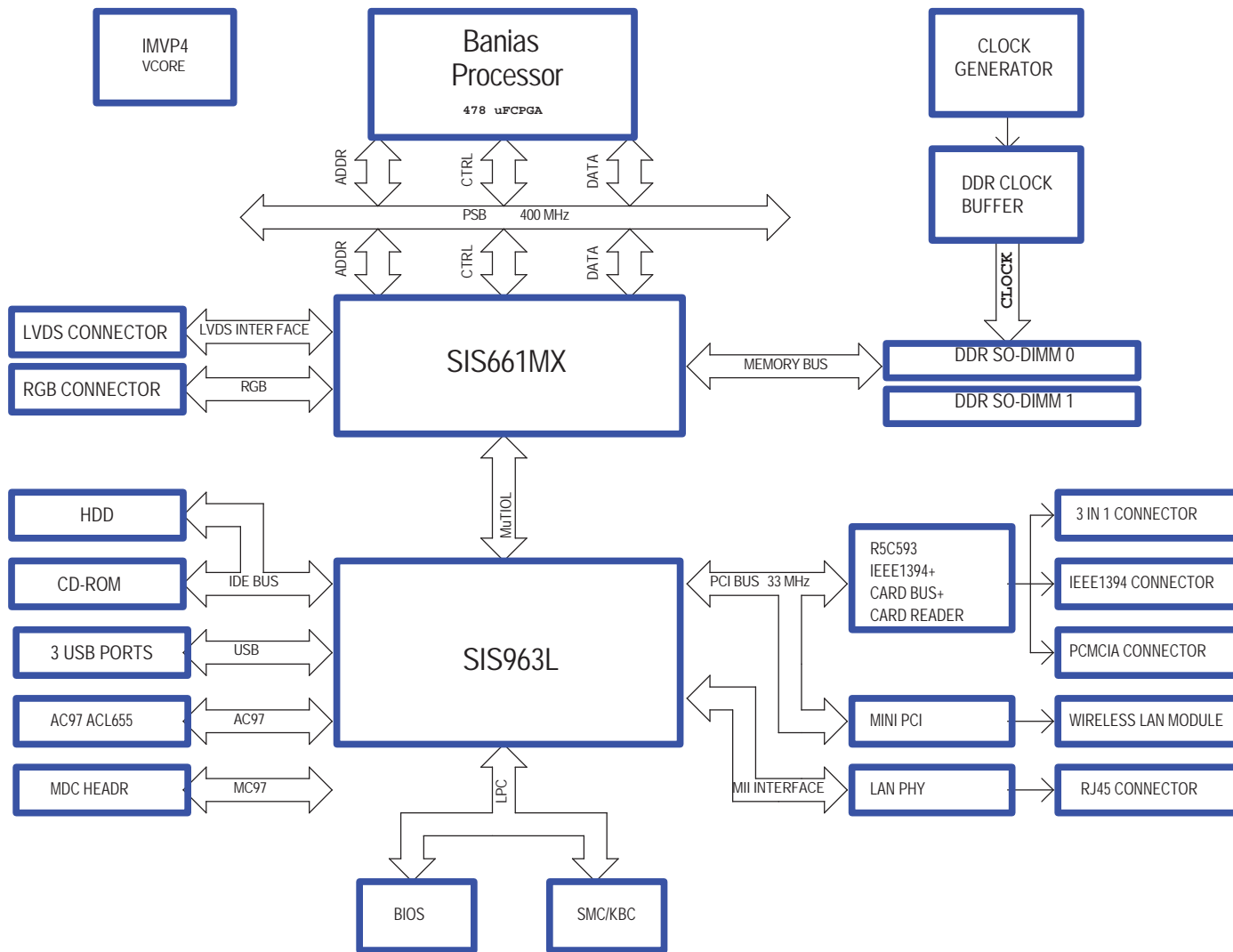


MS-1006 Schematics

Revision : R11A



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SYSTEM DEVICE POWER MAP

	S0				S3		S4/S5		S6
CPU	+VCORE	+VCCP_CPU	+V1.8						
SIS661MX	+VCCP_NB	+V1.8	+V3.3	+V3.3S	+V3.3S	+V2.5S_MEM	+V3.3ALWAYS		
	+V2.5S_MEM								
SIS963L	+V1.8	+V3.3	+V3.3S	+V1.8S	+V3.3S	+V1.8S	+V3.3ALWAYS	+V1.8ALWAYS	
	+VCCP								
CLK GEN.	+V3.3								
CLK BUFFER	+V2.5								
DIMM	+V2.5S_MEM				+V2.5S_MEM				
LVDS	+V3.3	+V5							
LAN PHY	+V3.3S	+V3.3S			+V3.3S	+V3.3S	+V3.3ALWAYS		
Mini PCI	+V5	+V3.3	+V3.3S		+V3.3S				
CARD BUS	+V3.3S	+V5S			+V3.3S	+V5S			
IEEE1394	+V3.3	+V2.5S	+V3.3S		+V2.5S	+V3.3S			
CARD READER	+V3.3S				+V3.3S				
HDD	+V5								
CDROM	+V5								
KBC	+V3.3S	+V3.3	+V3.3S	+V5	+V3.3S		+V3.3ALWAYS		
MDC	+V3.3S	+V3.3	+V5		+V3.3S				
HW MONITOR	+VCORE	+V2.5S	+V12	+V5	+V2.5S				
	+V3.3								
USB	+V5	+V3.3							
BIOS	+V3.3								
AUDIO	+V5_AUDIO	+V3.3							
DDR TERMINAL	+V1.25_VTT								
VDD_VID	+V1.2								

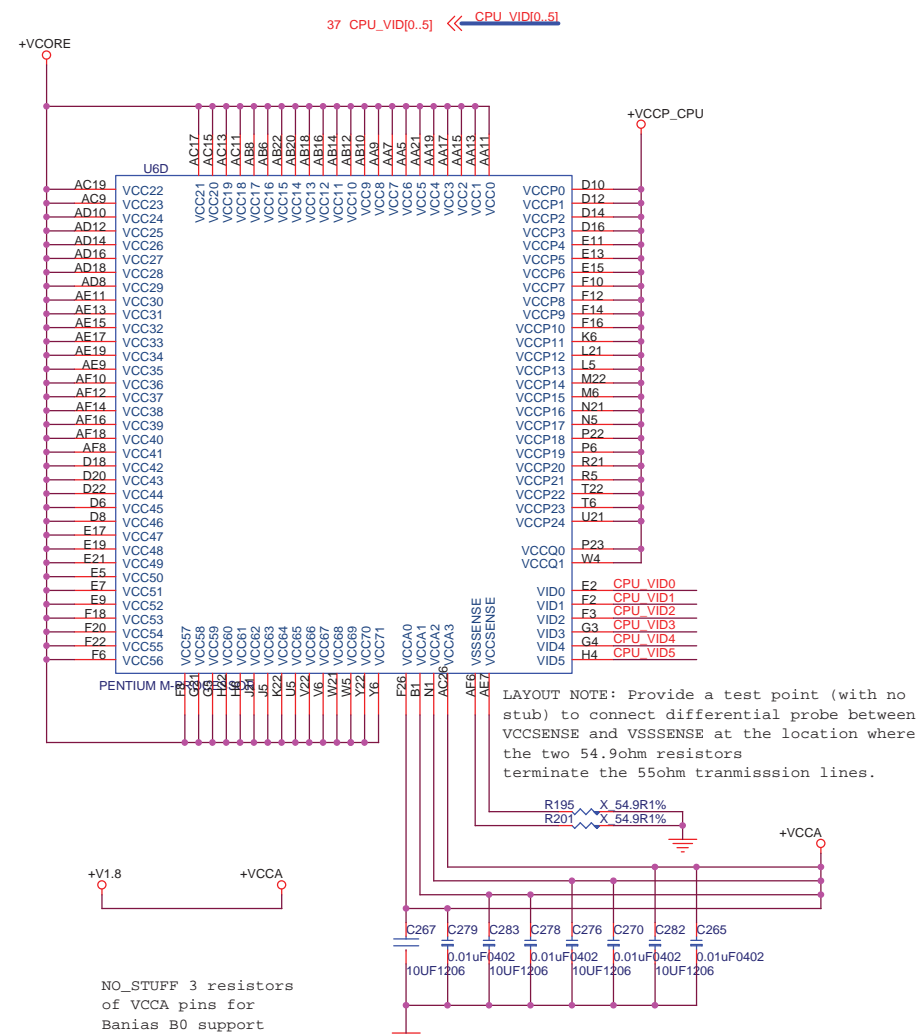
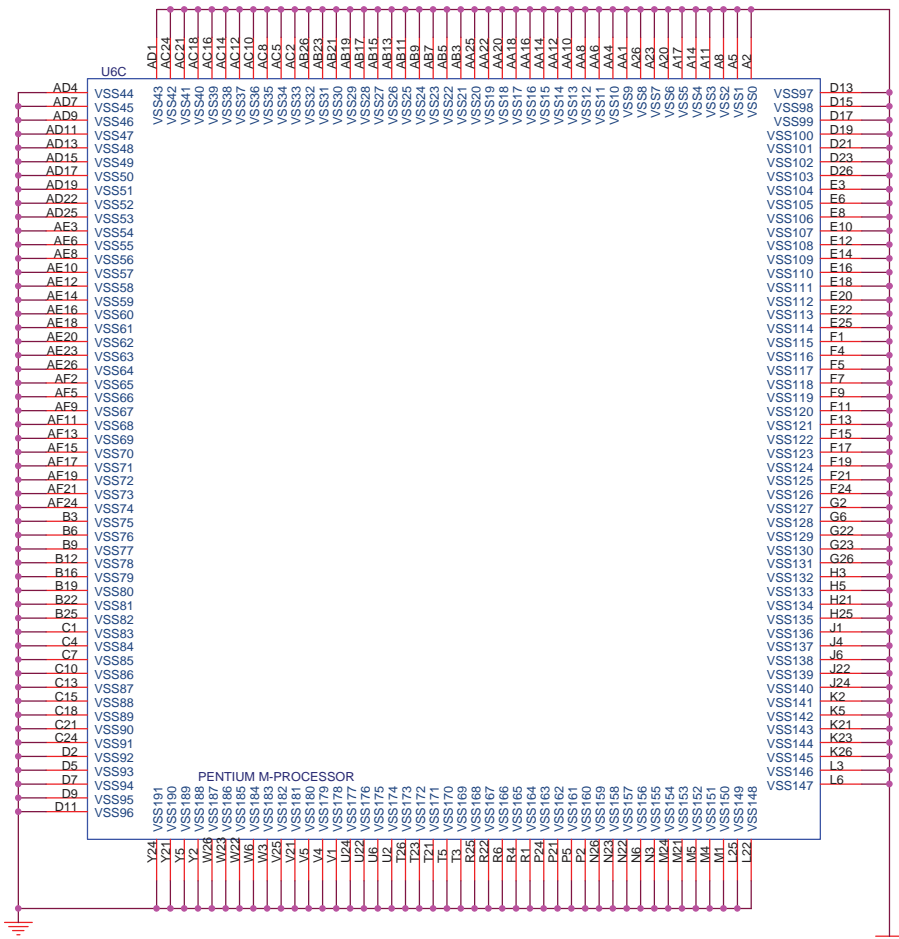
State	Power Rails
S6	RTCVD
S4/S5	+V3.3ALWAYS +V1.8ALWAYS
S3	+V2.5S_MEM +V2.5S +V3.3S
S0	+VCORE +V1.25_VTT +V2.5 +V5 +V1.8 +V3.3 +V12 +VCCP +V1.25_VTT +V5_AUDIO

POWER STATE

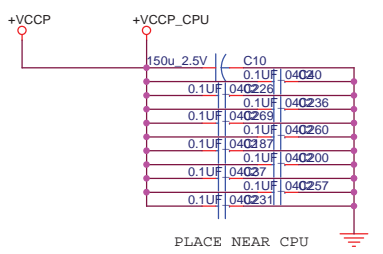
STATE	SIGNAL	SLP_S5#	SLP_S3#	+V*ALWAYS	+V*S	+V*	Clocks
FULL ON		HIGH	HIGH	ON	ON	ON	ON
S3 State		HIGH	LOW	ON	ON	OFF	OFF
S4/S5 State		LOW	LOW	ON	OFF	OFF	OFF

POWER Rails

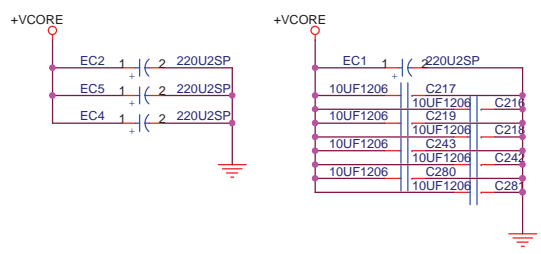
+VCORE	Core voltage for processor
+VCCP	1.05V rail for processor PSB, Montara-G PSB
+V1.8	1.8V for processor PLL and VID circuitry(off in S3~S5)
+V1.25_VTT	1.25V DDR Termination voltage(off in S3~S5)
+V1.2	1.25V DDR Termination voltage(off in S3~S5)
+V1.8S	1.8V power rail(off in S4~S5)
+V1.8ALWAYS	1.8V always on power rail
+V2.5S_MEM	2.5V power rail for DDR(off in S4~S5)
+V2.5S	2.5V power rail(off in S4~S5)
+V2.5	2.5V power rail(off in S3~S5)
+V3.3ALWAYS	3.3V always on power rail
+V3.3S	3.3V power rail(off in S4~S5)
+V3.3	3.3V switched power rail(off in S3~S5)
+V5S	5.0V power rail(off in S4~S5)
+V5	5.0V switched power rail(off in S3~S5)
+V12	12.0V switched power rail(off in S3~S5)

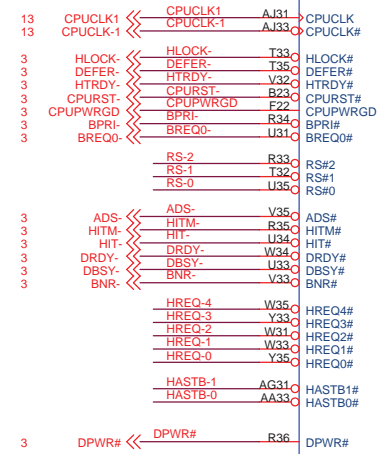
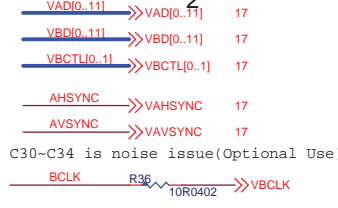
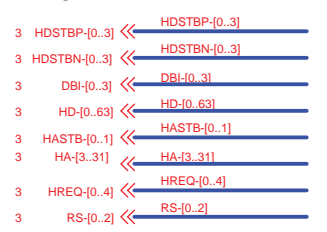


VCCP Decoupling

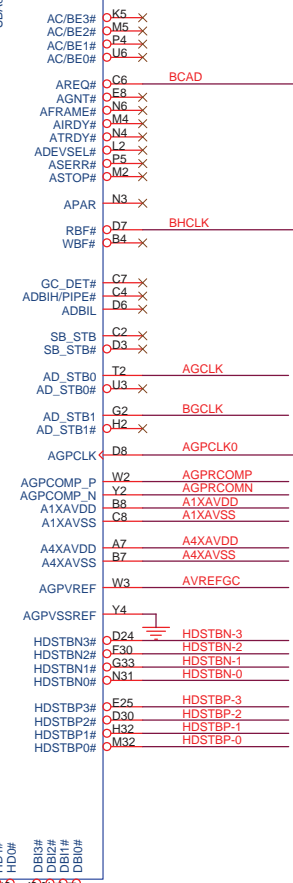


VCore HF and Bulk Decoupling

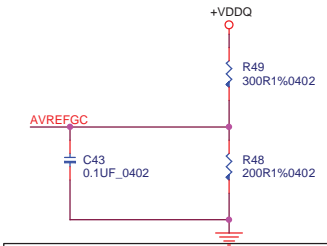
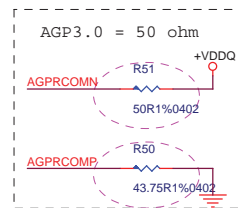
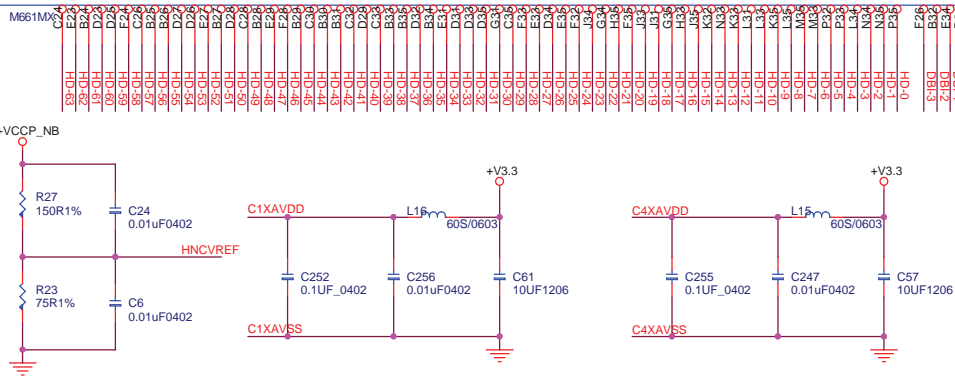
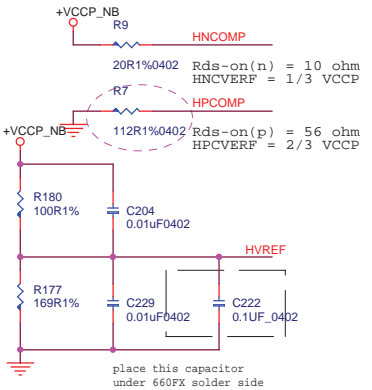
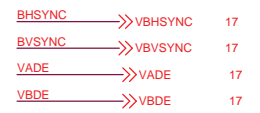
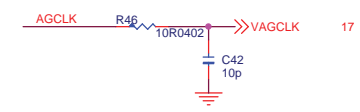
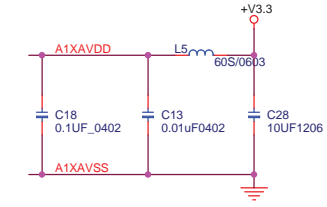
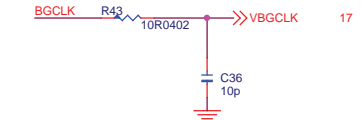
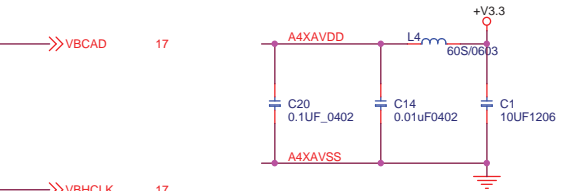




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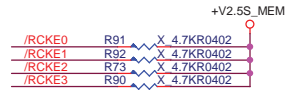


Host Bus Interface

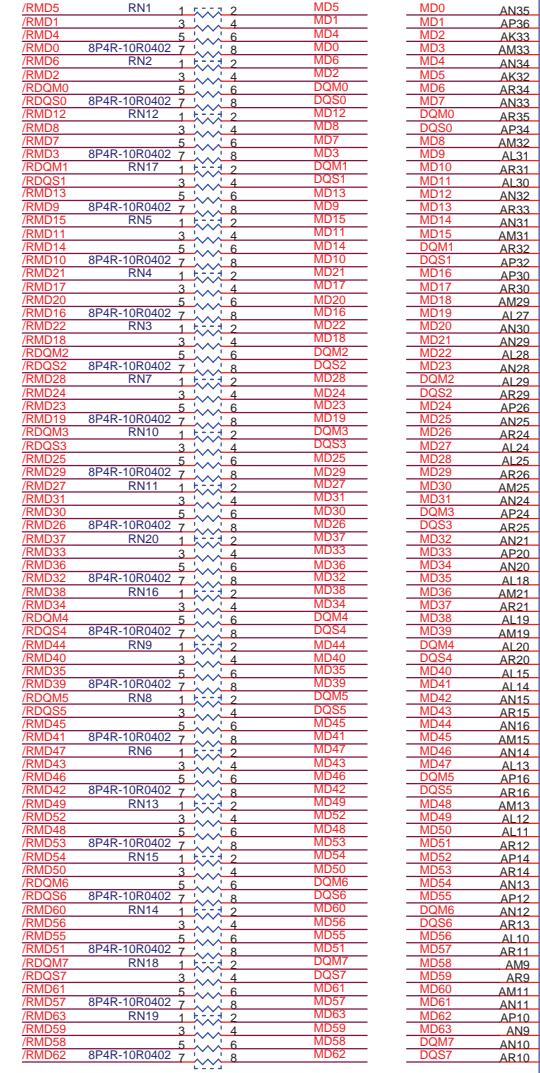


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- /RMD[0..63] << /RMD[0..63] 15,16
- /RDOM[0..7] << /RDOM[0..7] 15,16
- /RDOS[0..7] << /RDOS[0..7] 15,16
- /RMA[0..15] << /RMA[0..15] 15,16
- /RCS[0..3] << /RCS[0..3] 15,16
- /RCKE[0..3] << /RCKE[0..3] 15,16

