

Eric-VE-R

ENE micom

CPU : INTEL CEDARVIEW-M
Chip Set : INTEL TIGERPOINT-M
Remarks : DC, DDR3

Model Name : Eric-VE-R
PCB Part No : BA41-01868A(GCE)
BA41-01869A(GBM)
BA41-01871A(PIOTEC)
Dev. Step : PR
Revision : 1.0
T.R. Date : 2011.12.12

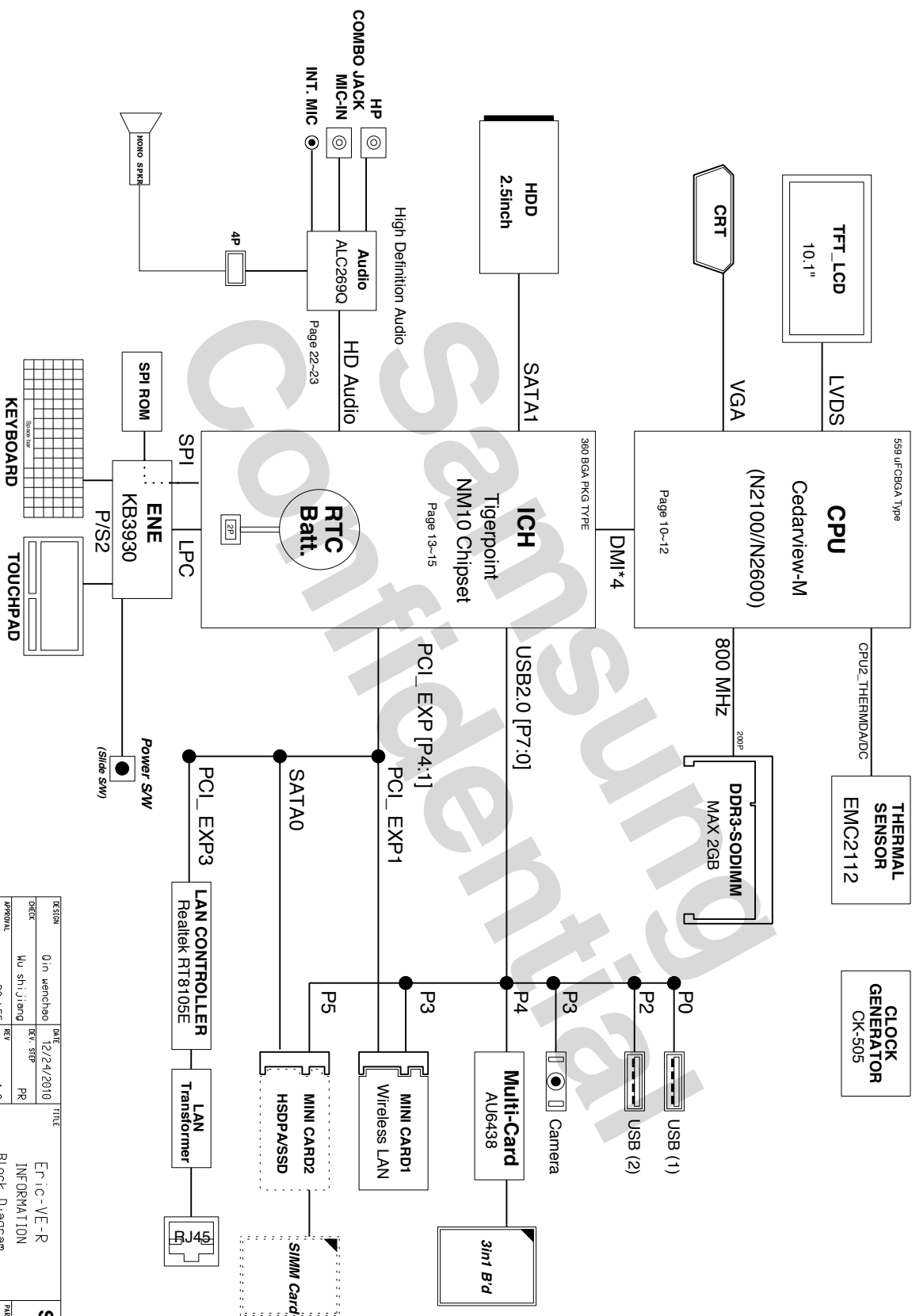
DRAW	CHECK	APPROVAL
Qin Wenchao	Wu shijiang	BC LEE

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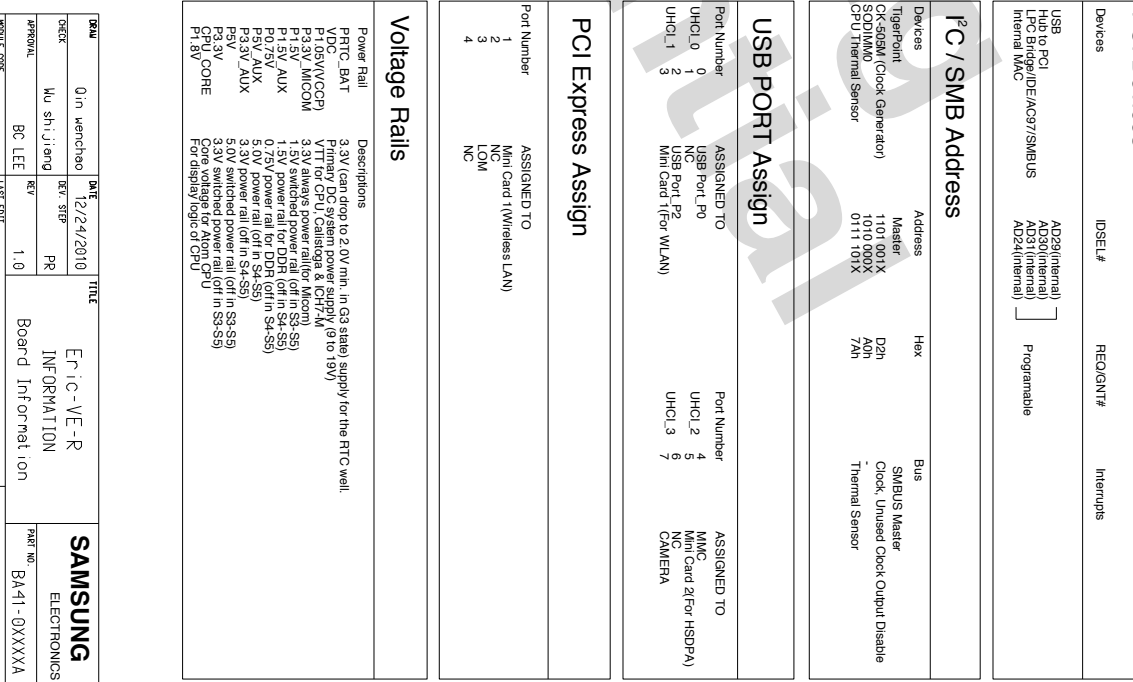
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Qin wenchao	11/25/2011	Eric-VE-R	ELECTRONICS
Wu shijiang	REV. STEP	MAIN	
BC LEE	REV	COVER	
1.0	LAST EDIT		
ROUTE CODE	December 13, 2011 16:40:00 PM	PAGE	1 OF 42

OPERATION BLOCK DIAGRAM



DESIGN	DATE	TITLE	SAMSUNG
01n_wenchoo	12/24/2010	EPIC-VE-R	ELECTRONICS
Wu shijiang	REV. STEP	INFORMATION	
BC LEE	REV	Block Diagram	
ROUTE CODE	1.0		
	LAST EDIT	December 13, 2011 16:40:00 PM	
	PAGE	2	OF 42

PCI Devices



PCI Devices

Devices

IDSEL#

REQGNT#

Interrupts

USB

Hub to PCI

LPC Bridge/IDE/AC97/SMBUS

Internal WDC

AD20(internal)

AD30(internal)

AD31(internal)

AD24(internal)

Programmable

I²C / SMB Address

Devices

Address

Hex

Bus

TapePoint

Master

1101 000X

SMBUS Master

CK-F59M (Clock Generator)

D2h A0h

Clock, Unused Clock Output Disable

SODIMMO

1010 000X

CPU Thermal Sensor

0111 101X

7Ah

Thermal Sensor

USB PORT Assign

Port Number

ASSIGNED TO

Port Number

ASSIGNED TO

UHCL_0

0

USB Port_P0

4

UHCL_1

1

USB Port_P1

5

UHCL_3

3

Mini Card 1(for WLAN)

7

MMC

Mini Card 2(for HSDDPA)

CAMERA

PCI Express Assign

Port Number

ASSIGNED TO

1

Mini Card 1(Wireless LAN)

2

NC

3

LOM

4

NC

Voltage Rails

Power Rail

Descriptions

PRIC_BAT

3.3V (can drop to 2.0V min. in G3 state) supply for the RTC well.

VCC_1V8

1.8V supply for CPU, Cache & ICHP

P1_05V(VCCP)

3.3V always power railfor Microm

P3_3V_MICOM

1.5V switched power rail(off in S3-S5)

P1_5V_AUX

1.5V power railfor DDR (off in S4-S5)

P3_3V_AUX

3.3V power rail(off in S4-S5)

P5V_AUX

5.0V power rail(off in S4-S5)

P3_3V_AUX

3.3V power rail(off in S4-S5)

P5V

5.0V switched power rail(off in S3-S5)

P3_3V_CORE

3.3V switched power rail(off in S3-S5)

P1_8V

1.8V supply for CPU

For displaying logic of CPU

SAMSUNG

ELECTRONICS

DATE

DATE

TITLE

PART NO.

0606

0 in wenchao

12/24/2010

BA-41-0XXXXA

DESIGN

WU shi jiang

REV PR

Board Information

APPROVAL

BC LEE

REV 1.0

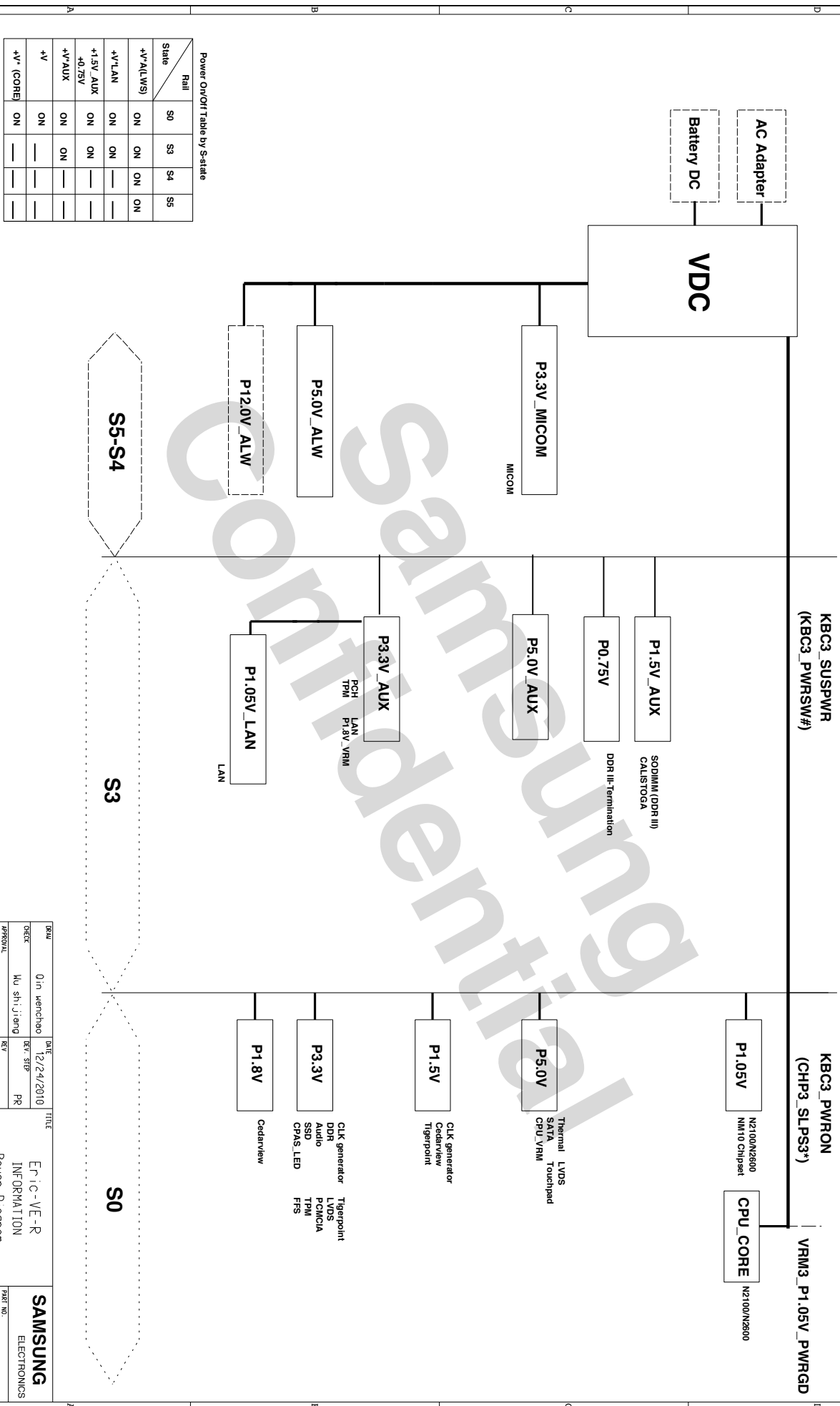
MODULE CODE

USE EDIT

December 13, 2011 16:40:00 PM

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POWER DIAGRAM
Rev 1.0



Power On/Off Table by S-state

Rail	S0	S3	S4	S5
State	S0	S3	S4	S5
+V _{ALW(S)}	ON	ON	ON	ON
+V _{LAN}	ON	ON	—	—
+1.5V _{AUX}	ON	ON	—	—
+0.75V	ON	ON	—	—
+V _{AUX}	ON	ON	—	—
+V	ON	—	—	—
+V _(CORE)	ON	—	—	—

