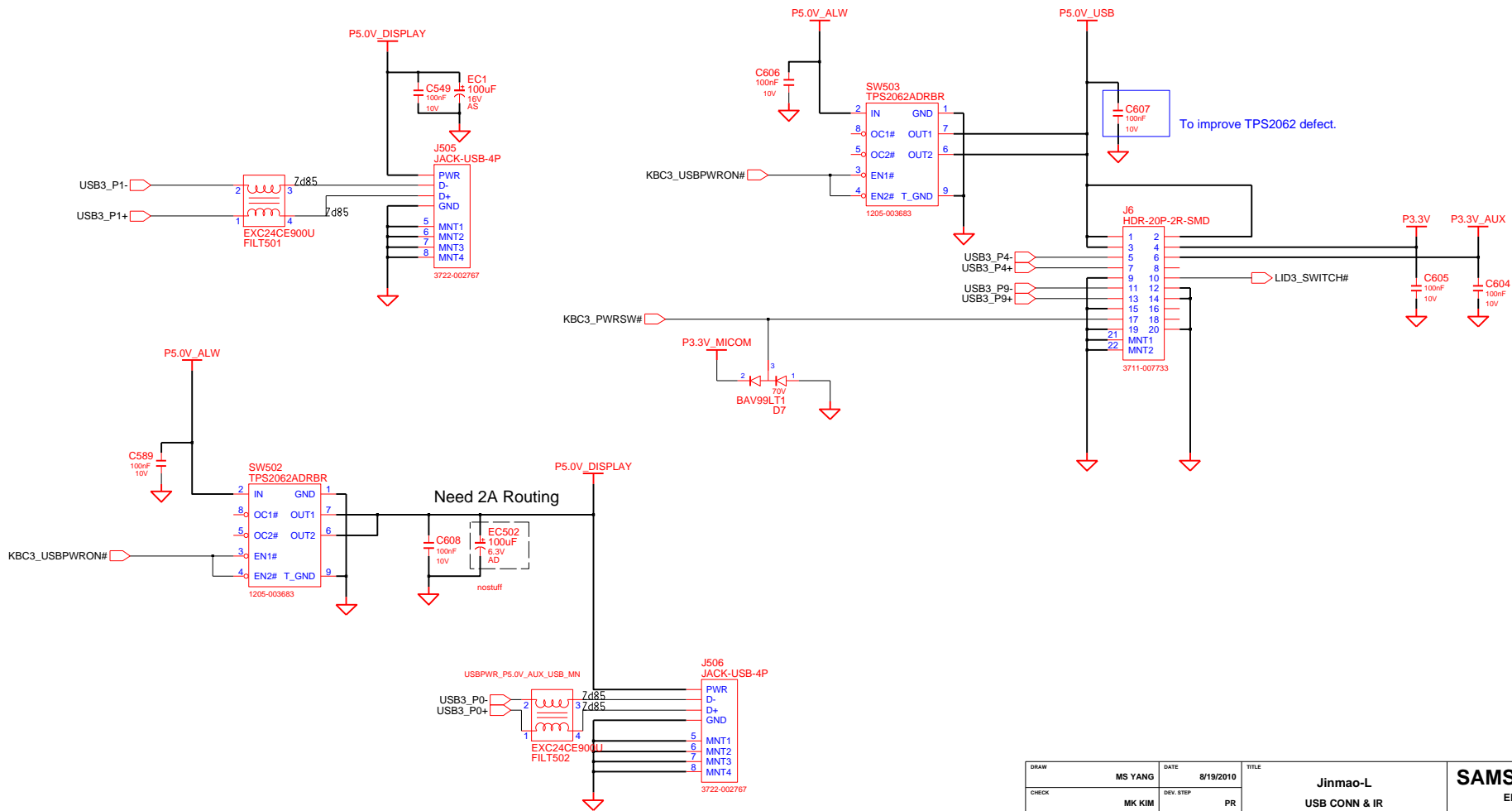
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CHECK	MK KIM	DEV. STEP	PR	MICOM GLUE LOGIC	PART NO.	
APPROVAL	BL LEE	REV	rev. 1.0	MICOM GLUE LOGIC	BA41-01432A	
MODULE CODE	LAST EDIT	November 22, 2010 15:53:34 PM		PAGE	37 OF 52	