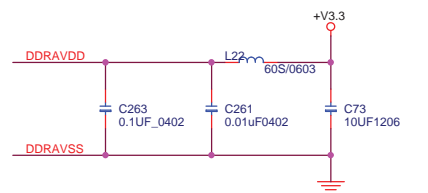
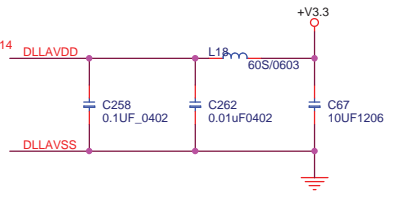
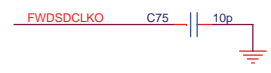
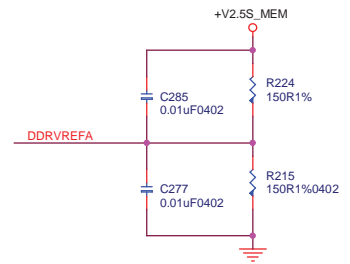
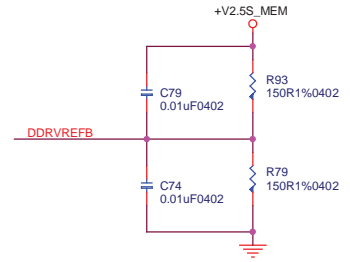
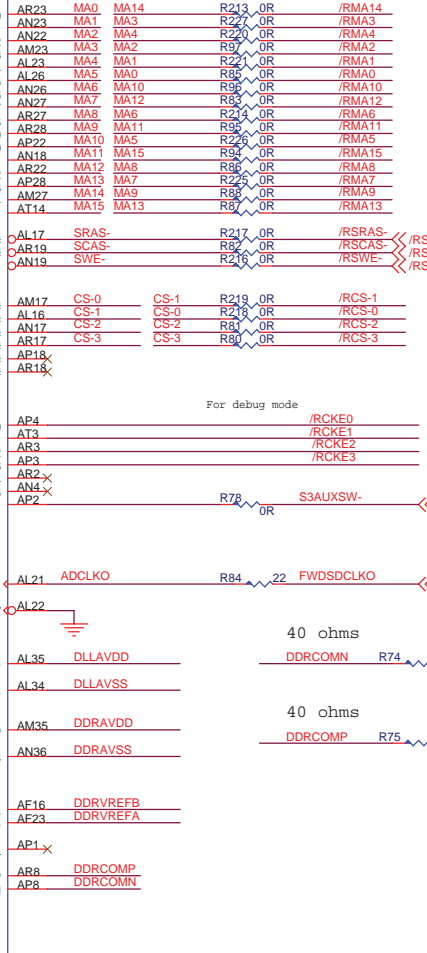


Rs place close to DIMM1



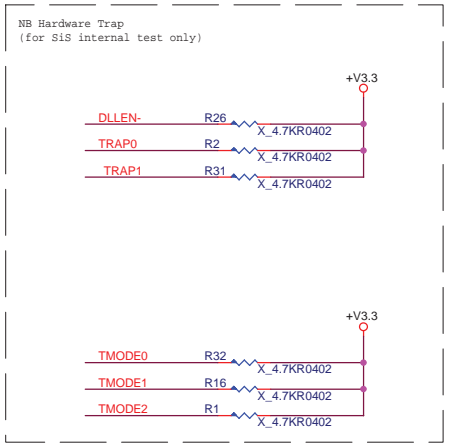
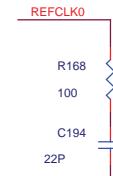
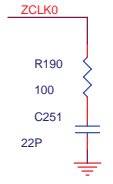
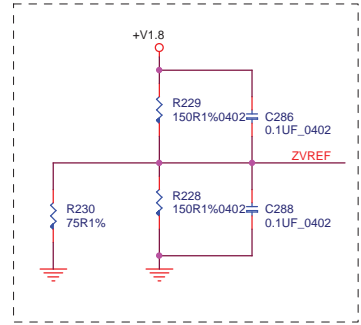
M661MX-2

DRAM Controller

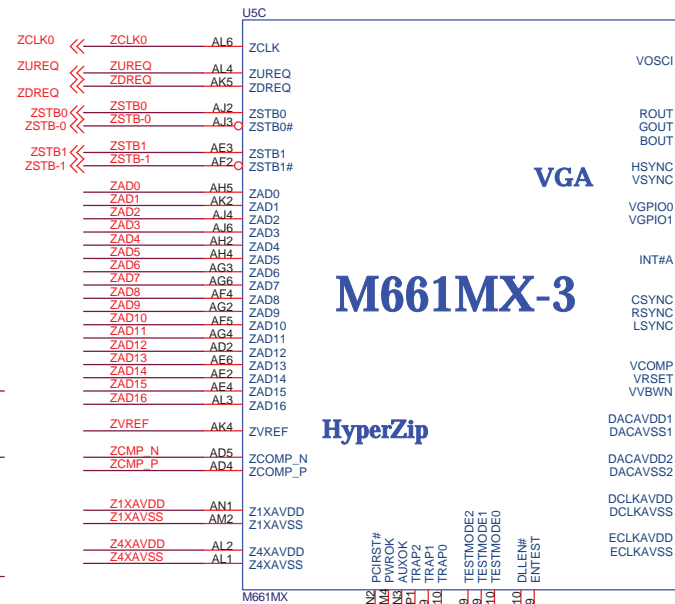
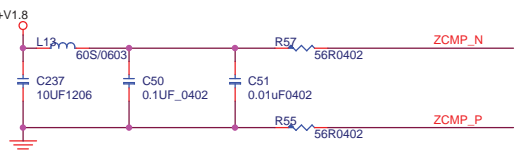
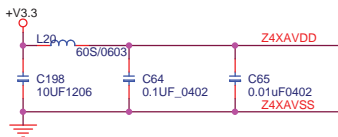
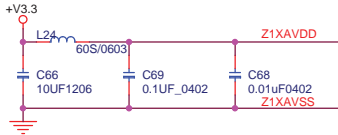


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Title M661MX-2 (MEMORY for DDR)		
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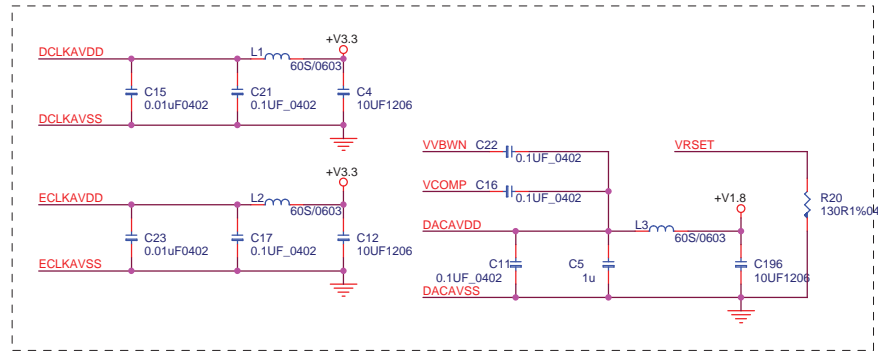
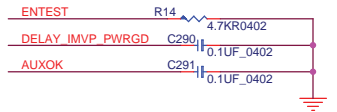
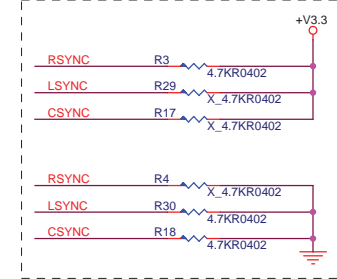
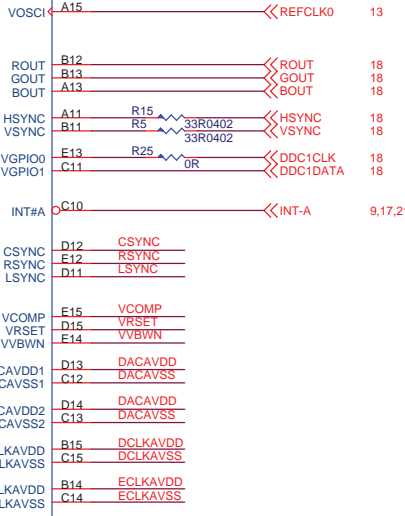
9 ZAD[0..16] ← ZAD[0..16]

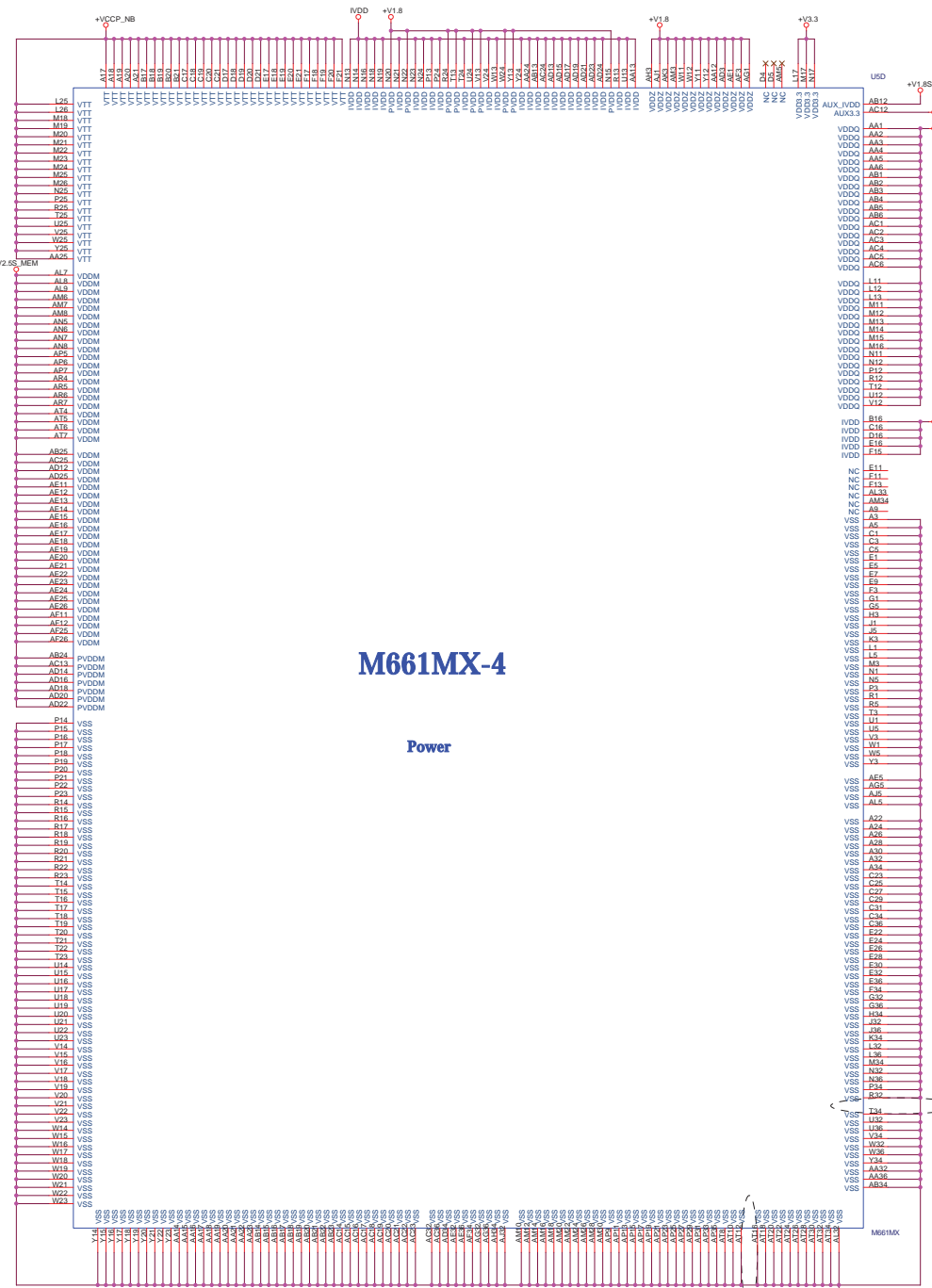


		Enable	Disable
RSYNC	VGA	1	0
LSYNC	panel link	1	0
CSYNC	VB	1	0



9,20,21 PCI_RST-
10,30,37 DELAY_IMVP_PWRGD
10,27 AUXOK



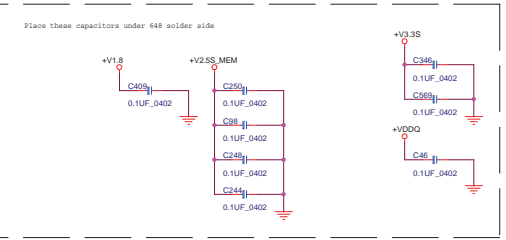
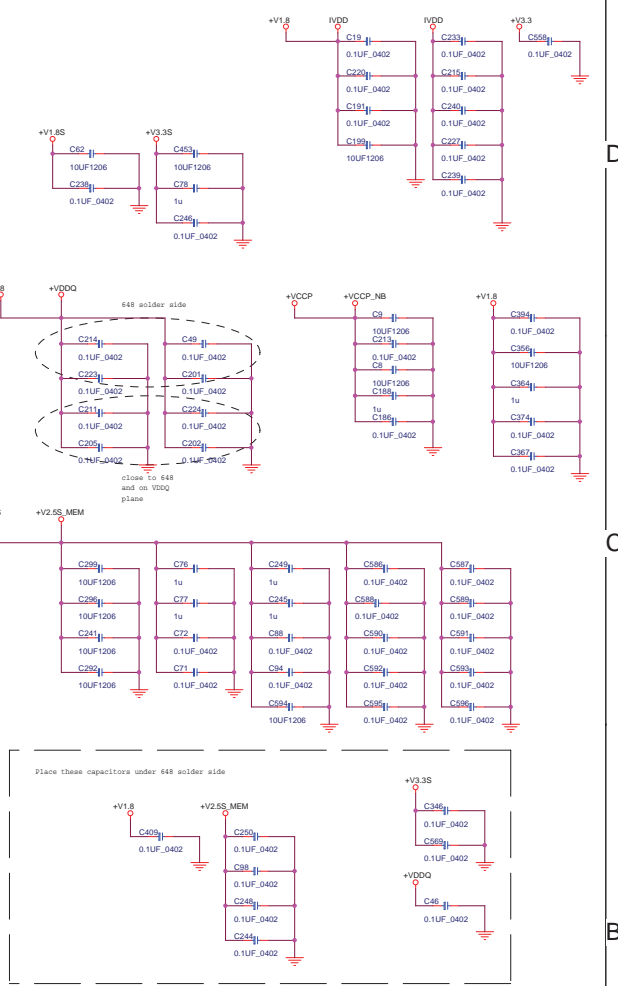


M661MX-4

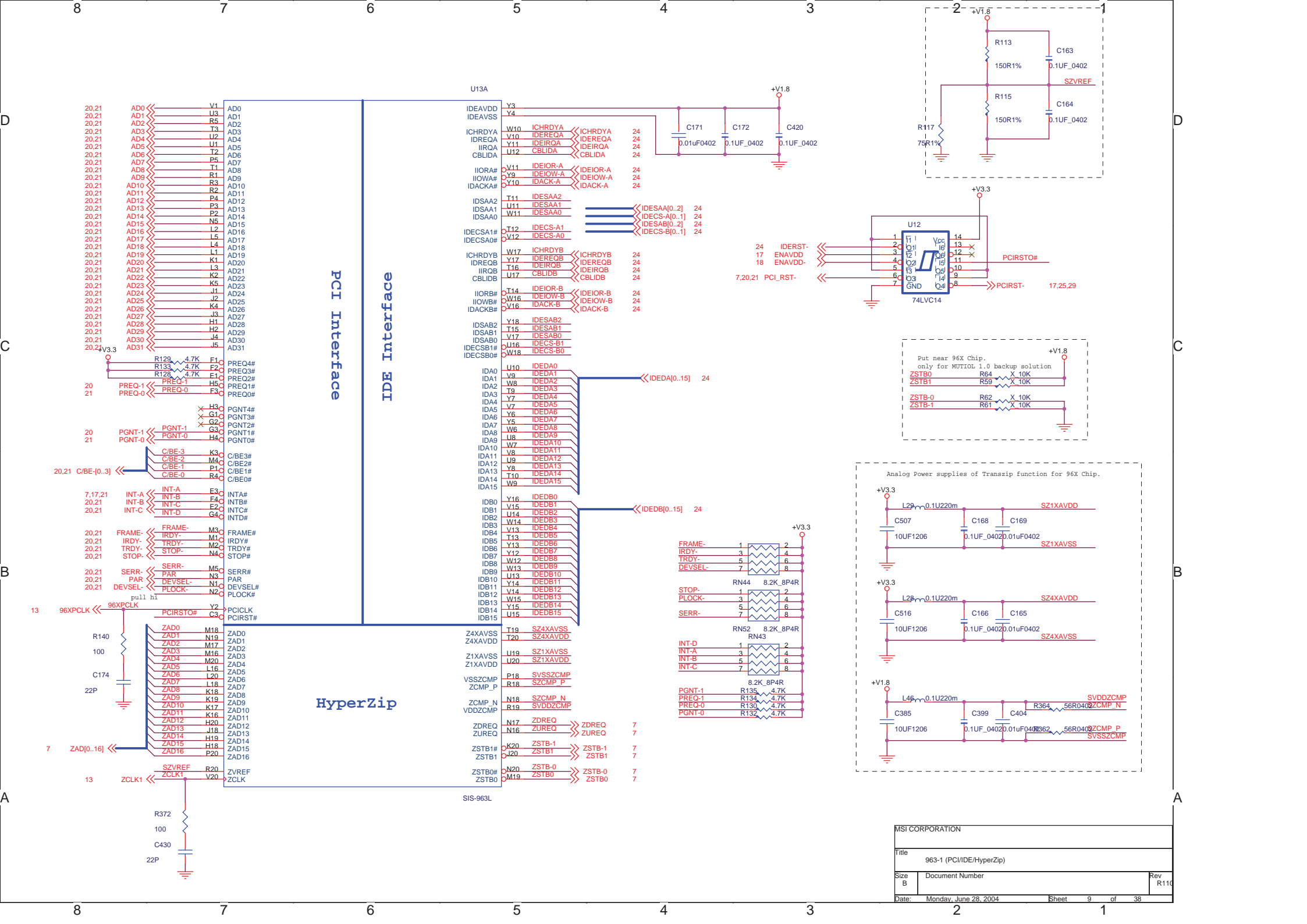
Power

change to DPWR#

change to M615



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PCI Interface

IDE Interface

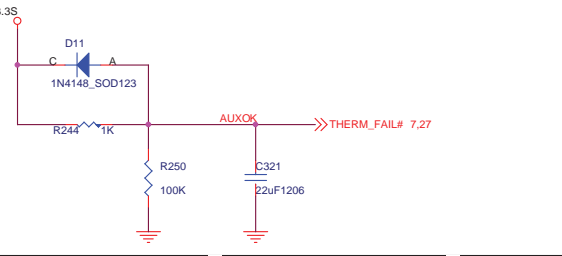
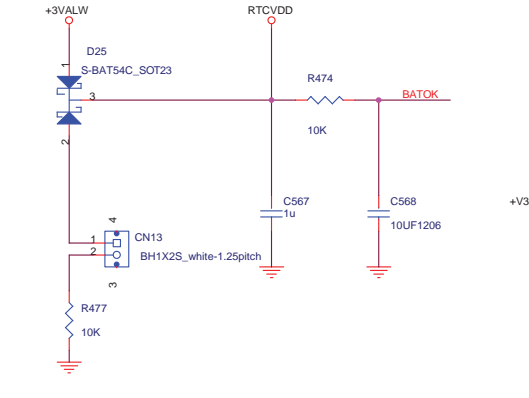
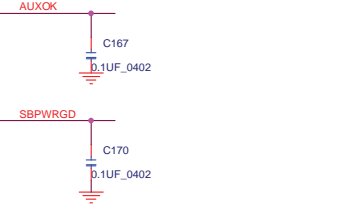
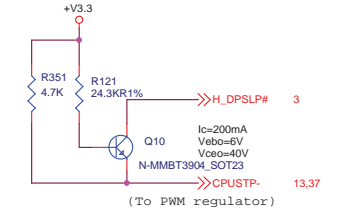
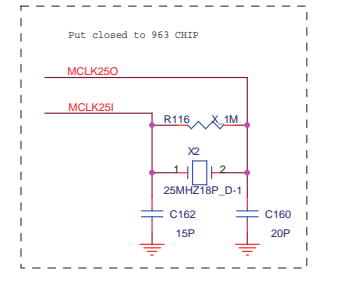
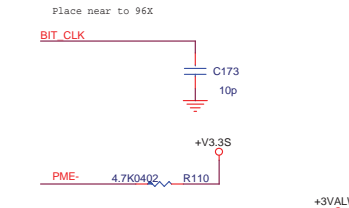
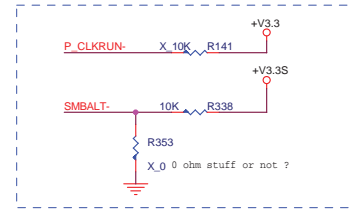
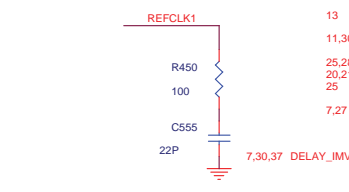
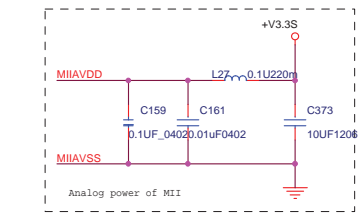
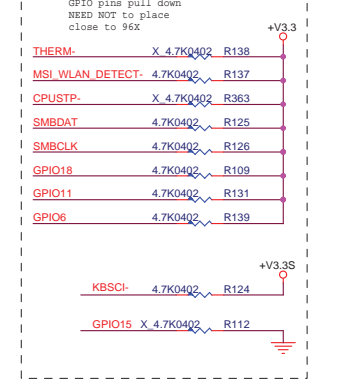
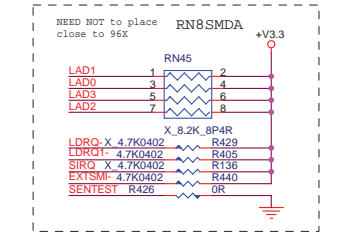
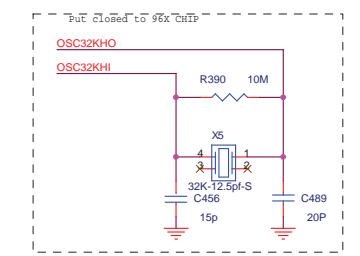
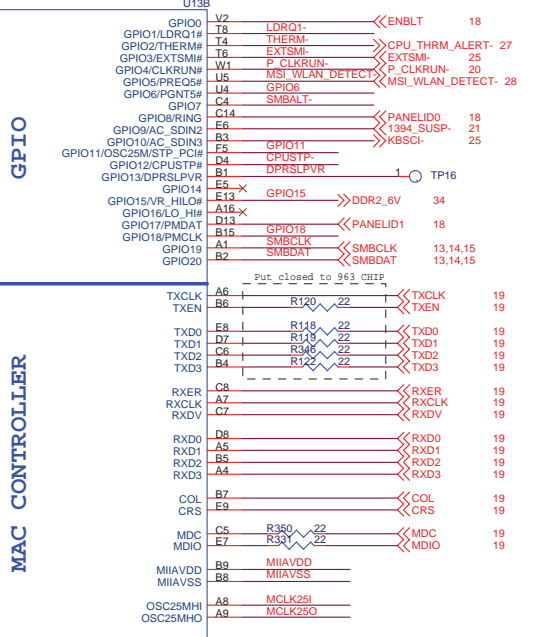
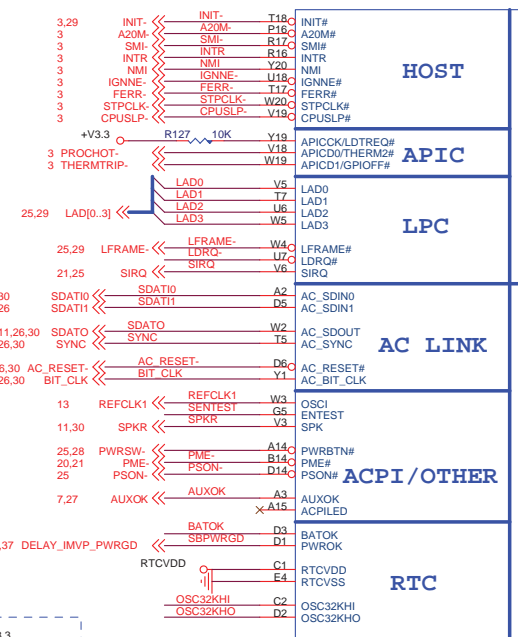
HyperZip

