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TORINO

PCB thickness: 1mm

CPU : INTEL YONAH-2M
 Chip Set : INTEL 945GM & ICH7-M
 Remarks : 2 Spindle

Model Name : TORINO
 PBA Name : MAIN
 PCB Code : BA41-00602A/3A
 Dev. Step : MP
 Revision : 1.0
 T.R. Date : 2006.1.23

DRAW	CHECK	APPROVAL
-	-	-

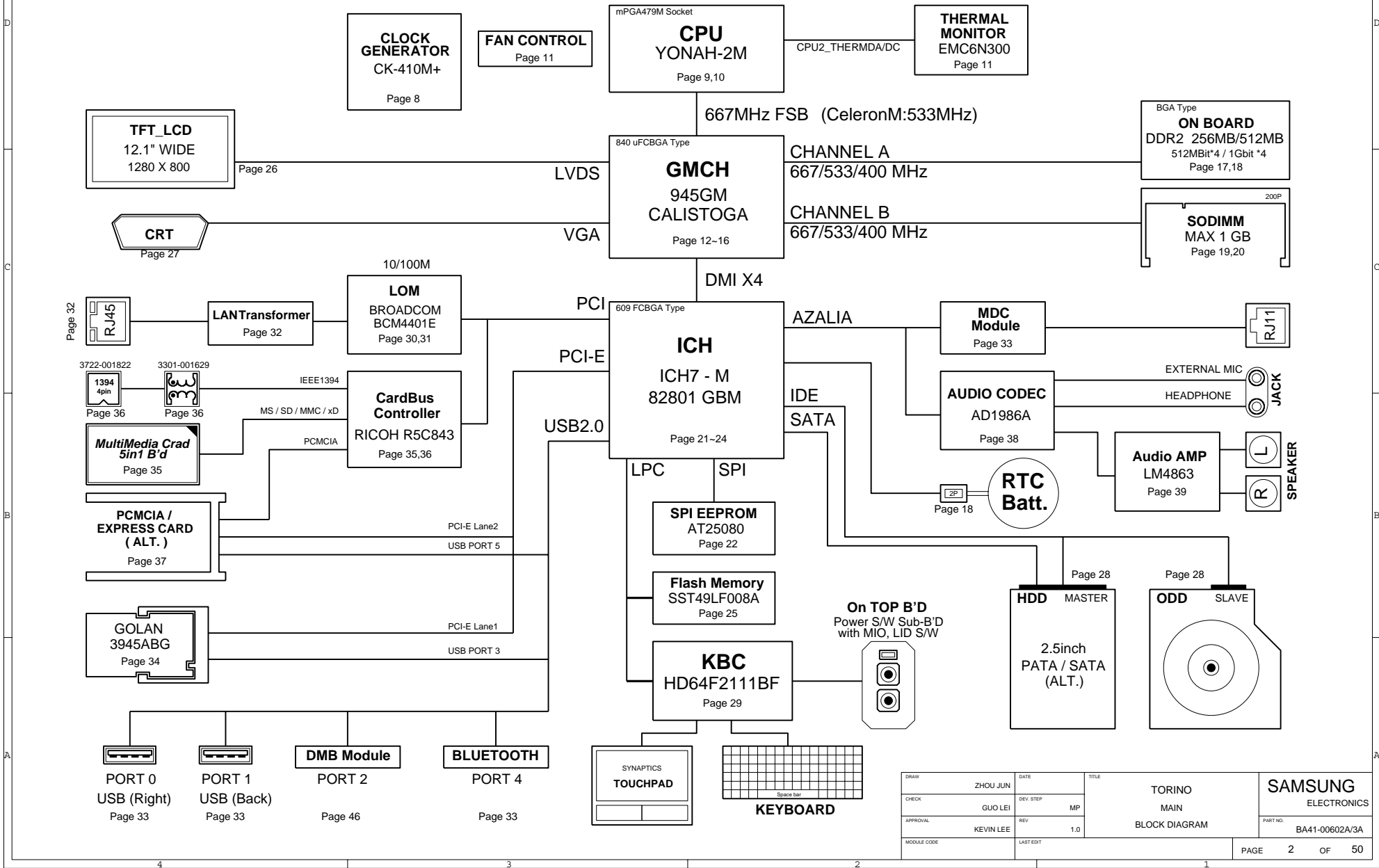
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DRAW	ZHOU JUN	DATE		TITLE	TORINO	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP	COVER		
APPROVAL	KEVIN LEE	REV	1.0	CONTENTS		PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 1 OF 50

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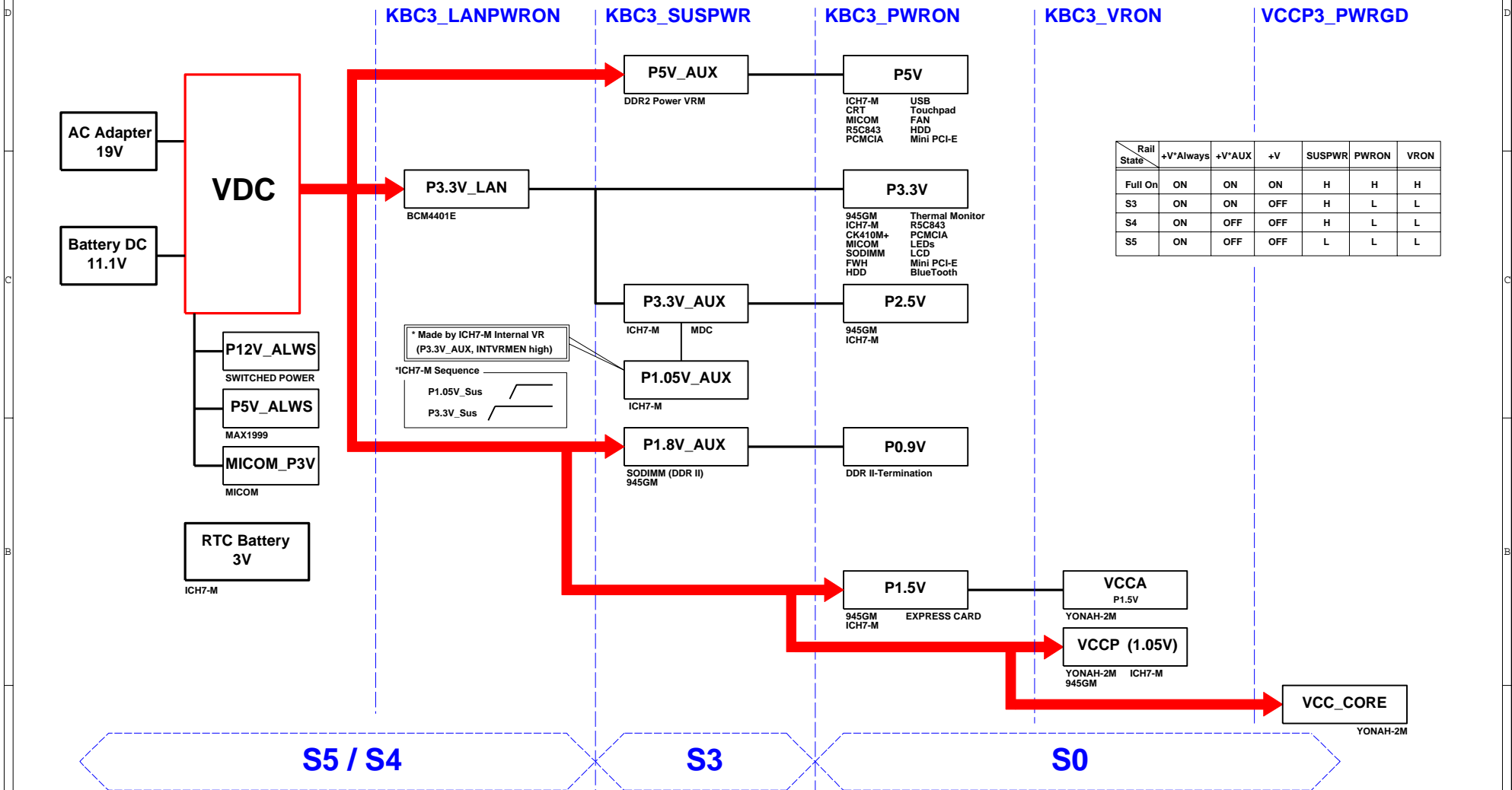
OPERATION BLOCK DIAGRAM



DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN BLOCK DIAGRAM	SAMSUNG ELECTRONICS PART NO. BA41-00602A/3A
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0			
MODULE CODE		LAST EDIT				
PAGE 2 OF 50						

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POWER DIAGRAM

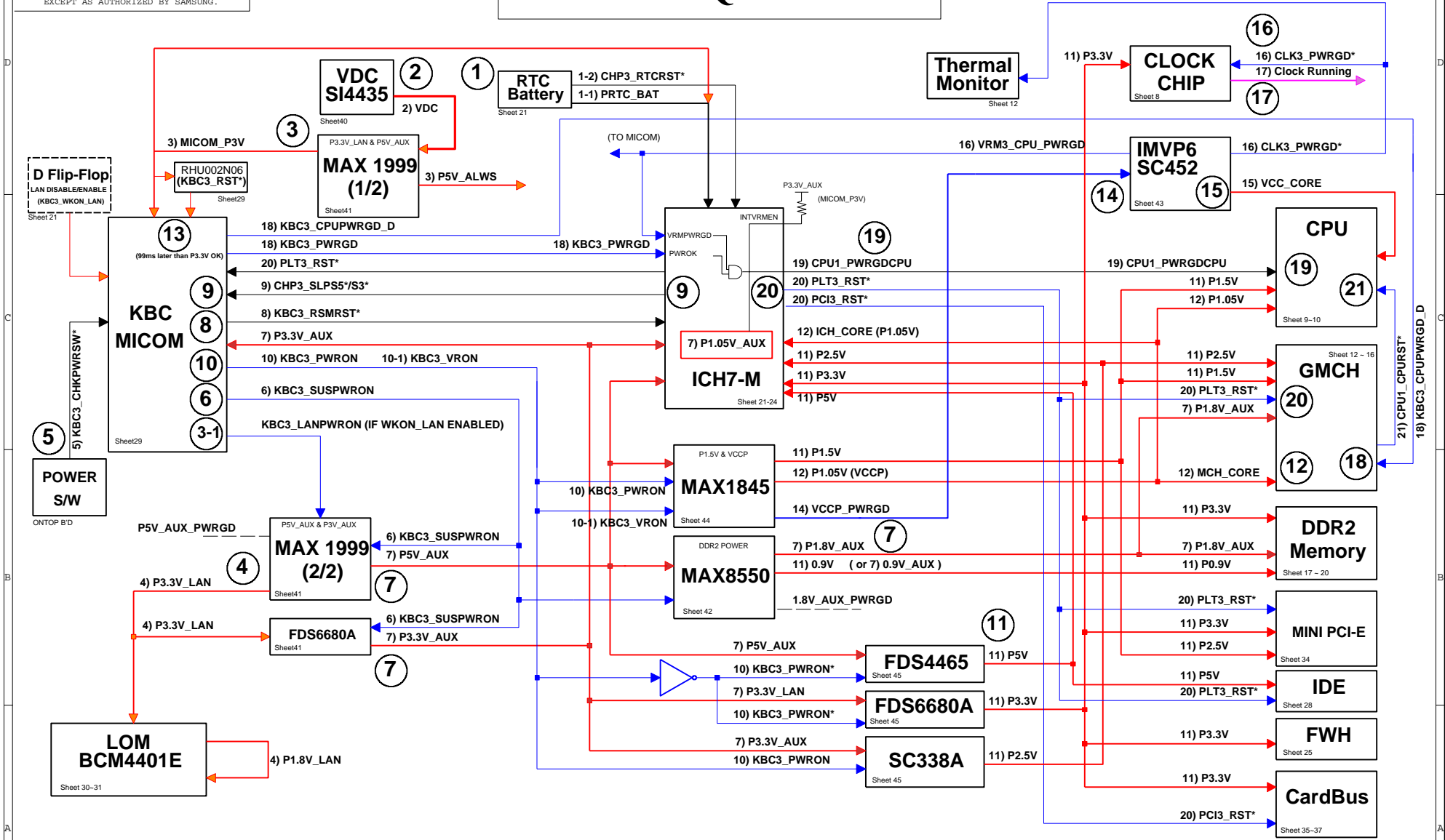


Rail State	+V*Always	+V*AUX	+V	SUSPWR	PWRON	VRON
Full On	ON	ON	ON	H	H	H
S3	ON	ON	OFF	H	L	L
S4	ON	OFF	OFF	H	L	L
S5	ON	OFF	OFF	L	L	L

* Made by ICH7-M Internal VR (P3.3V_AUX, INTVRMEN high)
 *ICH7-M Sequence
 P1.05V_Sus
 P3.3V_Sus

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POWER SEQUENCE Rev. 0.1

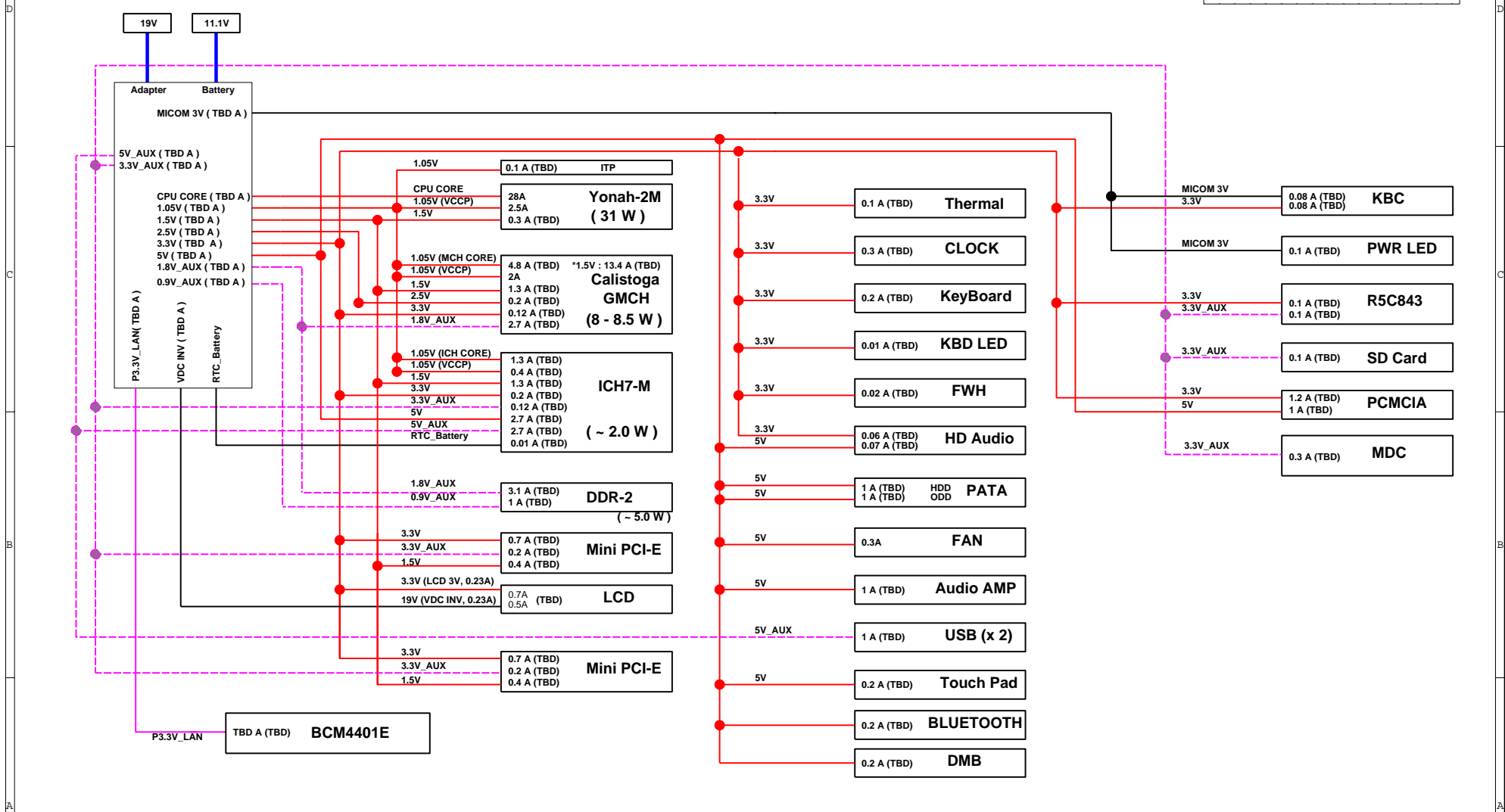


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APPROVAL	KEVIN LEE	REV	1.0	POWER SEQUENCE	PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT			PAGE 4 OF 50

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POWER RAILS ANALYSIS Rev. 0.1

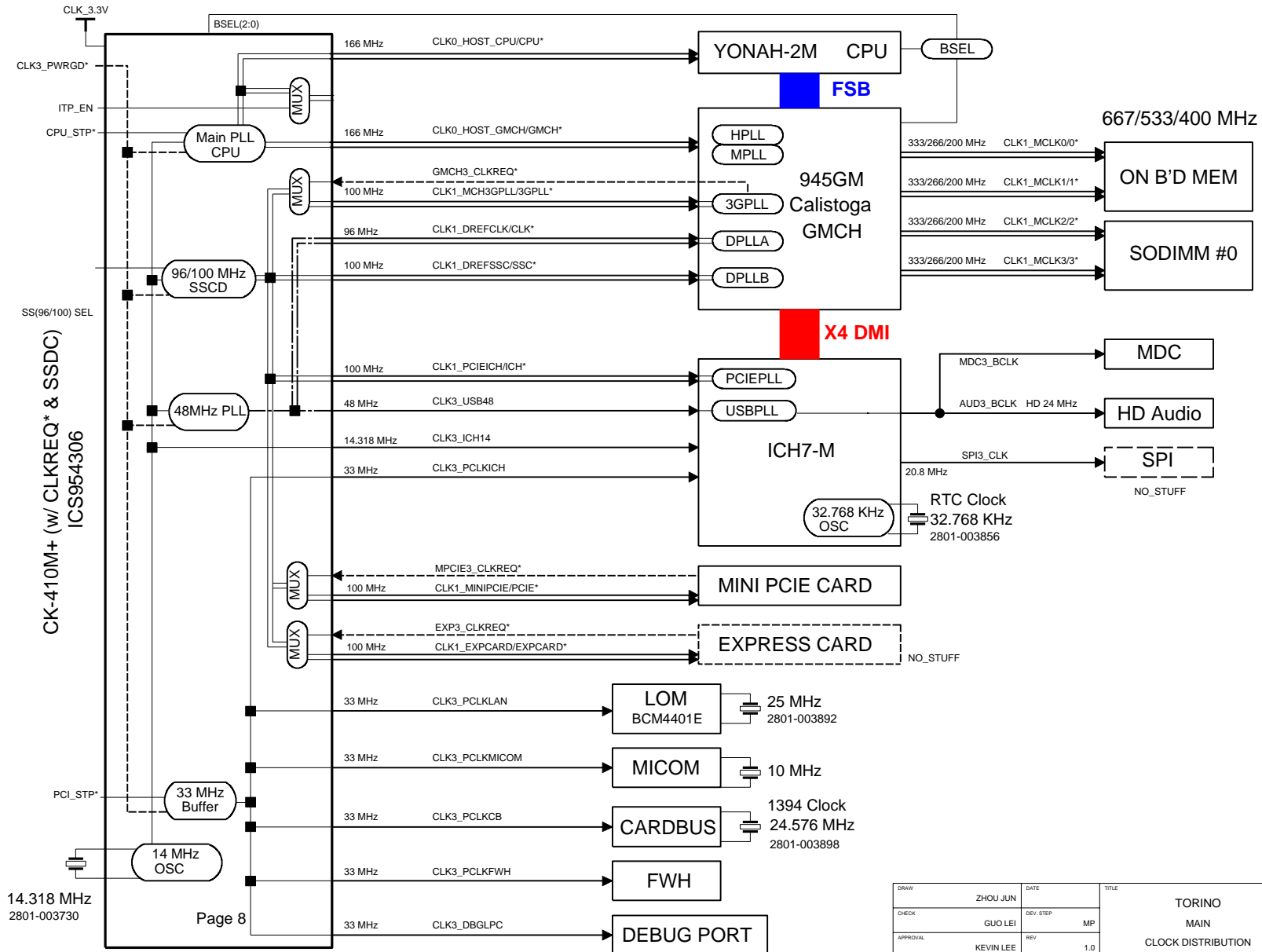
_____ S0 - S5
 S0 - S3
 _____ OFF IN S3 - S5



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CHECK	GUO LEI	DEV. STEP	TORINO MAIN	
APPROVAL	KEVIN LEE	REV	POWER RAIL	
MODULE CODE		LAST EDIT		
			PAGE 5 OF 50	

