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# SantaFe

CPU : DOTHAN-ULV  
Chip Set : INTEL 915GMS  
Remarks : CPT LCD

Model Name : SantaFe  
PBA Name :  
  
Dev. Step : SR  
Revision : 0.9  
T.R. Date : 2005.xx.xx

DRAW	CHECK	APPROVAL
YM An	HJ Kim	JS Euh

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DRAW	Youngno An	DATE	3/7/2006	TITLE	SantaFe	<b>SAMSUNG</b> ELECTRONICS PART NO.
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9	COVER		
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	1 OF 41	

## BOARD INFORMATION

### SCHEMATIC ANNOTATIONS AND BOARD INFORMATION

#### PCI Devices

Devices	IDSEL#	REQ/GNT#	Interrupts
CARDBUS	AD25	0	A
USB Hub to PCI LPC Bridge/IDE/AC97/SMBUS	AD29(internal) AD30(internal) AD31(internal)	Programmable	
Internal MAC	AD24(internal)		

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

Devices	Address	Hex	Bus
ICH6M	Master	-	SMBUS Master
CK-410M (Clock Generator)	1101 001x	D2h	Clock, Unused Clock Output Disable
SODIMM0	1010 001X	A2h	-
MICOM	Master		
BATTERY	0001 011h	16h	-
THERMAL MORNITOR	x100 1100	4Ch	-

#### USB PORT Assign

PORT 0	RIGHT SIDE USB PORT
PORT 1	LEFT SIDE USB PORT
PORT 2	TSP CONTROLLER
PORT 3	DMB
PORT 4	BLUETOOTH
PORT 6	MINI CARD
PORT 5,7	EMPTY

#### System Power States

Power Rail	Devices (Page Number)
<b>P5V</b>	FAN(9) ICH6M(15) 80PORT(19) MICOM(25) DMB(27) USB(27) CARDBUS POWER(28) LDQ(31) AUDIO AMP(32)
<b>P3.3V</b>	CLOCK(6) Thermal sensor(9) SODIMM(14) ICH6-M(17) FWH(19) 80PORT(19) HDD(24) MICOM(25) DMB(27) CARDBUS Controller(28) MiniCARD(29) SUB Lett(30) CPU VRM(37)
<b>P1.5V</b>	CPU(8) 915GMS(12) ICH6-M(17) MiniCARD(29)
<b>P2.5V</b>	915GMS(11) ICH6-M(17) LCD(22) CRT(23) LAN(26)
<b>P1.8V</b>	CARDBUS Controller(28)
<b>P5V_AUX</b>	ICH6M(17) ISL6227(35) DDR2 POWER(36)
<b>P3.3V_AUX</b>	LM26CIM5X-TPA(9) ICH6-M(17) MICOM(25) LAN(26) LB LED(25) MiniCARD(29) MAX1999(34)
<b>P1.8V_AUX</b>	915GMS(11) SODIMM(17) DDR2 POWER(36)
<b>VCCP</b>	CLOCK(6) CPU(8) 915GMS(10) ICH6-M(17) MICOM(25)
<b>VCC_CORE</b>	CPU (8)

#### Voltage Rails

Power Rail	Descriptions
<b>PRTC_BAT VDC</b>	3.3V (can drop to 2.0V min. in G3 state) supply for the RTC well. Primary DC system power supply (9 to 19V)
<b>P5V_AUX</b>	5.0V power rail (off in S4-S5)
<b>P3.3V_AUX</b>	3.3V power rail (off in S4-S5)
<b>P1.8V_AUX</b>	GMCH/DDR II Power Source(off in S4-S5)
<b>MEM1_VREF</b>	0.9V DDR2 Reference(off in S4-S5)
<b>P5V</b>	5.0V switched power rail (off in S3-S5)
<b>P3.3V</b>	3.3V switched power rail (off in S3-S5)
<b>P1.5V</b>	1.5V switched power rail (off in S3-S5)
<b>P2.5V</b>	2.5V switched power rail (off in S3-S5)
<b>VCCP</b>	1.05V power rail, GMCH core, CPU/GMCH FSB Termination.
<b>VCC_CORE</b>	Core voltage for DOTHAN CPU (0.74~1.30V)
<b>MICOM_P3V</b>	3.3V always on power rail for MICOM
<b>P1.5V_DMI</b>	1.5V (Direct Media Interface Compensation)
<b>INV_VDC</b>	DC power (Inverter)
<b>LCD_VDD3V</b>	3.3V (LCD)
<b>VCC_CRT</b>	5V (CRT)
<b>CB3_A_VCC</b>	3.3V (CF card)
<b>AVDD</b>	4.75V (AD1986)
<b>AMP_VDD</b>	5V (Audio AMP)
<b>BLT_P3.3V</b>	3.3V(BLUETOOTH)

#### CPU Core Voltage Table

VID5	VID4	VID3	VID2	VID1	VID0	Voltage	VID5	VID4	VID3	VID2	VID1	VID0	Voltage
0	0	0	0	0	0	1.708 V	1	0	0	0	0	0	1.196 V
0	0	0	0	0	1	1.692 V	1	0	0	0	0	1	1.180 V
0	0	0	0	1	0	1.676 V	1	0	0	0	1	0	1.164 V
0	0	0	0	1	1	1.660 V	1	0	0	0	1	1	1.148 V
0	0	0	1	0	0	1.644 V	1	0	0	1	0	0	1.132 V
0	0	0	1	0	1	1.628 V	1	0	0	1	0	1	1.116 V
0	0	0	1	1	0	1.612 V	1	0	0	1	1	0	1.100 V
0	0	0	1	1	1	1.596 V	1	0	0	1	1	1	1.084 V
0	0	1	0	0	0	1.580 V	1	0	1	0	0	0	1.068 V
0	0	1	0	0	1	1.564 V	1	0	1	0	0	1	1.052 V
0	0	1	0	1	0	1.548 V	1	0	1	0	1	0	1.036 V
0	0	1	0	1	1	1.532 V	1	0	1	0	1	1	1.020 V
0	0	1	1	0	0	1.516 V	1	0	1	1	0	0	1.004 V
0	0	1	1	0	1	1.500 V	1	0	1	1	0	1	0.988 V
0	0	1	1	1	0	1.484 V	1	0	1	1	1	0	0.972 V
0	0	1	1	1	1	1.468 V	1	0	1	1	1	1	0.956 V
0	1	0	0	0	0	1.452 V	1	1	0	0	0	0	0.940 V
0	1	0	0	0	1	1.436 V	1	1	0	0	0	1	0.924 V
0	1	0	0	1	0	1.420 V	1	1	0	0	1	0	0.908 V
0	1	0	0	1	1	1.404 V	1	1	0	0	1	1	0.892 V
0	1	0	1	0	0	1.388 V	1	1	0	1	0	0	0.876 V
0	1	0	1	0	1	1.372 V	1	1	0	1	0	1	0.860 V
0	1	0	1	1	0	1.356 V	1	1	0	1	1	0	0.844 V
0	1	0	1	1	1	1.340 V	1	1	0	1	1	1	0.828 V
0	1	1	0	0	0	1.324 V	1	1	1	0	0	0	0.812 V
0	1	1	0	0	1	1.308 V	1	1	1	0	0	1	0.796 V
0	1	1	0	1	0	1.292 V	1	1	1	0	1	0	0.780 V
0	1	1	0	1	1	1.276 V	1	1	1	0	1	1	0.764 V
0	1	1	1	0	0	1.260 V	1	1	1	1	0	0	0.748 V
0	1	1	1	0	1	1.244 V	1	1	1	1	1	0	0.732 V
0	1	1	1	1	0	1.228 V	1	1	1	1	1	0	0.716 V
0	1	1	1	1	1	1.212 V	1	1	1	1	1	1	0.700 V

DOTHAN-ULV  
HIGH FREQUENCY MODE

DOTHAN-ULV  
LOW FREQUENCY MODE

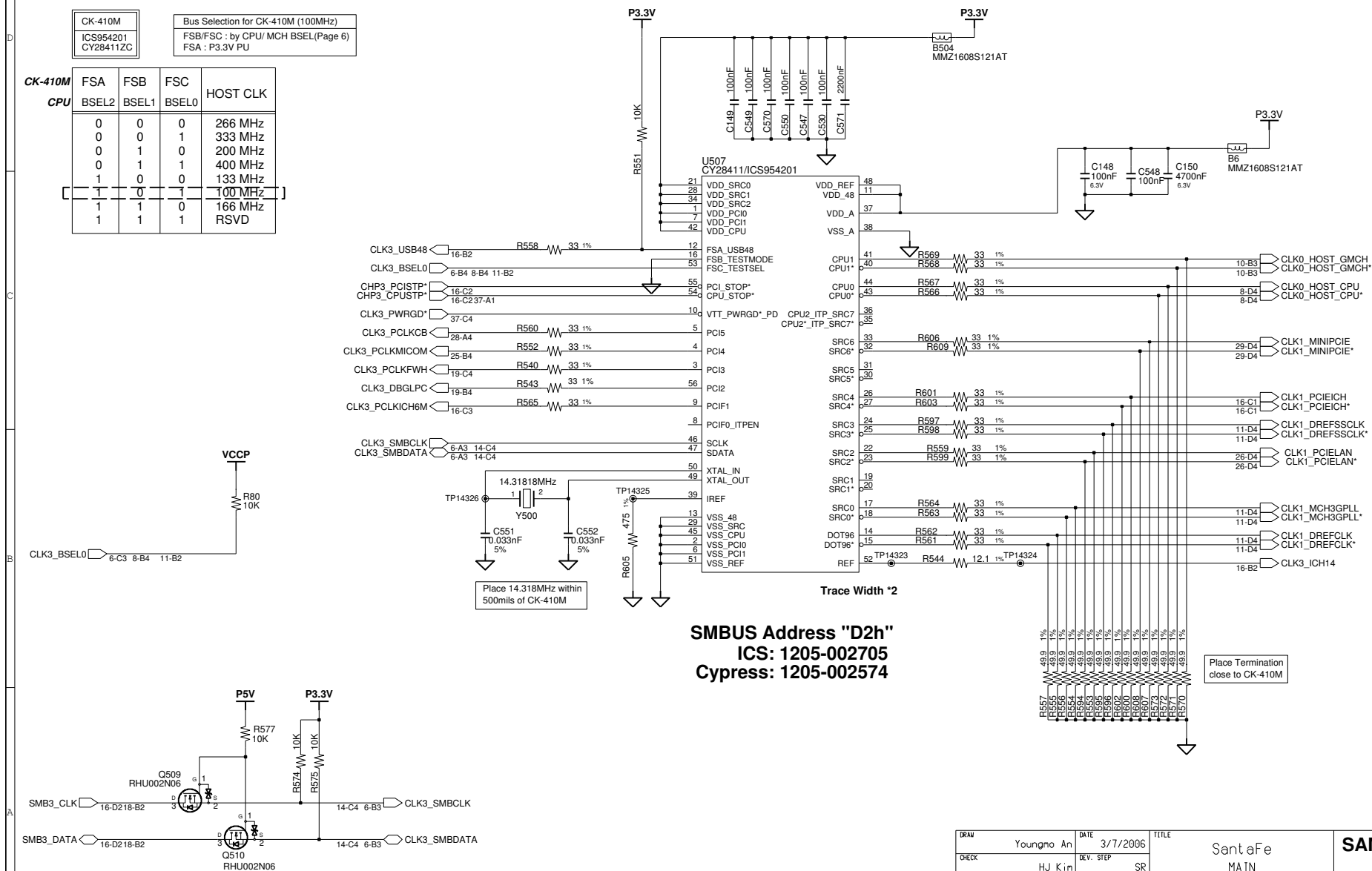
DOTHAN-ULV  
DEEPER SLEEP MODE  
Refer to page43


DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN BOARD INFORMATION	SAMSUNG ELECTRONICS
CHECK	HJ Kim	DEV. STEP	SR			PART NO.
APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	5	OF 41

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Bus Selection for CK-410M (100MHz)
FSB/FSC : by CPU/ MCH BSEL(Page 6)
FSA : P3.3V PU

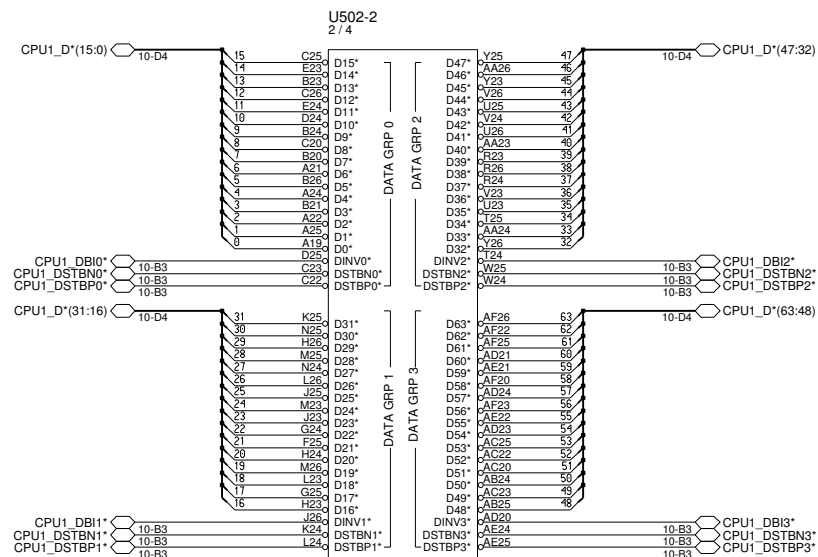
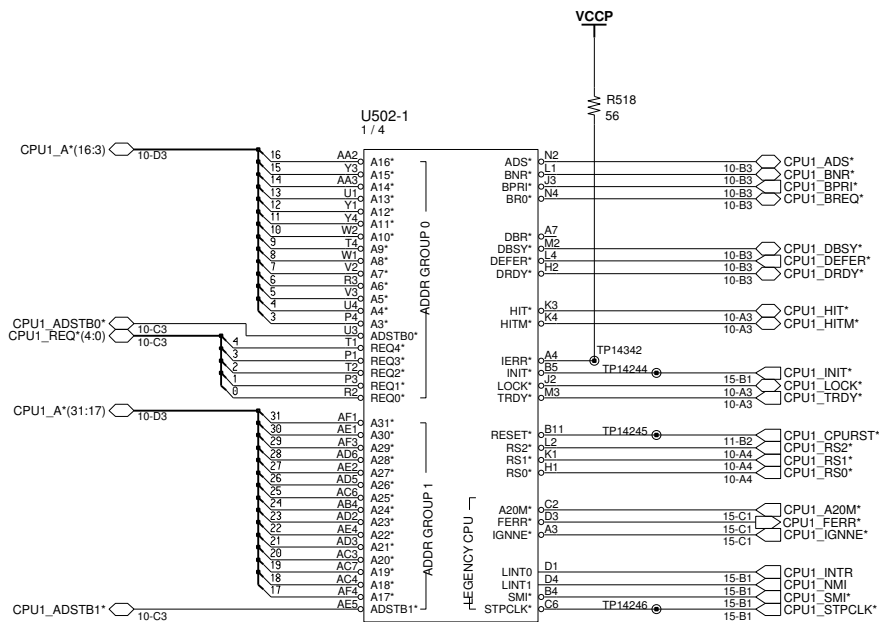
CK-410M		FSA	FSB	FSC	HOST CLK
CPU		BSEL2	BSEL1	BSEL0	
		0	0	0	266 MHz
		0	0	1	333 MHz
		0	1	0	200 MHz
		0	1	1	400 MHz
		1	0	0	133 MHz
		1	0	1	100 MHz
		1	1	0	166 MHz
		1	1	RSVD	



