



# V30S11 Schematics Rev:C

V30SIX M/B Ver:C  
P/N: 37GV30000-C0  
Made in China

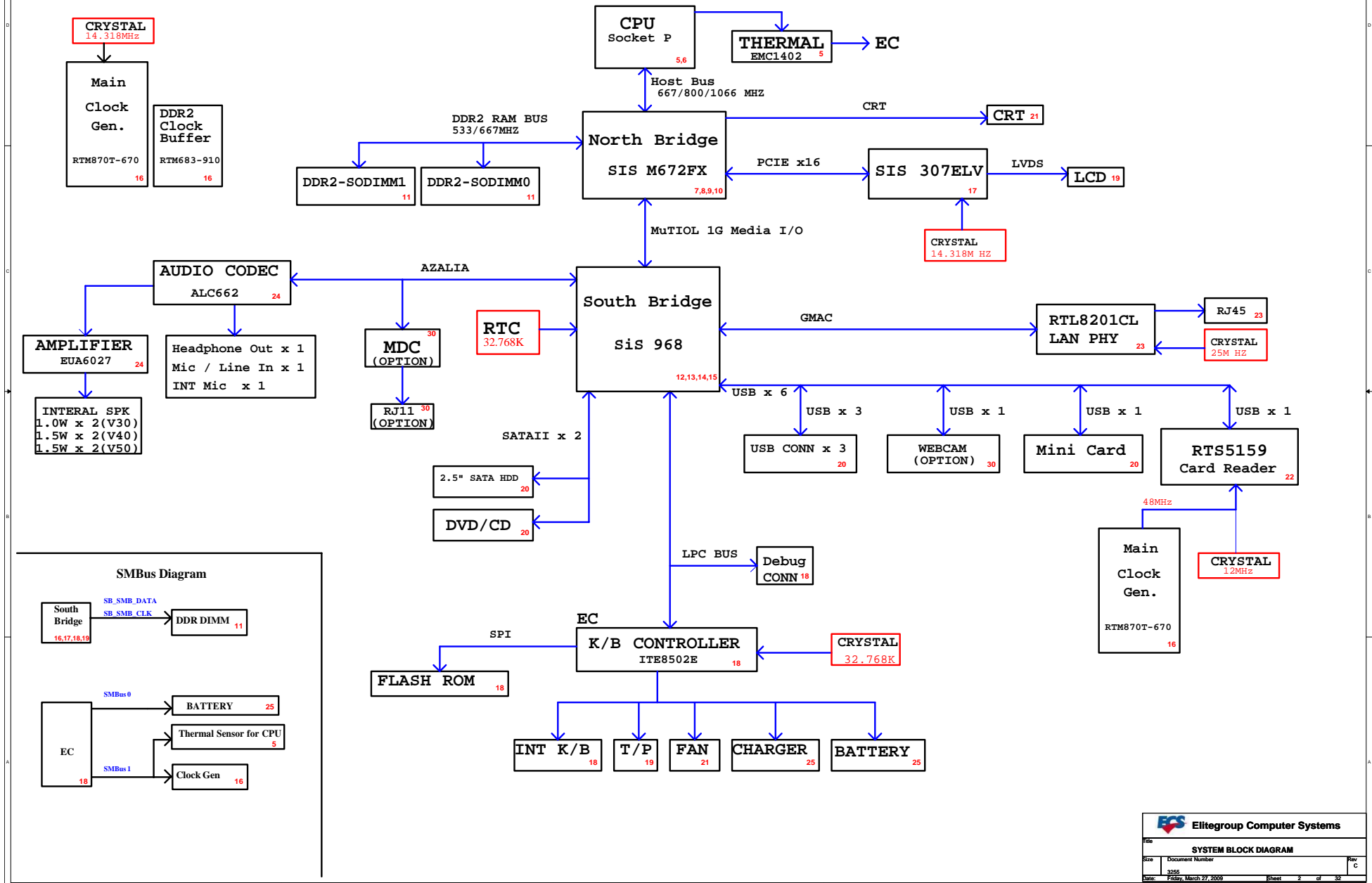
PAGE	CONTENT
1.	Cover Page
2.	System Block Diagram
3.	POWER BLOCK DIAGRAM & Sequence
4.	GPIO & POWER CONSUMPTION
5.	CPU HOST & CPU Thermal Sensor
6.	CPU_POWER
7.	NB_672MX\672FX_HOST_PCIE
8.	NB_672MX\672FX_DRAM
9.	NB_672MX\672FX_MuTIOL_VGA
10.	NB_672MX\672FX_PWR_GND
11.	DDR2_SO-DIMM
12.	SB_968_PCI_IDE_MuTIOL_SPI
13.	SB_968_PCIE_LAN_GPIO
14.	SB_968_USB_SATA
15.	SB_968_PWR_GND
16.	CLK_GEN & CLK_BUFFER
17.	SIS 307LV_LVDS_TV
18.	EC IT8502 / BIOS / KB CONN
19.	PWR SW / LED / LCD / TP
20.	HDD / ODD / USB / Mini Card
21.	CRT / FAN / G-SENSOR
22.	CARD READER(RTS5159)
23.	LAN PHY(RTL8201CL)
24.	CODEC & AMP/INT_MIC/SPK/EXT_MIC / HEADPHONE
25.	AC IN & CHARGER (OZ8602)
26.	POWER SWITCH
27.	+1.8VS/+5VA (OZ815)
28.	+CPU_CORE (OZ8291)
29.	3.3VA/1.8V/1.5V/1.2V/1.05V
30.	MDC \ WEBCAM \ TP
31.	LID BD
32.	Change Notes
33.	
34.	