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CLOCK DISTRIBUTION Rev. 0.1



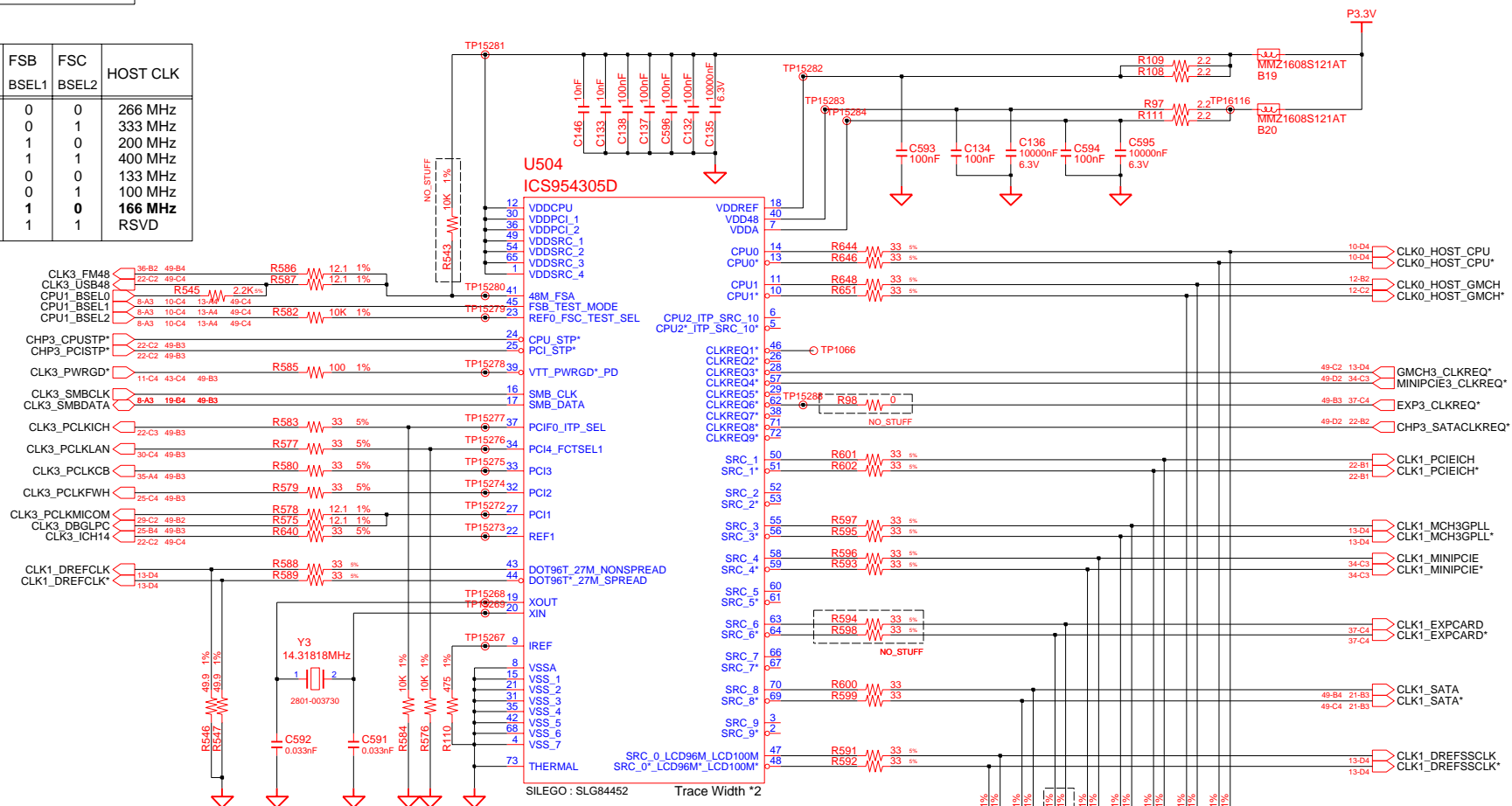
14.318 MHz
2801-003730

Page 8

DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN CLOCK DISTRIBUTION	SAMSUNG ELECTRONICS PART NO. BA41-00602A/3A
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0			
MODULE CODE		LAST EDIT				
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CPU	FSA BSEL0	FSB BSEL1	FSC BSEL2	HOST CLK
	0	0	0	266 MHz
	0	0	1	333 MHz
	0	1	0	200 MHz
	0	1	1	400 MHz
	1	0	0	133 MHz
	1	0	1	100 MHz
	1	1	0	166 MHz
	1	1	1	RSVD

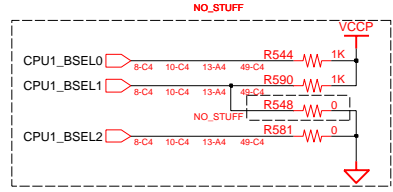
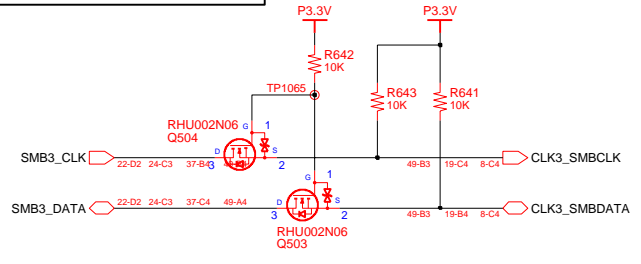


FCTSEL1	Pin43	Pin44	Pin47	Pin48
0	DOT96T	DOT96C	LCD100/96T	LCD100/96C
1	27MHz	27MHz	SRC0_T	SRC0_C

Place 14.318MHz within 500mils of Clock chip

SMBUS Address "D2h"
 CK-410M+
 w/ CLKREQ ICS954305
 w/ SS Clock SLG8L455
 CY28447

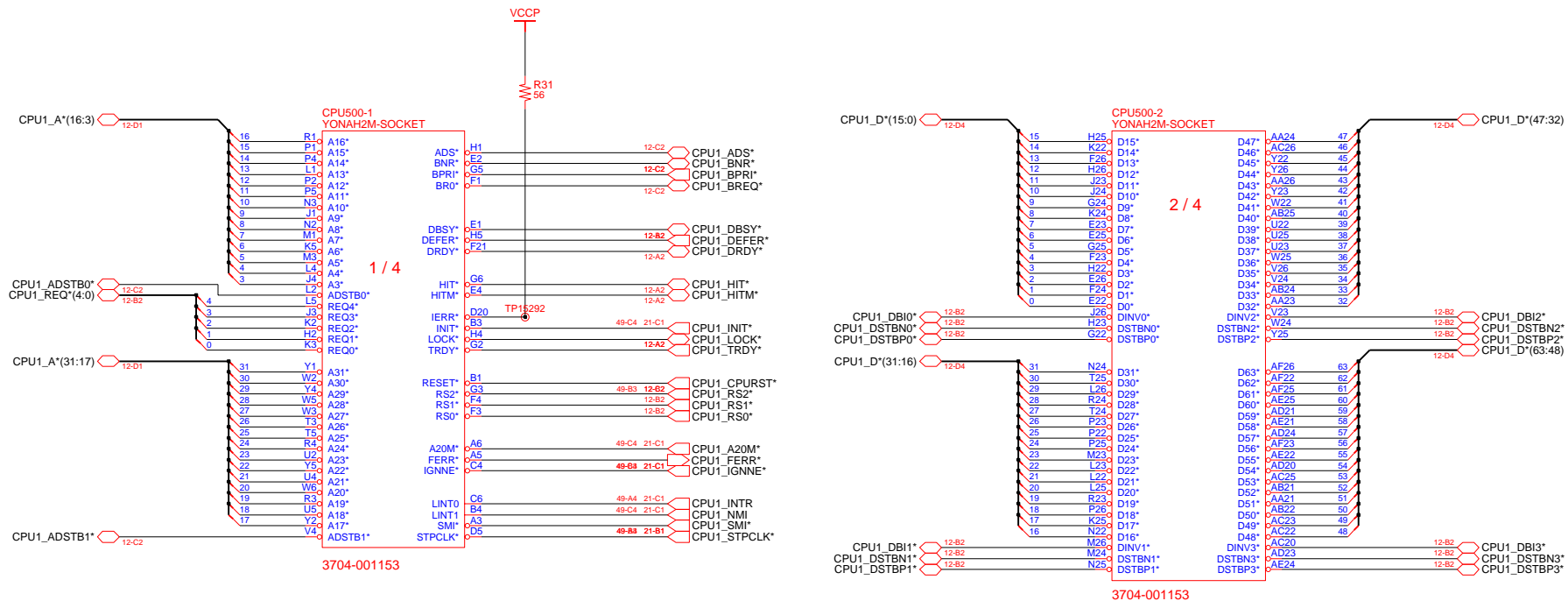
Place Termination close to CK-410M+



DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN CLOCK GENERATOR	SAMSUNG ELECTRONICS PART NO. BA41-00602A/3A
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0			
MODULE CODE		LAST EDIT				
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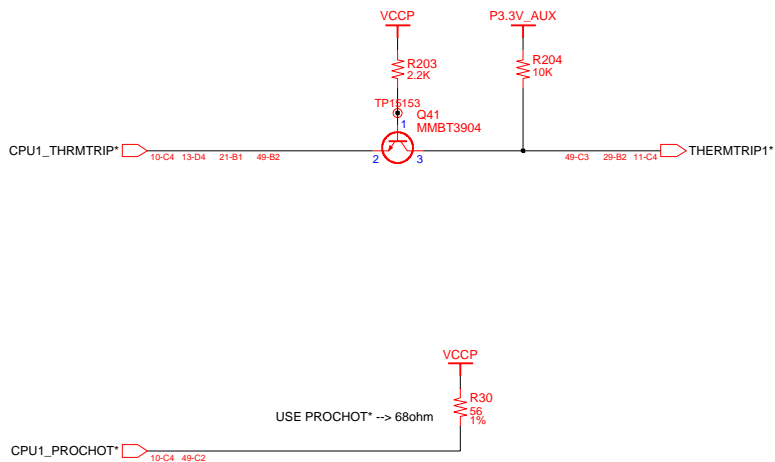
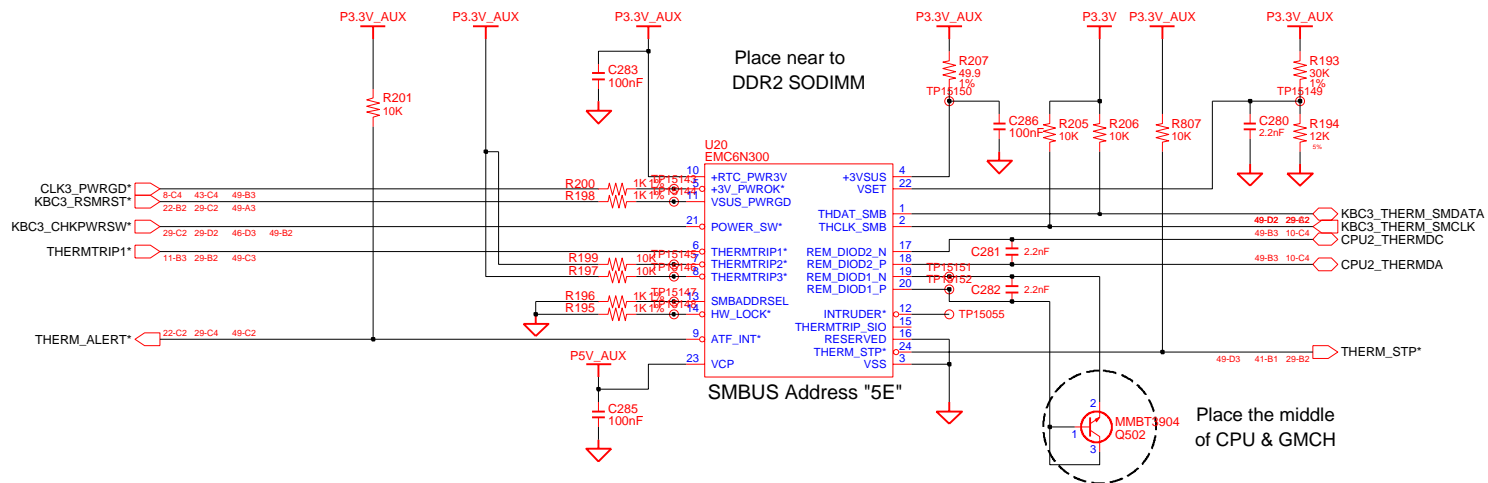
CPU SOCKET : YONAH-2M



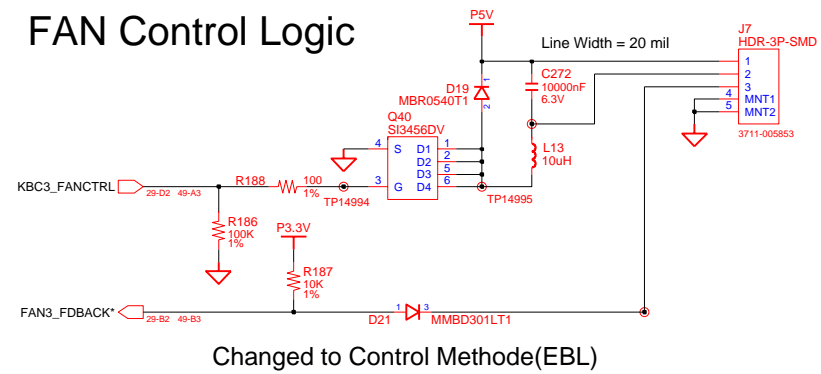
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CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0		YONAH-2M(1)	PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 9 OF 50

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Thermal Monitor

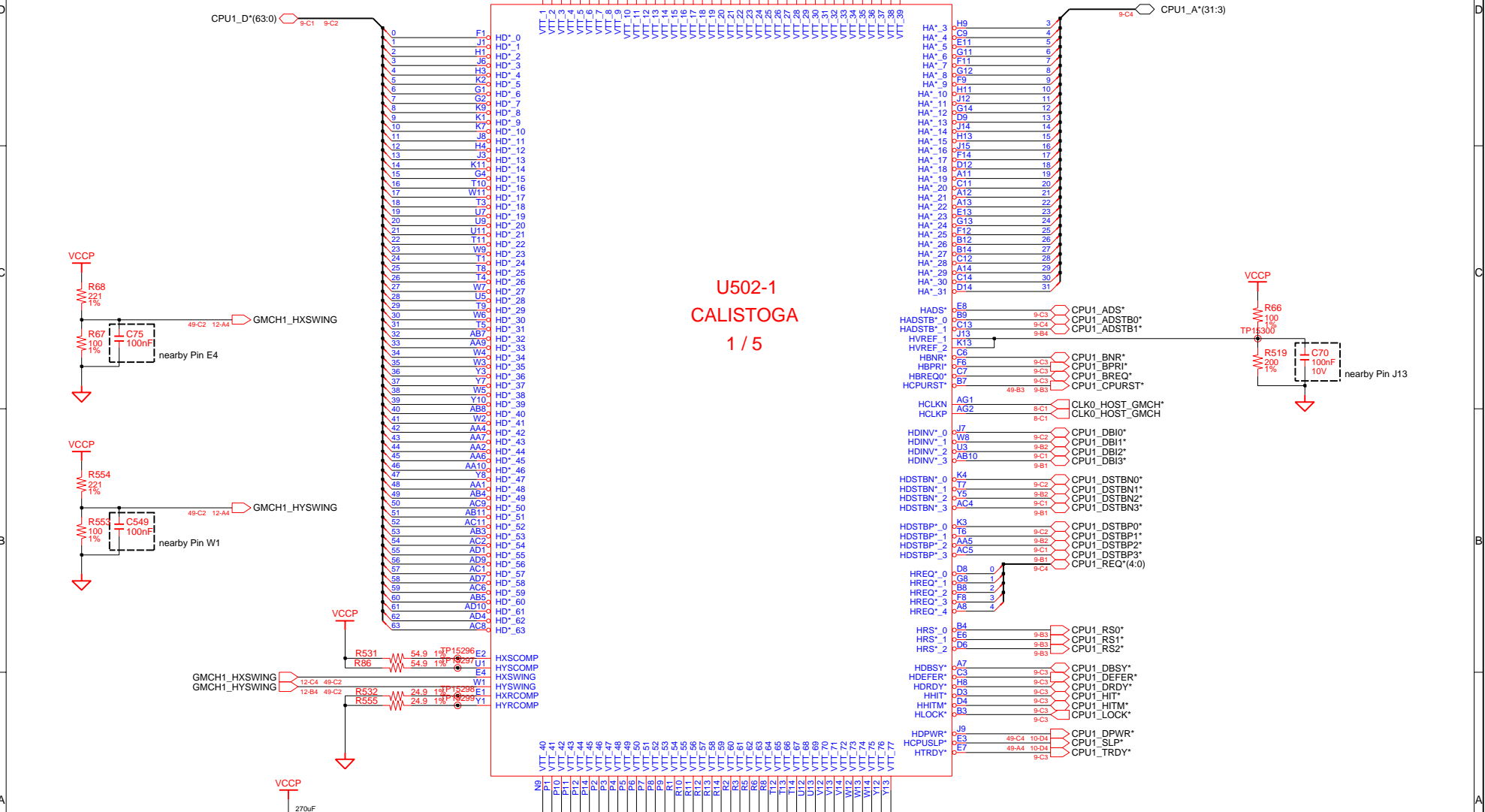


FAN Control Logic



DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0		THERMAL MONITOR	PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 11 OF 50

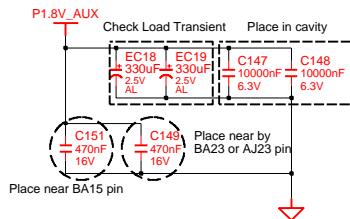
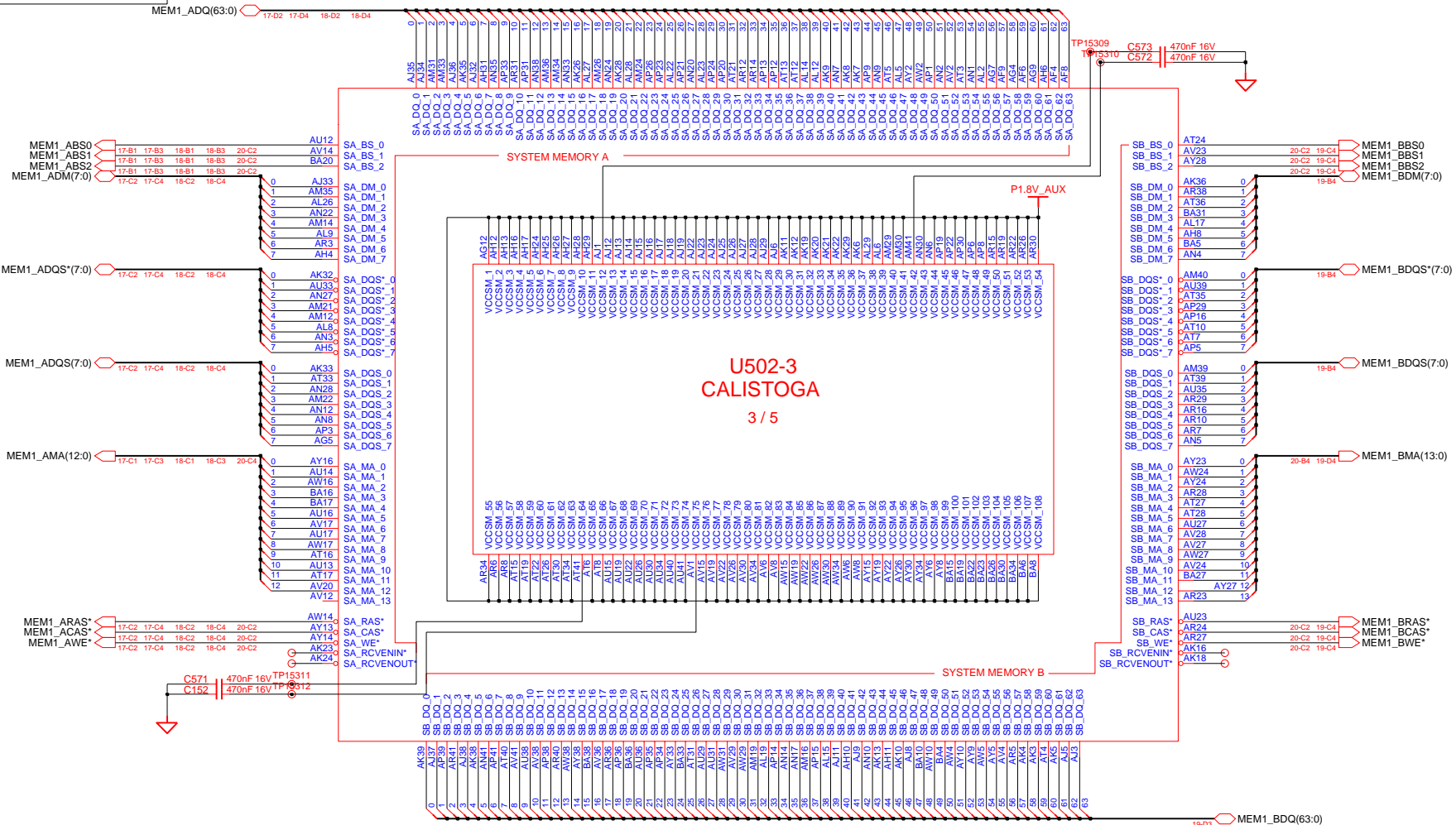
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**U502-1
 CALISTOGA
 1 / 5**

DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP		945GM(1)	
APPROVAL	KEVIN LEE	REV	1.0			PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 12 OF 50

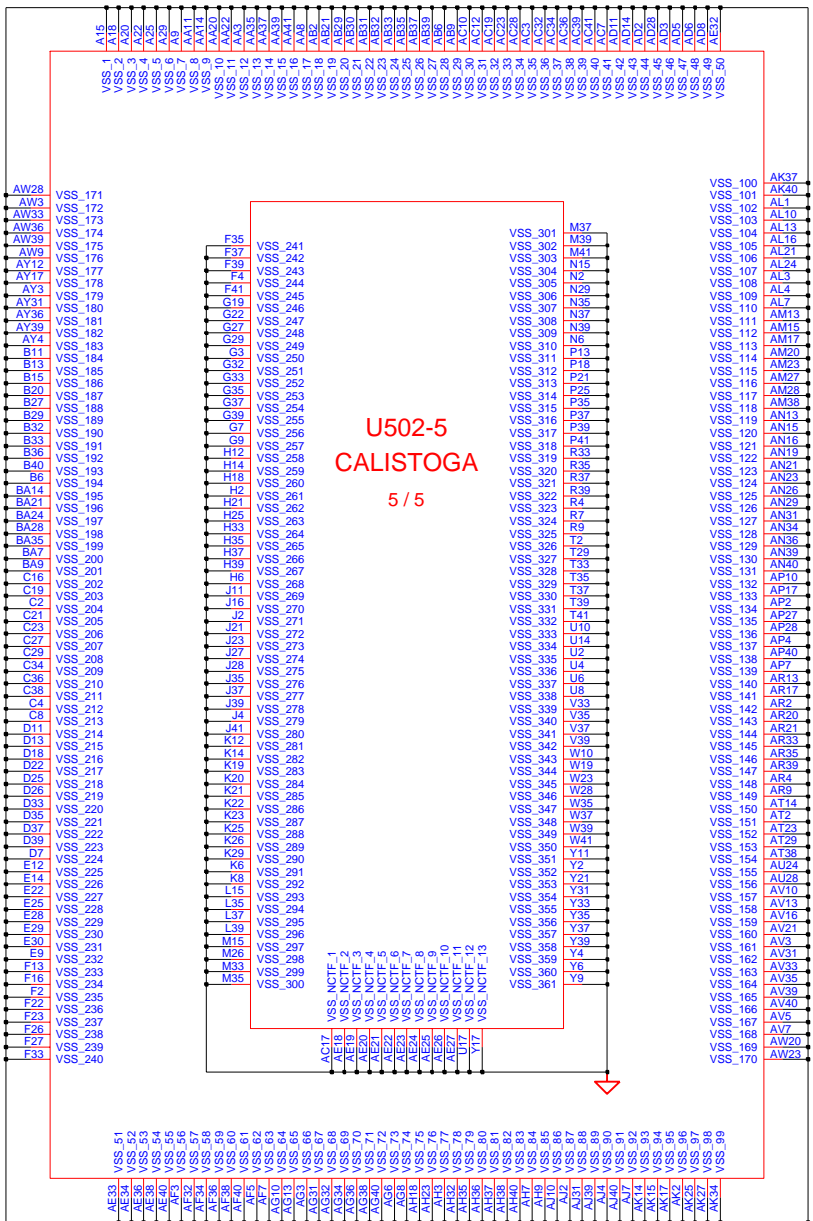
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Dual Channel	Ch. A (So-DIMM A)	Ch. B (So-DIMM B)
SM_CK(2:0)	SA_CK(2:0)	N/A
SM_CK(2:0)*	SA_CK(2:0)*	N/A
SM_CK(5:3)	N/A	SB_CK(2:0)
SM_CK(5:3)*	N/A	SB_CK(2:0)*
SM_CS(1:0)	SA_CS(1:0)	N/A
SM_CKE(1:0)	SA_CKE(1:0)	N/A
SM_ODT(1:0)	SA_ODT(1:0)	N/A
SM_CS(3:2)*	N/A	SB_CS(3:2)*
SM_SKE(3:2)	N/A	SB_CKE(3:2)
SM_ODT(3:2)	N/A	SB_ODT(3:2)

