

# TORINO 2/BELJING

PCB Thickness:1mm

CPU :INTEL MEROM  
Chip Set :INTEL 965GM & ICH8-M  
Remarks :w/o INTEL AMT  
2 SODIMMs

Model Name : TORINO 2  
PBA Name : MAIN  
PCB Code : BA41-00727A / 728A  
Dev. Step : MP  
Revision : 1.1  
T.R. Date : 2007.04.10

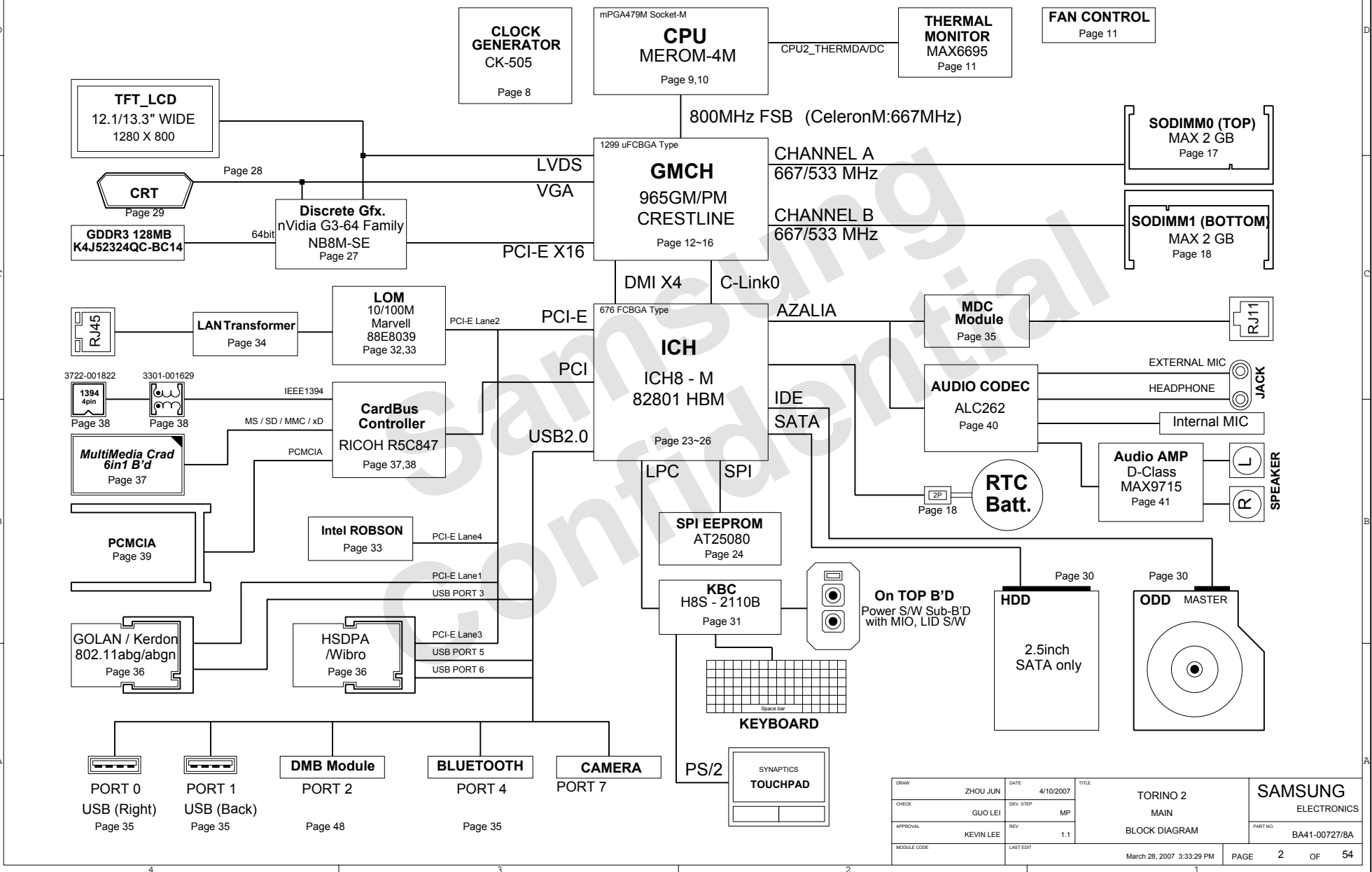
DRAW	CHECK	APPROVAL
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APPROVAL	KEVIN LEE	REV	1.1		CONTENTS	PART NO. BA41-00727/8A
MODULE CODE		LAST EDIT	March 28, 2007 3:33:29 PM	PAGE	1	OF 54

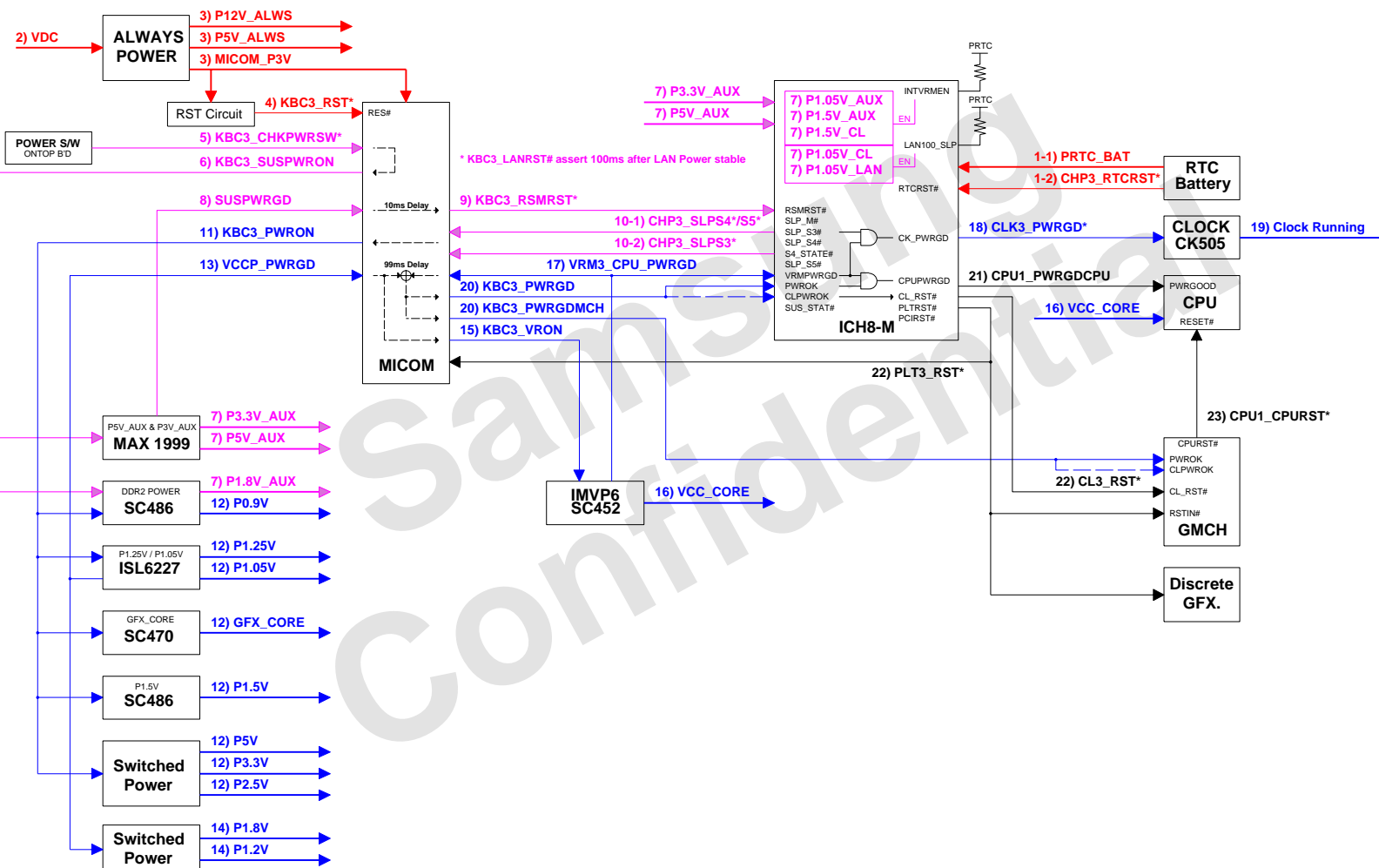
# OPERATION BLOCK DIAGRAM



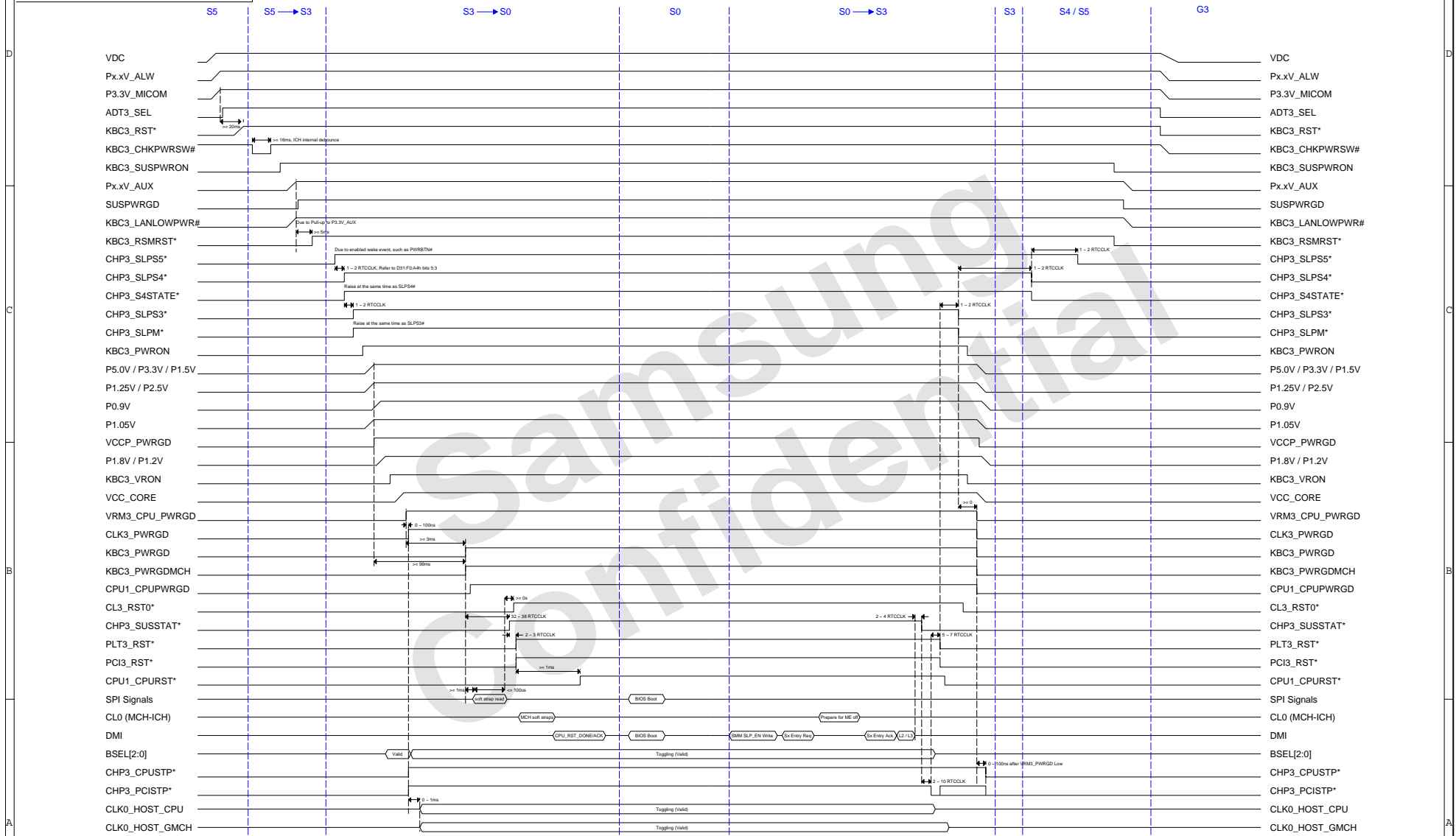
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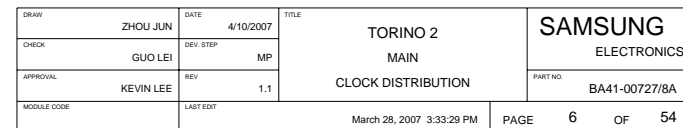
# POWER SEQUENCE Rev. 0.1



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# BOARD INFORMATION

## SCHEMATIC ANNOTATIONS AND BOARD INFORMATION

### PCI Devices

Devices	IDSEL#	REQ/GNT#	Interrupts
Cardbus	AD25	0	E,F,G

### Voltage Rails

VDC	Primary DC system power supply (7 to 21V)
CPU_CORE	Core voltage for Processor (1.308~1.068V)
P1.05V	Processor System Bus(PSB) Termination (1.05V)
GFX_CORE	GMCH & ICH8 Core Voltage
P1.8V_AUX	Core voltage for NB8M-SE (1.0 ~ 1.1V)
P0.9V	1.8V power rail for DDR2 (off in S4-S5)
P1.8V	0.9V switched power rail (off in S3-S5)
P1.2V	1.8V power rail for GDDR3 (off in S3-S5)
P1.5V	1.2V switched power rail (off in S3-S5)
P2.5V	1.5V switched power rail (off in S3-S5)
P3.3V	2.5V switched power rail (off in S3-S5)
P5.0V	3.3V switched power rail (off in S3-S5)
P3.3V_AUX	5.0V switched power rail (off in S3-S5)
P5V_AUX	3.3V power rail (off in S4-S5)
PRTC_BAT	5.0V power rail (off in S4-S5)
P3.3V_MICOM	3.0V power rail (ALWAYS ON)
P5.0V_ALW	3.3V always on power rail for MICOM
P12.0V_ALW	5V power rail (Always On)
	12V power rail (Always On)

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

Devices	Address	Hex	Bus
ICH8	Master	-	SMBUS Master
SODIMM0	1010 000X	A0h	-
SODIMM1	1010 010X	A4h	-
CK-505 (Clock Generator)	1101 001x	D2h	Clock, Unused Clock Output Disable
MICOM	Master	-	SMBUS Master
BATTERY	0001 011X	16h	-
EMC2102 (Thermal Sensor)	0111 101X	7Ah	Thermal Sensor

### USB PORT Assign

PORT NUMBER	ASSIGNED TO
0	SYSTEM PORT A
1	SYSTEM PORT B
2	DMB CARD
3	MINI PCLE
4	BLUETOOTH
5	WIBRO SIM CARD
6	HSDPA
7	CAMERA

### System Power States

CHP3\_SLPS1\* S1, Powered-On-Suspend(POS) : In this state, all clocks(except the 32.768KHz clock) are stopped.  
The system context is maintained in system DRAM. Power is maintained to PCI, the CPU, memory controller, memory, and all other critical subsystems.  
Note that this state does not preclude power being removed from non-essential devices, such as disk drives. During this state, CPU can be selected for either Deep Sleep or Deeper Sleep.  
CHP3\_SLPS3\* S3, Suspend-To-RAM(STR) : The system context is maintained in system DRAM, but power is shut off to non-critical circuits.  
Memory is retained, and refreshes continue. All clocks stop except RTC clock.  
CHP3\_SLPS4\* S4, Suspend-To-Disk(STD) : The Context of the system is maintained on the disk. All power is then shut off to the system except for the logic required to resume.  
Externally appears same as S5, but may have different wake events.  
CHP3\_SLPS5\* S5, Soft Off(SOFF) : System context is not maintained. All power is shut off except for the logic required to restart. A full boot is required when waking.

### Crystal / Oscillator

TYPE	FREQUENCY	DEVICE	USAGE
Crystal	32.768KHz	ICH8-M	Real Time Clock
Crystal	10MHz	MICOM	H8S/2110BV
Crystal	14.318MHz	CLOCK-Generator	CK-505
Crystal	24.576MHz	Cardbus Controller	1394
Crystal	25MHz	LAN	LAN

### CPU Core Voltage Table

IMVP-6

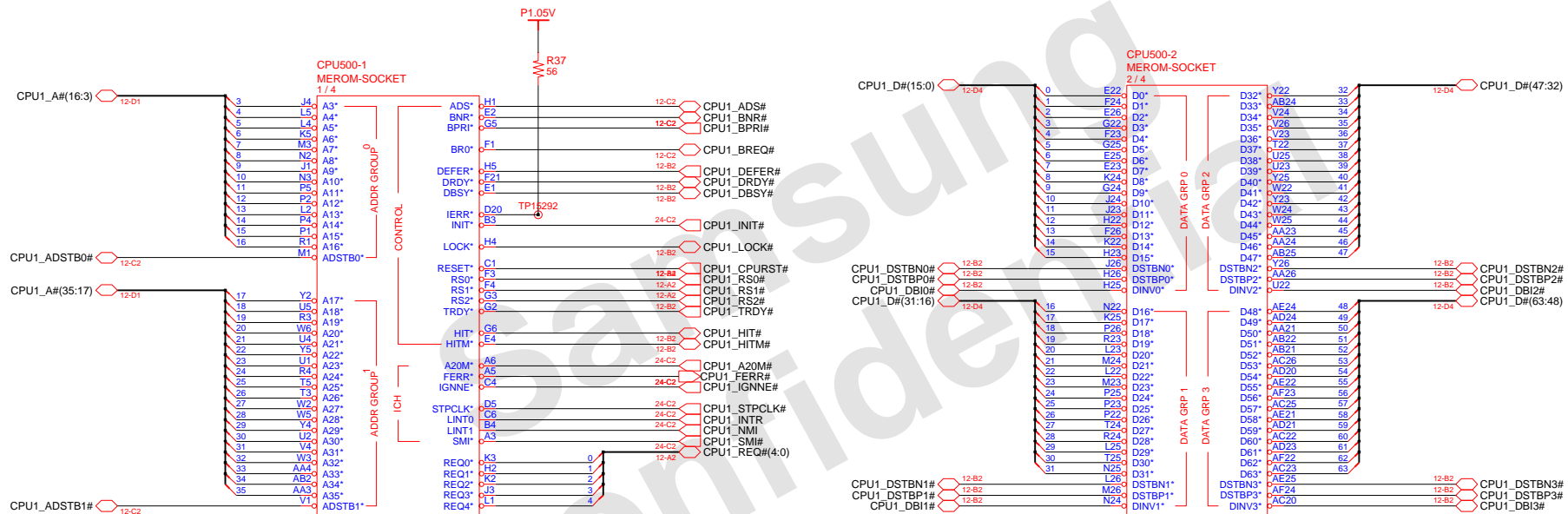
Active Mode		Active/Deeper Sleep Dual Mode Region		Deeper Sleep/Extended Deeper Sleep Dual Mode Region	
VID(6:0)	Voltage	VID(6:0)	Voltage	VID(6:0)	Voltage
0 0 0 0 0 0 0	1.5000 V	0 1 0 1 0 0 0	1.0000 V	1 0 1 0 0 0 1	0.4875 V
0 0 0 0 0 0 1	1.4875 V	0 1 0 1 0 0 1	0.9875 V	1 0 1 0 0 1 0	0.4750 V
0 0 0 0 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 0 1 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 0 1	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 0	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 0 1 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 0	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 1	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 0 1	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 0	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 1	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 0 1 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 0 1	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 0	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 0	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 1	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 0 1 1 1	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 0	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 0 1	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 0	0.5750 V	1 1 1 0 0 1 1	0.0625 V
0 1 0 0 0 1 1	1.0625 V	1 0 0 1 0 1 1	0.5625 V	1 1 1 0 1 0 0	0.0500 V
0 1 0 0 1 0 0	1.0500 V	1 0 0 1 1 0 0	0.5500 V	1 1 1 0 1 0 1	0.0375 V
0 1 0 0 1 0 1	1.0375 V	1 0 0 1 1 0 1	0.5375 V	1 1 1 0 1 1 0	0.0250 V
0 1 0 0 1 1 0	1.0250 V	1 0 0 1 1 1 0	0.5250 V	1 1 1 0 1 1 1	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 0	0.0000 V
		1 0 0 1 1 1 1	0.5000 V	1 1 1 1 0 0 1	0.0000 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* : 0V power good asserted.	