### V30SIX REV:C P/N LIST

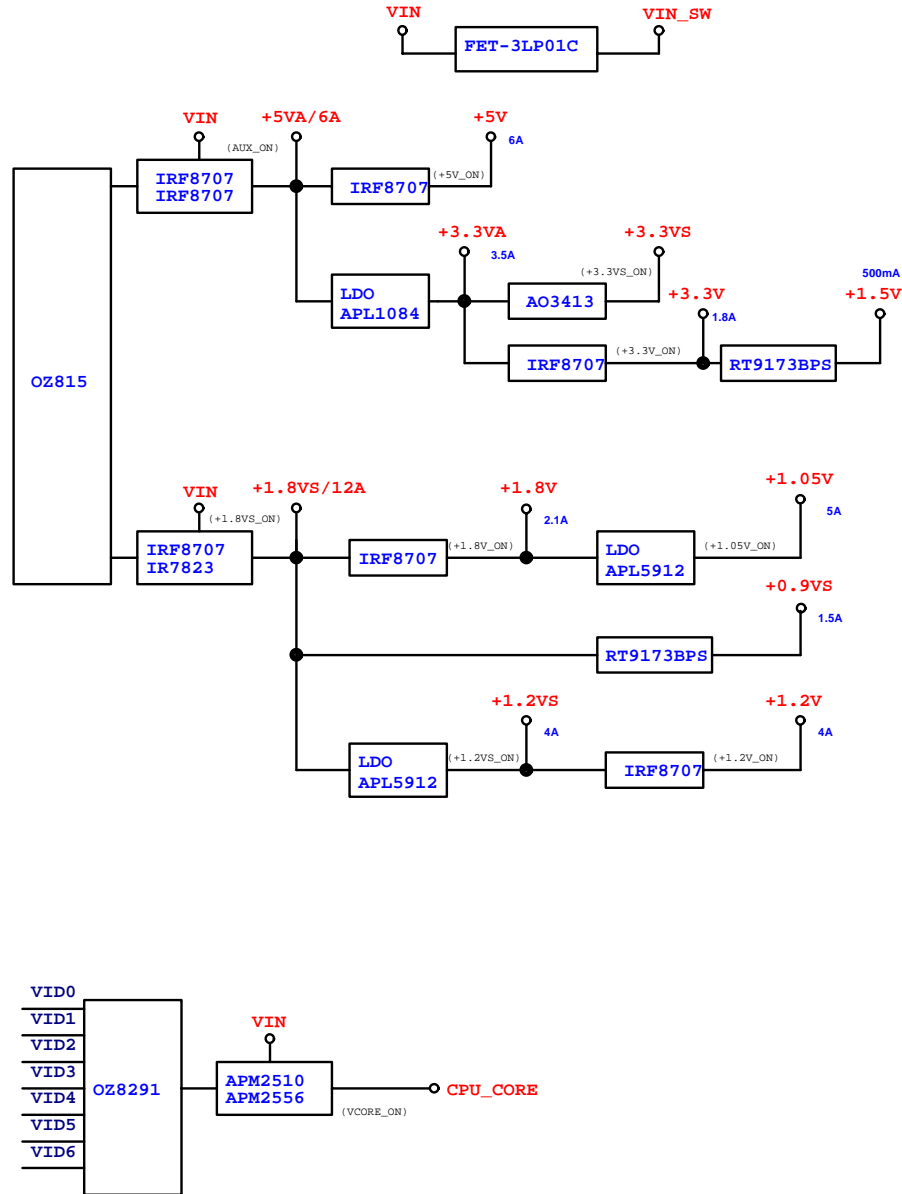
	PCB P/N	PCB ASSY P/N
C PHASE	37GV30000-C0	82GV30000-C0
V40SIX LID BD	35GVV4000-B0	80GVV4000-B0

# V30SI1

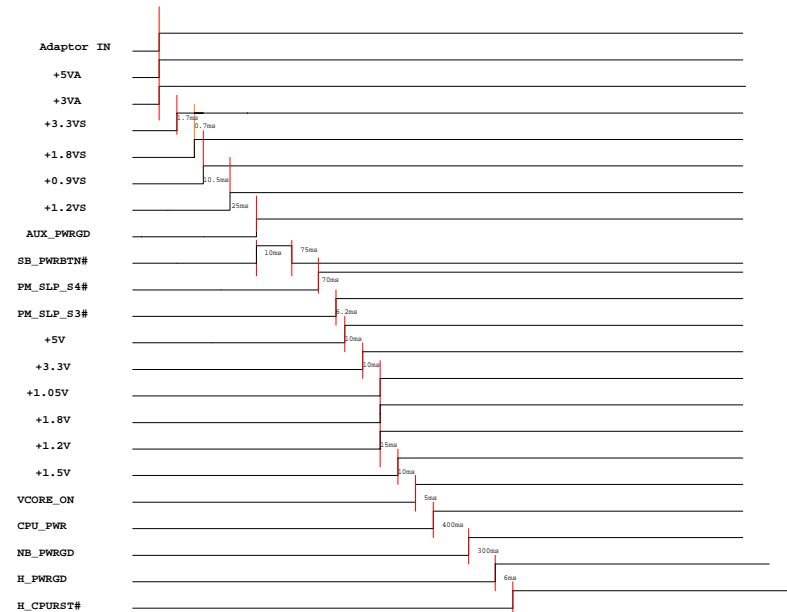
## SYSTEM BLOCK DIAGRAM



# POWER BLOCK DIAGRAM



# POWER Sequence



<b>SIS968</b> <b>GPIO</b>	
GPIO0	EC_EXTSMI#
GPIO1	NC
GPIO2	PM_THROTTLING#
GPIO3	EC_EXTSCI#
GPIO4	NC
GPIO5	NC
GPIO6	NC
GPIO7	NC
GPIO8	NC
GPIO9	NC
GPIO10	PM_SLP_S4#
GPIO11	AGPSTOP_N
GPIO12	CPU_DPSLPP#
GPIO13	PM_DPSLPPVR
GPIO14	NC
GPIO15	PM_SLP_S3#
GPIO16	NC
GPIO17	H_A20GATE
GPIO18	H_RCIN#
GPIO19	SB_SMB_CLK
GPIO20	SB_SMB_DATA