DRAM	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN CLOCK GENERATOR	
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9			
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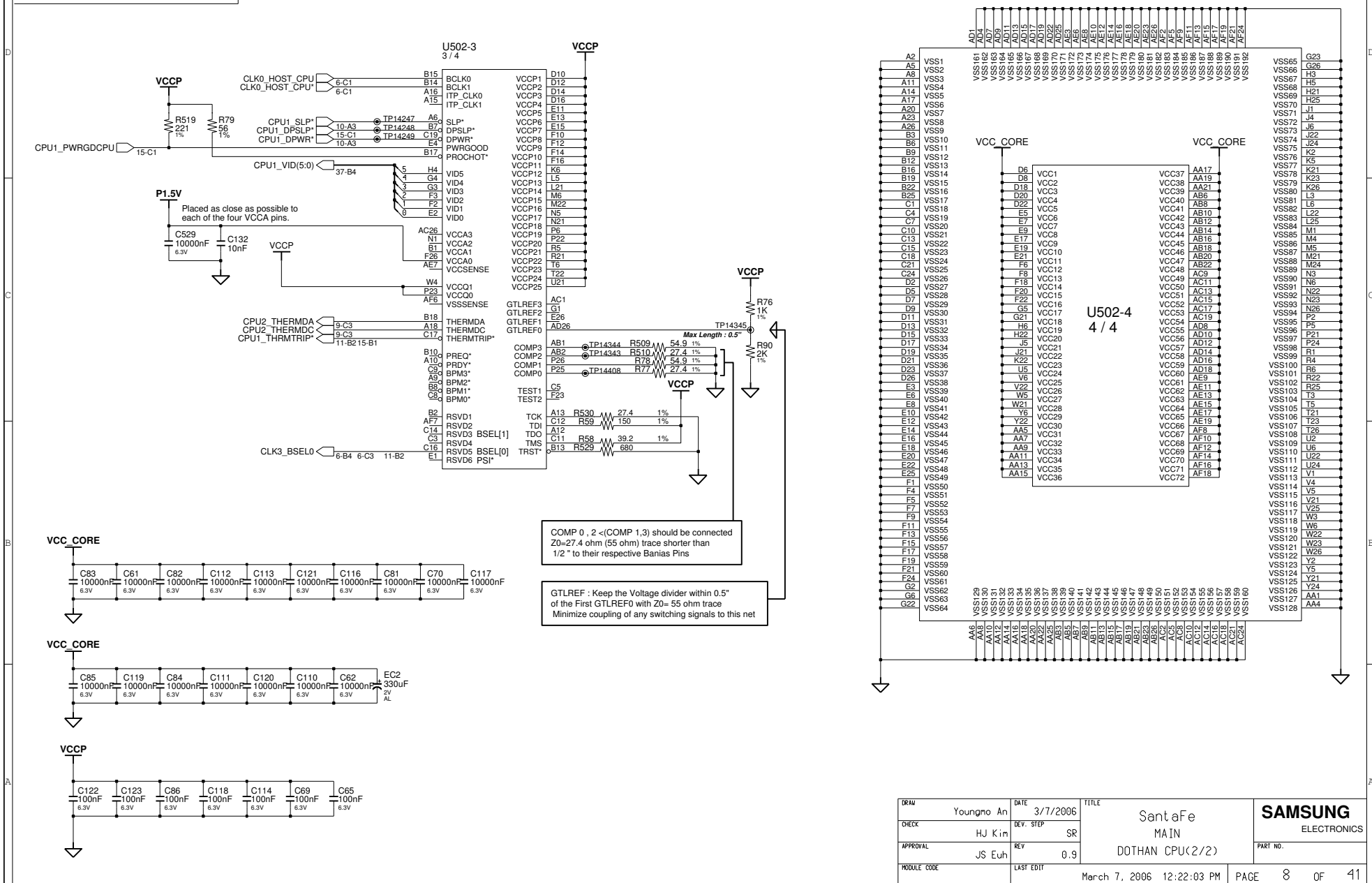
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CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9			
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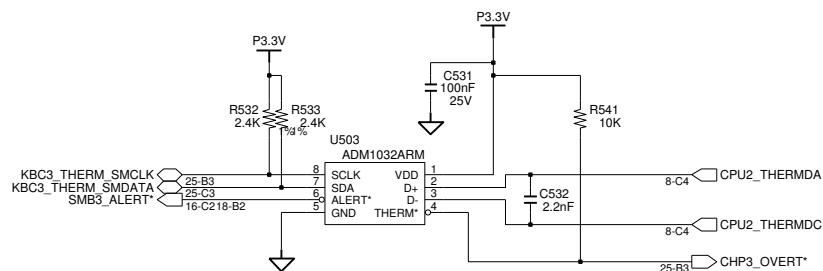
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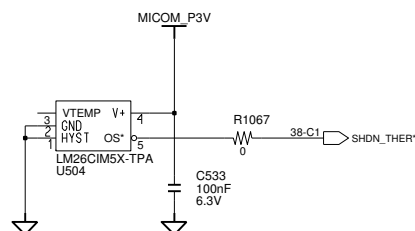
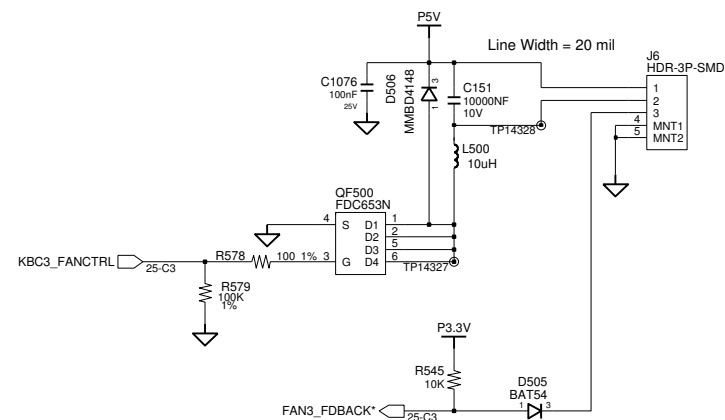
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CHECK	HJ Kim	DEV. STEP	SR		MAIN	
APPROVAL	JS Euh	REV	0.9		DOTHAN CPU(2/2)	
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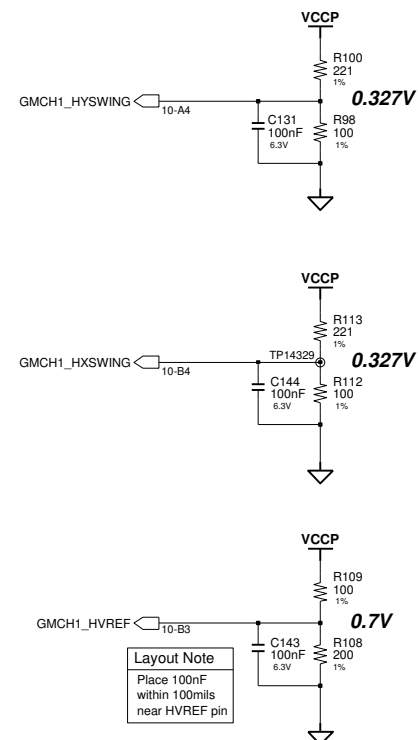


**CPU Thermal Sensor**  
SMBUS Addr"4Ch"(x100 1100)  
Put this sensor between CPU and MCH

**FAN Control Logic**

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CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9	THERMAL SENSOR/FAN CONTRL		
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	9 OF 41	

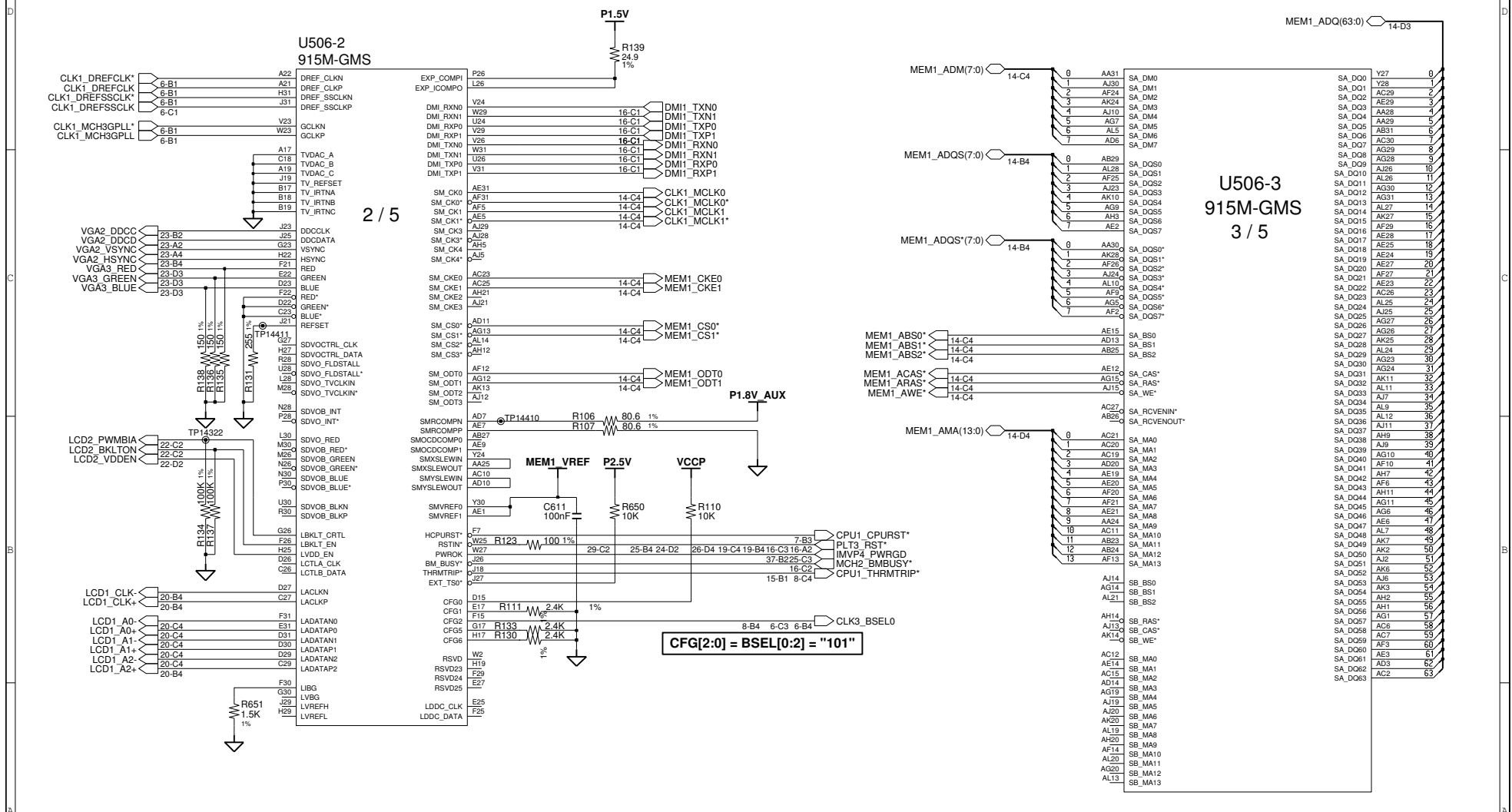
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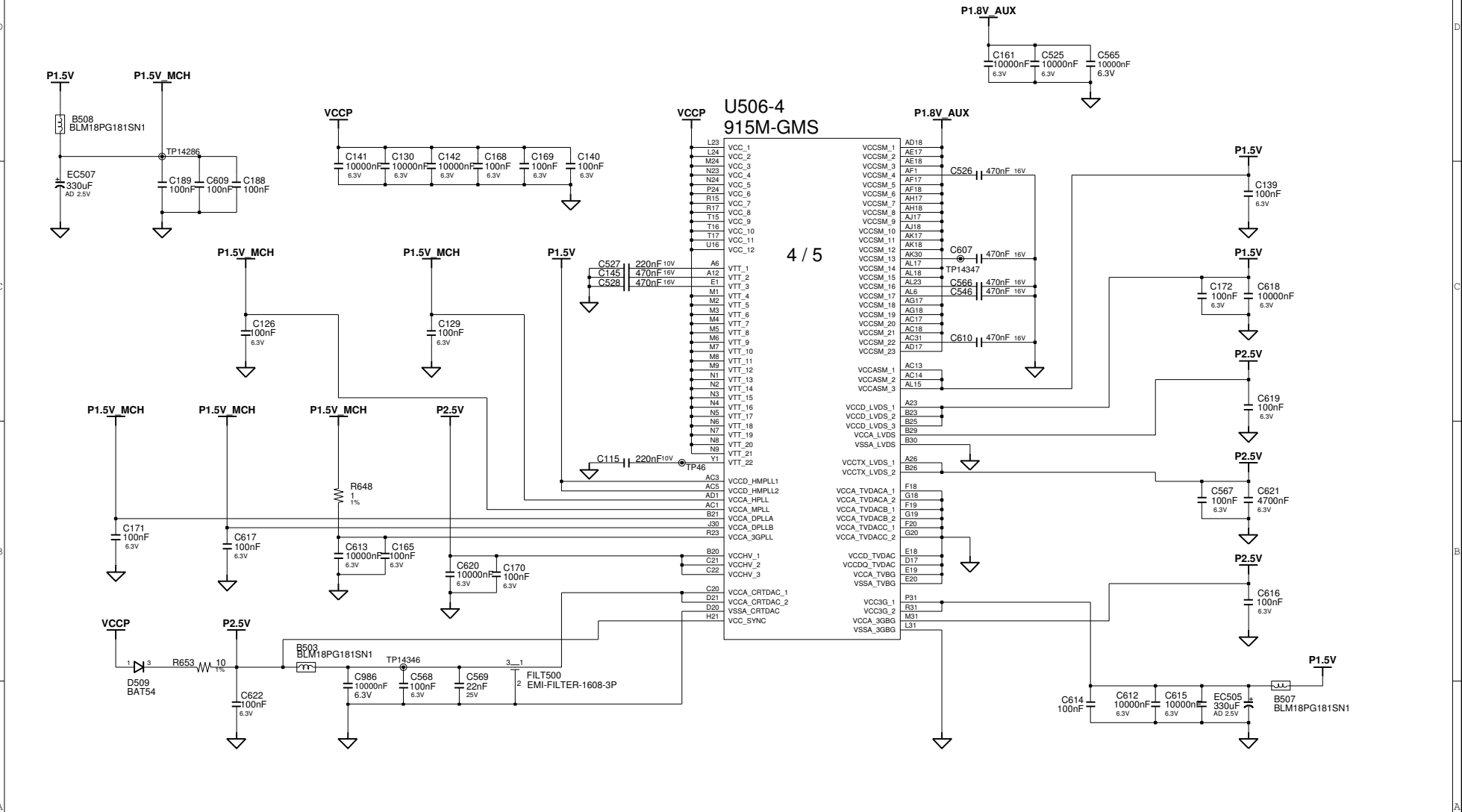
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PART NO.

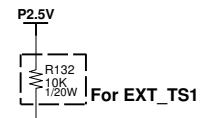


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APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	12 OF 41	

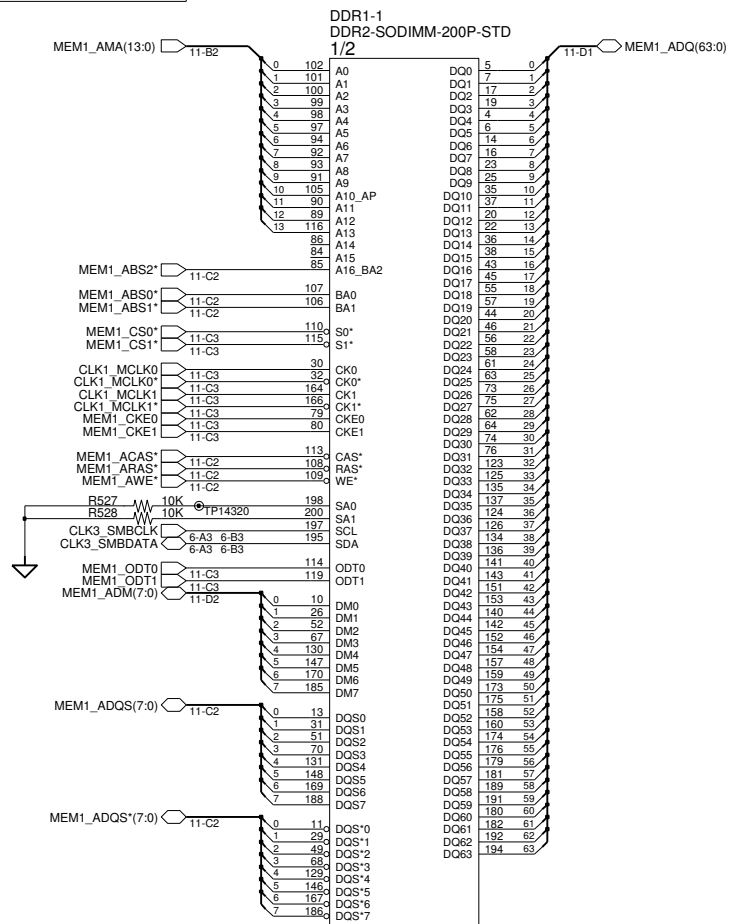
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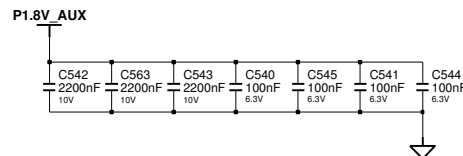
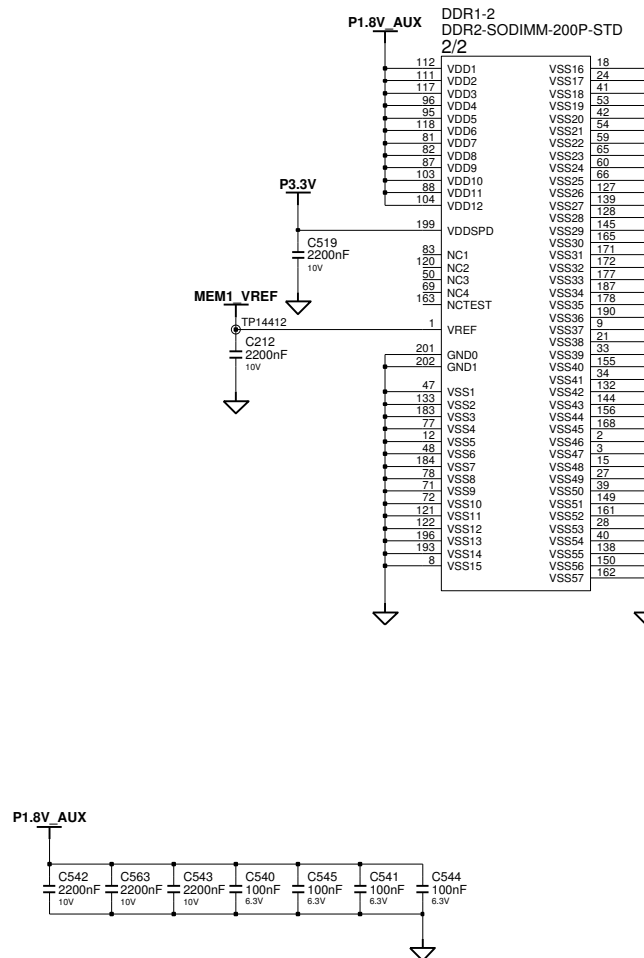
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CHECK HJ Kim	REV. STEP SR					
APPROVAL JS Euh	REV 0.9					
PART NO.						
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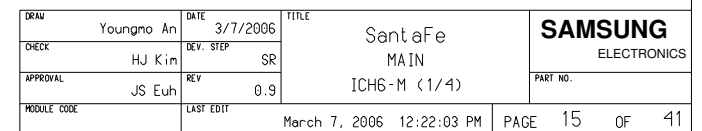