U13A

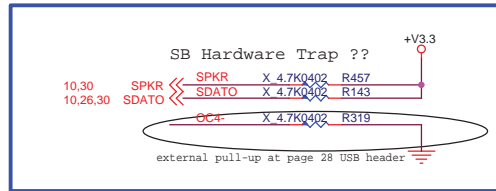
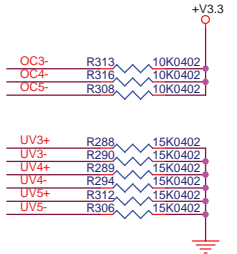
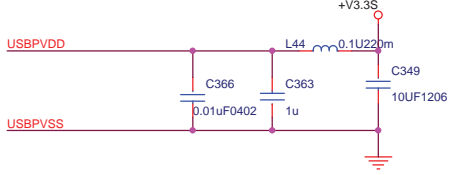
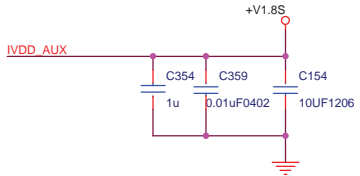
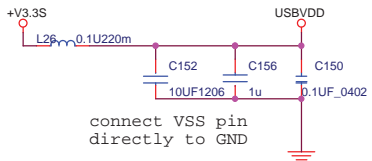
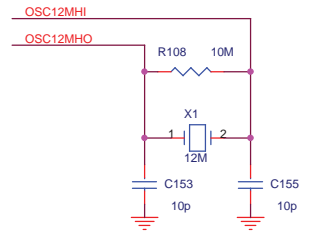
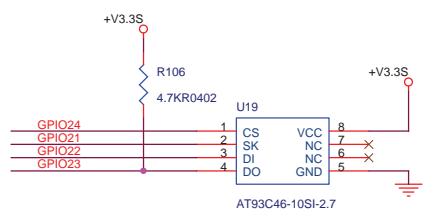
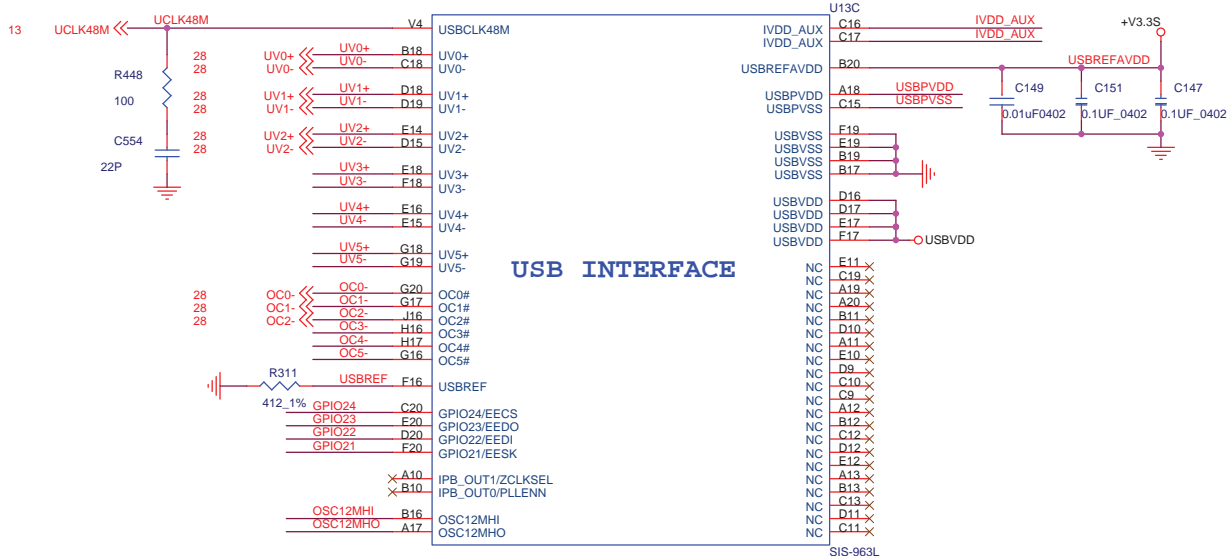
SIS-963L

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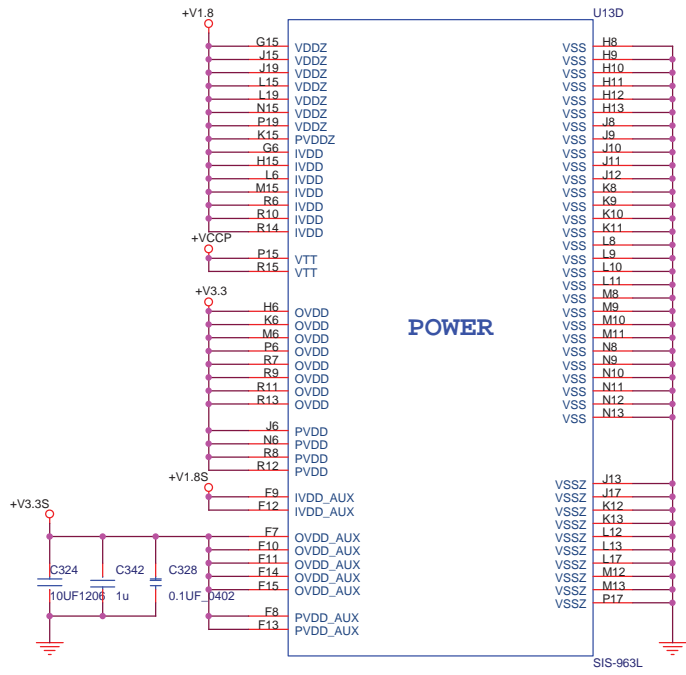
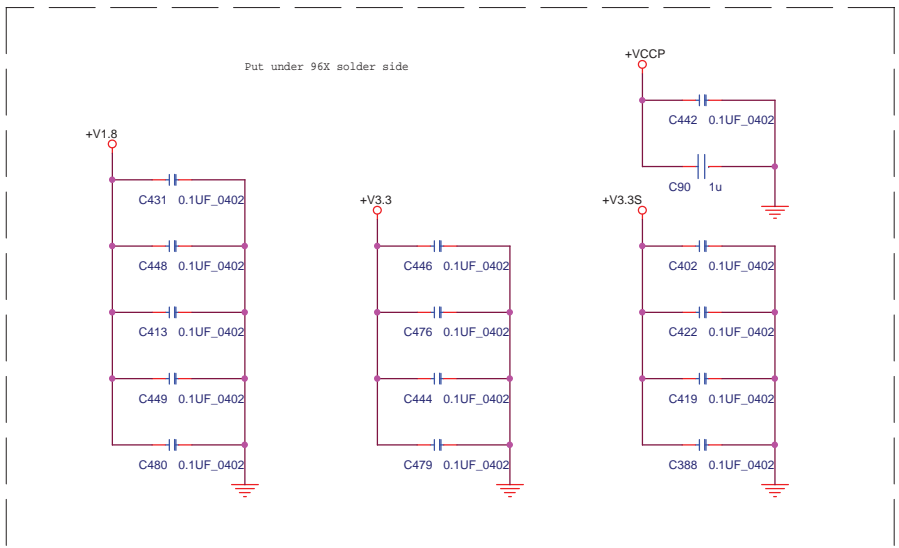
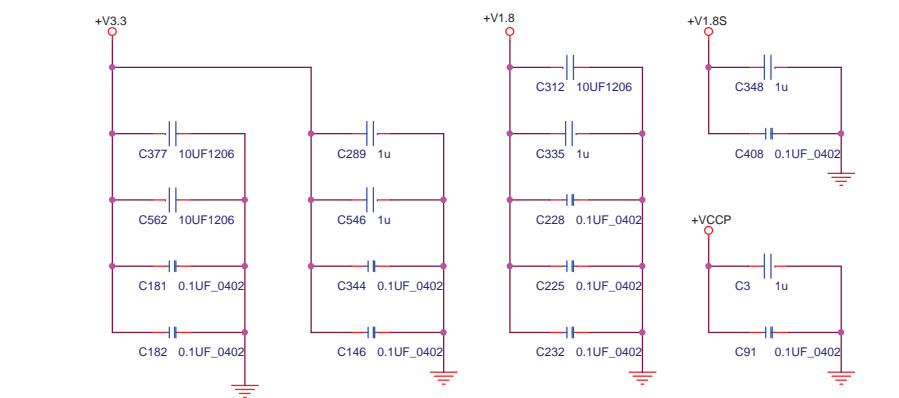
Programable on-die pull-up strength for CPU_S:
(Infinite, 150, 110, 56 Ohm)



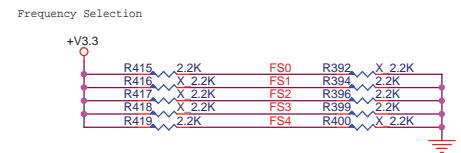
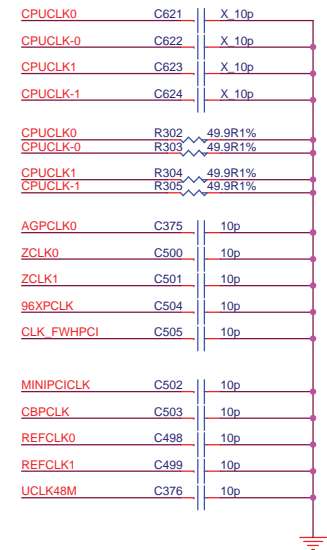
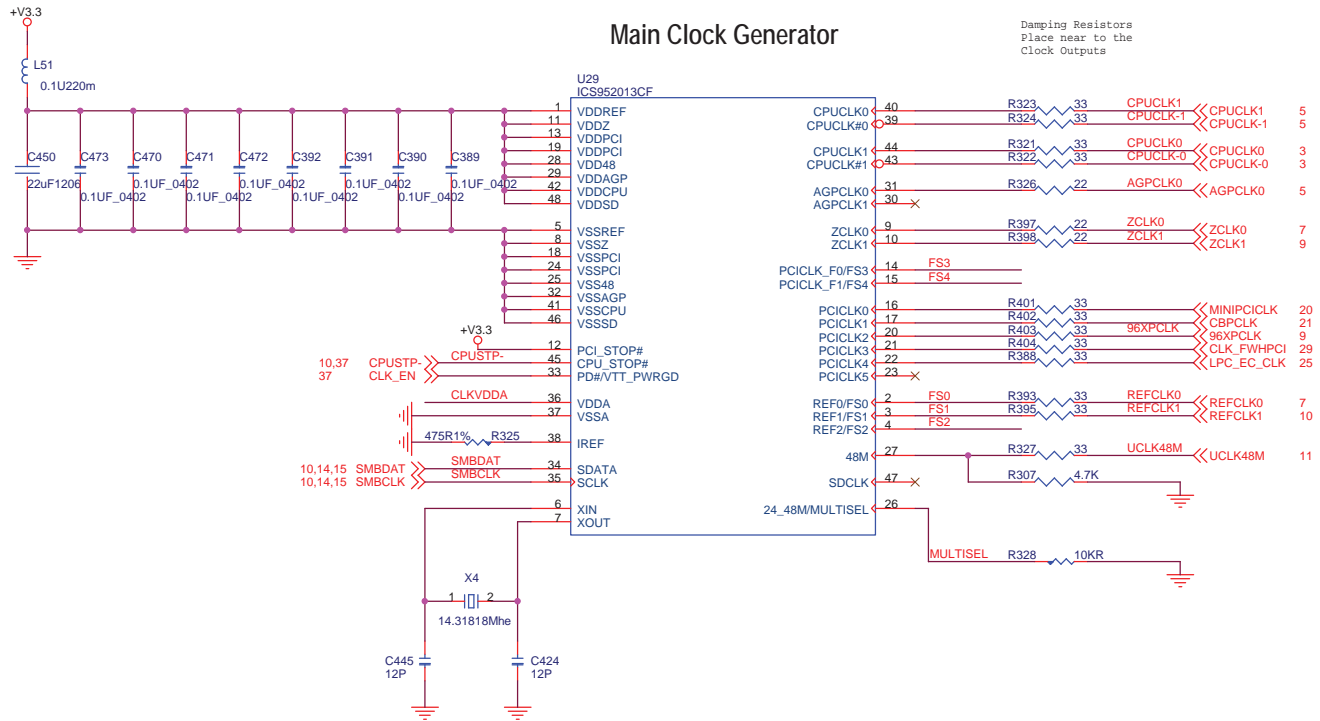
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Title	963-2 (LPC/MII/GPIO)		
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	0	1	Default	internal pull-low (30-50K Ohm)
SPKR(LPC addr mapping)	disable	enable	R169 un-stuff	yes
SDATO(Trap from)	ROM	PCI AD	R170 un-stuff	yes
OC4- (SB debug mode)	enable	disable	R171 un-stuff	NO
SYNC(PCICLK PLL)	enable	disable	NONE	yes



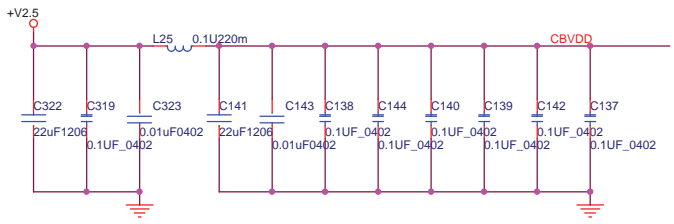
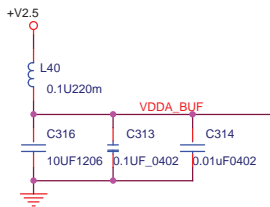
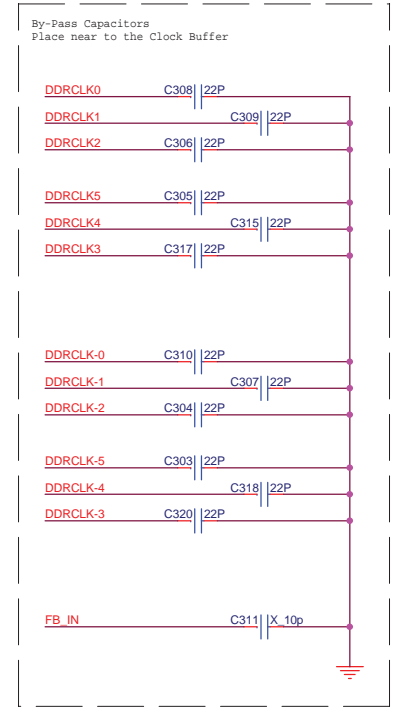
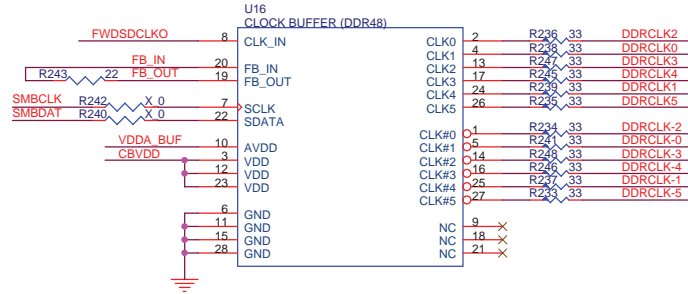
MSI CORPORATION		
Title: 963-4 (Powers)		
Size: B	Document Number:	Rev: R110
Date: Monday, June 28, 2004	Sheet: 12	of 38



FS4	FS3	FS2	FS1	FS0	CPU	SDRAM	ZCLK	PCI
1	0	0	0	0	100	100	66	33
1	0	0	0	1	100	133	66	33
1	0	0	1	0	100	200	66	33
1	0	0	1	1	100	166	66	33
1	0	1	0	0	133	100	66	33
1	0	1	0	1	133	133	66	33
1	0	1	1	0	133	200	66	33
1	0	1	1	1	133	166	66	33
0	0	0	1	0	100	200	133	33
0	0	0	1	1	100	160	133	33
0	0	1	0	0	133	100	133	33
0	0	1	0	1	133	133	133	33
0	0	1	1	0	133	200	133	33
0	0	1	1	1	133	166	133	33

DDRCLK[0..5] << DDRCLK[0..5] 15
 DDRCLK-[0..5] << DDRCLK-[0..5] 15
 SMBCLK << SMBCLK 10,13,15
 SMBDAT << SMBDAT 10,13,15
 FWSDCLKO << FWSDCLKO 6

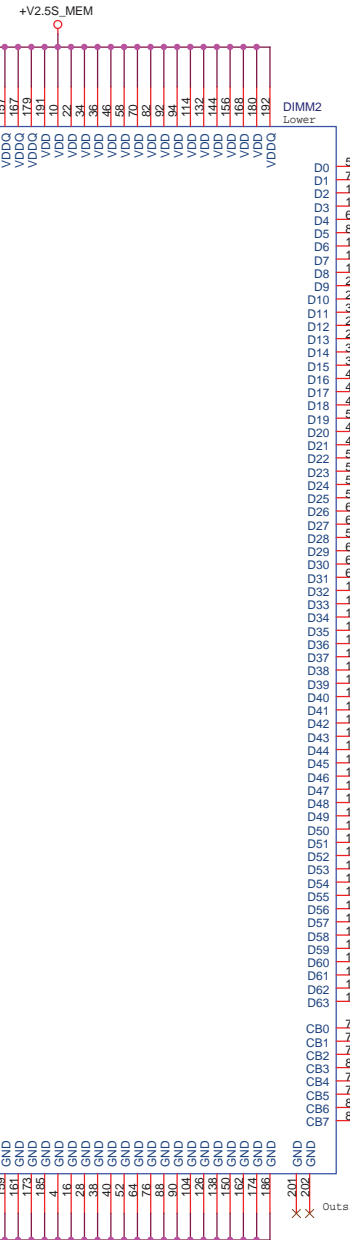
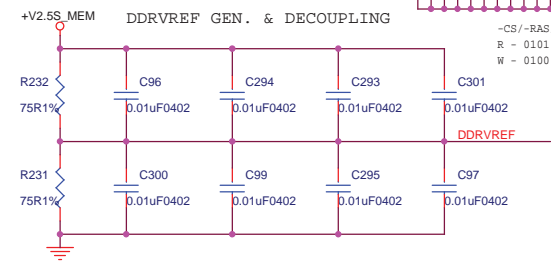
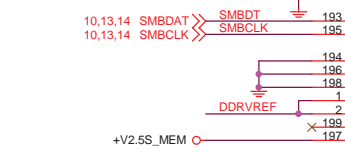
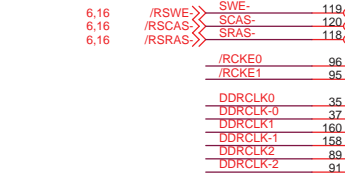
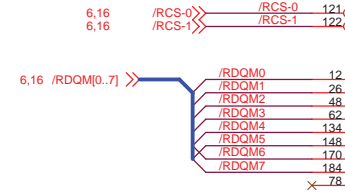
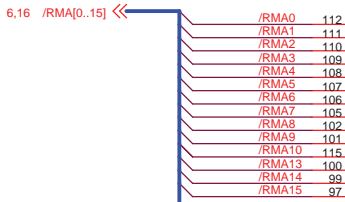
Clock Buffer (DDR)