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CHECK	GUO LEI	DEV. STEP	MP		MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1		BOARD INFORMATION	PART NO.
MODULE CODE		LAST EDIT				BA41-00727/8A
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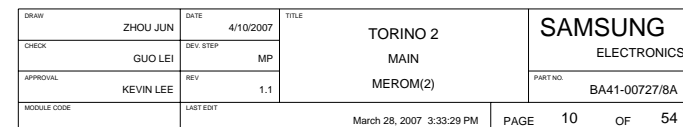
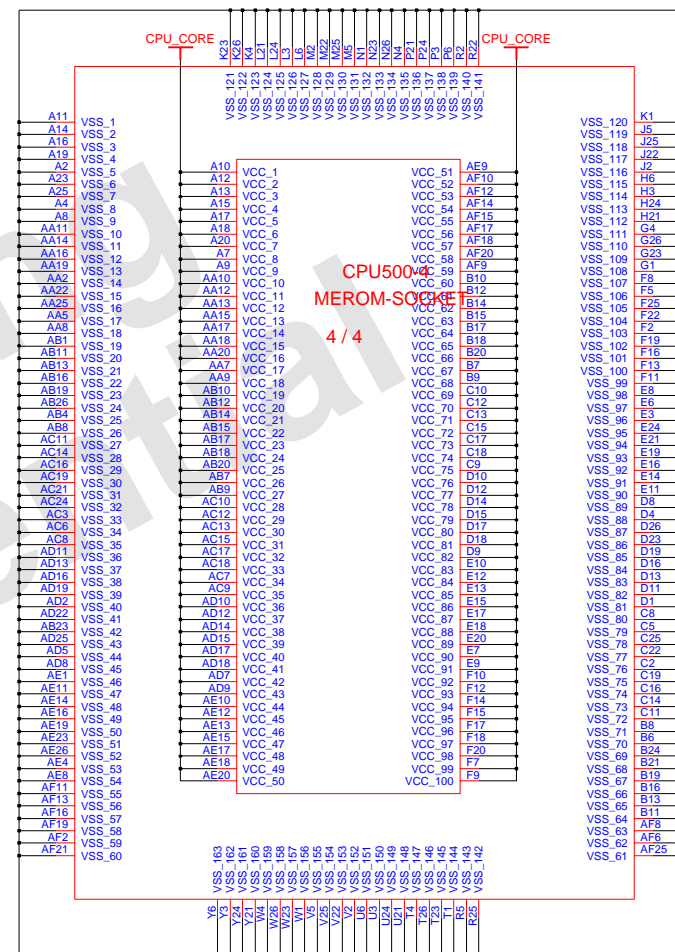




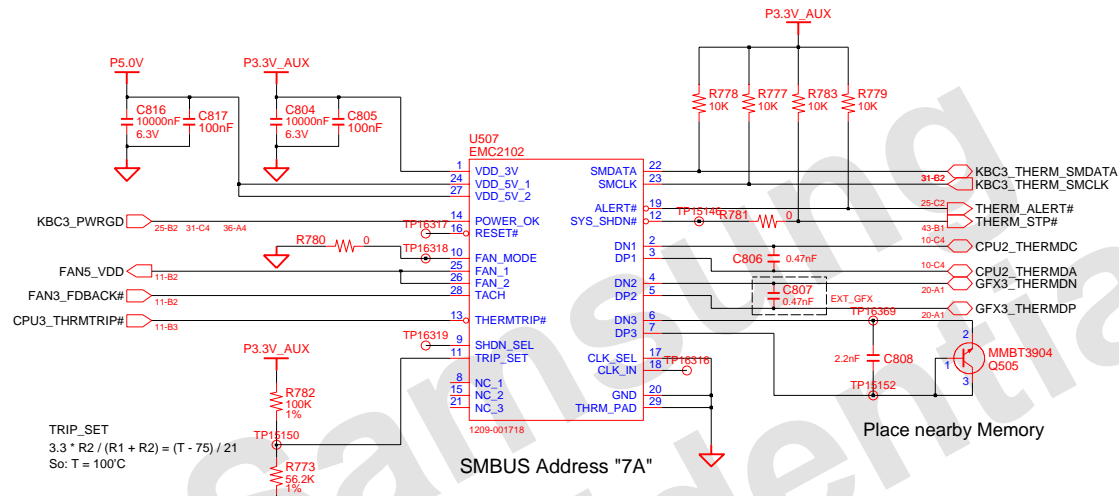
## CPU SOCKET : MEROM



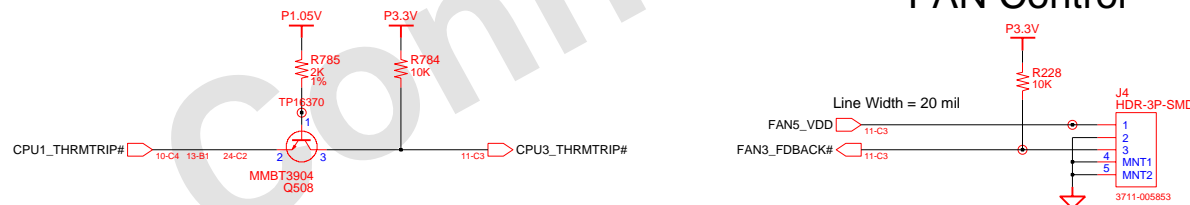
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APPROVAL	KEVIN LEE	REV	1.1			
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## Thermal Monitor

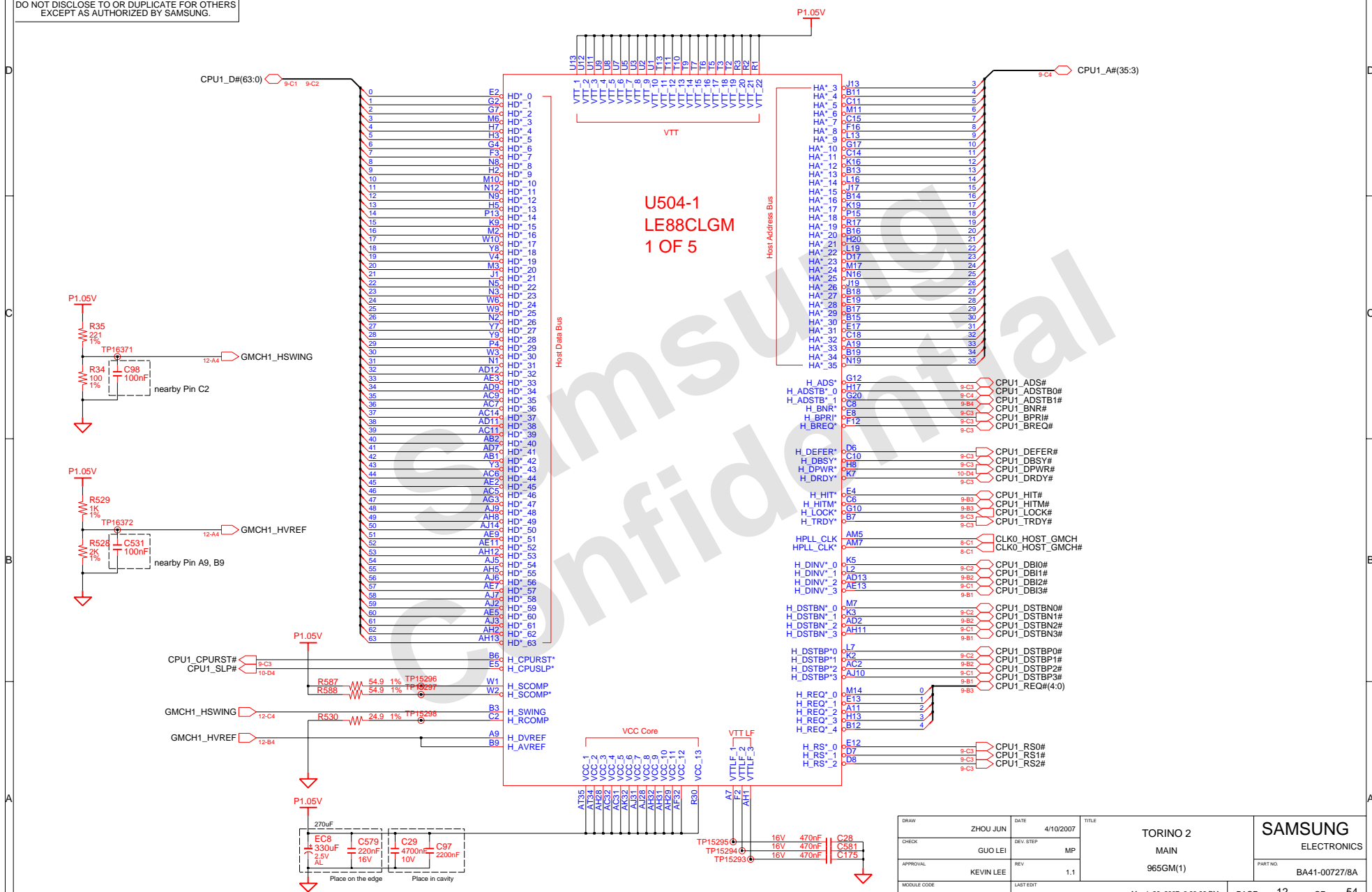


## FAN Control



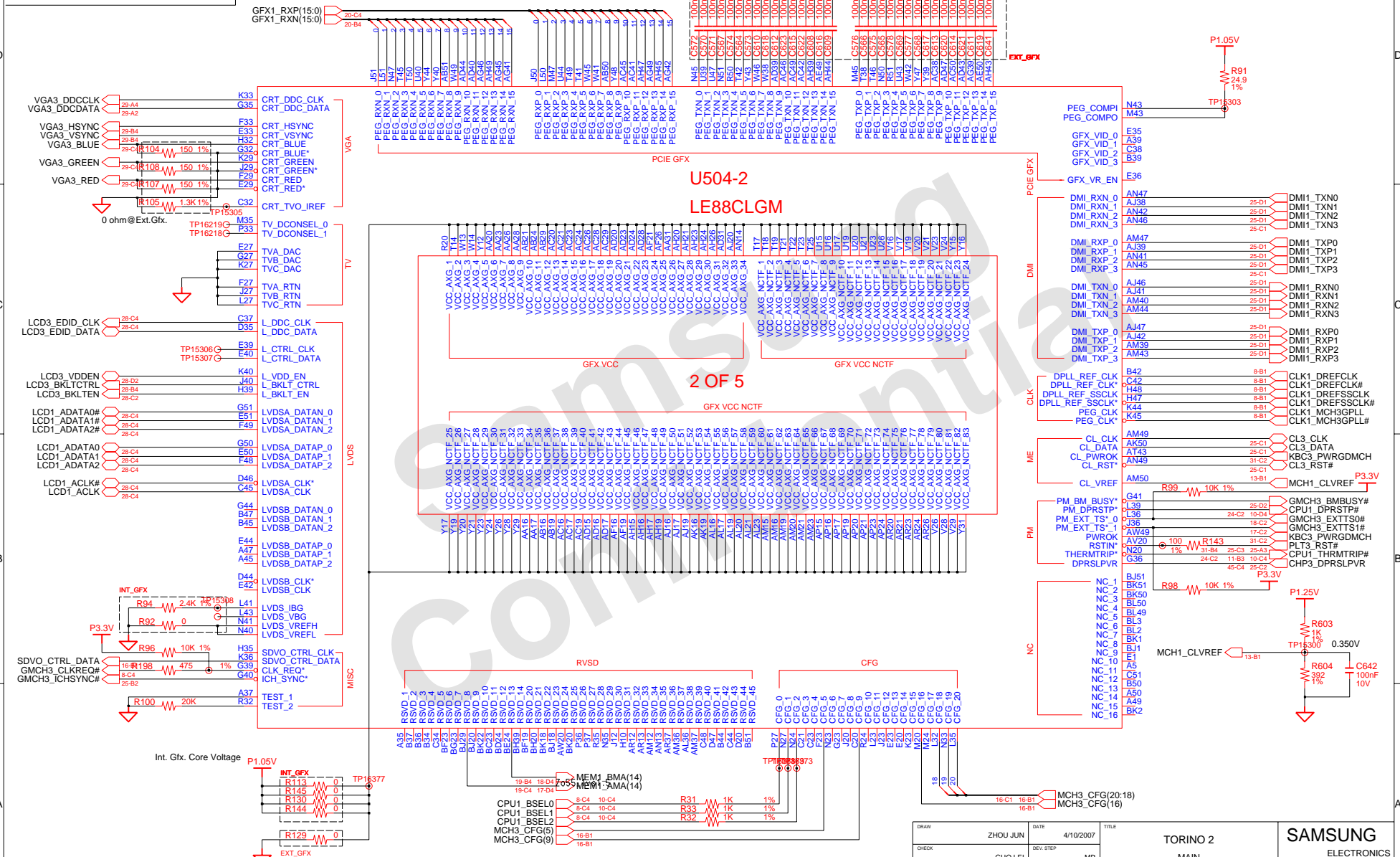
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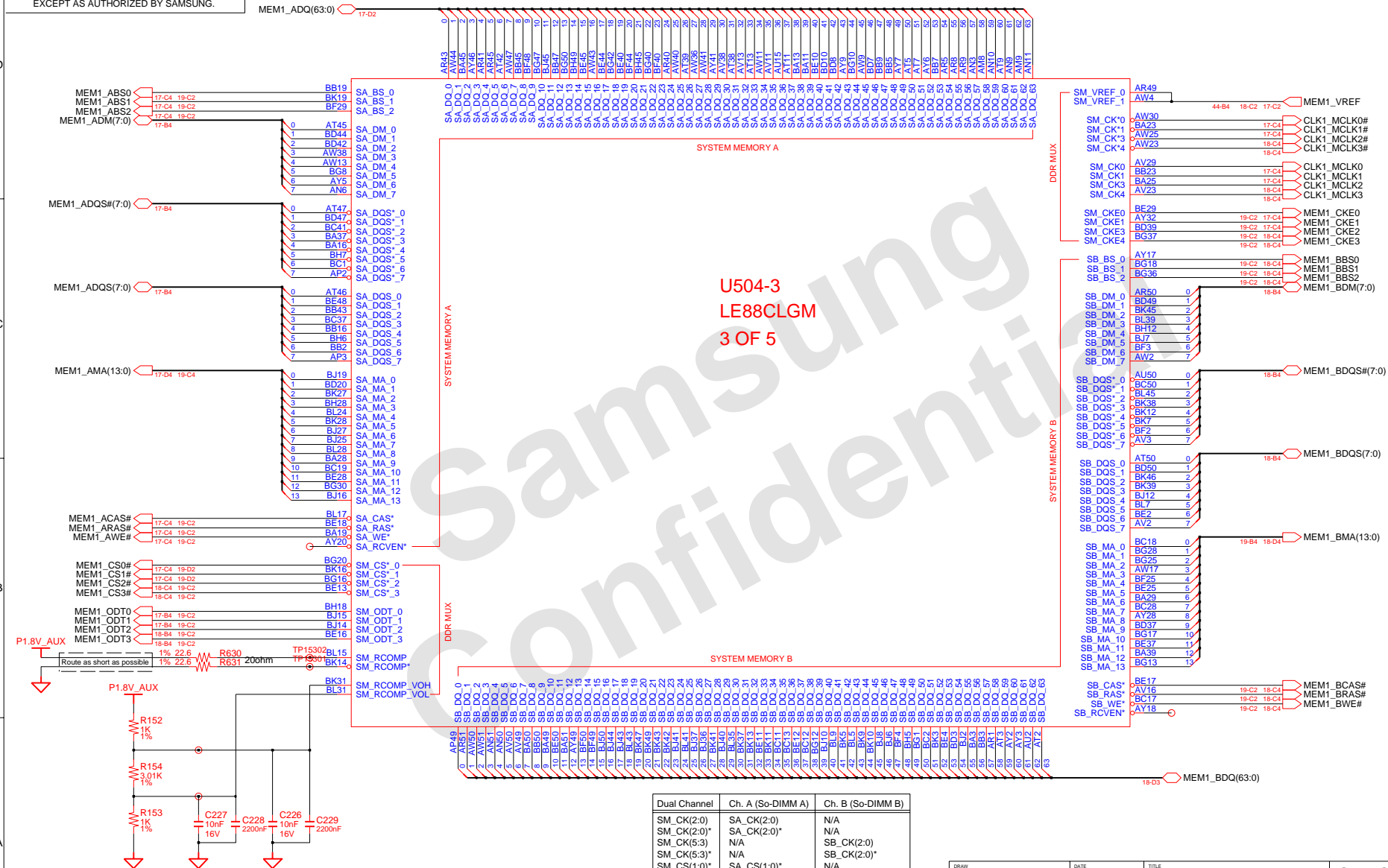
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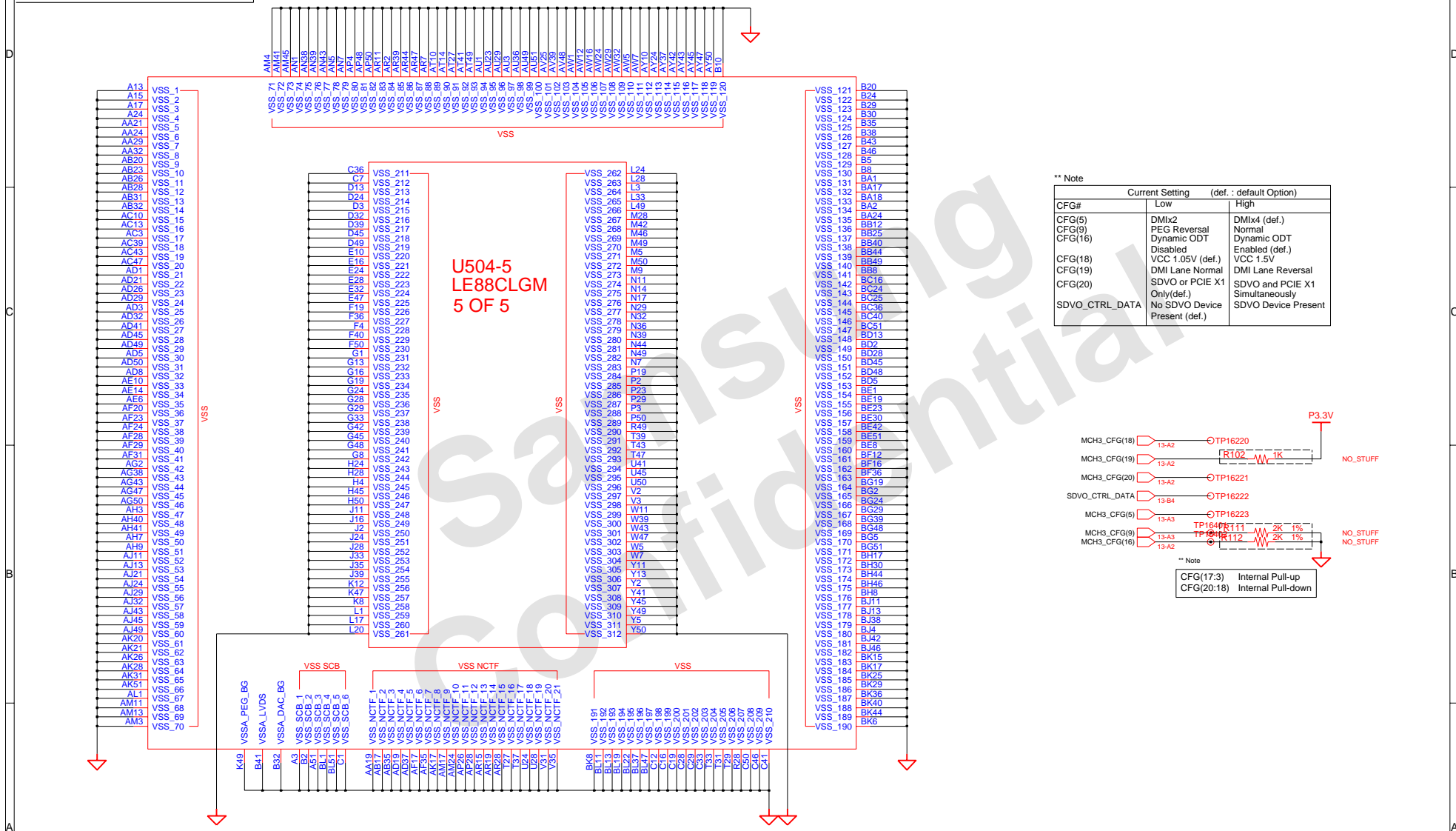