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POWER S/W SUB B'D CONNECTOR

MAIN to SUB

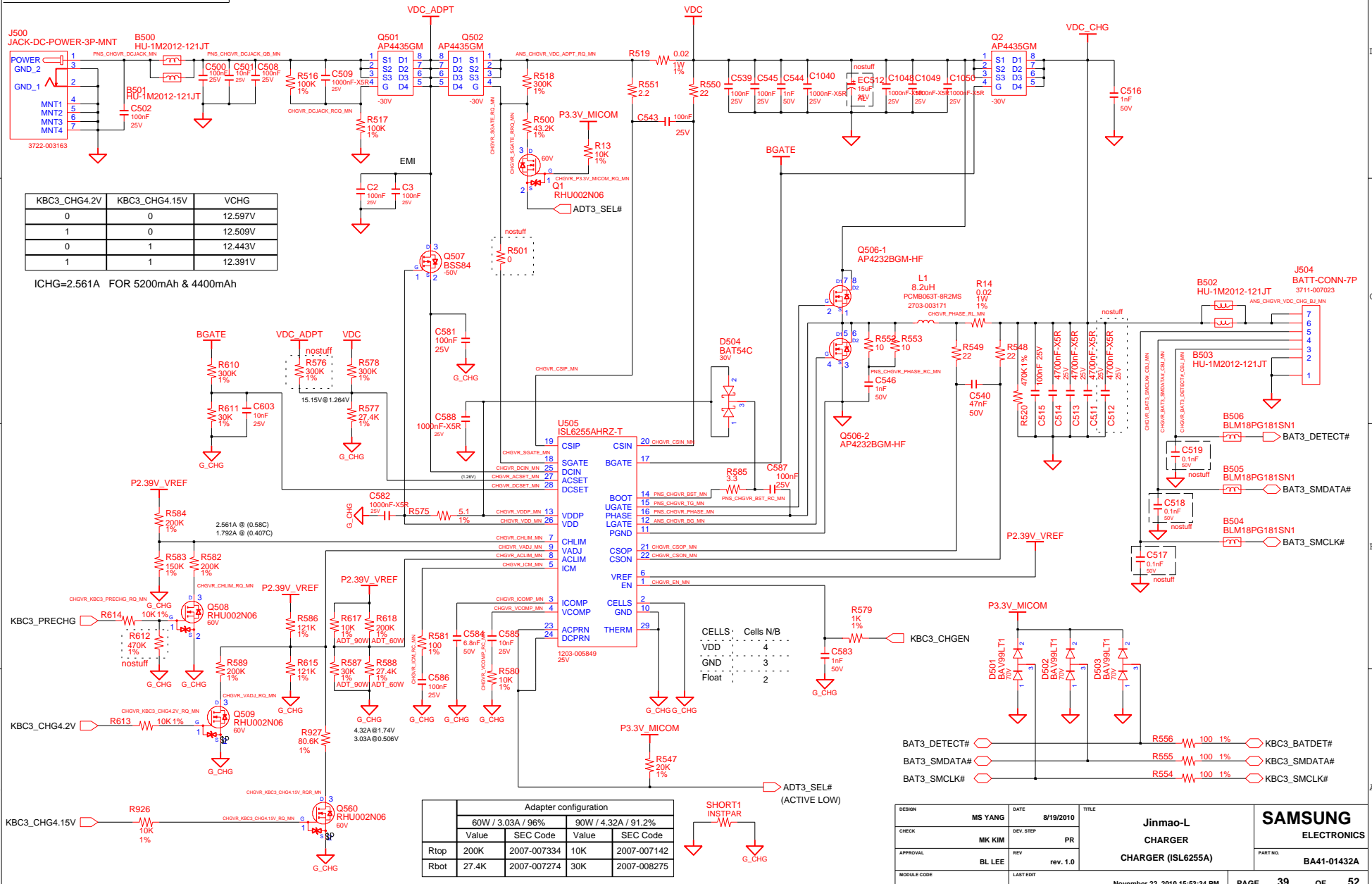


DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	USB CONN & IR	PART NO.	
APPROVAL	BL LEE	REV	rev. 1.0	USB & IR	BA41-01432A	
MODULE CODE		LAST EDIT		November 22, 2010 15:53:34 PM	PAGE	38 OF 52

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CHARGER & POWER MANAGEMENT



KBC3_CHG4.2V	KBC3_CHG4.15V	VCHG
0	0	12.597V
1	0	12.509V
0	1	12.443V
1	1	12.391V

ICHG=2.561A FOR 5200mAh & 4400mAh

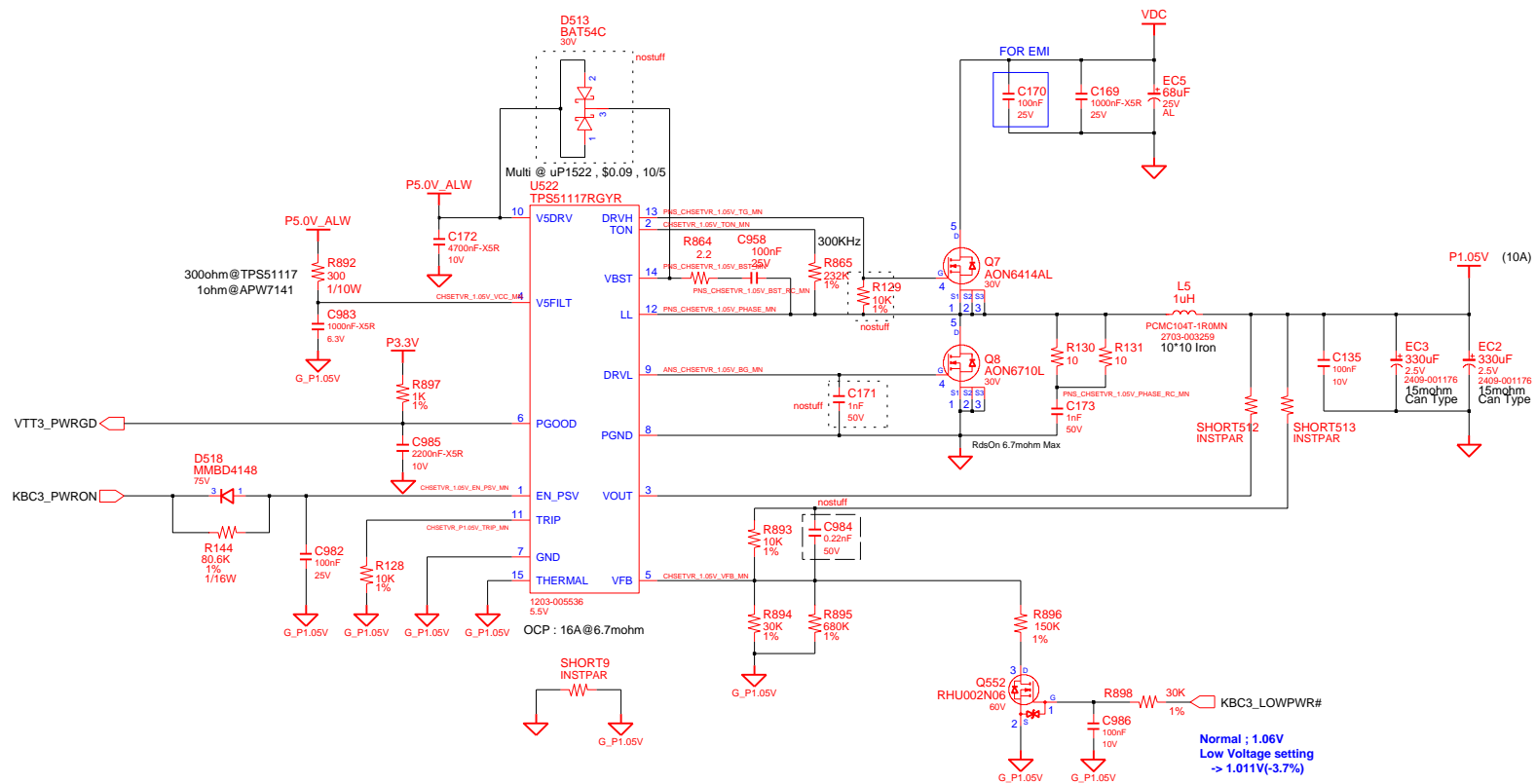
Adapter configuration			
	60W / 3.03A / 96%	90W / 4.32A / 91.2%	
Value	SEC Code	Value	SEC Code
Rtop	200K 2007-007334	10K 2007-007142	
Rbot	27.4K 2007-007274	30K 2007-008275	