<b>ITE8502E</b> <b>GPIO</b>	
GPA0	BTL_BEEP
GPA1	EC_BL_PWM
GPA2	AUX_PWRGD
GPA3	RF_LED
GPA4	WEBCAM_ON
GPA5	ODD_DET
GPA6	RF_ON
GPA7	SPI_SW#
GPB0	SENBAT_V
GPB1	NC
GPB2	+1.2V_ON
GPB3	BAT_SMBCLK
GPB4	BAT_SMBDAT
GPB5	H_A20GATE
GPB6	H_RCIN#
GPB7	MUTE
GPC0	Amp_Saving
GPC1	SMBCLK_EC
GPC2	SMBDAT_EC
GPC3	NC
GPC4	PWR_KEEP
GPC5	NC
GPC6	SB-PWRBTN#
GPC7	SB_RTCRST
GPD0	AC_IN
GPD1	INT1
GPD2	PLT_RST#
GPD3	EC_EXTSCI#
GPD4	EC_EXTSMI#
GPD5	PWROK
GPD6	PM_THROTTLING#
GPD7	DELAY_VR_PWRGOOD
GPE0	+3.3VS_ON
GPE1	Low Voltage
GPE2	CHG_R_LED
GPE3	NC
GPE4	PWRON
GPE5	CHG_G_LED
GPE6	USB0_EN#
GPE7	IO_Saving
GPF0	H_SB_PROCHOT#
GPF1	SAFETY
GPF2	CPU_BSEL0
GPF3	CPU_BSEL1
GPF4	TP_CLK
GPF5	TP_DATA
GPF6	SMB_CLK_GEN_G
GPF7	SMB_DATA_GEN_G
GPG0	LCDSW
GPG1	+3.3V_ON
GPG2	FLFRAME#
GPG6	LID#
GPH0	VCORE_ON
GPH1	+1.2VS_ON
GPH2	+5V_ON
GPH3	+1.8V_ON
GPH4	+1.05V_ON
GPH5	+1.8VS_ON
GPH6	PWR_LED

<b>ITE8502E</b> <b>GPIO</b>	
GPIO0	BATT_TEMP
GPIO1	ADAPTOR_I
GPIO2	BAT_V
GPIO3	BAT_I
GPIO4	PM_SLP_S4#
GPIO5	PM_SLP_S3#
GPIO6	NC
GPIO7	CPU_PWR
GPIO8	Fast-charge-EN
GPJ1	CHG_I
GPJ2	FAN_CTRL0
GPJ3	CHG_ON
GPJ4	EC_BRGHT
GPJ5	SET_V

<b>CPU</b>				
CPU CORE(V)	ICC(mA)	W	TEMP(°C)	
2.0G	1.525	35.7	54.3	69
2.2G	1.525	37.5	57.1	70
2.26G	1.525	38.1	58.0	70
2.4G	1.525	39.3	59.8	71
2.5G	1.525	40	61.0	72
2.53G	1.525	40.4	61.5	72
2.6G	1.525	41.05	62.6	72
2.66G	1.525	43.35	66.1	74
2.8G	1.525	44.86	68.4	75
3.06G	1.525	55.9	85.2	81
VCC	ICC(mA)	W	TEMP(°C)	
+1.5V	130	0.195	70	
+1.05V	4500	4.725		