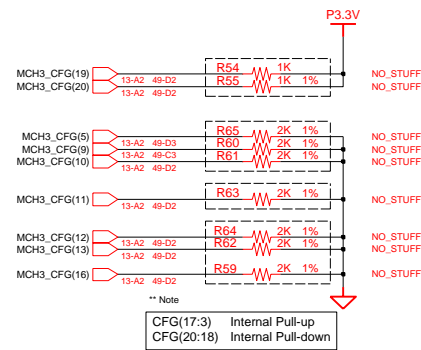
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CHECK	GUO LEI	DEV. STEP	MP		
APPROVAL	KEVIN LEE	REV	1.0	PAGE 14 OF 50	
MODULE CODE		LAST EDIT			

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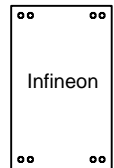
** Note *POCAFEB-10 Only (Remove in MP Model)

CFG#	Current Setting (def.: default Option)	
	Low	High
CFG(5)	DMix2	DMix4 (def.)
CFG(6)	Reserved	DDR-II (def.)
CFG(7)	DT/Transportable	Mobile CPU (def.)
CFG(9)	PEG Reversal	Normal
CFG(16)	Dynamic ODT	Dynamic ODT
	Disabled	Enabled (def.)
CFG(18)	VCC 1.05V (def.)	VCC 1.5V
CFG(19)	DMI Lane Normal	DMI Lane Reversal
CFG(20)	SDVO or PCIE X1 Only(def.)	SDVO and PCIE X1 Simultaneously



DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN 945GM(5)	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0			PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 16 OF 50

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DDR2 ON BOARD MEMORY

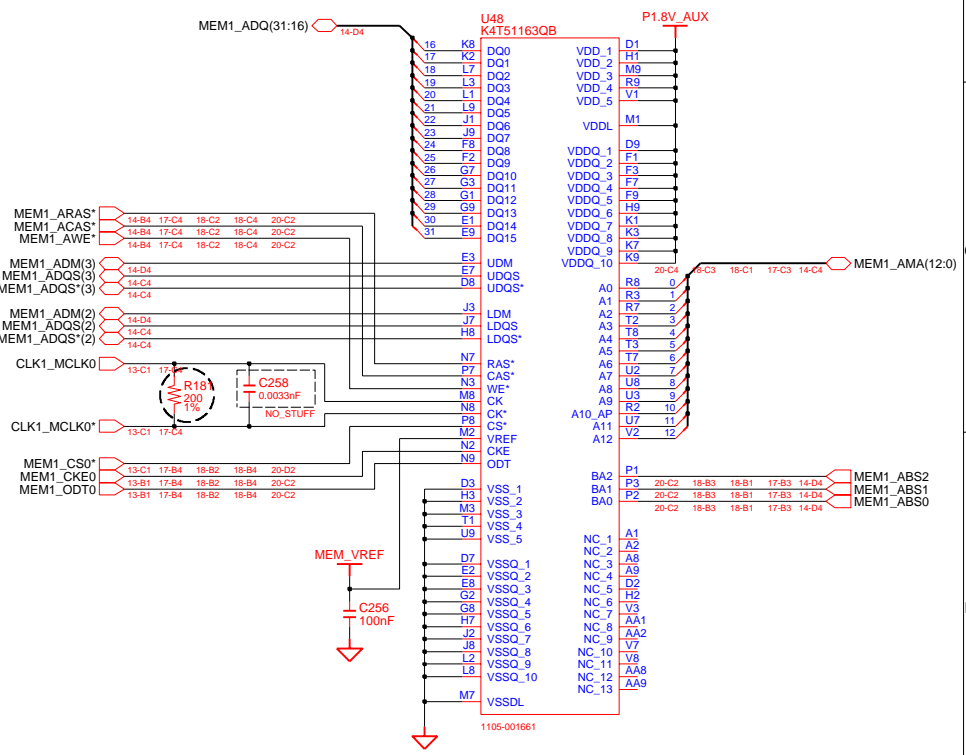
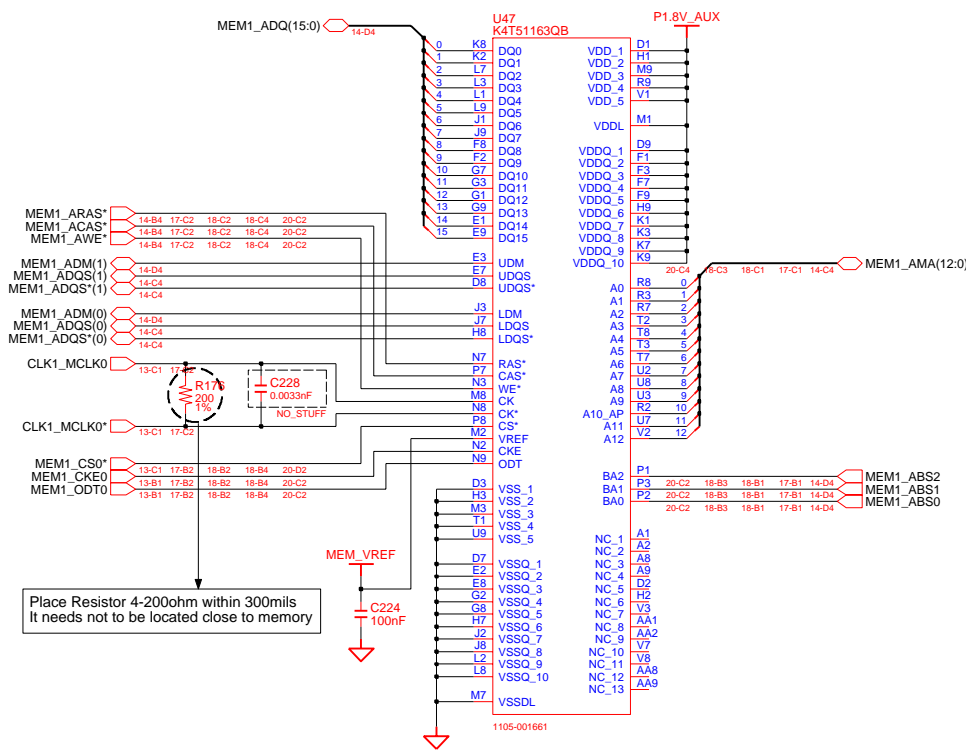
- 1. 1Gbit DDR2-667MHz x16 I/O
- SAMSUNG: K4T1G044QA-ZCE6
- 2. 1Gbit DDR2-533MHz x16 I/O
- SAMSUNG: K4T1G044QA-ZCD5
- INFINEON: HYB18T1G160AF-3.7

with 8 dummy-ball
92-BALL Package

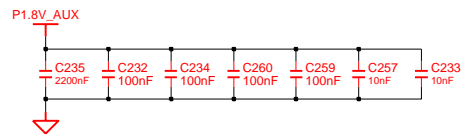
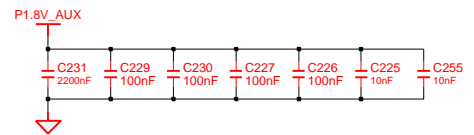
without dummy-ball
84-BALL Package

D0

D1

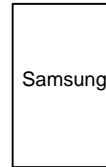
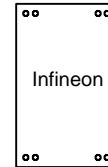


Place Resistor 4-200ohm within 300mils
It needs not to be located close to memory



DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP	ON B'D MEMORY(1)		
APPROVAL	KEVIN LEE	REV	1.0			PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 17 OF 50

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DDR2 ON BOARD MEMORY

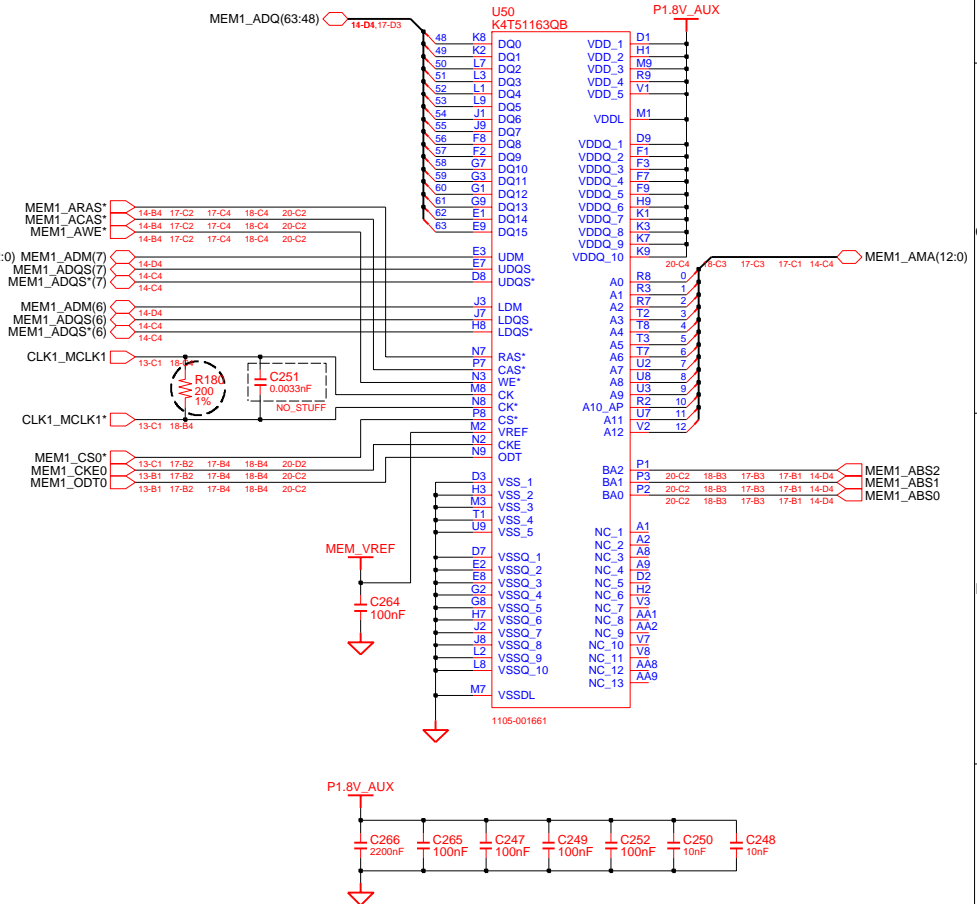
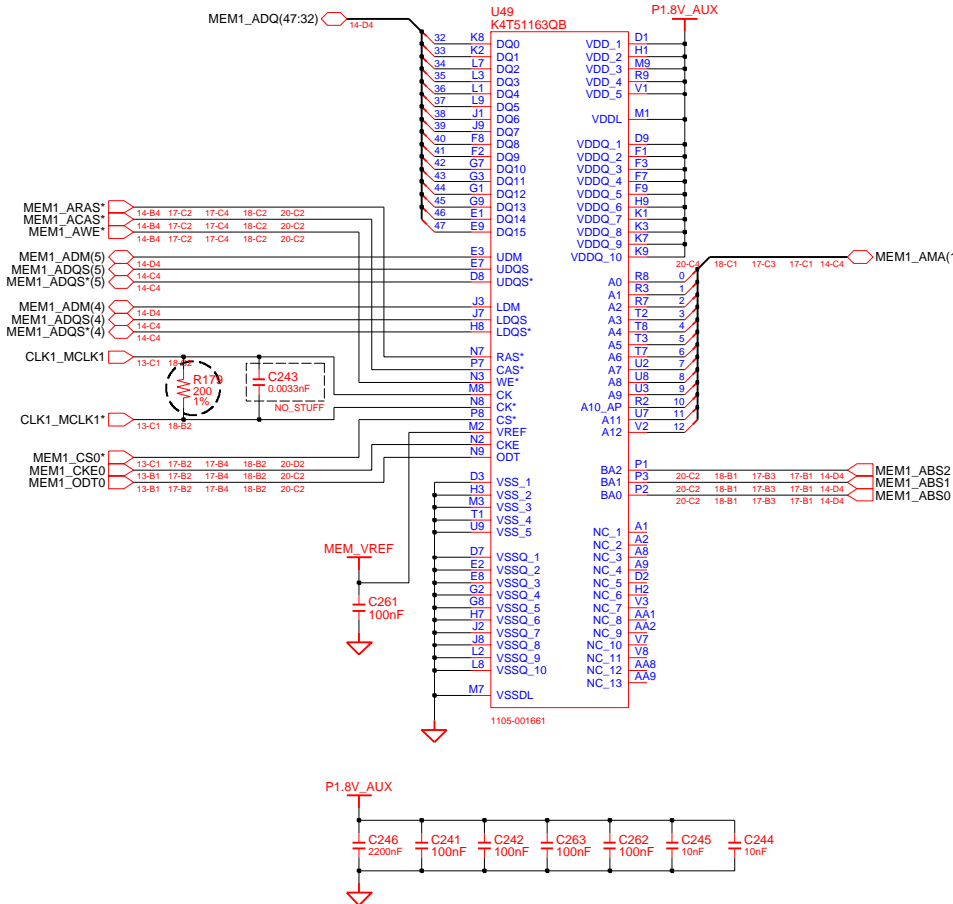
- 1. 1Gbit DDR2-667MHz x16 I/O
 - SAMSUNG: K4T1G044QA-ZCE6
- 2. 1Gbit DDR2-533MHz x16 I/O
 - SAMSUNG: K4T1G044QA-ZCD5
 - INFINEON: HYB18T1G160AF-3.7

with 8 dummy-ball
92-BALL Package

without dummy-ball
84-BALL Package

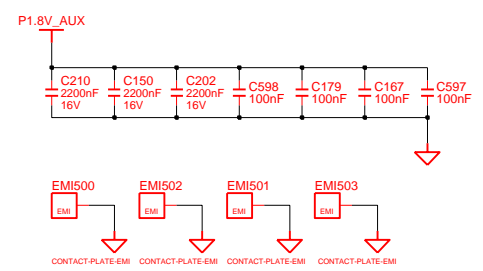
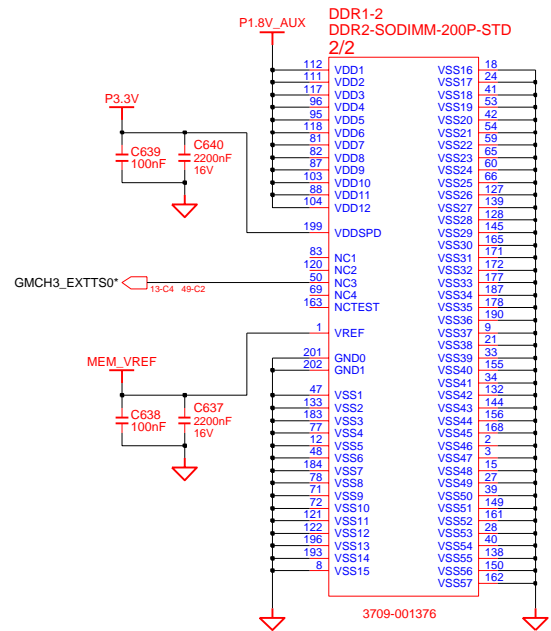
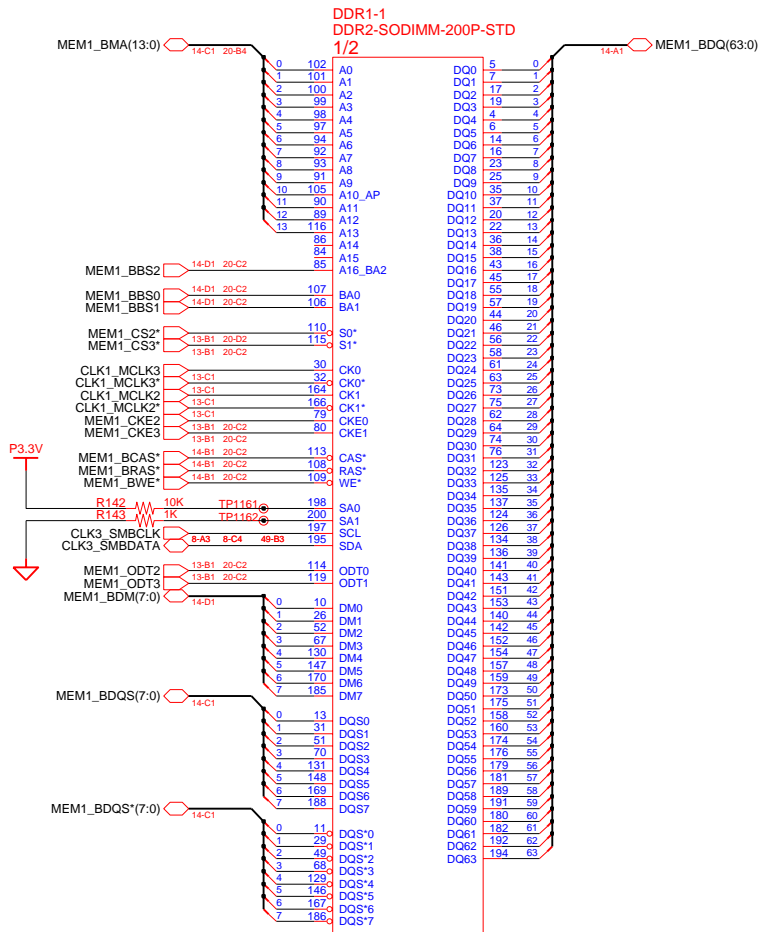
D2

D3



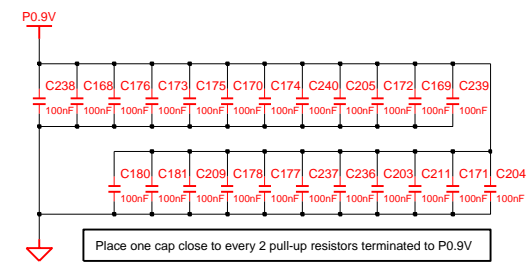
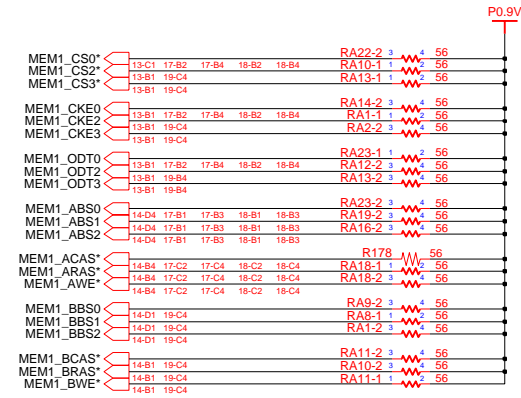
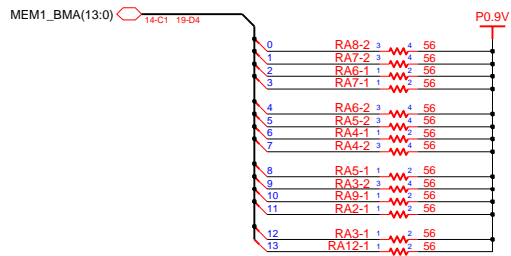
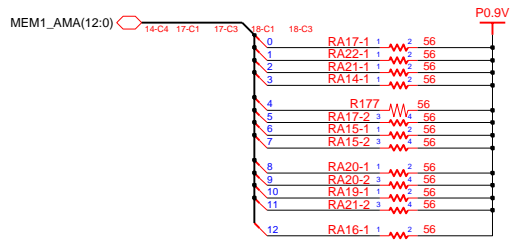
DRAW	ZHOU JUN	DATE		TITLE	TORINO	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP	MAIN		
APPROVAL	KEVIN LEE	REV	1.0	ON B'D MEMORY(2)	PART NO.	BA41-00602A/3A
MODULE CODE		LAST EDIT			PAGE	18 OF 50

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DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0		DDR2 SODIMM SOCKET	PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 19 OF 50