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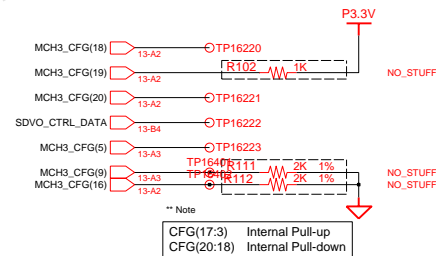
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Current Setting (def.: default Option)		
CFG#	Low	High
CFG(5)	DMIx2	DMIx4 (def.)
CFG(9)	PEG Reversal	Normal
CFG(16)	Dynamic ODT	Dynamic ODT
	Disabled	Enabled (def.)
CFG(18)	VCC1.05V (def.)	VCC1.55V
CFG(19)	DMI Lane Normal	DMI Lane Reversal
CFG(20)	SDVO or PCIE X1 (only def.)	SDVO and PCIE X1 Simultaneously
SDVO_CTRL_DATA	No SDVO Device Present (def.)	SDVO Device Present

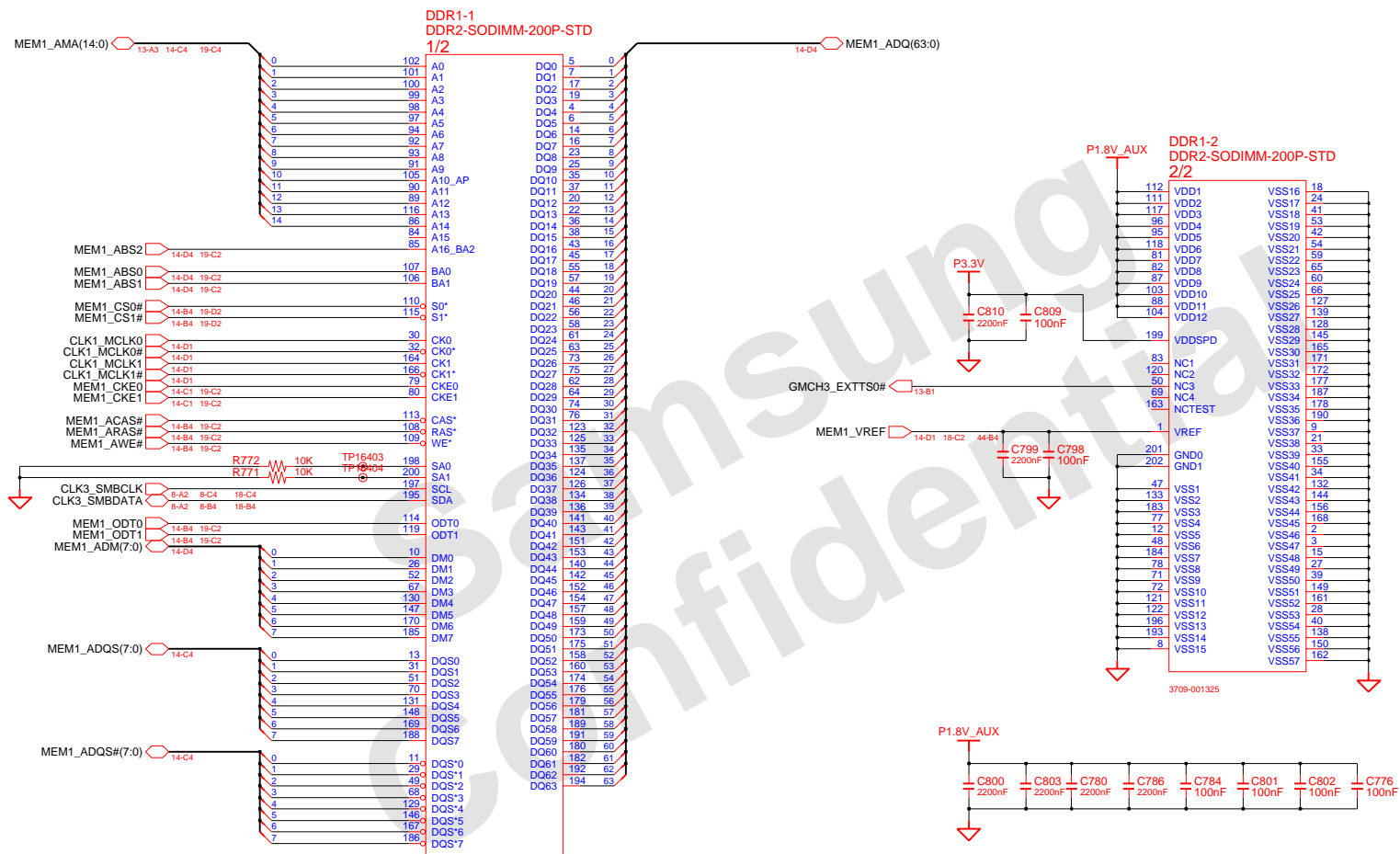


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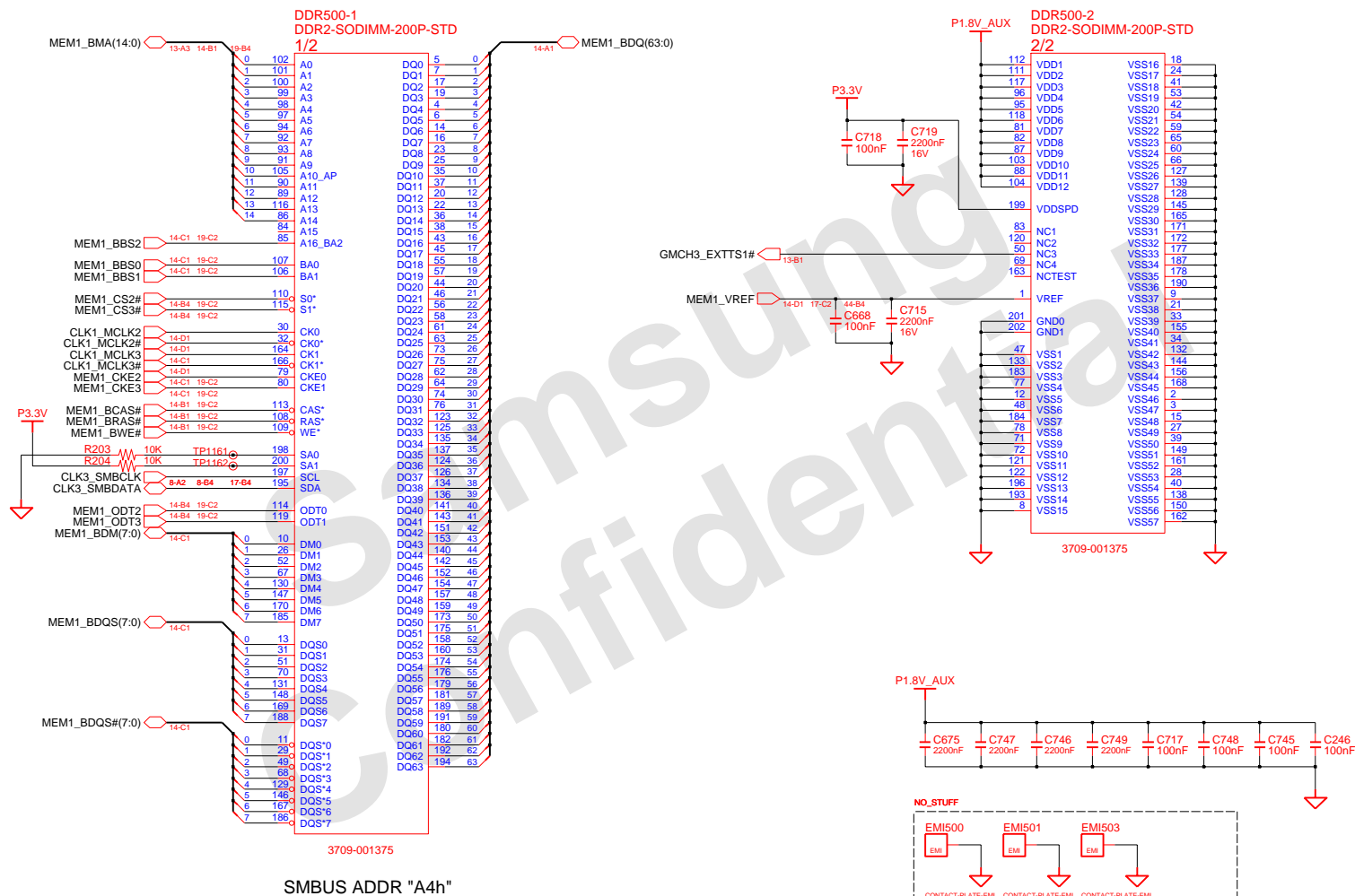
## SODIMM0 (TOP)



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CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	DDR2 SODIMM (TOP)	PART NO.	BA41-00727/8A
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# SODIMM1 (BOTTOM)



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CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	DDR2 SODIMM (BOTTOM)	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT		March 28, 2007 3:33:29 PM	PAGE	18 OF 54

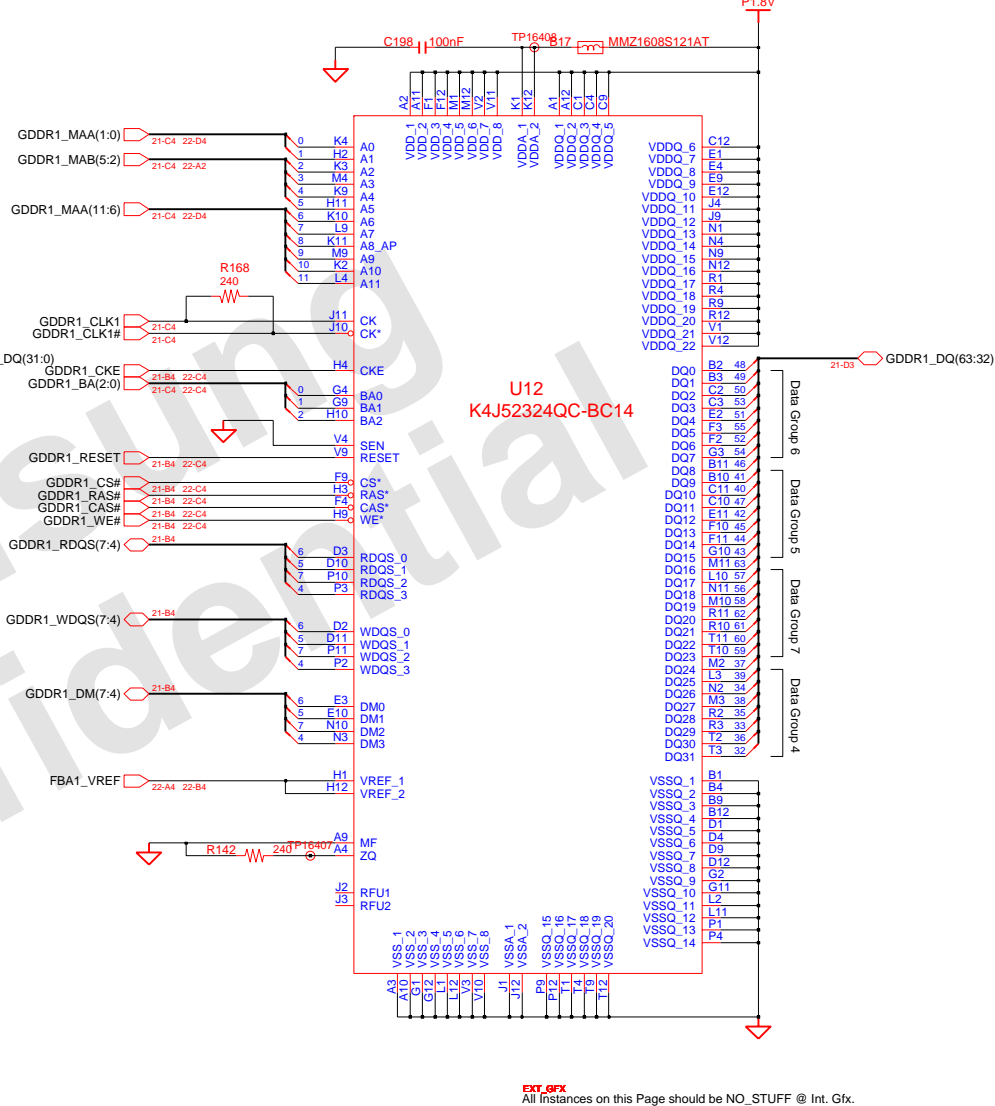
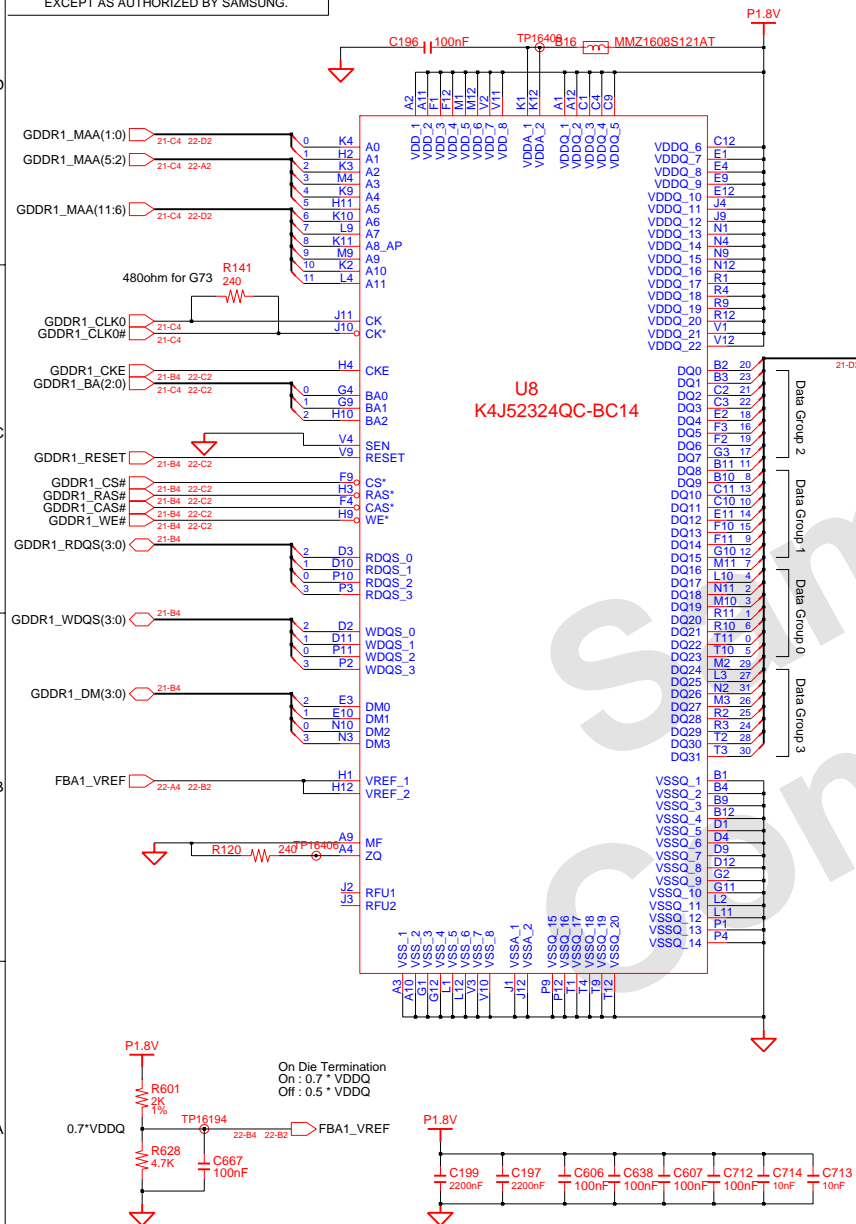


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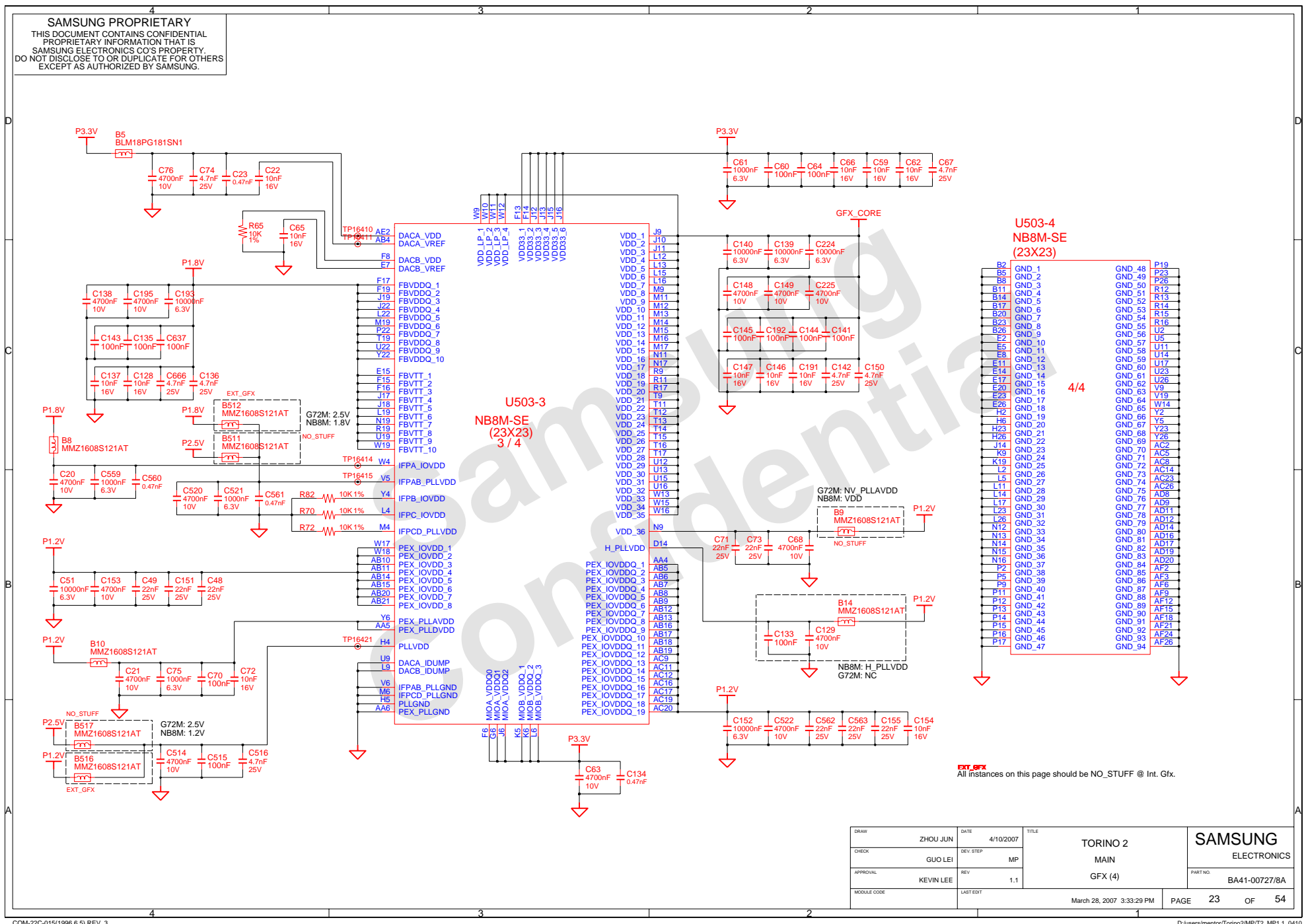
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**EXT. GFX**  
All instances on this Page should be NO\_STUFF @ Int. Gfx.

DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP		MAIN	
APPROVAL	KEVIN LEE	REV	1.1		GFX (3)	
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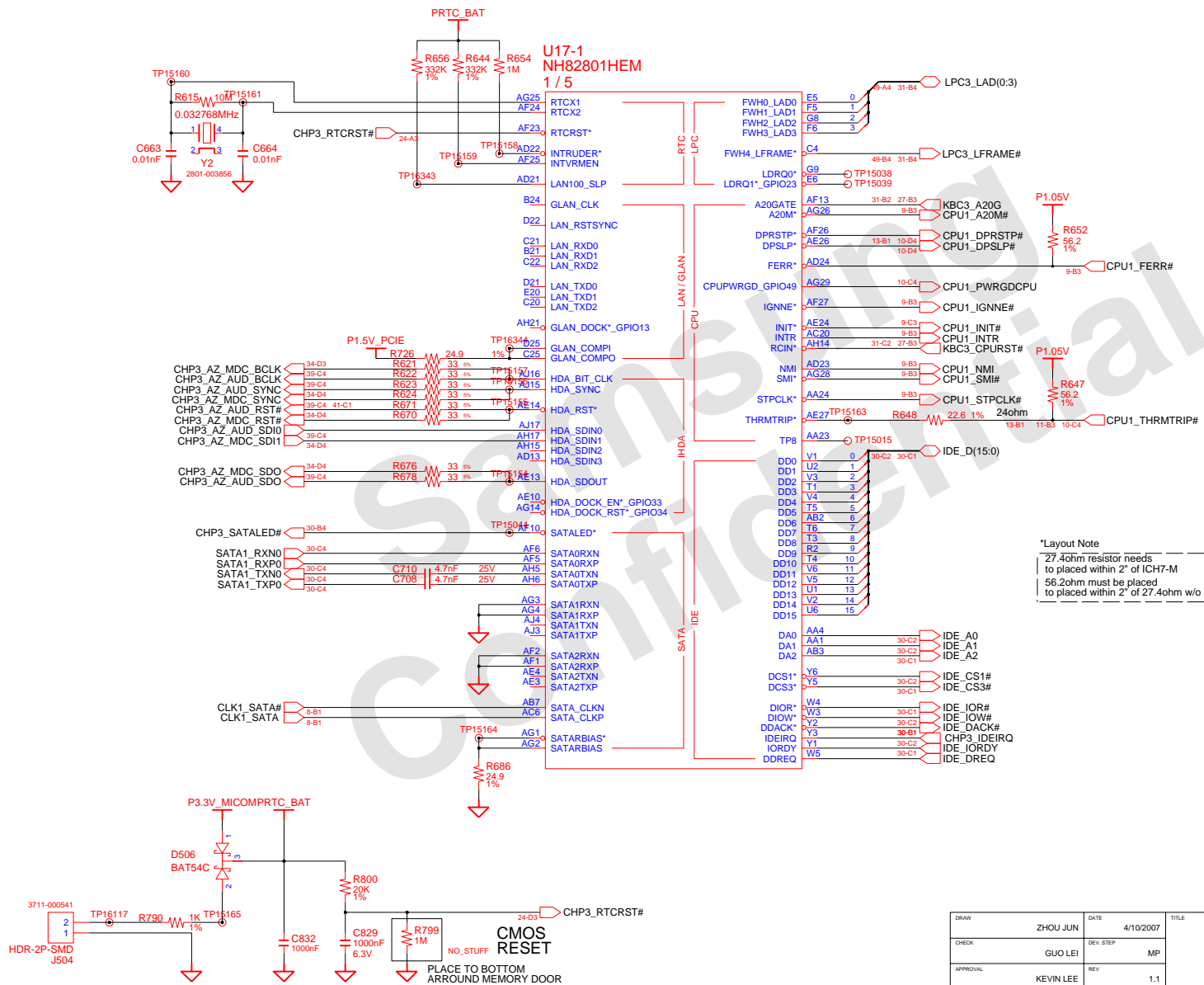


**EXT\_GFX**  
All instances on this page should be NO\_STUFF @ Int. Gfx.

DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG ELECTRONICS PART NO. BA41-00727/8A
CHECK	GUO LEI	DEV STEP	MP	MAIN		
APPROVAL	KEVIN LEE	REV	1.1	GFX (4)		
MODULE CODE		LAST EDIT				
March 28, 2007 3:33:29 PM						PAGE 23 OF 54



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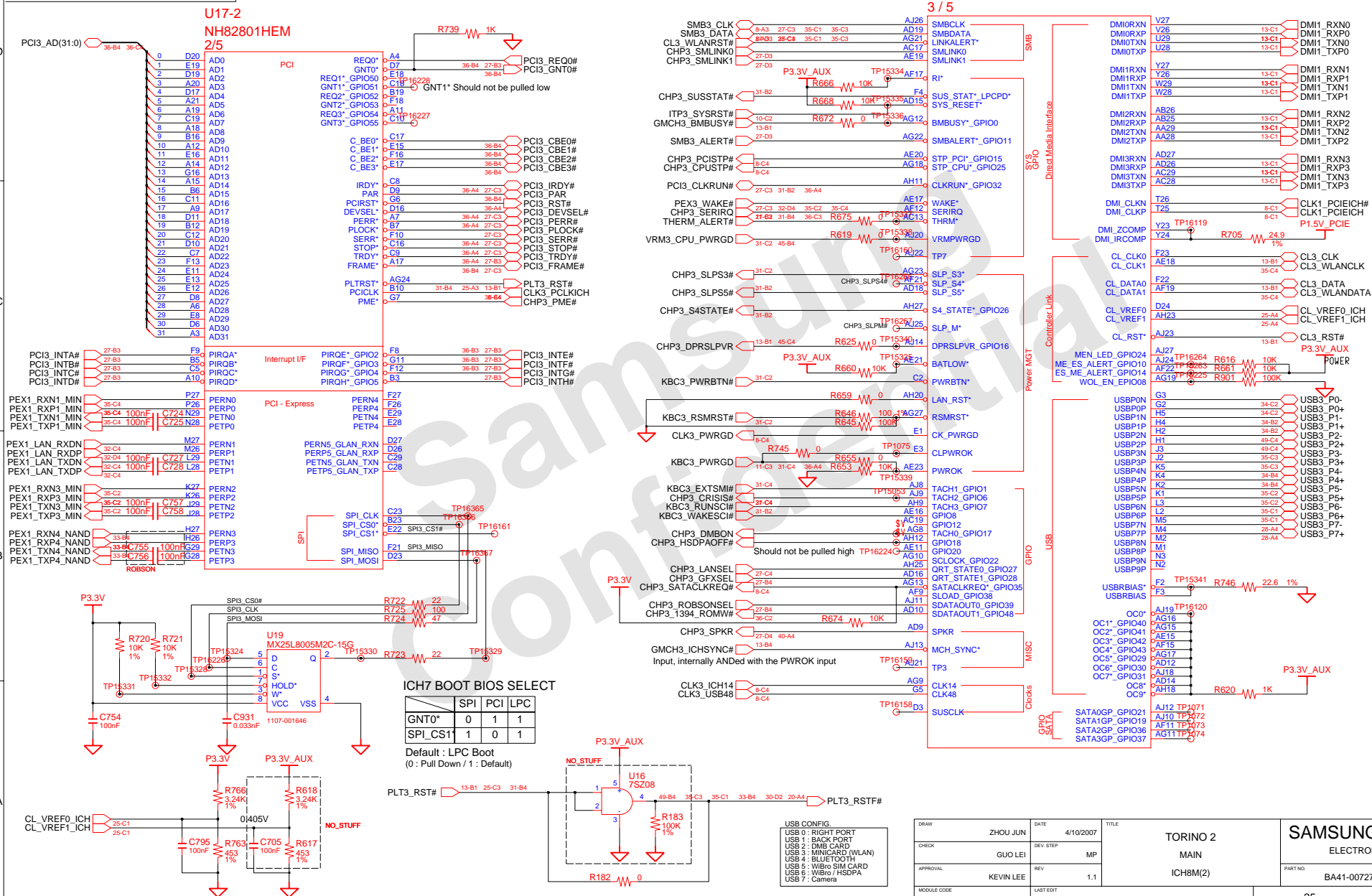
**\*Layout Note**  
27.4ohm resistor needs  
to be placed within 2" of ICH7-M  
56.2ohm must be placed  
to be placed within 2" of 27.4ohm w/o stub

DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	ICH8M(1)	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT			PAGE	24 OF 54
				March 28, 2007 3:33:29 PM		



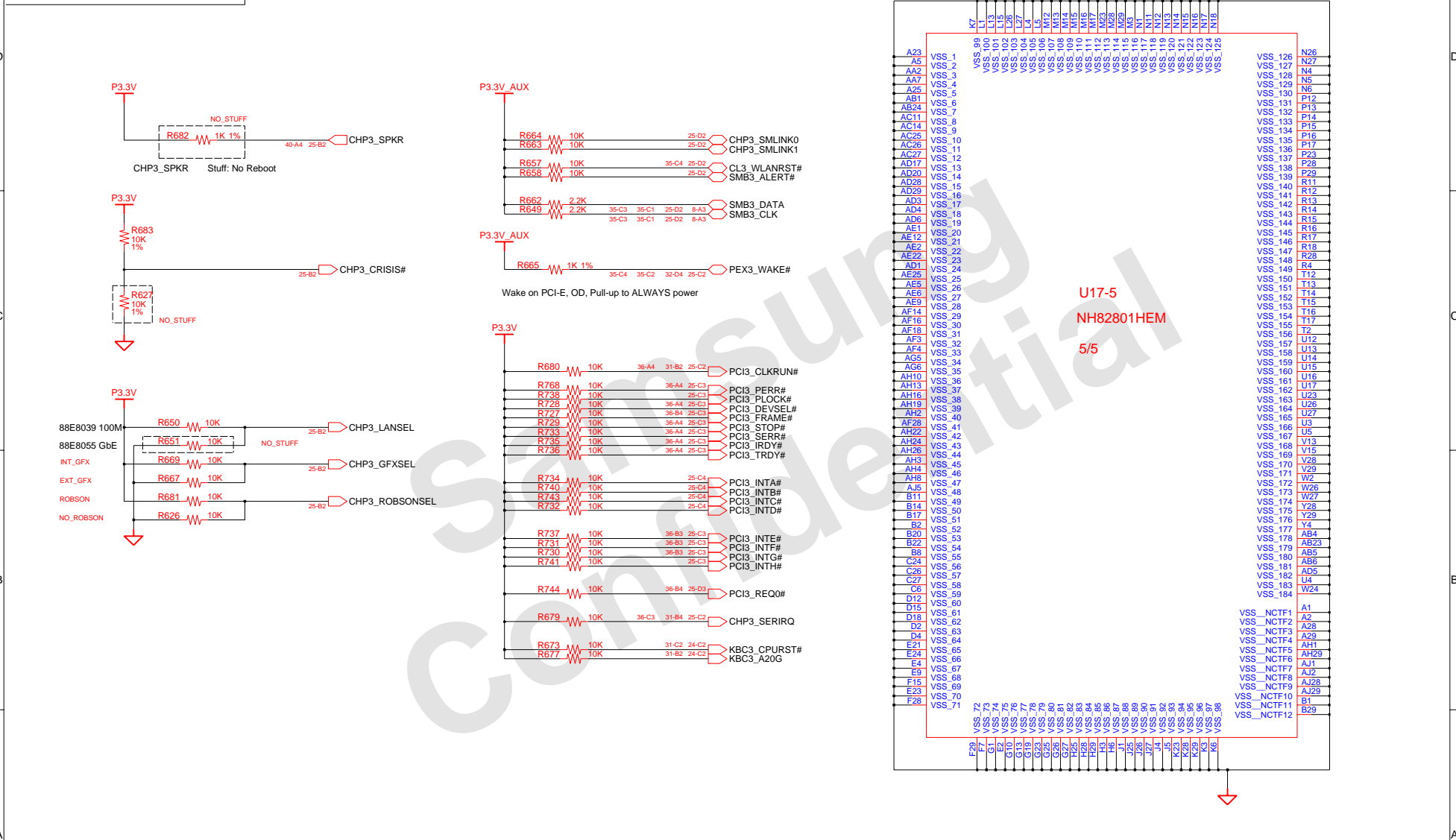
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AC caps : PCIE need to be within 250mils of the driver  
Resistor for Test : Place Stuffed Option to minimize stubs



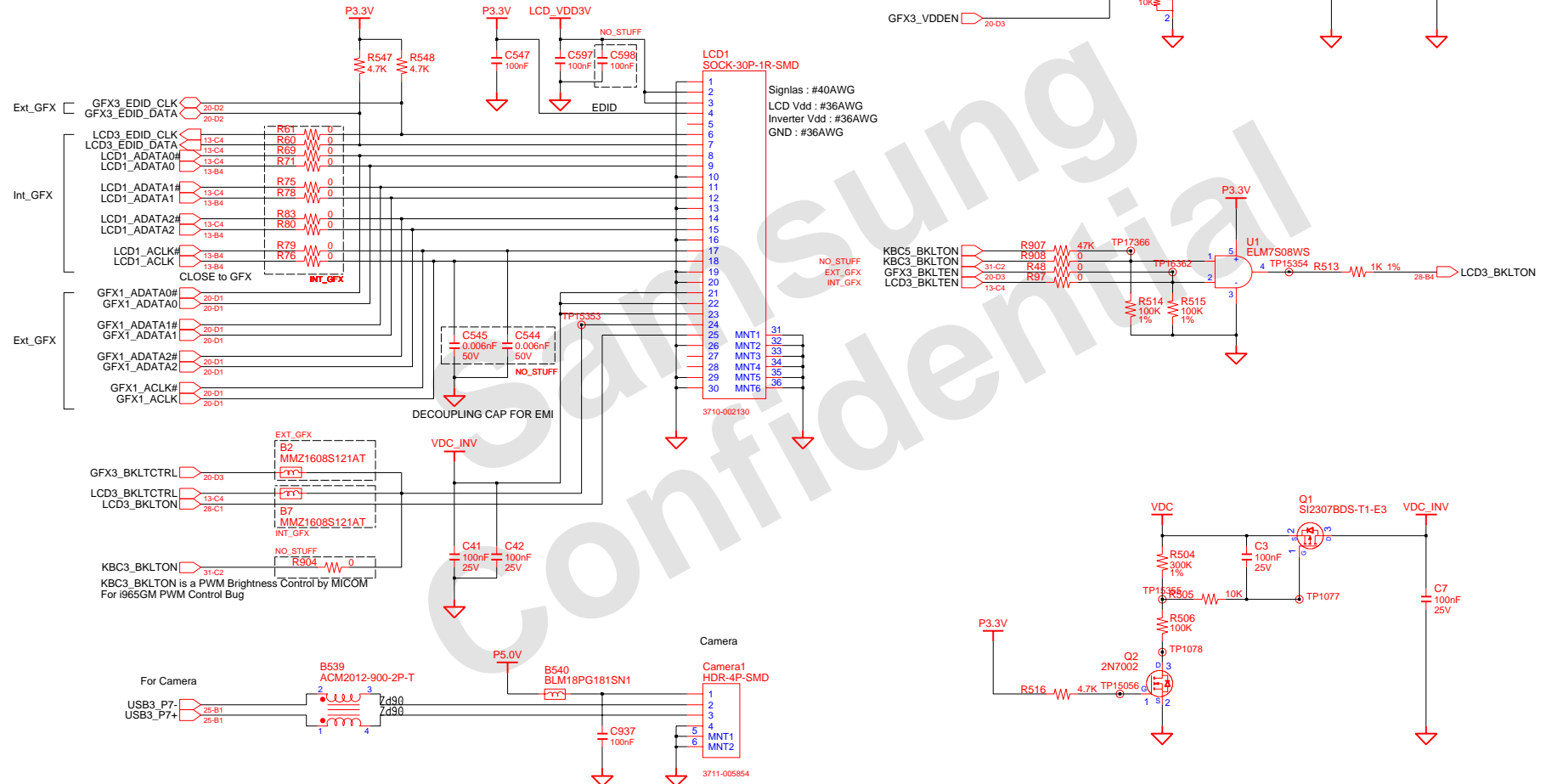


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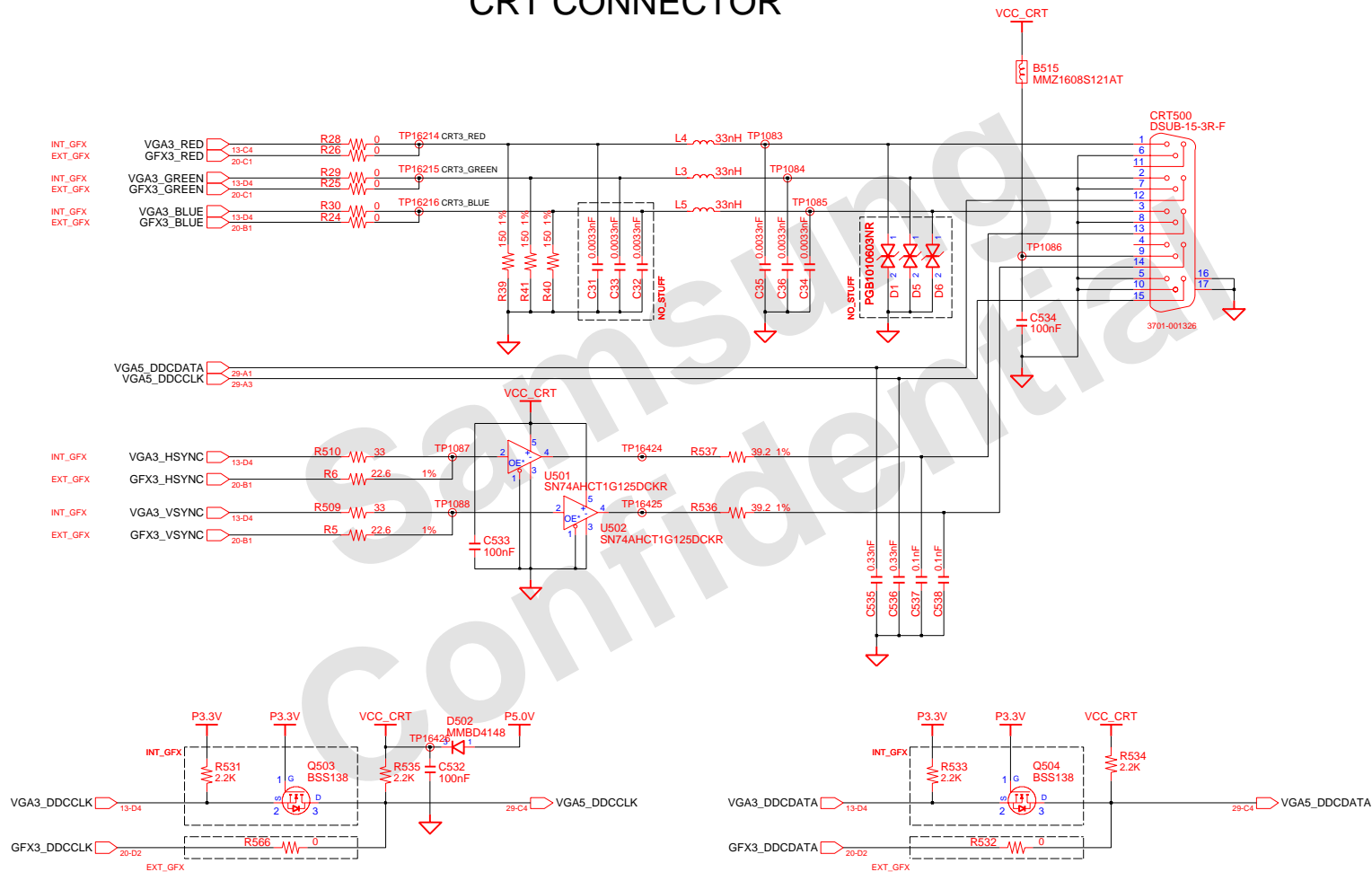
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CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	ICH8M(4)	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT			PAGE	27 OF 54
				March 28, 2007 3:33:29 PM		