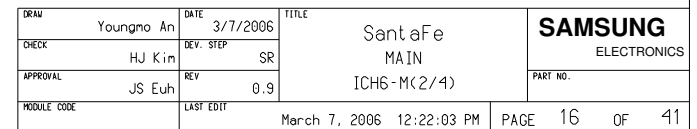
SMBUS ADDR "A2h"

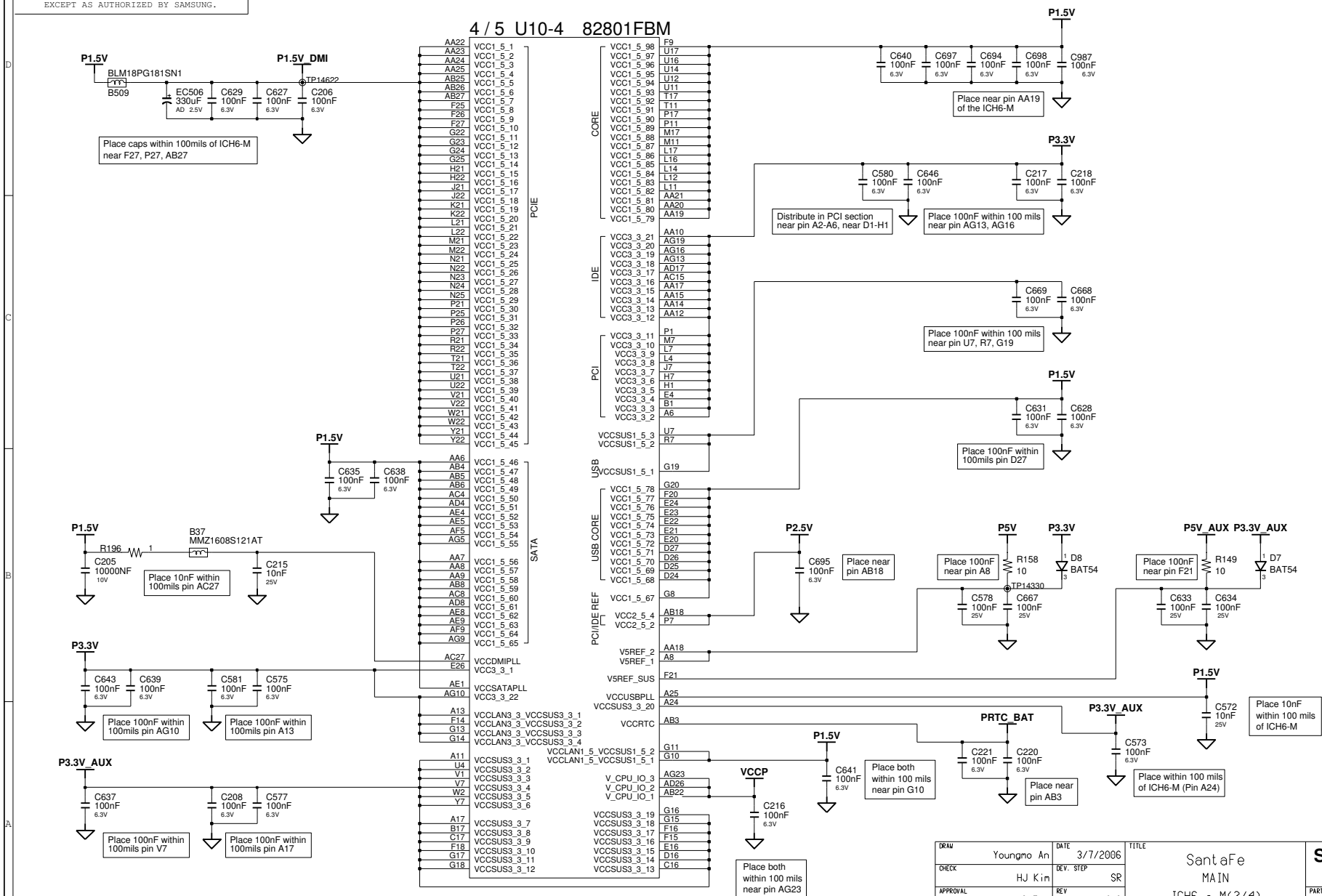


DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe	SAMSUNG ELECTRONICS
CHECK	HJ Kim	DEV. STEP	SR		MAIN	
APPROVAL	JS Euh	REV	0.9		DDR2 Memory	
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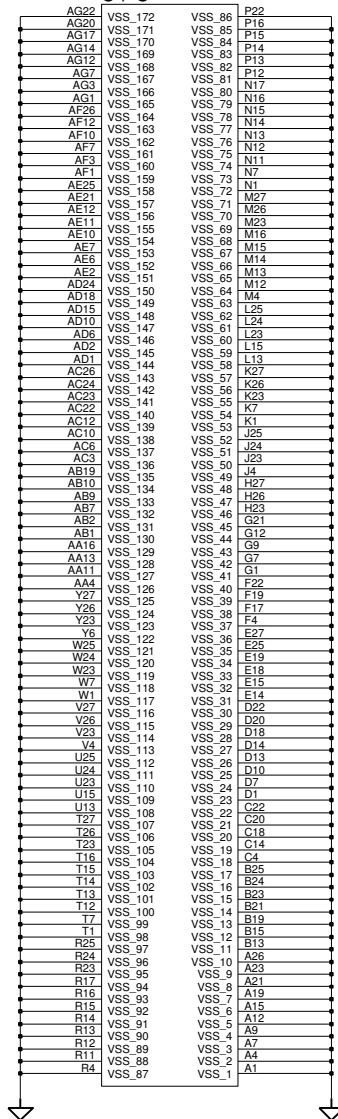




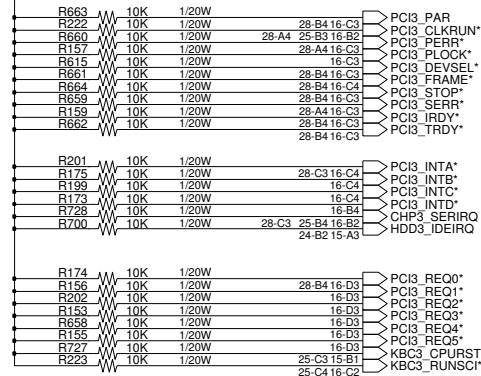
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CHECK	HJ Kim	DEV. STEP	SR				
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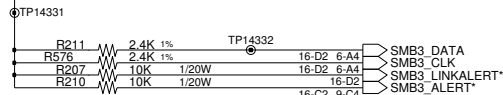
**U10-5**  
**82801FBM**  
**5 / 5**



**P3.3V**



**P3.3V\_AUX**

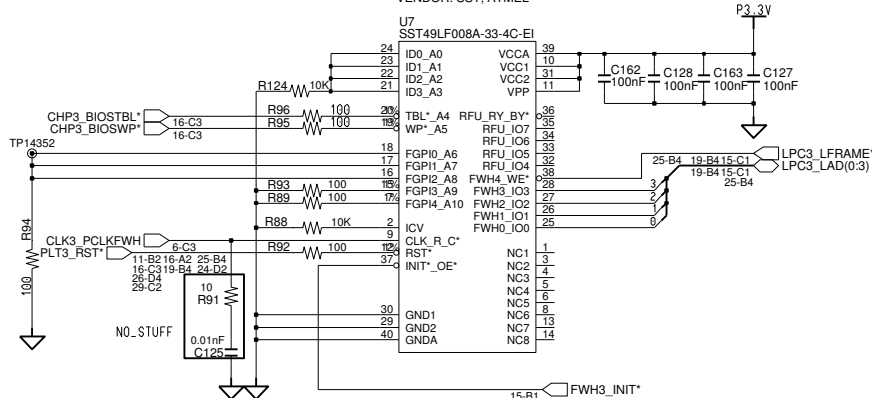


DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN ICH6 - M(4/4)	<b>SAMSUNG</b> ELECTRONICS PART NO.
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APPROVAL	JS Euh	REV	0.9			
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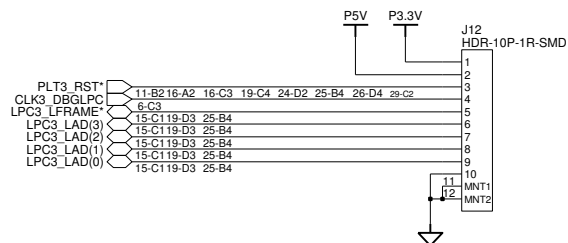
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VENDOR: SST, ATMEL



## 80 Port



02 VERIFY REAL MODE  
 03 DISABLE NMI  
 04 GET CPU TYPE  
 06 INIT. SYSTEM H/W  
 08 INIT. CHIPSET REG.  
 09 SET IN POST FLAG  
 0A INIT CPU REG  
 0B CPU CACHE ON  
 0C INIT.CACHE TO POST  
 0E INIT. I/O VALUE  
 0F ENABLE THE L-BUS IDE  
 10 INIT. POWER MANAGER  
 11 LOAD ALTERNATE REG.  
 13 PCI BUS MASTER RESET  
 WITH INITIAL POST VALUE  
 14 INIT. KEYBOARD CONTROLLER  
 16 CHECK CHECKSUM  
 18 8254 TIMER INIT.  
 1A 8237 DMA CONTROLLER INIT.  
 1C RESET INTERRUPT CONTROLLER  
 20 TEST DRAM REFRESH  
 22 TEST 8742 KEYBOARD CONTROLLER  
 24 SET ES SEGMENT REG. TO 4GB  
 26 ENABLE A20  
 28 AUTO SIZING DRAM  
 32 COMPUTE THE CPU SPEED  
 34 TESET CMOS RAM  
 38 SHADOW SYSTEM BIOS ROM  
 3A AUTO SIZING CACHE  
 3C CONFIGURE ADVANCED CHIPSET REG.  
 3D LOAD ALTER REG. WITH CMOS VALUE  
 42 INIT. INTERRUPT VECTOR  
 44 INIT. BIOS INTERRUPT  
 46 CHECK ROM COPYRIGHT NOTICE  
 47 INIT. I20 SUPPORT IF INSTALLED  
 48 CHECK VIDEO CONFIGURE AGAINST CMOS  
 49 INIT. PCI BUS AND DEVICE  
 4A INIT. ALL VIDEO BIOS ROM  
 4C SHADOW VIDEO BIOS ROM  
 50 DISPLAY CPU TYPE AND SPEED  
 52 TEST KEYBOARD  
 54 SET KEYCLICK IF ENABLED  
 56 ENABLE KEYBOARD  
 58 TEST FOR UNEXPECTED INTERRUPTS  
 5A DISPLAY " PRESS ..... SETUP"  
 5C TEST RAM BETWEEN 512K AND 640K  
 60 TEST EXTENDED MEMORY  
 62 TEST EXTENDED MEMORY ADDRESS LINE  
 64 JUMP TO USER PATCH 1

66 CONFIGURE ADVANCE CACHE REG.  
 6A DISPLAY EXTERNAL CACHE SIZE  
 6C DISPLAY SHADOW MESSAGE  
 6E DISPLAY NON-DISPOSABLE SEGMENT  
 70 DISPLAY ERROR MESSAGE  
 72 CHECK FOR CONFIGURATION ERROR  
 74 TEST REAL-TIME CLOCK  
 76 CHECK FOR KEYBOARD ERROR  
 7C SETUP HARDWARE INTERRUPT VECTOR  
 7E TEST COPROCESSER IF PRESENT  
 80 DISABLE ON-BOARD I/O PORT  
 82 DETECT AND INSTALL EXT.RS232C  
 84 DETECT AND INSTALL EXT.PARALLEL  
 86 RE-INIT. ON-BOARD I/O PORT  
 88 INIT. BIOS DATA ROM  
 8A INIT.EXTENDED BIOS DATA AREA  
 8C INIT. FDD CONTROLLER  
 9A SHADOW OPTION ROMS  
 9C SETUP POWER MANAGEMENT  
 9E ENABLE H/W INTERRUPT  
 A0 SET TIME OF DAY  
 A4 INIT. TYPOMATIC RATE  
 A8 ERASE F2 PROMPT  
 AA SCAN FOR F2 KEY STROKE  
 AC ENTER SETUP  
 AE CLEAR IN POST FLAG  
 B0 CHECK FOR ERRORS  
 B2 POST DONE-PREPARE TO BOOT O/S  
 B4 ONE BEEP  
 B6 CHECK PASSWORD (OPTION)  
 B7 ACPI INIT  
 BA DMI INIT  
 BE CLEAR SCREEN  
 C0 TRY BOOT WITH INT19  
 D0 INTERRUPT HANDLER ERROR  
 D2 UNKNOWN INTERRUPT ERROR  
 D4 PENDING INTERRUPT ERROR  
 D6 SHUTDOWN 5  
 D8 SHUTDOWN ERROR  
 DA EXTENDED BLOCK MOVE  
 DC SHUTDOWN 10  
 89 ENABLE NMI  
 90 INIT. HDD CONTROLLER  
 91 INIT. LOCAL BUS HDD CONTROLLER  
 92 JUMP TO USER PATCH 2  
 94 DISABLE A20 ADDRESS LINE  
 96 CLEAR HUGE ES SEGMENT REG.  
 98 SEARCH FOR OPTION ROMS

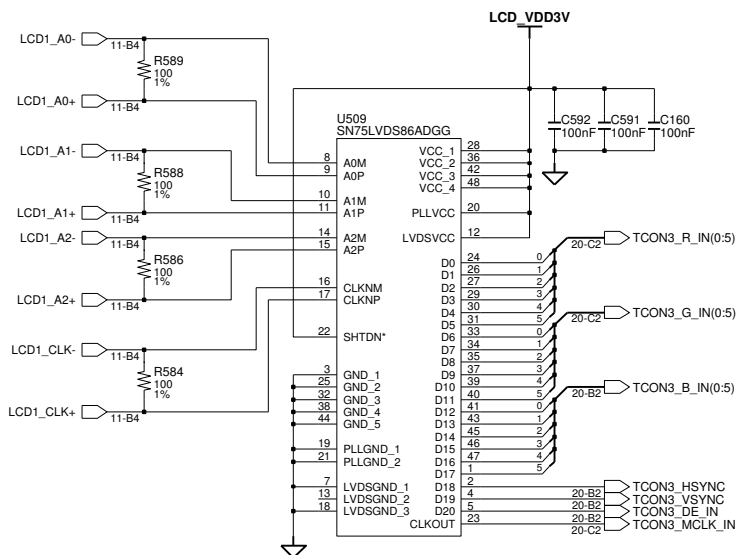
DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe	SAMSUNG ELECTRONICS
CHECK	HJ Kim	DEV. STEP	SR		MAIN	
APPROVAL	JS Euh	REV	0.9		FWH & 80Port	
MODULE CODE		LAST EDIT				
March 7, 2006 12:22:03 PM						PAGE 19 OF 41