S5-S4

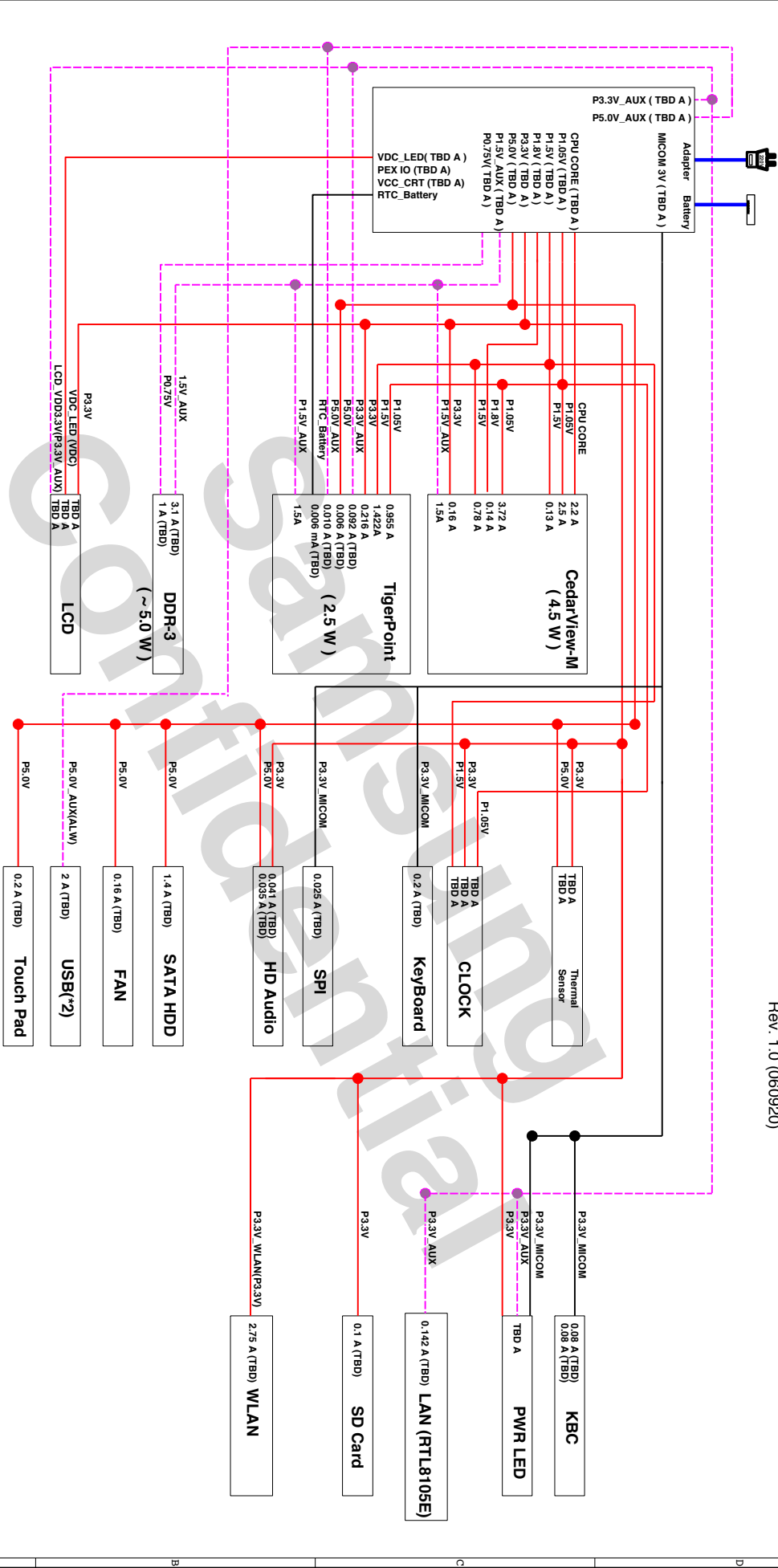
S3

S0

BAW	0 in	12/24/2010	DATE	12/24/2010	TITLE	EPIC-VE-R	SAMSUNG
DECK	Wu shijiang	REV. STEP	REV. STEP	PR	INFORMATION	INFORMATION	ELECTRONICS
APPROVAL	BC LEE	REV	REV	1.0	Power Diagram	Power Diagram	BA41-0XXXXA
ROUTE CODE	LSF EDIT	December 13, 2011 16:40:00 PM	PAGE	4	OF	42	

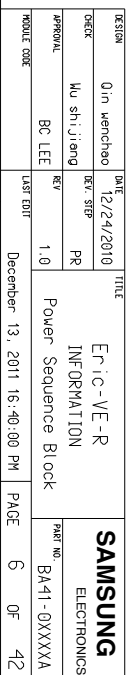
POWER RAILS ANALYSIS

Rev. 1.0 (060920)



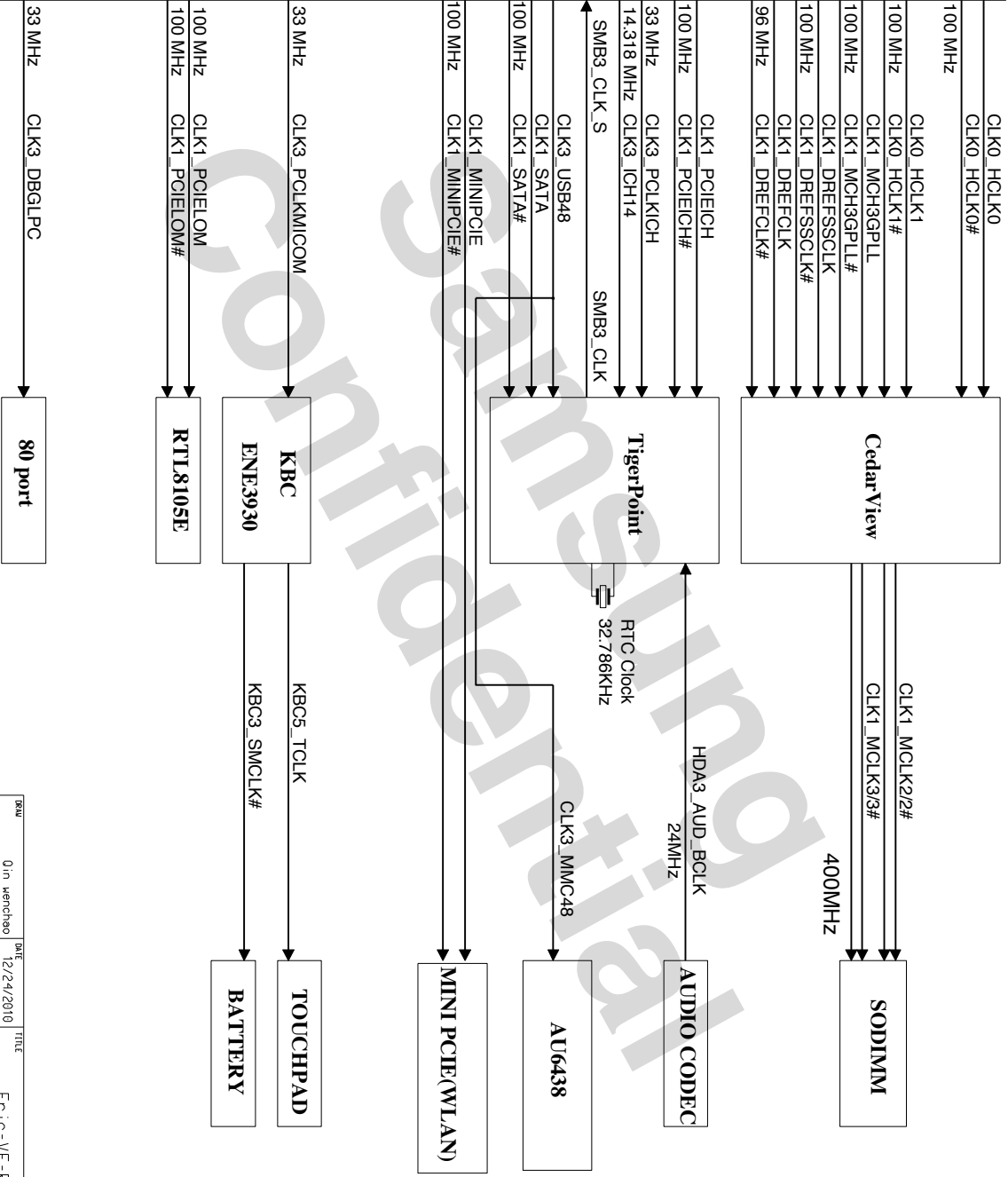
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01n_wenchoo	12/24/2010	Er-c-VE-R
Wu shi.jiong	REV. STEP	INFORMATION
APPROVAL	REV	PR
BC LEE	1.0	Power Rail Analysis
ROUTE CODE	LAST EDIT	PAGE 5 OF 42
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SAMSUNG
ELECTRONICS
PART NO.
BA41-0XXXXA

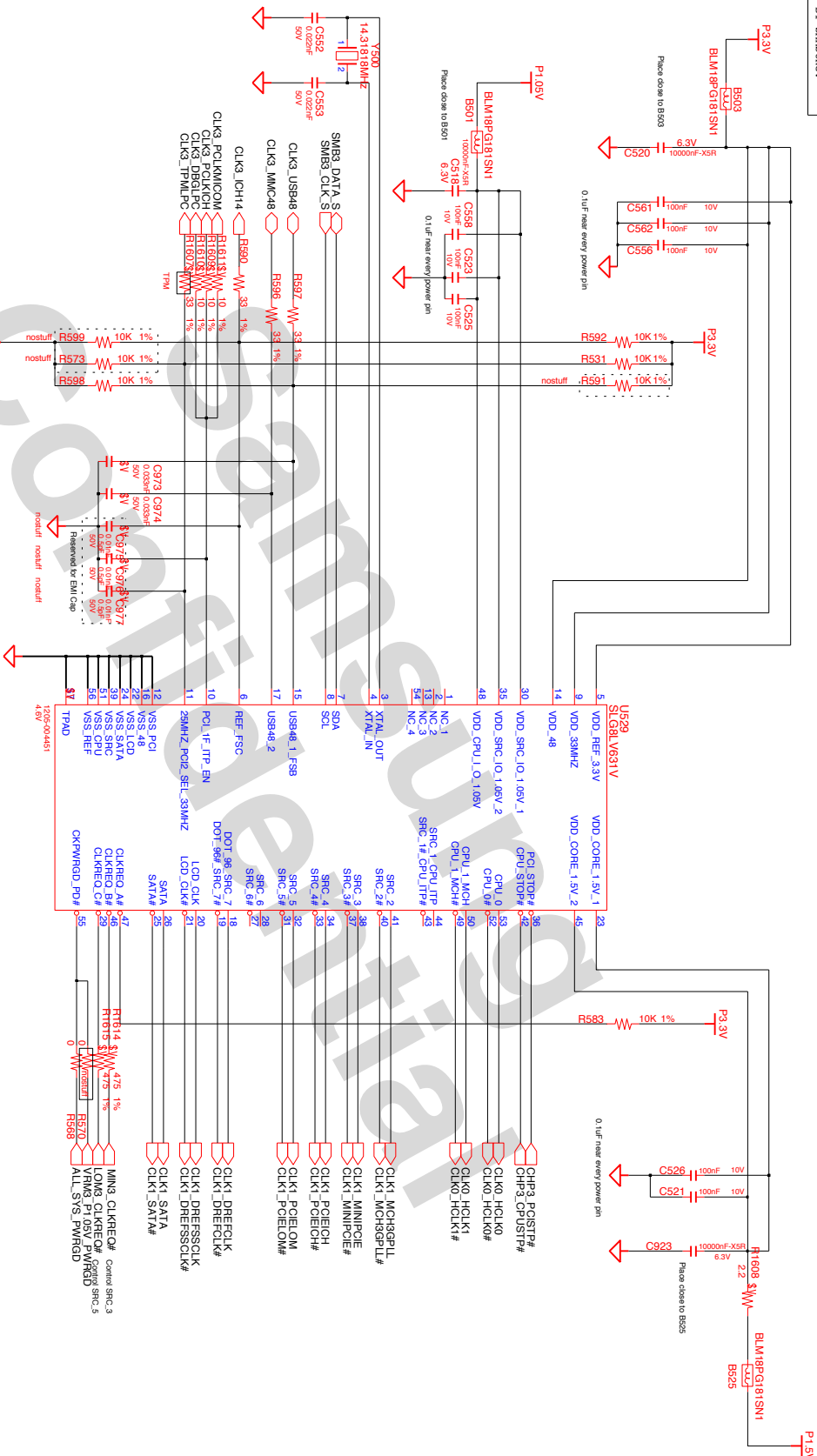


CLOCK DISTRIBUTION

CLOCK GENERATOR
CK-505M
SLG8LV631V



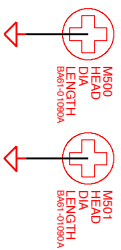
REV	0.1	DATE	12/24/2010	TITLE	Er ic - VE - R
DESIGN	Wu shi jiang	REV. STEP	PR	INFORMATION	INFORMATION
APPROVAL	BC LEE	REV	1.0	Clock Distribution	BA41-0XXXXA
ROUTE CODE	LSF EDIT	December 13, 2011 16:40:00 PM	PAGE	7	OF 42