DESIGN	MS YANG	DATE	8/19/2010	TITLE
CHECK	MK KIM	DEV. STEP	PR	Jinmao-L
APPROVAL	BL LEE	REV	rev. 1.0	CHARGER
MODULE CODE		LAST EDIT	November 22, 2010 15:53:34 PM	CHARGER (ISL6255A)
				SAMSUNG
				ELECTRONICS
				PART NO: BA41-01432A
				PAGE 39 OF 52

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CHIPSET POWER(P1.05V)

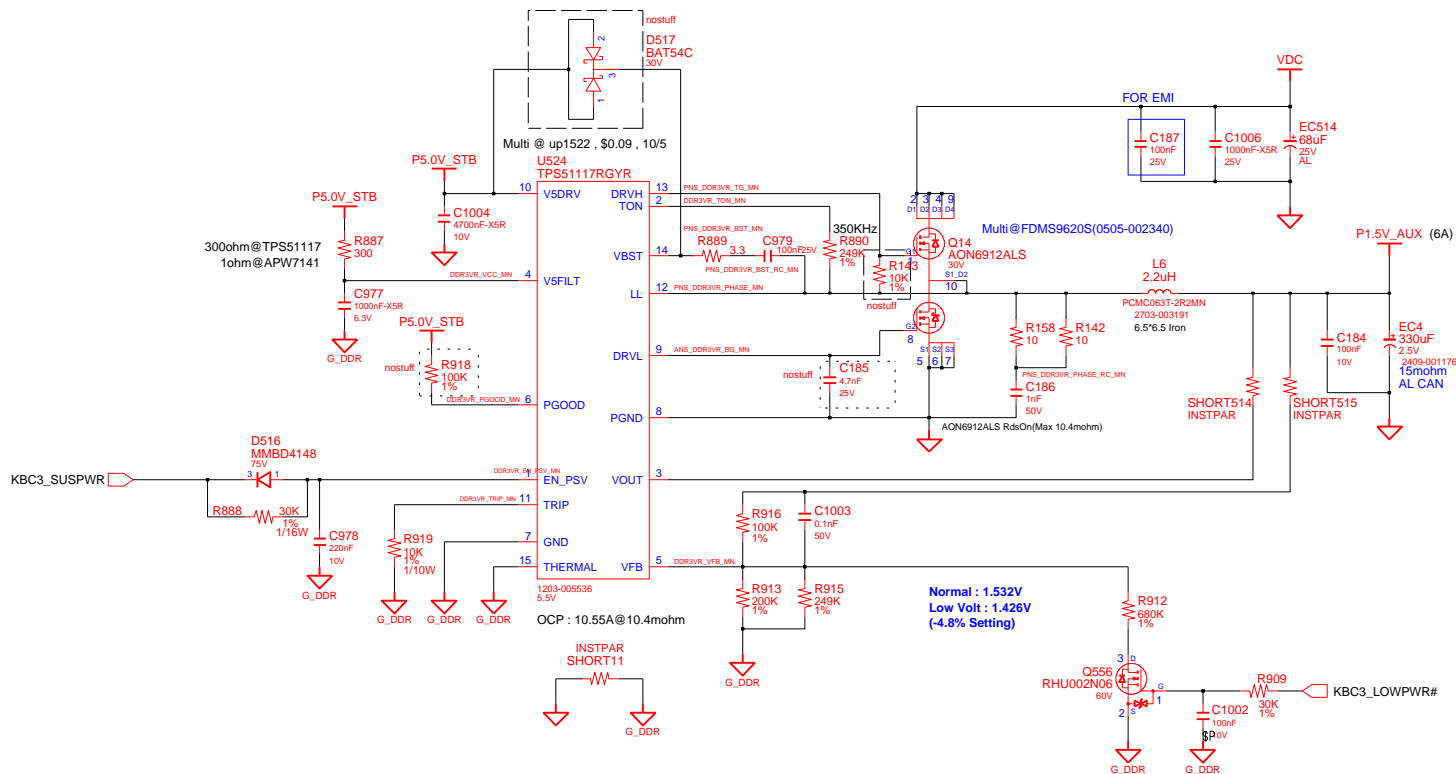


DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		P1.05V	
APPROVAL	BL LEE	REV	rev. 1.0		TI TPS51117R	PART NO. BA41-01432A
MODULE CODE		LAST EDIT				
November 22, 2010 15:53:34 PM						PAGE 41 OF 52