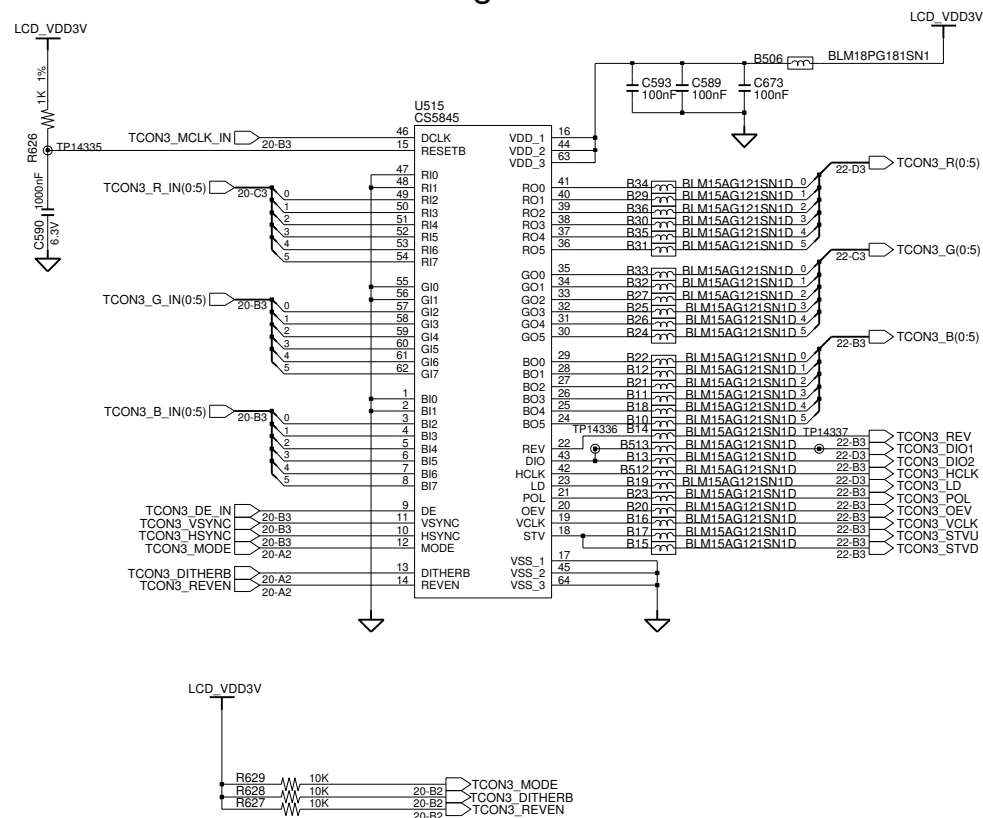
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## LVDS to LVTTTL

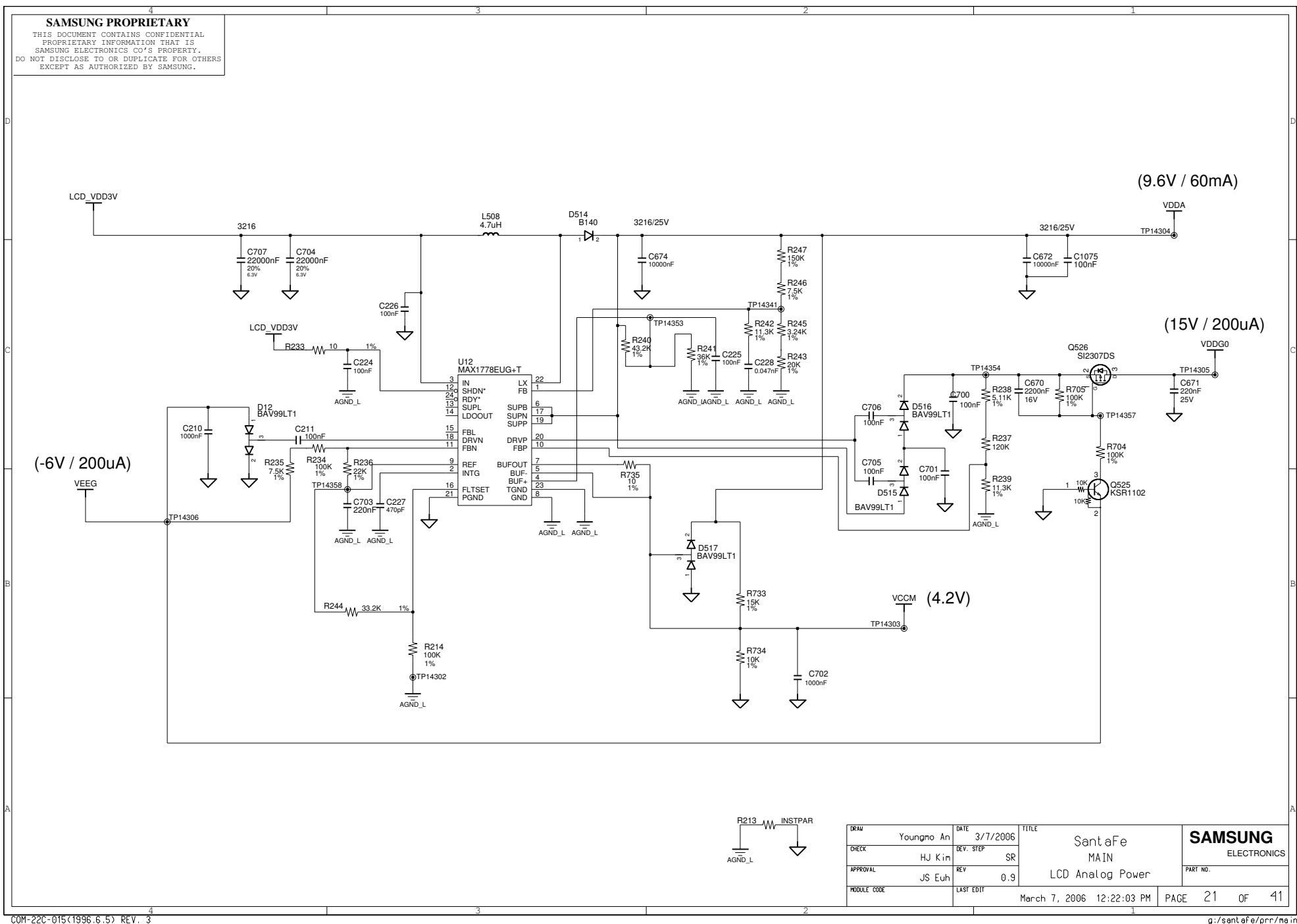


## LCD Timing Controller



DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN LVDS TO LVTTTL & Tcon	SAMSUNG ELECTRONICS PART NO.
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	20 OF 41	

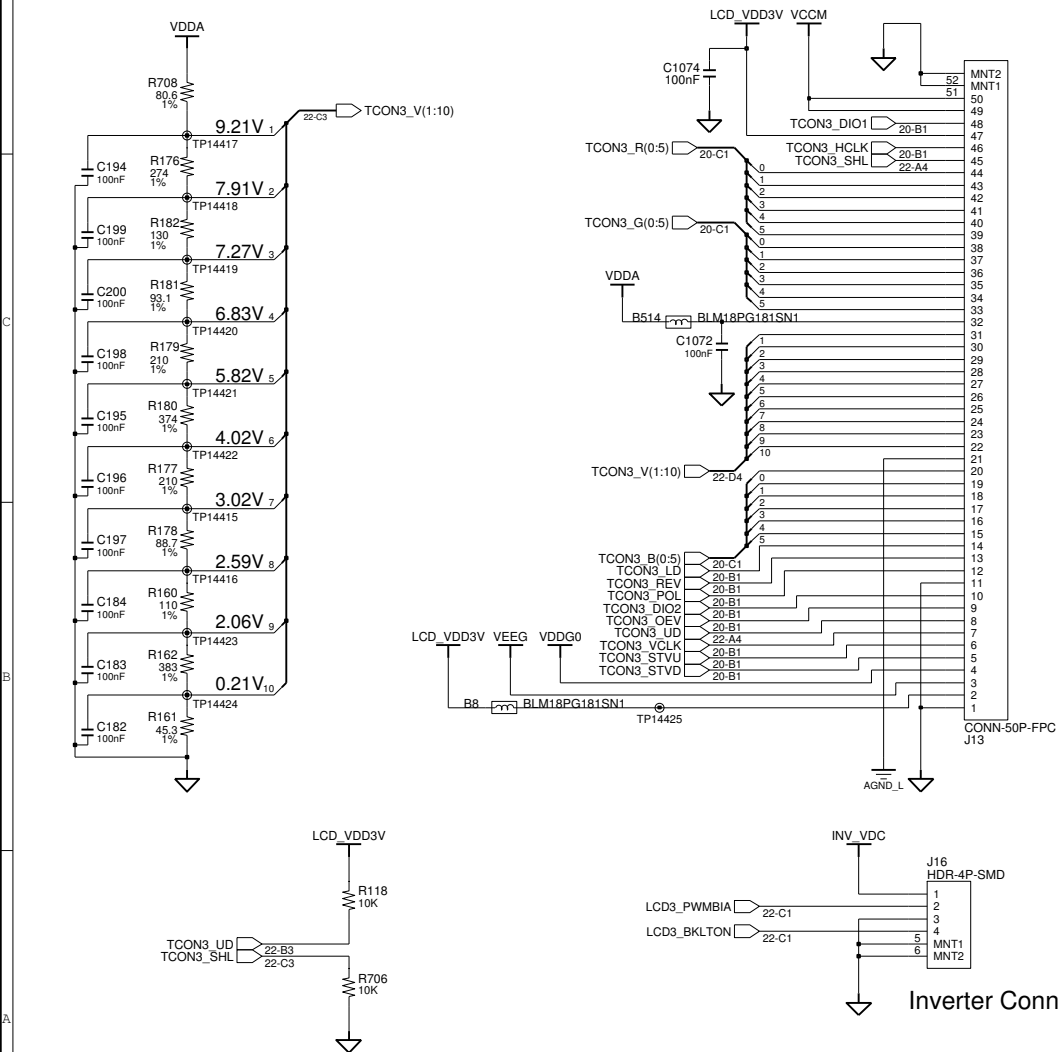
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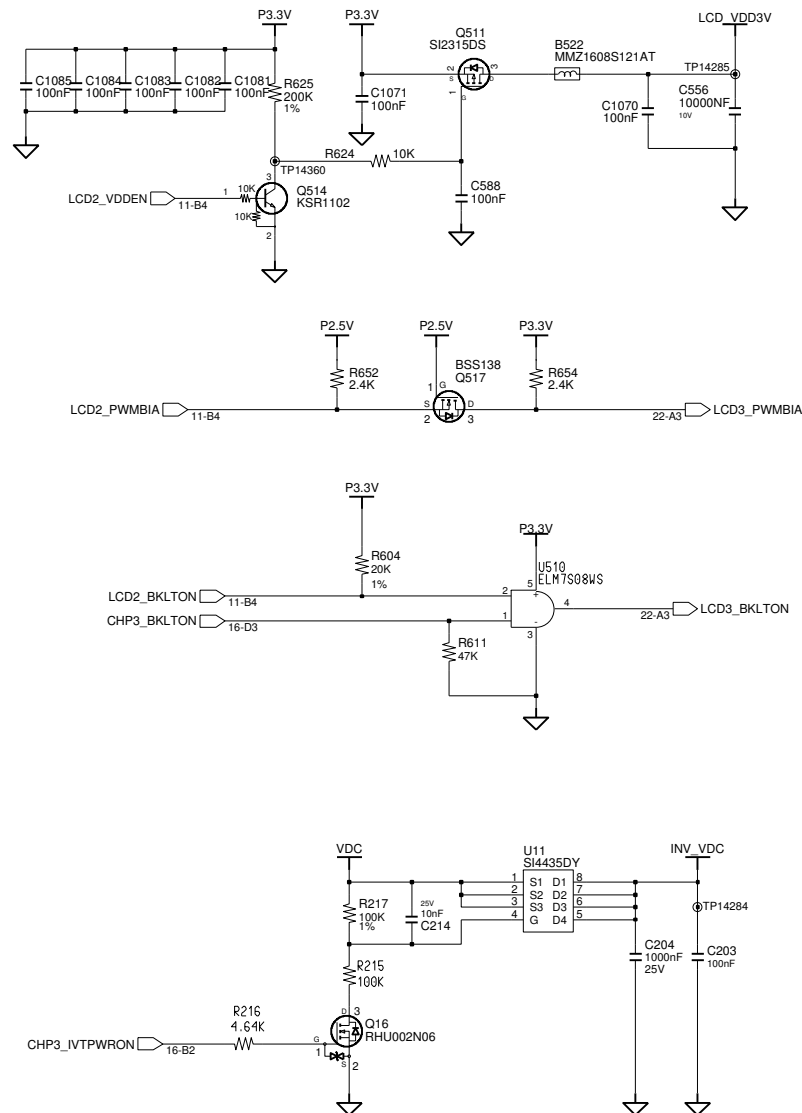
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## LCD Connector

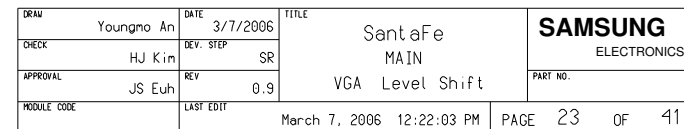


## Inverter Conn.

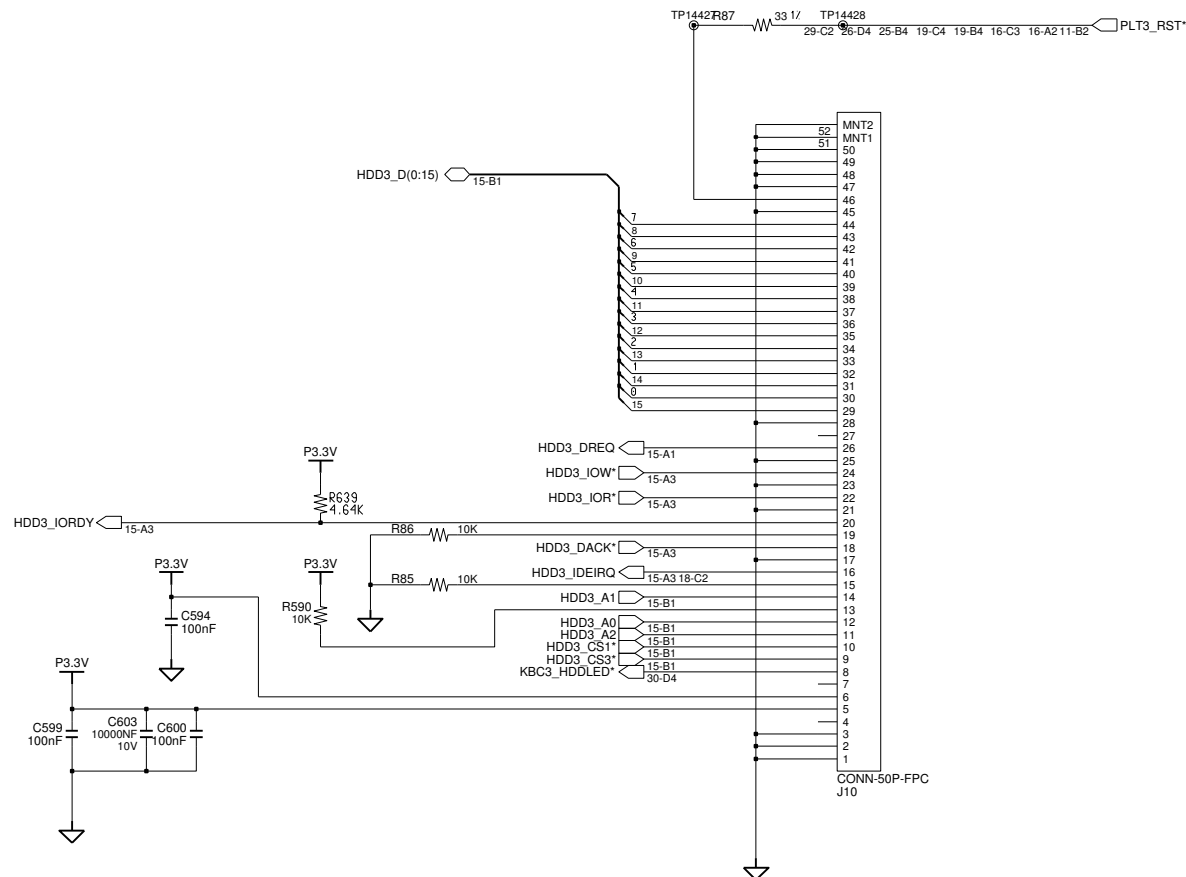


DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN LCD Gamma & Conn.	SAMSUNG ELECTRONICS
CHECK	HJ Kim	DEV. STEP	SR			PART NO.
APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	22	OF 41