SEL_33MHz(to select Pin1)	
LOW	Pin1 as 25MHz
HIGH	Pin1 as 33MHz

FS_C	FS_B	HOST_CLK
0	0	133 MHz
0	1	166 MHz
1	1	200 MHz
1	0	100 MHz

RAW	DATE	TITLE	SAMSUNG ELECTRONICS		
01n_wenhao	01/08/2009	Eric-VE-R	Main_Clock_Circuit SL8LW631V		
DECK	BCF_SIEP	PR			
Mu shi.jiang					
APPROVAL	REV	1.0			
MODULE CODE	USER EDIT	December 13, 2011 16:40:00 PM	PAGE	8	OF 42

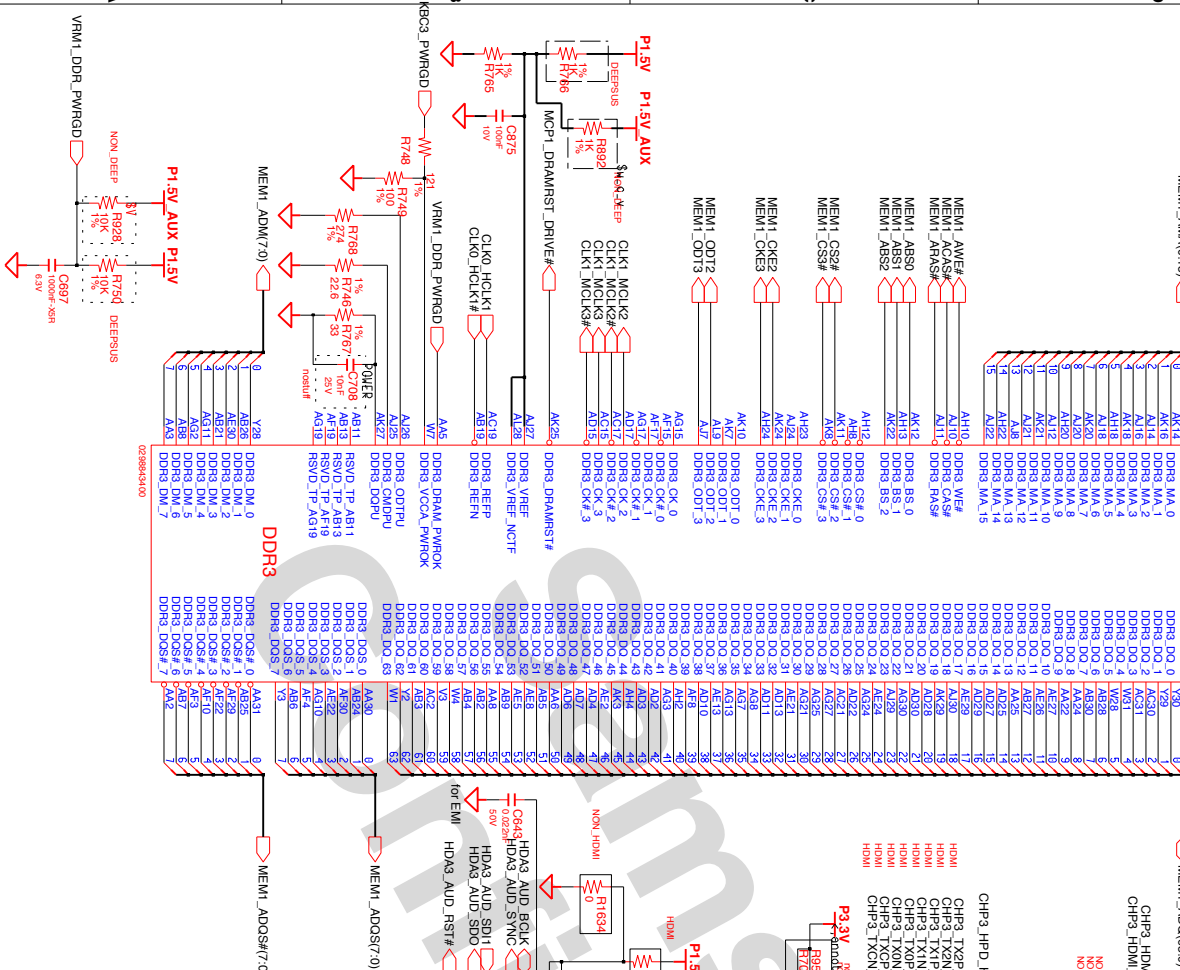


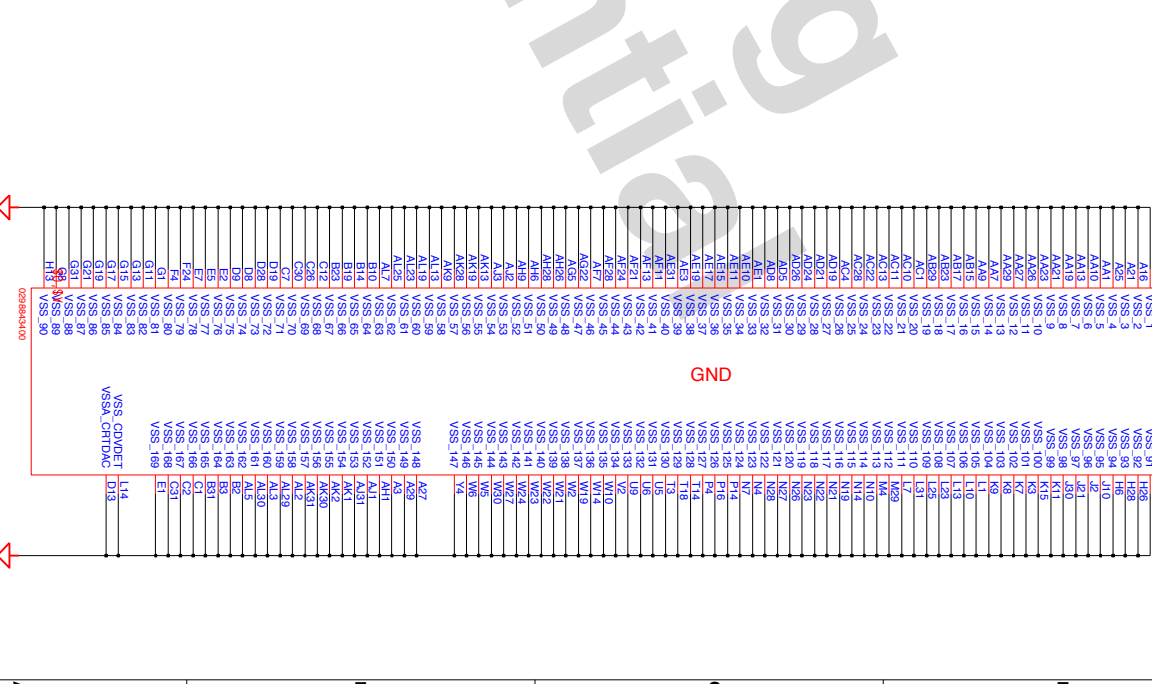
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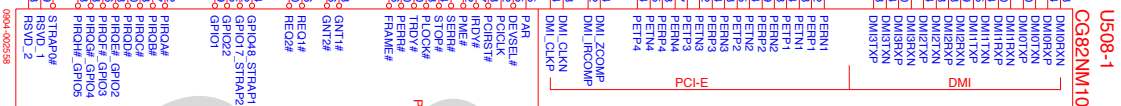
CEDAR TRAIL PROCESSOR (2/3)

U4-2

CEDAR TRAIL-MDDR3/5

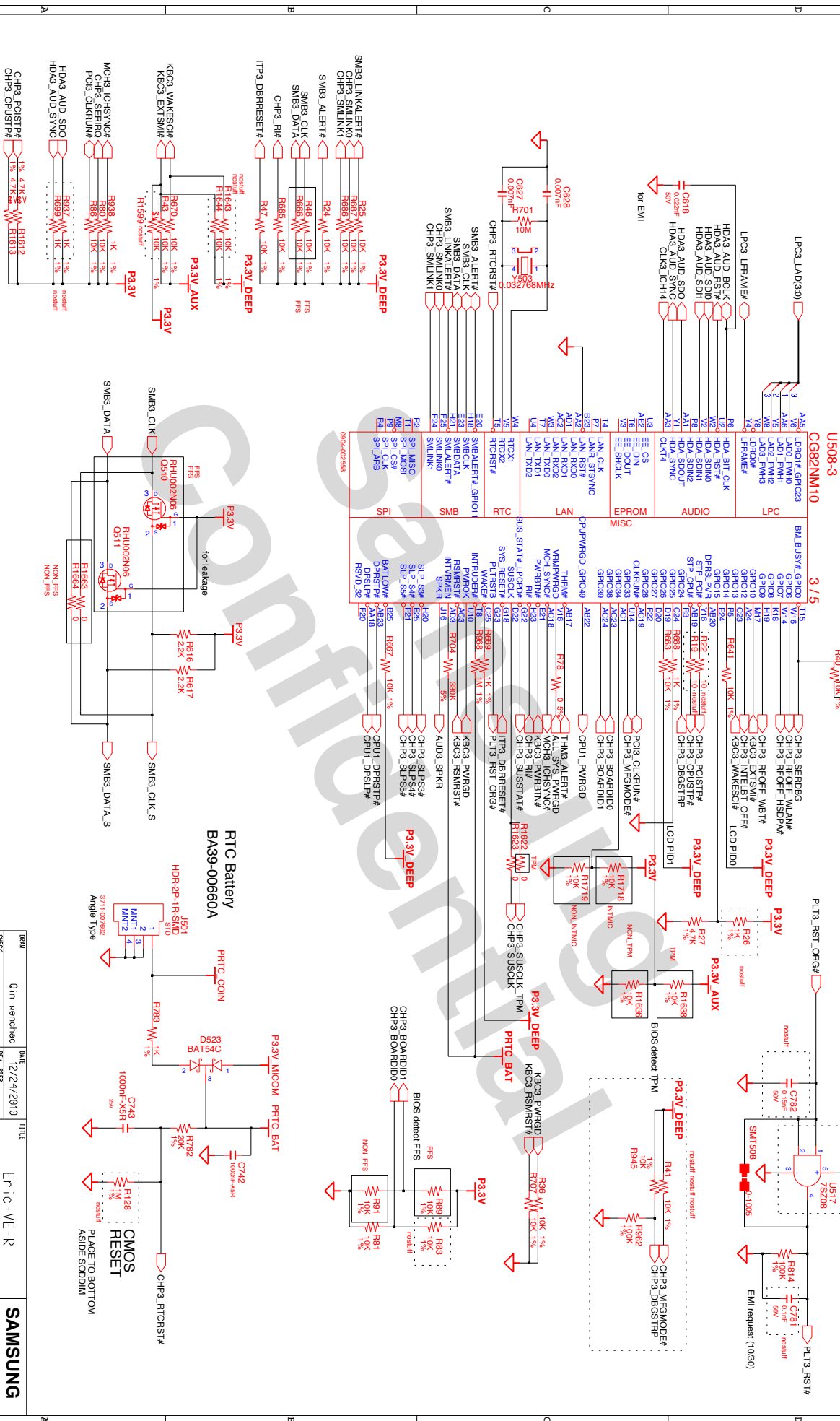






DATE	DATE	TITLE	SAMSUNG	
01n weichao	12/24/2010	Er ic -VE-R	ELECTRONIC	
DECK	REV: STEP	CHIPSET		
Mu shi jiang	PR	TIGERPOINT (1/3)		
APPROVAL	REV		PART NO.	
BC LEE	1.0		BA-41-0XXXXX	
ROUTE CODE	LSR EDIT	DATE	PAGE	OF
		December 13, 2011 16:40:00 PM	13	42

Tigerpoint (2/3)



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

DXE Status Codes

Progress Codes

60	DXE Core is started
61	NVRAM initialization
62	Installation to the South Bridge Runtime Services
63	CPD DXE initialization is started
64	CPD DXE initialization (CPU module specific)
65	CPD DXE initialization (GPU module specific)
66	CPD DXE initialization (CPU module specific)
67	CPD DXE initialization (GPU module specific)
68	CPD DXE initialization (CPU module specific)
69	CPD DXE initialization (GPU module specific)