<b>M672FX</b>			
VCC	ICC(mA)	W	TEMP(°C)
+1.2V	3218	3.86	70
+1.8V	1189	2.14	
+1.05V	80	0.084	

<b>SIS968</b>			
VCC	ICC(mA)	W	TEMP(°C)
+3.3V	95	0.314	70
+1.8V	1252	2.253	
+1.05V	22	0.023	

<b>307ELV</b>			
VCC	ICC(mA)	W	TEMP(°C)
+3.3V	236	0.778	70
+1.8V	681	1.225	

<b>CLOCK GENERATOR+BUFFER</b>			
VCC	ICC(mA)	W	TEMP(°C)
+3.3V	400	1.32	70
+1.8V	300	0.54	

<b>ITE8502E</b>			
VCC	ICC(mA)	W	TEMP(°C)
+3.3V	200	0.66	70
+3.3VA	500	1.65	

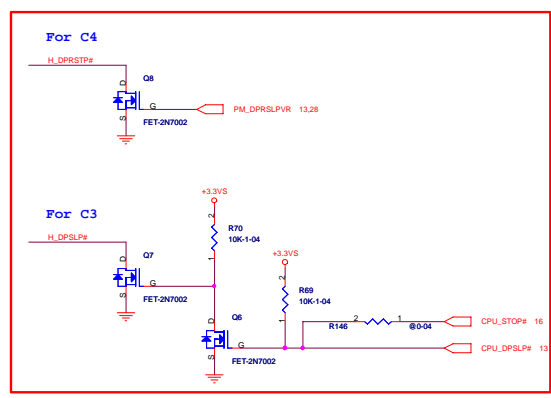
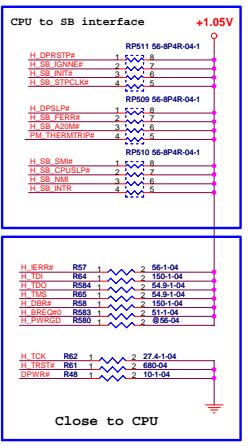
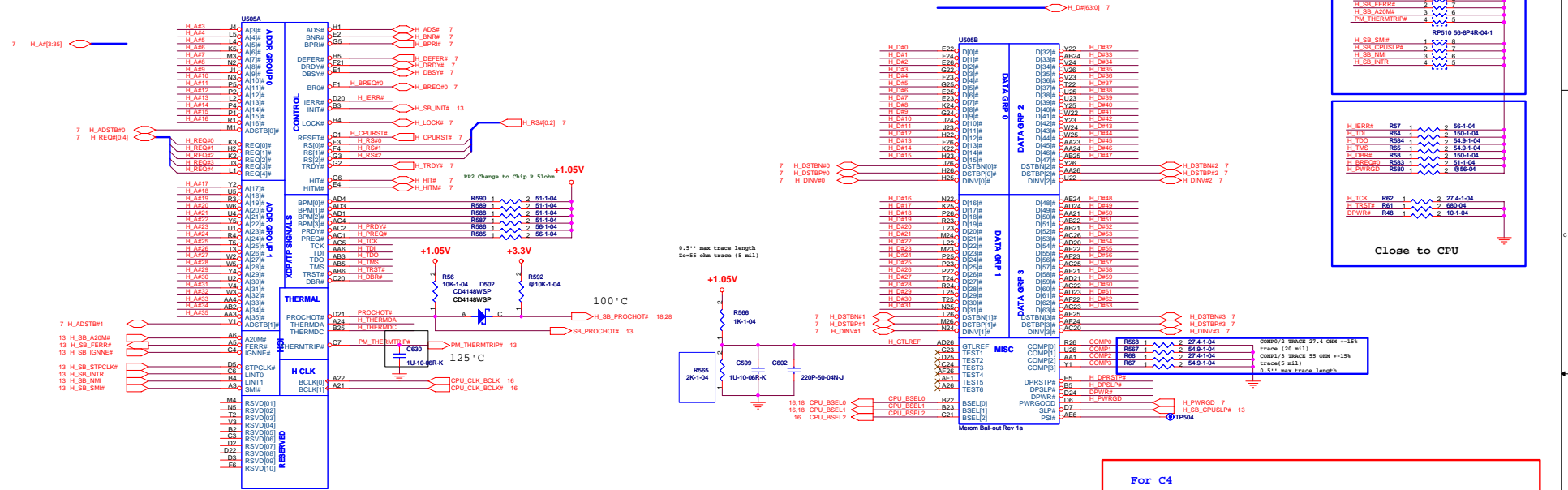
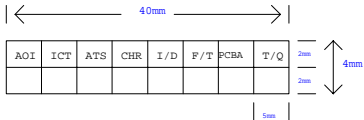
<b>RTS5159</b>			
VCC	ICC(mA)	W	TEMP(°C)
+3.3V	293	0.966	85

<b>RTL8201CL</b>			
VCC	ICC(mA)	W	TEMP(°C)
+3.3V	120	0.396	85

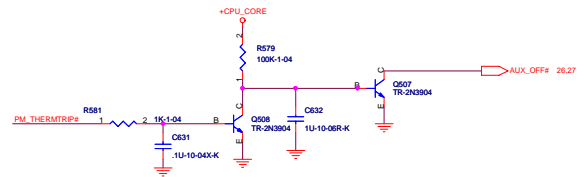
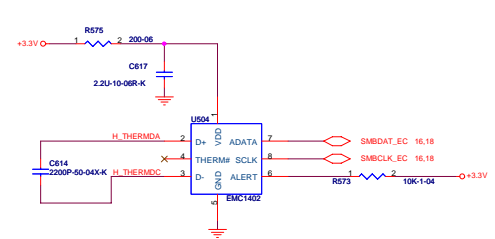
<b>ALC662</b>			
VCC	ICC(mA)	W	TEMP(°C)
+3.3V	23	0.075	70
+5VA	38	0.19	

<b>APA2068</b>			
VCC	ICC(mA)	W	TEMP(°C)
5V	20	0.1	85

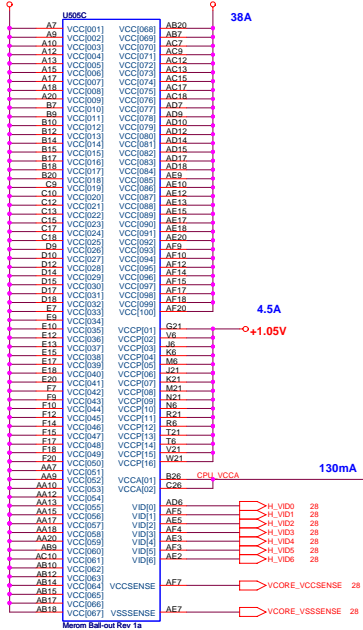
<b>BMC1402</b>			
VCC	ICC	W	TEMP(°C)
+3.3V	150uA	0.495mW	140.8