## WXGA LCD CONNECTOR



DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	LVDS		PART NO.
MODULE CODE		LAST EDIT				BA41-00727/8A
				March 28, 2007 3:33:29 PM	PAGE	28 OF 54

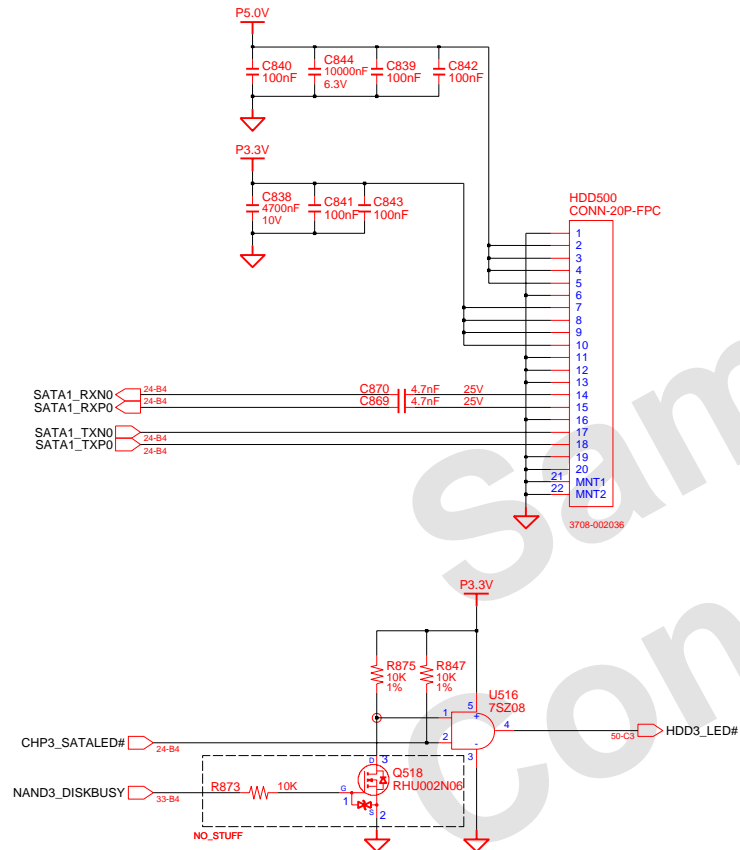
## CRT CONNECTOR



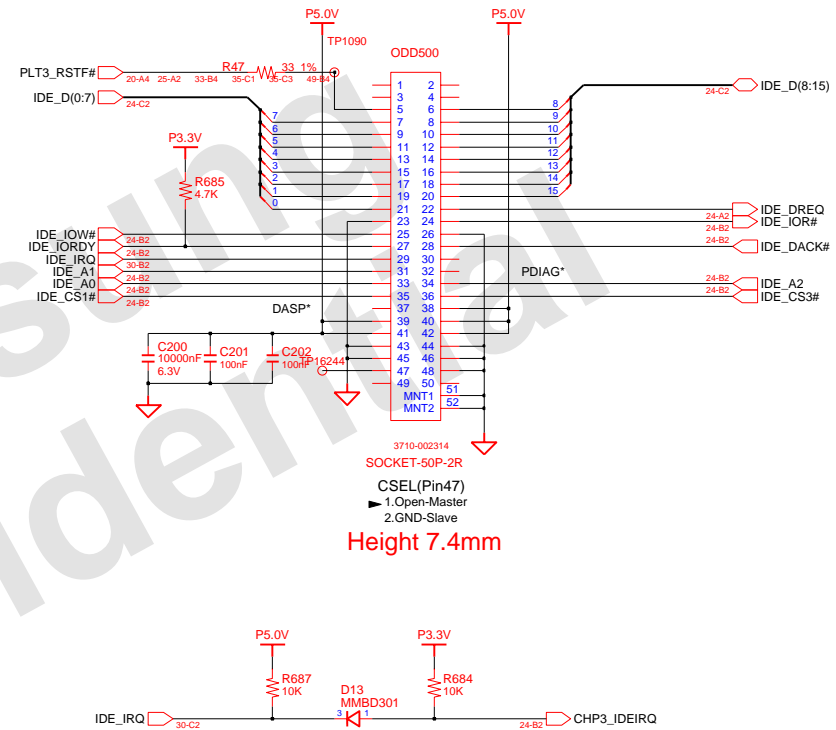
DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	ELECTRONICS	
APPROVAL	KEVIN LEE	REV	1.1	CRT		
MODULE CODE		LAST EDIT				
			March 28, 2007 3:33:29 PM	PAGE	29	OF 54

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## Main to HDD



## Main to ODD



DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	ELECTRONICS	
APPROVAL	KEVIN LEE	REV	1.1	IDE	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT				
				March 28, 2007 3:33:29 PM	PAGE	30 OF 54

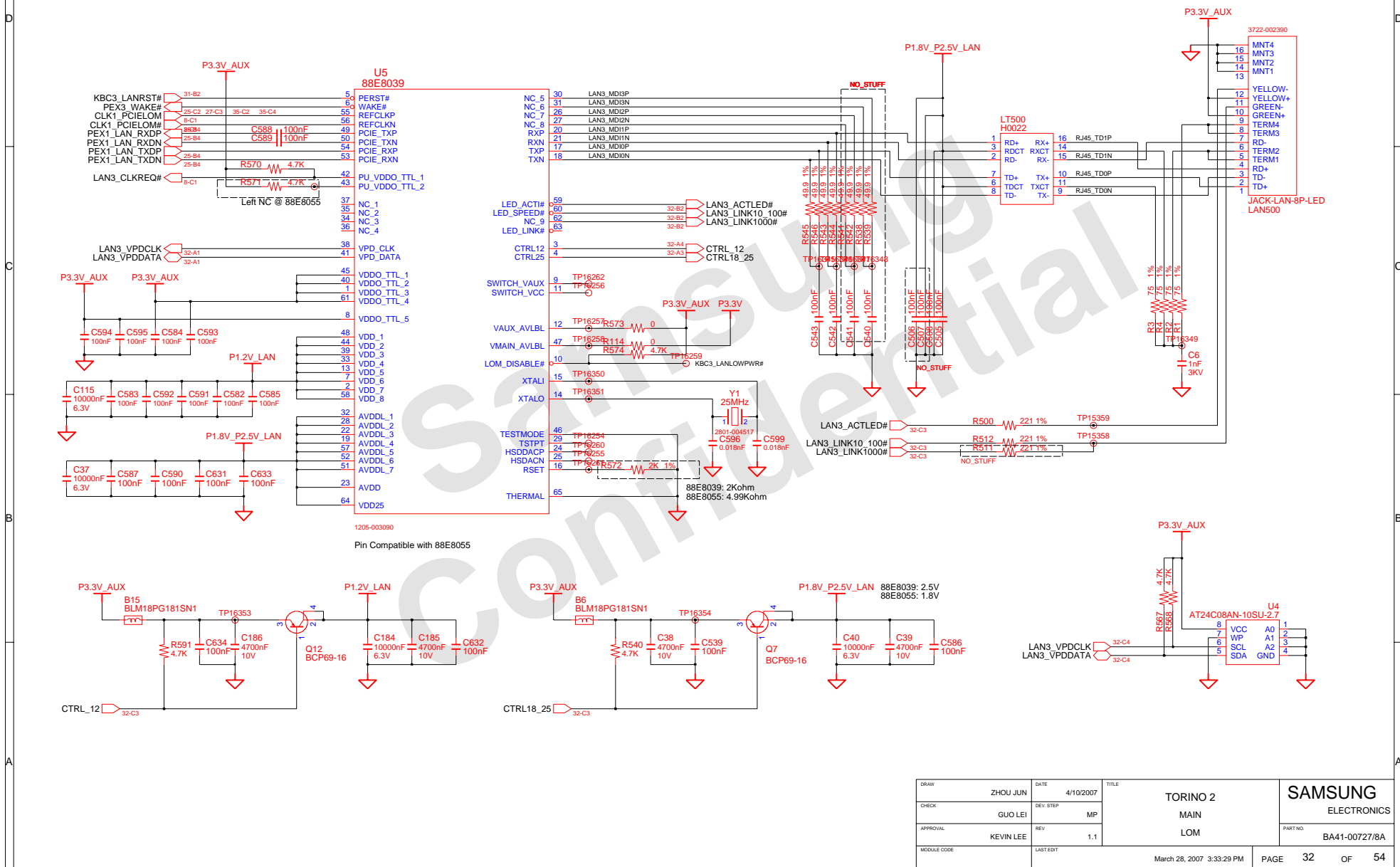
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**MICOM RESET**

DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2
CHECK	GUO LEI	DEV. STEP	MP		MAIN
APPROVAL	KEVIN LEE	REV	1.1		MICOM
MODULE CODE		LAST EDIT			

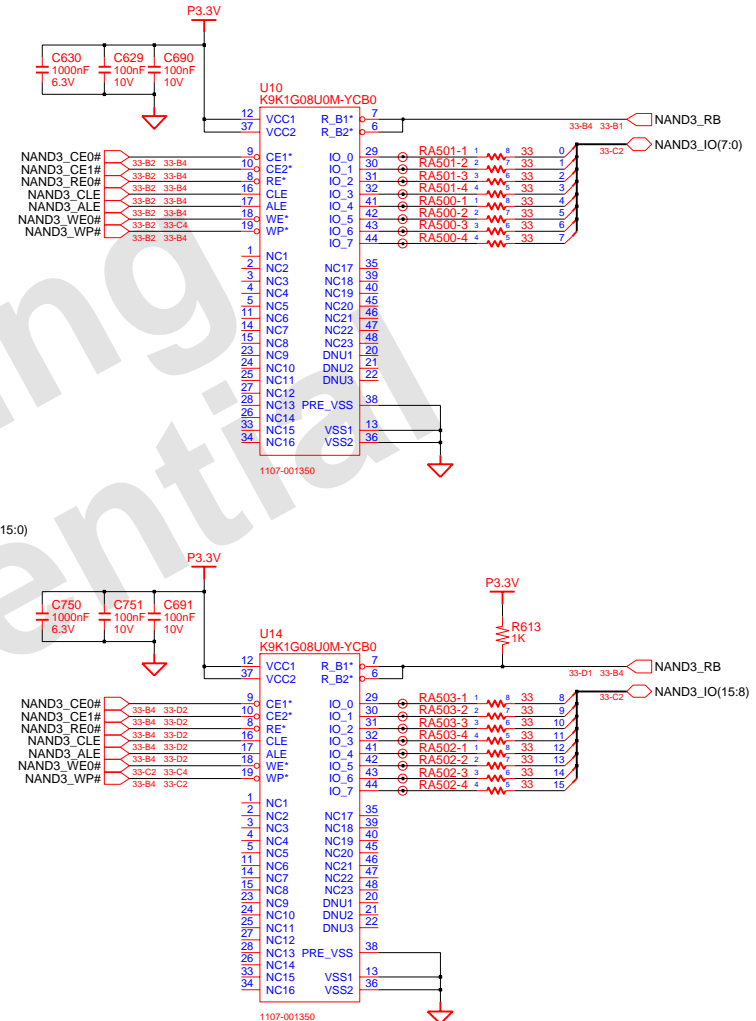
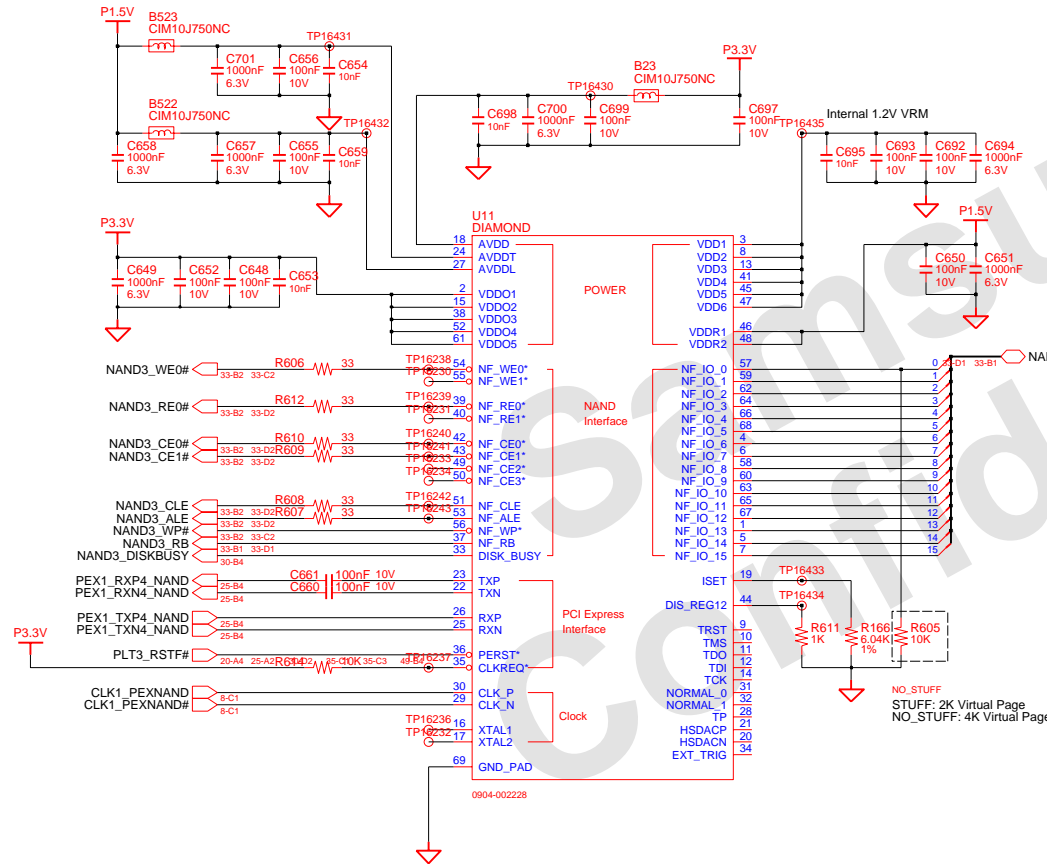
March 28, 2007 3:33:29 PM PAGE 31 OF 54

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# Robson

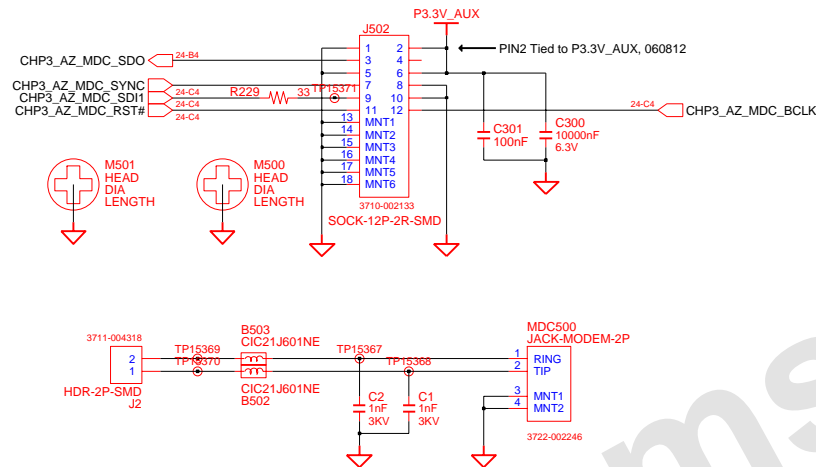


ROBSON  
All instances on this page should be NO\_STUFF if ROBSON is N/A

DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	ROBSON	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT				
				March 28, 2007 3:33:29 PM	PAGE	33 OF 54

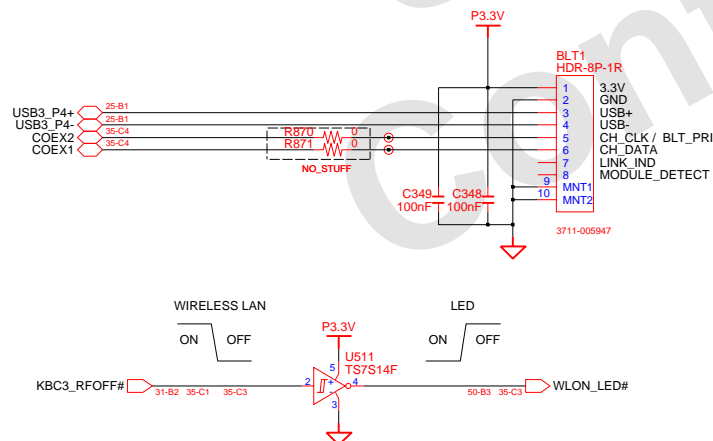
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## MDC connector

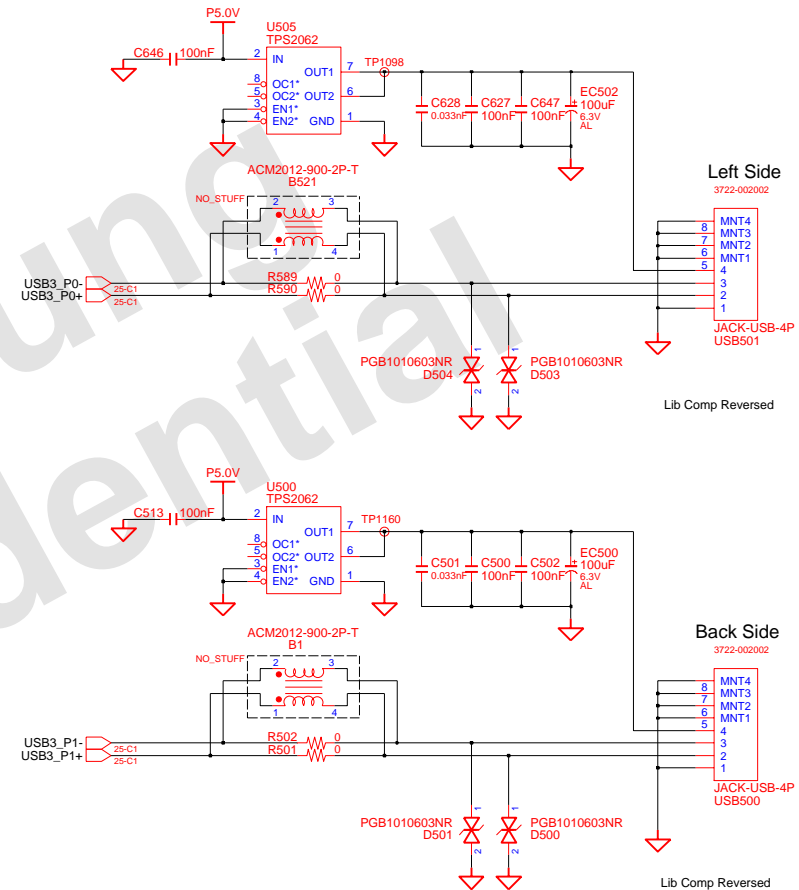


## BLUETOOTH

Bluetooth 2.0 Standard

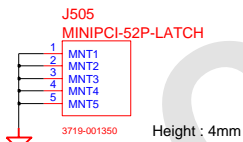
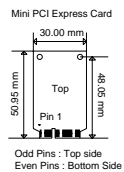
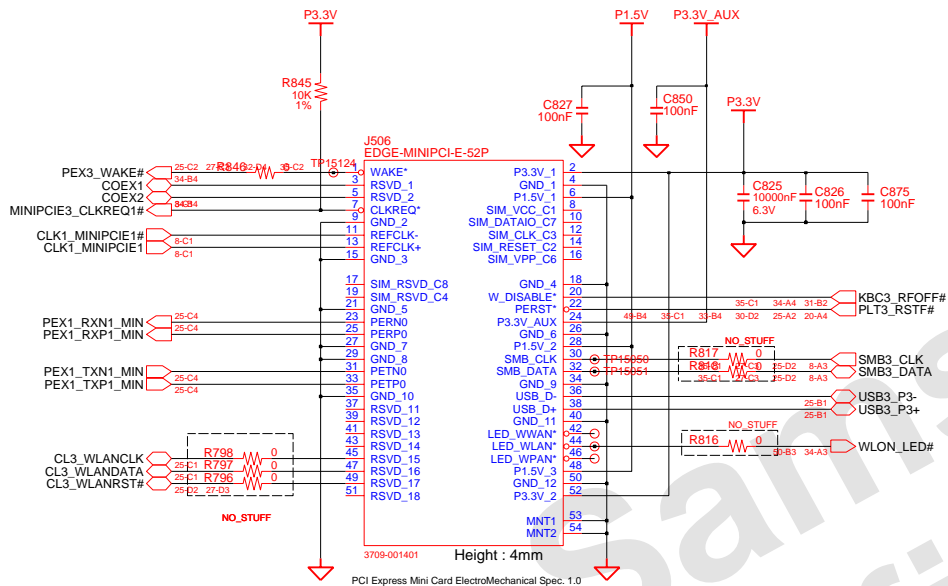