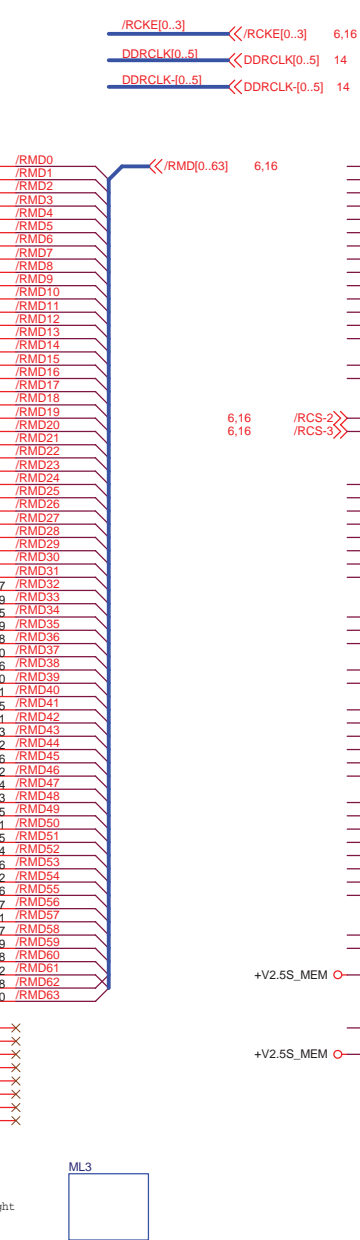
MSI CORPORATION		
Title CLOCK BUFFER		
Size B	Document Number	Rev R110
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NOTE:
VDDID IS A TRAP ON THE DIMM MODULE TO INDICATE:

VDDID	REQUIRED POWER
OPEN	VDD=VDDQ
GND	VDD1=VDDQ



PC2100 - CL2 = 15 to Data 2-2-2/2.5-3-3
R - 0101 CL2.5 = 18.75 to Data
DDR266 256MB 4Bks Pmax = 9W
Ptyp = 7W
64MB/128MB/256MB - 500MB/s - 1.0W
- 1000MB/s - 1.65W
- 1500MB/s - 2.5W
- 2000MB/s - 3.2W



PC2100 - CL2 = 15 to Data 2-2-2/2.5-3-3
R - 0101 CL2.5 = 18.75 to Data
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64MB/128MB/256MB - 500MB/s - 1.0W
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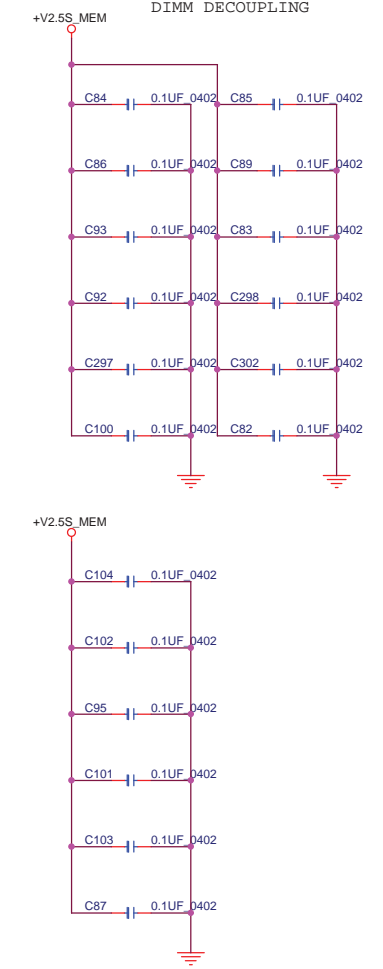
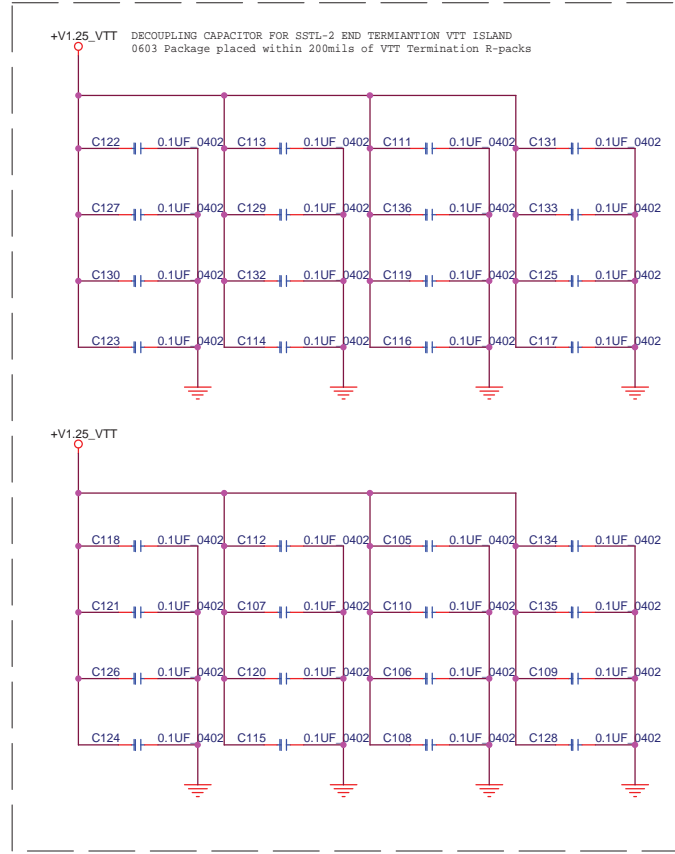
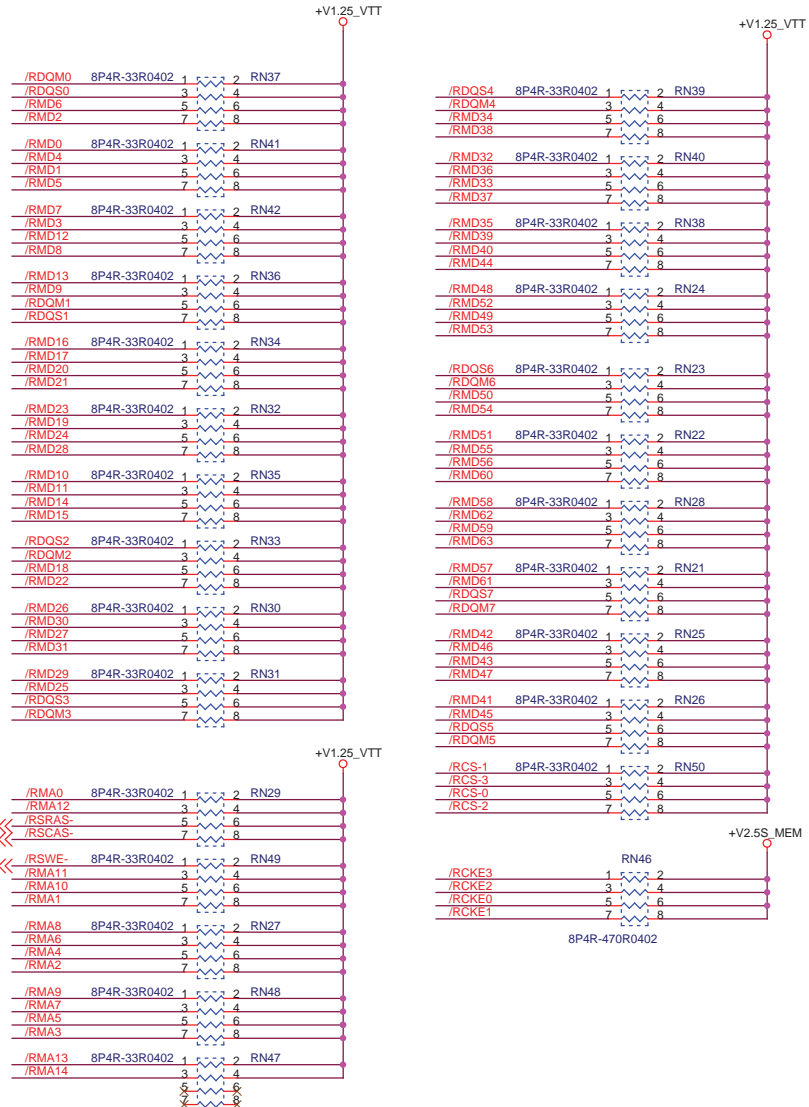


MSI CORPORATION		
Title	DDR SDRAM DIMM1 & DIMM2	
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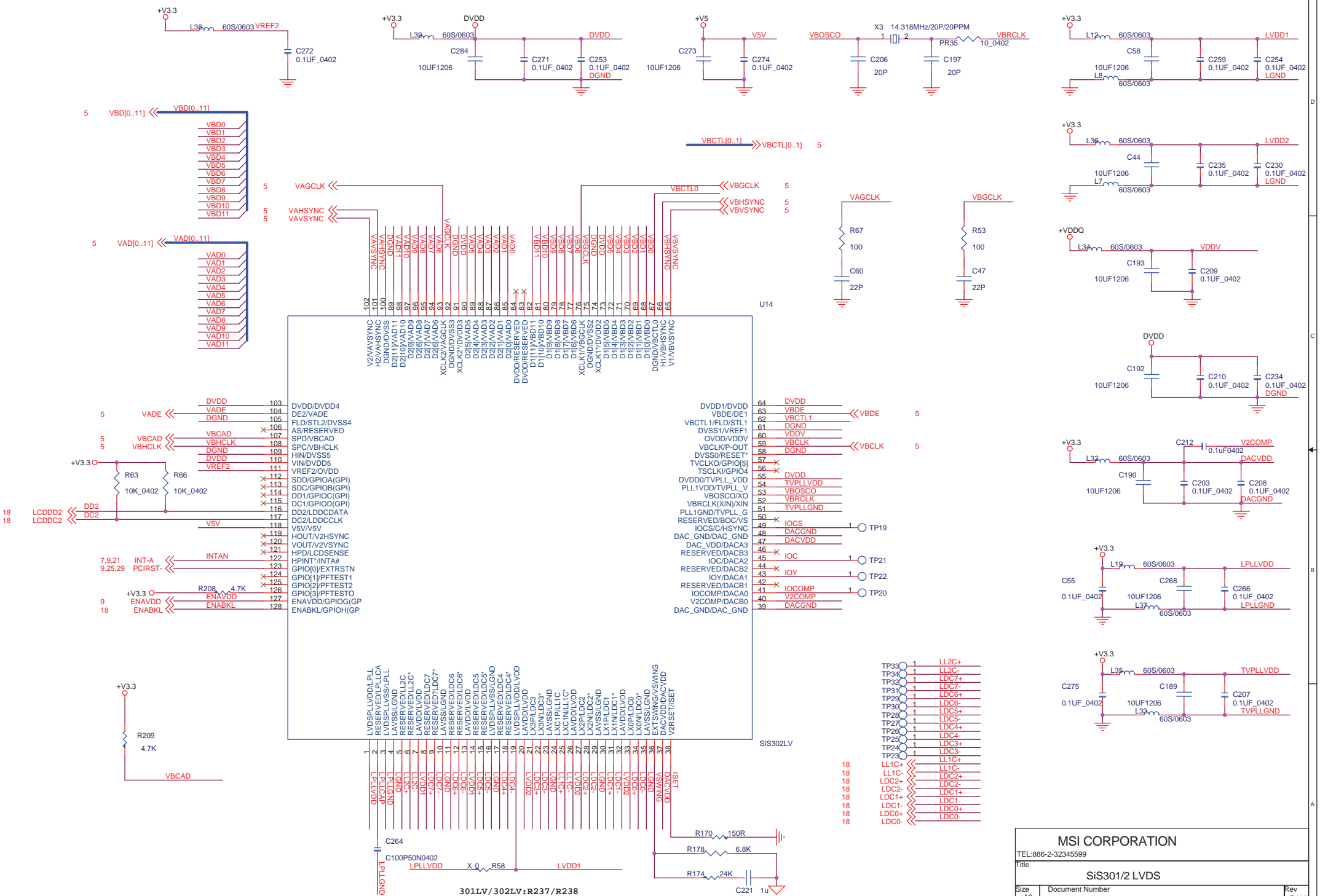
SSTL-2 Termination Resistors

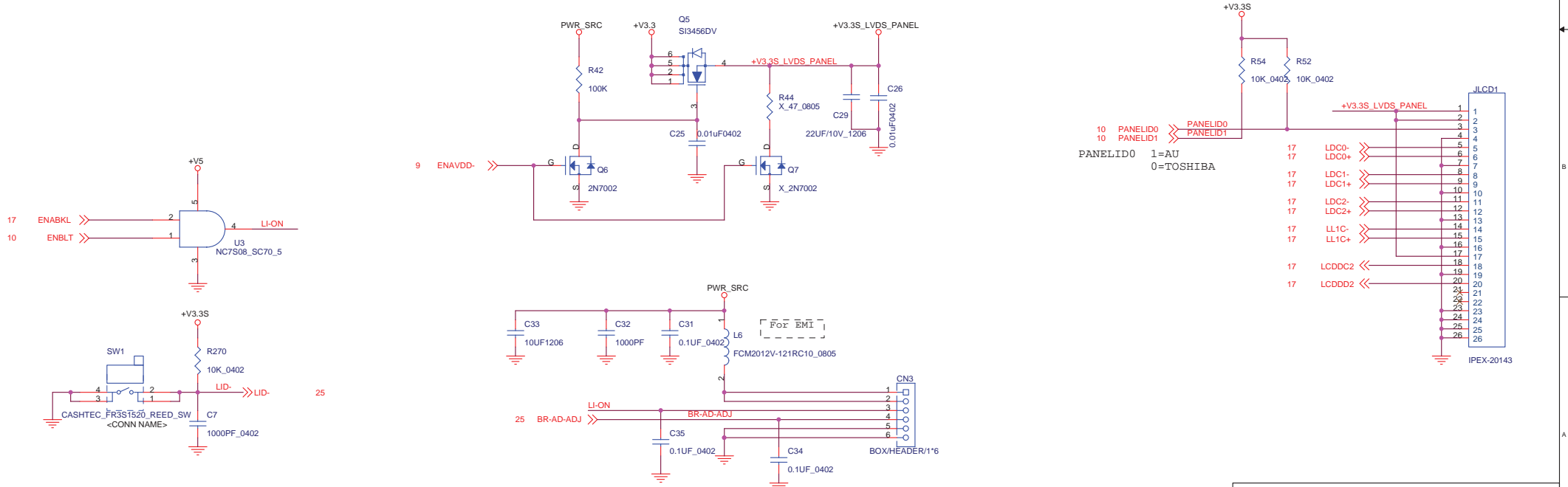
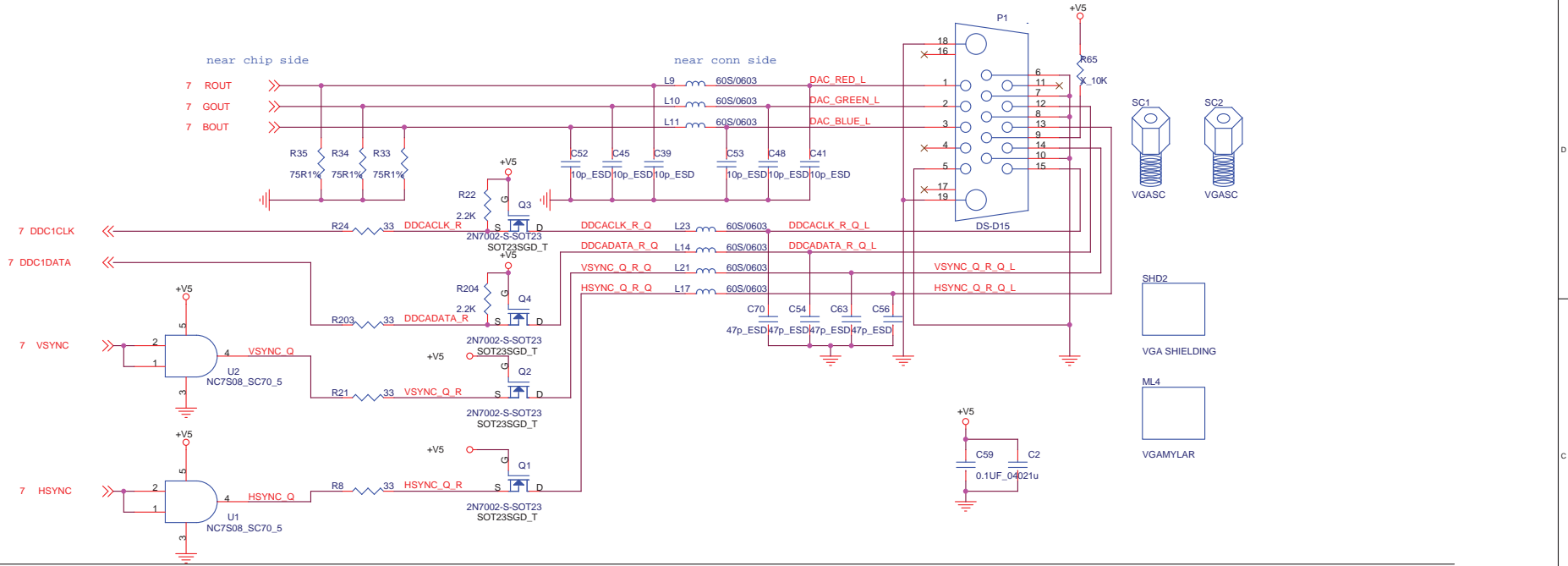


	SDR		DDR	
MD/DQM (/DQS)	LV-CMOS	R _s	SSTL-2	R _t
MA/Control	LV-CMOS	0/10/-	SSTL-2	33
CS	LV-CMOS	10	SSTL-2	33
EXE	DD 2.5V	0	SSTL-2	47

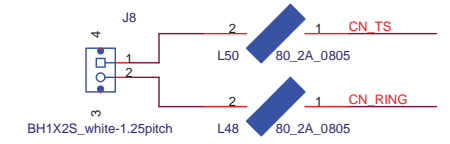
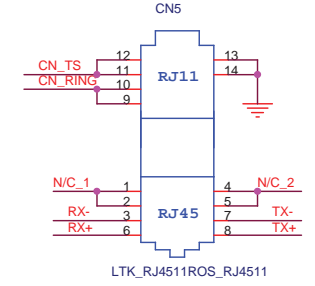
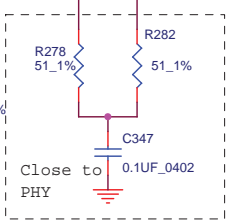
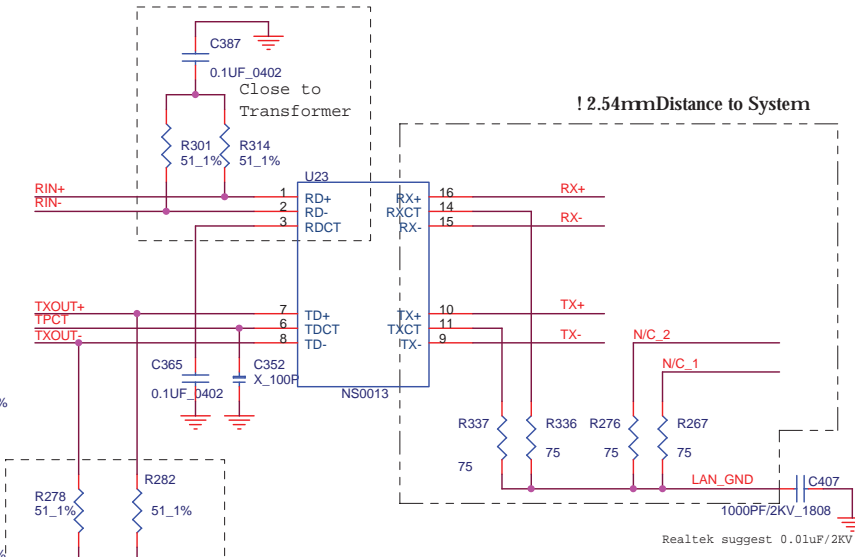
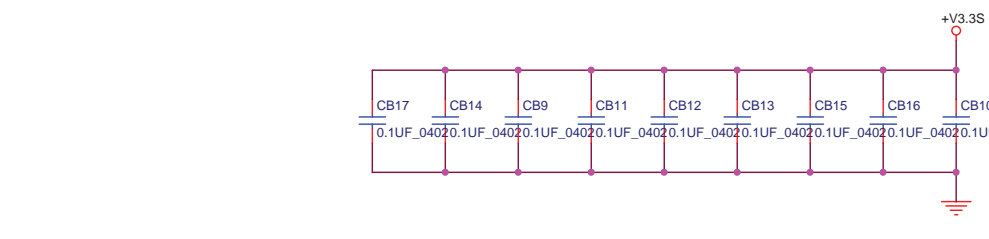
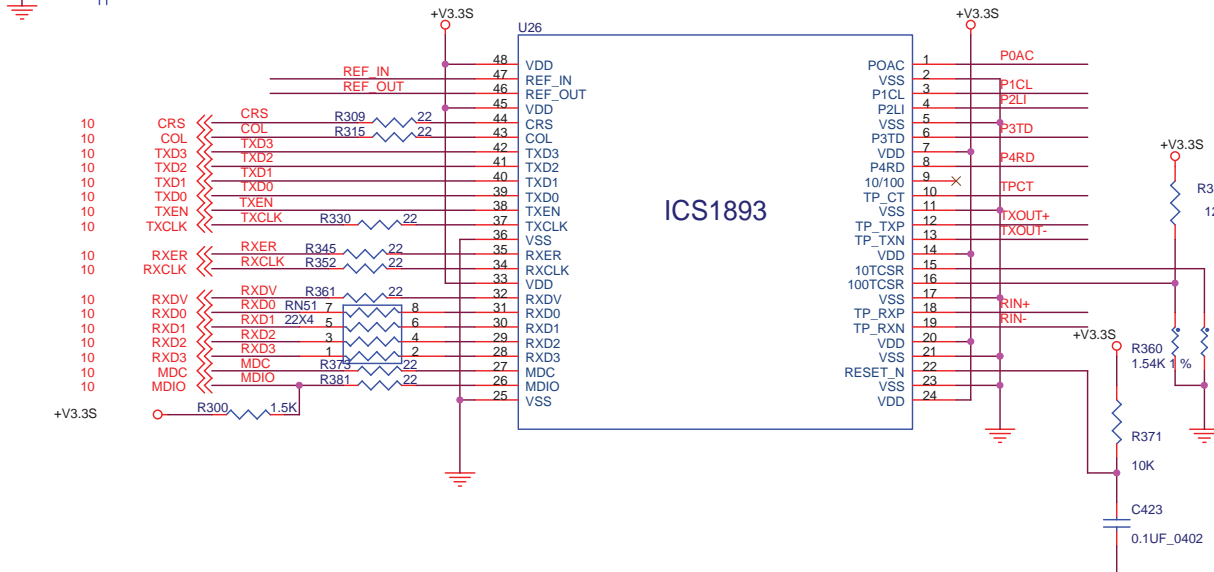
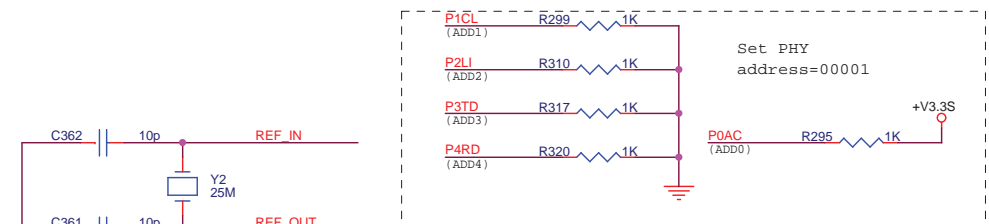