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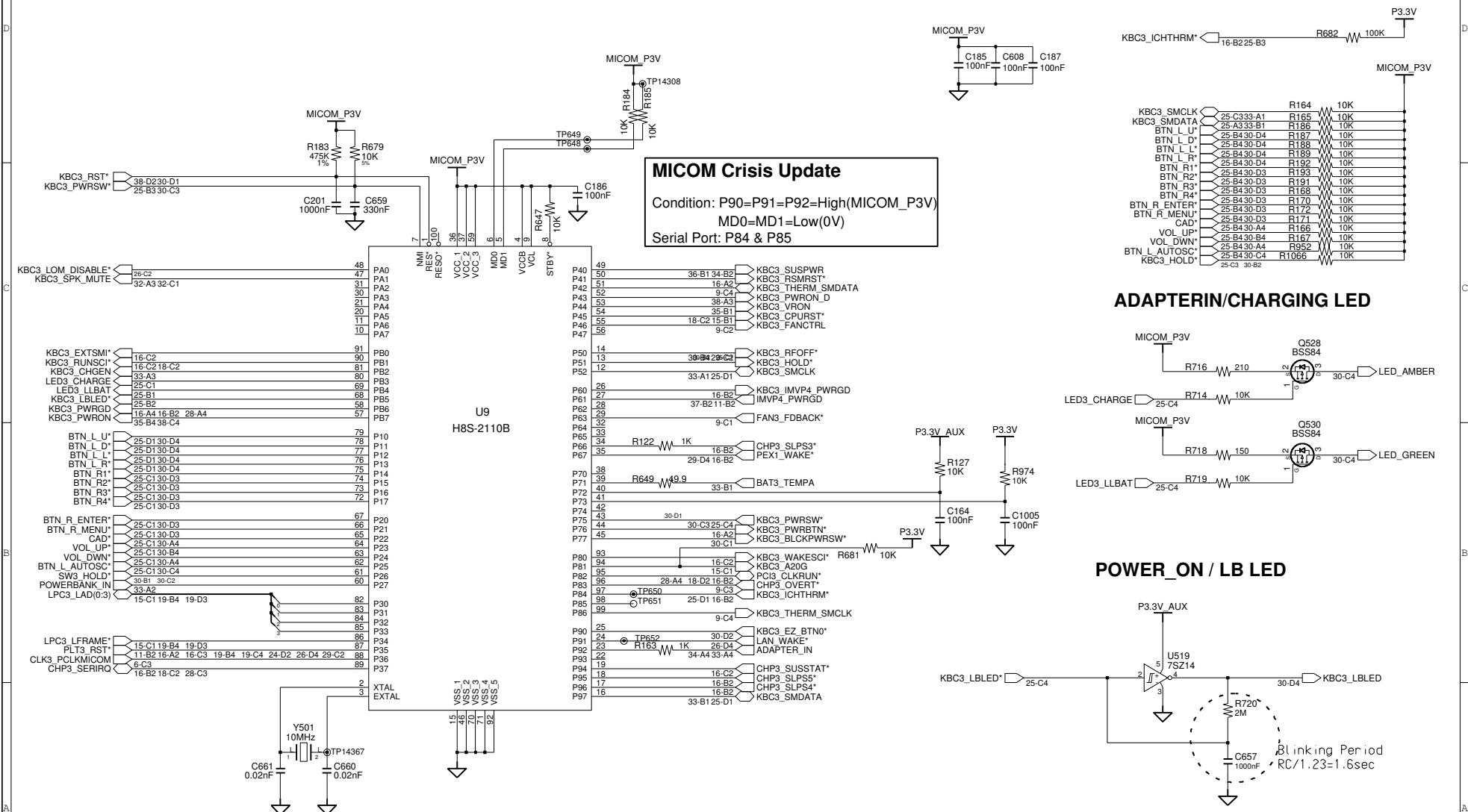
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DRAM	Youngmo An	DATE	3/7/2006	TITLE	Sant aFe MAIN HDD CONNECTOR	SAMSUNG ELECTRONICS	
CHECK	HJ Kim	DEV. STEP	SR				
APPROVAL	JS Euh	REV	0.9				PART NO.
MODULE CODE	LAST EDIT		March 7, 2006 12:22:03 PM				PAGE

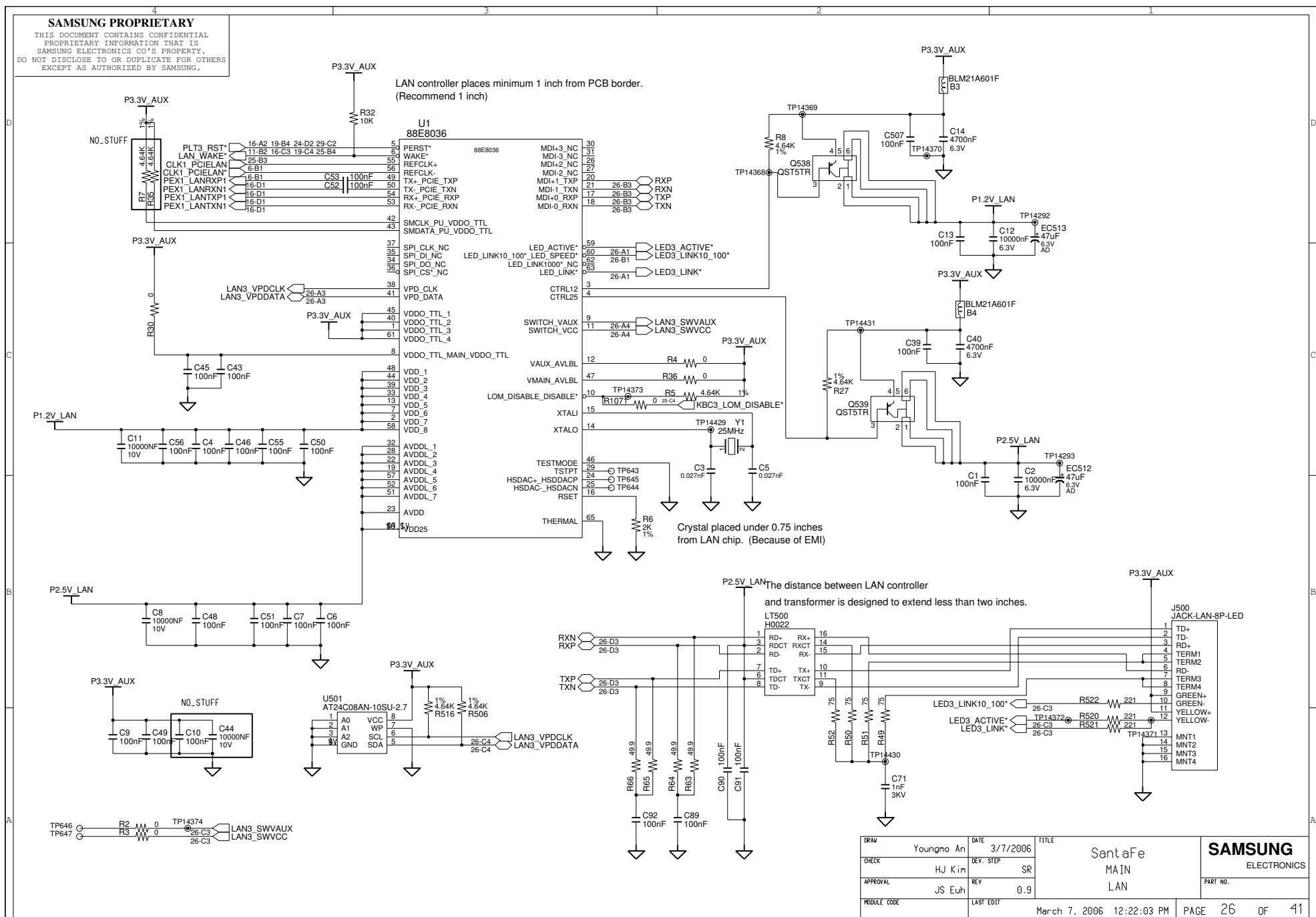
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DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN MICOM	SAMSUNG ELECTRONICS PART NO.
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	25 OF 41	

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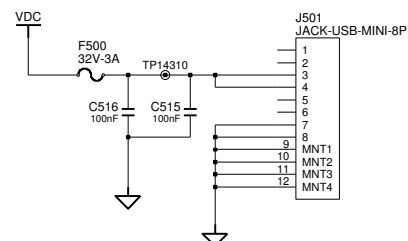
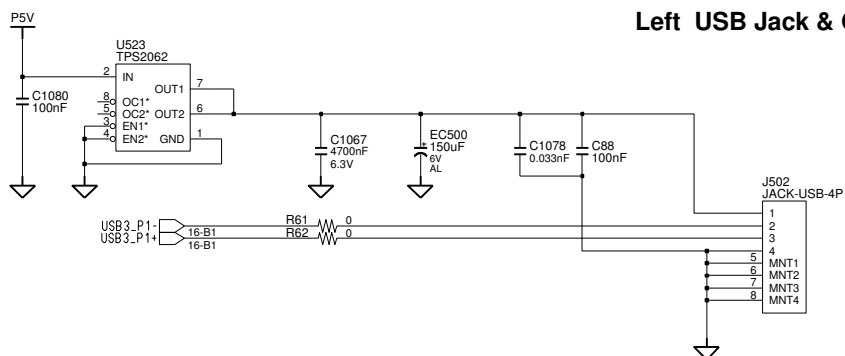
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MT2  
HEAD  
DIA  
LENGTH

MT1  
HEAD  
DIA  
LENGTH

**BA81**

### Left USB Jack & ODD Power Jack

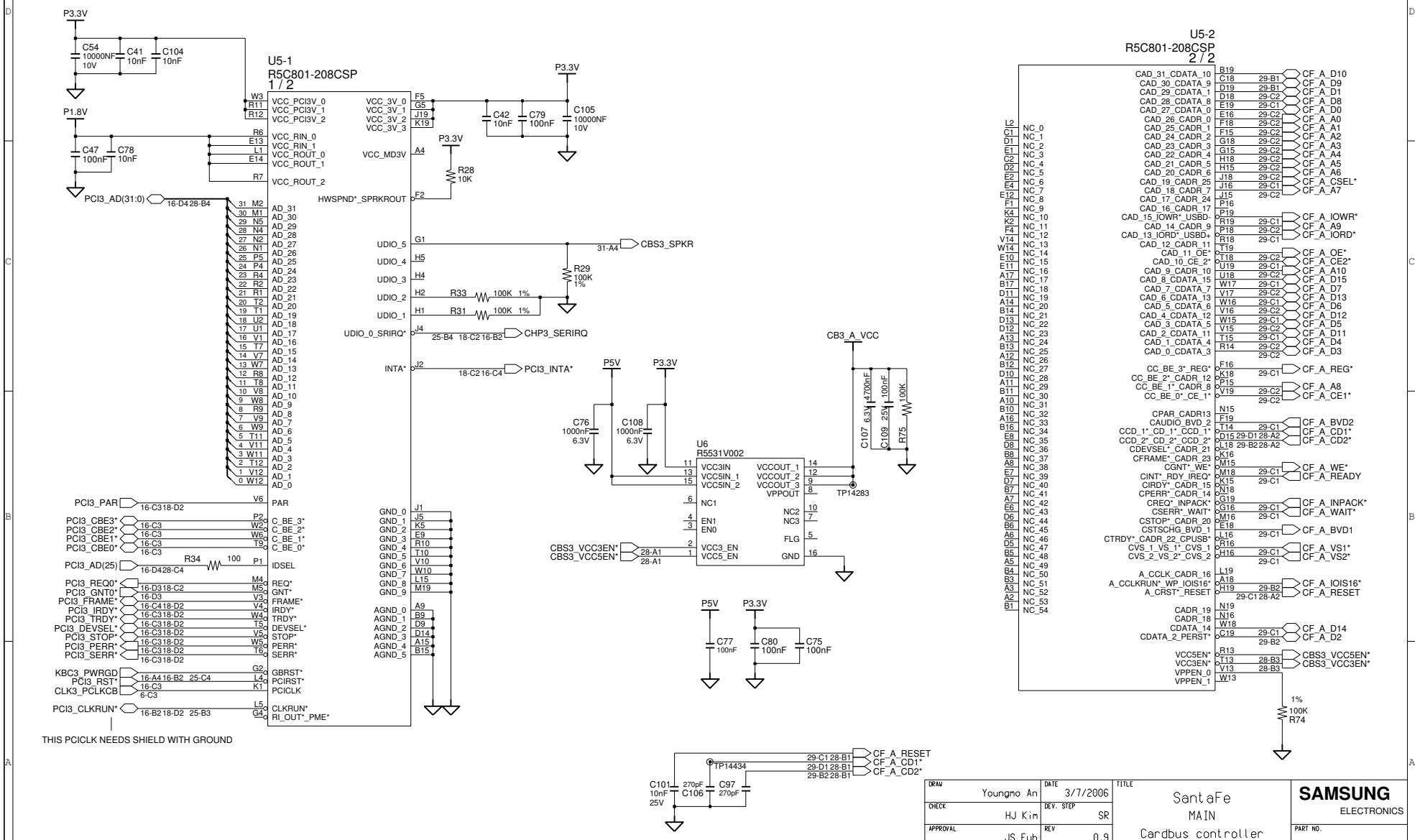


DRWN	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN DMB & USB	<b>SAMSUNG</b> ELECTRONICS	
CHECK	HJ Kim	DEV. STEP	SR				
APPROVAL	JS Euh	REV	0.9				PART NO.
MODULE CODE	LAST EDIT						
				March 7, 2006 12:22:03 PM	PAGE	27 OF 41	



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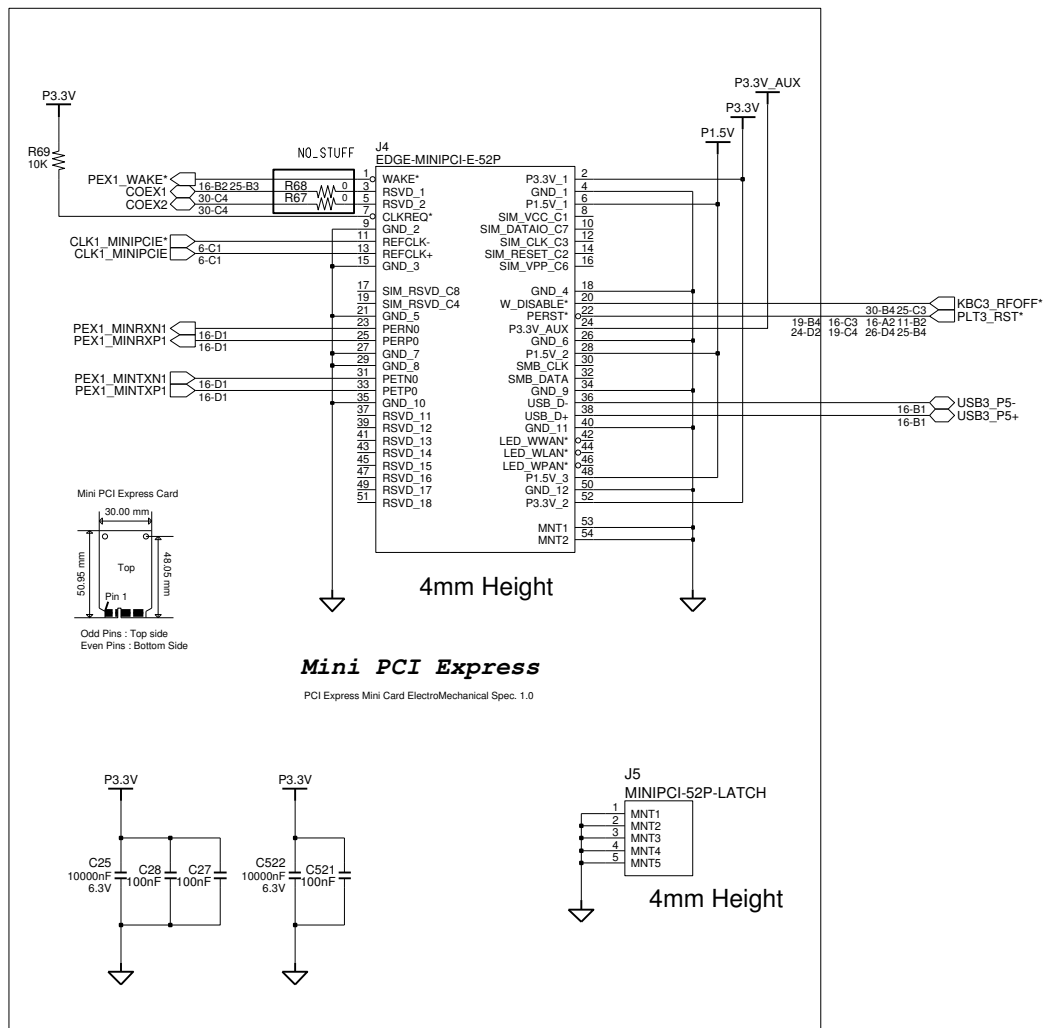


DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN Cardbus controller	<b>SAMSUNG</b> ELECTRONICS PART NO. <div>March 7, 2006 12:22:03 PM</div> <div>PAGE 28 OF 41</div>
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT				