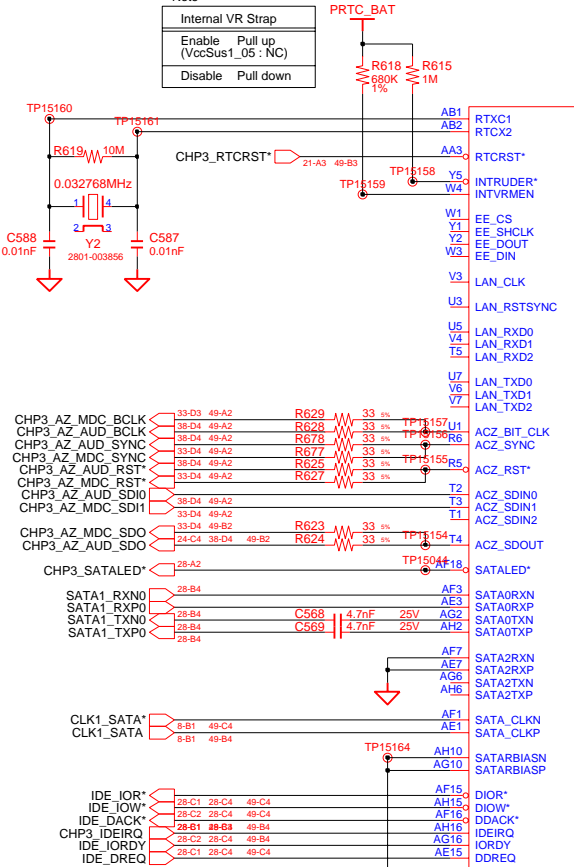
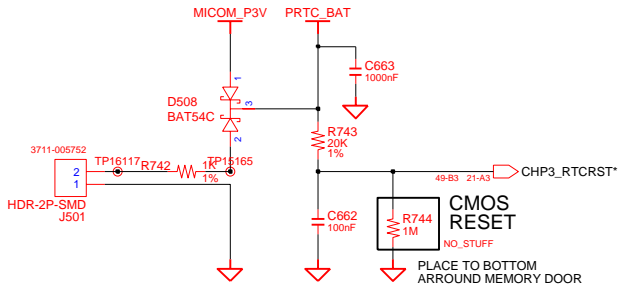
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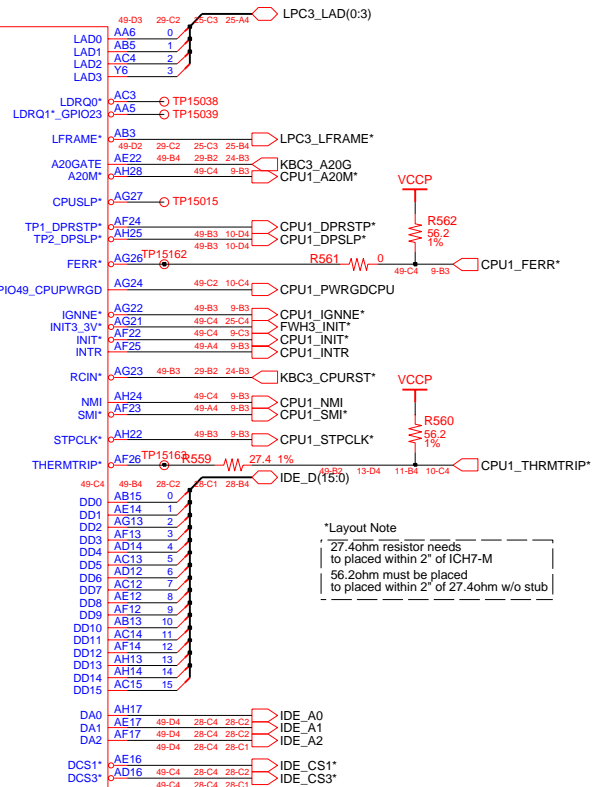
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APPROVAL	KEVIN LEE	REV	1.0	DDR2 TERMINATION		PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 20 OF 50

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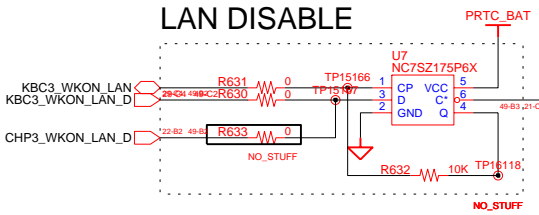
****Note**
 Internal VR Strap
 Enable Pull up
 (VccSus_05 : NC)
 Disable Pull down



U40-1
 ICH7-M
 1 / 5



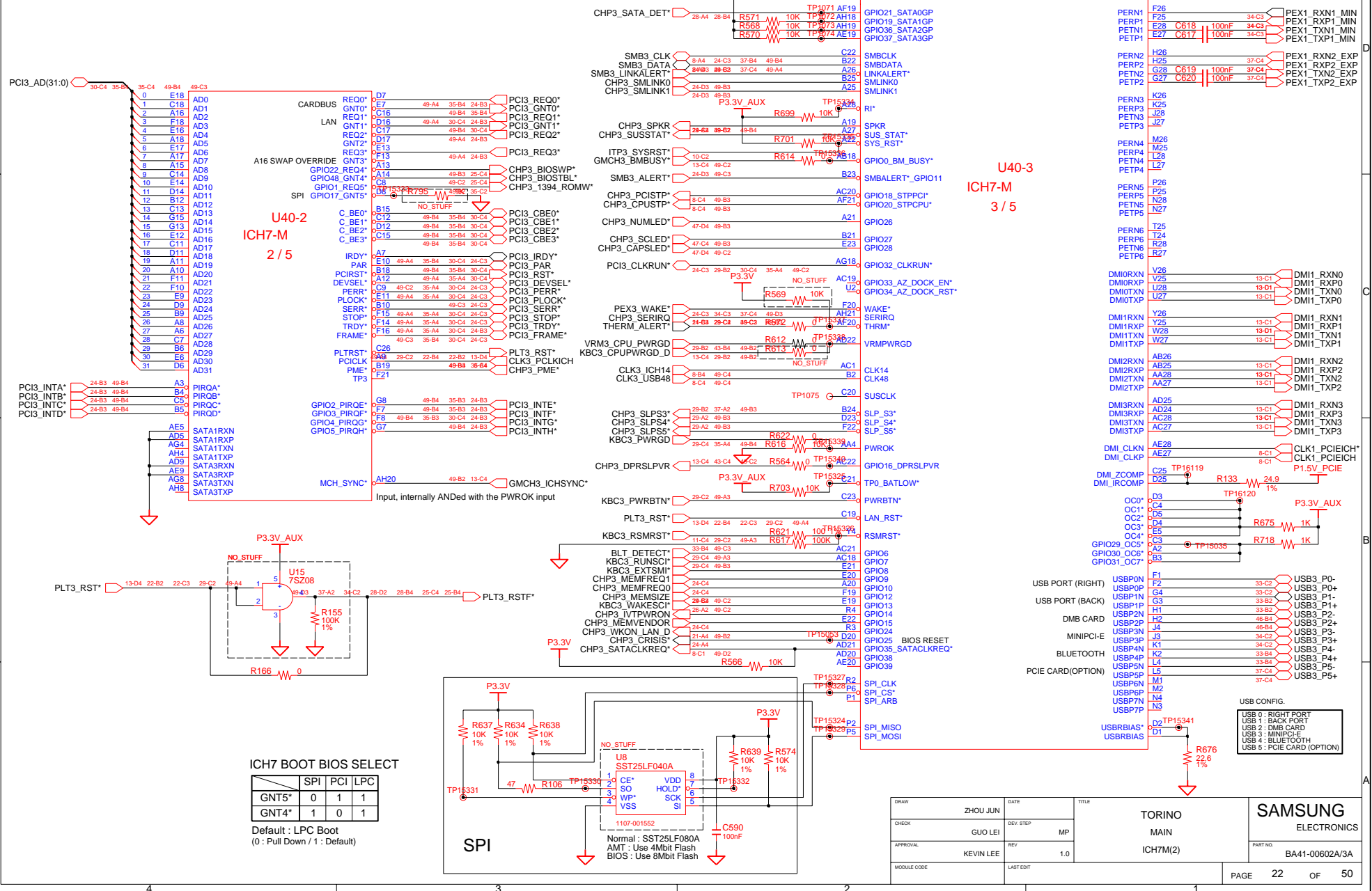
*Layout Note
 *27.4ohm resistor needs
 to be placed within 2" of ICH7-M
 *56.2ohm must be placed
 to be placed within 2" of 27.4ohm w/o stub



DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN ICH7M(1)	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0			PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 21 OF 50

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



U40-2
 ICH7-M
 2 / 5

U40-3
 ICH7-M
 3 / 5

ICH7 BOOT BIOS SELECT

	SPI	PCI	LPC
GNT5*	0	1	1
GNT4*	1	0	1

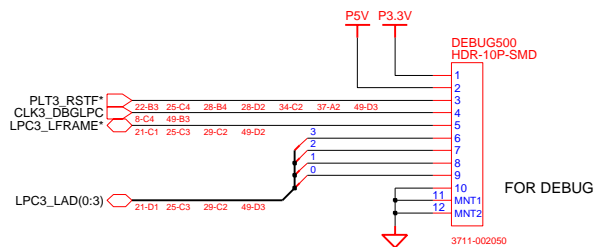
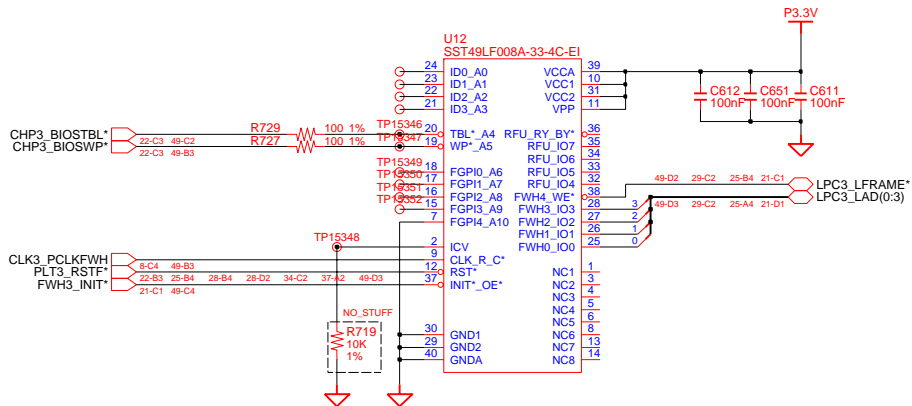
Default : LPC Boot
 (0 : Pull Down / 1 : Default)

Normal : SST25LF080A
 AMT : Use 4Mbit Flash
 BIOS : Use 8Mbit Flash

DRAW	ZHOU JUN	DATE		TITLE	TORINO	SAMSUNG ELECTRONICS PART NO. BA41-00602A/3A
CHECK	GUO LEI	DEV. STEP	MP	MAIN	ICH7M(2)	
APPROVAL	KEVIN LEE	REV	1.0			
MODULE CODE		LAST EDIT				
PAGE 22 OF 50						

USB CONFIG.
 USB 0 : RIGHT PORT
 USB 1 : BACK PORT
 USB 2 : DMB CARD
 USB 3 : MINIPCI-E
 USB 4 : BLUETOOTH
 USB 5 : PCIE CARD (OPTION)

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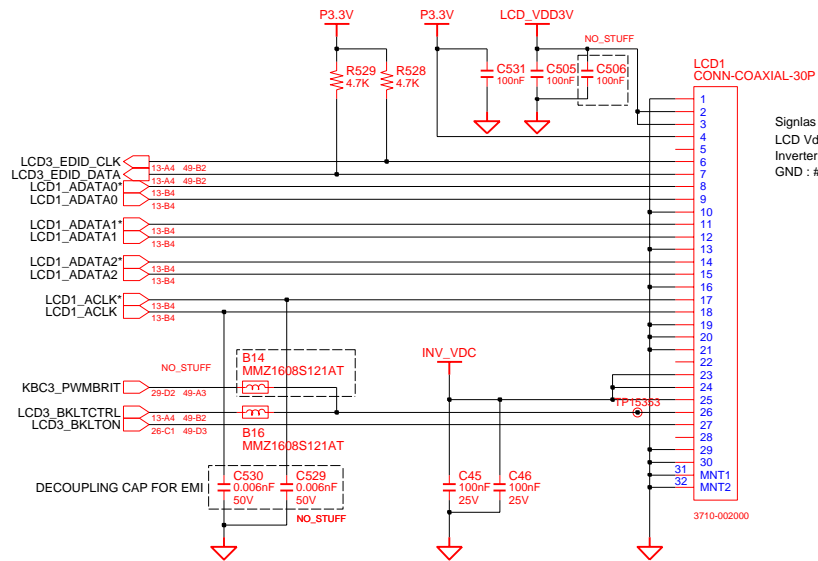
- 02 VERIFY REAL MODE
- 03 DISABLE NMI
- 04 GET CPU TYPE
- 06 INIT. SYSTEM H/W
- 08 INIT. CHIPSET REG.
- 09 SET IN POST FLAG
- 0A INIT CPU.REG
- 0B CPU CACHE ON
- 0C INIT.CACHE TO POST
- 0E INIT. I/O VALUE
- 0F ENABLE THE L-BUS IDE
- 10 INIT. POWER MANAGER
- 11 LOAD ALTERNATE REG.
- 13 PCI BUS MASTER 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. TYPEMATIC 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

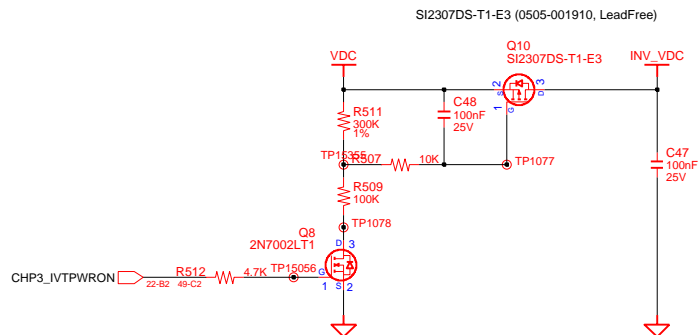
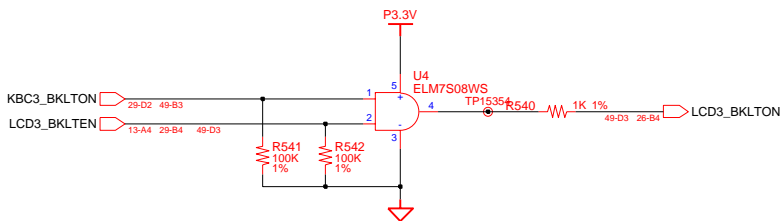
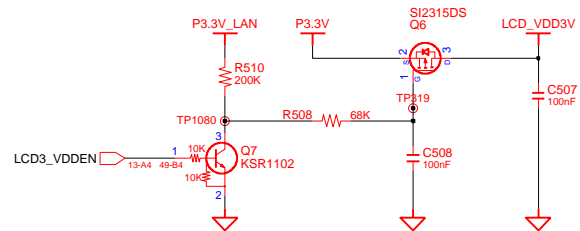
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CHECK	GUO LEI	DEV. STEP	MP		MAIN	
APPROVAL	KEVIN LEE	REV	1.0		FWH	PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 25 OF 50

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WXGA LCD CONNECTOR



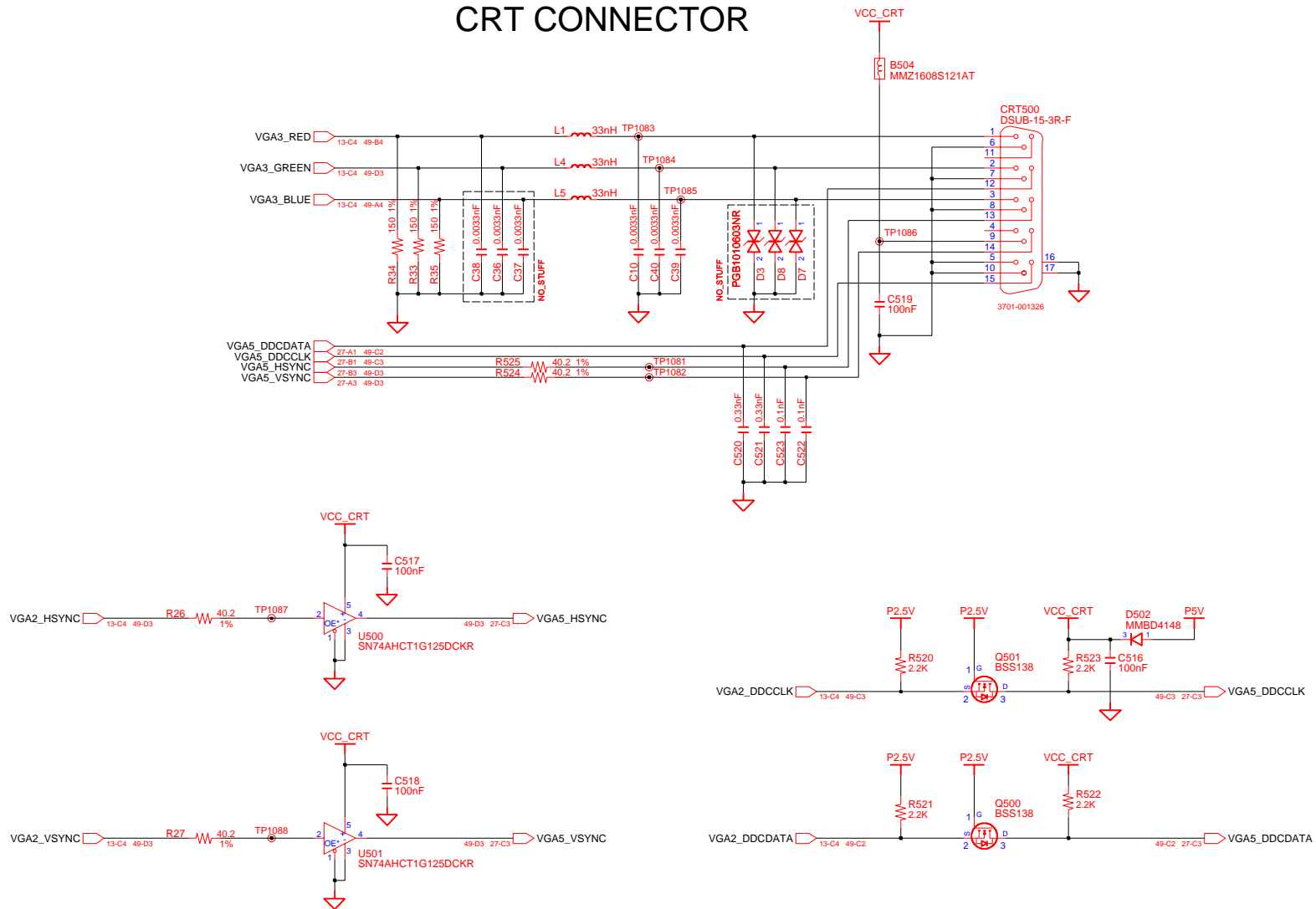
Signal : #40AWG
 LCD Vdd : #36AWG
 Inverter Vdd : #36AWG
 GND : #36AWG



DRAW	ZHOU JUN	DATE		TITLE	TORINO	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV_STEP	MP		MAIN	
APPROVAL	KEVIN LEE	REV	1.0		LVDS	PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 26 OF 50

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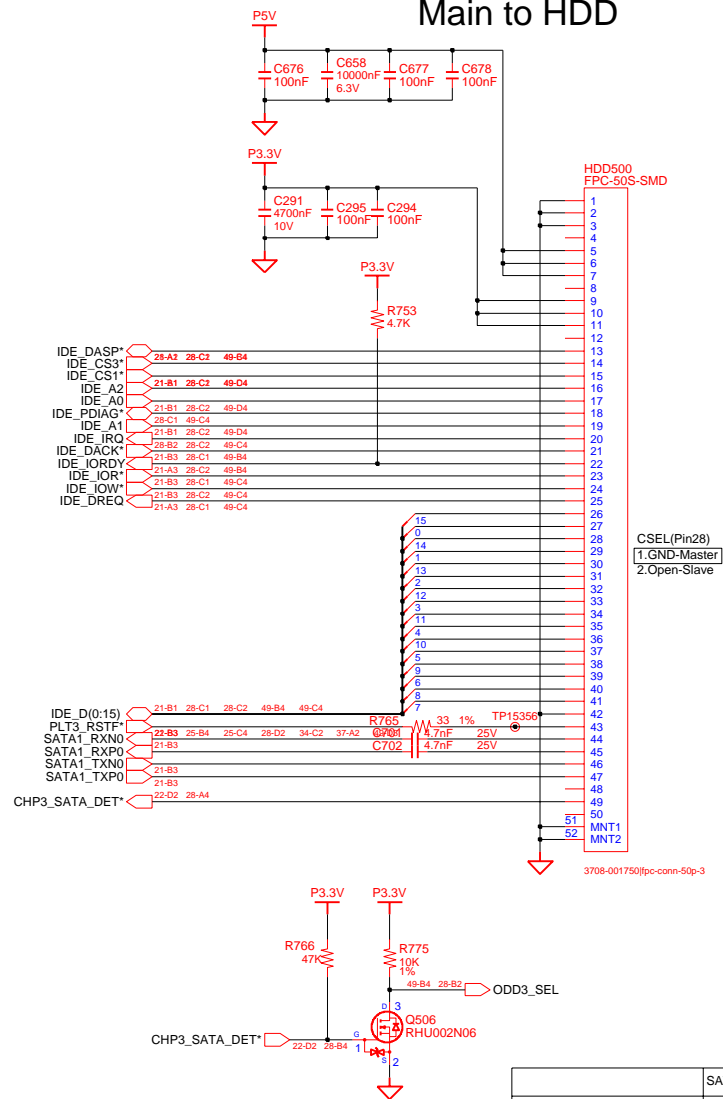
CRT CONNECTOR



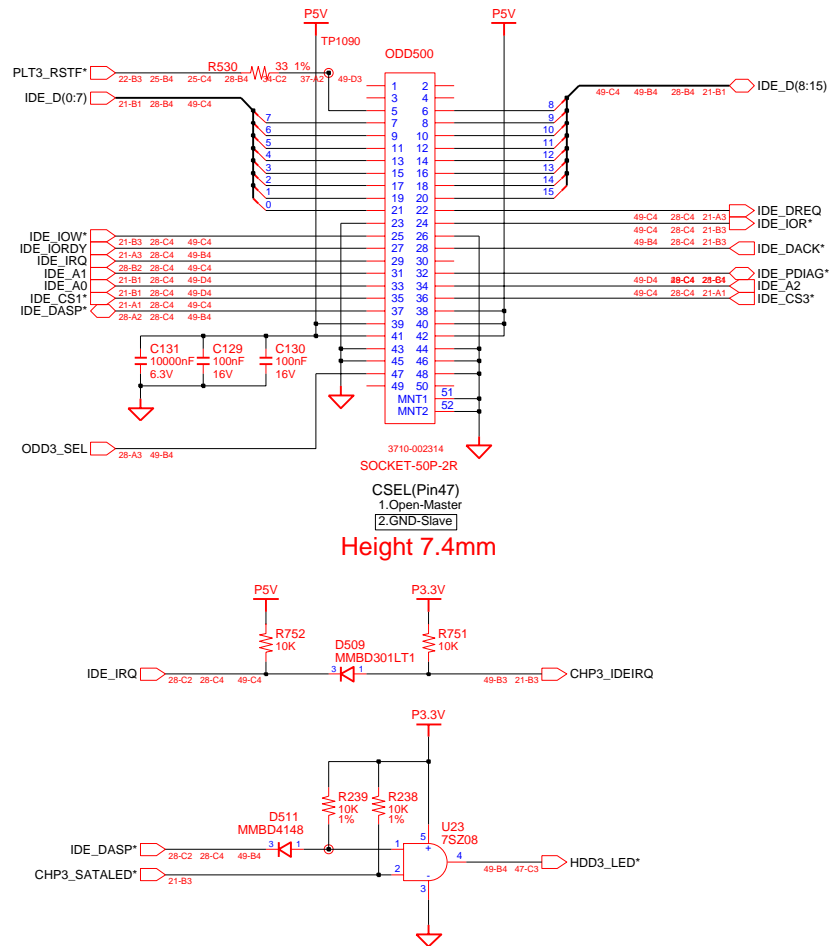
DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN CRT	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0			PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 27 OF 50