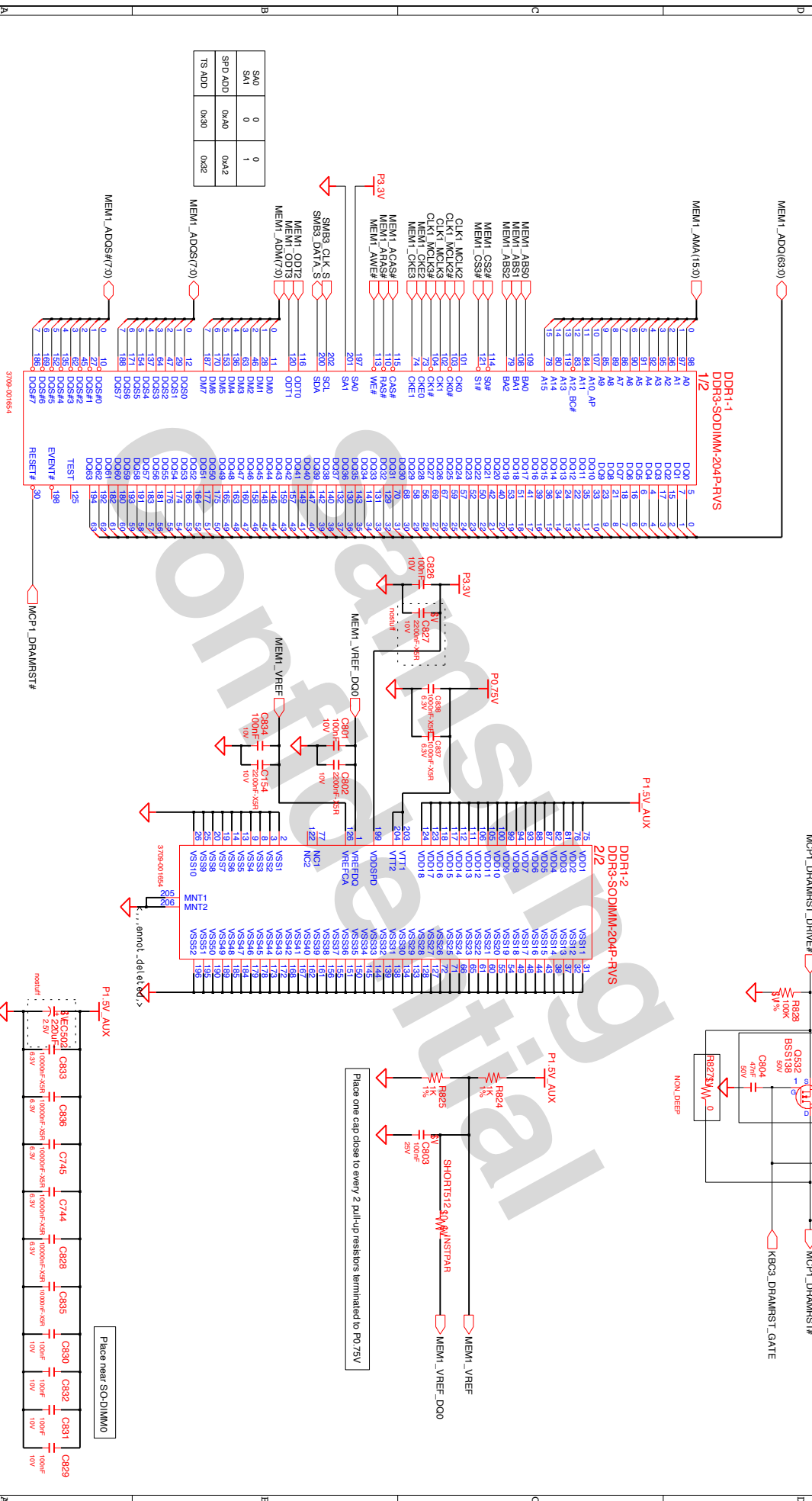
Progress Codes

68	North Bridge IXXE initialization(North Bridge module specific)
69	North Bridge IXXE initialization(North Bridge module specific)
70	South Bridge IXXE initialization(South Bridge module specific)
71	South Bridge IXXE initialization(South Bridge module specific)
72	South Bridge IXXE SWM initialization is started
73	South Bridge IXXE initialization(South Bridge module specific)
74	South Bridge IXXE initialization(South Bridge module specific)
75	South Bridge IXXE initialization(South Bridge module specific)
76	South Bridge IXXE initialization(South Bridge module specific)
77	South Bridge IXXE initialization(South Bridge module specific)
78	ACPI module initialization
79	CMSA initialization
80	Reserved for future AMI DEX codes
81	Reserved for future AMI DEX codes
82	Boot Device Selection (BDS) phase is started
83	Driver connecting is started
84	PCI Bus initialization is started
85	PCI Bus to Plug Controller Initialization
86	PCI Bus Request Resources
87	PCI Bus Assign Resources
88	Console Output devices connect
89	Smart IO initializations
90	USB initialization is started
91	USB initialization is started
92	Reset
93	Reset
94	Reset
95	Reset
96	Reserved for future AMI codes
97	IDE initialization is started
98	IDE Reset
99	IDE Reset
A0	IDE Reset
A1	IDE Reset
A2	IDE Reset
A3	SCSI initialization is started
A4	SCSI initialization is started
A5	Reset

A6	Settle
A7	Settle
A8	Setup Verifying Password
A9	Start of Setup
AA	Reserved for ASL (see ASL Status Codes section below)
AB	Setup Input VSWL (see ASL Status Codes section below)
AC	Ready to Boot event
AD	Legacy Boot Event
AE	Exit Boot Services event
AF	Turntime Set Virtual Address MAP Begin
B0	Turntime Set Virtual Address MAP End
B1	Legacy Option ROM Initialization
B2	Legacy Option ROM Initialization
B3	System Reset
B4	USB Hot Plug
B5	USB Hot Plug
B6	Configuration Preset (reset of NV/FRAM settings)
B7	Configuration Preset (reset of NV/FRAM settings)
B8	Configuration Preset (reset of NV/FRAM settings)
B9	Configuration Preset (reset of NV/FRAM settings)
CA	Reserved for future AMI codes
CB	Reserved for future AMI codes
CC	Reserved for future AMI codes
CD	Reserved for future AMI codes
CE	Reserved for future AMI codes
CF	Reserved for future AMI codes
D0	CPM Initialization error
D1	CPM Initialization error
D2	South Bridge Initialization error
D3	Some of the Architectural Protocols are not available
D4	PCI resource allocation error Out of Resources
D5	No Space for Legacy Option ROM
D6	Legacy Option ROM is corrupted
D7	No Console Input Devices are found
D8	Invalid password
D9	Error loading Boot Option (Loadimage returned error)
DA	Boot failed (Loadimage returned error)
DB	Flash update failed (Statusimage returned error)
DC	Reset protocol is not available

DDR SO-DIMM #0

Height : 4 mm (REVERSED)