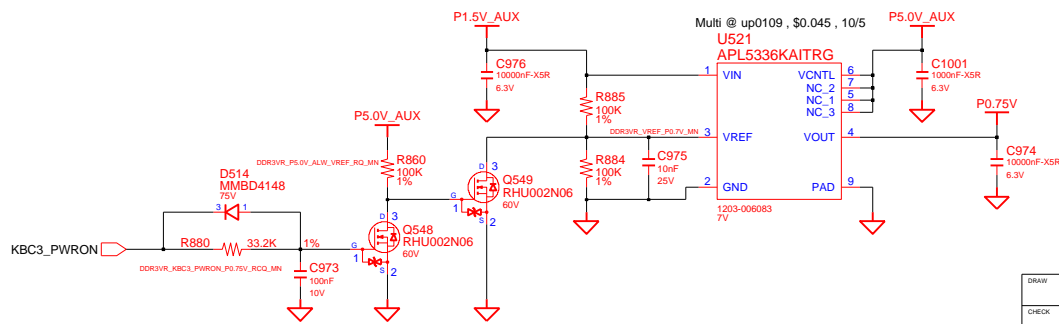
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DDR3 Power



DDR3 VTT(0.75V)



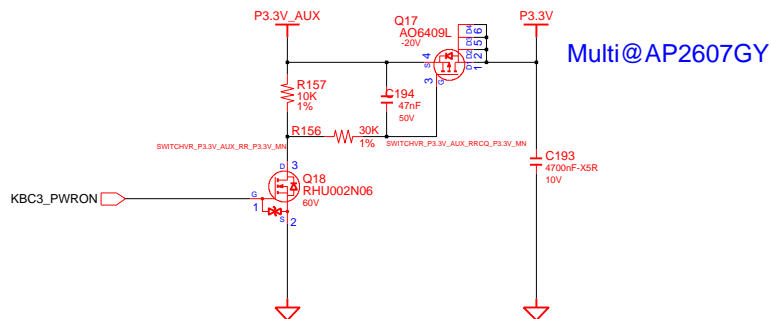
DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR		PWR MEMORY	
APPROVAL	BL LEE	REV	rev. 1.0		RT8207	PART NO. BA41-01432A
MODULE CODE	undefined	LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	42	OF 52

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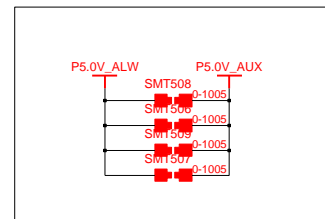
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Switched Power

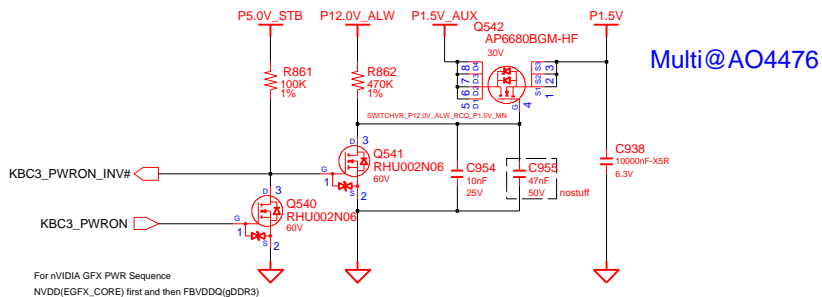
Switched Power On (P3.3V)



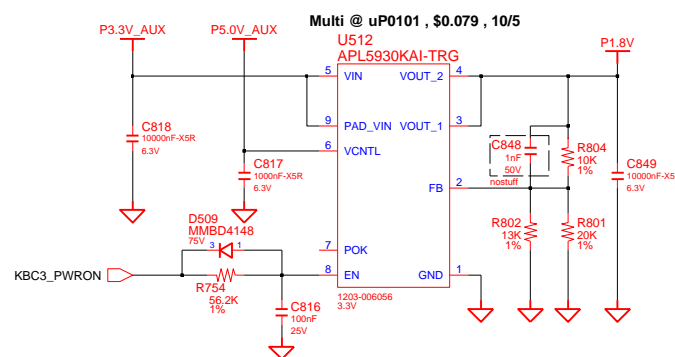
P5.0V_AUX



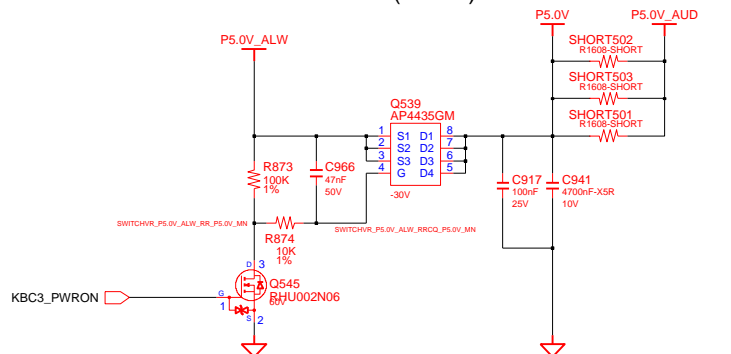
Switched Power On (P1.5V)



P1.8V(LDO)



Switched Power On (P5.0V)