## USB Port

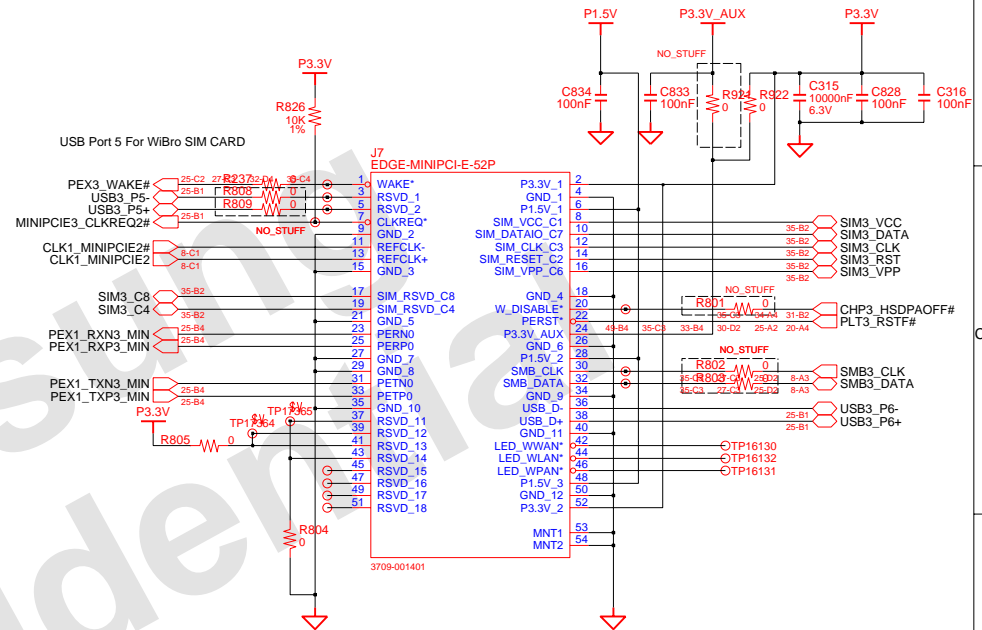


DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	USB, MDC & BLUETOOTH	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT	March 28, 2007 3:33:29 PM	PAGE	34	OF 54

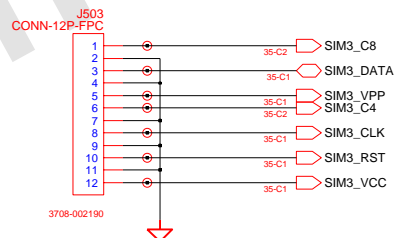
## Mini PCI-E Card (WLAN)



## Mini PCI-E Card (HSDPA)



### SIM Card FFC CONN

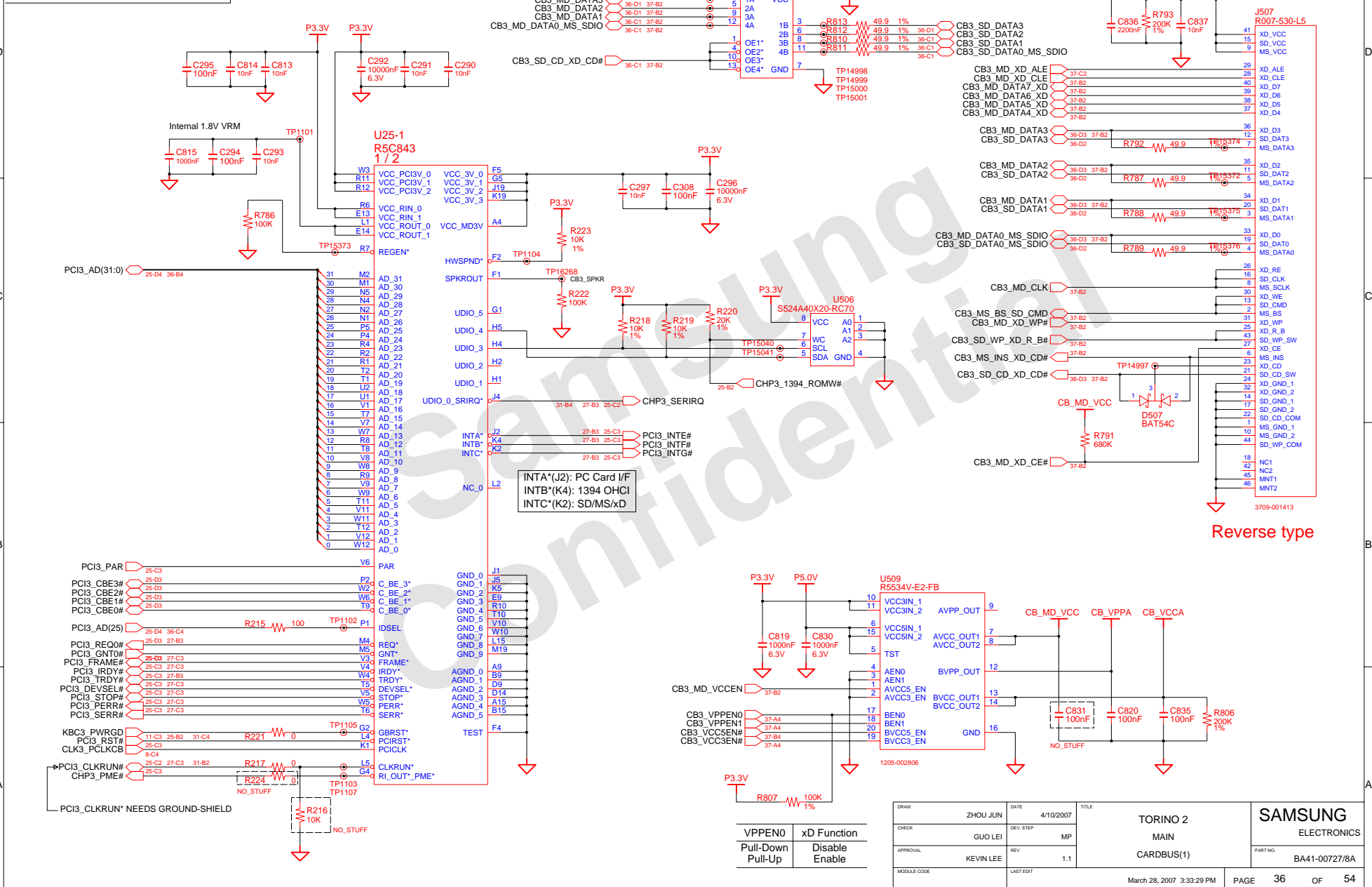


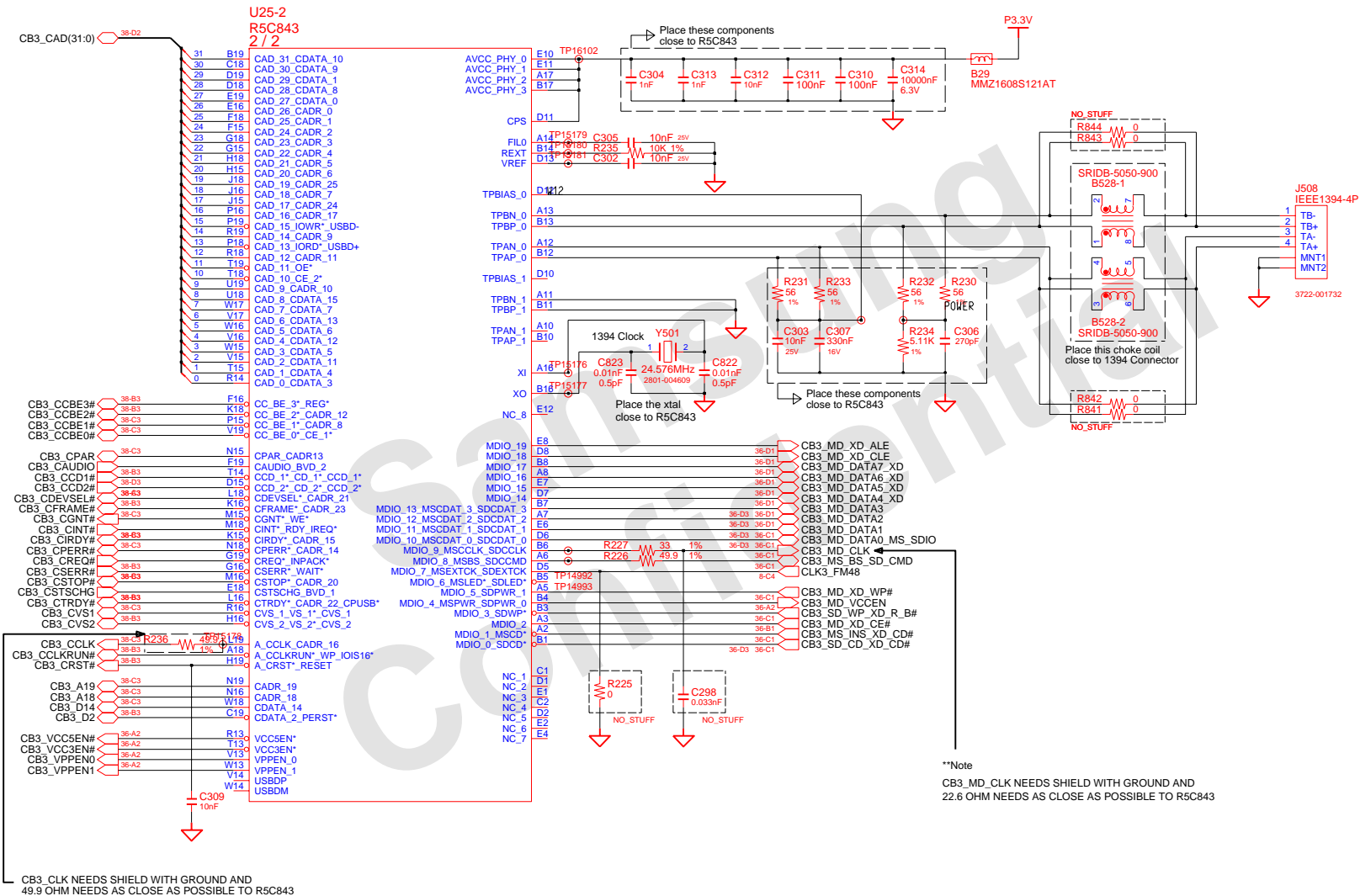
### PEM



DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	MINI CARD	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1			PART NO.
MODULE CODE		LAST EDIT				BA41-00727/8A
March 28, 2007 3:33:29 PM						PAGE 35 OF 54

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DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	CARDBUS(2)	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT			PAGE	37 OF 54
				March 28, 2007 3:33:29 PM		

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J5  
PCMCIA-68P-A

1  
GND1  
35  
GND2  
2  
CAD0  
36  
CCD1\*  
3  
CAD1  
37  
CAD2  
4  
CAD3  
38  
CAD4  
5  
CAD5  
39  
CAD6  
6  
CAD7  
40  
RSRV D1  
41  
CCBE0\*  
8  
CAD8  
9  
CAD9  
42  
CAD10  
10  
CAD11  
43  
CVS1  
11  
CAD12  
44  
CAD13  
12  
CAD14  
45  
CAD15  
13  
CCBE1\*  
14  
CAD16  
15  
CPAR  
46  
RSRV D2  
16  
CPERR\*  
17  
CBLOCK\*  
18  
CGNT\*  
19  
CSTOP\*  
20  
CINT\*  
21  
CDEVSEL\*  
22  
VCC1  
51  
VCC2  
18  
VPP1  
52  
VPP2  
19  
CCLK  
53  
CTRDY\*  
50  
CIRDY\*  
54  
CFRAME\*  
21  
CCBE2\*  
55  
CAD17  
56  
CAD18  
57  
CAD19  
23  
CAD20  
58  
CVS2  
24  
CAD21  
59  
CRST\*  
25  
CAD22  
60  
CSERR\*  
26  
CAD23  
61  
CREQ\*  
27  
CAD24  
62  
CCBE3\*  
28  
CAD25  
63  
CAUDIO  
29  
CAD26  
30  
CSTSCHG  
31  
CAD27  
64  
CAD28  
32  
CAD29  
65  
CAD30  
33  
RSRV D3  
66  
CAD31  
34  
CCLKRUN\*  
35  
CCD2\*  
36  
GND3  
68  
GND4

37-B4 CB3\_CCD1#  
37-B4 CB3\_D14  
37-C4 CB3\_CCBE0#  
37-B4 CB3\_CVS1  
37-C4 CB3\_CCBE1#  
37-B4 CB3\_CPAR  
37-B4 CB3\_A18  
37-B4 CB3\_CPERR#  
37-B4 CB3\_A19  
37-B4 CB3\_CGNT#  
37-B4 CB3\_CSTOP#  
37-B4 CB3\_CINT#  
37-B4 CB3\_CDEVSEL#  
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37-B4 CB3\_CTRDY#  
37-B4 CB3\_CIRDY#  
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37-B4 CB3\_CSERR#  
37-B4 CB3\_CREQ#  
37-C4 CB3\_CCBE3#  
37-B4 CB3\_CAUDIO  
37-B4 CB3\_CSTSCHG  
37-B4 CB3\_D2  
37-B4 CB3\_CCLKRUN#  
37-B4 CB3\_CCD2#

CB\_VCCA  
CB\_VPPA

PCMCIA FRAME  
J6  
PCMCIA-68P-MNT  
MNT1 71  
MNT2 72  
MNT3 73  
MNT4 74

3709-001425

C818  
270pF

C854  
270pF

3711-004646

37-D4 CB3\_CAD(31:0)

DRAWN ZHOU JUN DATE 4/10/2007  
CHECK GUO LEI DEV. STEP MP  
APPROVAL KEVIN LEE REV 1.1  
MODULE CODE LAST EDIT

TORINO 2  
MAIN  
CARDBUS (3)

SAMSUNG  
ELECTRONICS  
PART NO. BA41-00727/8A

March 28, 2007 3:33:29 PM  
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J5  
PCMCIA-68P-A

C818  
270pF

CB3\_CAD(31:0)

CB3\_CCD1#

CB3\_D14

CB3\_CCBE0#

CB3\_CVS1

CB3\_CCBE1#

CB3\_CPAR

CB3\_A18

CB3\_CPERR#

CB3\_A19

CB3\_CGNT#

CB3\_CSTOP#

CB3\_CINT#

CB3\_CDEVSEL#

CB\_VCCA

CB\_VPPA

PCMCIA FRAME

J6  
PCMCIA-68P-MNT

MNT1

MNT2

MNT3

MNT4

3709-001425

C854  
270pF

3711-004646

37-B4

37-C4

37-D4

37-E4

37-F4

37-G4

37-H4

37-I4

37-J4

37-K4

37-L4

37-M4

37-N4

37-O4

37-P4

37-Q4

37-R4

37-S4

37-T4

37-U4

37-V4

37-W4

37-X4

37-Y4

37-Z4

37-AA

37-AB

37-AC

37-AD

37-AE

37-AF

37-AG

37-AH

37-AI

37-AJ

37-AK

37-AL

37-AM

37-AN

37-AO

37-AP

37-AQ

37-AR

37-AS

37-AT

37-AU

37-AV

37-AW

37-AX

37-AY

37-AZ

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37-BW

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37-BZ

37-CA

37-CB

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37-CD

37-CE

37-CF

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37-EU

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37-FJ

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37-GY

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37-JR

37-JS

37-JT

37-JU

37-JV

37-JW

37-JX

37-JY

37-JZ

37-KA

37-KB

37-KC

37-KD

37-KE

37-KF

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37-KJ

37-KK

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37-KQ

37-KR

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37-KU

37-KV

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37-KX

37-KY

37-KZ

37-LA

37-LB

37-LC

37-LD

37-LE

37-LF

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37-LH

37-LI

37-LJ

37-LK

37-LL

37-LM

37-LN

37-LO

37-LP

37-LQ

37-LR

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37-LT

37-LU

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37-LW

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37-ME

37-MF

37-MG

37-MH

37-MI

37-MJ

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37-NQ

37-NR

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37-NT

37-NU

37-NV

37-NW

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# AUDIO CODEC

**U515 ALC262-GR**

**AVDD**

**SPDIF DETECT**

**SPDIF BUFFER**  
nearby AUDIO Jack

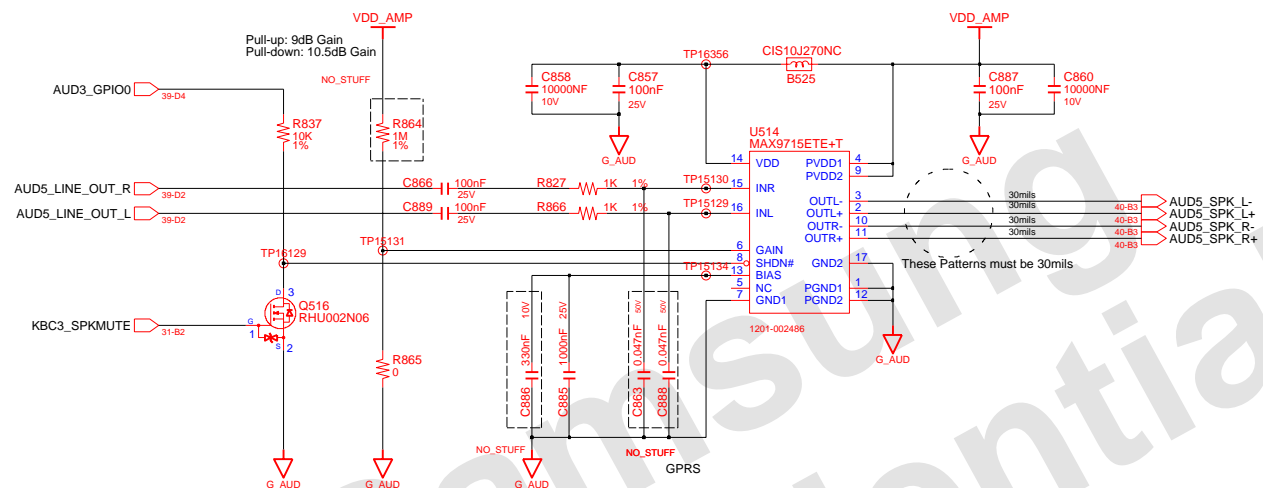
DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2 MAIN AUDIO CODEC	<b>SAMSUNG</b> ELECTRONICS PART NO. BA41-00727/8A
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.1			
MODULE CODE		LAST EDIT				

March 28, 2007 3:33:29 PM      PAGE 39 OF 54

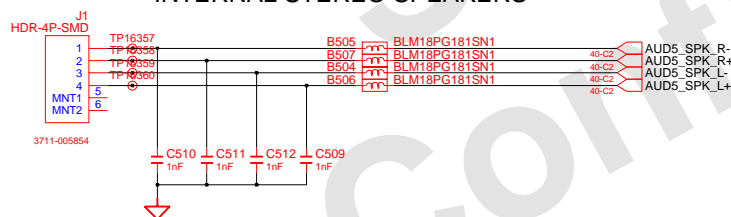
[www.vinafix.vn](http://www.vinafix.vn)