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## CF SLOT

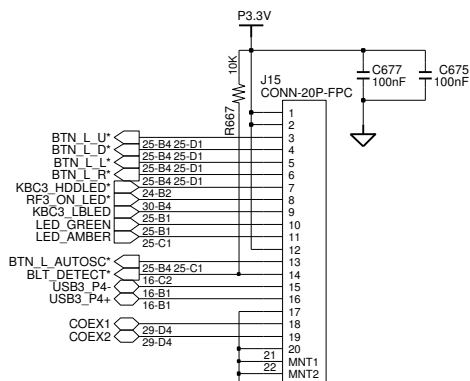


DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN	<b>SAMSUNG</b> ELECTRONICS PART NO.
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9	Mini Card & CF Slot		
MODULE CODE		LAST EDIT				
				March 7, 2006 12:22:03 PM	PAGE	29 OF 41

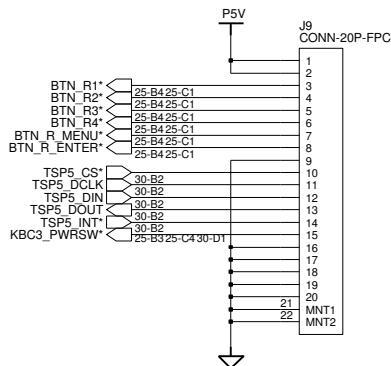
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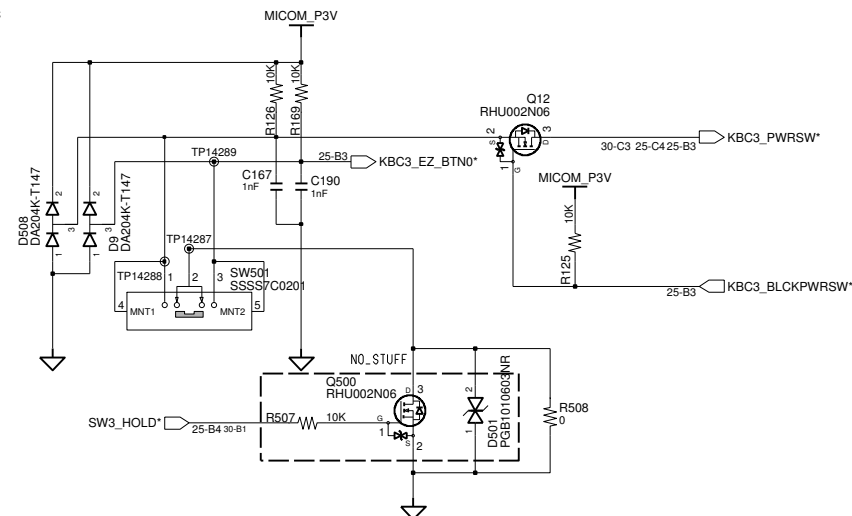
## Main to Subboard(Left)



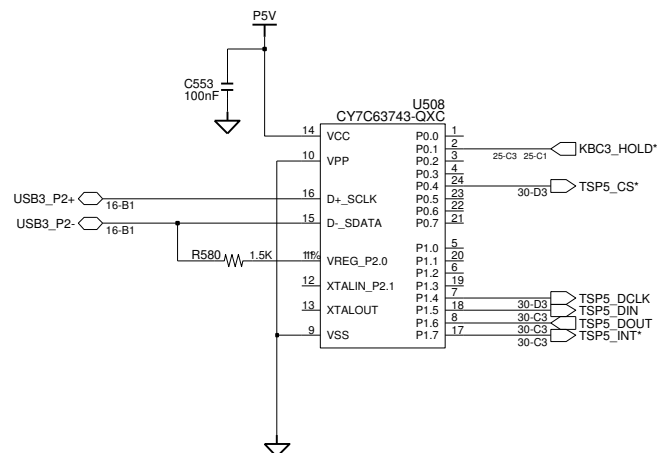
## Main to Subboard(Right)



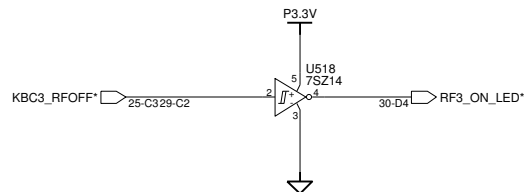
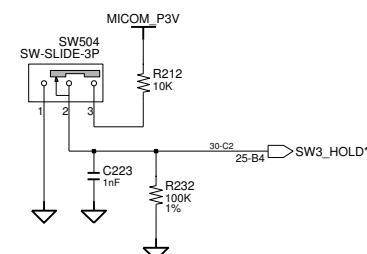
## POWER & MIO S/W



## TSP

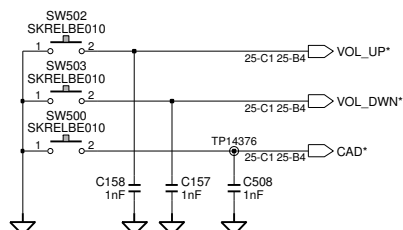


## HOLD S/W



Vomume +/-

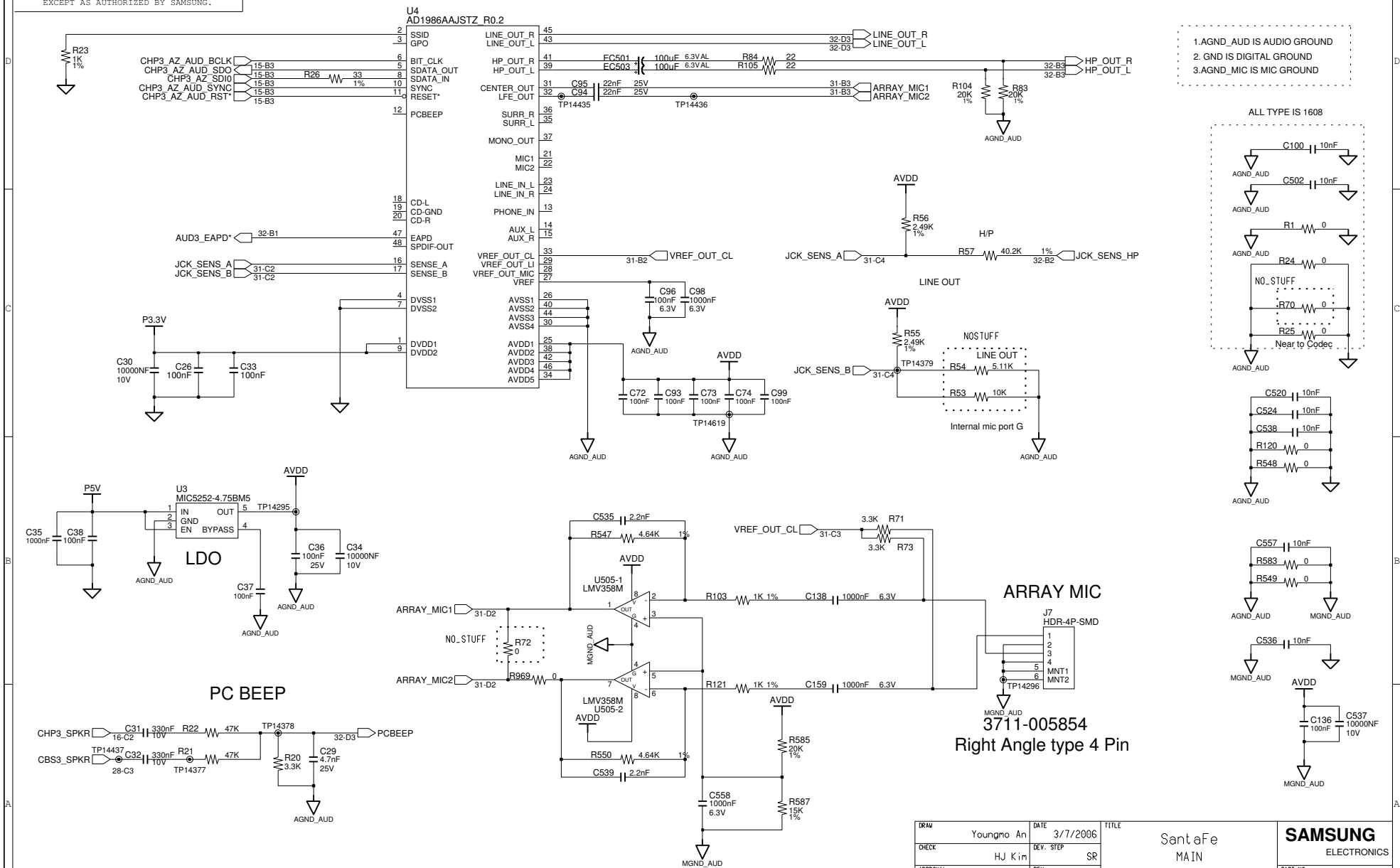
Ctrl+Alt\_Del



DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe	SAMSUNG ELECTRONICS
CHECK	HJ Kim	DEV. STEP	SR	MAIN		
APPROVAL	JS Euh	REV	0.9	TSP & SUB B'D Conn. & S/W	PART NO.	
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	30 OF 41	

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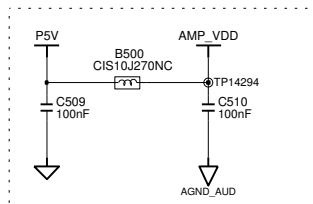


DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN	SAMSUNG ELECTRONICS
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9		Audio Codec & Array MIC	PART NO.
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	31	OF 41

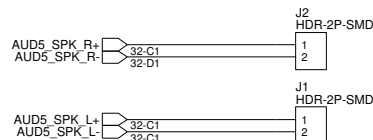
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## AMP\_VDD



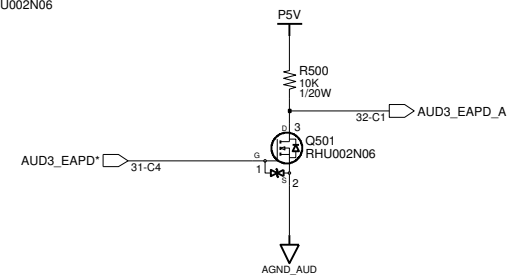
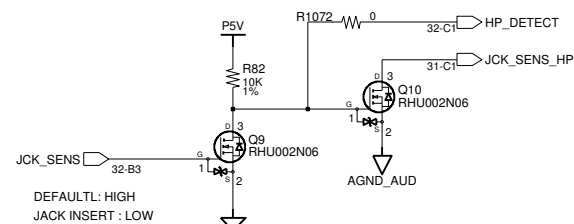
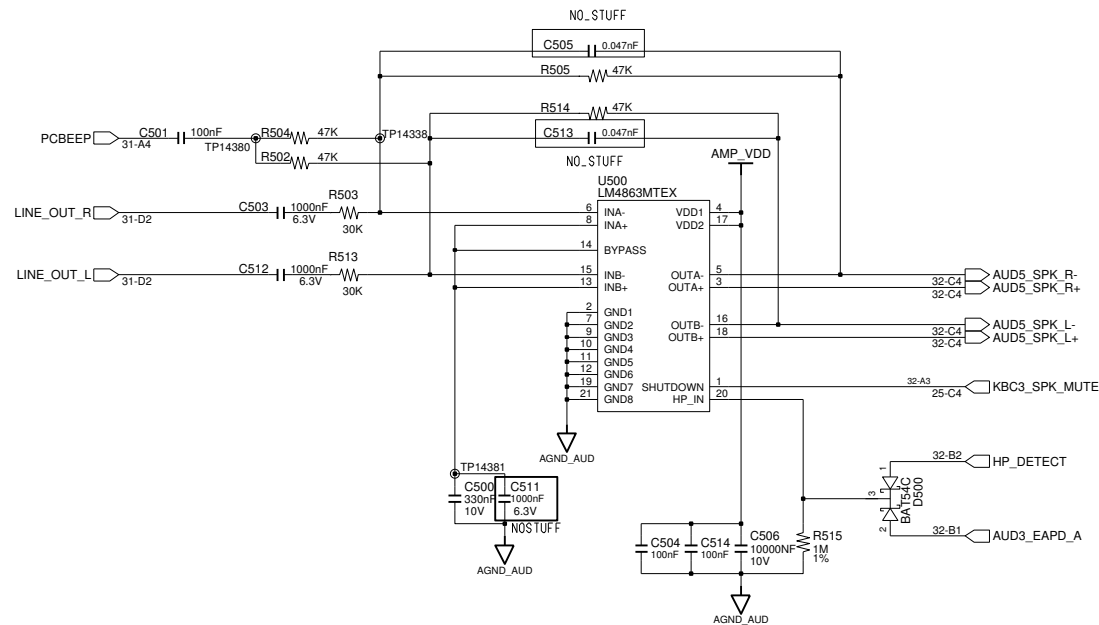
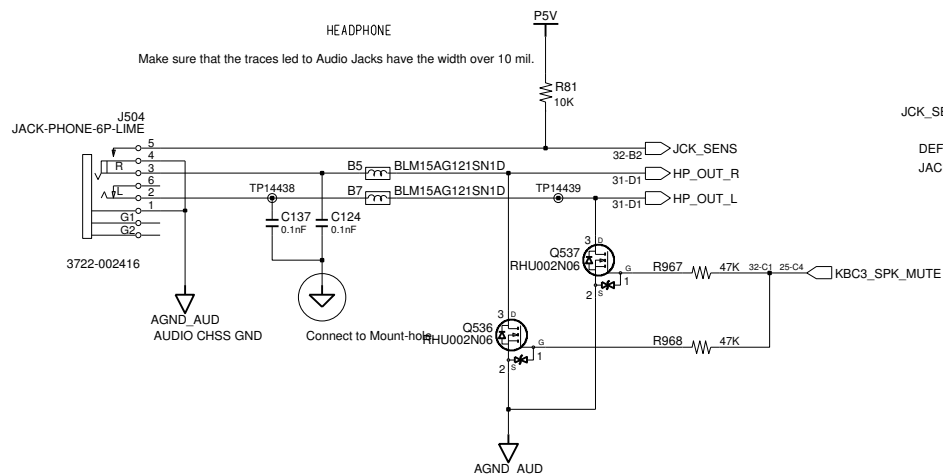
## INTERNAL STEREO SPEAKERS



3711-005752

## HEADPHONE

Make sure that the traces led to Audio Jacks have the width over 10 mil.

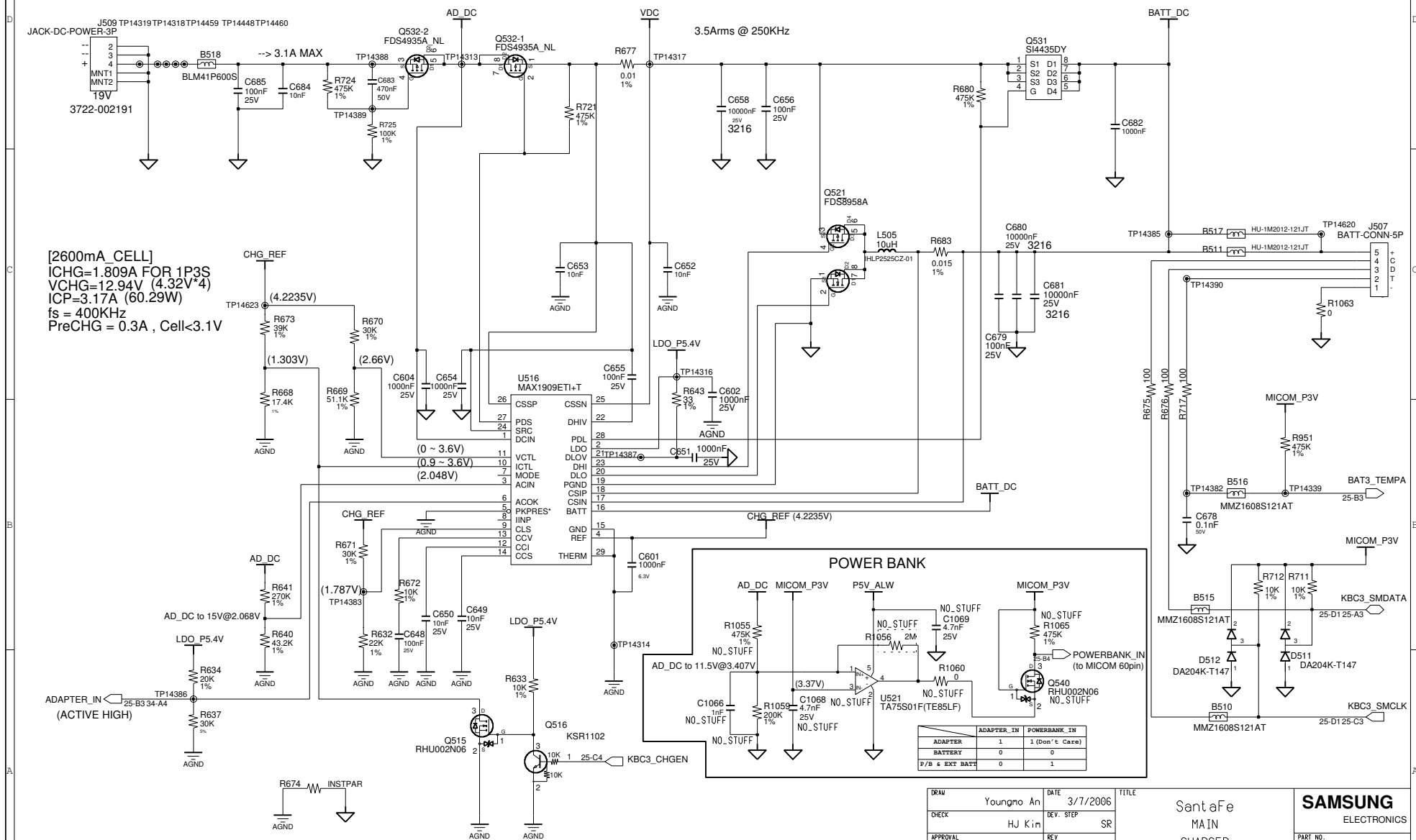


DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe	SAMSUNG ELECTRONICS
CHECK	HJ Kim	DEV. STEP	SR		MAIN	
APPROVAL	JS Euh	REV	0.9	AMP & Spkr Conn & HP Jack	PART NO.	
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	32 OF 41	