**CPU Thermal Sensor**



+CPU\_CORE



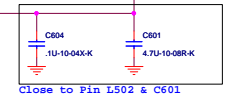
+CPU\_CORE

38A

+1.05V

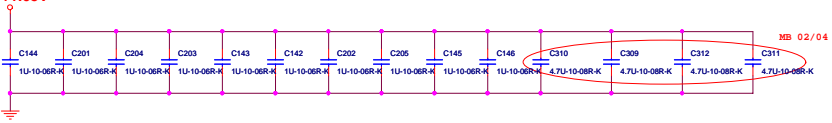
4.5A

+1.5V

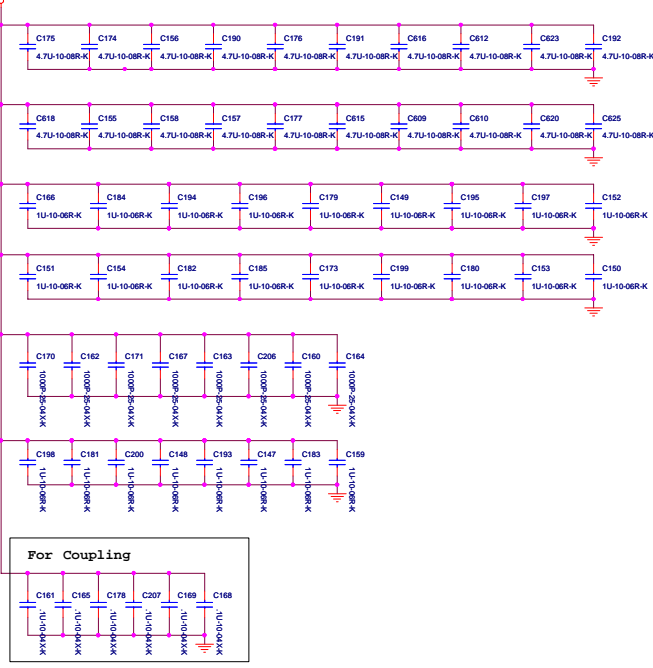


130mA

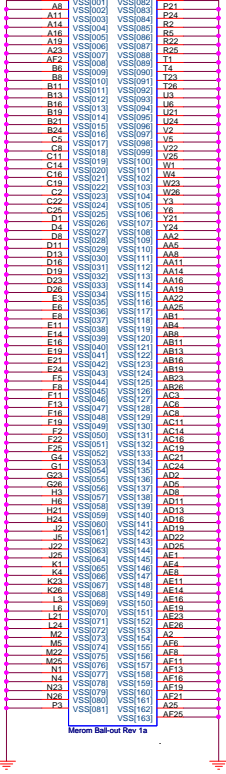
+1.05V



+CPU\_CORE

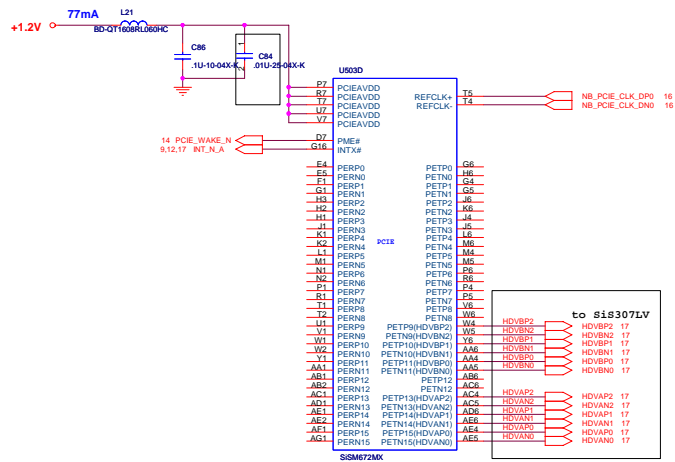
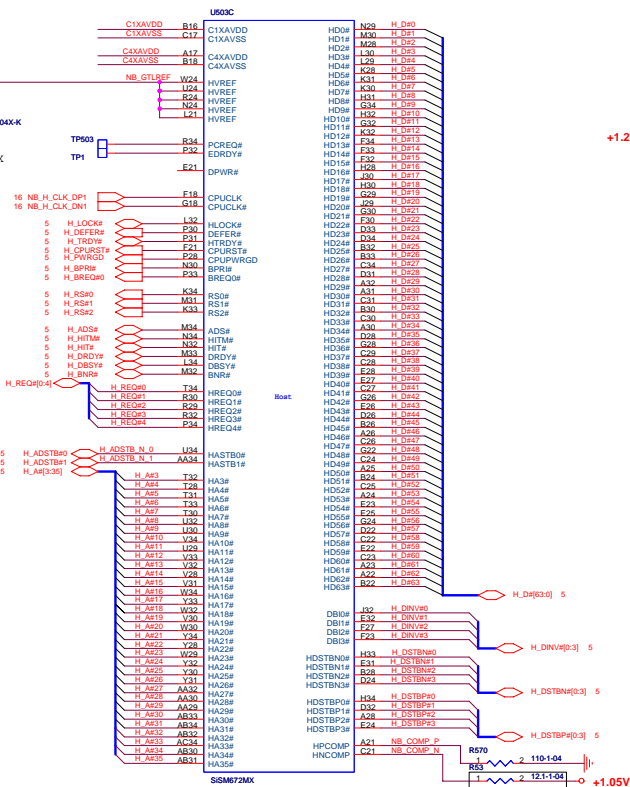
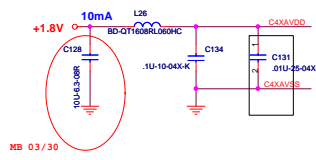
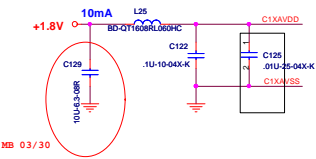
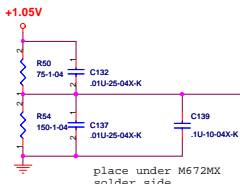