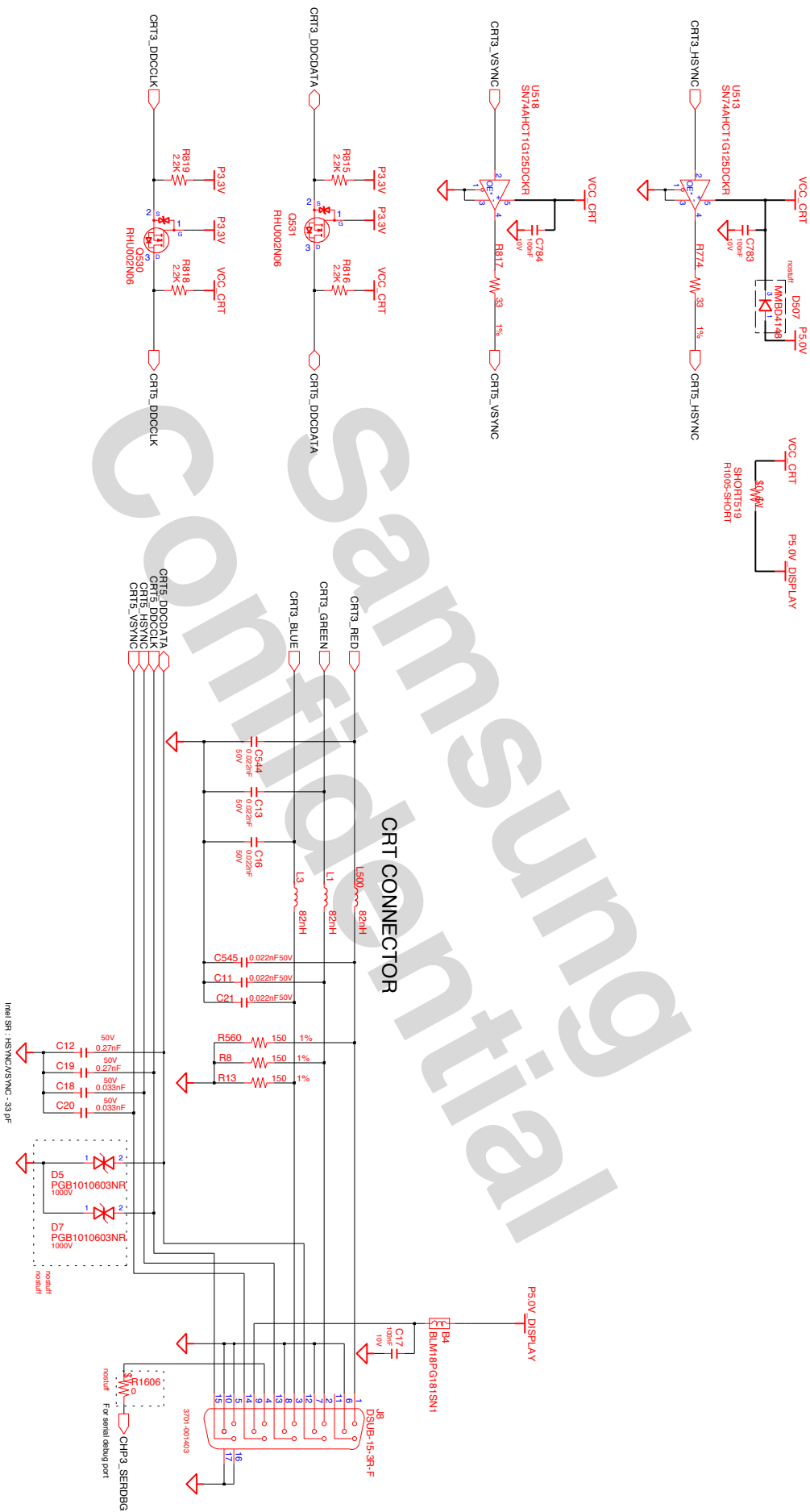




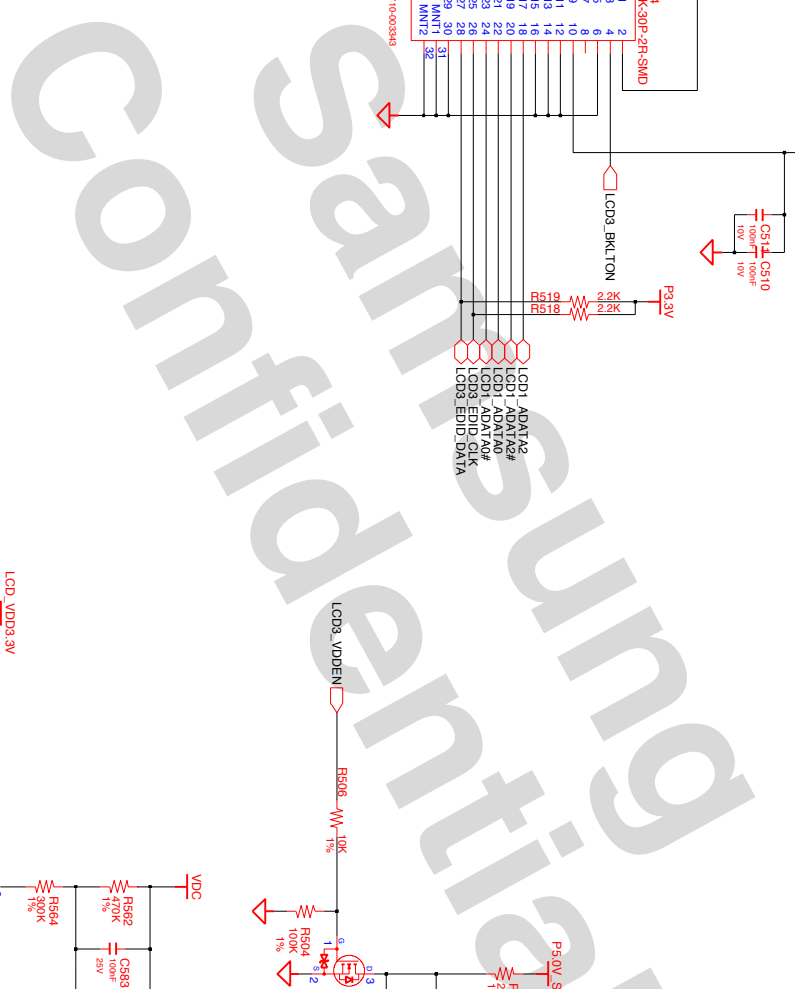
SAMSUNG
ELECTRONICS

PART NO. BA41-0XXXXA

CRT



DESIGN	DATE	TITLE
01n_wenchoo	12/24/2010	Er:c-VE-R
Wu shijiong	REV: 01	GRAPHICS_1F
BC LEE	REV	CRT
ROUTE CODE	LSF EDIT	December 13, 2011 16:40:00 PM
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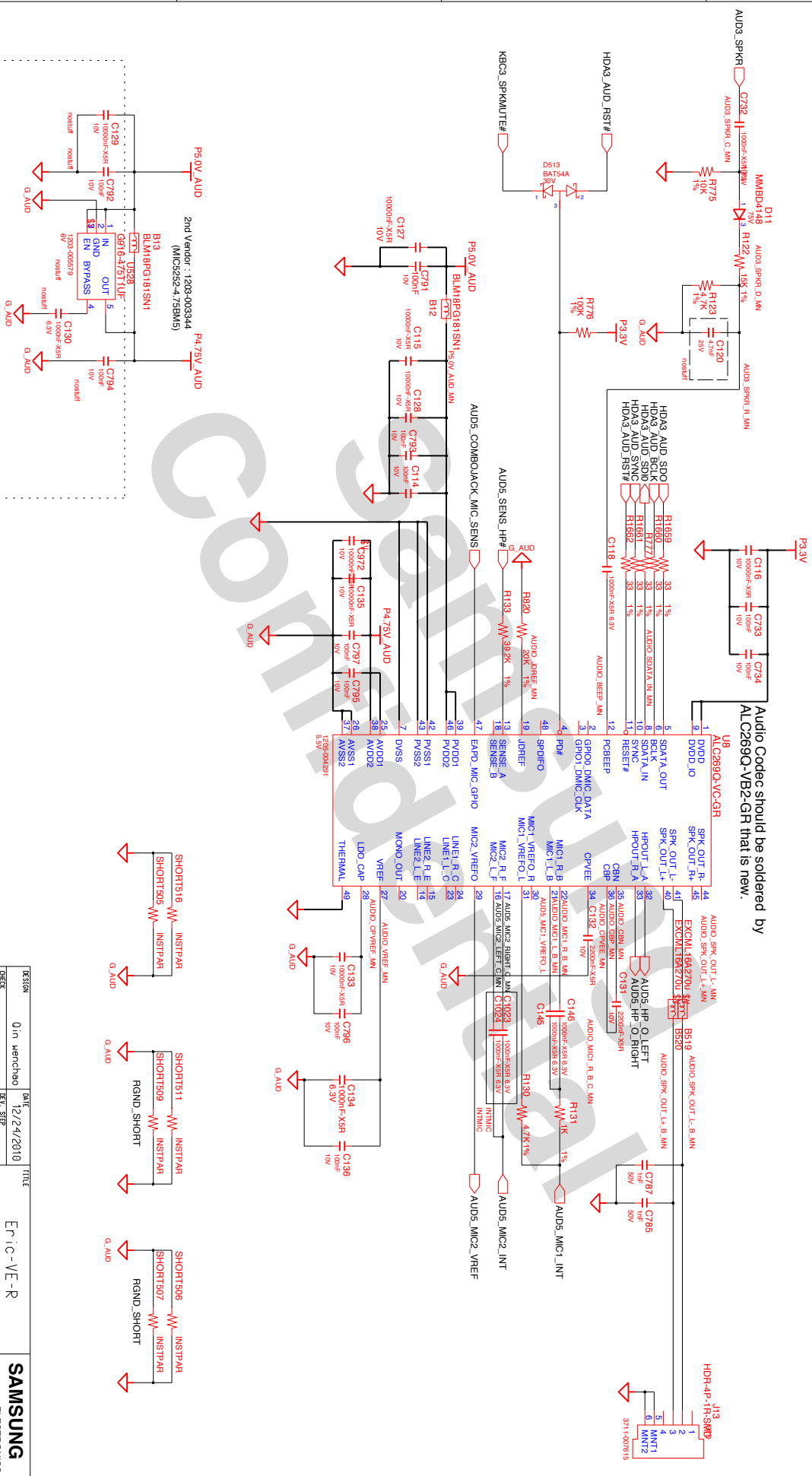
DESIGN	01n Merchao	DATE	12/24/2010	TITLE	SAMSUNG ELECTRONICS		
DESIGN	01n Merchao	REV. STEP	REV. STEP	PR	Epic-VE-R GRAPHICS_1F		
APPROVAL	BC LEE	REV	1.0	LED LCD 1/F	PART NO.	BA-11-0XXXXA	
THROW CODE	LAST EDIT	December 13, 2011 16:40:00 PM		PAGE	20	OF	42



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

Audio Codec

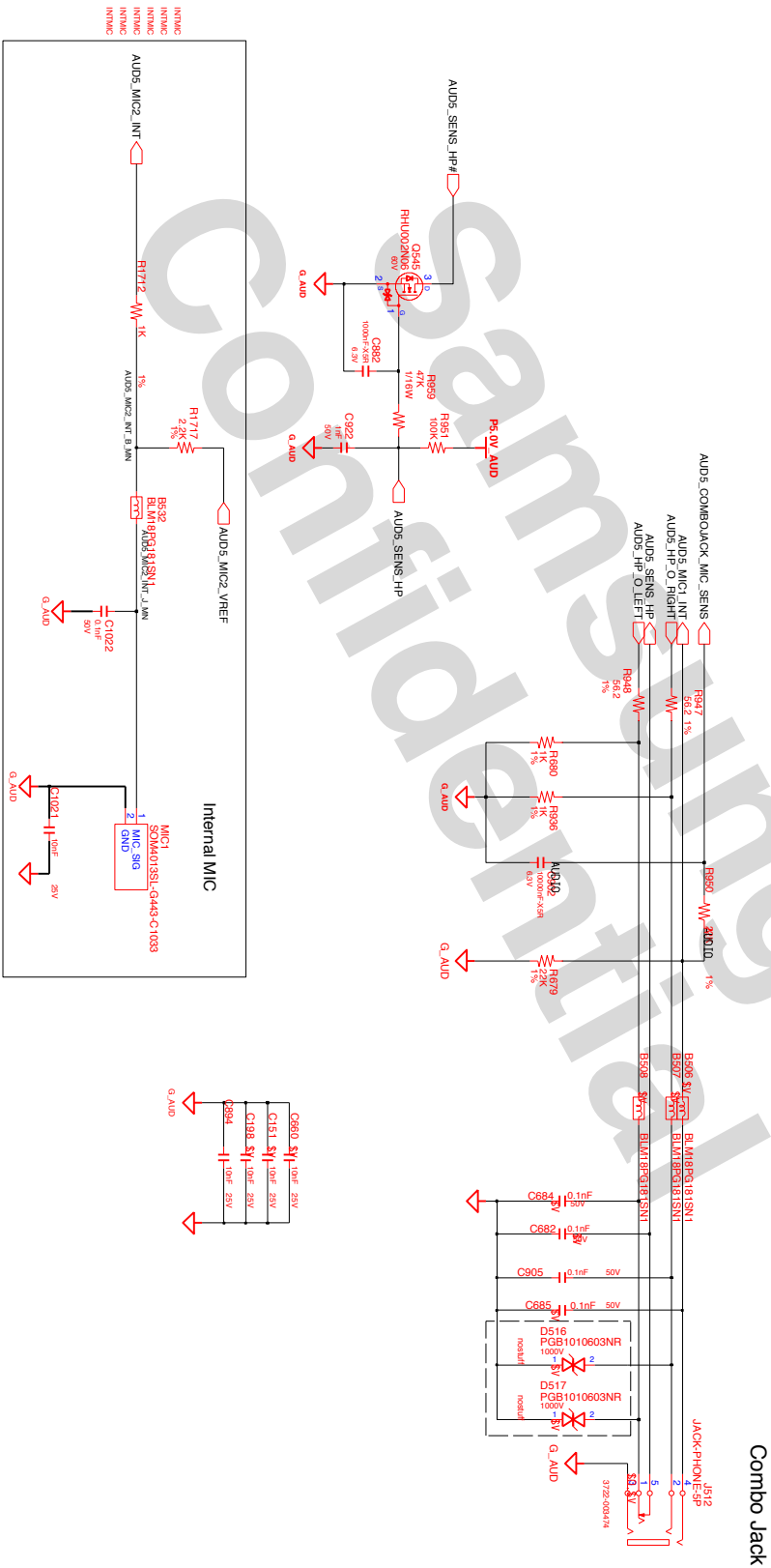
Audio Codec should be soldered by AL C269Q-VB2-GR that is new.




DESIGN	DATE	TITLE
Qin wenhao	12/24/2010	Eric-VE-R
DECK	REV: STEP	AUDIO
Mu shi jiang	PR	
PERSONAL	REV	ALC2690-VB
BC LEE	1.0	
MODULE CODE	LAST EDIT	
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HP & MIC

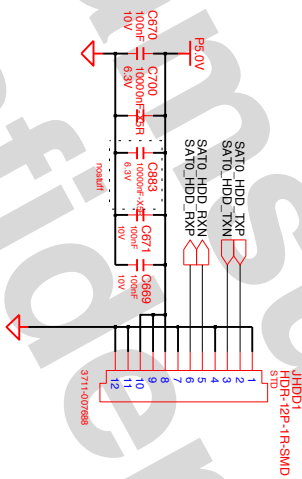


DESIGN	DATE	TITLE	
ORDER	01m Menthodo	Er ic - V - E - R	
WU Shi jiong	REV. STEP	AUDIO	
APPROVAL	PR	AUDIO	
BC LEE	REV	AUDIO	
MOBILE CODE	LAST EDIT	December 13, 2011 16:40:00 PM	PAGE 23 OF 42



	NON SURGE	SURGE
R1713	75ohm	0ohm
R1714		
R1715	2007-001167	2007-000070
R1716		
	0ohm	75ohm
R1635	2007-000070	2007-001167
VA1	noisulf	4715-001142

SATA HDD CONN



For EMI

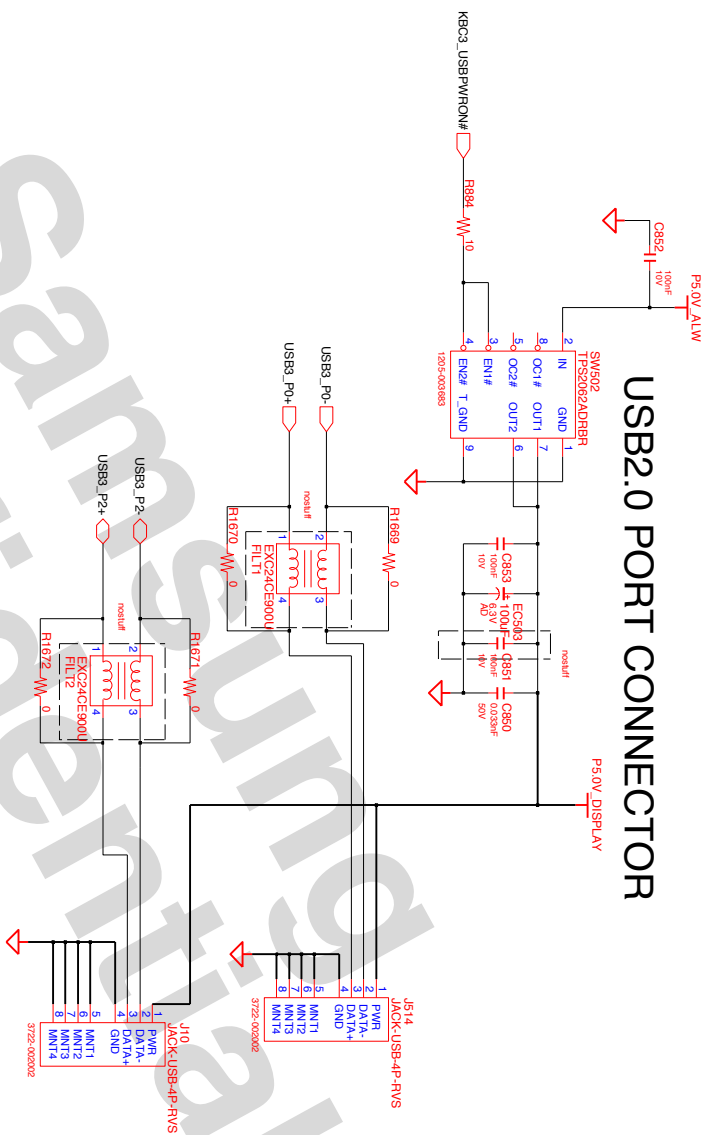


For Rx Signal at changing point of Layer

[illegible]

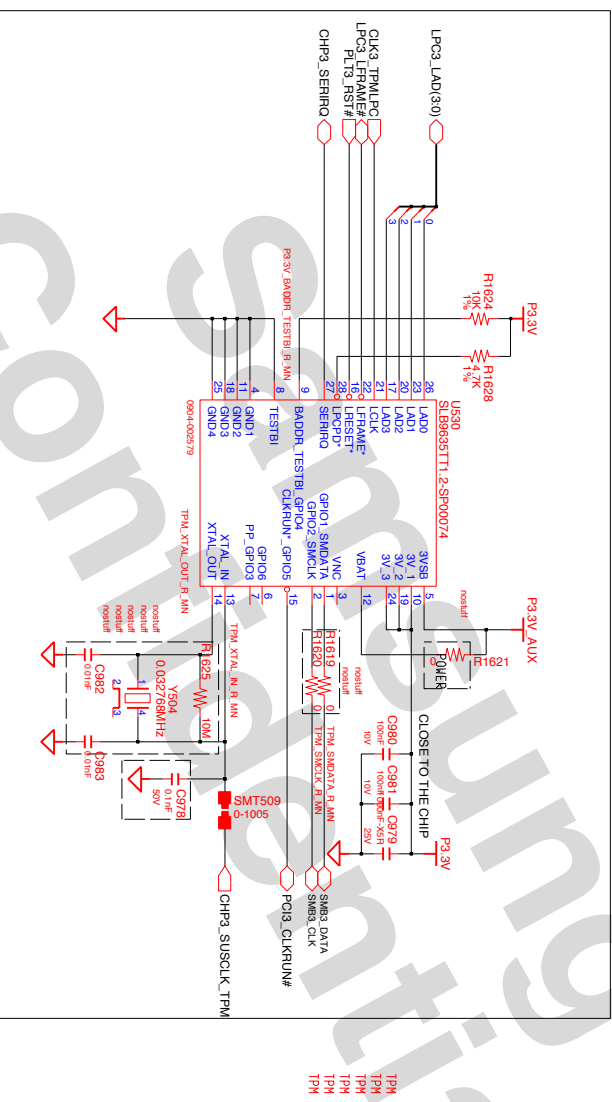


USB2.0 PORT CONNECTOR



DESIGN	TITLE	DATE
0 in wanhao	ERIC-VE-R	12/24/2010
CHECK	USB_CONN	REV: 5/8/9
MU SHIJIANG	USB PORT	PR
APPROVAL		REV 1.0
BC LEE		
MODULE CODE		
		LAST EDIT
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TPM 1.2(Optional.)