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## CHARGER & POWER MANAGEMENT



DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN CHARGER	SAMSUNG ELECTRONICS PART NO.
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	33 OF 41	

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VDC 3.6Arms @ 500KHz

Vton = GND  
5V / 3.3V : 400KHz / 500KHz

P3.3V\_AUX (3A)

NO\_STUFF

L506 3.3uH

IHL2525CZ-01

Q524 IRF7904

MICOM\_P3V

R696 475K 1%

10m ohm @ 4.5Vgs  
-> 10m ohm X 1.4 @120DEG  
-> 14m ohm (MAX)

VDC

R534 1M 1%

R535 475K 1%

R536 475K 1%

Q506 DTA114YUA

Q508 RHU002N06

Q507 RHU002N06

R537 10K

R538 475K 1%

R539 475K 1%

P12V\_ALW

D504 MMBD4148

C523 10000nF 25V 3216

ZD500 BZX84C12L

R526

TP14269

GND\_A

INSTPAR

R699

A\_AGND

TP14268

R692 475K 1%

R686 100K 1%

R685 100K 1%

A\_AGND

TP14393

TP14392

R688 121K 1%

R687 121K 1%

A\_AGND

TP14391

R698 10K 1%

Q533 IRF7904

L507 4.7uH

IHL2525CZ-01

NO\_STUFF

P5V\_AUX (3A)

EC509 330uF 6.3V AL 18 mohm

C696 100nF 25V

R691 200K 1%

R694 300K 1%

A\_AGND

MAX8734AEEI+T

U517

ILIM3 34-B3

ILIM5 34-B3

ILIM5 34-C3

ILIM3 34-C3

R697 3.3

R722

R690 0

A\_AGND

MICOM\_P3V

C665 4700nF 6.3V

C662 1000nF 6.3V

A\_AGND

TP14392

TP14393

R688 121K 1%

R687 121K 1%

A\_AGND

TP14391

R698 10K 1%

Q533 IRF7904

L507 4.7uH

IHL2525CZ-01

NO\_STUFF

P5V\_AUX (3A)

EC509 330uF 6.3V AL 18 mohm

C696 100nF 25V

R691 200K 1%

R694 300K 1%

A\_AGND

MAX8734AEEI+T

U517

ILIM3 34-B3

ILIM5 34-B3

ILIM5 34-C3

ILIM3 34-C3

R697 3.3

R722

R690 0

A\_AGND

MICOM\_P3V

C665 4700nF 6.3V

C662 1000nF 6.3V

A\_AGND

TP14392

TP14393

R688 121K 1%

R687 121K 1%

A\_AGND

TP14391

R698 10K 1%

Q533 IRF7904

L507 4.7uH

IHL2525CZ-01

NO\_STUFF

P5V\_AUX (3A)

EC509 330uF 6.3V AL 18 mohm

C696 100nF 25V

R691 200K 1%

R694 300K 1%

A\_AGND

MAX8734AEEI+T

U517

ILIM3 34-B3

ILIM5 34-B3

ILIM5 34-C3

ILIM3 34-C3

R697 3.3

R722

R690 0

A\_AGND

MICOM\_P3V

C665 4700nF 6.3V

C662 1000nF 6.3V

A\_AGND

TP14392

TP14393

R688 121K 1%

R687 121K 1%

A\_AGND

TP14391

R698 10K 1%

Q533 IRF7904

L507 4.7uH

IHL2525CZ-01

NO\_STUFF

P5V\_AUX (3A)

EC509 330uF 6.3V AL 18 mohm

C696 100nF 25V

R691 200K 1%

R694 300K 1%

A\_AGND

MAX8734AEEI+T

U517

ILIM3 34-B3

ILIM5 34-B3

ILIM5 34-C3

ILIM3 34-C3

R697 3.3

R722

R690 0

A\_AGND

MICOM\_P3V

C665 4700nF 6.3V

C662 1000nF 6.3V

A\_AGND

TP14392

TP14393

R688 121K 1%

R687 121K 1%

A\_AGND

TP14391

R698 10K 1%

Q533 IRF7904

L507 4.7uH

IHL2525CZ-01

NO\_STUFF

P5V\_AUX (3A)

EC509 330uF 6.3V AL 18 mohm

C696 100nF 25V

R691 200K 1%

R694 300K 1%

A\_AGND

MAX8734AEEI+T

U517

ILIM3 34-B3

ILIM5 34-B3

ILIM5 34-C3

ILIM3 34-C3

R697 3.3

R722

R690 0

A\_AGND

MICOM\_P3V

C665 4700nF 6.3V

C662 1000nF 6.3V

A\_AGND

TP14392

TP14393

R688 121K 1%

R687 121K 1%

A\_AGND

TP14391

R698 10K 1%

Q533 IRF7904

L507 4.7uH

IHL2525CZ-01

NO\_STUFF

P5V\_AUX (3A)

EC509 330uF 6.3V AL 18 mohm

C696 100nF 25V

R691 200K 1%

R694 300K 1%

A\_AGND

MAX8734AEEI+T

U517

ILIM3 34-B3

ILIM5 34-B3

ILIM5 34-C3

ILIM3 34-C3

R697 3.3

R722

R690 0

A\_AGND

MICOM\_P3V

C665 4700nF 6.3V

C662 1000nF 6.3V

A\_AGND

TP14392

TP14393

R688 121K 1%

R687 121K 1%

A\_AGND

TP14391

R698 10K 1%

Q533 IRF7904

L507 4.7uH

IHL2525CZ-01

NO\_STUFF

P5V\_AUX (3A)

EC509 330uF 6.3V AL 18 mohm

C696 100nF 25V

R691 200K 1%

R694 300K 1%

A\_AGND

MAX8734AEEI+T

U517

ILIM3 34-B3

ILIM5 34-B3

ILIM5 34-C3

ILIM3 34-C3

R697 3.3

R722

R690 0

A\_AGND

MICOM\_P3V

C665 4700nF 6.3V

C662 1000nF 6.3V

A\_AGND

TP14392

TP14393

R688 121K 1%

R687 121K 1%

A\_AGND

TP14391

R698 10K 1%

Q533 IRF7904

L507 4.7uH

IHL2525CZ-01

NO\_STUFF

P5V\_AUX (3A)

EC509 330uF 6.3V AL 18 mohm

C696 100nF 25V

R691 200K 1%

R694 300K 1%

A\_AGND

MAX8734AEEI+T

U517

ILIM3 34-B3

ILIM5 34-B3

ILIM5 34-C3


ILIM3 34-C3

R697 3.3

R722

R690 0

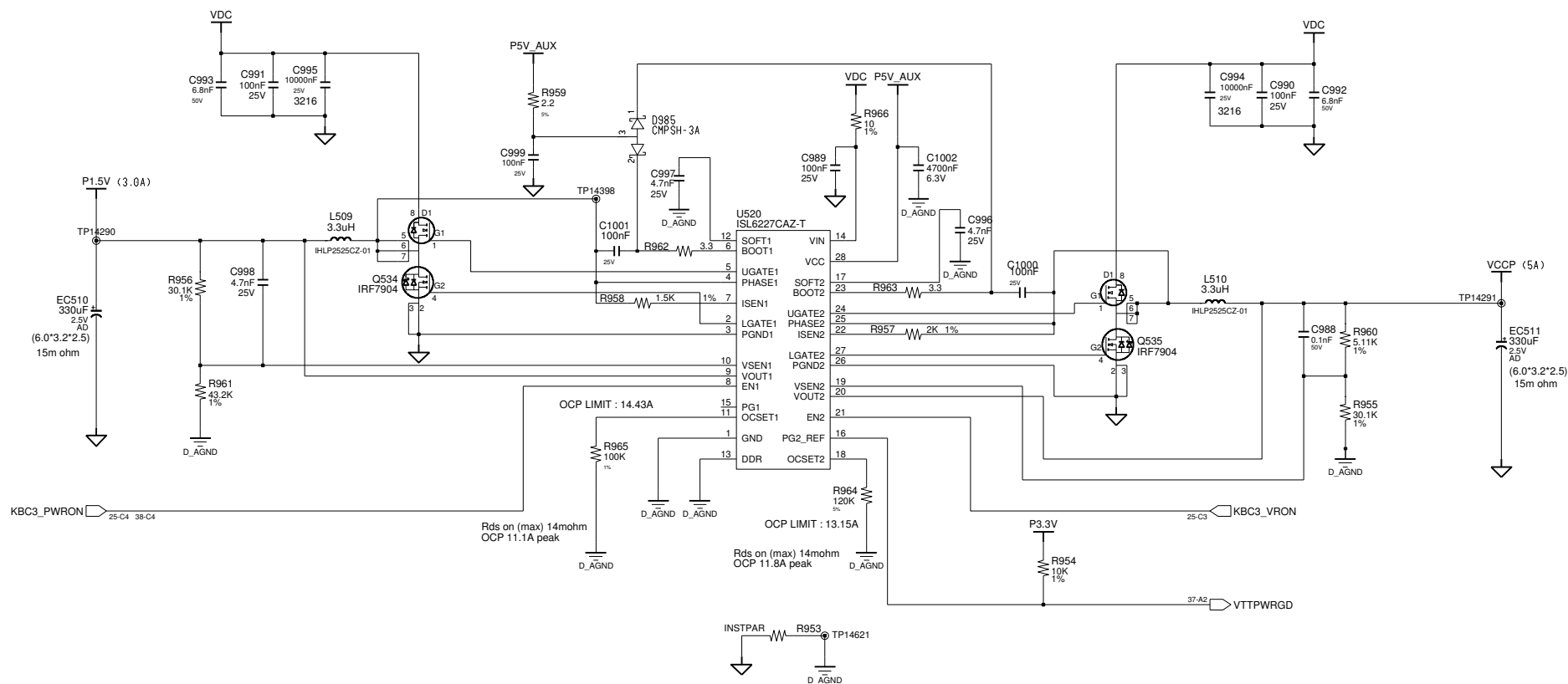
A\_AGND

DRAM	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN P3.3V_AUX & P5V_AUX	
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9			
MODULE CODE	LAST EDIT		March 7, 2006 12:22:03 PM			

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## P1.5V & VCCP (1.05V)



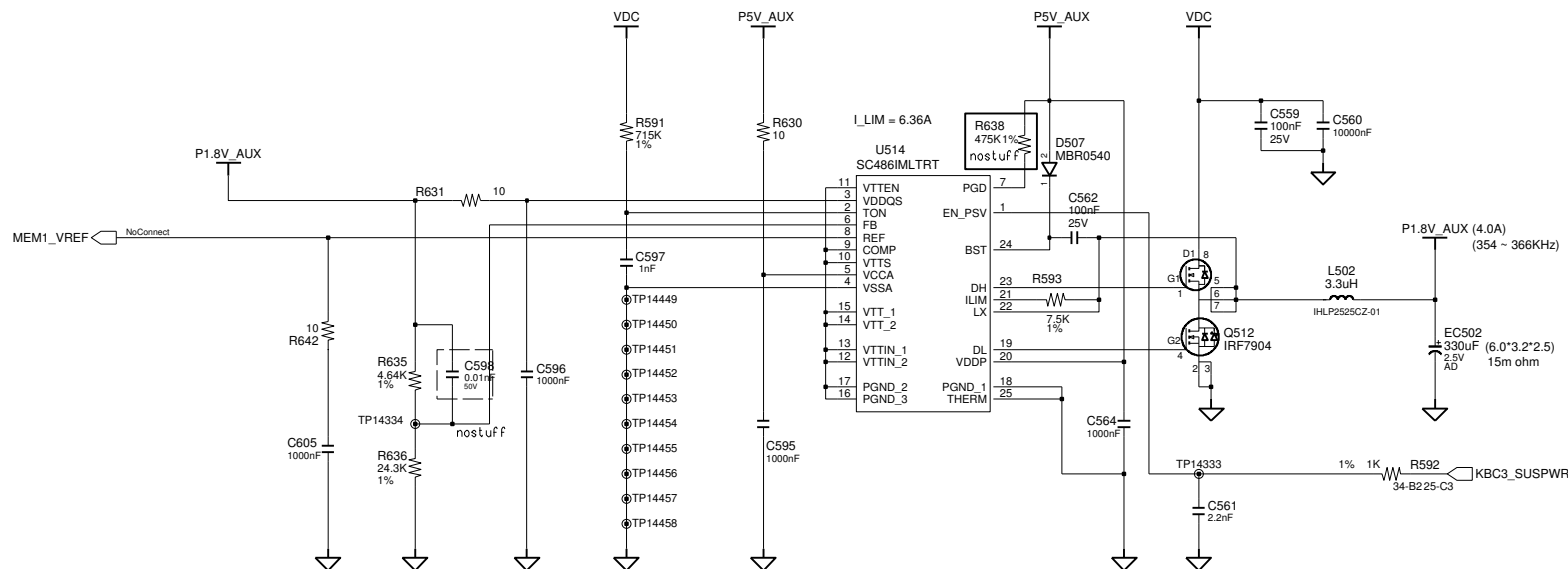
DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN P1.5V & VCCP	SAMSUNG ELECTRONICS PART NO.
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	35 OF 41	



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## DDR2 Power

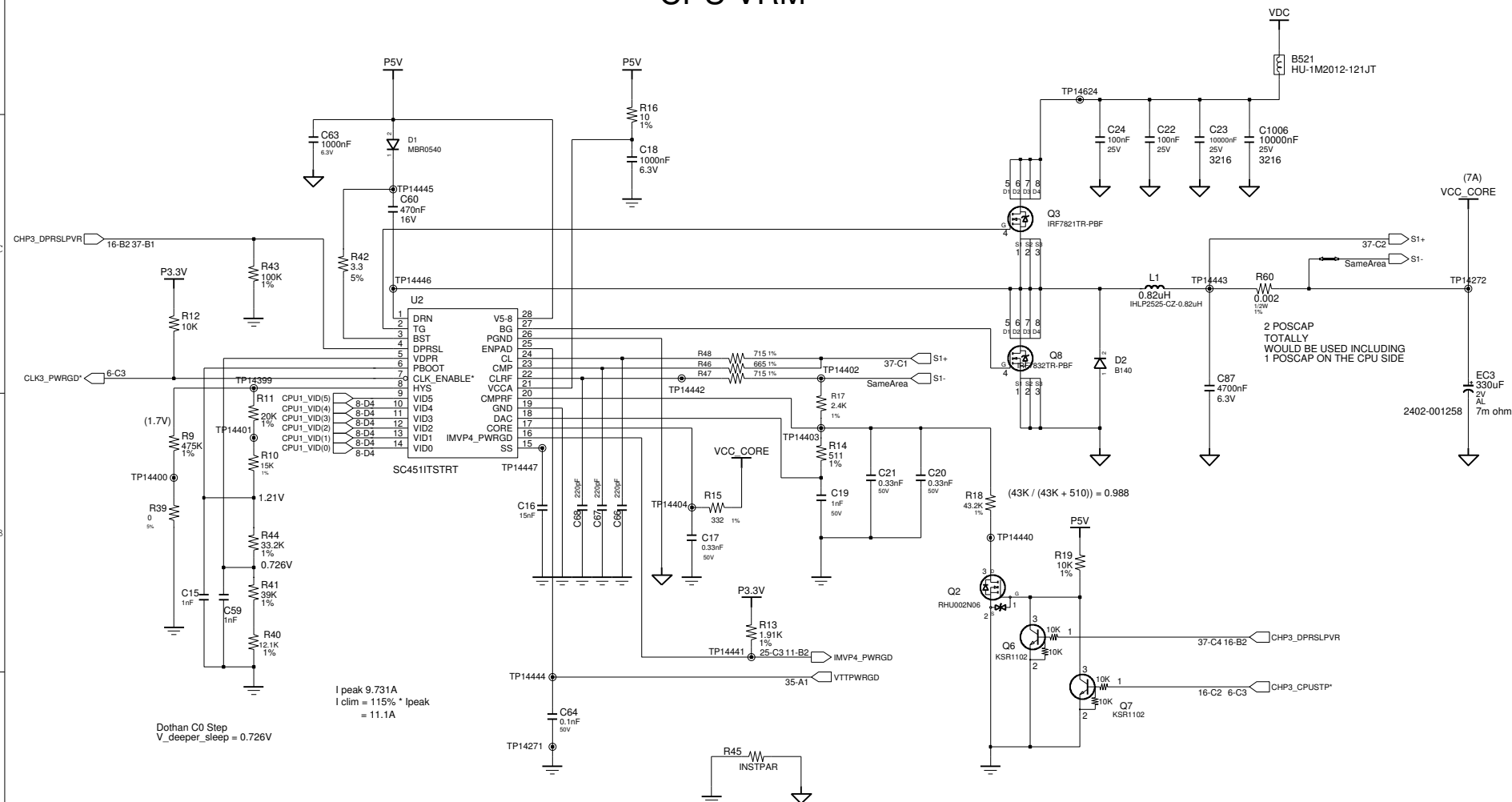


DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN DDR2 POWER	<b>SAMSUNG</b> ELECTRONICS PART NO.
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	36 OF 41	