MSI CORPORATION		
Title SSTL 2 Termination		
Size A3	Document Number	Rev R110
Date: Monday, June 28, 2004	Sheet 16 of 38	

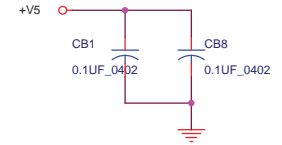
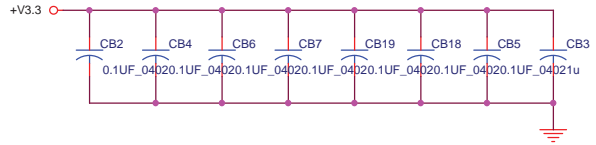
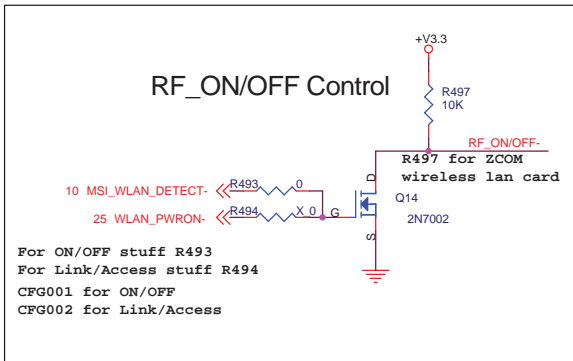




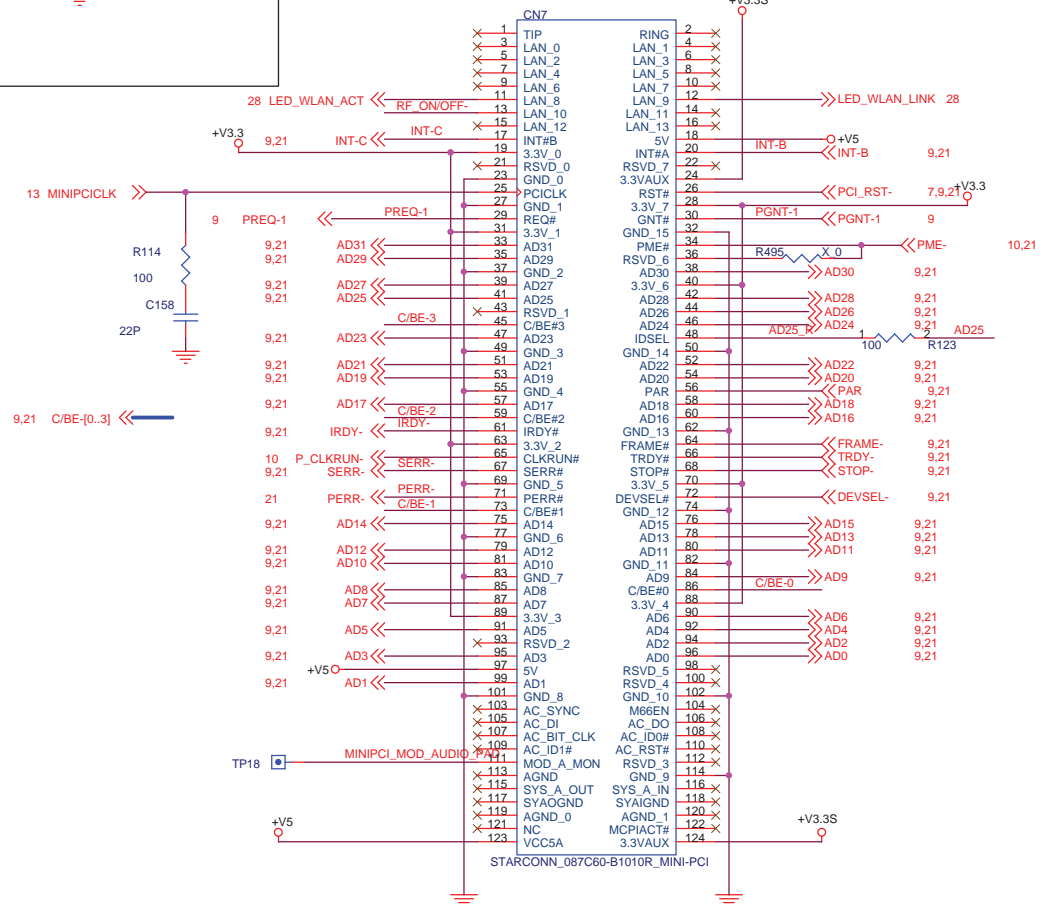
Title		
CRT&LVDS CONNECTOR		
Size	Document Number	Rev
Custom	MS-1006	R110
Date:	Monday, June 28, 2004	Sheet 18 of 38



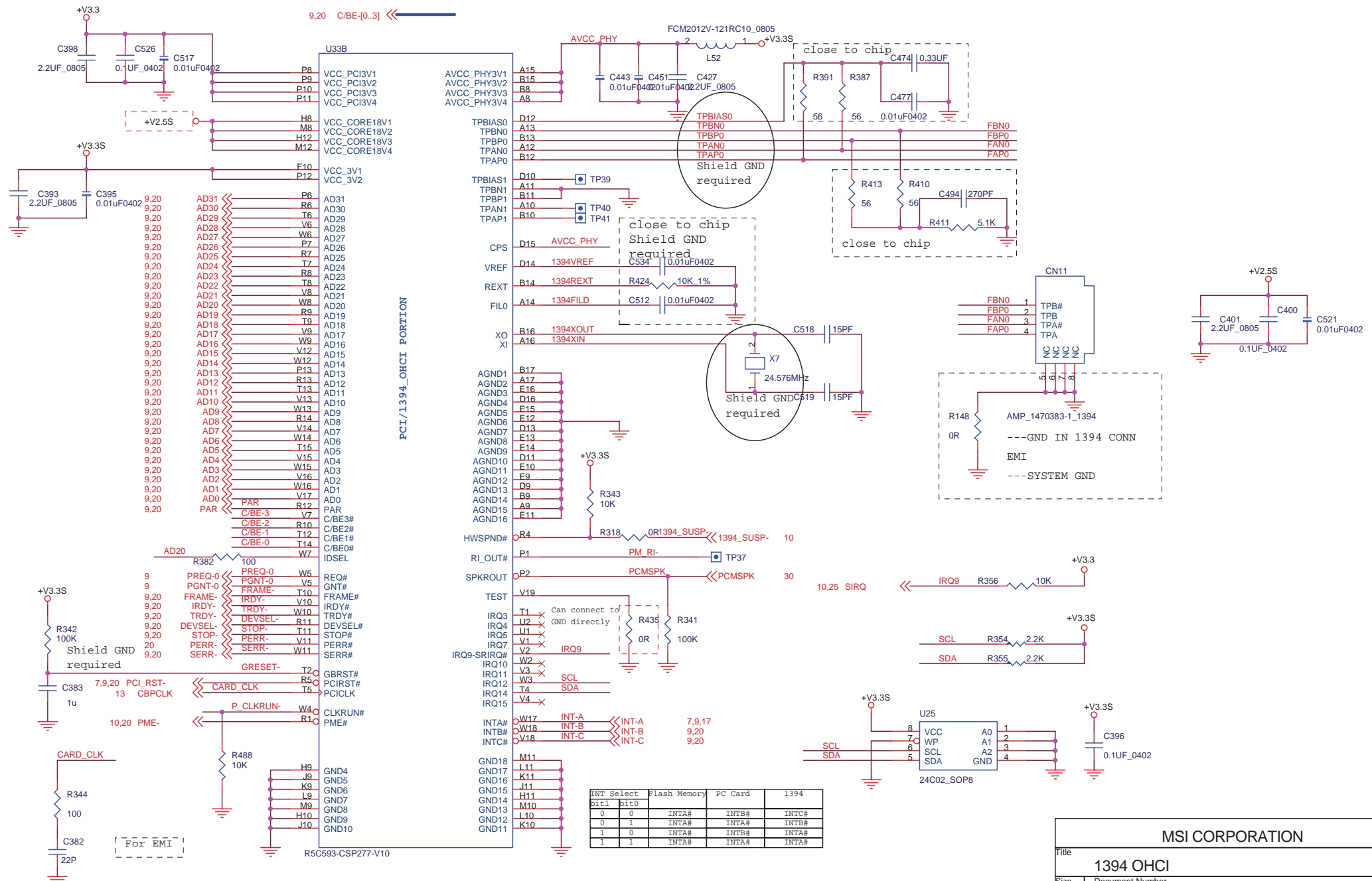
Title		
LAN RTL8101L & RJ45		
Size	Document Number	Rev
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Date:	Monday, June 28, 2004	Sheet 19 of 38



MINI PCI SOCKET



MSI CORPORATION		
TEL:886-2-32345599		
Title Mini-PCI Slot		
Size A3	Document Number	Rev R110
Date: Monday, June 28, 2004	Sheet 20 of 38	

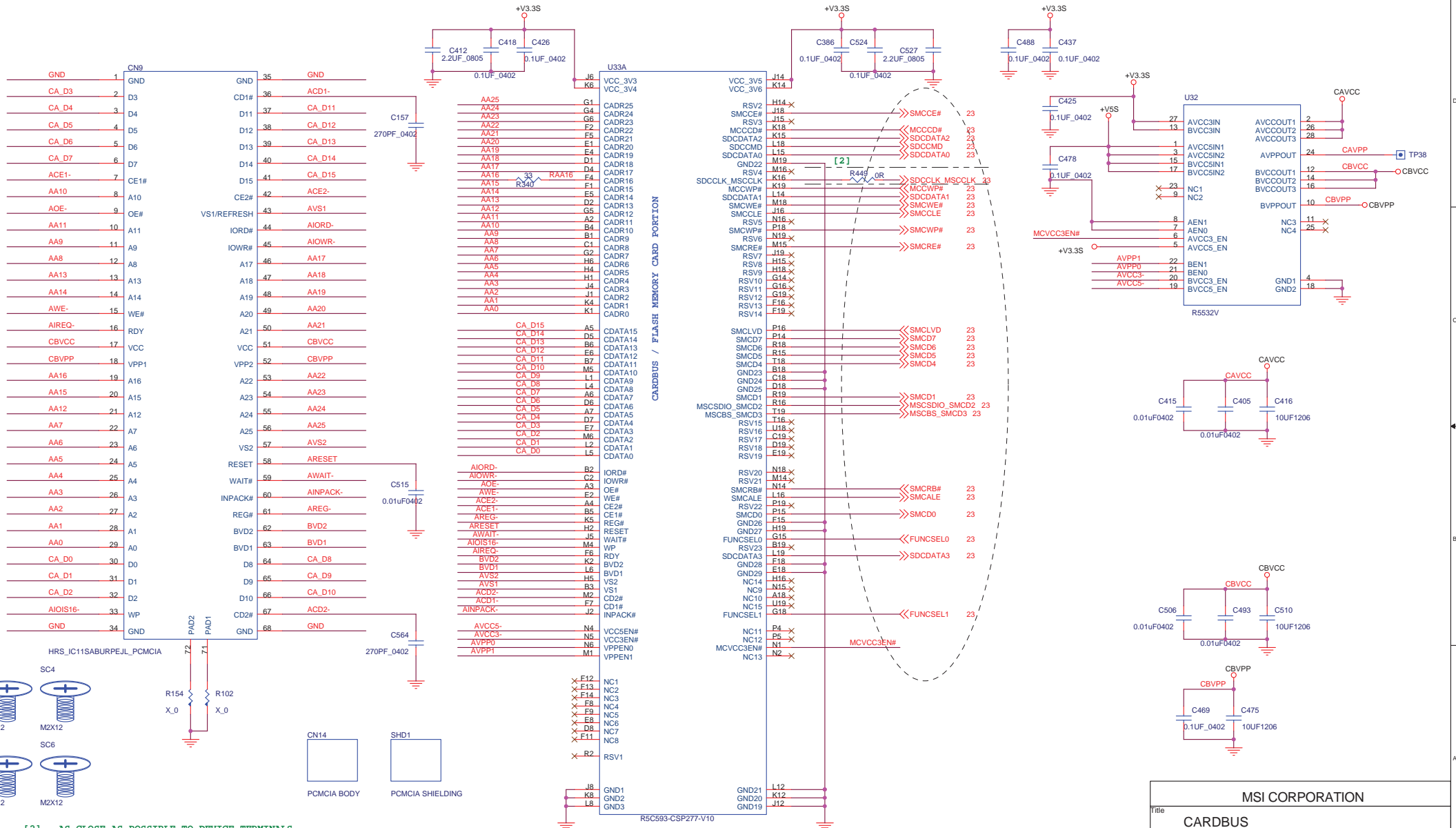


MSI CORPORATION

Title: **1394 OHCI**

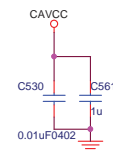
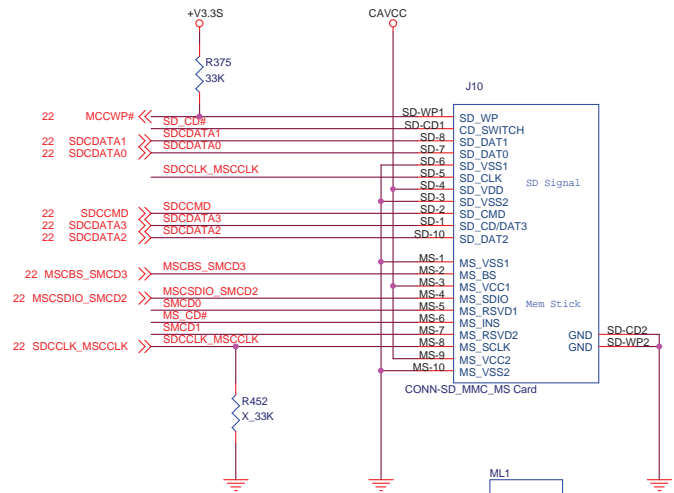
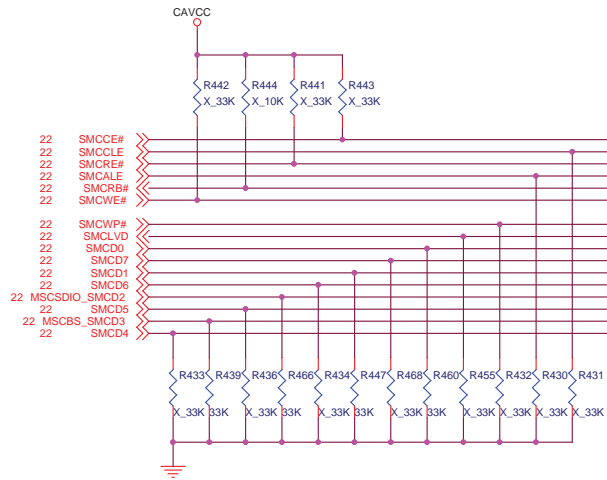
Size B Document Number **MS-1006** Rev **R110**

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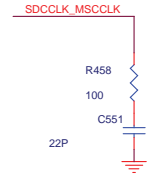
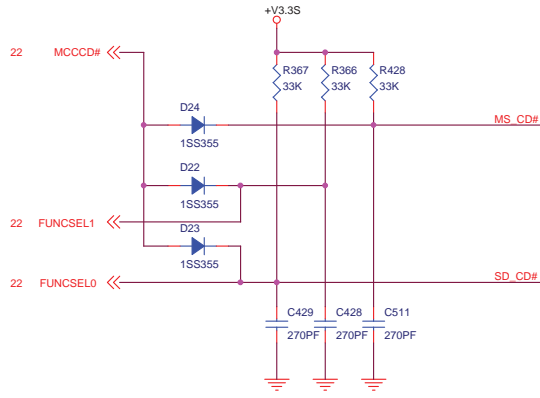
[2] AS CLOSE AS POSSIBLE TO DEVICE TERMINALS.

MSI CORPORATION		
CARDBUS		
Title	Document Number	Rev
Custom	MS-1006	R1.10
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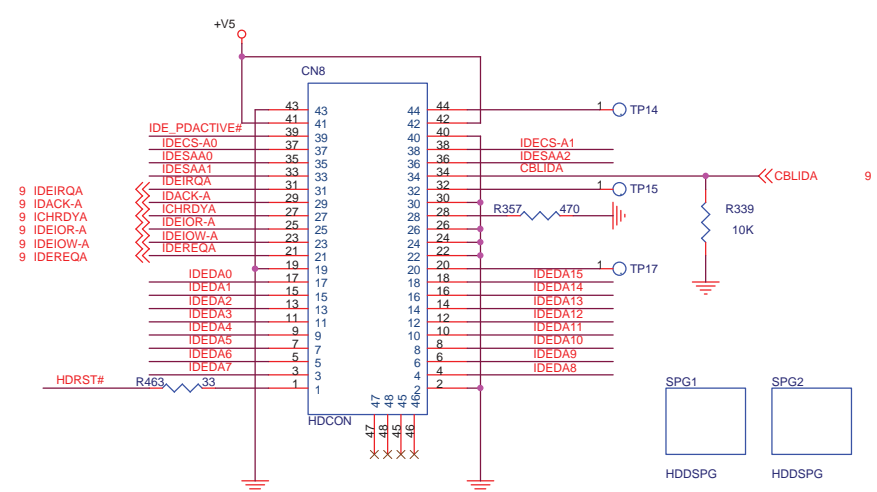
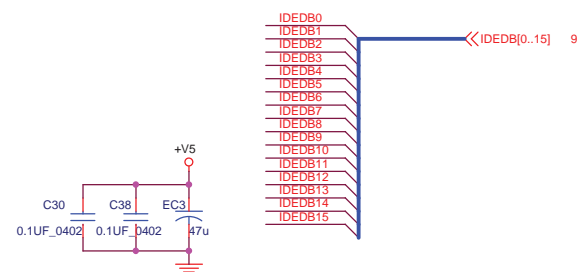
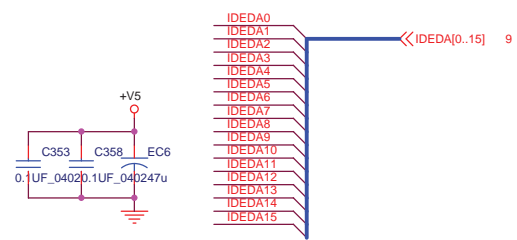


Memory Card Detect Logic Table

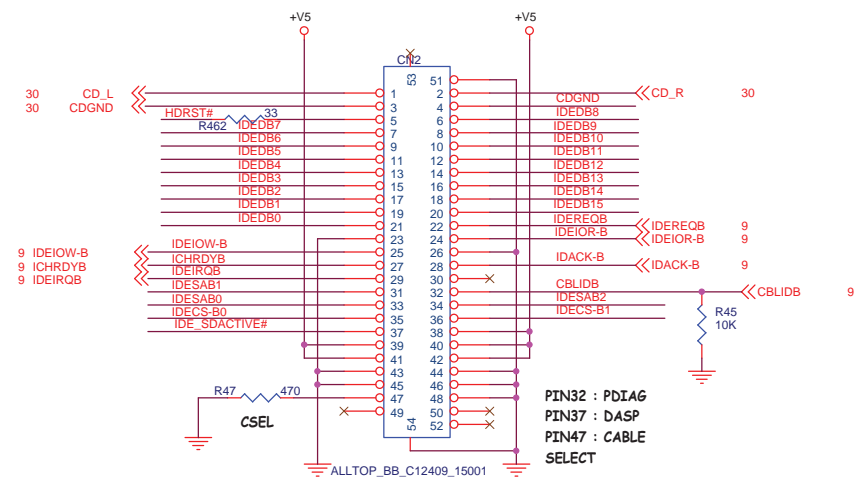
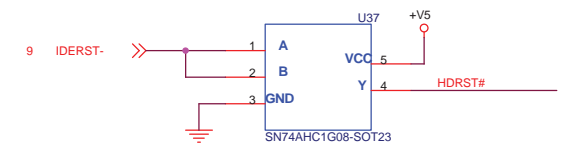
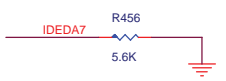
MS_CD#	SM_CD#	SD_CD#	->	Detected Card
0	0	0	->	INHIBIT
0	0	1	->	INHIBIT
0	1	0	->	INHIBIT
0	1	1	->	MemoryStick Detected
1	0	0	->	INHIBIT
1	0	1	->	SmartMedia Detected
1	1	0	->	SD/MMC Detected
1	1	1	->	Not Detected



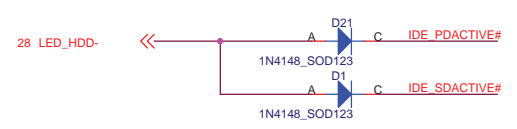
DO NOT INSERT SMARTMEDIA, SD/MMC AND MEMORYSTICK SIMULTANEOUSLY.