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Main to HDD



Main to ODD

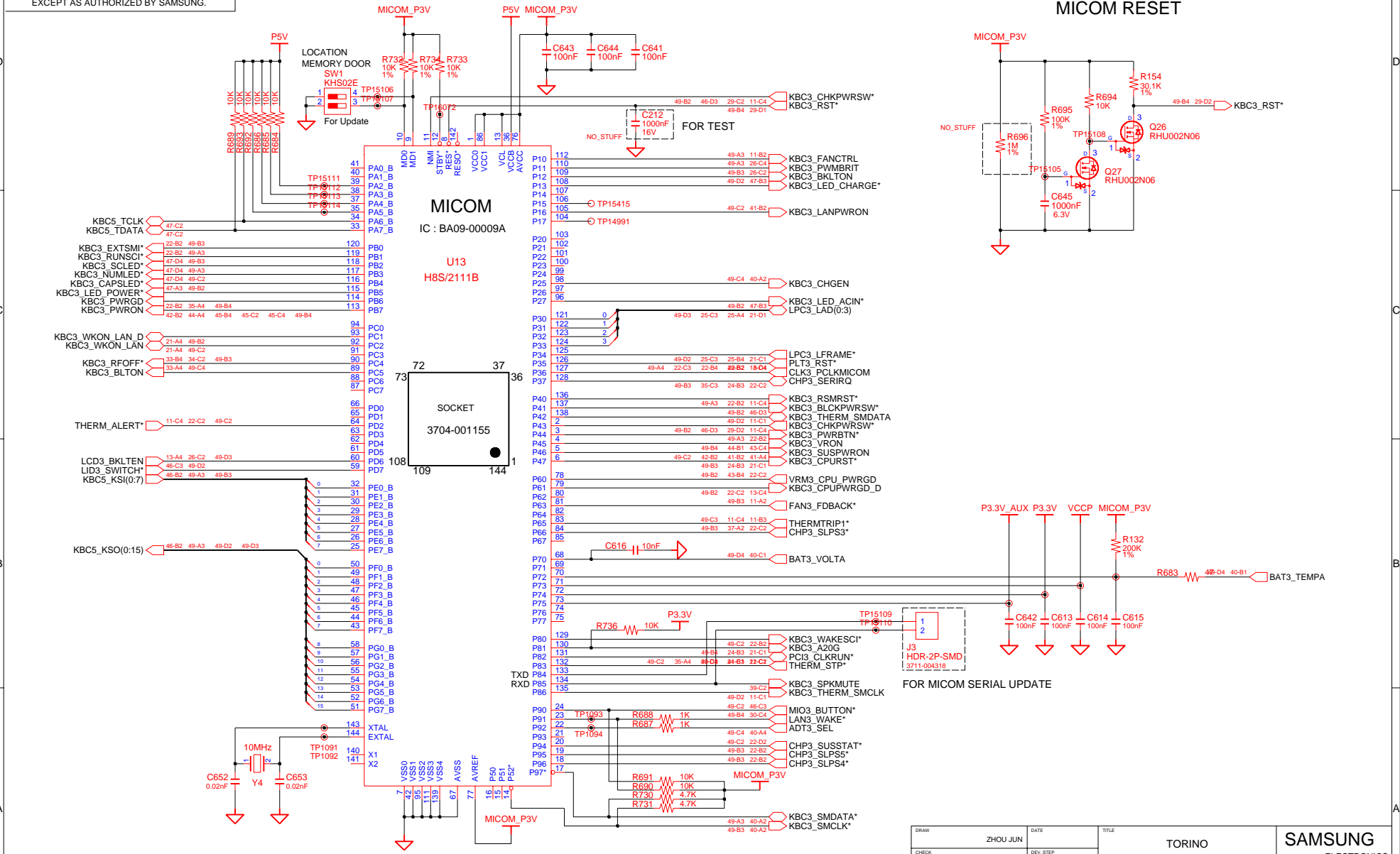


	SATA_DET*	ODD (IDE)	2nd HDD (IDE)
If SATA Detected	0	CSEL(#47) : Open (Master)	CSEL(#28) : GND (Master)
If SATA not Detected	1	CSEL(#47) : GND (Slave)	CSEL(#28) : Open (Slave)

DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN IDE	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV_STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0			PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 28 OF 50

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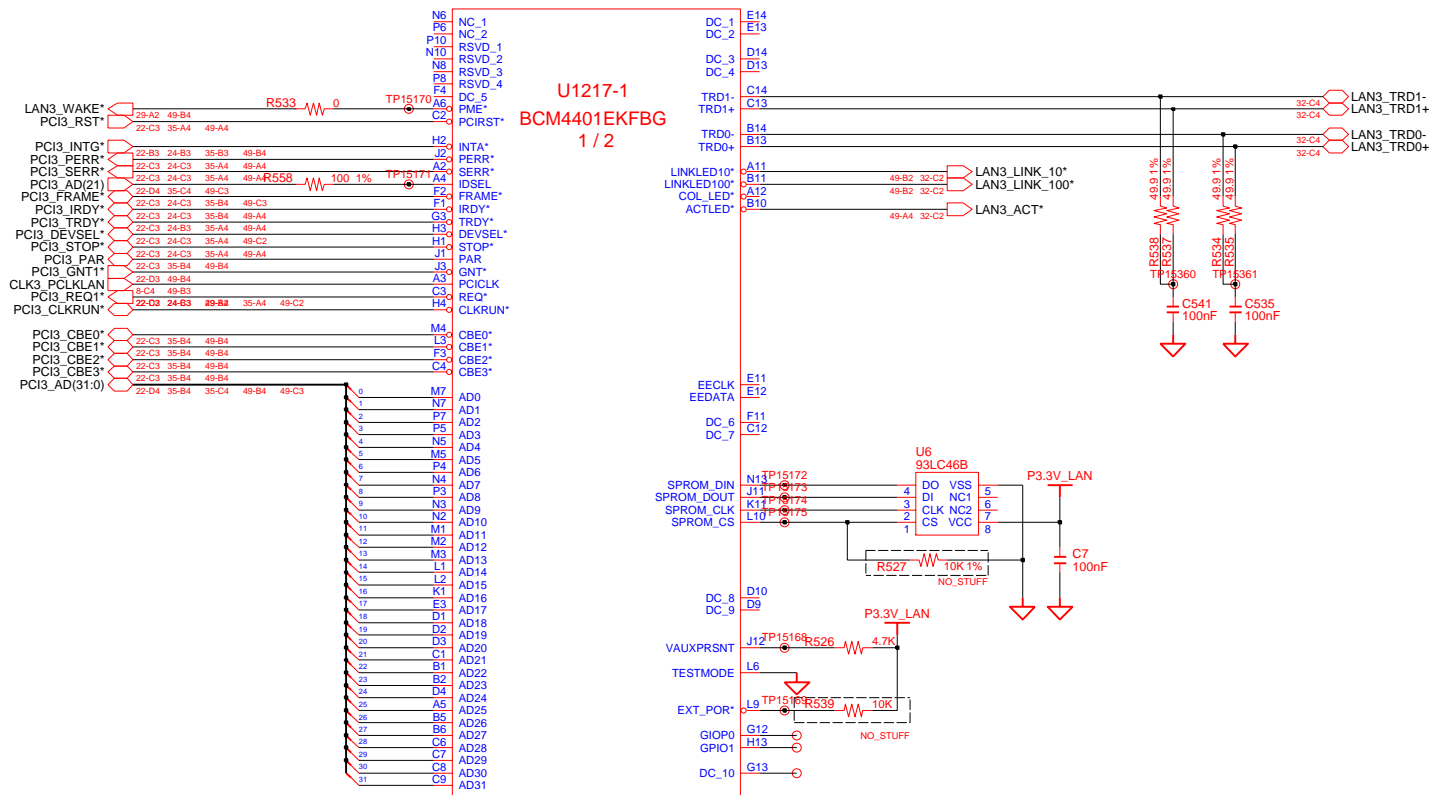
MICOM RESET



DRAW	ZHOU JUN	DATE		TITLE	TORINO	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV_STEP	MP		MAIN	
APPROVAL	KEVIN LEE	REV	1.0		MICOM	PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 29 OF 50

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LAN Controller (Only 10/100M)

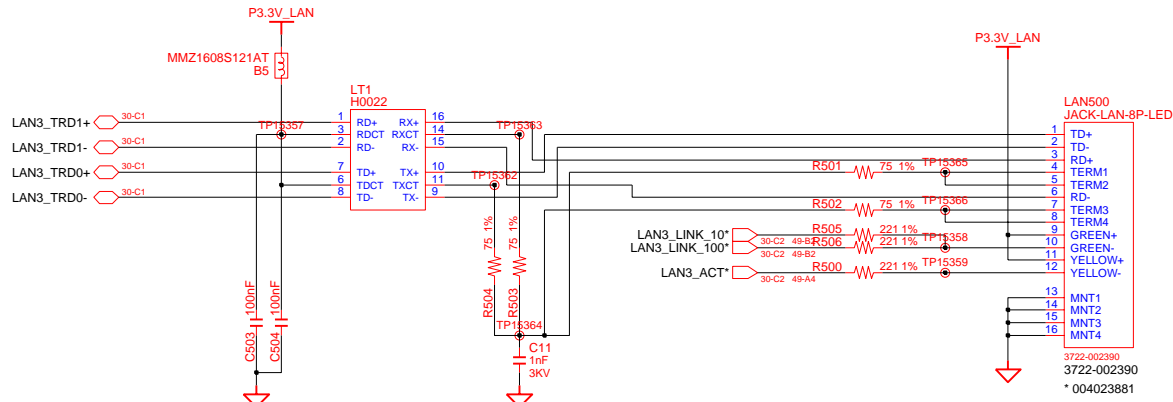


1205-002789

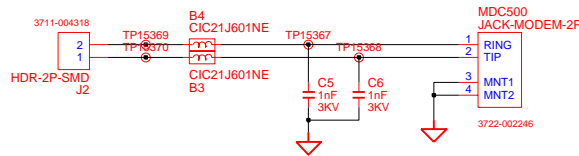
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CHECK	GUO LEI	DEV. STEP	MP	MAIN		
APPROVAL	KEVIN LEE	REV	1.0	LOM(1)		PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 30 OF 50

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LAN Connector



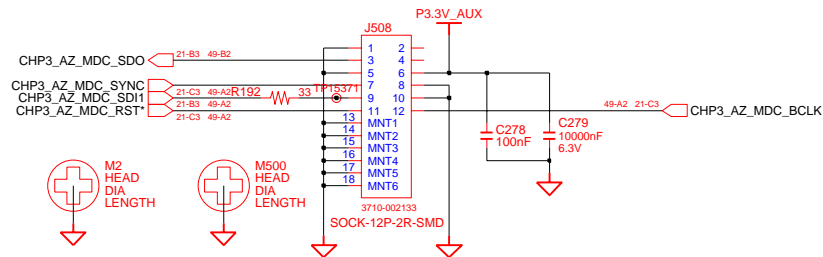
MODEM Connector



DRAW	ZHOU JUN	DATE	TITLE	TORINO MAIN	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP		
APPROVAL	KEVIN LEE	REV	1.0	LAN & MODEM JACK	PART NO. BA41-00602A/3A
MODULE CODE	LAST EDIT			PAGE 32 OF 50	

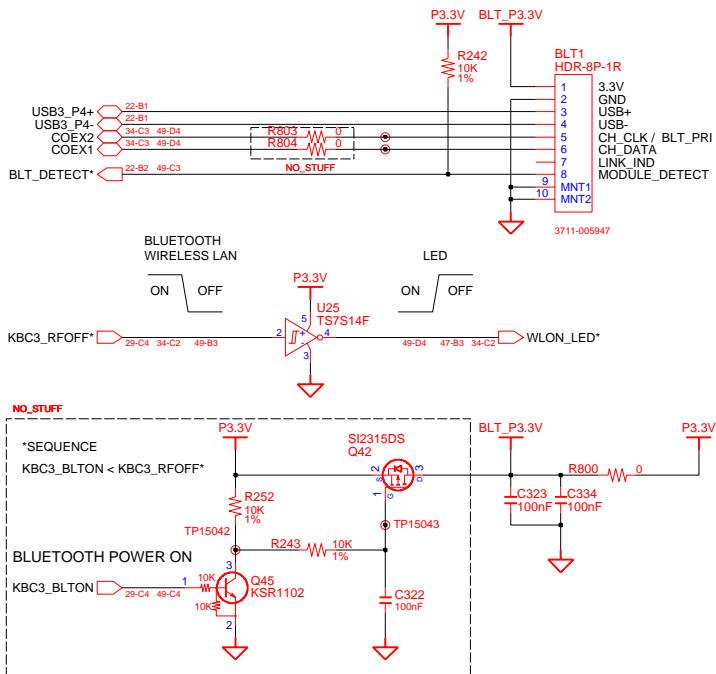
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MDC connector

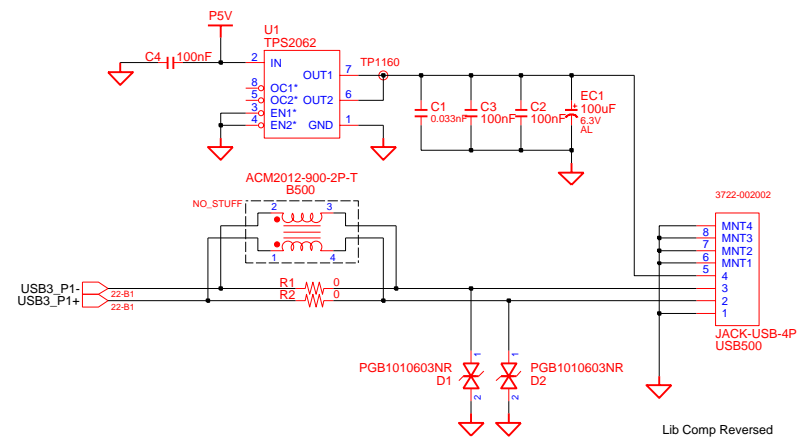
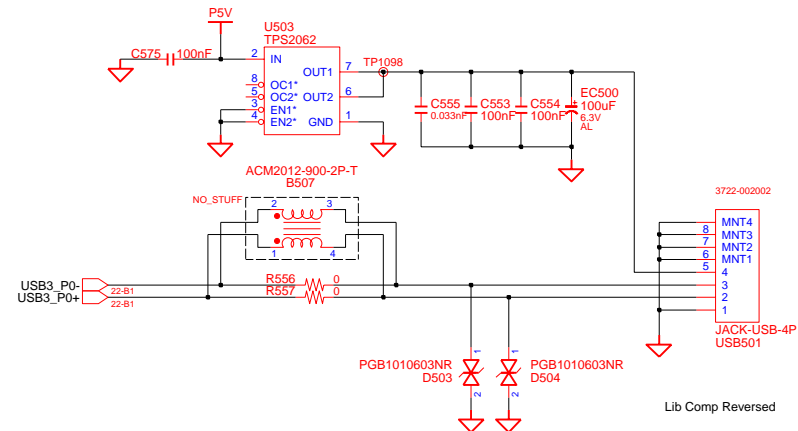


BLUETOOTH

Bluetooth 2.0 Standard



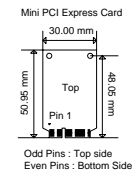
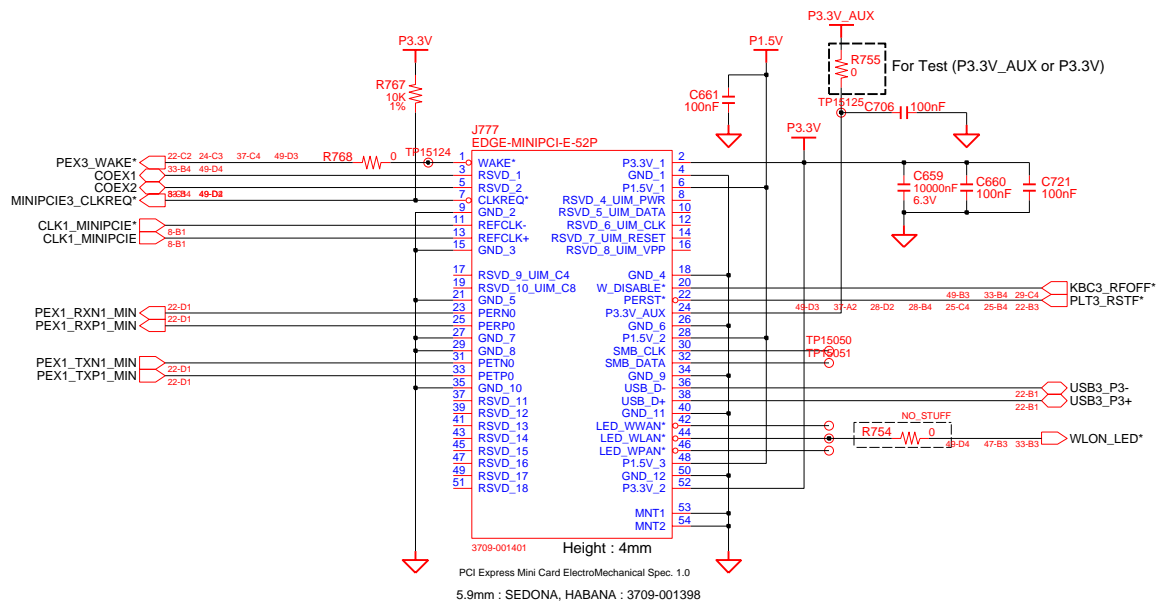
USB Port



DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0		USB, MDC & BLUETOOTH	PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 33 OF 50

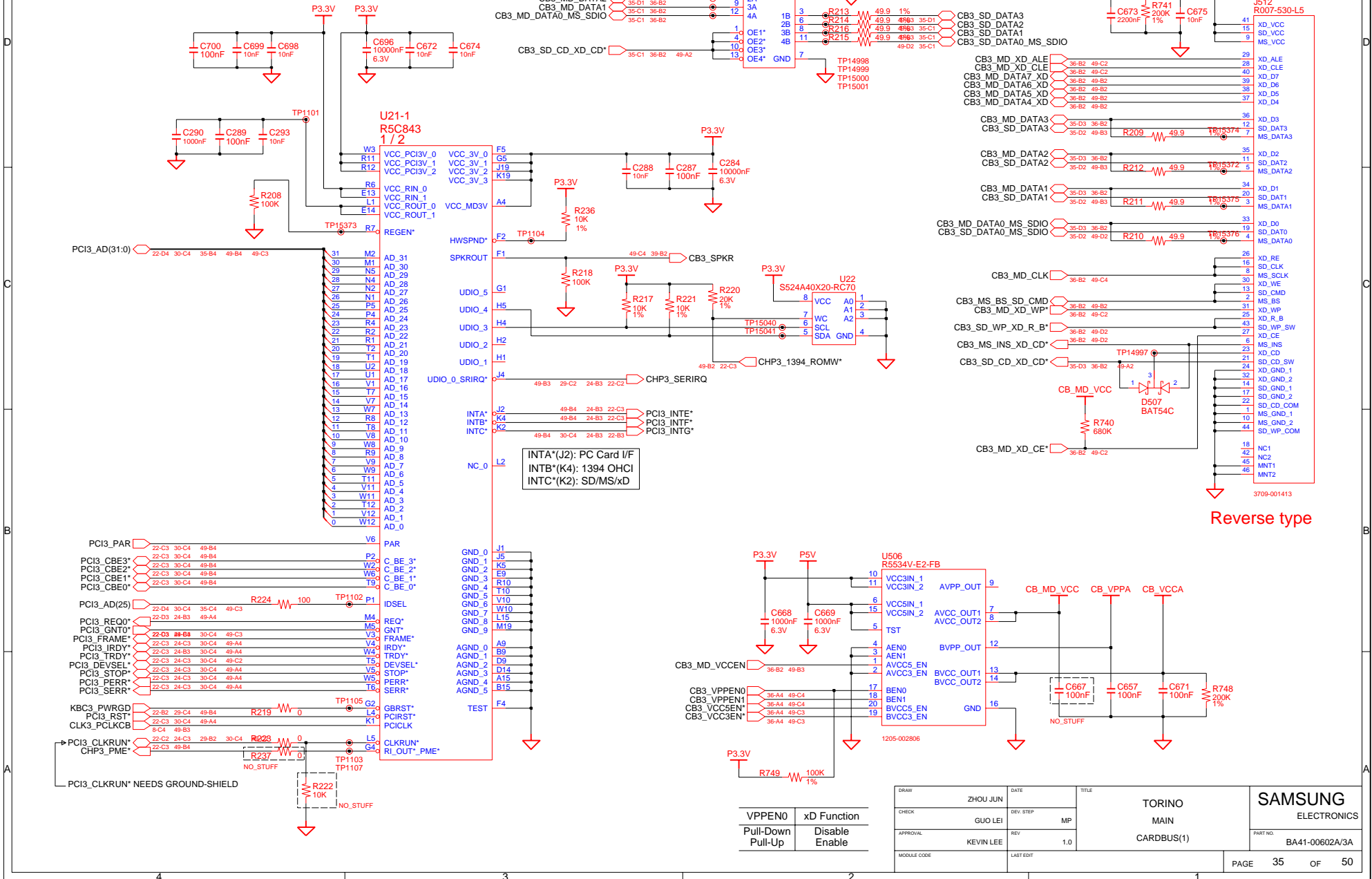
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Mini PCI-E Card