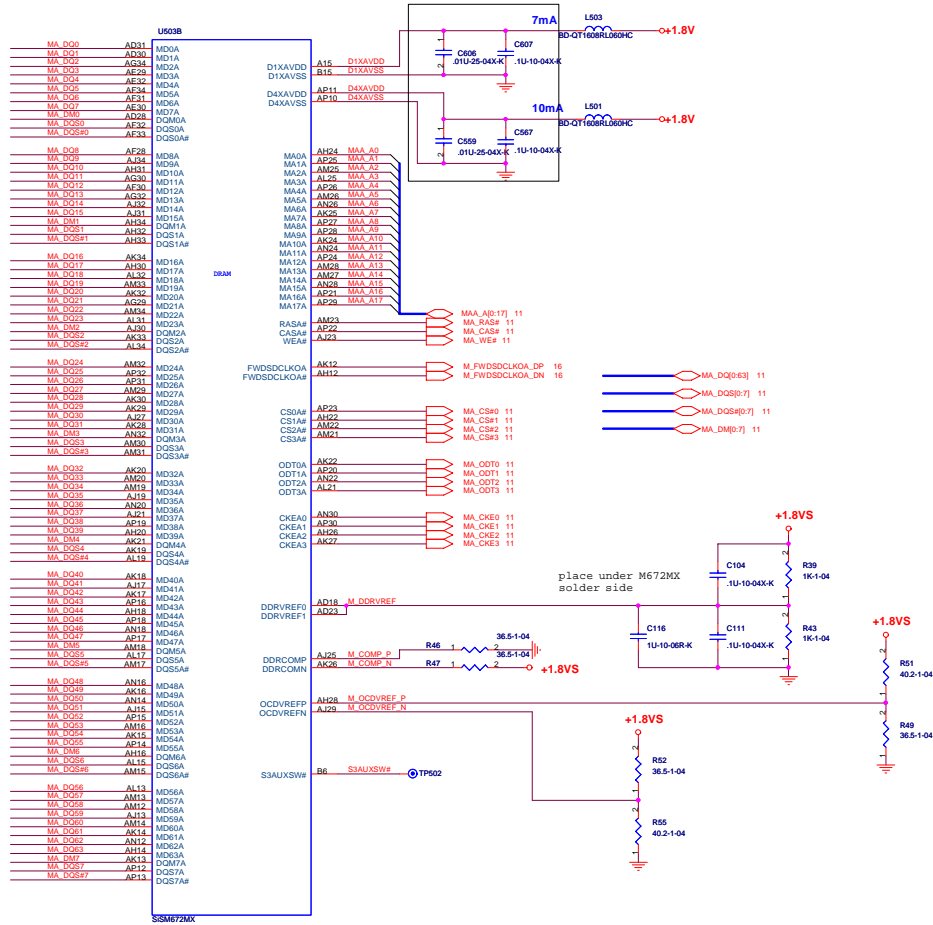
U990D



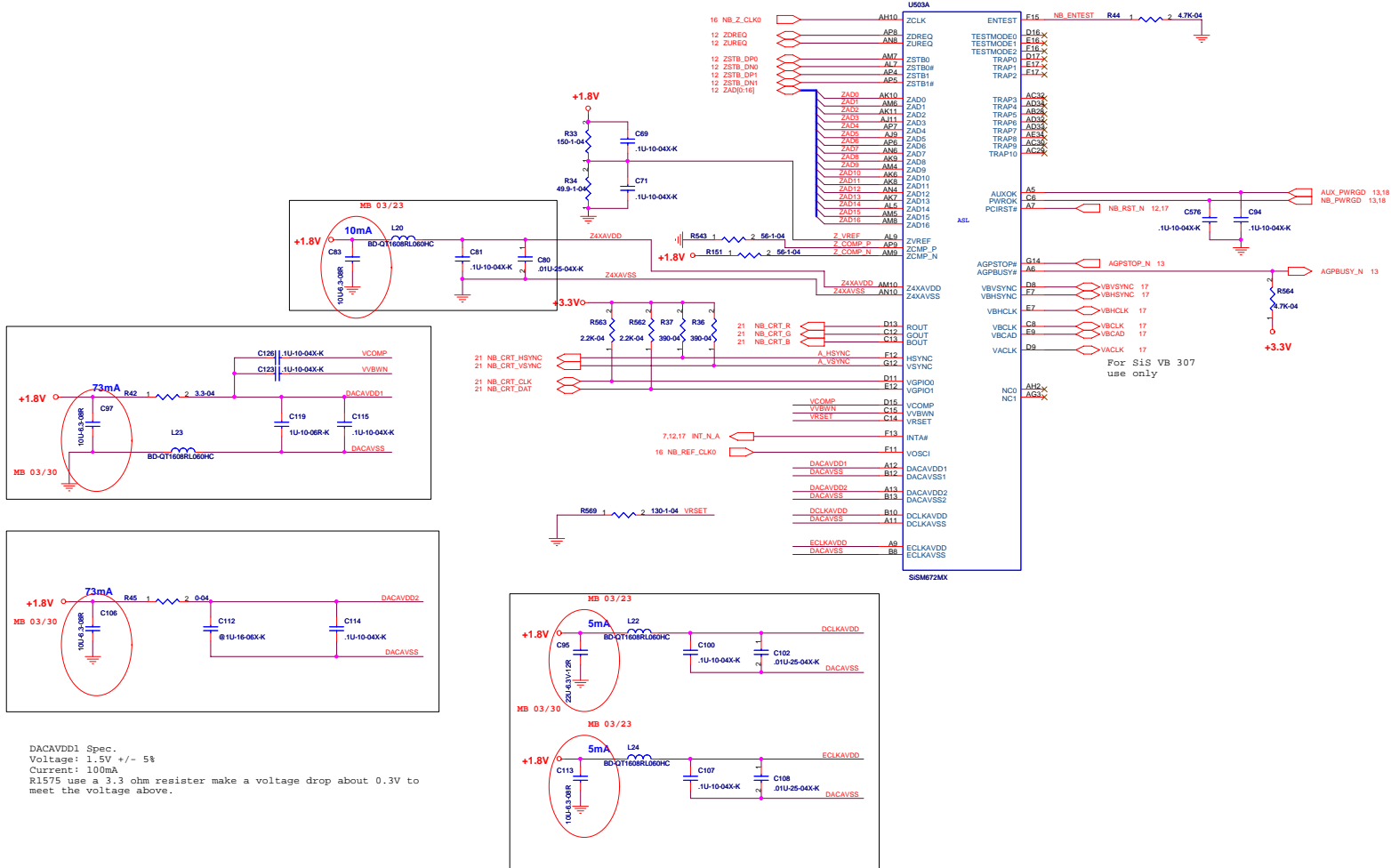
Memor Ball-out Rev 1a