DESIGN	DATE	TITLE
Qin wenchao	12/24/2010	Enic-VE-R
Wu shijiong	REV. STEP	USB-DEVICES SB I/F
BC LEE	REV	TPM
ROUTE CODE	LSF EDIT	December 13, 2011 16:40:00 PM

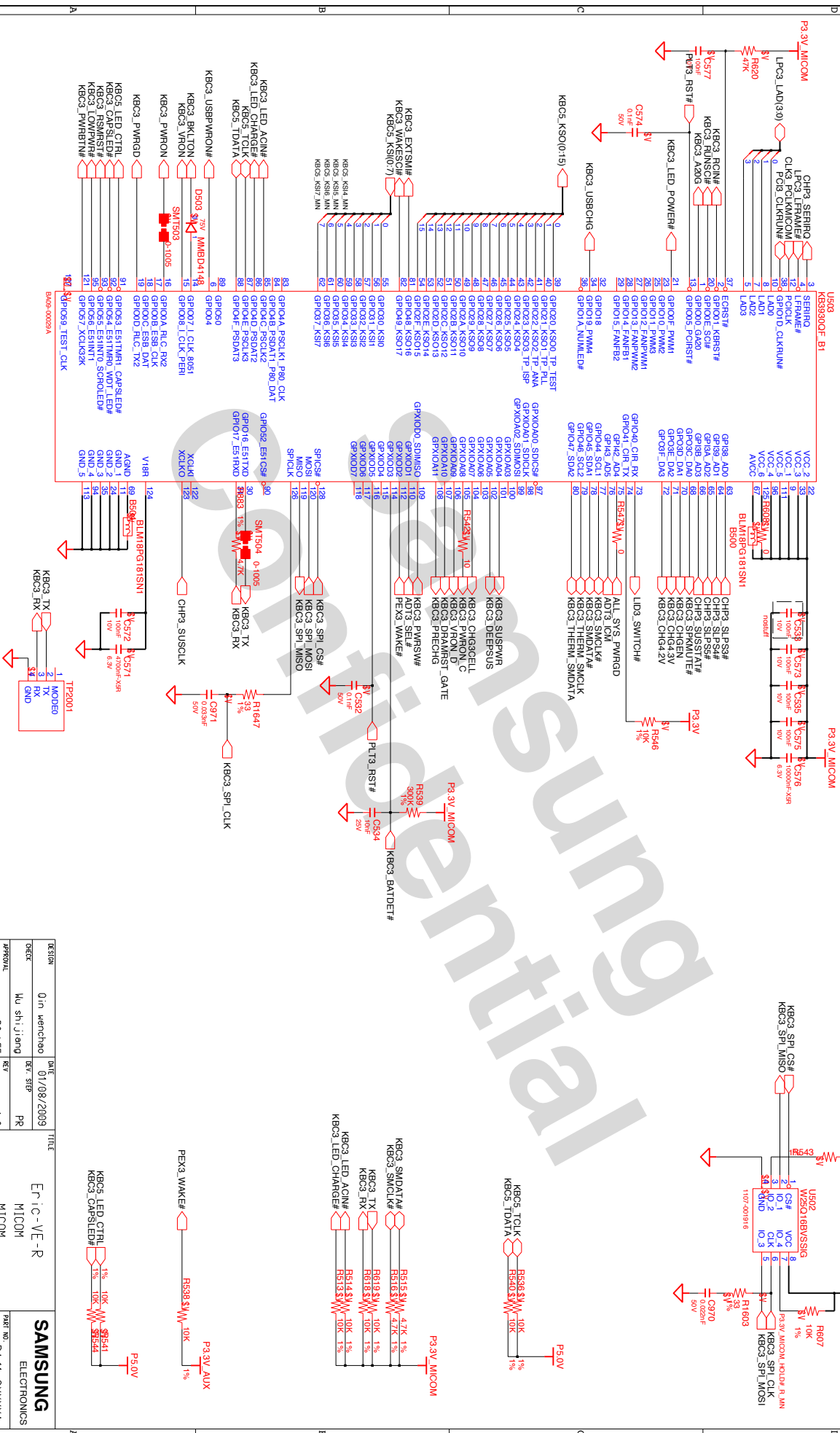


Place on top-side

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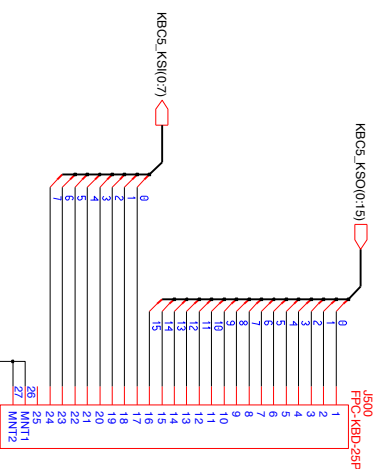
MAIN BOARD (MICOM 3930)

BE CAUTION SPI ROM SIZE!!