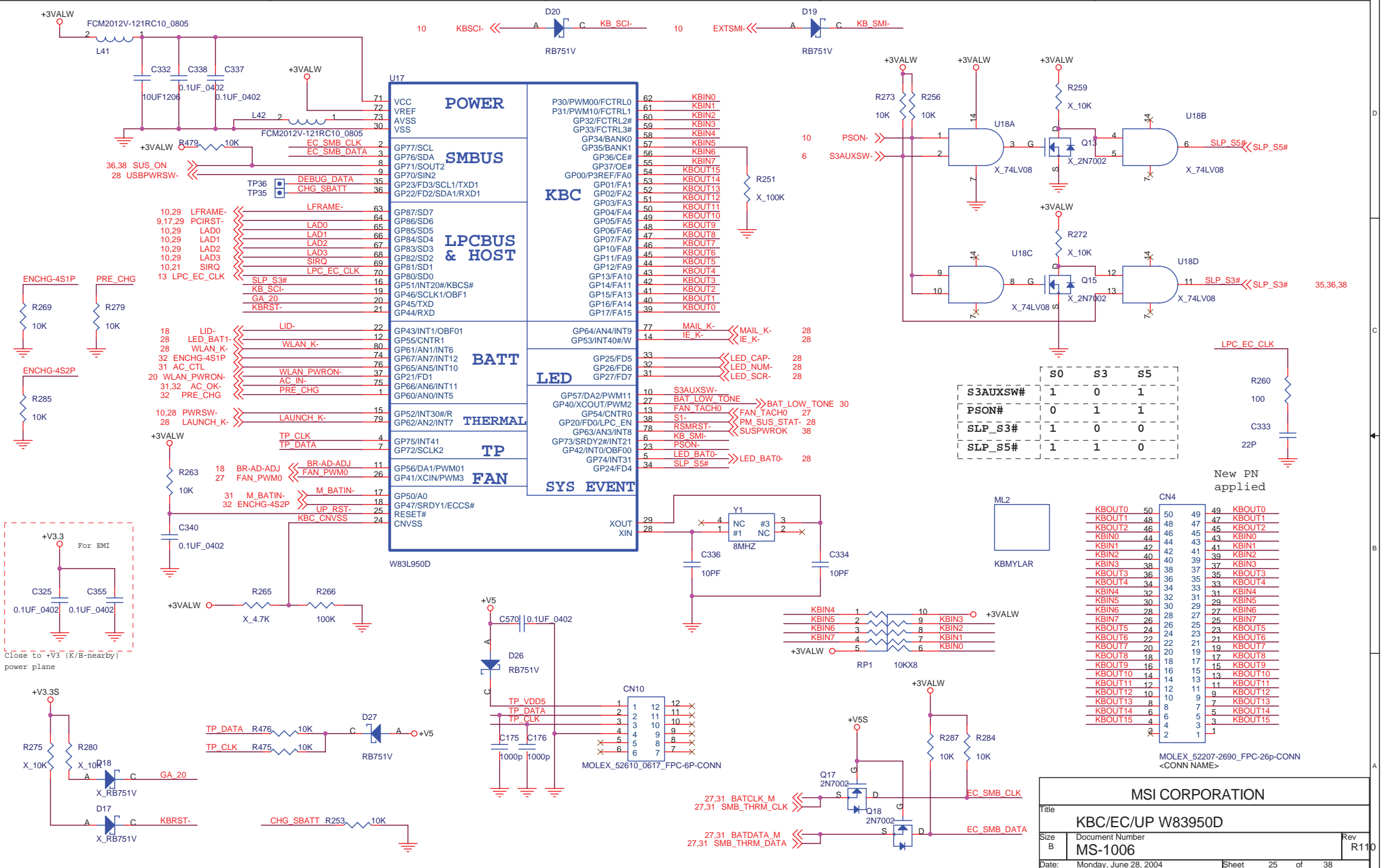
2.5"HD DRIVE



Slim Type CD-ROM



Title		
IDE1		
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	S0	S3	S5
S3AUXSW#	1	0	1
PSON#	0	1	1
SLP_S3#	1	0	0
SLP_S5#	1	1	0

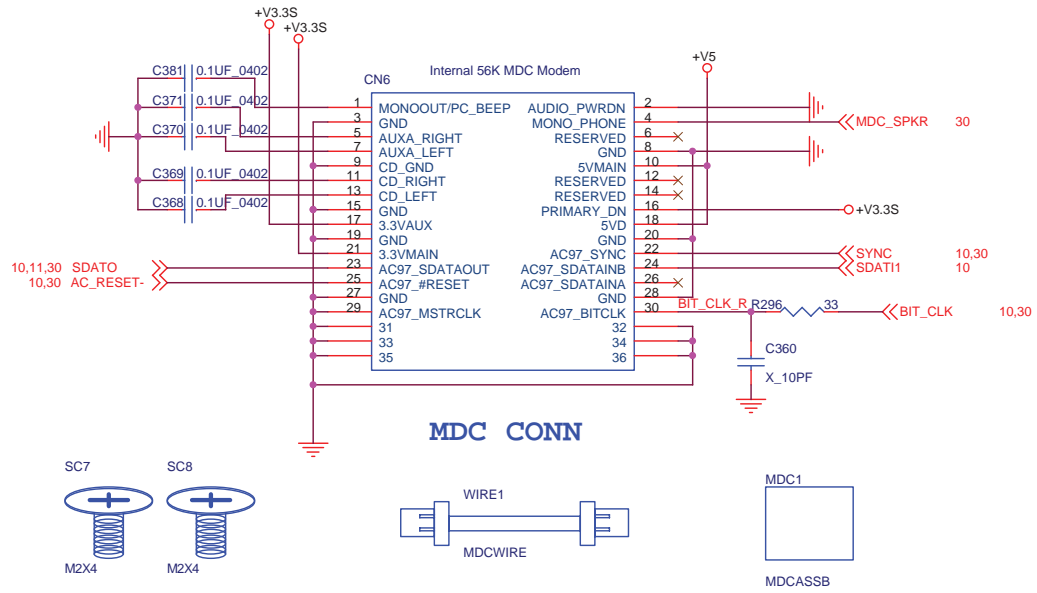
CN4			
KBOUT0	50	49	KBOUT0
KBOUT1	48	47	KBOUT1
KBOUT2	46	45	KBOUT2
KBIN0	44	43	KBIN0
KBIN1	42	41	KBIN1
KBIN2	40	39	KBIN2
KBIN3	38	37	KBIN3
KBOUT3	36	35	KBOUT3
KBOUT4	34	33	KBOUT4
KBIN4	32	31	KBIN4
KBIN5	30	29	KBIN5
KBIN6	28	27	KBIN6
KBOUT5	26	25	KBOUT5
KBOUT6	24	23	KBOUT6
KBOUT7	22	21	KBOUT7
KBOUT8	20	19	KBOUT8
KBOUT9	18	17	KBOUT9
KBOUT10	16	15	KBOUT10
KBOUT11	14	13	KBOUT11
KBOUT12	12	11	KBOUT12
KBOUT13	10	9	KBOUT13
KBOUT14	8	7	KBOUT14
KBOUT15	6	5	KBOUT15
	4	3	KBOUT15
	2	1	

MSI CORPORATION

KBC/EC/UP W83950D

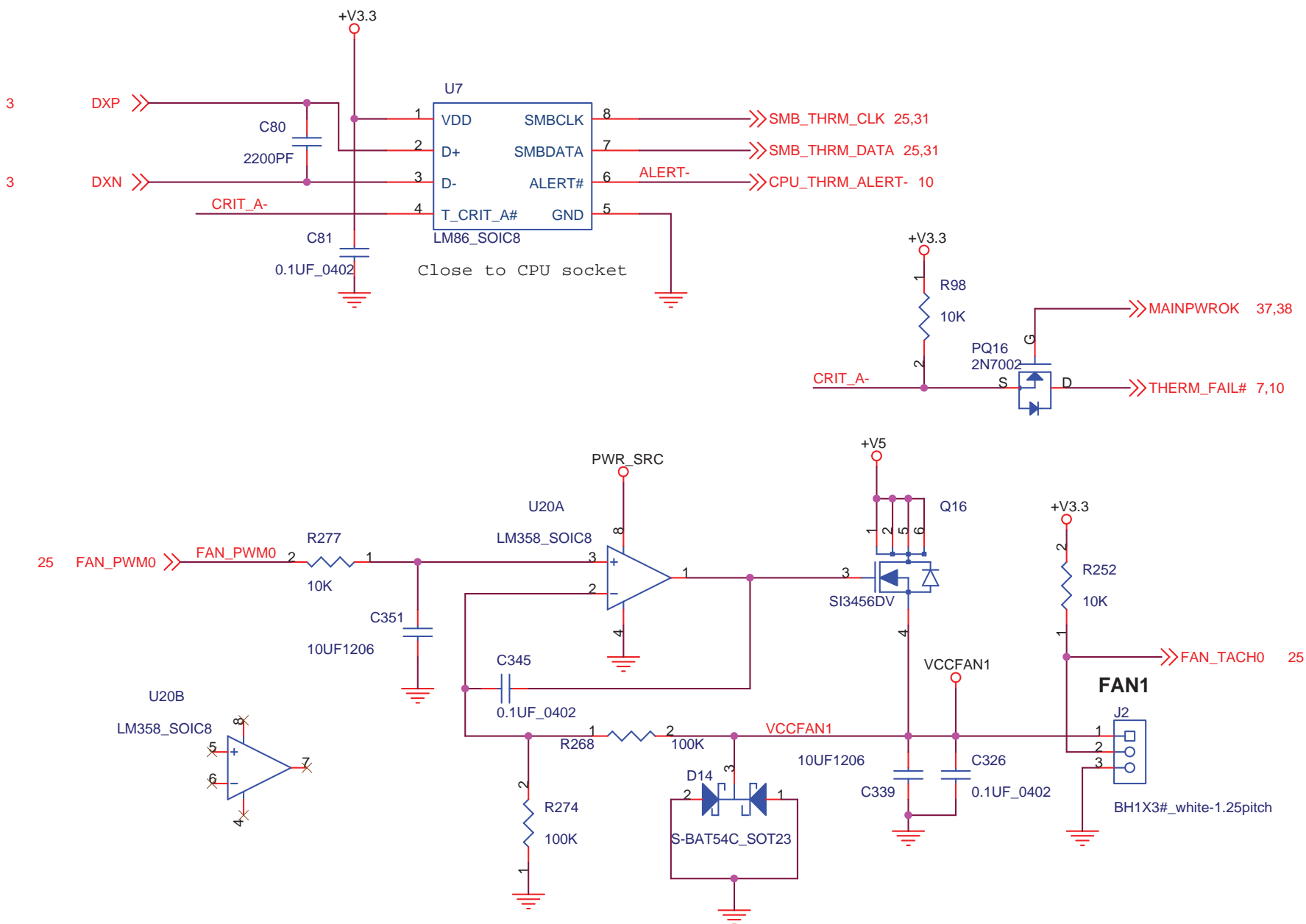
Size B	Document Number MS-1006	Rev R110
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MDC

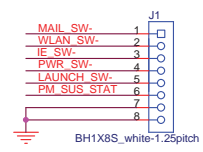
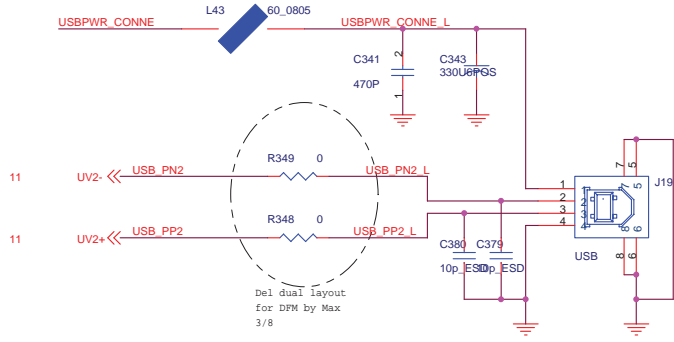
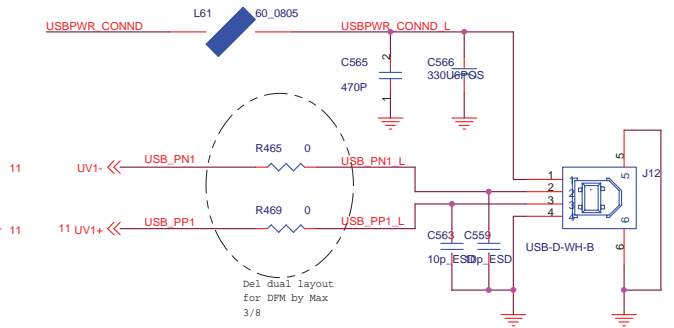
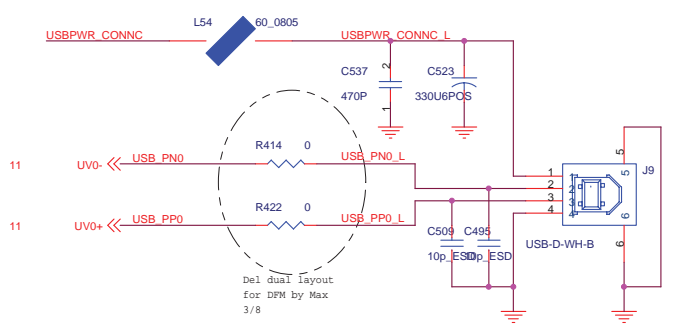
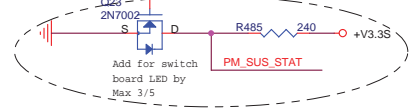
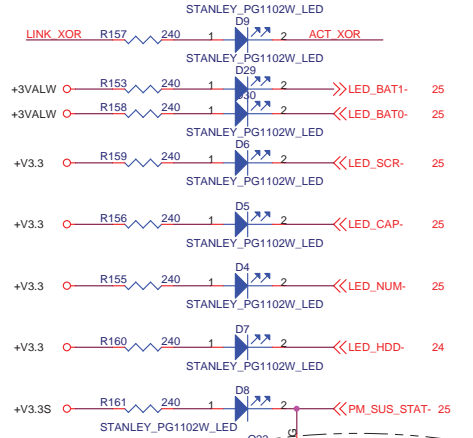
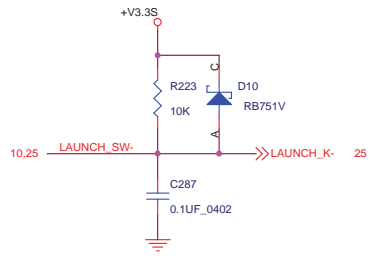
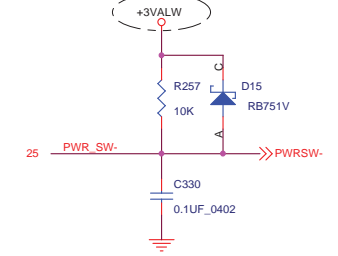
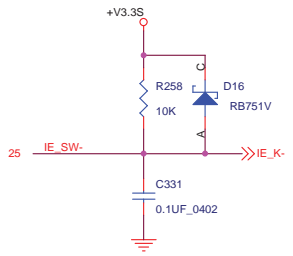
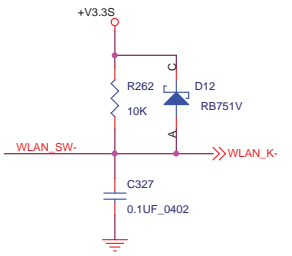
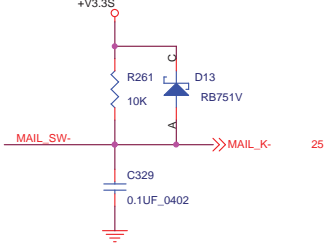
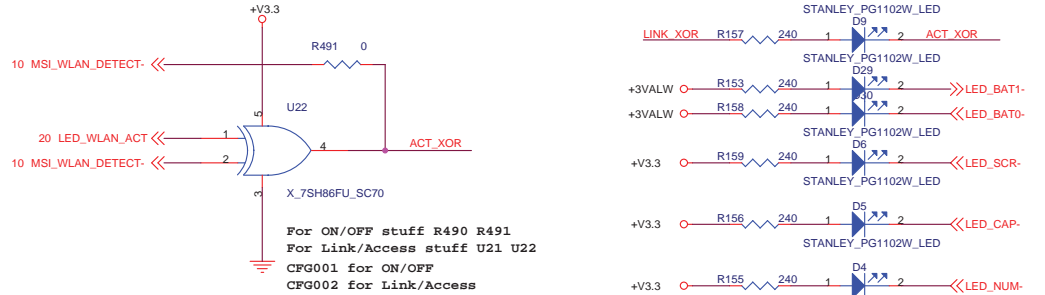
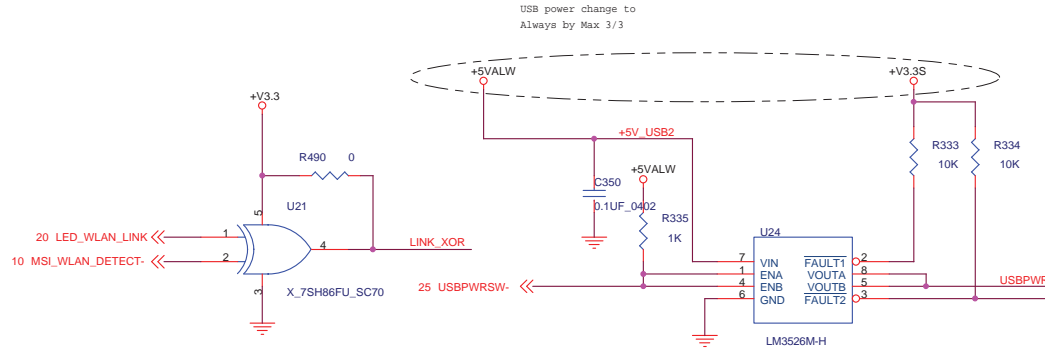
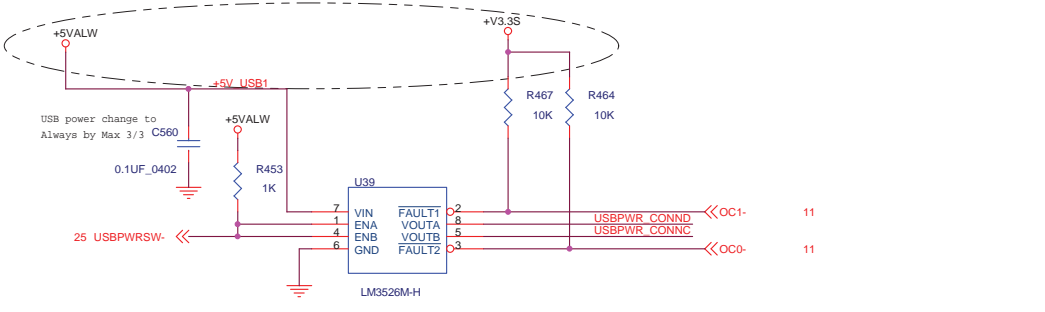


OTHER SIGNALS ARE FAR AWAY THIS TWO TRACES.
 *** THIS DISTANCE IS MIN. 2.5mm***
 ***THIS SPACE IS IN 3D SPACE AND INCLUDE ANY ***
 ***POWER ANG GROUND ***