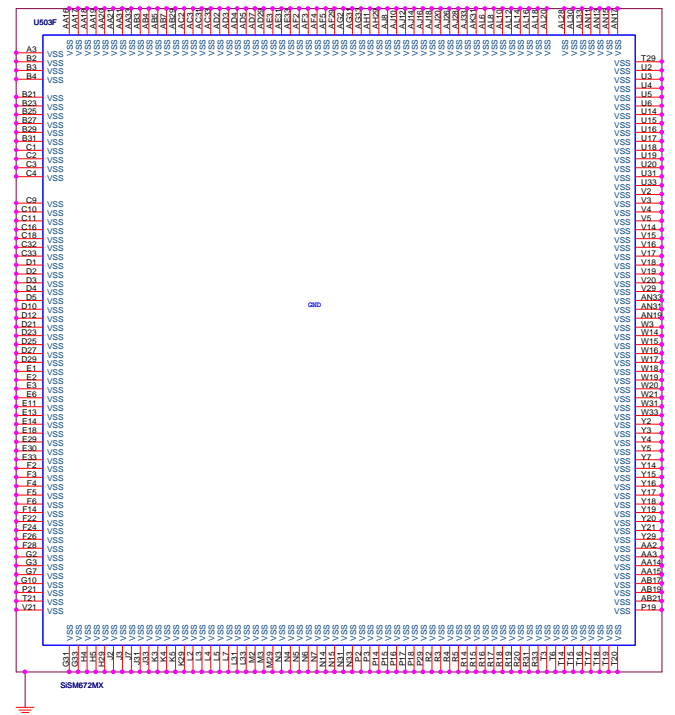
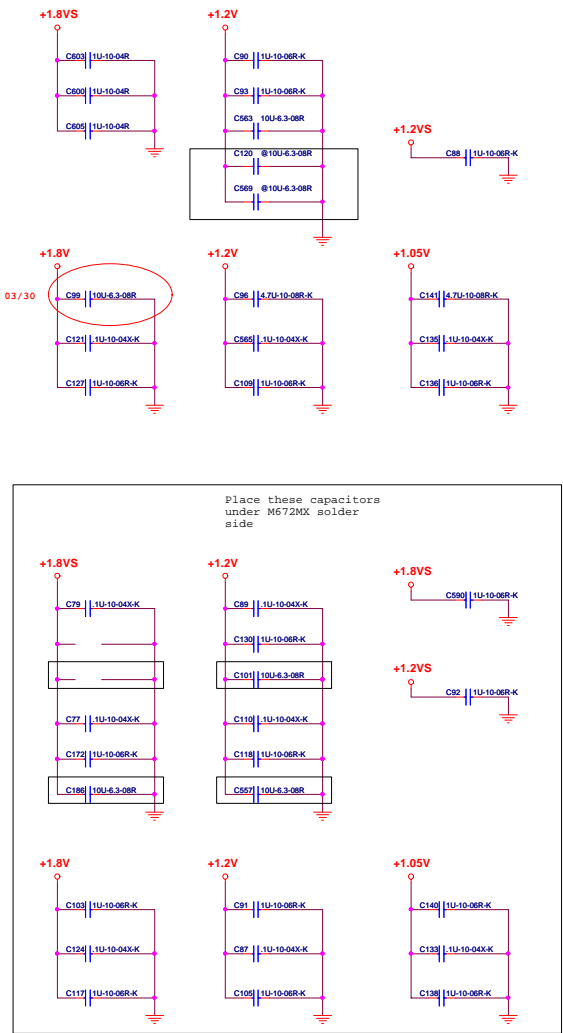
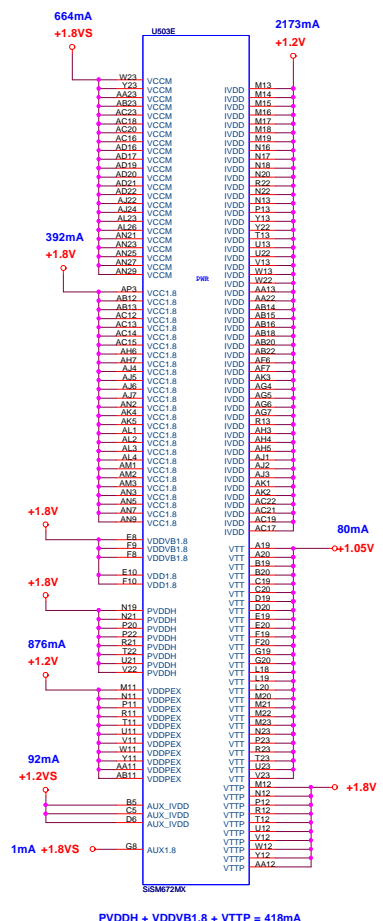
Memor Ball-out Rev 1a