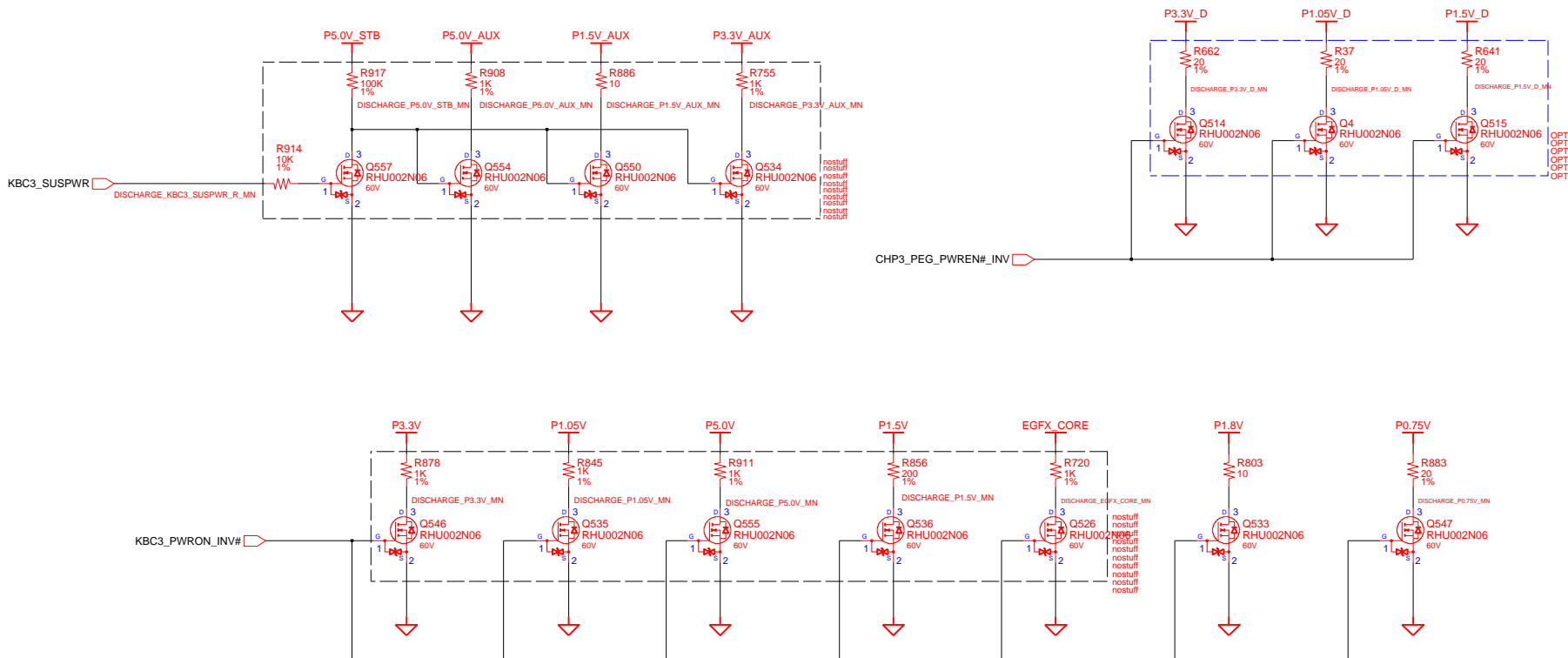


DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	PWR_MV_SWITCHED		
APPROVAL	BL LEE	REV	rev. 1.0	SWITCHED POWER		PART NO. BA41-01432A
MODULE CODE		LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	46	OF 52

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POWER DISCHARGER

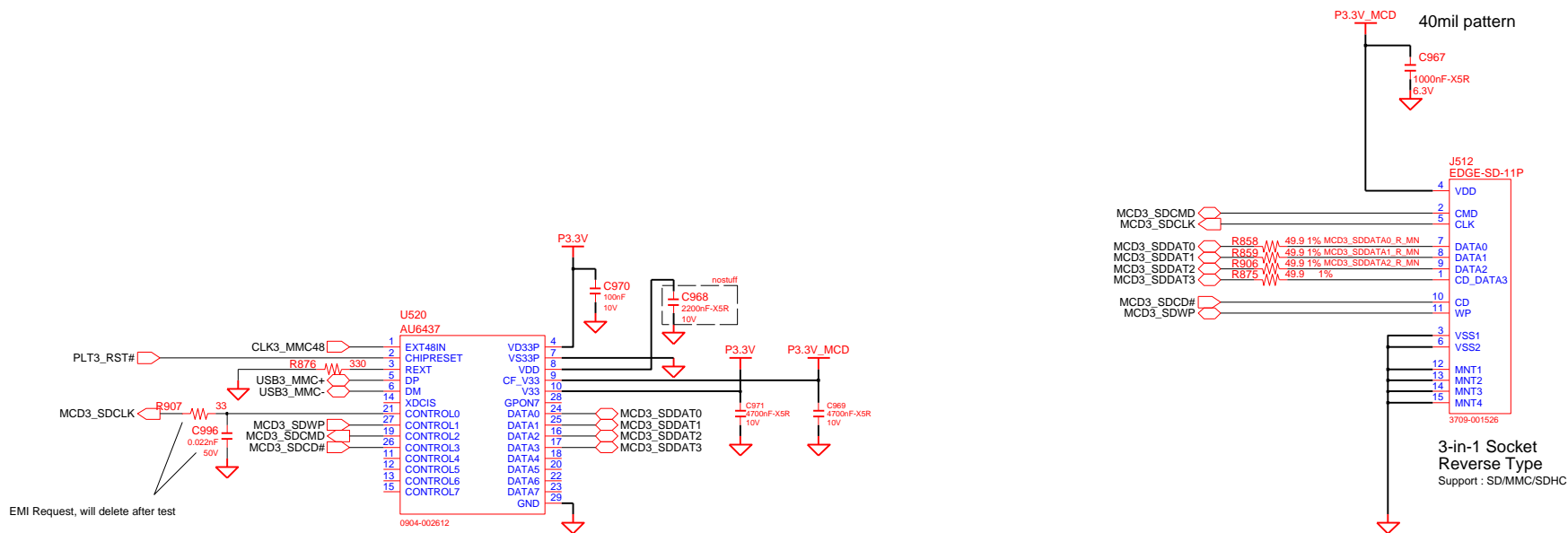


DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	PWR_MV_DISCHARGER		
APPROVAL	BL LEE	REV	rev. 1.0	DISCHARGING LOGIC		
MODULE CODE	undefined	LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	47	OF 52

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AU6437 (4-in-1)



EMI Request, will delete after test

0904-002612

DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS PART NO. BA41-01432A
CHECK	MK KIM	DEV. STEP	PR		AU 6437	
APPROVAL	BL LEE	REV	rev. 1.0		AU 6437	
MODULE CODE		LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	48 OF 52	