Title		
MDC		
Size	Document Number	Rev
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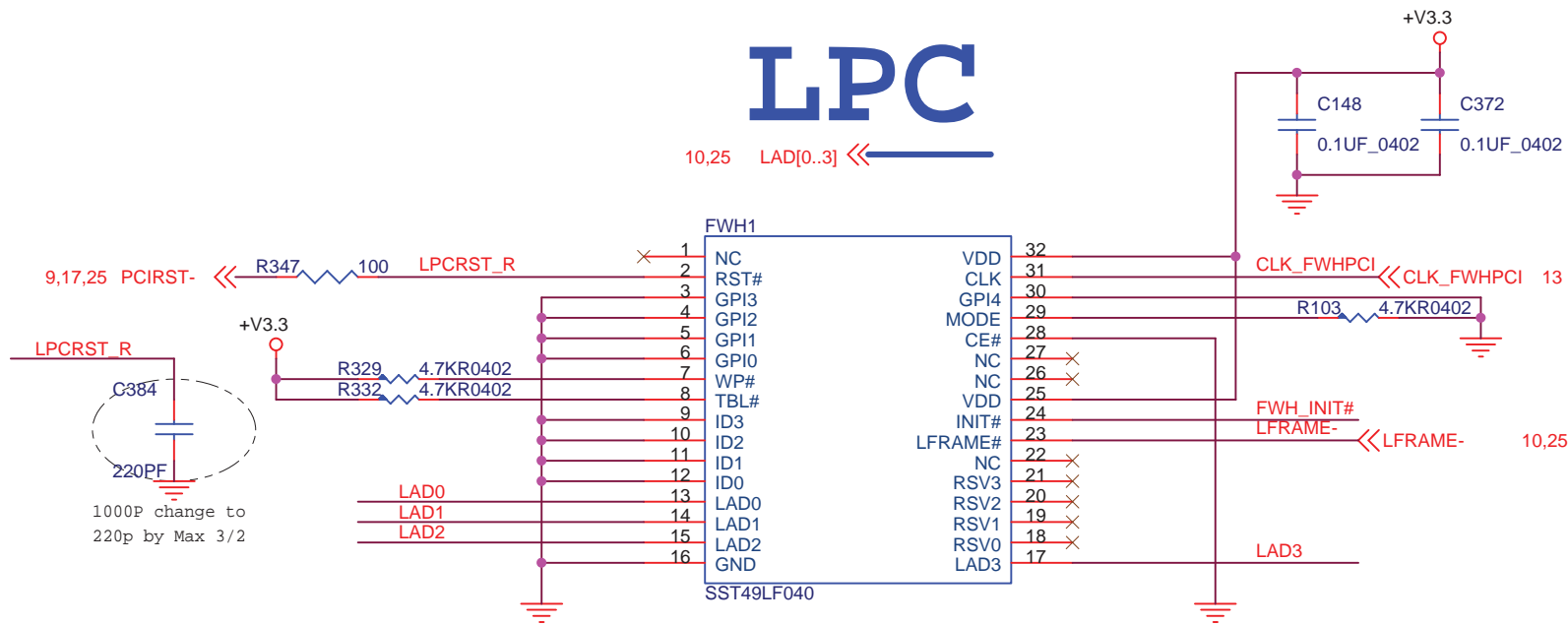
Title		
HARDWARE MONITOR		
Size	Document Number	Rev
A	MS-1006	R110
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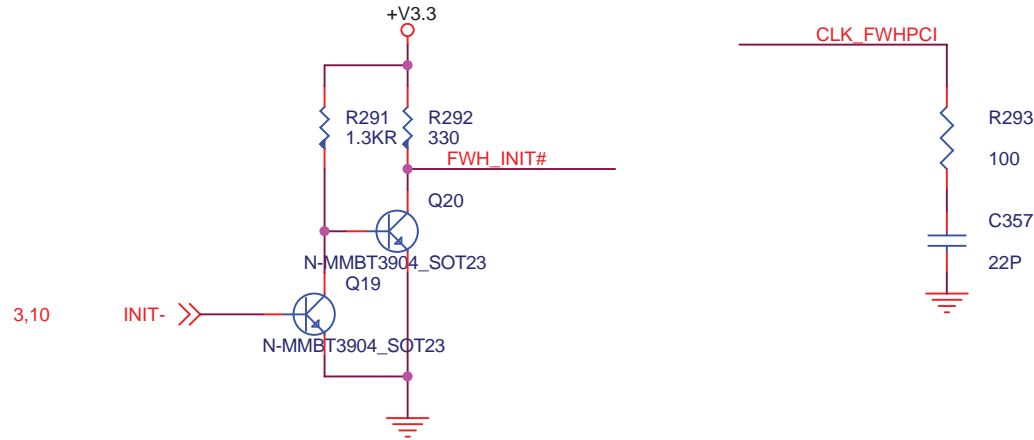
Title USB 2.0 CON x3 & LEDS & SW		
Size Custom	Document Number MS-1006	Rev R110
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LPC

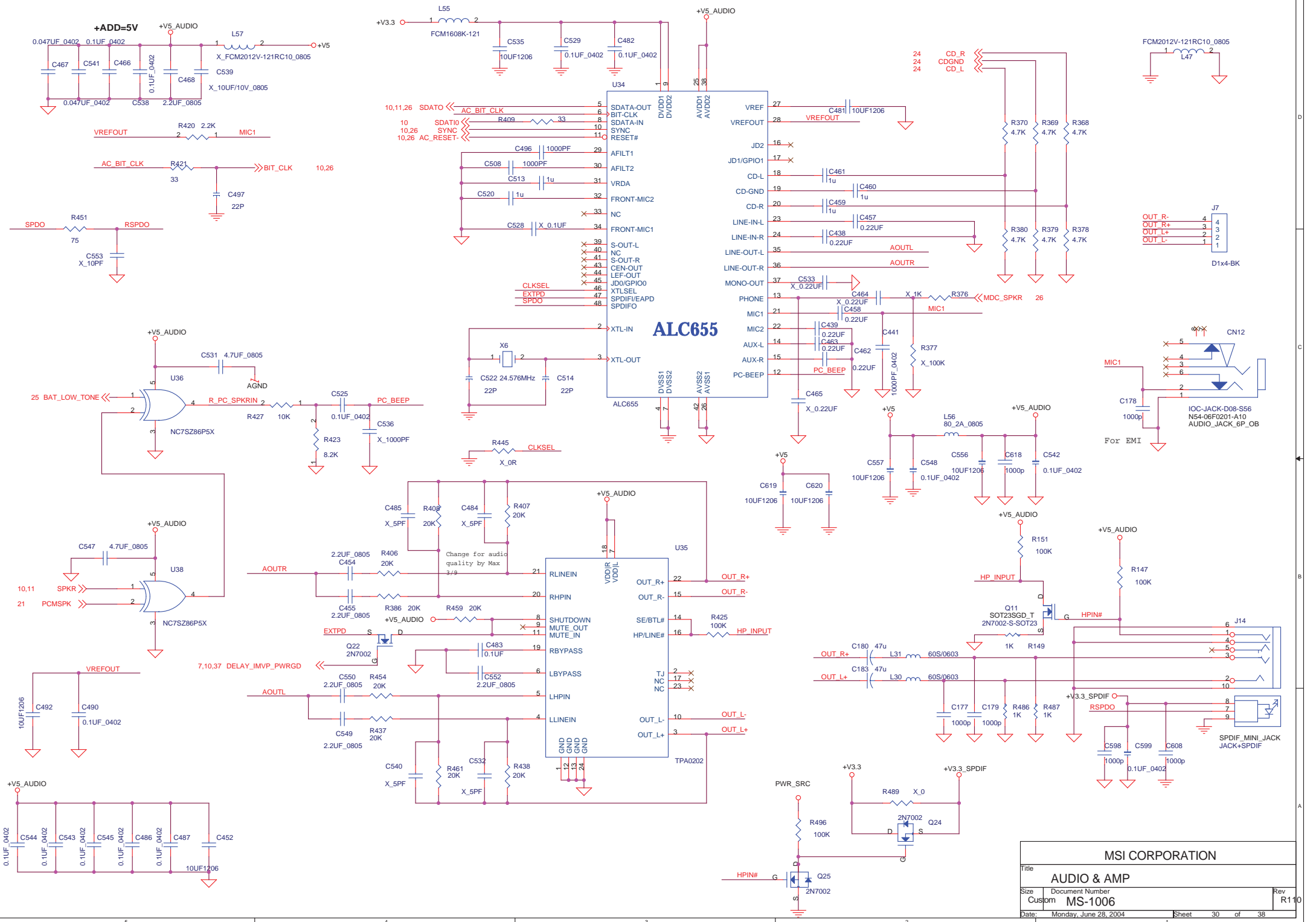
10,25 LAD[0..3] <<

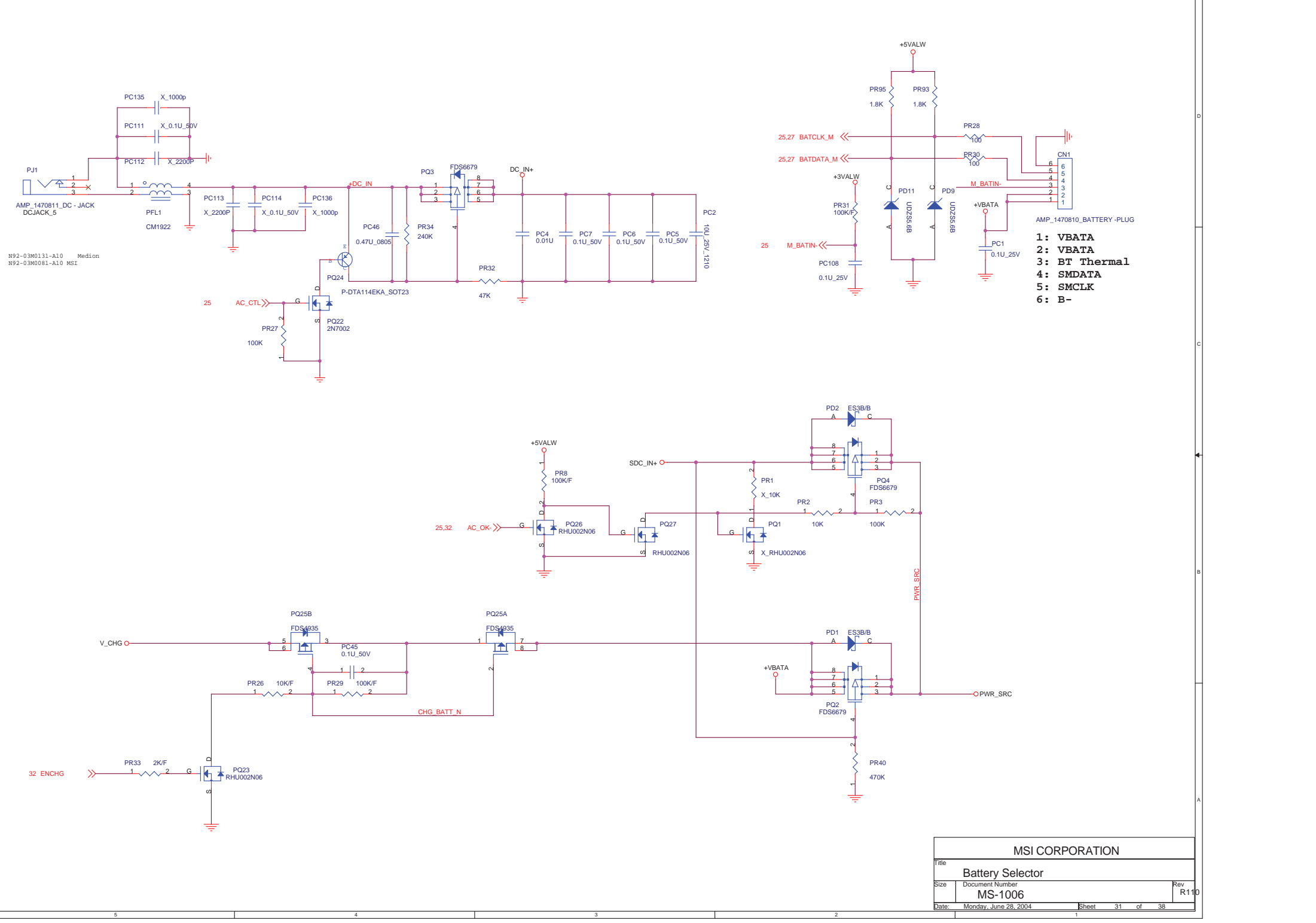


1000P change to
220p by Max 3/2



Title		
LPC ROM		
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- 1: VBATA
- 2: VBATA
- 3: BT Thermal
- 4: SMDATA
- 5: SMCLK
- 6: B-

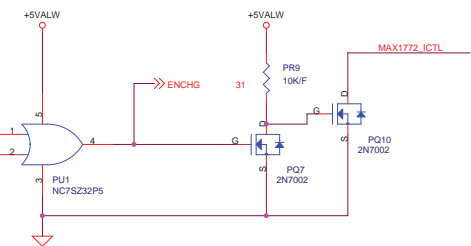
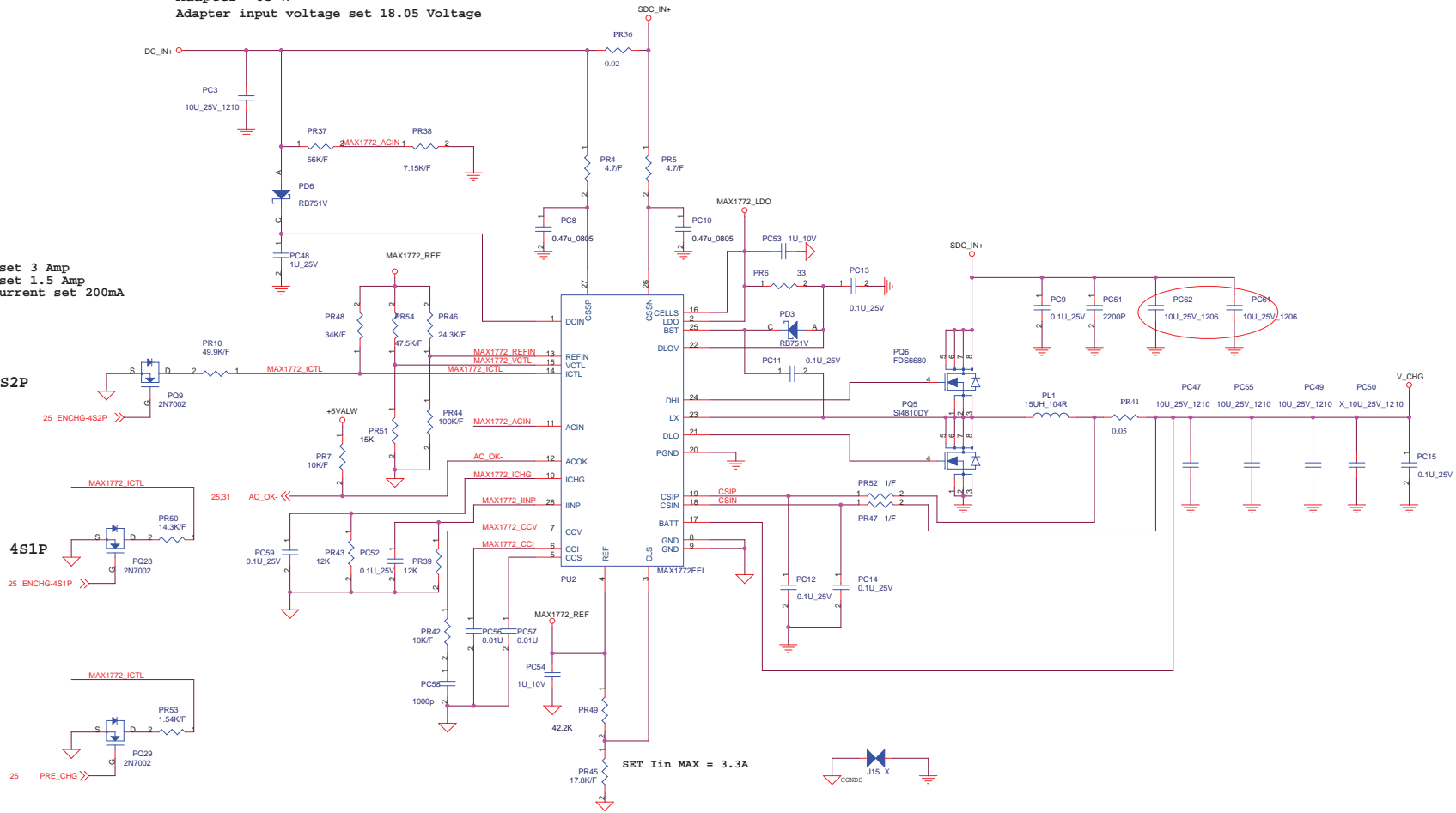
MSI CORPORATION		
Title Battery Selector		
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Adapter= 65 W
 Adapter input voltage set 18.05 Voltage

4S2P: Charger current set 3 Amp
 4S1P: Charger current set 1.5 Amp
 Pre-charger: Charger current set 200mA

Charge to 3A for 4S2P

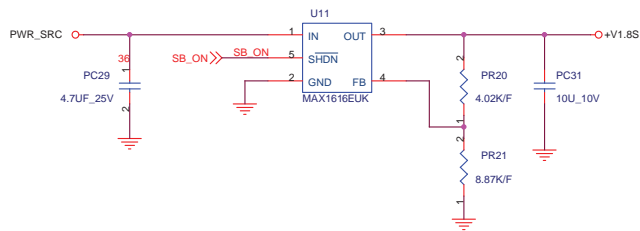
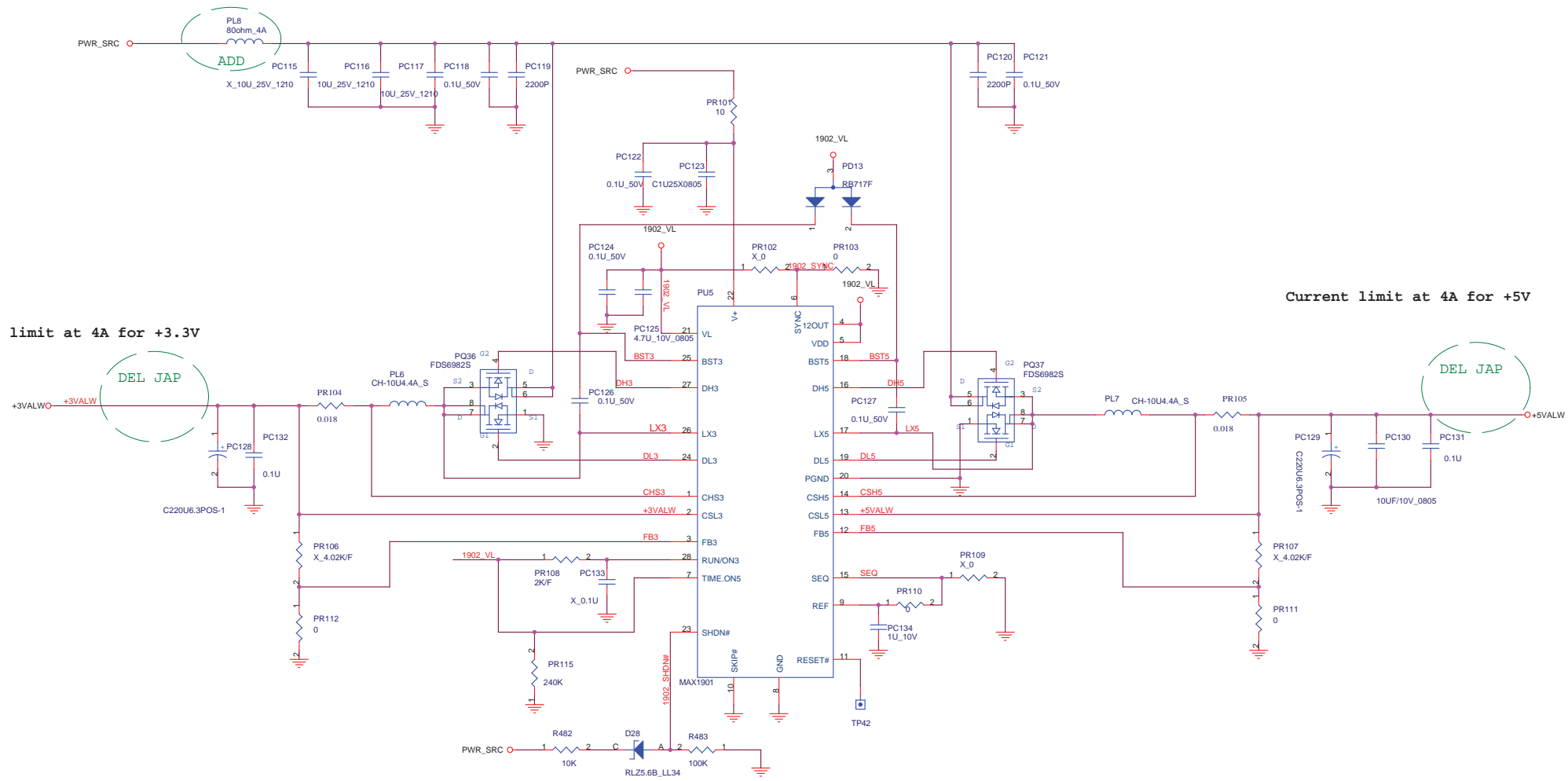
Charge to 1.5A for 4S1P