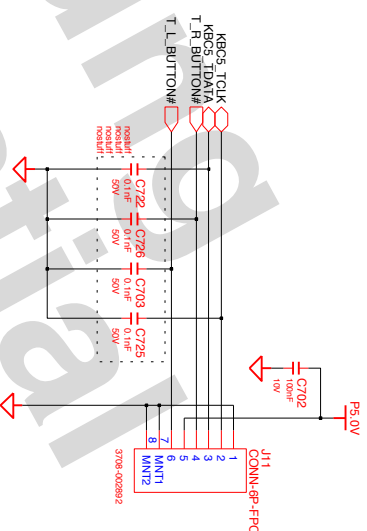


Micom Glue Logic

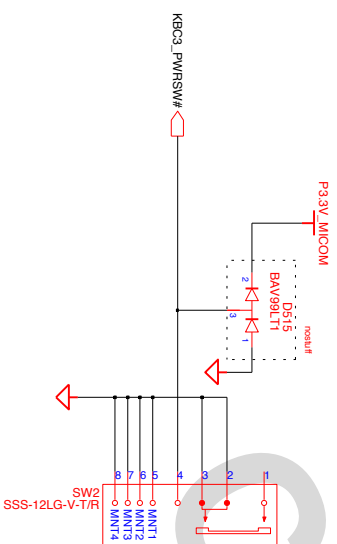
KEYBOARD



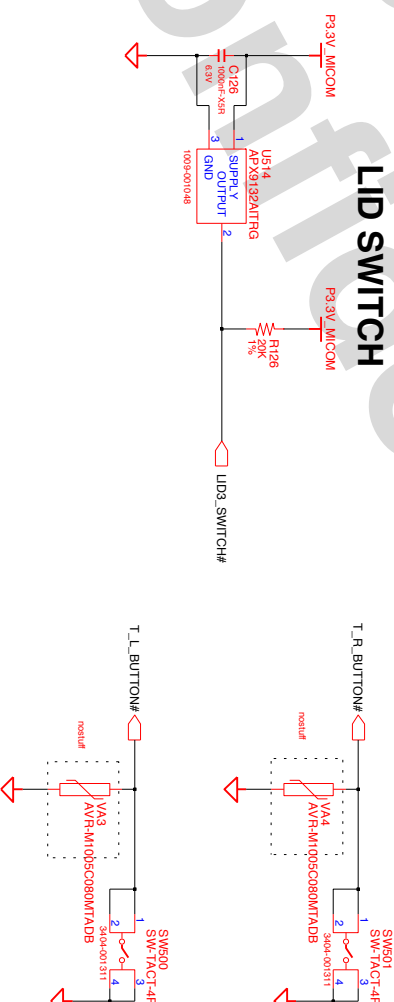
TOUCHPAD



Power Slide Switch

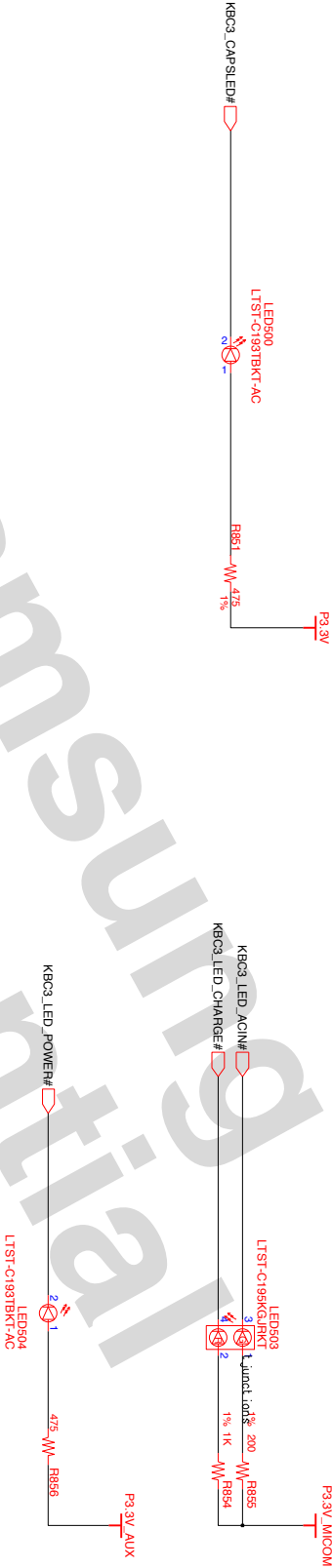


LID SWITCH

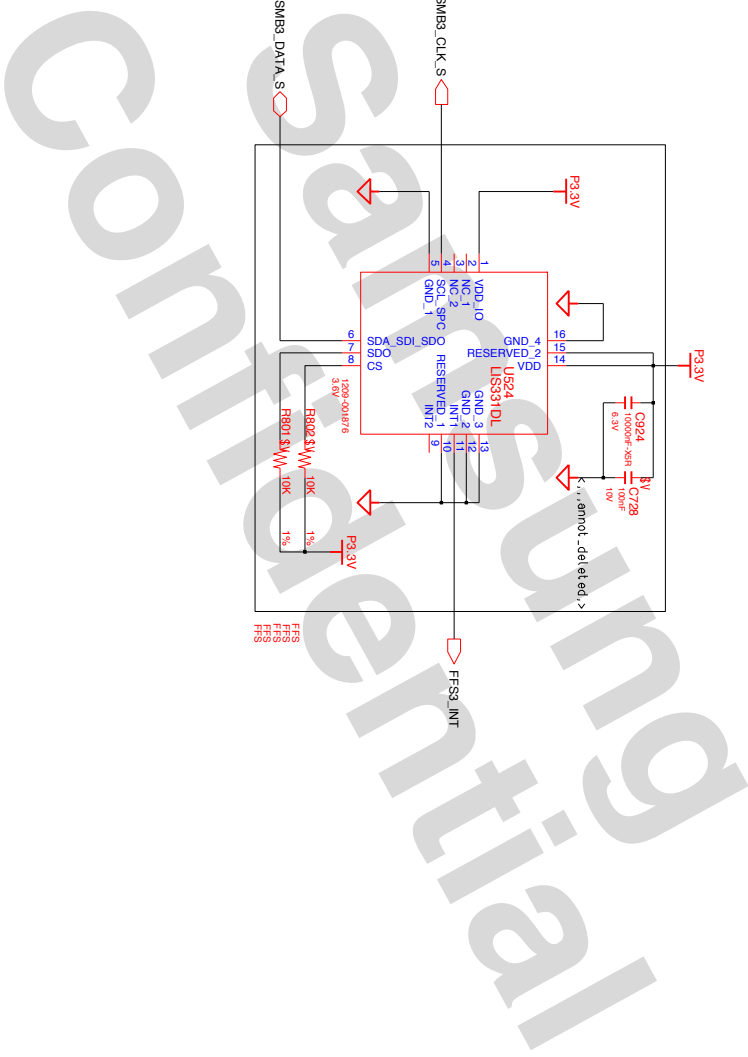


DESIGN	DATE	TITLE	SAMSUNG
0 in wenchao	12/24/2010	Er ic-VE-R	ELECTRONICS
Wu shijiang	REV. STEP	MICOM	
BC LEE	REV	MICOM GLUE LOGIC	
ROUTE CODE	1.0	LSF EDIT	
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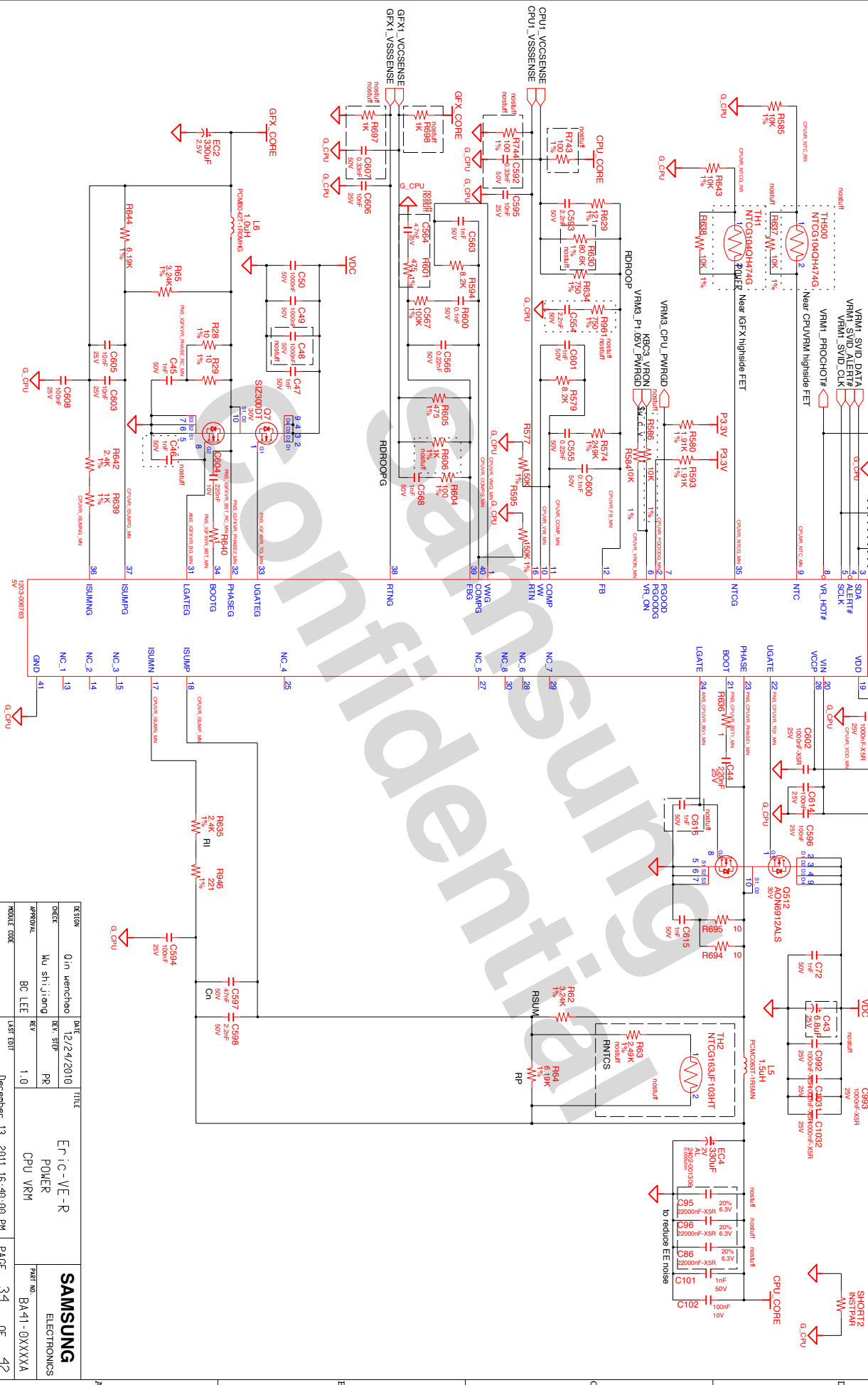
LED SWITCH LOGIC



RAW	DATE	TITLE	SAMSUNG
01n_wenchoo	12/24/2010	Enic-VE-R	ELECTRONICS
DECK	REV. STEP	LED_Switch	
APPROVAL	REV	LED_Switch	PAR NO. BA41-0XXXXA
BC LEE	1.0		
ROUTE CODE	LAST EDIT	December 13, 2011 16:40:00 PM	PAGE 32 OF 42

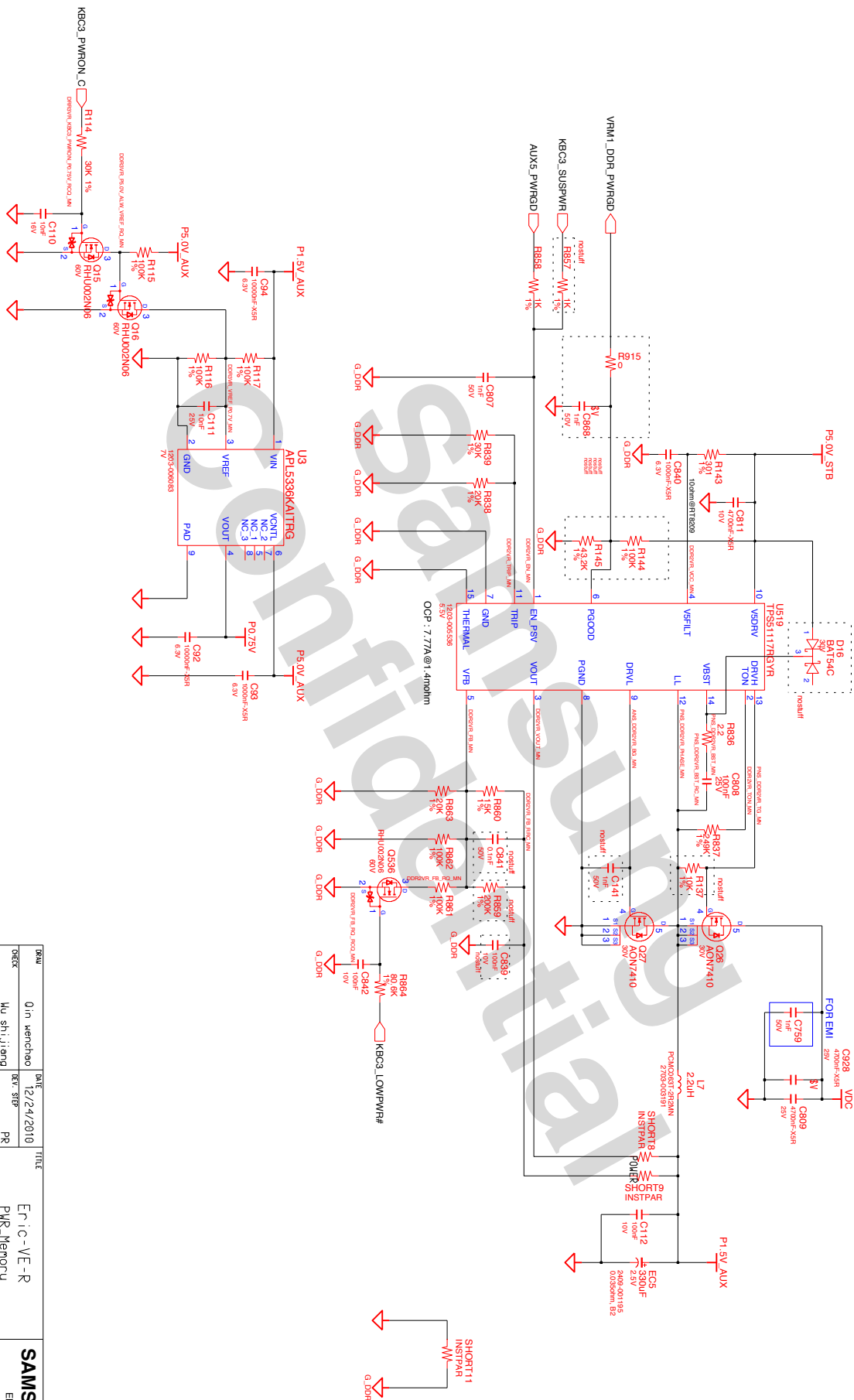
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NAME	DATE	TITLE	SAMSUNG	
01m menhao	12/24/2010	ERIC-VE-R	ELECTRONICS	
OBJECT	REV. STEP	FFS		
Mu shi, jiang	PR	FreefallSensor		
PERSONAL	REV		PART NO.	BA41-0XXXXA
BC LEE	1.0			
MODEL CODE	LIST EDIT	December 13, 2011 16:40:00 PM	PAGE	33 OF 42

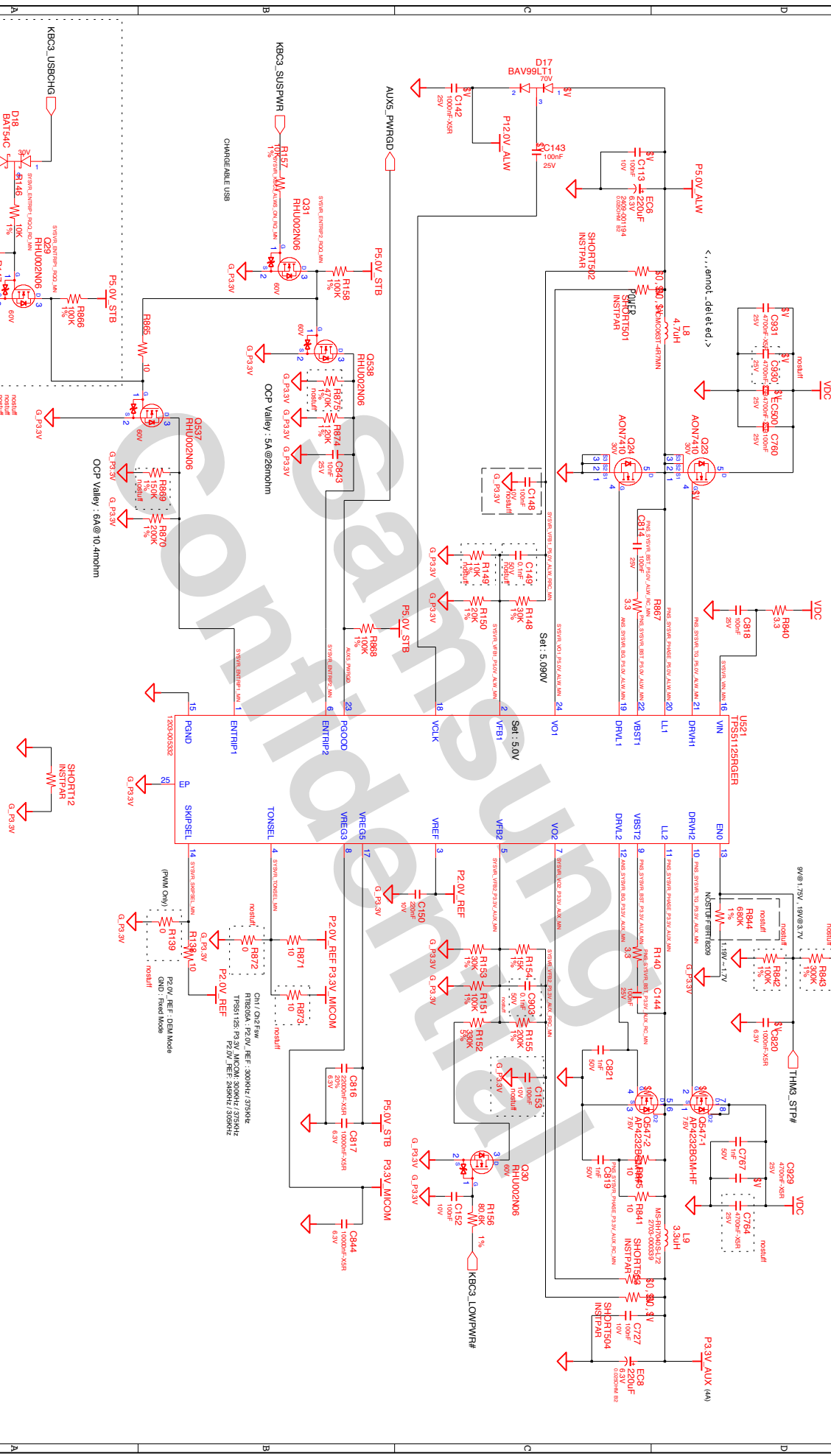




DDR3 Power (P1.5V_AUX & P0.75V)