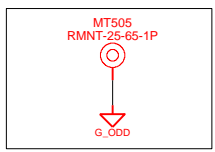
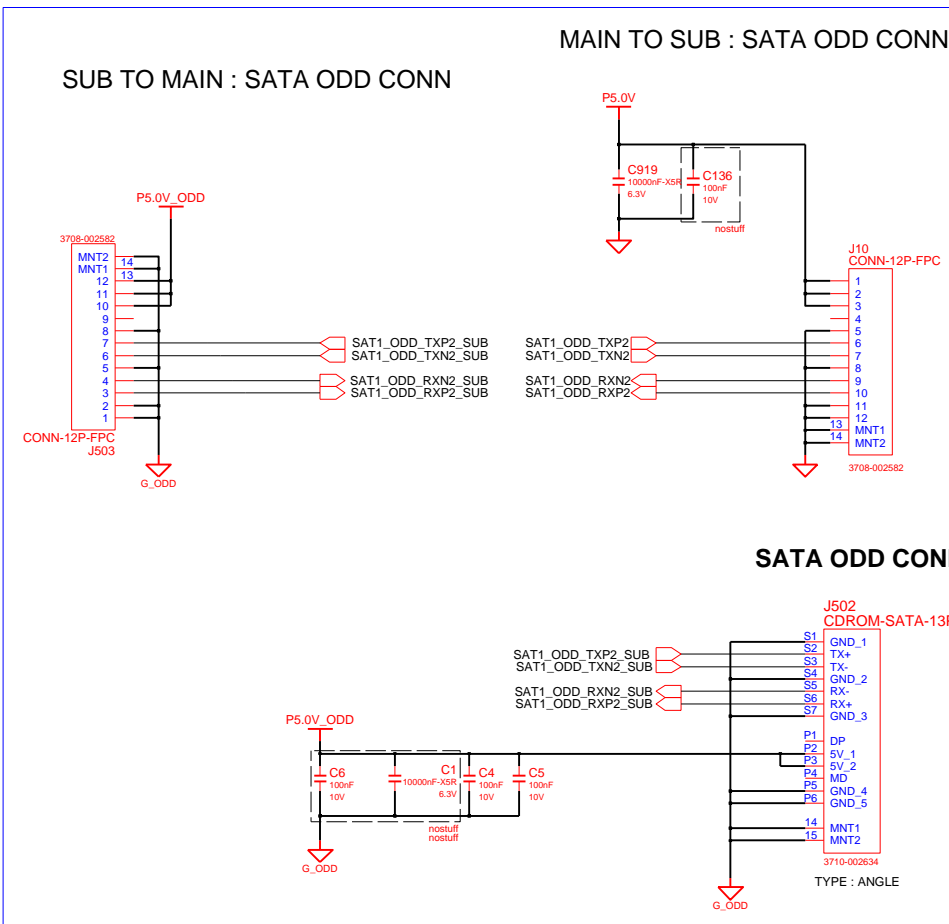
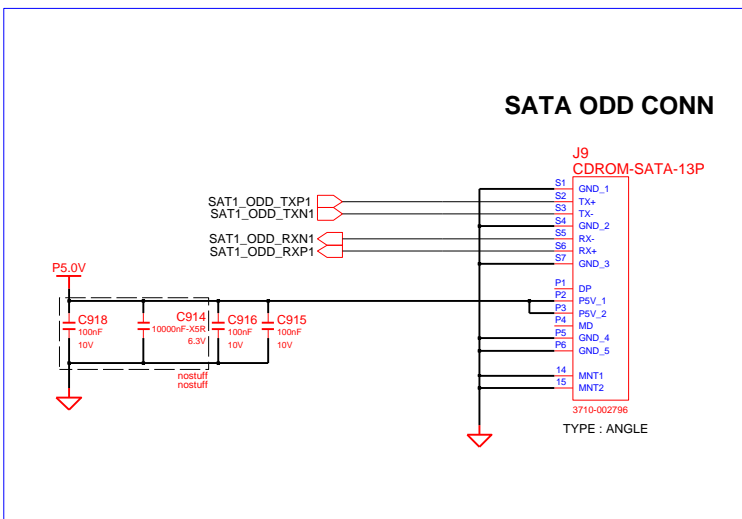
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SATA ODD SUB BOARD

15.6" & 17.3"

14"



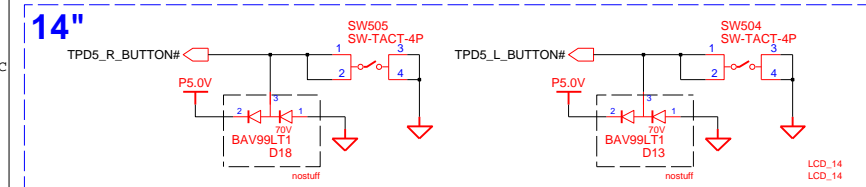
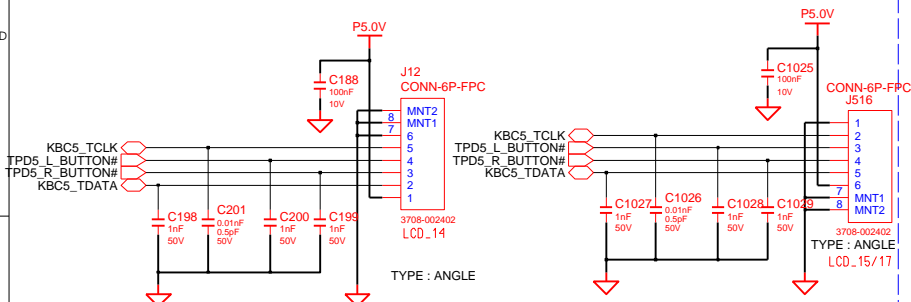
ODD sub board mount hole

DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L SATA ODD	SAMSUNG ELECTRONICS	
CHECK	MK KIM	DEV.STEP	PR		SATA ODD		
APPROVAL	BL LEE	REV	rev. 1.0		SATA ODD	PART NO. BA41-01432A	
MODULE CODE		LAST EDIT				November 22, 2010 15:53:34 PM	
						PAGE	49 OF 52

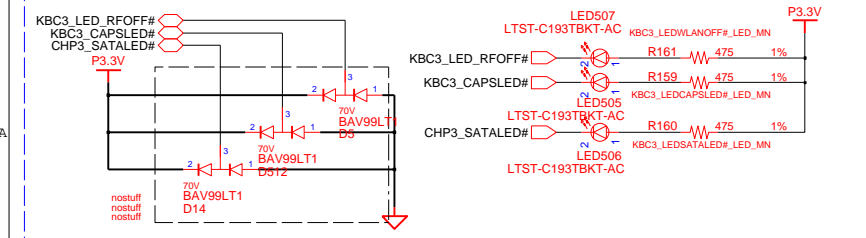
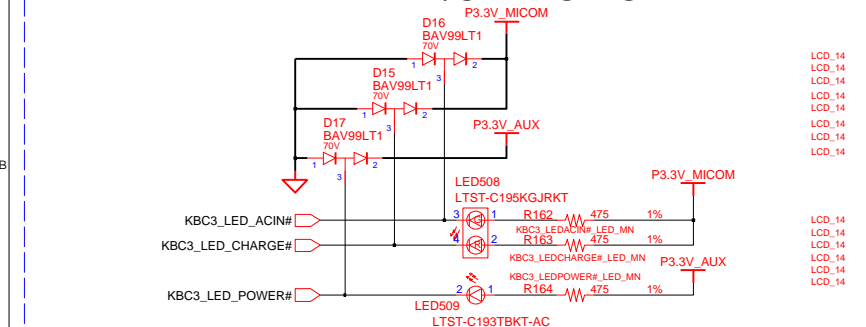
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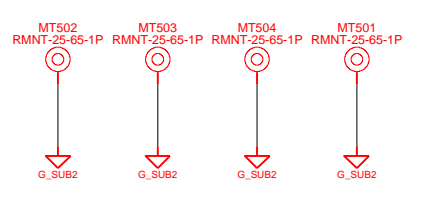
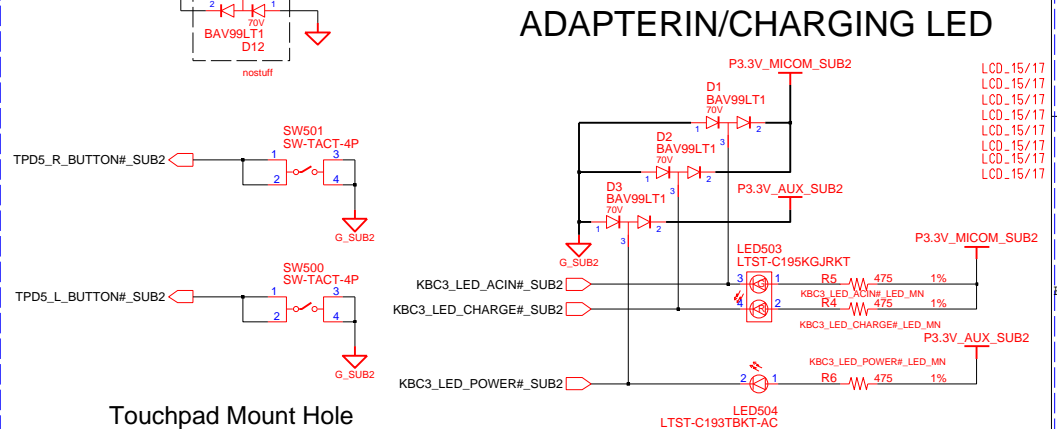
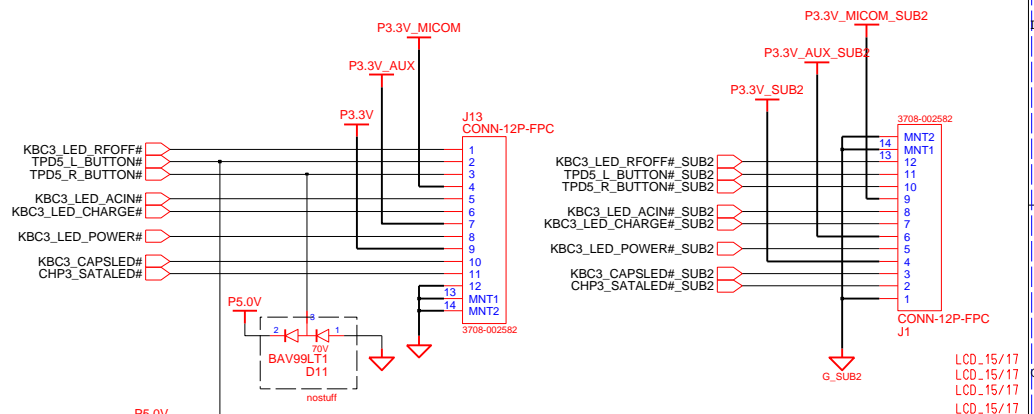
TOUCHPAD