DRAW	ZHOU JUN	DATE		TITLE	TORINO	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP	MAIN		
APPROVAL	KEVIN LEE	REV	1.0	MINI CARD	PART NO.	BA41-00602A/3A
MODULE CODE		LAST EDIT			PAGE	34 OF 50

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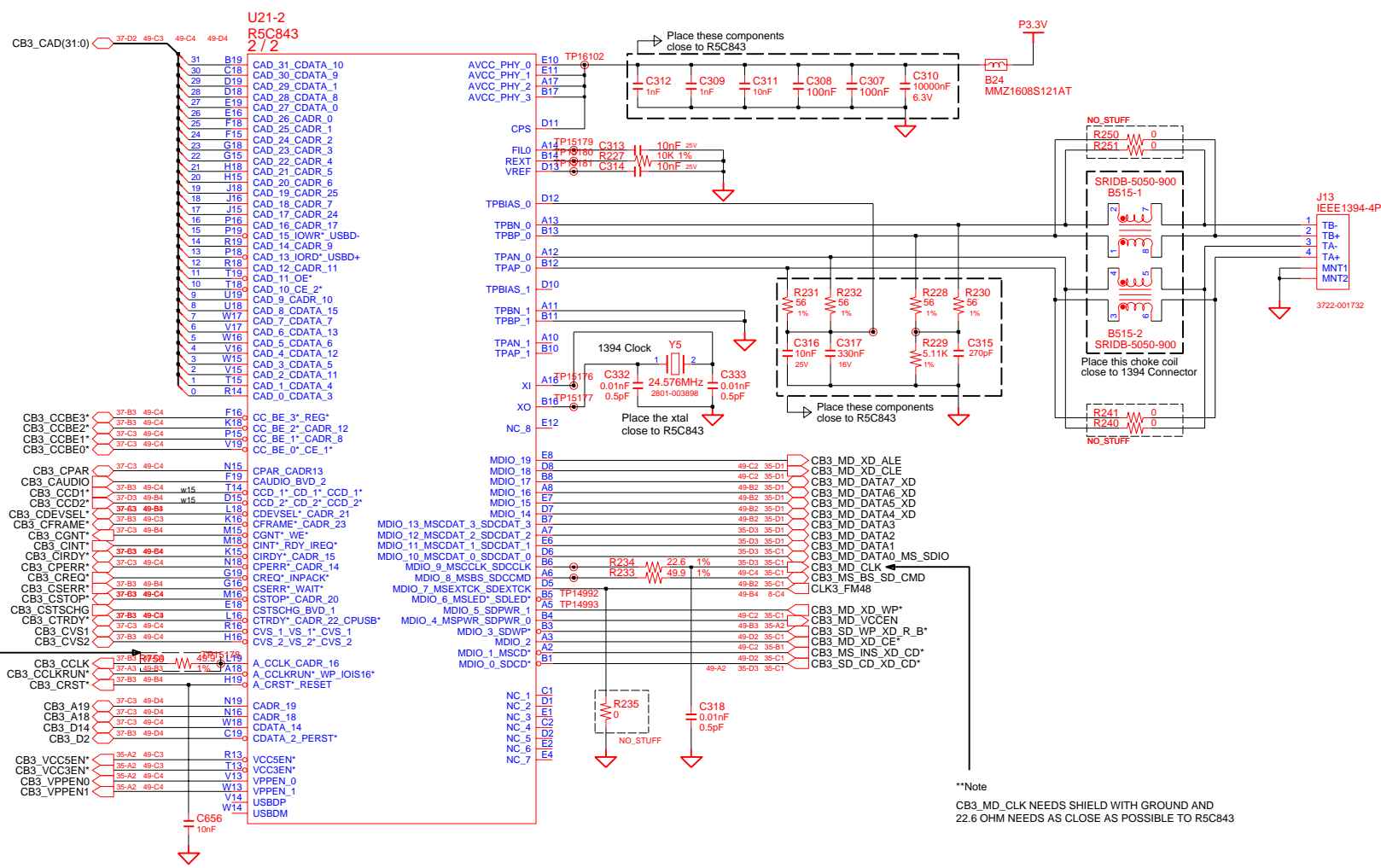


Reverse type

VPPEN0	xD Function
Pull-Down	Disable
Pull-Up	Enable

DRAW	ZHOU JUN	DATE		TITLE	TORINO	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP		MAIN	
APPROVAL	KEVIN LEE	REV	1.0		CARDBUS(1)	PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 35 OF 50

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CB3_CLK NEEDS SHIELD WITH GROUND AND
 49.9 OHM NEEDS AS CLOSE AS POSSIBLE TO R5C843

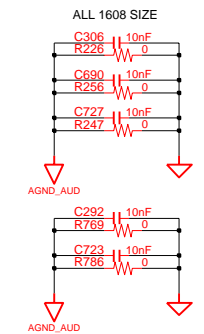
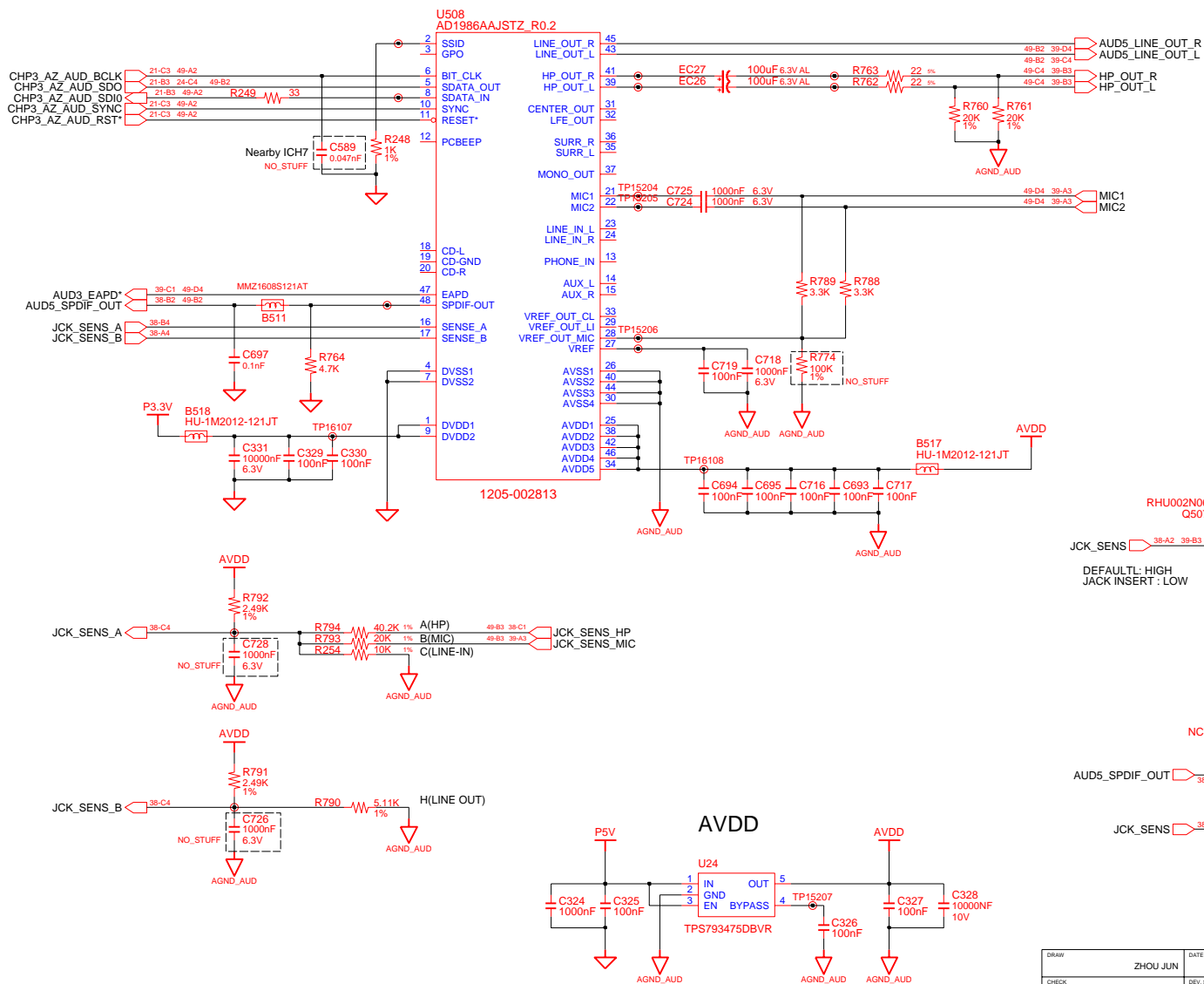
**Note
 CB3_MD_CLK NEEDS SHIELD WITH GROUND AND
 22.6 OHM NEEDS AS CLOSE AS POSSIBLE TO R5C843

DRAW	ZHOU JUN	DATE		TORINO	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV_STEP	MP	MAIN	
APPROVAL	KEVIN LEE	REV	1.0	CARDBUS(2)	PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT			PAGE 36 OF 50

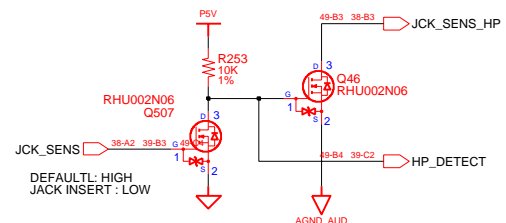
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AUDIO CODEC

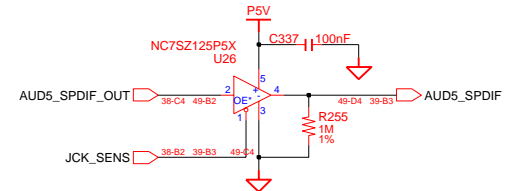
1.AGND_AUD	Audio Ground
2.GND	Digital Ground



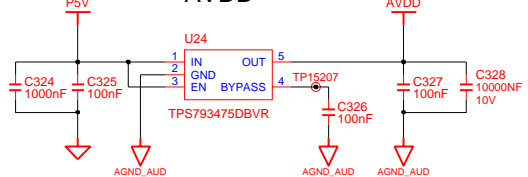
SPDIF DETECT



SPDIF BUFFER



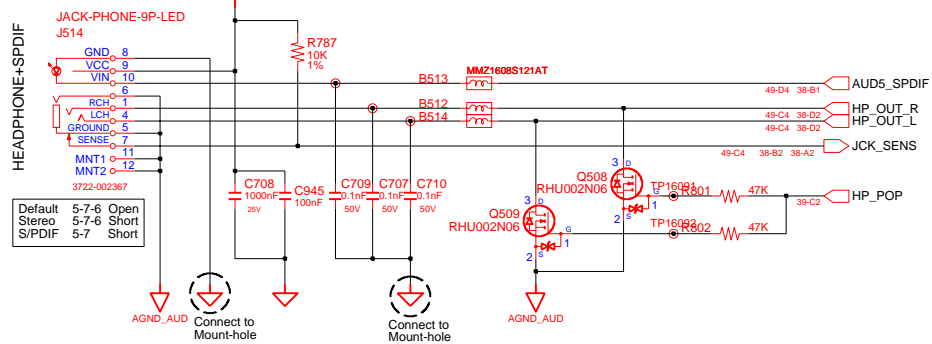
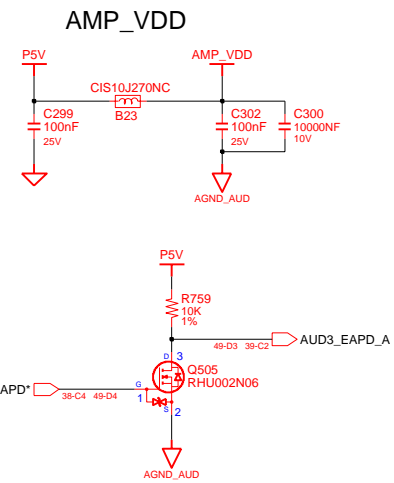
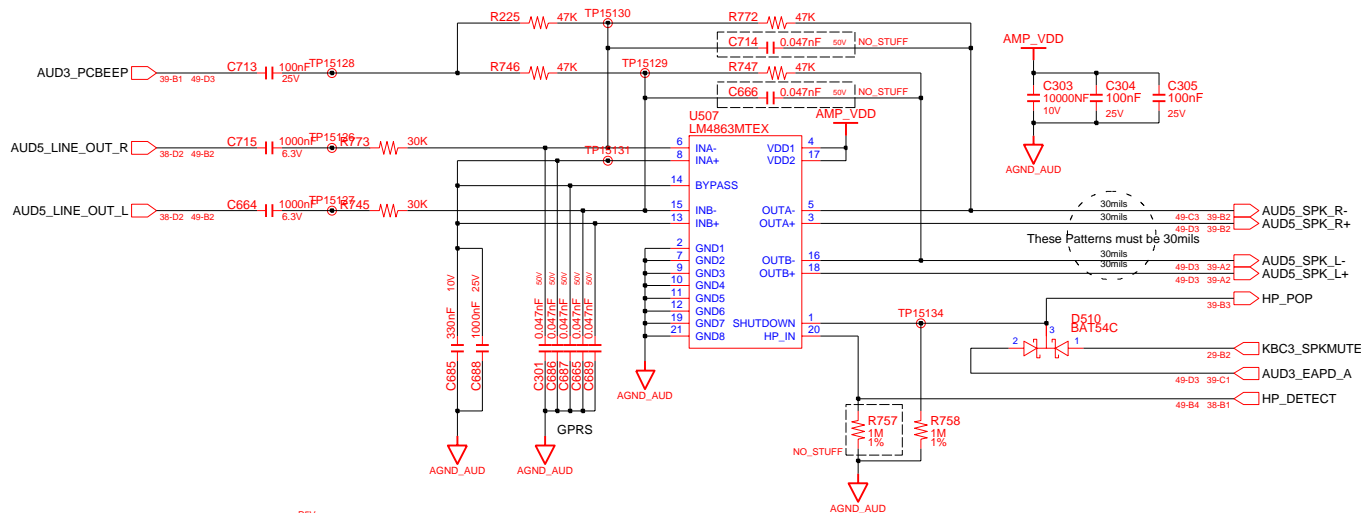
AVDD



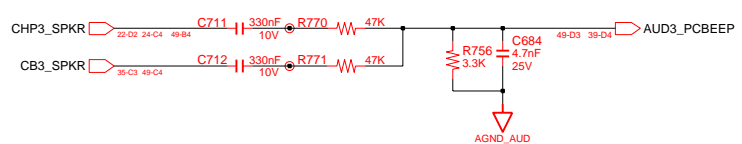
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CHECK	GUO LEI	DEV. STEP	MP	MAIN		
APPROVAL	KEVIN LEE	REV	1.0	AUDIO CODEC	PART NO.	BA41-00602A/3A
MODULE CODE		LAST EDIT			PAGE	38 OF 50

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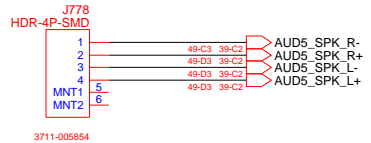
AUDIO AMP



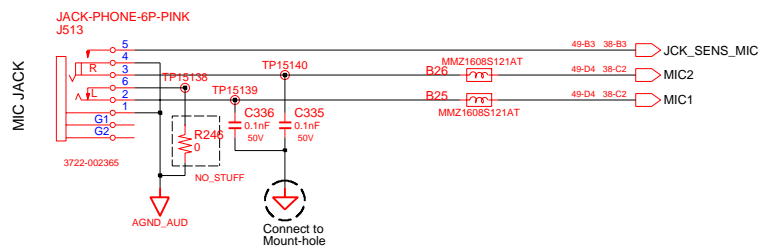
PC BEEP SOUND



INTERNAL STEREO SPEAKERS



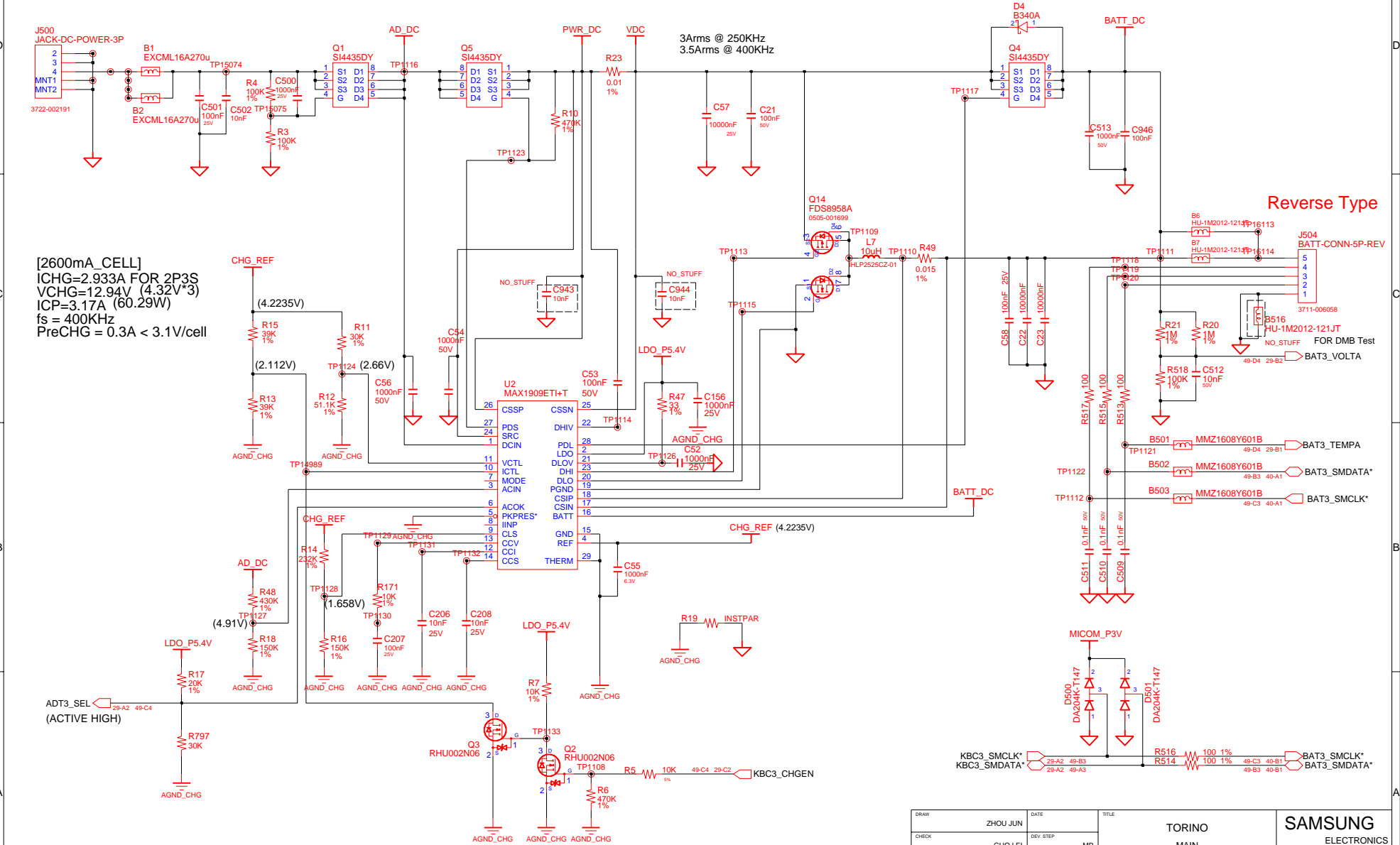
Should be written sign "LEFT", "RIGHT" on the PCB



DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP	AUDIO AMPLIFIER		
APPROVAL	KEVIN LEE	REV	1.0			PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 39 OF 50

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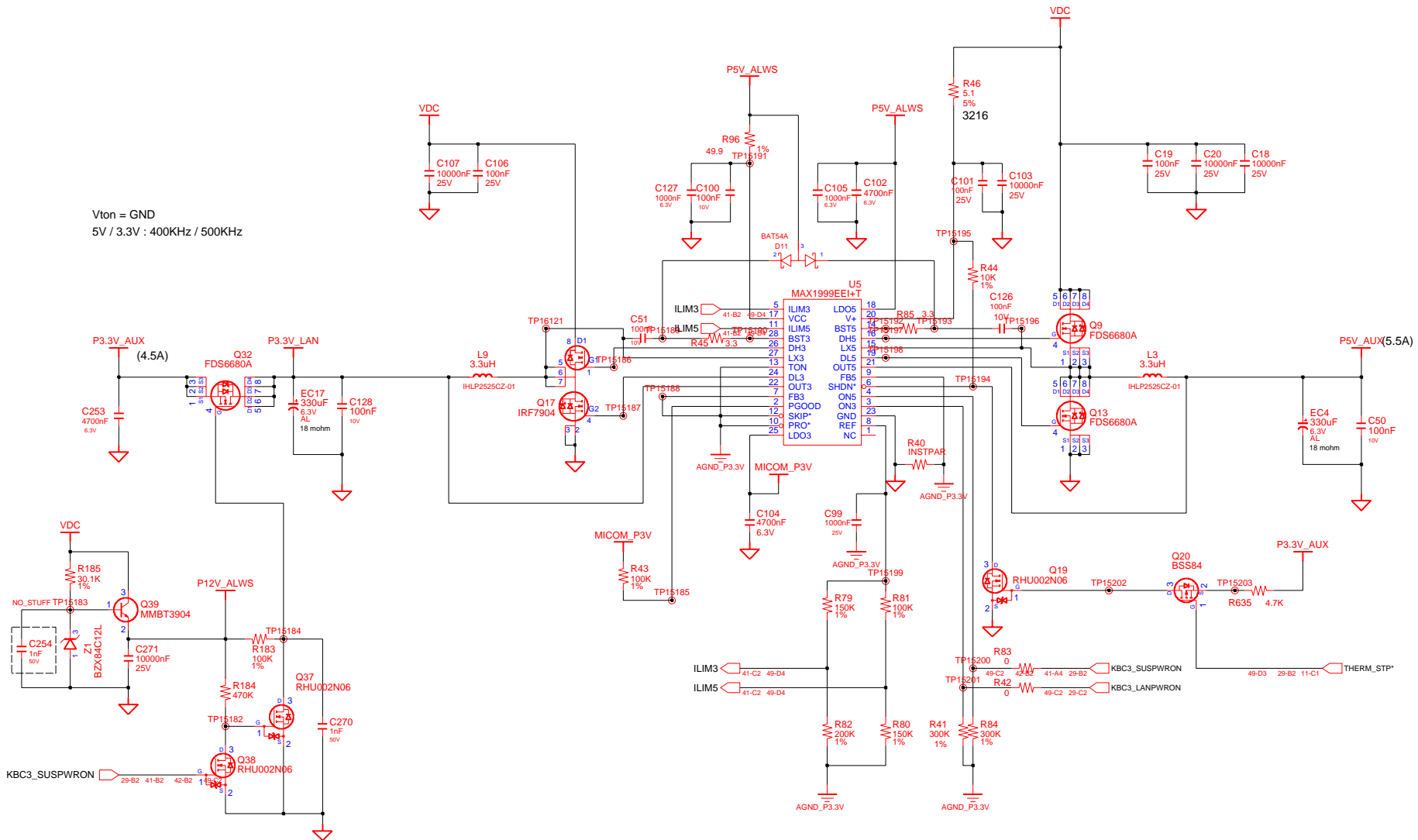
CHARGER & POWER MANAGEMENT