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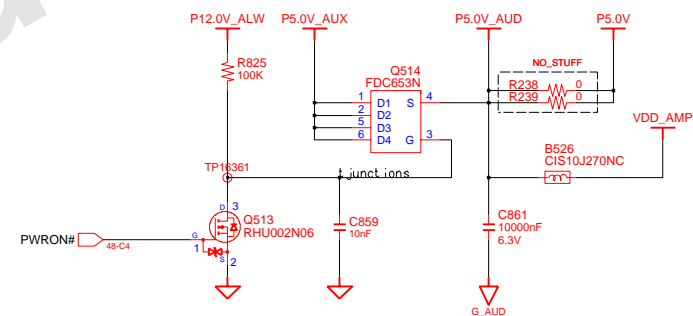
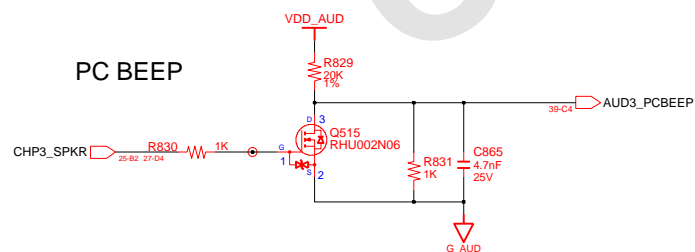
## AUDIO AMP



INTERNAL STEREO SPEAKERS



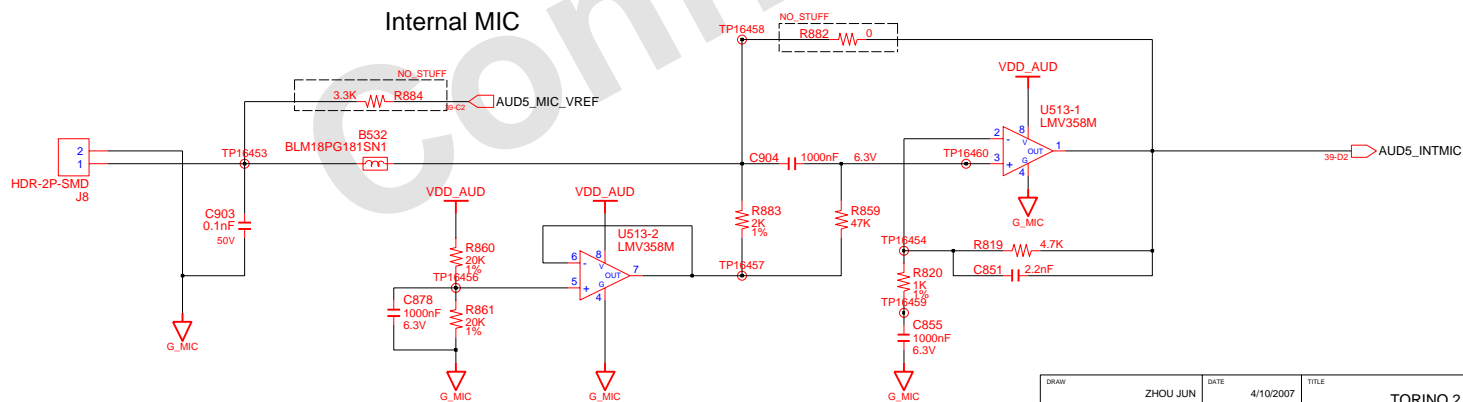
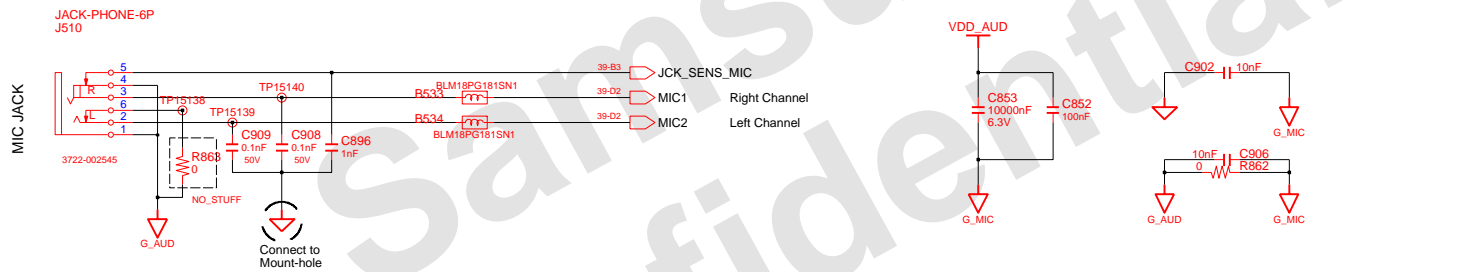
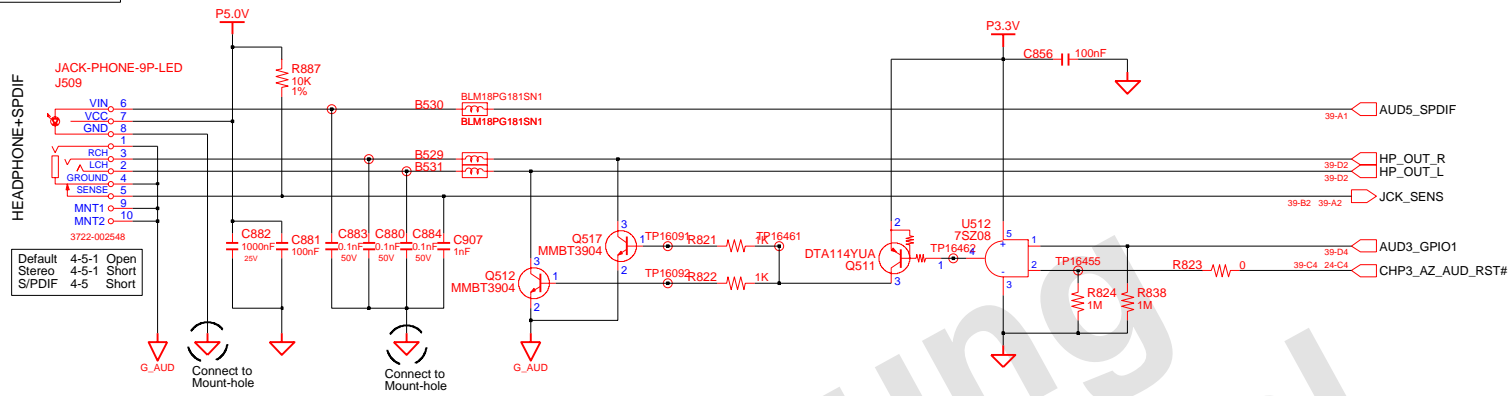
## PC BEEP



DRAW	ZHOU JUN	DATE	4/10/2007	TORINO 2 MAIN AUDIO AMPLIFIER	SAMSUNG ELECTRONICS	
CHECK	GUO LEI	DEV. STEP	MP		PART NO. BA41-00727/8A	
APPROVAL	KEVIN LEE	REV	1.1			
MODULE CODE	LAST EDIT					March 28, 2007 3:33:29 PM



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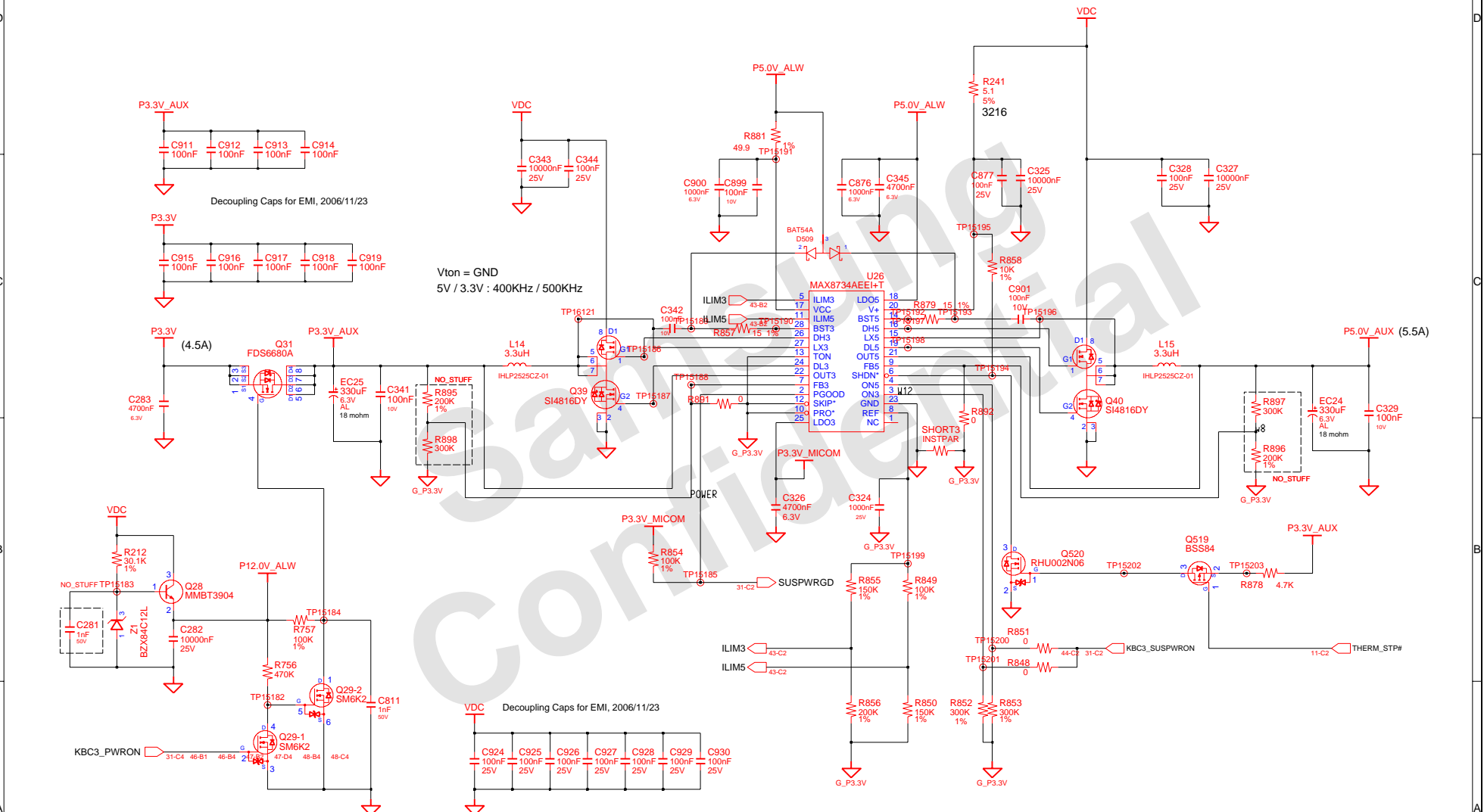


DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2 MAIN AUDIO JACK	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP			PART NO. BA41-00727/8A
APPROVAL	KEVIN LEE	REV	1.1			
MODULE CODE		LAST EDIT				
				March 28, 2007 3:33:29 PM	PAGE 41 OF 54	

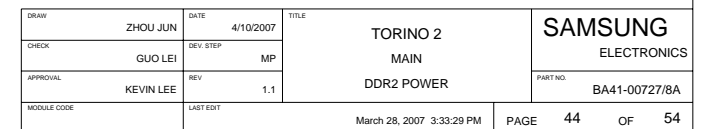


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## P5V\_AUX & P3.3V\_AUX

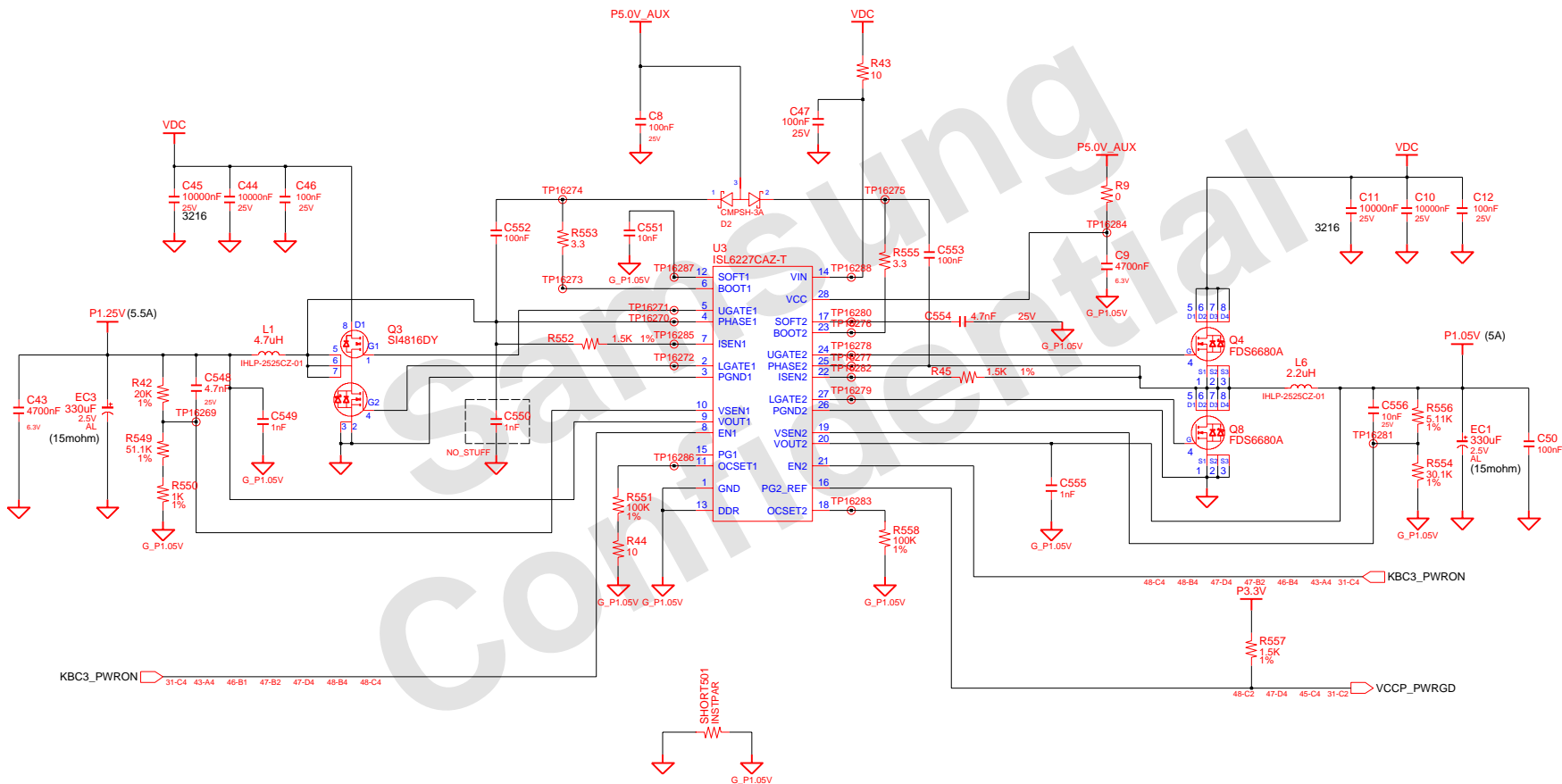


DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	P5V_AUX & P3.3V_LAN(AUX)	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT			PAGE	43 OF 54
				March 28, 2007 3:33:29 PM		



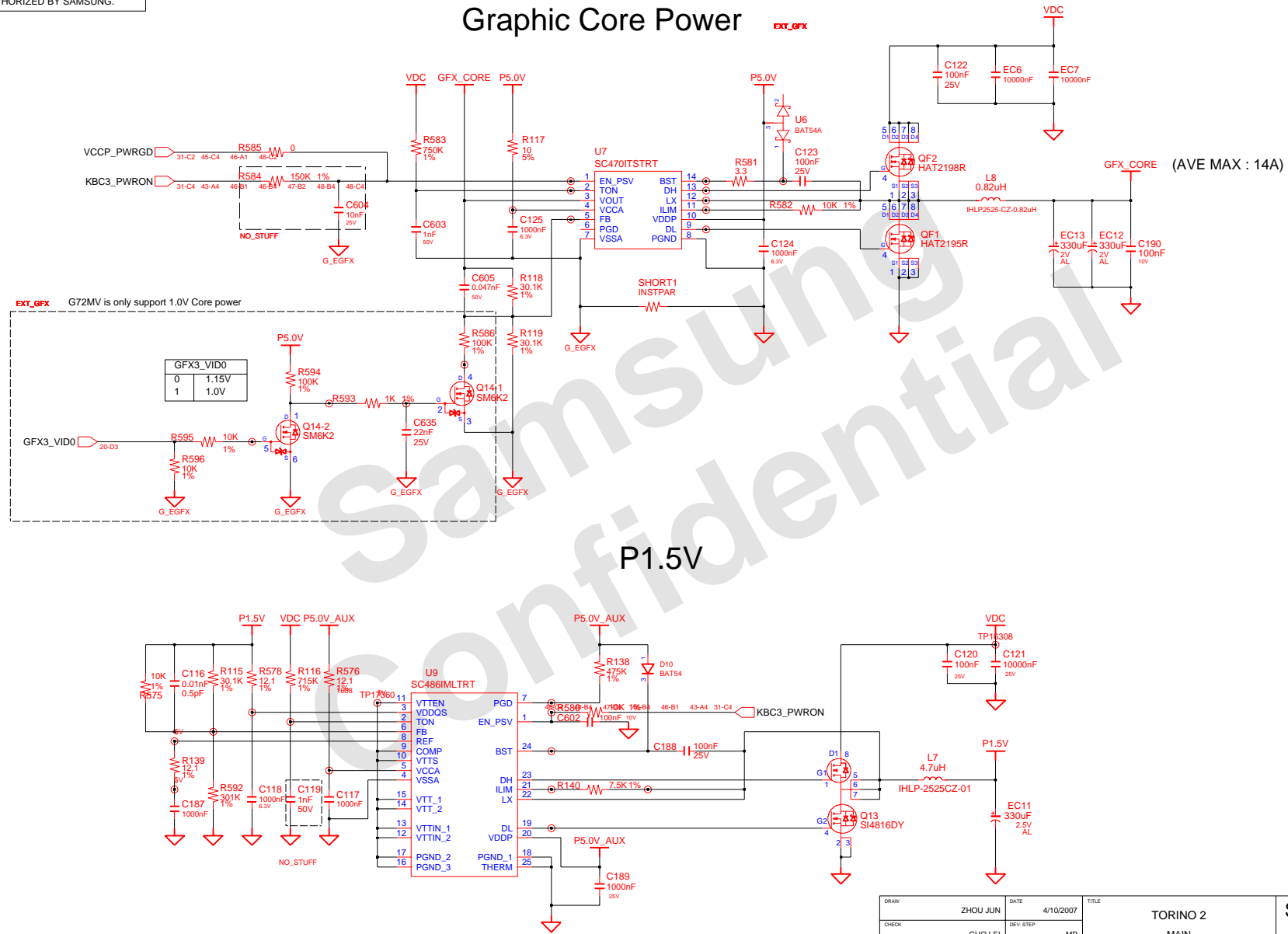


## P1.25V & P1.05V



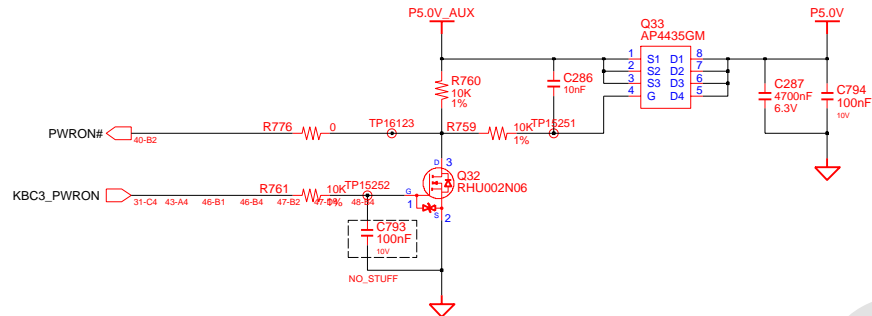
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CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	P1.25V & P1.05V	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT	March 28, 2007 3:33:29 PM	PAGE	46	OF 54