ADAPTERIN/CHARGING LED



15.6" & 17.3" TOUCHPAD MAIN TO SUB TOUCHPAD SUB TO MAIN

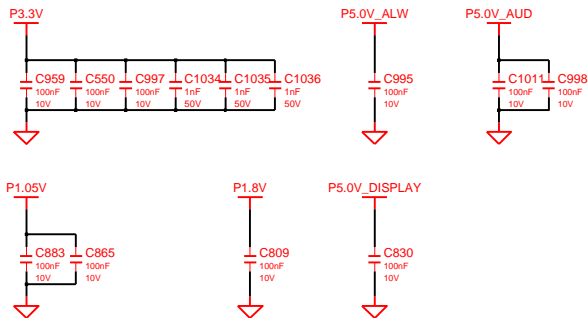
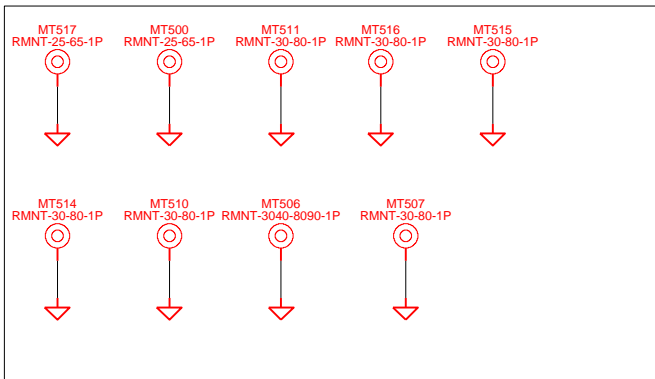


DRAW	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	Touchpad	Part No.	
APPROVAL	BL LEE	REV	rev. 1.0	Touchpad	BA41-01432A	
MODULE CODE		LAST EDIT				
				November 22, 2010 15:53:34 PM	PAGE	50 OF 52

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



DESIGN	MS YANG	DATE	8/19/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	MNT hole	MNT hole	
APPROVAL	BL LEE	REV	rev. 1.0	MNT hole		PART NO. BA41-01432A
MODULE CODE		LAST EDIT	November 22, 2010 15:53:34 PM	PAGE	51	OF 52

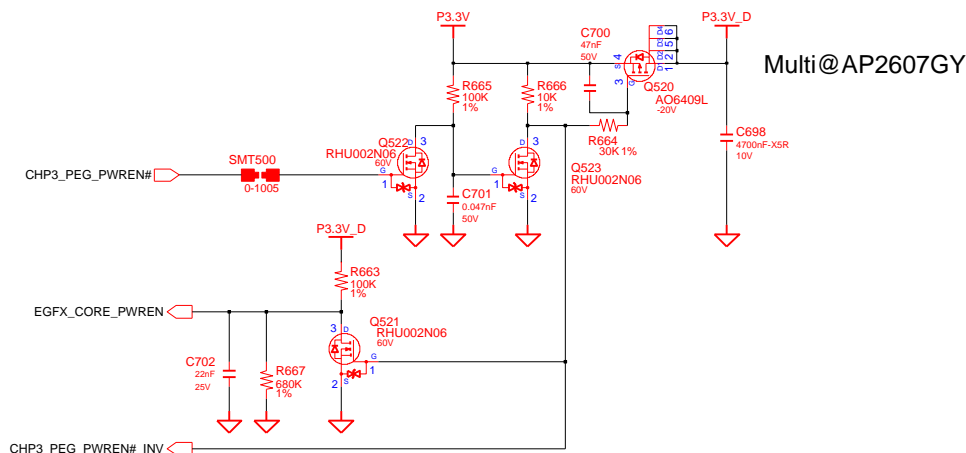
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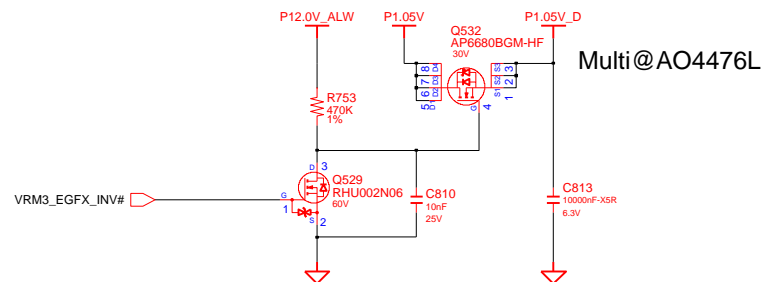
Switched Power 2 (For nVidia GFX Power Sequence)

Sequence (D3.3V -> GFX Core -> D1.8V -> D1.5V -> D1.05V)

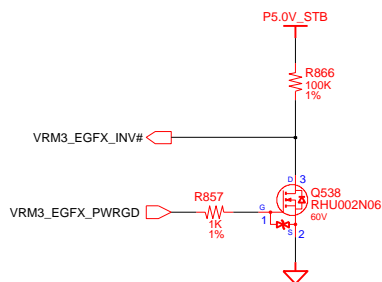
Discrete Switched Power (D3.3V : Max_1.2A)



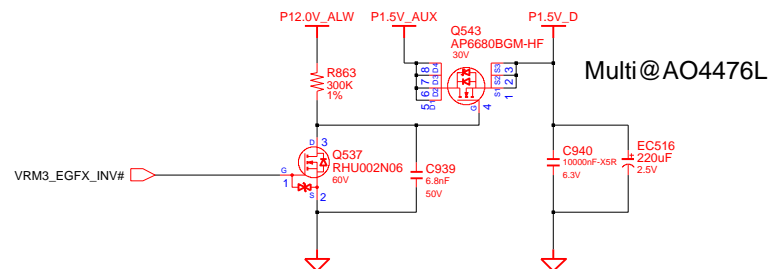
Discrete Switched Power (D1.05V : Max 3.6A)



Discrete Switched Power (D1.8V : Max 0.5A)



Discrete Switched Power (D1.5V : Max 5.0A)



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DRAW	MS YANG	DATE	5/10/2010	TITLE	Jinmao-L	SAMSUNG ELECTRONICS
CHECK	MK KIM	DEV. STEP	PR	Switched PWR 2	PART NO.	
APPROVAL	BL LEE	REV	rev. 1.0	FOR OPTIMUS PWR	BA41-01432A	
MODULE CODE		LAST EDIT		November 22, 2010 15:53:34 PM	PAGE	52 OF 52