P3.3V_AUX & P5.0V_ALW

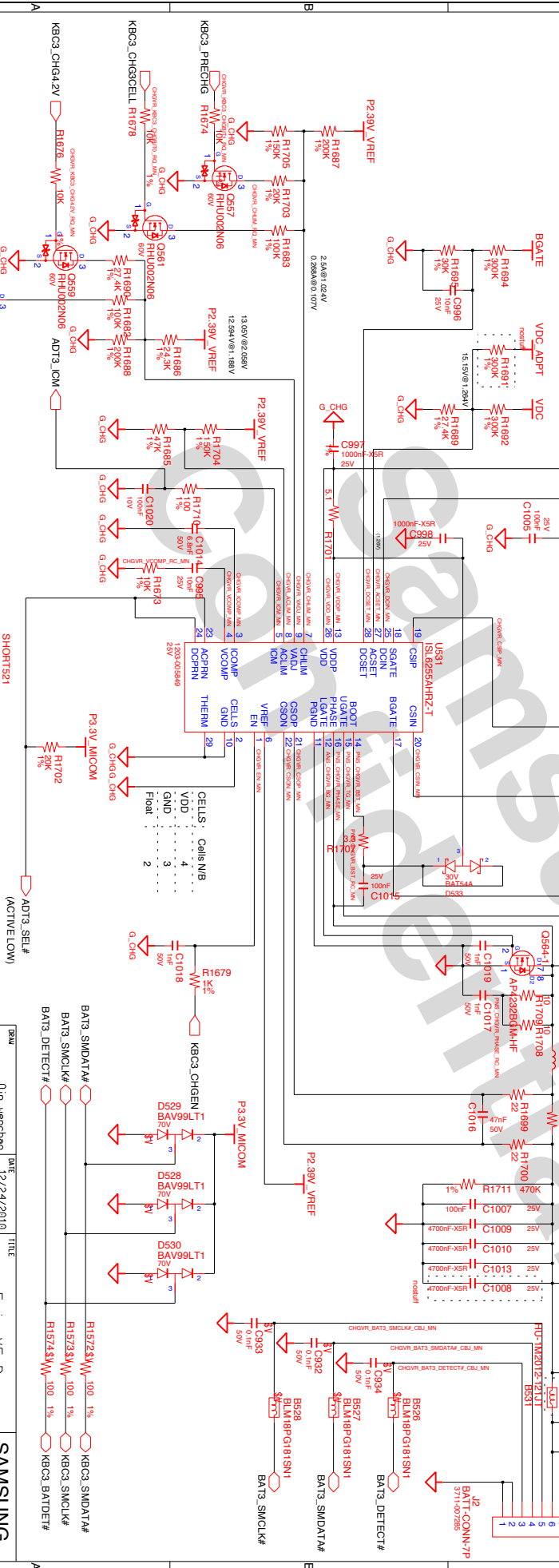
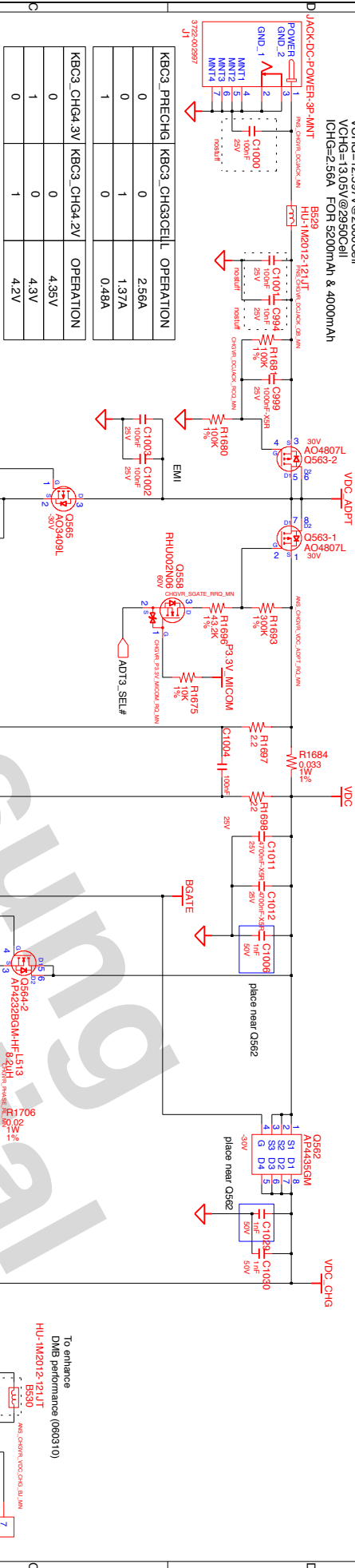


REV	DATE	TITLE	SAMSUNG
01n	12/24/2010	Er:c-VE-R	ELECTRONICS
02c	Rev: 010	PUR: VV_3V_5V	
03a	PR	P3.3V_AUX / P5.0V_AUX	
04b	REV	1.0	BA41-0XXXXA
05c	LSF: 010	December 13, 2011 16:40:00 PM	PAGE 37 OF 42

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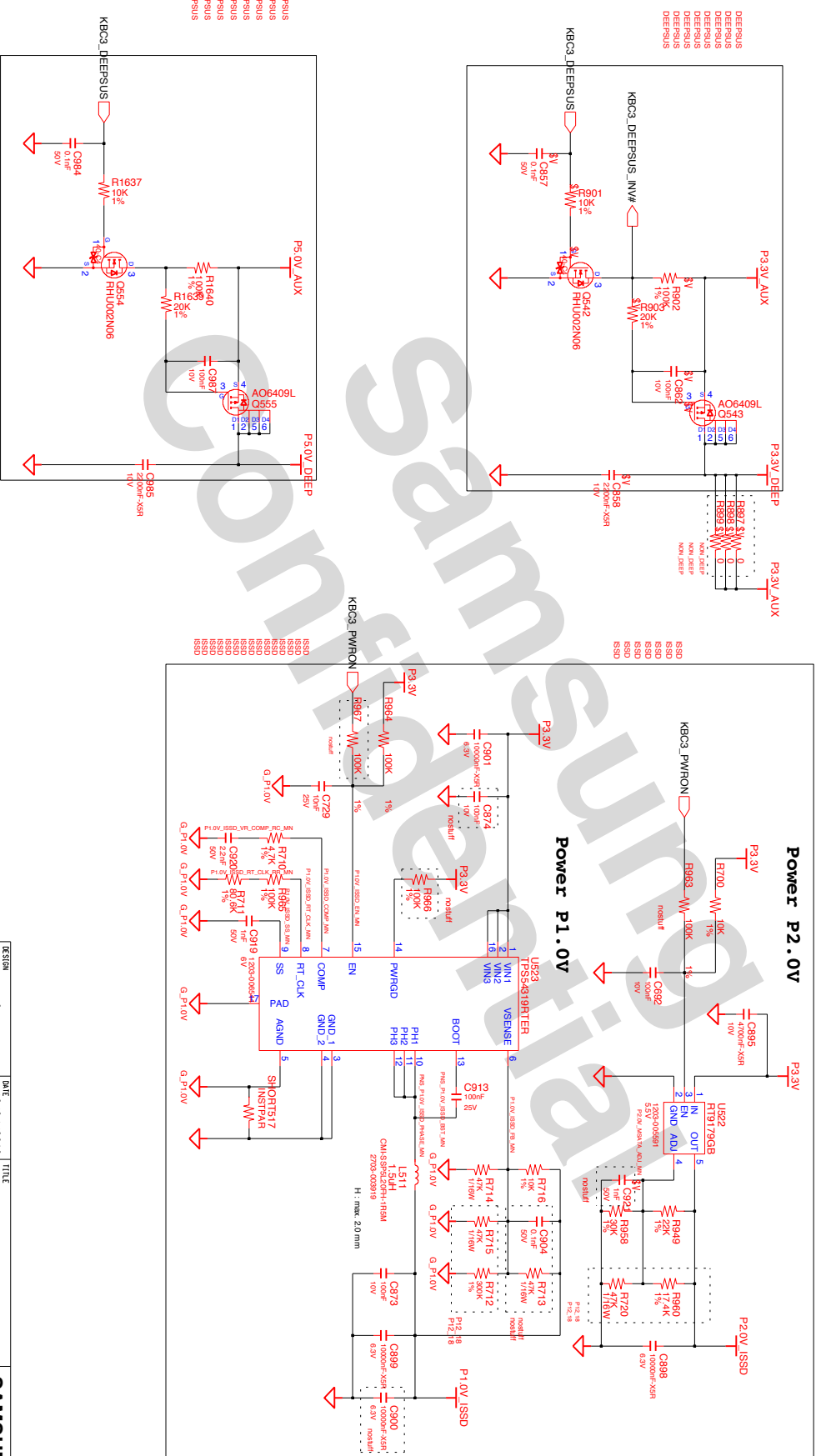
VCHG=12.597V/2600Cell
VCHG=13.05V/2950Cell
ICHG=2.56A FOR 5200mAh & 4000mAh

CHARGER & POWER MANAGEMENT



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Load Switch Control (P3.3V_DEEP)



DESIGN	DATE	TITLE
01n_wenhao	12/24/2010	ERIC-VE-R
DECK	REV: 5187	ISSD POWER
MU shi.jiang	PR	2.0V±1.0V
PERSONAL	REV	1.0
BC LEE		
MODULE CODE	LAST EDIT	
	December 13, 2011 16:40:00 PM	

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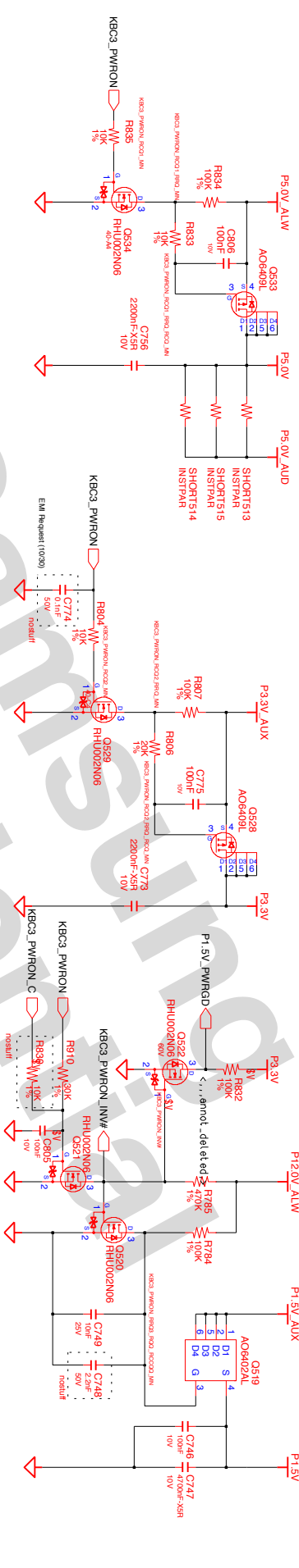
PART NO. BA-41-0XXXXA

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Load Switch Control (P5.0V)

Load Switch Control (P3.3V)

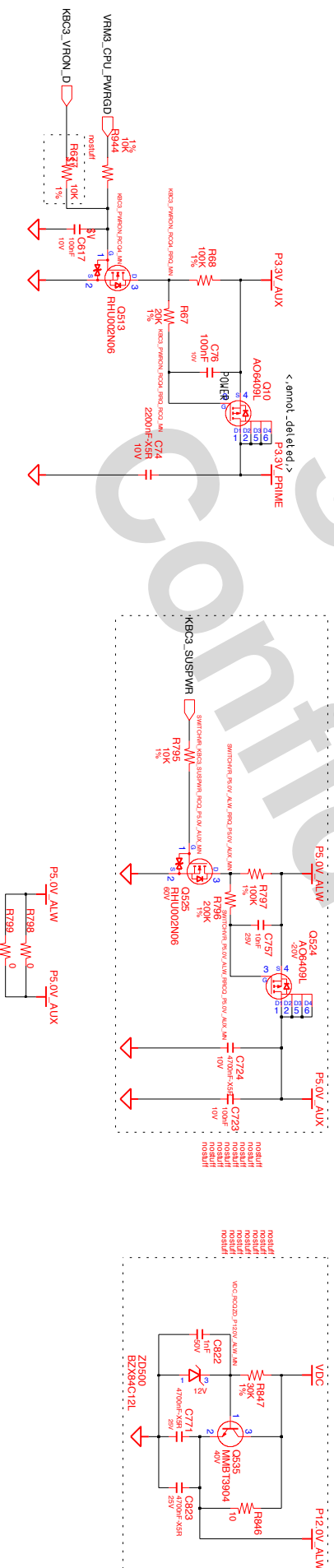
Load Switch Control (P1.5V)



Load Switch Control (P3.3V_PRIME)

Sleep'n Charger

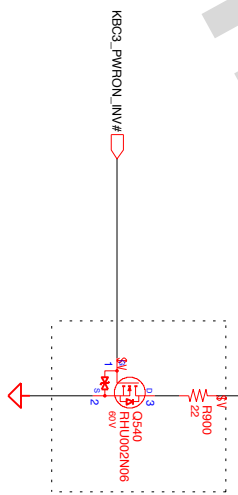
P12V_ALW



For Non-CHARGEABLE USB

DESIGN	DATE	TITLE	SAMSUNG
01n_wenchoo	12/24/2010	Ernic-VE-R	ELECTRONICS
Wu shijiang	REV. STEP	Switched PWR	
BC LEE	REV	Switched PWR	
ROUTE CODE	1.0		BA41-0XXXXA
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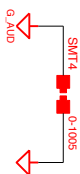
www.vinafix.vn



DATE	12/24/2010	TITLE	SAMSUNG ELECTRONICS		
DESIGN	01 - wenchao	DESIGNER	ERIC-VE-R	PART NO.	B4-1 - 0XXXXA
APPROVAL	Mu shi jiang	REV. STEP	Discharger		
MOBILE CODE	BC LEE	REV.	Discharger		
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**M/B⁺
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FOR EMI

Multi-assy	Description
HDMI	for sku with HDMI
NON_HDMI	for sku without HDMI
DEEPSUS	for sku with deep S3 junction
NON_DEEP	for sku without deep S3 junction
FFS	for sku with free fall sensor
NON_FFS	for sku without free fall sensor
HSDPA	for sku with HSDPA
NON_HSDPA	for sku without HSDPA
FULL_HSDPA	for full HSDPA screw
HALF_HSDPA	for half HSDPA screw
TPM	for BIOS detect there is TPM
NON_TPM	for BIOS detect there is no TPM
SSD	for sku with in-card SSD
ISSD	for sku with onboard SSD
SDD_HSDPA	for the connector that SSD & HSDPA common use
P12_18	for P5 SSD support
SMSC	for sku with SMSC thermal sensor
GMT	for sku with GMT Thermal sensor
INTMIC	for BIOS detect there is Internal MIC
NON_INTMIC	for BIOS detect there is no Internal MIC
HDD	for sku with HDD
SSD	for sku with SSD

Dummy (LED side)

REV	DATE	TITLE	SAMSUNG ELECTRONICS		
0.1n	12/24/2010	ETC-VE-R	<div> <div> PART NO BA41-0XXXXA </div> </div>		
CHK	REV: STEP	ETC			
WU SHIJIANG	PR				
APPROVAL	REV	1.0			
BC LEE		MOUNT & MULTI-ASSY			
MODULE CODE	LAST EDIT	December 13, 2011 16:40:00 PM	PAGE	42	OF 42