# Graphic Core Power

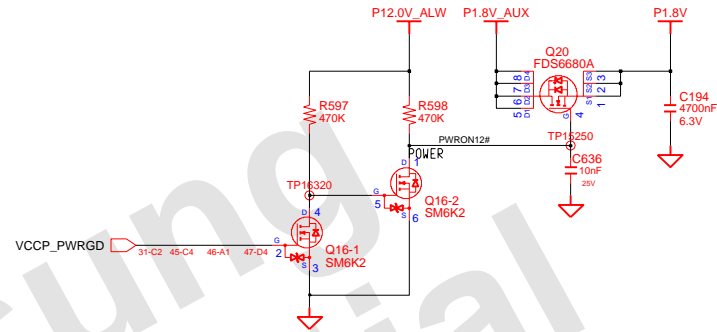


DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	GFX_CORE & P1.5V	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT			PAGE	47 OF 54
				March 28, 2007 3:33:29 PM		

## Switched Power On (P5V)

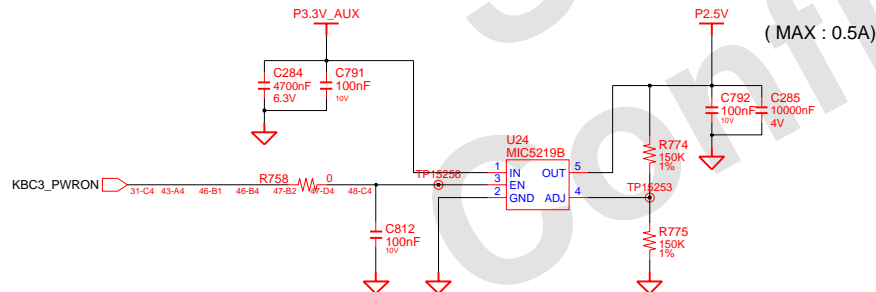


## Switched Power On (P1.8V)



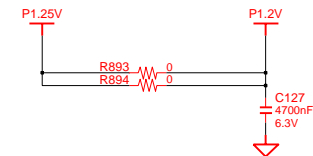
## Switched Power On (P2.5V)

NO\_STUFF  
It's only used for G72M



## Switched Power On (P1.2V)

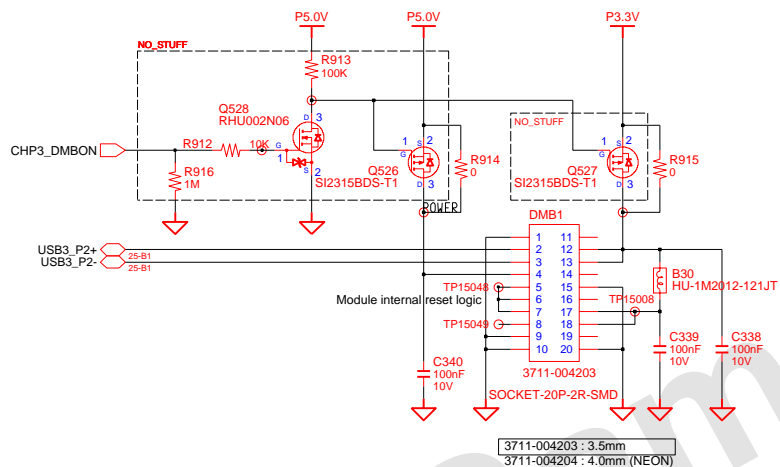
EXT\_GFX



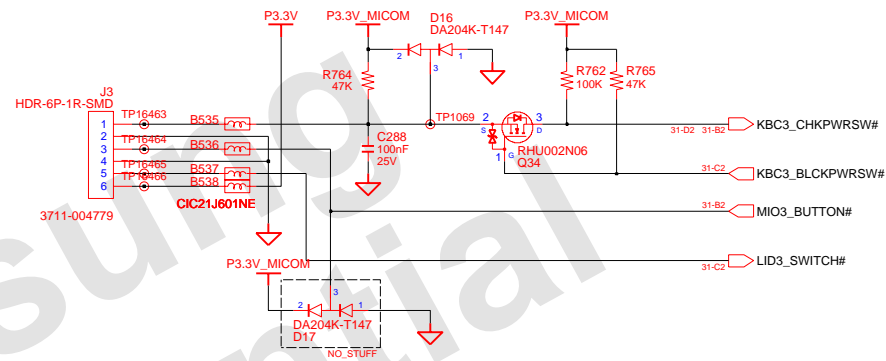
DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2 MAIN SWITCHED POWER	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP			PART NO. BA41-00727/8A
APPROVAL	KEVIN LEE	REV	1.1			
MODULE CODE		LAST EDIT	March 28, 2007 3:33:29 PM	PAGE	48	OF 54



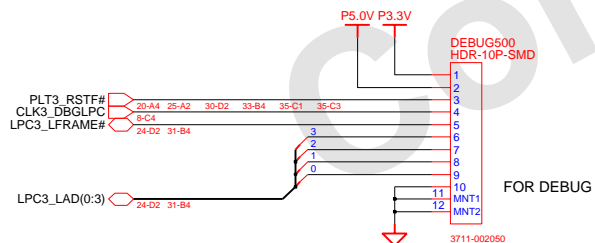
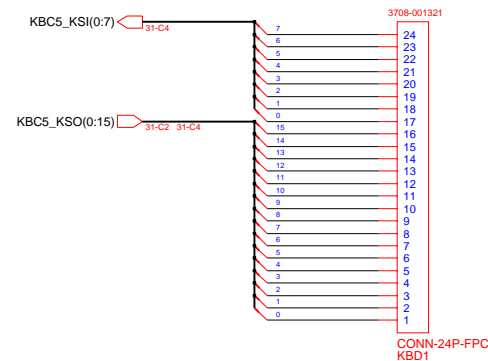
## OPTION: DMB INTERFACE



## Power Switch Connector

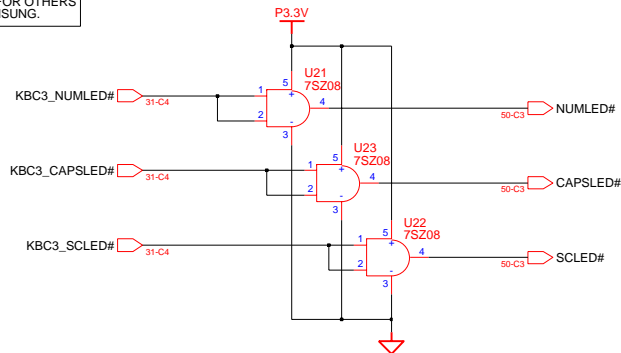


## KEYBOARD

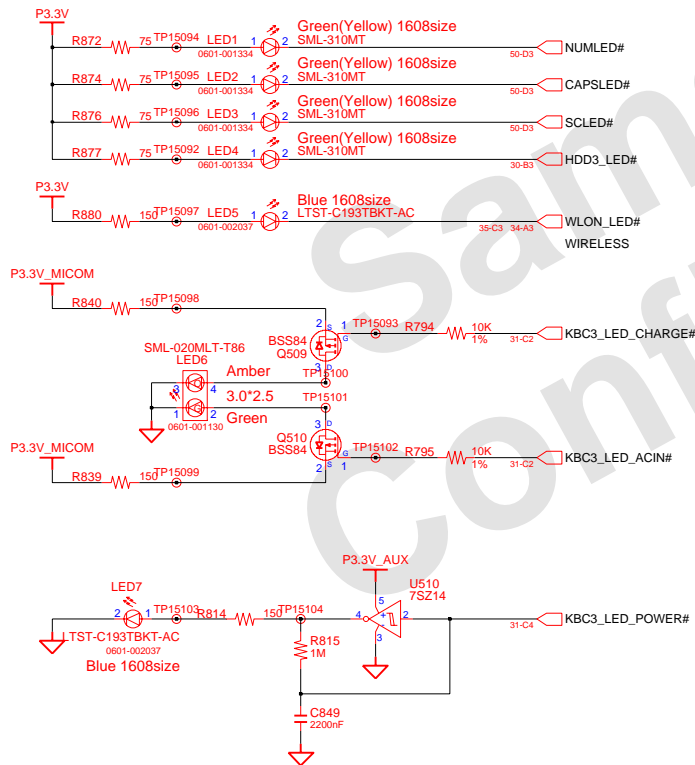


DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	ELECTRONICS	
APPROVAL	KEVIN LEE	REV	1.1	DMB & KBD & DEBUG & POWER S/W	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT		March 28, 2007 3:33:29 PM	PAGE	49 OF 54

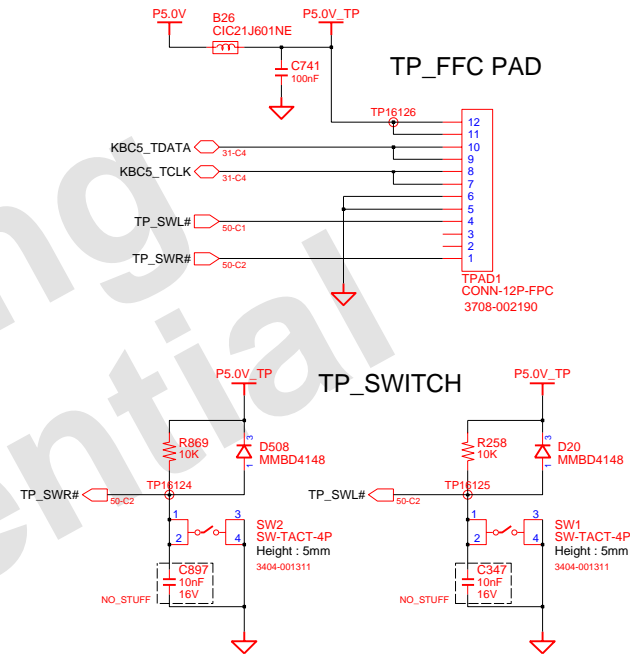
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## LEDS



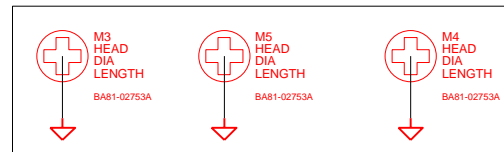
## TOUCH PAD



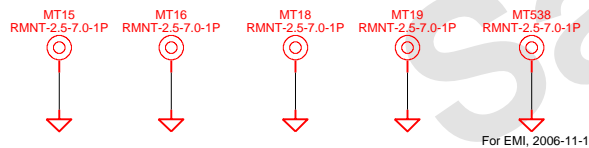
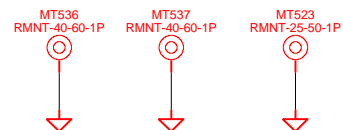
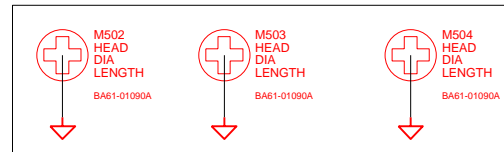
DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	TOUCH PAD & LEDs	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT	March 28, 2007 3:33:29 PM	PAGE	50	OF 54

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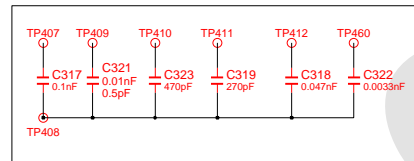
#### DMB-NUT



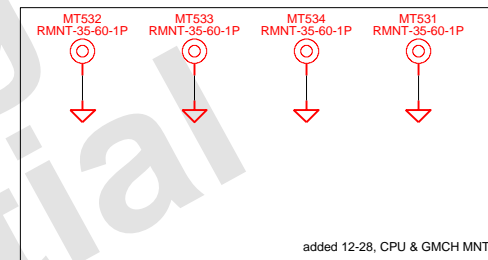
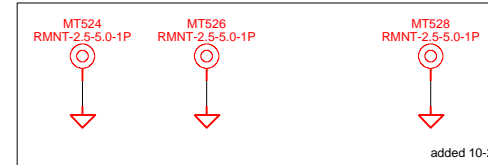
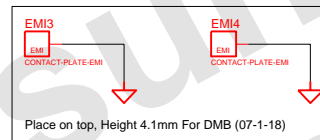
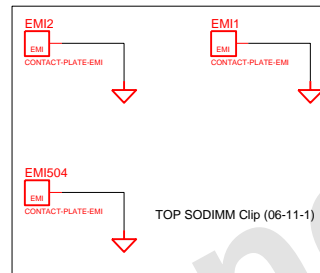
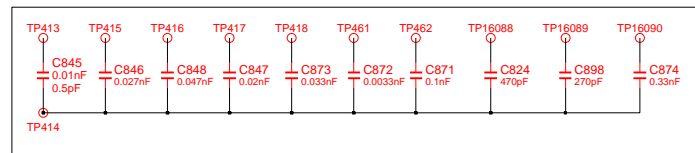
NUT for RHE, Locate on TOP of PCB



#### 1 - 499 SIDE



#### 500 - SIDE



REV1  
1 O  
2 O O3

PCB REVISION CONTROL ( ICT )				
NO	CONNECTION	DATE(Y/M/D)	REVISION	STEP
1	N.C.			
2	1-2			
3	2-3			
4	3-1			
5	1-2-3			
6	N.C.			
7	1-2			
8	2-3			
9	3-1			
10	1-2-3			

DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN	MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	MOUNT HOLE	PART NO.	BA41-00727/8A
MODULE CODE		LAST EDIT	March 28, 2007 3:33:29 PM	PAGE	51	OF 54

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TP17080○ADT3\_SEL  
TP17081○AUD3\_GPI0#  
TP17082○AUD3\_GPI0#  
TP17083○AUD3\_PCBEPP  
TP17084○AUD5\_INTMIC  
TP17085○AUD5\_LINE\_OUT\_L  
TP17086○AUD5\_LINE\_OUT\_R  
TP17087○AUD5\_MIC\_VREF  
TP17088○AUD5\_SPDIF  
TP17089○AUD5\_SPDIF\_OUT  
TP17090○AUD5\_SPK\_L+  
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TP17027○CB3\_CVSI  
TP17028○CB3\_CVSI2  
TP17029○CB3\_D14  
TP17030○CB3\_D2  
TP17031○CB3\_MD\_CLK

TP17032○CB3\_MD\_DATA4\_XD  
TP17033○CB3\_MD\_DATA6\_XD  
TP17034○CB3\_MD\_DATA6\_XD  
TP17035○CB3\_MD\_DATA7\_XD  
TP17036○CB3\_MD\_VCCEN  
TP17037○CB3\_MD\_XD\_ALE  
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TP17039○CB3\_MD\_XD\_CLE  
TP17040○CB3\_MD\_XD\_WP#  
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TP17042○CB3\_MS\_INS\_XD\_CD#  
TP17043○CB3\_SD\_CD\_XD\_CD#  
TP17044○CB3\_SD\_DATA0\_MS\_SDIO  
TP17045○CB3\_SD\_DATA1  
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TP17047○CB3\_SD\_DATA3  
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TP17001○CHP3\_DPRSLPWR  
TP17002○CHP3\_GFXSEL  
TP17003○CHP3\_IDEIRQ  
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TP17002○JORDY  
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TP16505○ILIM3  
TP16506○ILIM3  
TP16507○JCK\_SENS  
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TP16511○KBC3\_BKLTON  
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TP17114○LCD3\_BKLTCTRL  
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TP17120○LPC3\_LAD(0)  
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TP17123○LPC3\_LAD(3)  
TP17124○LPC3\_LFRAME#  
TP17125○MEM1\_VREF  
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TP17358○NAND3\_ALE  
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TP17314○NAND3\_CLE  
TP17315○NAND3\_DISKBUSY  
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TP17322○NAND3\_IO(14)  
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TP17349○THERM\_STP#  
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TP17187○VGA3\_GREEN  
TP17188○VGA3\_HSYNC  
TP17189○VGA3\_RED  
TP17190○VGA3\_VSYNC  
TP17191○VGA5\_DDCCLK  
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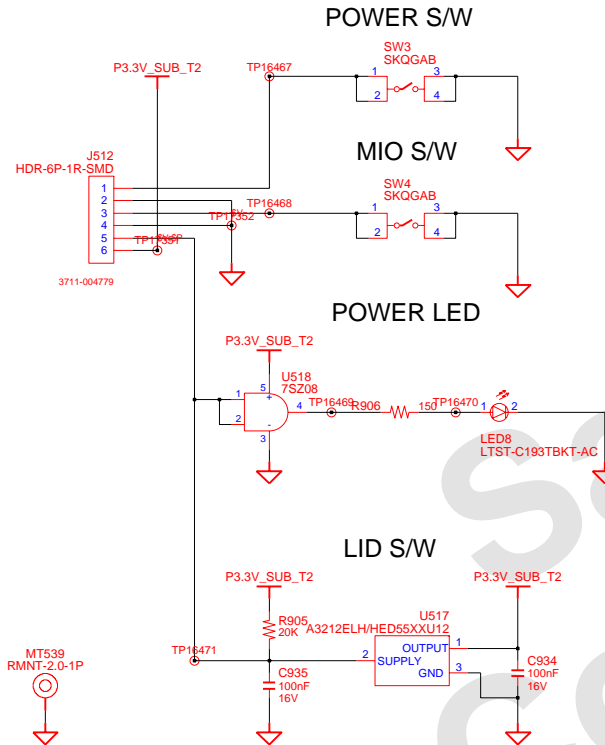
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TP17379○GROUND  
TP17380○GROUND

DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2 MAIN TEST POINT	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV STEP	MP			PART NO. BA41-00727/8A
APPROVAL	KEVIN LEE	REV	1.1			
MODULE CODE		LAST EDIT				
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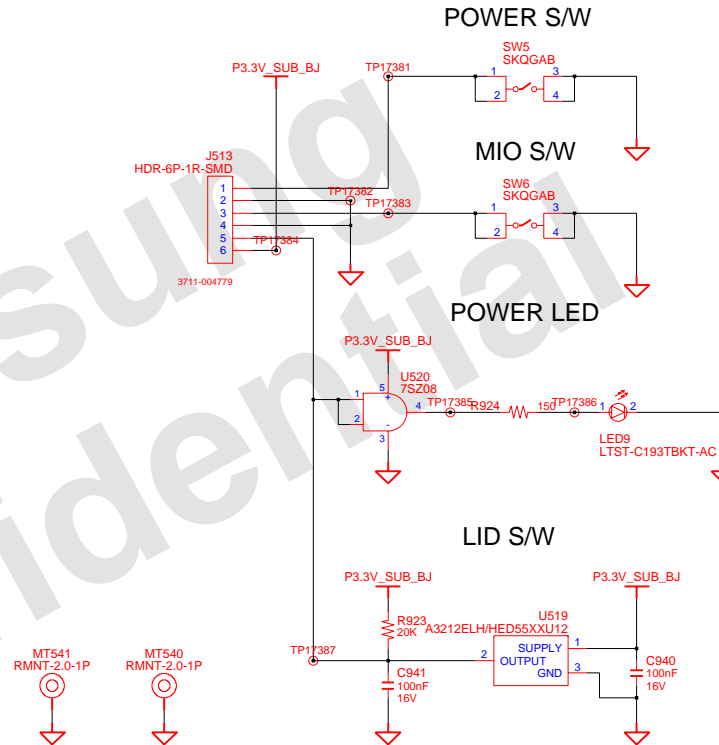
## TORINO2 ON TOP BOARD

T2\_SUB



## BEIJING ON TOP BOARD

BJ\_SUB



Drill size: 2.2mm  
PAD size: TOP 6.0mm  
Bottom 5.0mm

DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2 MAIN ON TOP BOARD	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP			PART NO. BA41-00727/8A
APPROVAL	KEVIN LEE	REV	1.1			
MODULE CODE		LAST EDIT	March 28, 2007 3:33:29 PM	PAGE	53 OF 54	

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REVISION HISTORY

REVISION	DATE	NO.#	CONTENTS
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NOTES

Note1. Schematic Revision: MP 1 . 0 . 0  
Development Stage  
PCB Version  
Schematic Version

Note2. PCB SEC Code  
Vendor: SGCE P/N: BA41-??????  
Vendor: TPT P/N: BA41-??????

DRAW	ZHOU JUN	DATE	4/10/2007	TITLE	TORINO 2	SAMSUNG
CHECK	GUO LEI	DEV. STEP	MP	MAIN		ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.1	REVISION HISTORY	PART NO.	BA41-00727/8A
MODULE CODE	LAST EDIT			March 28, 2007 3:33:29 PM	PAGE	54 OF 54