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P5V_AUX & P3.3V_LAN(AUX)

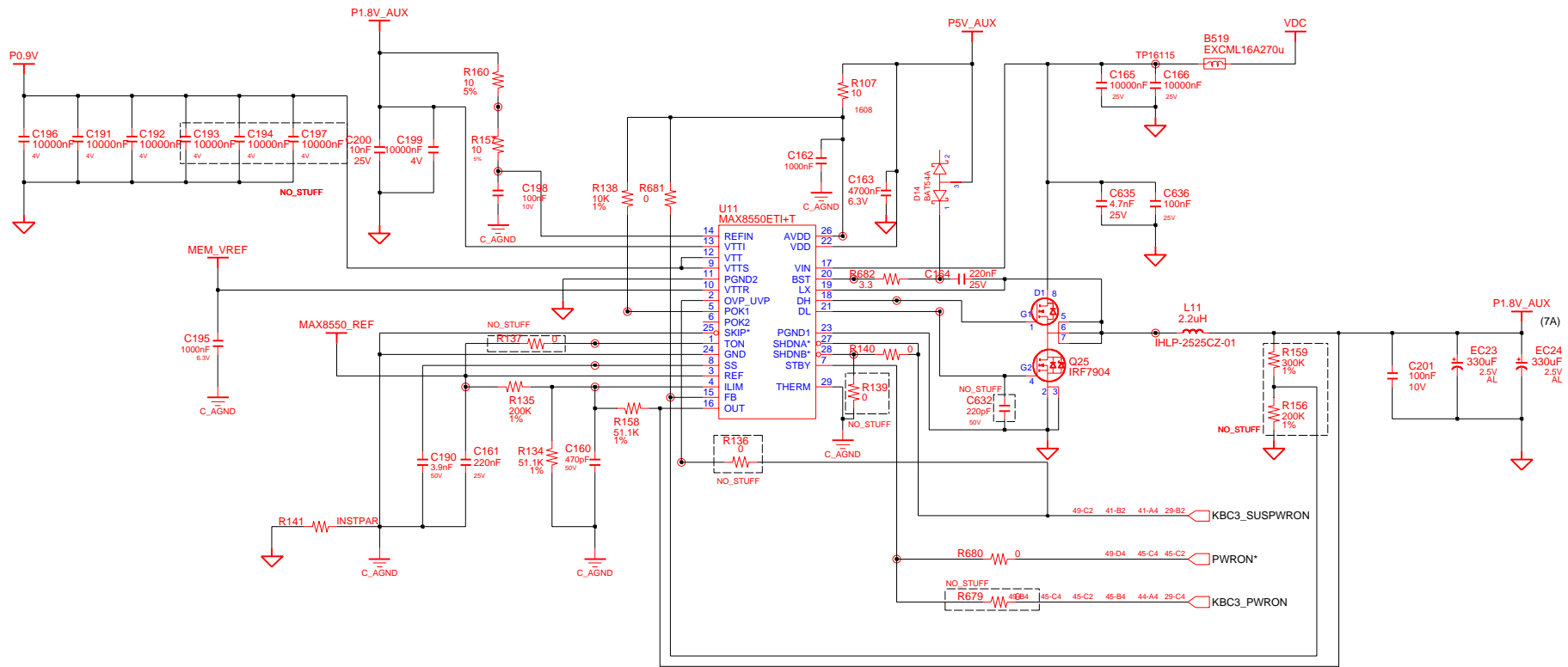
V_{ton} = GND
 5V / 3.3V : 400KHz / 500KHz



DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP	P5V_AUX & P3.3V_LAN(AUX)		
APPROVAL	KEVIN LEE	REV	1.0			PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 41 OF 50

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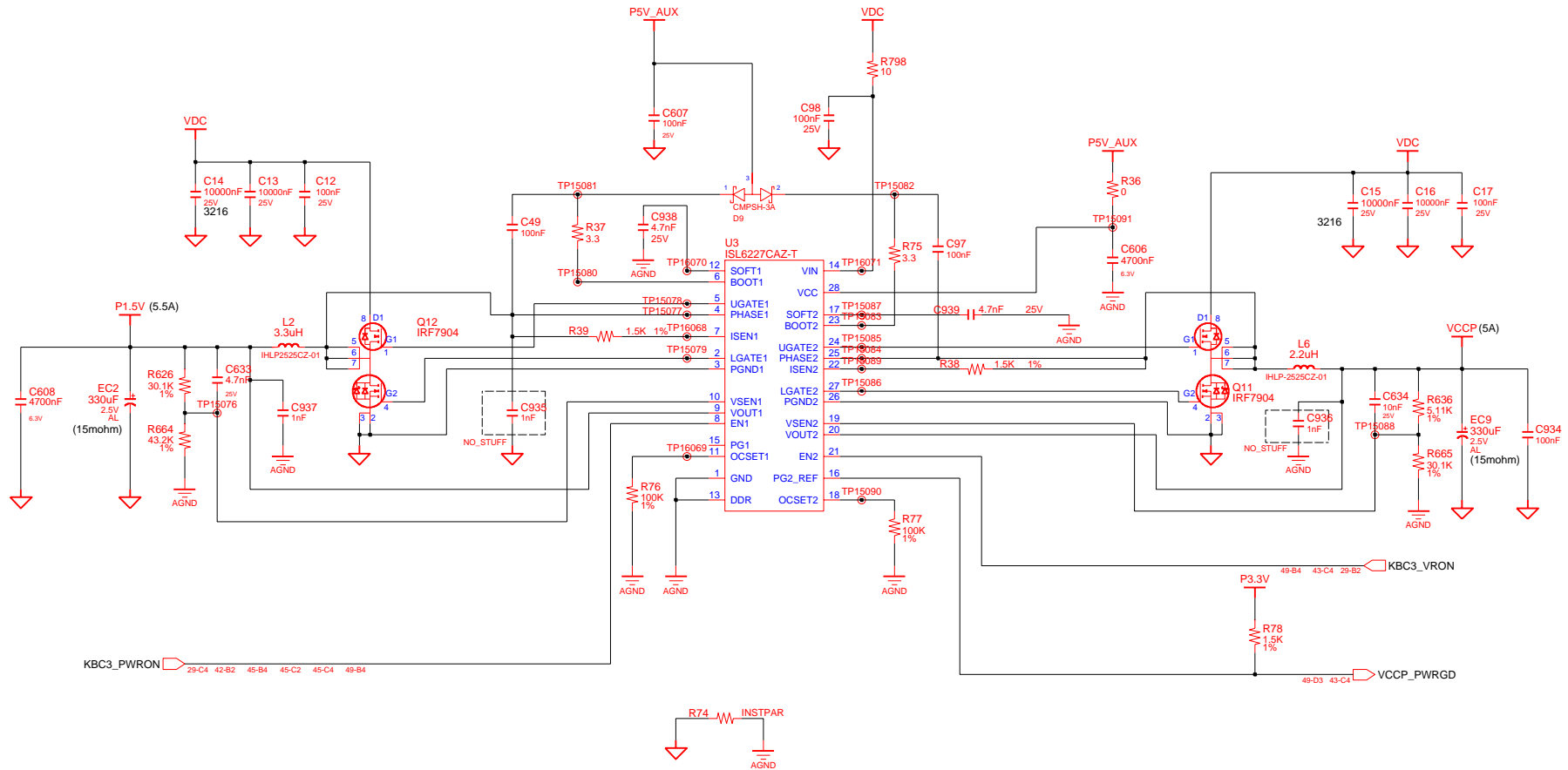
DDR2 POWER



DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP	REV	DDR2 POWER	
APPROVAL	KEVIN LEE	REV	1.0	MODULE CODE		PART NO. BA41-00602A/3A
		LAST EDIT				PAGE 42 OF 50

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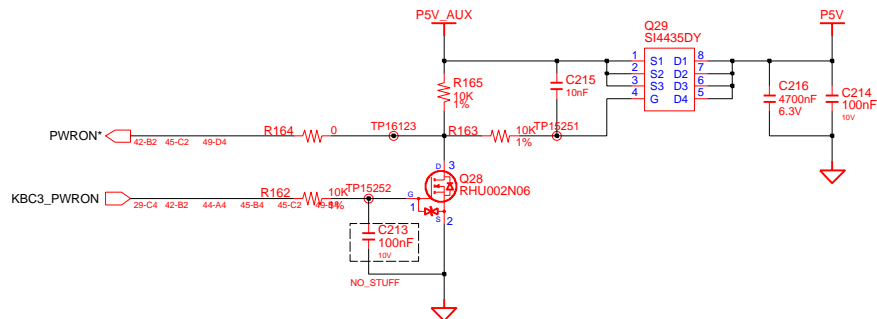
P1.5V & VCCP



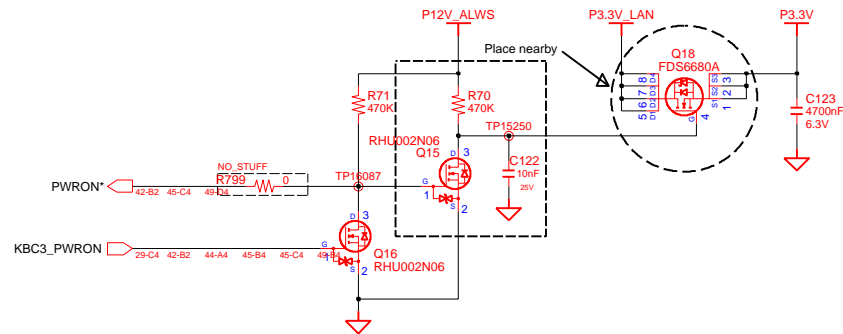
DRAW	ZHOU JUN	DATE		TITLE	TORINO	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP	MAIN		
APPROVAL	KEVIN LEE	REV	1.0	P1.5V_AUX & VCCP	PART NO.	BA41-00602A/3A
MODULE CODE		LAST EDIT			PAGE	44 OF 50

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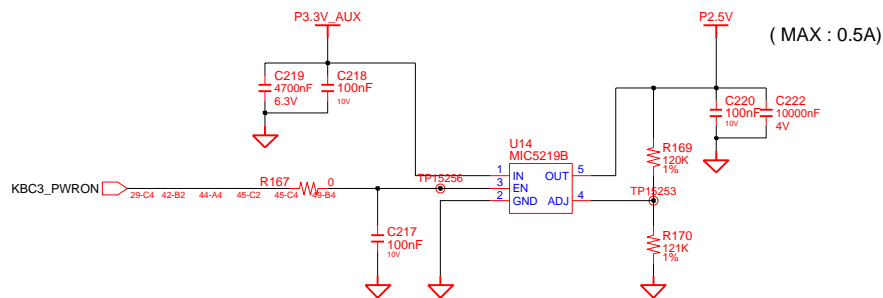
Switched Power On (P5V)



Switched Power On (P3.3V)



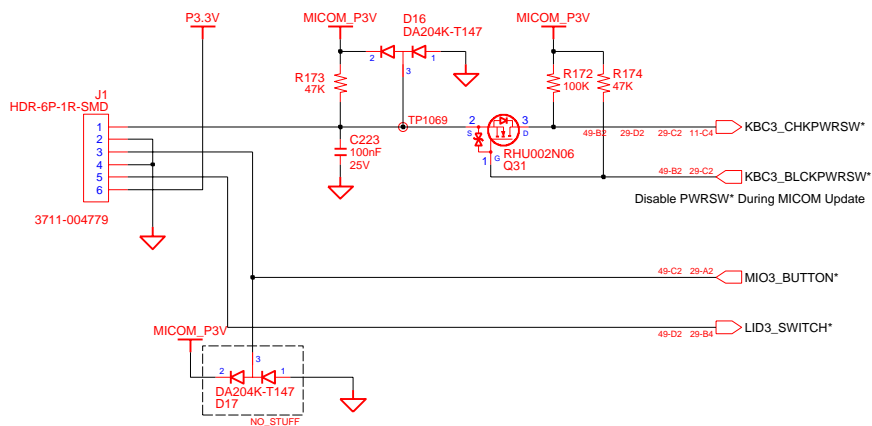
Switched Power On (P2.5V)



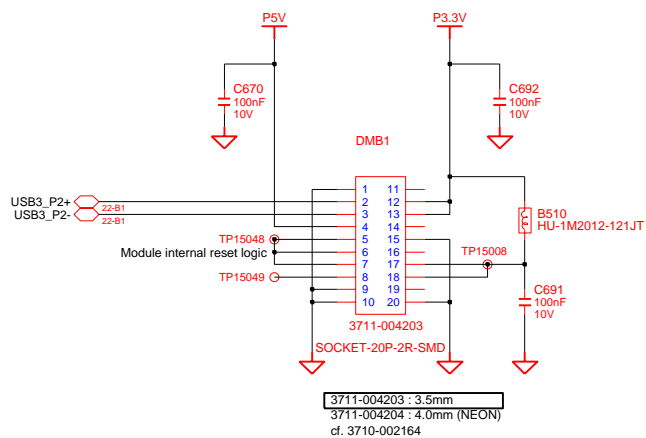
DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0		SWITCHED POWER	PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 45 OF 50

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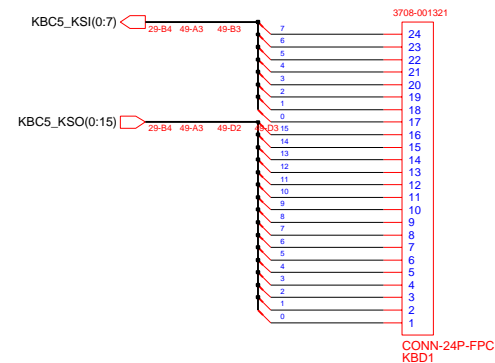
Power Switch Connector



OPTION: DMB INTERFACE

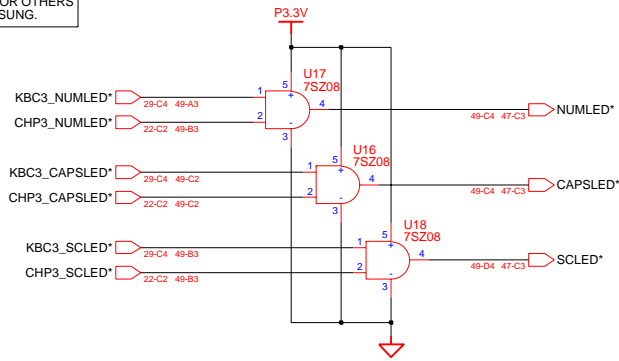


KEYBOARD

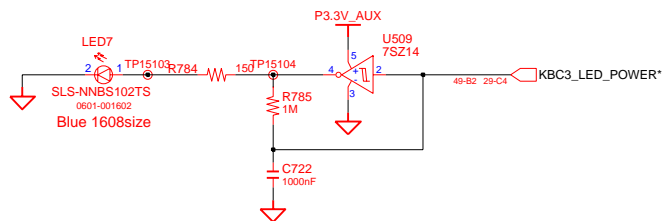
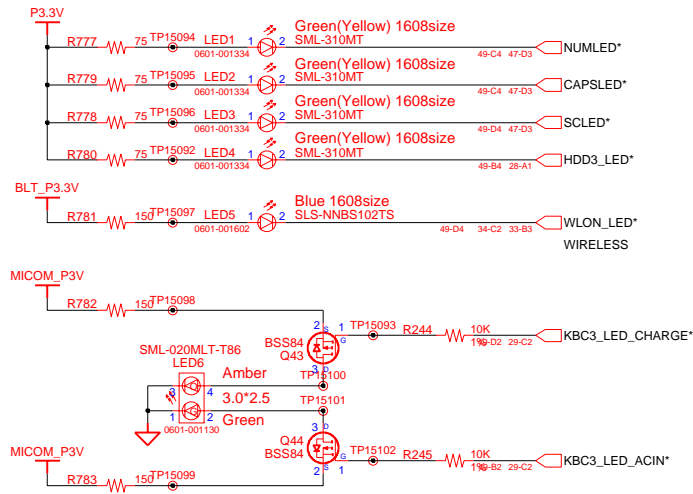


DRAW	ZHOU JUN	DATE		TITLE	TORINO MAIN	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP	MICOM RESET & POWER S/W		
APPROVAL	KEVIN LEE	REV	1.0			PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 46 OF 50

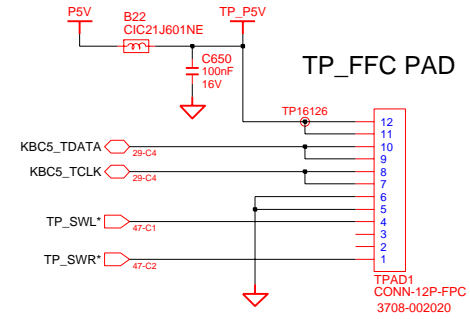
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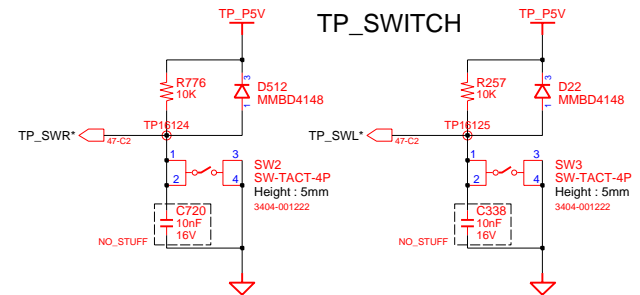
LEDS



TOUCH PAD



TP_SWITCH



* 1608 Size LEDs

0601-001334	Green	C Grade
0601-001602	Blue	C Grade
0601-001784	Yellow	B Grade

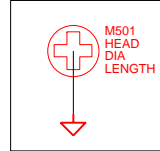
* 3216 Size LEDs

0601-000189	Green	3.2*1.6*1.1
0601-001737	Blue	3.0*1.5*1.4
0601-001130	Amber,Green	3.0*2.5

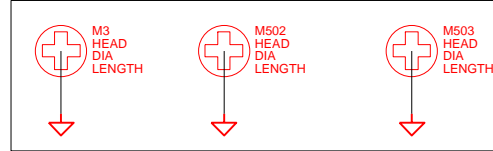
DRAW	ZHOU JUN	DATE		TITLE	TORINO	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP	MAIN		
APPROVAL	KEVIN LEE	REV	1.0	SUB B'D & LED	PART NO.	BA41-00602A/3A
MODULE CODE		LAST EDIT			PAGE	47 OF 50

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BLT-NUT



DMB-NUT



MT523
RMNT-2.5-5.0-1P



MT2
RMNT-2.5-5.0-1P



MT15
RMNT-2.5-7.0-1P



MT16
RMNT-2.5-7.0-1P



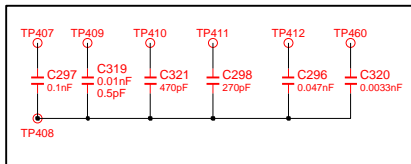
MT18
RMNT-2.5-7.0-1P



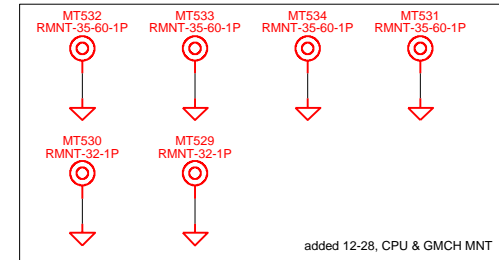
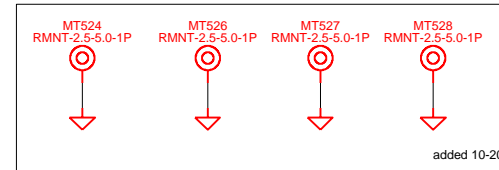
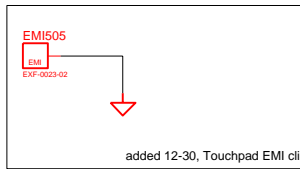
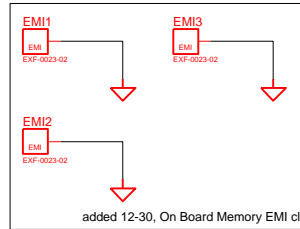
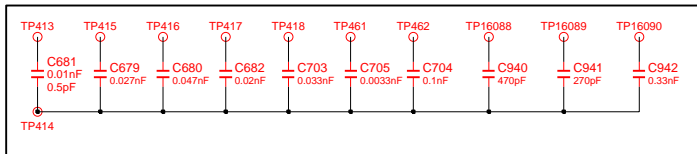
MT19
RMNT-2.5-7.0-1P



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		TITLE	TORINO MAIN MOUNT HOLE	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV. STEP	MP			
APPROVAL	KEVIN LEE	REV	1.0			PART NO. BA41-00602A/3A
MODULE CODE		LAST EDIT				PAGE 48 OF 50