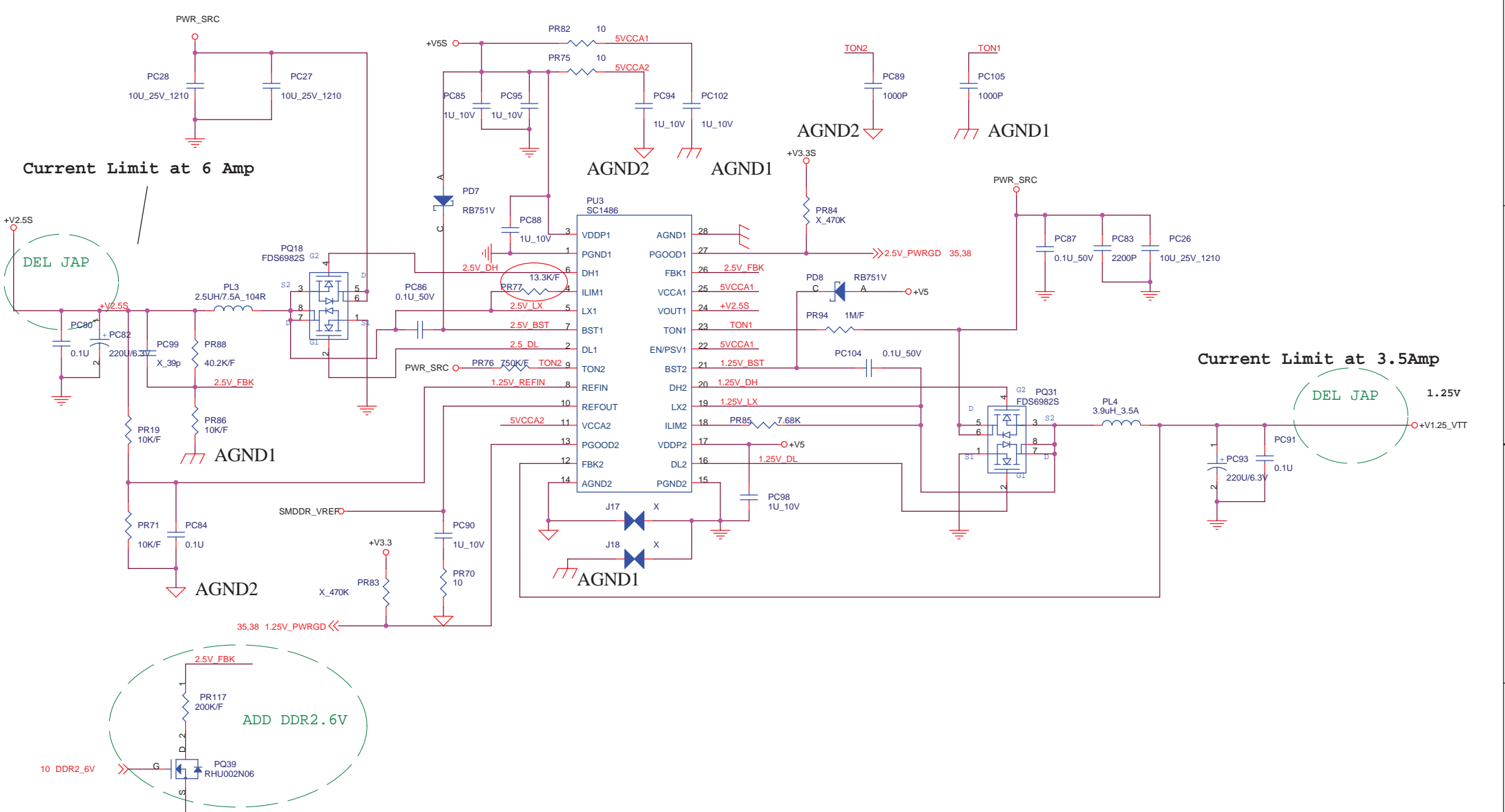
	4S1P	4S2P	Pre-charger
Pre-charger	1	0	1
Fast-charger	1	0	0
Fast-charger	0	1	0
Stop-charger	0	0	0

Current limit at 4A for +3.3V

Current limit at 4A for +5V



MSI CORPORATION		
Title System Power		
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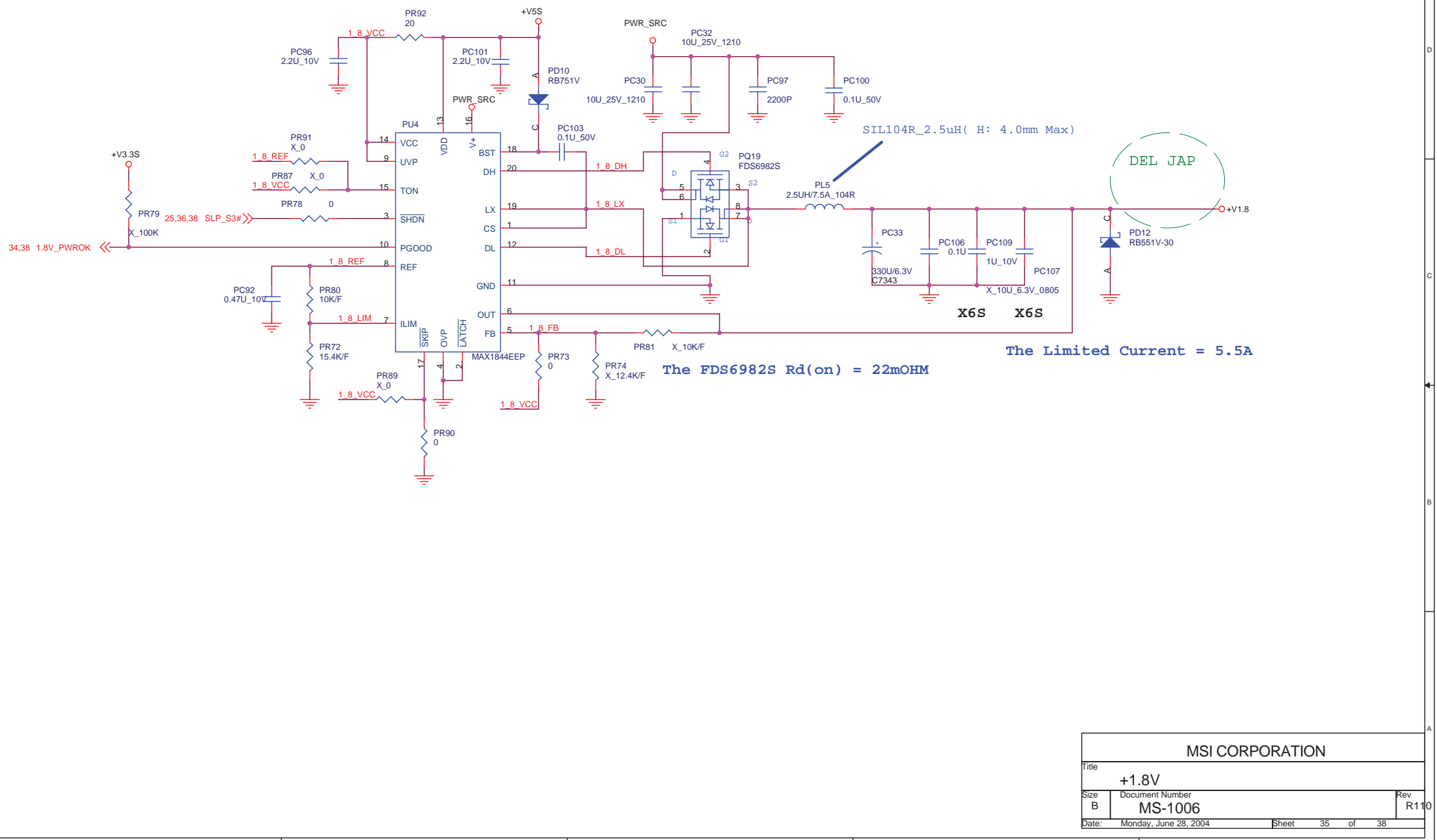


Current Limit at 6 Amp

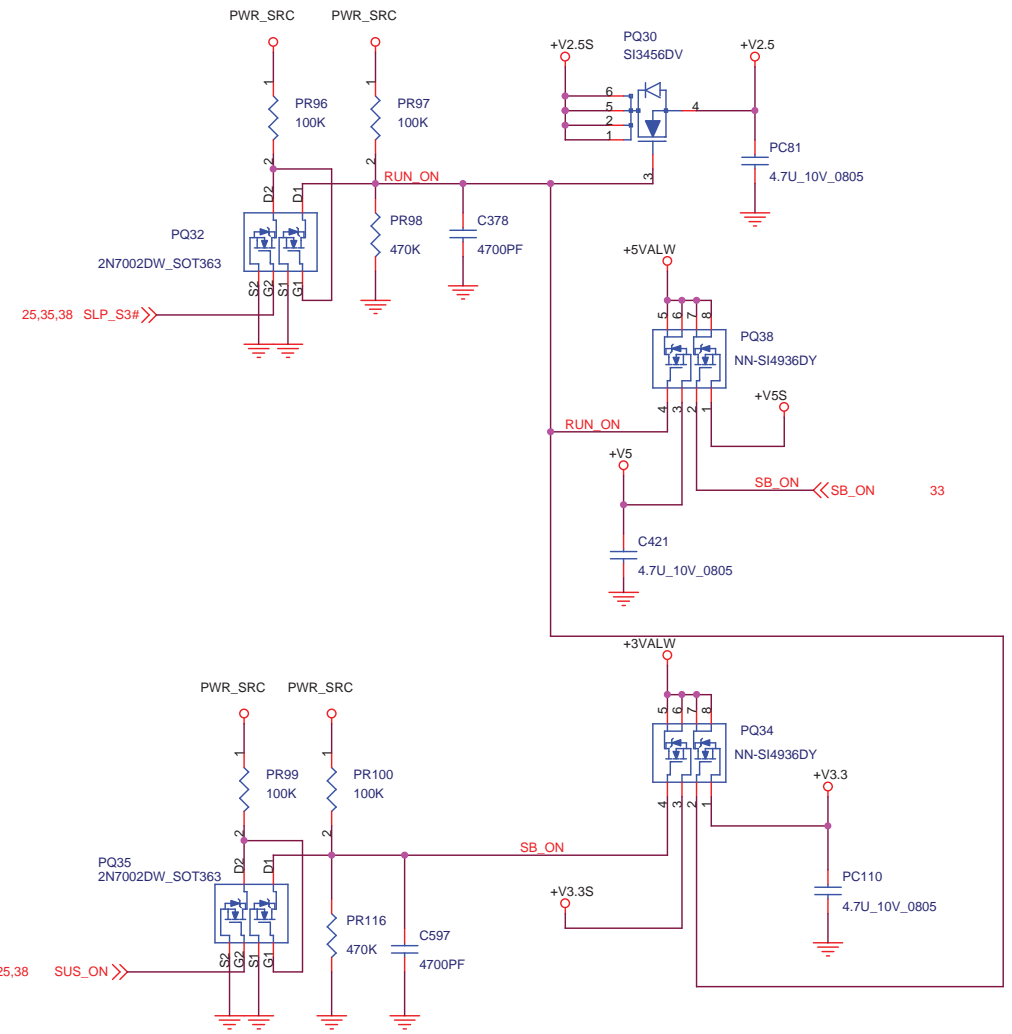
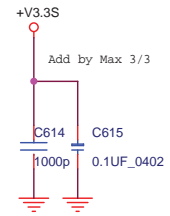
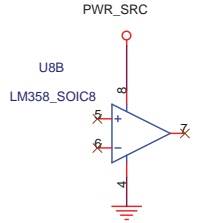
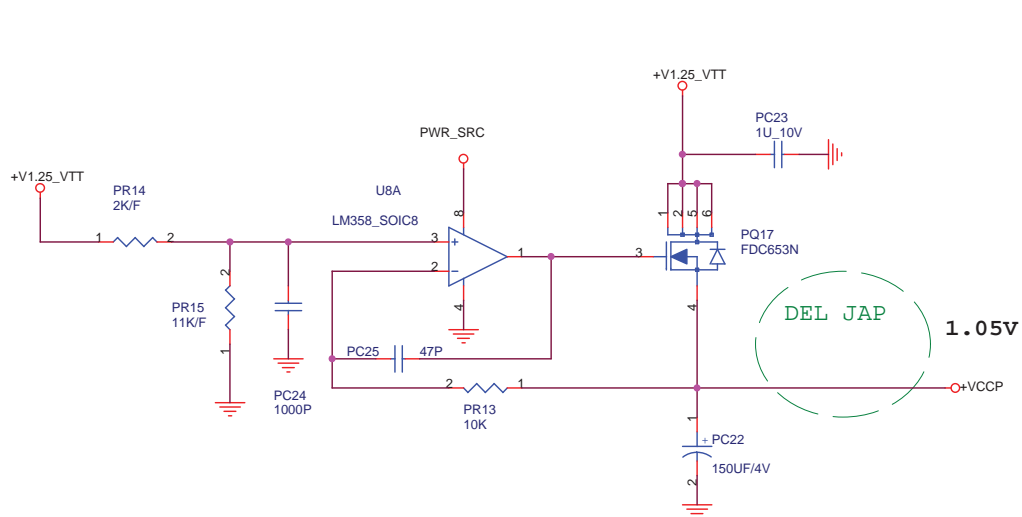
Current Limit at 3.5Amp

ADD DDR2.6V

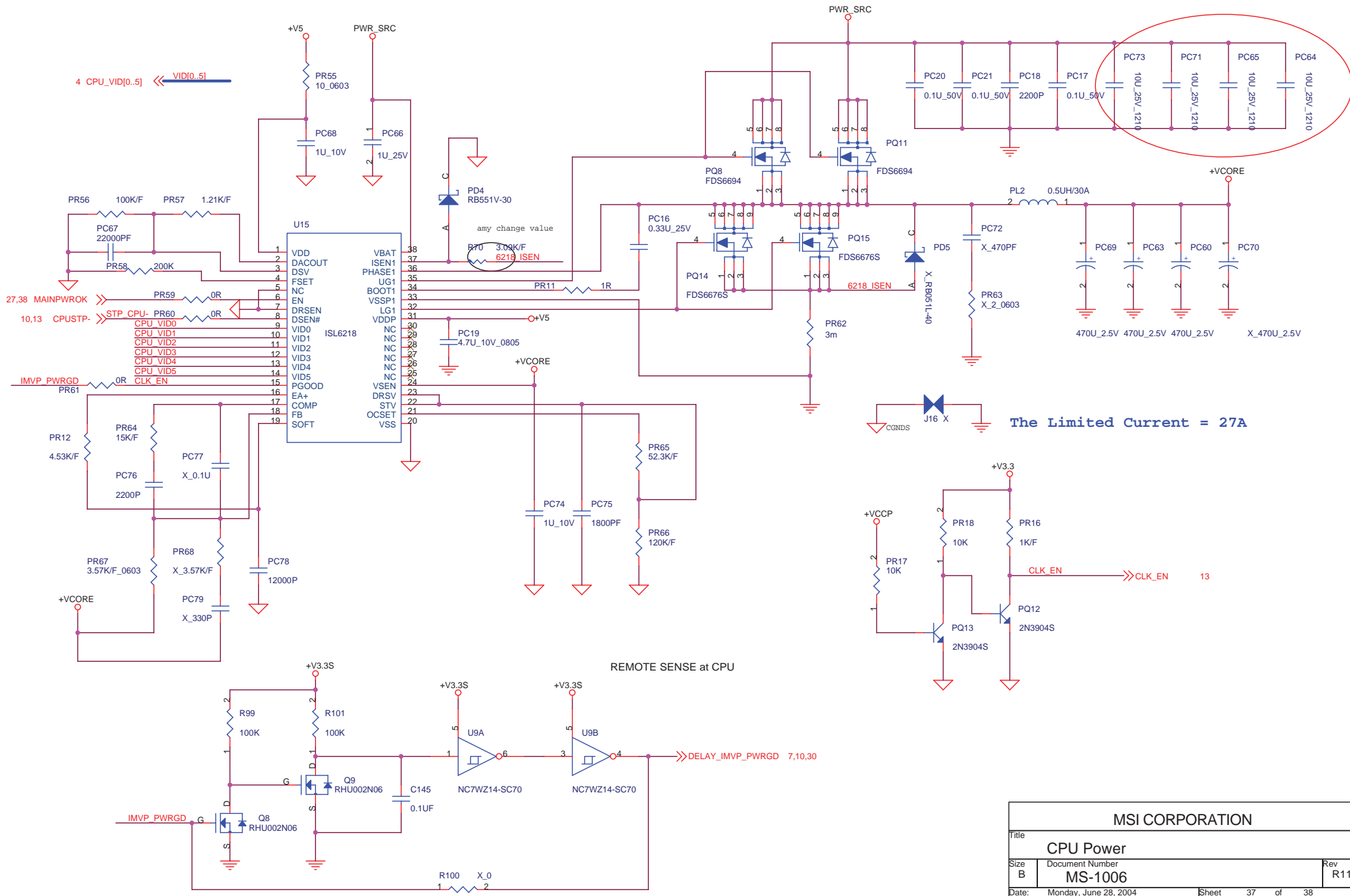
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Title: +2.5V +1.25V		
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Title		
+1.8V		
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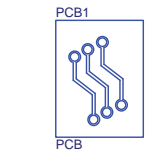
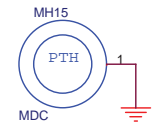
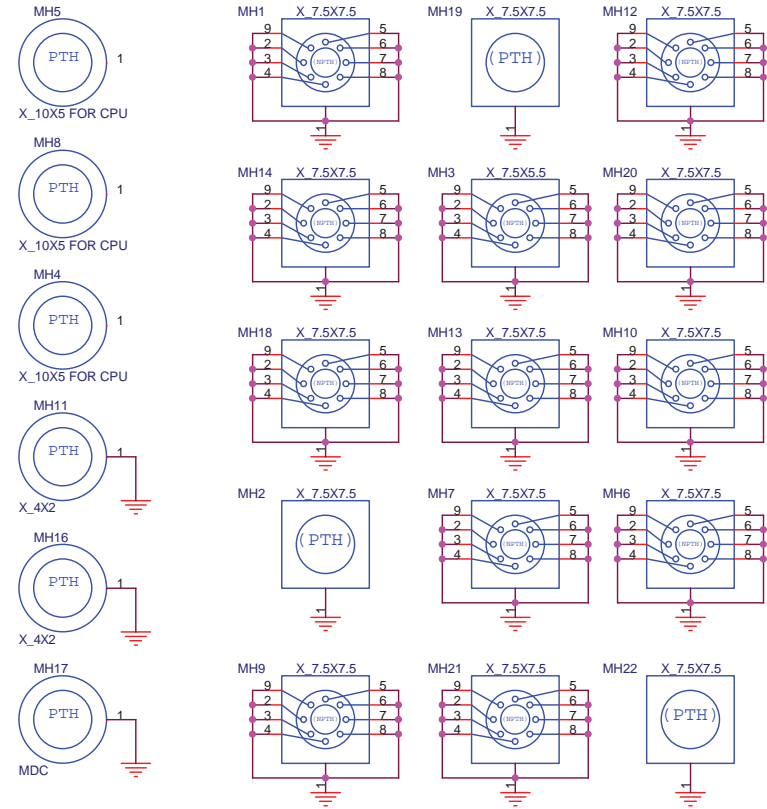


The Limited Current = 27A

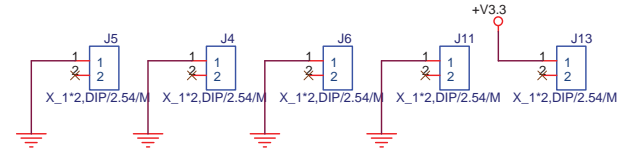
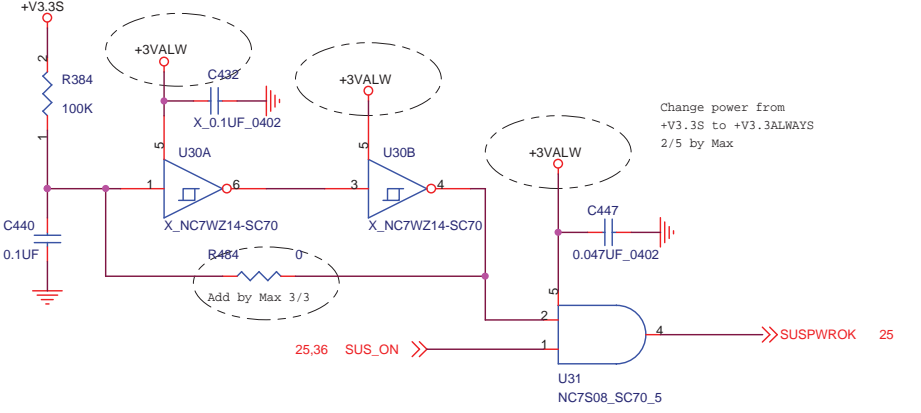
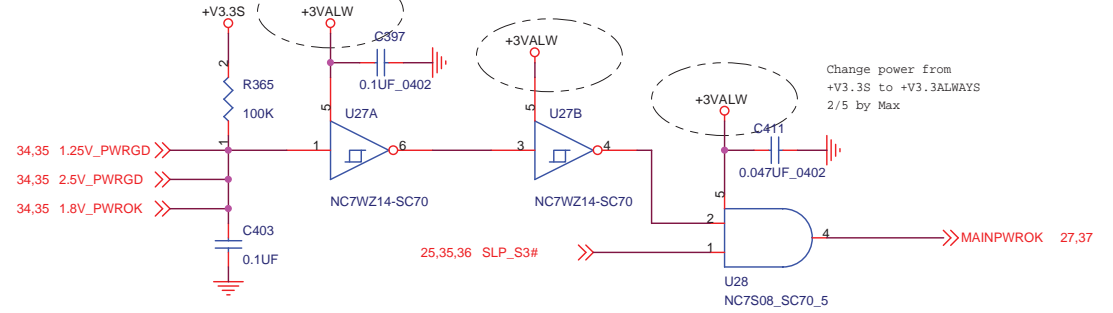
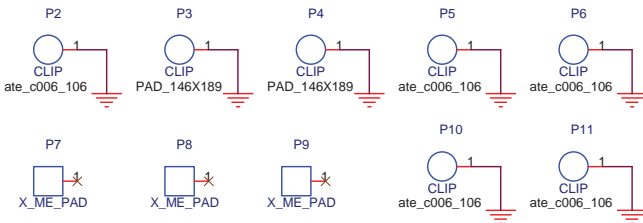
REMOTE SENSE at CPU

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Keep Away from high speed buses



P16-006111A-T53, 健鼎
P16-006111A-C48, 祥裕



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Title POWER GOOD		
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