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## CPU VRM



I peak 9.731A  
 I clim = 115% \* Ipeak  
 = 11.1A

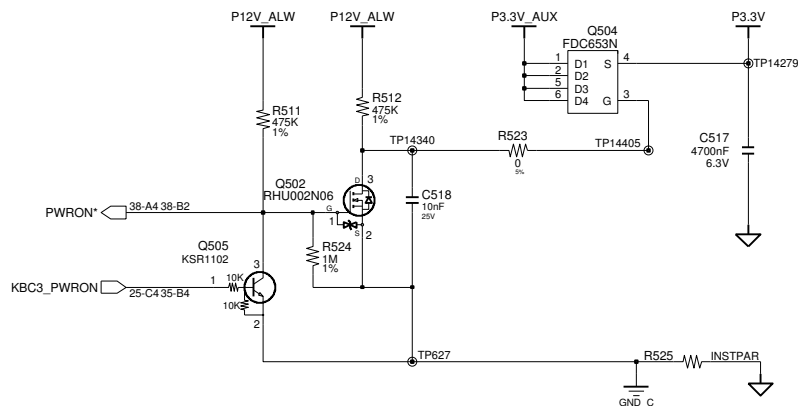
Dothan C0 Step  
 V\_deeper\_sleep = 0.726V

DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN CPU VRM	<b>SAMSUNG</b> ELECTRONICS PART NO.
CHECK	HJ Kim	DEV. STEP	SR			
APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	37 OF 41	

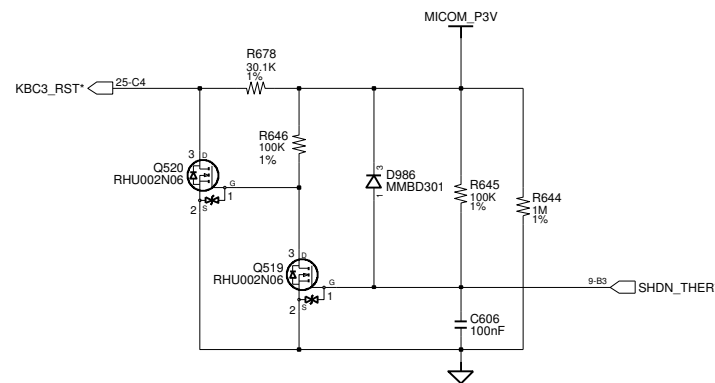
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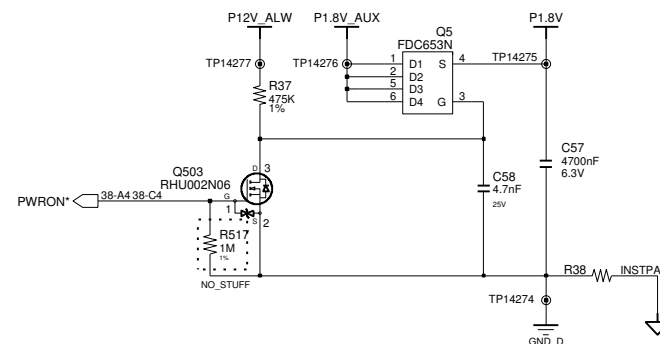
## Switched Power On (P3.3V)



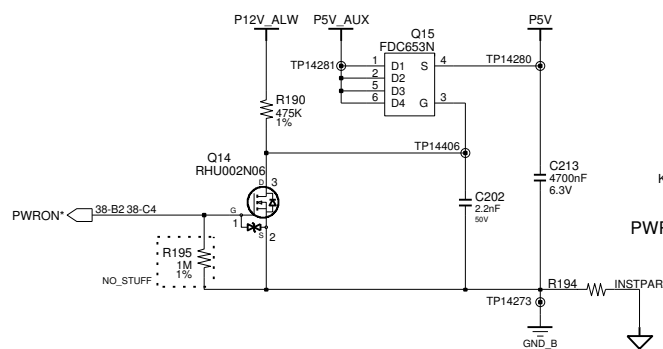
## MICOM RESET



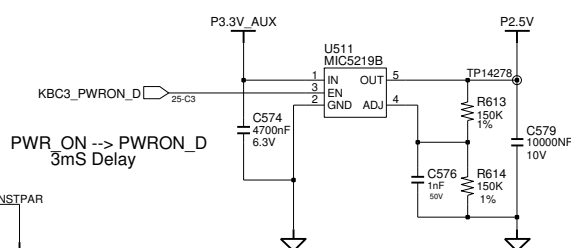
## Switched Power On (P1.8V)



## Switched Power On (P5V)



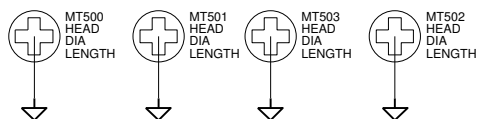
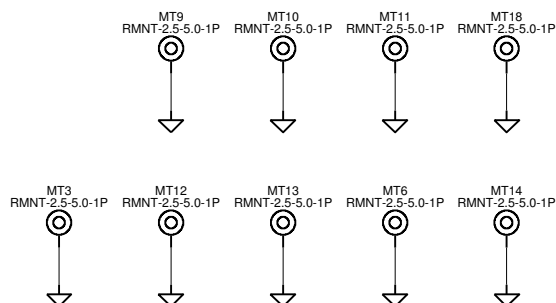
## Switched Power On (P2.5V)



DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN Switched Power	SAMSUNG ELECTRONICS
CHECK	HJ Kim	DEV. STEP	SR			PART NO.
APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	38	OF 41

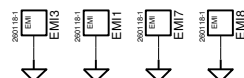
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RHE PEM(2mm): BA61-00955A

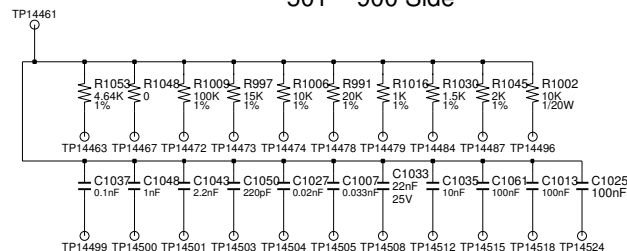
EMI FINGER : 005299021



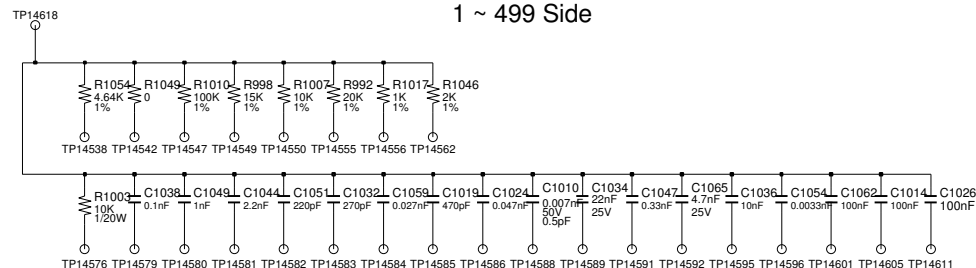
REV500  
 1 O  
 2 O O3

PCB REVISION CONTROL (ICT)				
NO	CONNECTION	DATE(Y/Y/M/M/DD)	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			

501 ~ 900 Side



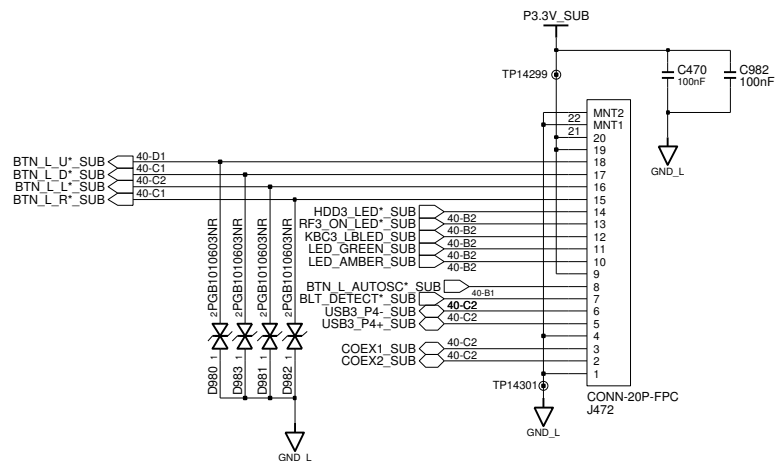
1 ~ 499 Side



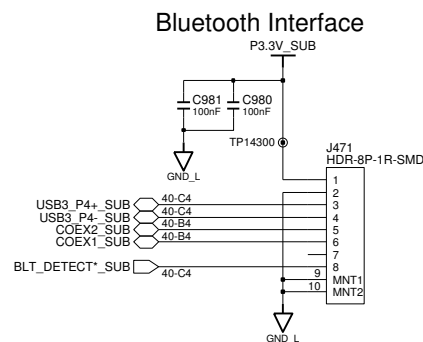
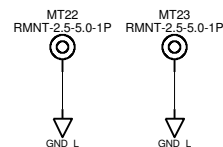
DRAW	Youngmo An	DATE	3/7/2006	TITLE	SantaFe MAIN Mount Hole	SAMSUNG ELECTRONICS
CHECK	HJ Kim	DEV. STEP	SR			PART NO.
APPROVAL	JS Euh	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	39	OF 41

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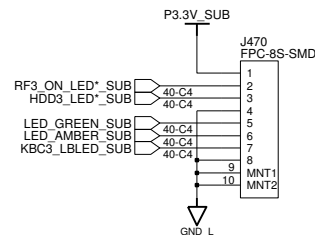
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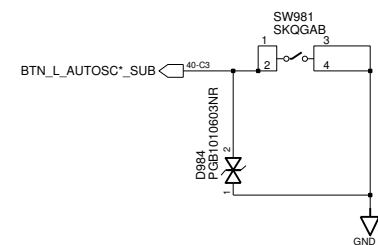
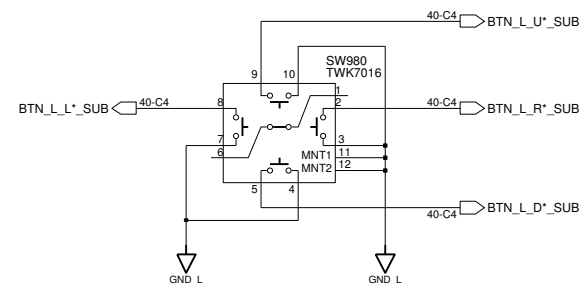
Main to Subboard(Left)



LED FPC Conn



4 way slide

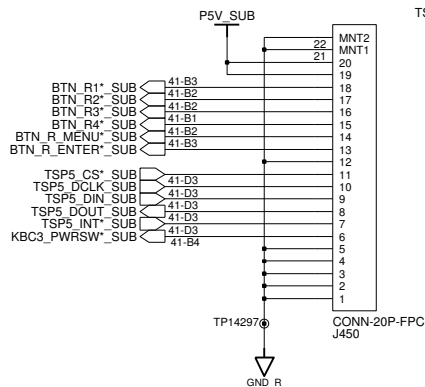


DRAW	YOUNGMO, AN	DATE	3/7/2006	TITLE	SantaFe MAIN SUB LEFT	SAMSUNG ELECTRONICS
CHECK	HJ, KIM	DEV. STEP	SR			PART NO.
APPROVAL	JS, EUH	REV	0.9			
MODULE CODE		LAST EDIT	March 7, 2006 12:22:03 PM	PAGE	40 OF 41	

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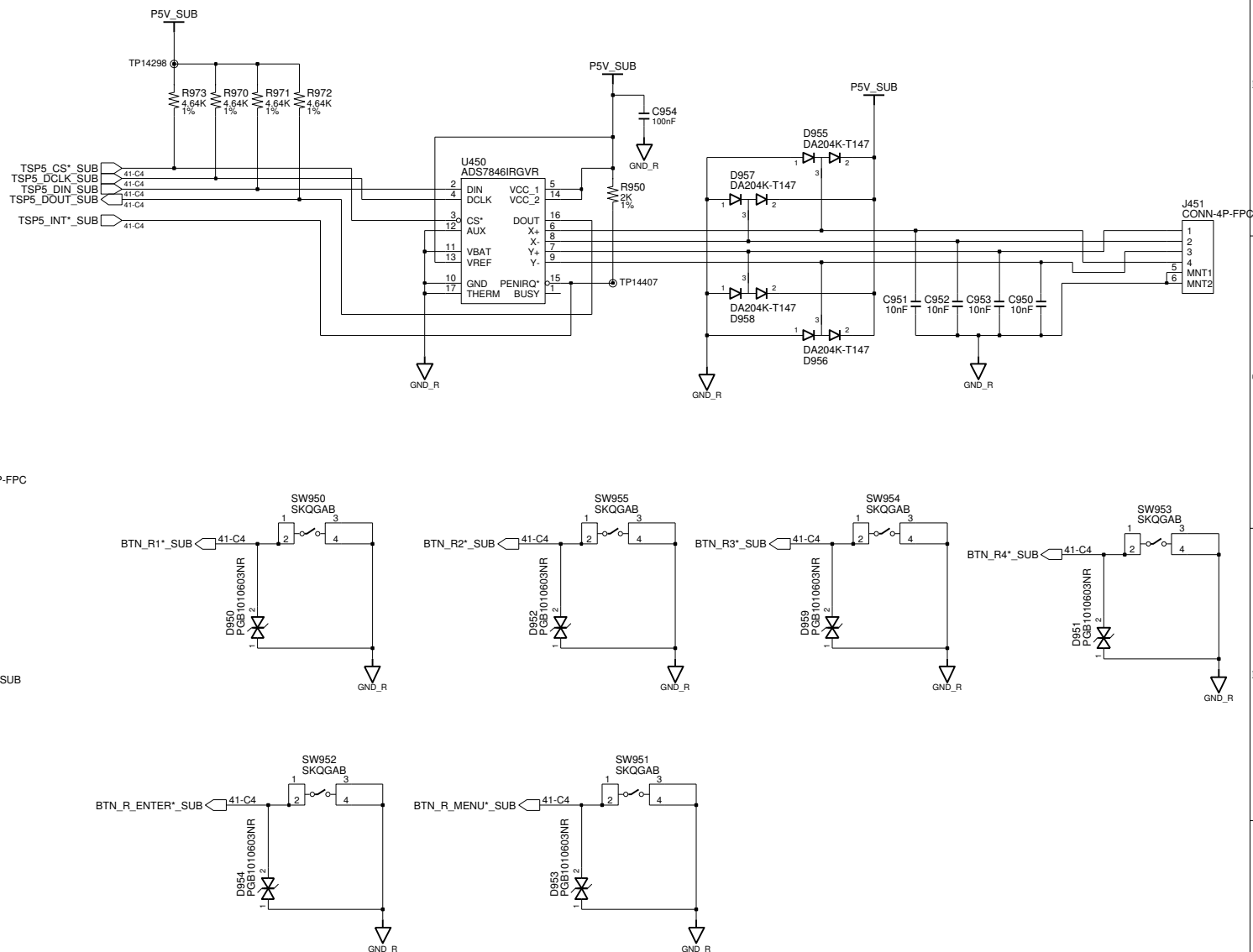
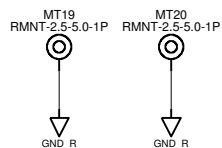
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Top contact  
 Main to Subboard(Right)



For FCT Jig

TP14267 41-C4 KBC3\_PWRSW\*\_SUB



DRAW	YOUNGMO, AN	DATE	3/7/2006	TITLE	SantaFe MAIN SUB RIGHT	SAMSUNG ELECTRONICS PART NO.
CHECK	HJ, KIM	DEV. STEP	SR			
APPROVAL	JS, EUH	REV	0.9			
MODULE CODE		LAST EDIT				
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