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TP15882 MIC1	TP15769 WLOW_LED*	TP15722 PEX3_WAKE*	TP15694 KBC5_KSO(3)	TP15477 KBC5_KSO(11)	TP16060 CHP3_SATACLKREQ*	TP15580 P3.3V_LAN
TP15883 MIC2	TP15770 AUD3_EAPD*	TP15723 AUD3_SXP2*	TP15695 KBC5_KSO(4)	TP15478 KBC5_KSO(12)	TP16061 KBC3_LED_CHARGE*	TP15581 P3.3V_LAN
TP15884 COEX1	TP15771 AUD5_SPDIF	TP15664 THERM_STP*	TP15696 KBC5_KSO(5)	TP15479 KBC5_KSO(13)	TP16062 KBC3_THERM_SMCLK	TP15582 P3.3V_LAN
TP15885 COEX2	TP15772 BAT3_TEMP*	TP15665 VCCP_PWRGD	TP15697 KBC5_KSO(6)	TP15480 KBC5_KSO(14)	TP16063 KBC3_MS_INS_XD_CD*	
TP15886 ILIM3	TP15773 BAT3_VOLTA	TP15666 VGA2_HSYNC	TP15698 KBC5_KSO(7)	TP15481 MCH3_CFG(10)	TP16064 CB3_SD_WP_XD_R_B*	TP15526 P1.5V_PCIE
TP15887 ILIM5	TP15774 CB3_CAD(0)	TP15667 VGA2_VSYNC	TP15699 KBC5_KSO(8)	TP15482 LID3_SWITC#*	TP16065 KBC3_THERM_SMDATA	TP15527 P1.5V_PCIE
TP15888 CB3_D2	TP15775 CB3_CAD(1)	TP15668 VGA3_GREEN	TP15700 KBC5_KSO(9)	TP15392 LDC3_LFRAME*	TP16066 MINIPCE3_CLKREQ*	TP15531 P3.3V_AUX_EXP
TP15889 IDE_A0	TP15776 CB3_CAD(2)	TP15669 VGA5_HSYNC	TP15604 LDC3_BKLTEN	TP15393 MCH3_CFG(11)	TP16067 CB3_SD_DATA0_MS_SDI0	TP15536 VDC
TP15890 IDE_A1	TP15777 CB3_CAD(3)	TP15670 VGA5_VSYNC	TP15605 LDC3_BKLTON	TP15394 MCH3_CFG(12)	TP16005 AGND	TP15537 VDC
TP15891 IDE_A2	TP15778 CB3_CAD(4)	TP15671 AUD3_EAPD_A	TP15606 LDC3_LAD(0)	TP15395 MCH3_CFG(13)	TP16006 AGND	TP15538 VDC
TP15904 PWRON*	TP15779 CB3_CAD(5)	TP15672 AUD3_PCEBEP	TP15607 LDC3_LAD(1)	TP15396 MCH3_CFG(14)	TP16010 AVDD	TP15539 VDC
TP15905 SLED*	TP15780 CB3_CAD(6)	TP15673 AUD3_SPK_L*	TP15608 LDC3_LAD(2)	TP15397 MCH3_CFG(15)	TP16011 AMP_VDD	TP15540 VDC
TP15906 CB3_A18	TP15781 CB3_CAD(7)	TP15674 AUD5_SPK_L*	TP15609 LDC3_LAD(3)	TP15398 MCH3_CFG(16)	TP16024 AGND_AUD	TP15542 VCC_CRT
TP15907 CB3_A19	TP15782 CB3_CAD(8)	TP15675 AUD5_SPK_R*	TP15610 MCH3_CFG(5)	TP15399 MCH3_CFG(17)	TP16025 AGND_CHG	TP15546 VCC_COORE
TP15908 CB3_D14	TP15783 CB3_CAD(9)	TP15676 AUD5_SPK_R*	TP15611 MCH3_CFG(6)	TP15400 MCH3_CFG(18)	TP16026 AGND_CHG	TP15547 VCC_COORE
TP15909 IDE_IRQ	TP15784 CB3_CAD(10)	TP15677 BAT3_SMCLK*	TP15449 PC13_AD(10)	TP15401 MCH3_CFG(19)	TP16027 AGND_CHG	TP15548 VCC_COORE
TP15864 NUMLED*	TP15785 CB3_CCBE0*	TP15678 BLT_DETECT*	TP15450 PC13_AD(11)	TP15402 MCH3_CFG(20)	TP16028 AGND_CHG	TP15549 VCC_COORE
TP15865 ADT3_SEL	TP15786 CB3_CCBE1*	TP15679 CB3_CAD(10)	TP15451 PC13_AD(12)	TP15403 MCH3_CFG(21)	TP16029 AGND_CHG	TP15550 VCC_COORE
TP15866 CAPLED*	TP15787 CB3_CCBE2*	TP15680 CB3_CAD(11)	TP15452 PC13_AD(13)	TP15404 MCH3_CFG(22)	TP15516 VGA2_DDCDATA	TP16073 P3.3V
TP15867 CB3_CCLK	TP15788 CB3_CCBE3*	TP15681 CB3_CAD(12)	TP15453 PC13_AD(14)	TP15405 MCH3_CFG(23)	TP15517 VGA2_DDCDATA	TP16074 P3.3V
TP15868 CB3_CPAR	TP15789 CB3_CCBE4*	TP15682 CB3_CAD(13)	TP15454 PC13_AD(15)	TP15406 MCH3_CFG(24)	TP15518 VGA2_DDCDATA	TP16075 P3.3V
TP15869 CB3_CV51	TP15790 CB3_CPER1*	TP15683 CB3_CAD(14)	TP15455 PC13_AD(16)	TP15407 MCH3_CFG(25)	TP15519 VGA2_DDCDATA	TP16076 P3.3V
TP15870 CB3_CV52	TP15791 CB3_CSER1*	TP15684 CB3_CAD(15)	TP15456 PC13_AD(17)	TP15408 MCH3_CFG(26)	TP15520 VCC_CRT	TP16077 VCCP
TP15871 CB3_SPKR	TP15792 CB3_CSTOP*	TP15685 CB3_CAD(16)	TP15457 PC13_AD(18)	TP15409 MCH3_CFG(27)	TP15521 VCC_COORE	TP16078 VCCP
TP15872 CPU1_NMI	TP15793 CB3_CTRD1*	TP15686 CB3_CAD(17)	TP15458 PC13_AD(19)	TP15410 MCH3_CFG(28)	TP15522 VCC_COORE	TP16079 VCCP
TP15873 HP_OUT_L	TP15794 CB3_CTRD2*	TP15687 CB3_CAD(18)	TP15459 PC13_AD(20)	TP15411 MCH3_CFG(29)	TP15523 VCC_COORE	TP16080 VCCP
TP15874 HP_OUT_R	TP15795 CB3_VPPEN0	TP15688 CB3_CAD(19)	TP15460 PC13_AD(21)	TP15412 MCH3_CFG(30)	TP15524 VCC_COORE	TP16081 GROUND
TP15875 IDE_CS1*	TP15796 CB3_VPPEN1	TP15689 CB3_CAD(20)	TP15461 PC13_AD(22)	TP15413 MCH3_CFG(31)	TP15525 VCC_COORE	TP16082 GROUND
TP15876 IDE_CS3*	TP15797 CLK3_SATA*	TP15690 CB3_CAD(21)	TP15462 PC13_AD(23)	TP15414 MCH3_CFG(32)	TP15526 VCC_COORE	TP16083 GROUND
TP15877 IDE_D(0)	TP15798 CLK3_CHD#	TP15691 CB3_CAD(22)	TP15463 PC13_AD(24)	TP15415 MCH3_CFG(33)	TP15527 VCC_COORE	TP16084 GROUND
TP15878 IDE_D(1)	TP15799 CLK3_USB4#	TP15692 CB3_CAD(23)	TP15464 PC13_AD(25)	TP15416 MCH3_CFG(34)	TP15528 VCC_COORE	TP16085 GROUND
TP15879 IDE_D(2)	TP15790 CPU1_A20M*	TP15693 CB3_CAD(24)	TP15465 PC13_AD(26)	TP15417 MCH3_CFG(35)	TP15529 VCC_COORE	TP16086 GROUND
TP15880 IDE_D(3)	TP15764 CPU1_BSEL0	TP15694 CB3_CAD(25)	TP15466 PC13_AD(27)	TP15418 MCH3_CFG(36)	TP15530 VCC_COORE	TP16087 GROUND
TP15881 IDE_D(4)	TP15765 CPU1_BSEL1	TP15695 CB3_CAD(26)	TP15467 PC13_AD(28)	TP15419 MCH3_CFG(37)	TP15531 VCC_COORE	TP16088 P3.3V_AUX
TP15882 IDE_D(5)	TP15766 CPU1_BSEL2	TP15696 CB3_CAD(27)	TP15468 PC13_AD(29)	TP15420 MCH3_CFG(38)	TP15532 VCC_COORE	TP16089 P3.3V_AUX
TP15831 IDE_D(6)	TP15725 CPU1_DPWR*	TP15697 CB3_CAD(28)	TP15469 PC13_AD(30)	TP15421 MCH3_CFG(39)	TP15533 VCC_COORE	TP16090 P3.3V_AUX
TP15832 IDE_D(7)	TP15727 CPU1_FERR*	TP15698 CB3_CAD(29)	TP15470 PC13_AD(31)	TP15422 MCH3_CFG(40)	TP15534 VCC_COORE	TP16091 P3.3V_AUX
TP15833 IDE_D(8)	TP15729 CPU1_INIT*	TP15699 CB3_CAD(30)	TP15471 PC13_AD(32)	TP15423 MCH3_CFG(41)	TP15535 VCC_COORE	TP16092 P3.3V_AUX
TP15834 IDE_D(9)	TP15732 EXP3_CPPE*	TP15700 CB3_CAD(31)	TP15472 PC13_AD(33)	TP15424 MCH3_CFG(42)	TP15536 VCC_COORE	TP16093 P3.3V_AUX
TP15835 IDE_D(10)	TP15735 EXP3_INIT*	TP15701 CB3_CAD(32)	TP15473 PC13_AD(34)	TP15425 MCH3_CFG(43)	TP15537 VCC_COORE	TP16094 P3.3V_AUX
TP15836 IDE_IRQ*	TP15734 IDE_PDIAG*	TP15702 CB3_CAD(33)	TP15474 PC13_AD(35)	TP15426 MCH3_CFG(44)	TP15538 VCC_COORE	TP16095 P3.3V_AUX
TP15837 IDE_IOW*	TP15735 KBC3_BLTON	TP15703 CB3_CAD(34)	TP15475 PC13_AD(36)	TP15427 MCH3_CFG(45)	TP15539 VCC_COORE	TP16096 P3.3V_AUX
TP15838 JCK_SENS	TP15736 KBC3_CHEGN	TP15704 CB3_CAD(35)	TP15476 PC13_AD(37)	TP15428 MCH3_CFG(46)	TP15540 VCC_COORE	TP16097 P3.3V_AUX
TP15839 ODD3_PAR	TP15737 KBC3_PWRGD	TP15705 CB3_CAD(36)	TP15477 PC13_AD(38)	TP15429 MCH3_CFG(47)	TP15541 VCC_COORE	TP16098 P3.3V_AUX
TP15840 PC13_PWRON	TP15738 KBC3_PWRON	TP15706 CB3_CAD(37)	TP15478 PC13_AD(39)	TP15430 MCH3_CFG(48)	TP15542 VCC_COORE	TP16099 P3.3V_AUX
TP15841 SMB3_CLK	TP15743 LAN3_WAKE*	TP15707 CB3_CAD(38)	TP15479 PC13_AD(40)	TP15431 MCH3_CFG(49)	TP15543 VCC_COORE	TP16100 P3.3V_AUX
TP15842 VGA3_RED	TP15745 LDC3_VDDEN*	TP15708 CB3_CAD(39)	TP15480 PC13_AD(41)	TP15432 MCH3_CFG(50)	TP15544 VCC_COORE	TP16101 P3.3V_AUX
TP15843 CB3_CCD1*	TP15750 PC13_AD(0)	TP15709 CB3_CAD(40)	TP15481 PC13_AD(42)	TP15433 MCH3_CFG(51)	TP15545 VCC_COORE	TP16102 P3.3V_AUX
TP15844 CB3_CCD2*	TP15751 PC13_AD(1)	TP15710 CB3_CAD(41)	TP15482 PC13_AD(43)	TP15434 MCH3_CFG(52)	TP15546 VCC_COORE	TP16103 P3.3V_AUX
TP15845 CB3_CGNT*	TP15752 PC13_AD(2)	TP15711 CB3_CAD(42)	TP15483 PC13_AD(44)	TP15435 MCH3_CFG(53)	TP15547 VCC_COORE	TP16104 P3.3V_AUX
TP15846 CB3_CINT*	TP15753 PC13_AD(3)	TP15712 CB3_CAD(43)	TP15484 PC13_AD(45)	TP15436 MCH3_CFG(54)	TP15548 VCC_COORE	TP16105 P3.3V_AUX
TP15847 CB3_CREQ*	TP15754 PC13_AD(4)	TP15713 CB3_CAD(44)	TP15485 PC13_AD(46)	TP15437 MCH3_CFG(55)	TP15549 VCC_COORE	TP16106 P3.3V_AUX
TP15848 CB3_CRST*	TP15755 PC13_AD(5)	TP15714 CB3_CAD(45)	TP15486 PC13_AD(47)	TP15438 MCH3_CFG(56)	TP15550 VCC_COORE	TP16107 P3.3V_AUX
TP15849 CHP3_PME*	TP15756 PC13_AD(6)	TP15715 CB3_CAD(46)	TP15487 PC13_AD(48)	TP15439 MCH3_CFG(57)	TP15551 VCC_COORE	TP16108 P3.3V_AUX
TP15850 CHP3_SPKR	TP15757 PC13_AD(7)	TP15716 CB3_CAD(47)	TP15488 PC13_AD(49)	TP15440 MCH3_CFG(58)	TP15552 VCC_COORE	TP16109 P3.3V_AUX
TP15851 CLK1_SATA	TP15697 PC13_AD(8)	TP15717 CB3_CAD(48)	TP15489 PC13_AD(50)	TP15441 MCH3_CFG(59)	TP15553 VCC_COORE	TP16110 P3.3V_AUX
TP15816 CLK3_FM48	TP15698 PC13_AD(9)	TP15718 CB3_CAD(49)	TP15490 PC13_AD(51)	TP15442 MCH3_CFG(60)	TP15554 VCC_COORE	TP16111 P3.3V_AUX
TP15827 HDD3_LED*	TP15699 PC13_CBE0*	TP15719 CB3_CAD(50)	TP15491 PC13_AD(52)	TP15443 MCH3_CFG(61)	TP15555 VCC_COORE	TP16112 P3.3V_AUX
TP15828 HP_DETECT	TP15700 PC13_CBE1*	TP15720 CB3_CAD(51)	TP15492 PC13_AD(53)	TP15444 MCH3_CFG(62)	TP15556 VCC_COORE	TP16113 P3.3V_AUX
TP15829 IDE_D(10)	TP15701 PC13_CBE2*	TP15721 CB3_CAD(52)	TP15493 PC13_AD(54)	TP15445 MCH3_CFG(63)	TP15557 VCC_COORE	TP16114 P3.3V_AUX
TP15799 IDE_D(11)	TP15702 PC13_CBE3*	TP15722 CB3_CAD(53)	TP15494 PC13_AD(55)	TP15446 MCH3_CFG(64)	TP15558 VCC_COORE	TP16115 P3.3V_AUX
TP15800 IDE_D(12)	TP15703 PC13_GNT0*	TP15723 CB3_CAD(54)	TP15495 PC13_AD(56)	TP15447 MCH3_CFG(65)	TP15559 VCC_COORE	TP16116 P3.3V_AUX
TP15801 IDE_D(13)	TP15704 PC13_GNT1*	TP15724 CB3_CAD(55)	TP15496 PC13_AD(57)	TP15448 MCH3_CFG(66)	TP15560 VCC_COORE	TP16117 P3.3V_AUX
TP15802 IDE_D(14)	TP15705 PC13_INTA*	TP15725 CB3_CAD(56)	TP15497 PC13_AD(58)	TP15449 MCH3_CFG(67)	TP15561 VCC_COORE	TP16118 P3.3V_AUX
TP15803 IDE_D(15)	TP15706 PC13_INTB*	TP15726 CB3_CAD(57)	TP15498 PC13_AD(59)	TP15450 MCH3_CFG(68)	TP15562 VCC_COORE	TP16119 P3.3V_AUX
TP15804 IDE_DACK*	TP15707 PC13_INTC*	TP15727 CB3_CAD(58)	TP15499 PC13_AD(60)	TP15451 MCH3_CFG(69)	TP15563 VCC_COORE	TP16120 P3.3V_AUX
TP15805 IDE_DASP*	TP15708 PC13_INTD*	TP15728 CB3_CAD(59)	TP15500 PC13_AD(61)	TP15452 MCH3_CFG(70)	TP15564 VCC_COORE	TP16121 P3.3V_AUX
TP15806 IDE_IRQ#*	TP15709 PC13_INTF*	TP15729 CB3_CAD(60)	TP15501 PC13_AD(62)	TP15453 MCH3_CFG(71)	TP15565 VCC_COORE	TP16122 P3.3V_AUX
TP15807 KBC3_A20G	TP15710 PC13_INTF*	TP15730 CB3_CAD(61)	TP15502 PC13_AD(63)	TP15454 MCH3_CFG(72)	TP15566 VCC_COORE	TP16123 P3.3V_AUX
TP15808 KBC3_RST*	TP15711 PC13_INTG*	TP15731 CB3_CAD(62)	TP15503 PC13_AD(64)	TP15455 MCH3_CFG(73)	TP15567 VCC_COORE	TP16124 P3.3V_AUX
TP15809 KBC3_VRON	TP15712 PC13_INTH*	TP15732 CB3_CAD(63)	TP15504 PC13_AD(65)	TP15456 MCH3_CFG(74)	TP15568 VCC_COORE	TP16125 P3.3V_AUX
TP15810 LAN3_ACT*	TP15713 PC13_IRDY*	TP15733 CB3_CAD(64)	TP15505 PC13_AD(66)	TP15457 MCH3_CFG(75)	TP15569 VCC_COORE	TP16126 P3.3V_AUX
TP15812 PC13_RST*	TP15714 PC13_PERR*	TP15734 CB3_CAD(65)	TP15506 PC13_AD(67)	TP15458 MCH3_CFG(76)	TP15570 VCC_COORE	TP16127 P3.3V_AUX
TP15813 PLT3_RST*	TP15715 PC13_REQ0*	TP15735 CB3_CAD(66)	TP15507 PC13_AD(68)	TP15459 MCH3_CFG(77)	TP15571 VCC_COORE	TP16128 P3.3V_AUX
TP15820 CPU1_INTR	TP15716 PC13_REQ1*	TP15736 CB3_CAD(67)	TP15508 PC13_AD(69)	TP15460 MCH3_CFG(78)	TP15572 VCC_COORE	TP16129 P3.3V_AUX
TP15821 CPU1_PSI*	TP15717 PC13_REQ2*	TP15737 CB3_CAD(68)	TP15509 PC13_AD(70)	TP15461 MCH3_CFG(79)	TP15573 VCC_COORE	TP16130 P3.3V_AUX
TP15825 CPU1_SLP*	TP15718 PC13_REQ3*	TP15738 CB3_CAD(69)	TP15510 PC13_AD(71)	TP15462 MCH3_CFG(80)	TP15574 VCC_COORE	TP16131 P3.3V_AUX
TP15826 CPU1_SMI*	TP15719 PC13_SERR*	TP15739 CB3_CAD(70)	TP15511 PC13_AD(72)	TP15463 MCH3_CFG(81)	TP15575 VCC_COORE	TP16132 P3.3V_AUX
TP15767 SMB3_DATA	TP15720 PC13_STOP*	TP15740 CB3_CAD(71)	TP15512 PC13_AD(73)	TP15464 MCH3_CFG(82)	TP15576 VCC_COORE	TP16133 P3.3V_AUX
TP15768 VGA3_BLUE	TP15721 PC13_TRDY*	TP15741 CB3_CAD(72)	TP15513 PC13_AD(74)	TP15465 MCH3_CFG(83)	TP15577 VCC_COORE	TP16134 P3.3V_AUX

DRAW	ZHOU JUN	DATE	TITLE	TORINO MAIN TEST POINT(1)	SAMSUNG ELECTRONICS
CHECK	GUO LEI	DEV_STEP	MP		
APPROVAL	KEVIN LEE	REV	1.0		
MODULE CODE		LAST EDIT			
					PART NO. BA41-00602A/3A
					PAGE 49 OF 50

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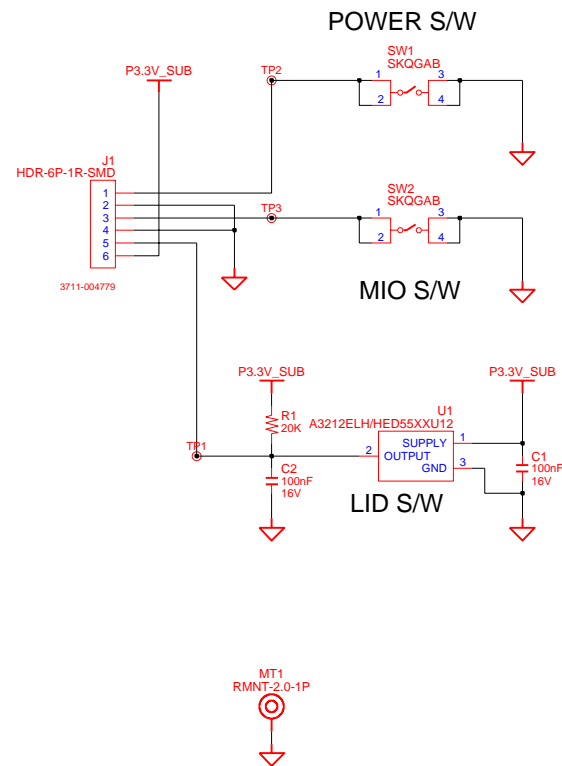
ON-TOP BOARD

CPU : Intel YONAH
 Chip Set : Intel 945GM & ICH7-M
 Remarks : ON TOP BOARD

Model Name : TORINO
 PBA Name : On-Top
 PCB Code : BA59-01851A
 Dev. Step : MP
 Revision : 1.0
 T.R. Date : 2006.1.5

DRAW	CHECK	APPROVAL

ON TOP BOARD



DRAW	ZHOU, JUN	DATE		TITLE	TORINO	SAMSUNG ELECTRONICS
CHECK	GUO, LEI	DEV. STEP	MP	ON TOP		
APPROVAL	LEE, KEVIN	REV	1.0	ON TOP		PART NO. BA59-01851A
MODULE CODE		LAST EDIT				PAGE 1 OF 1