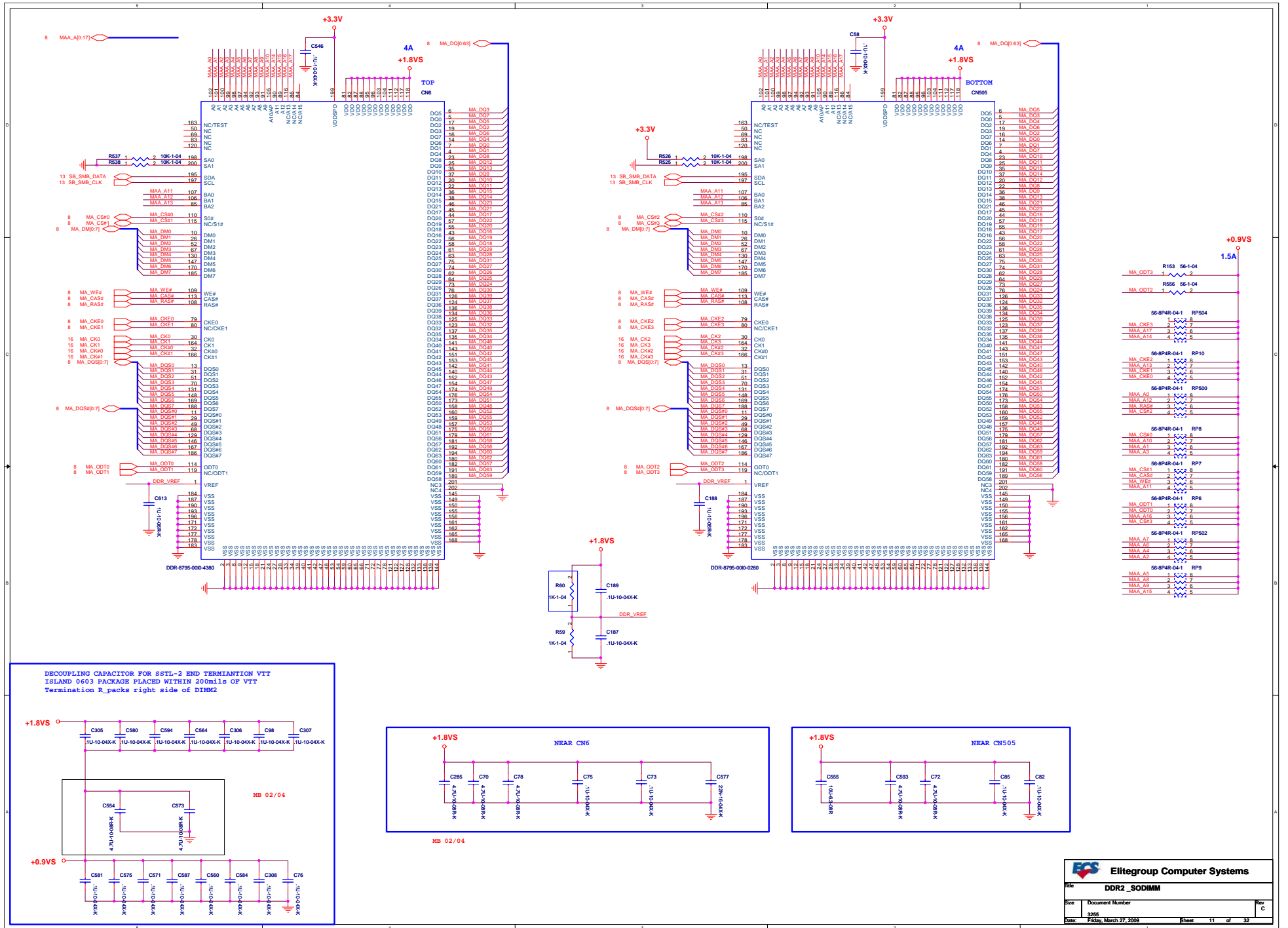


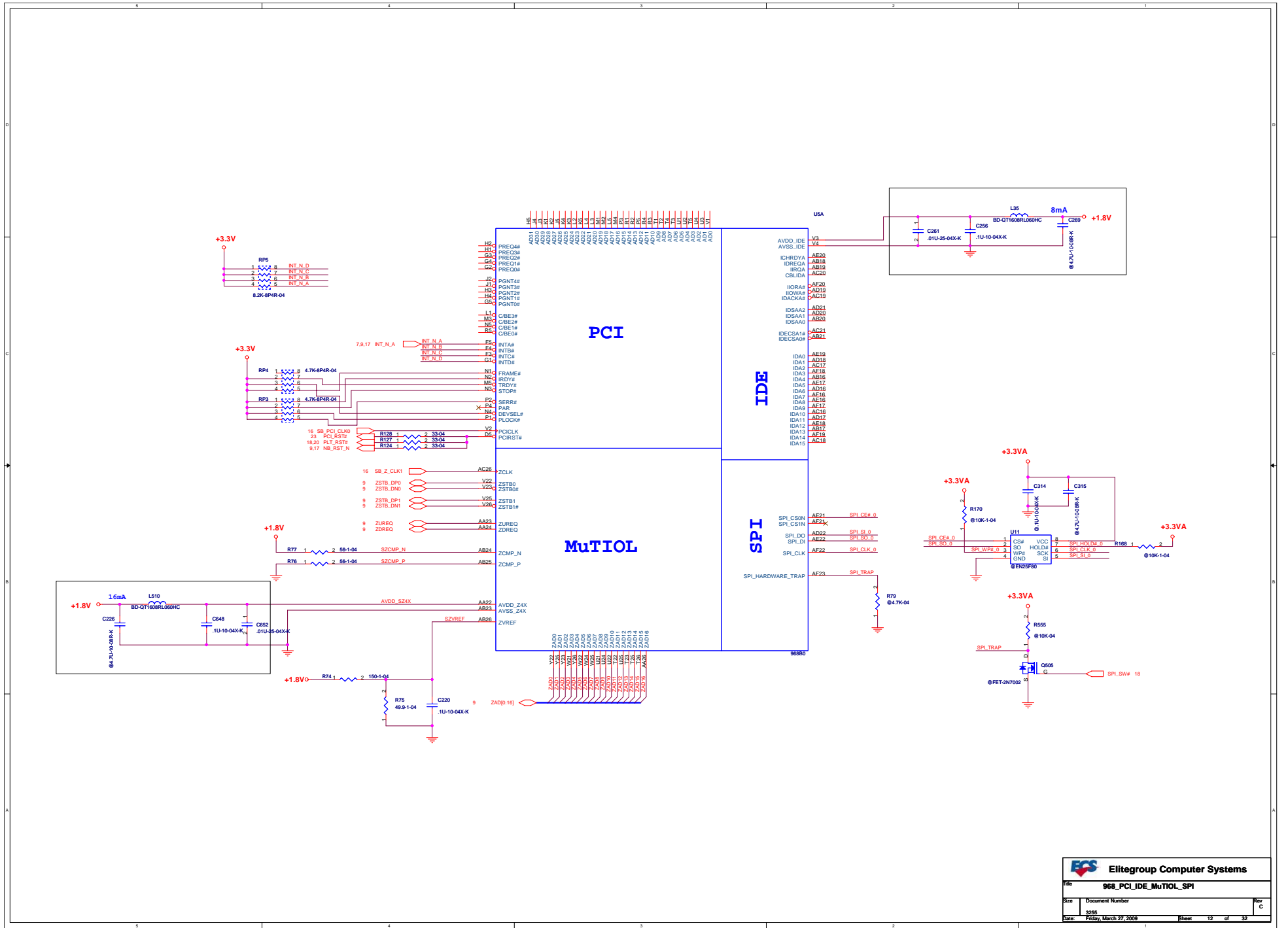


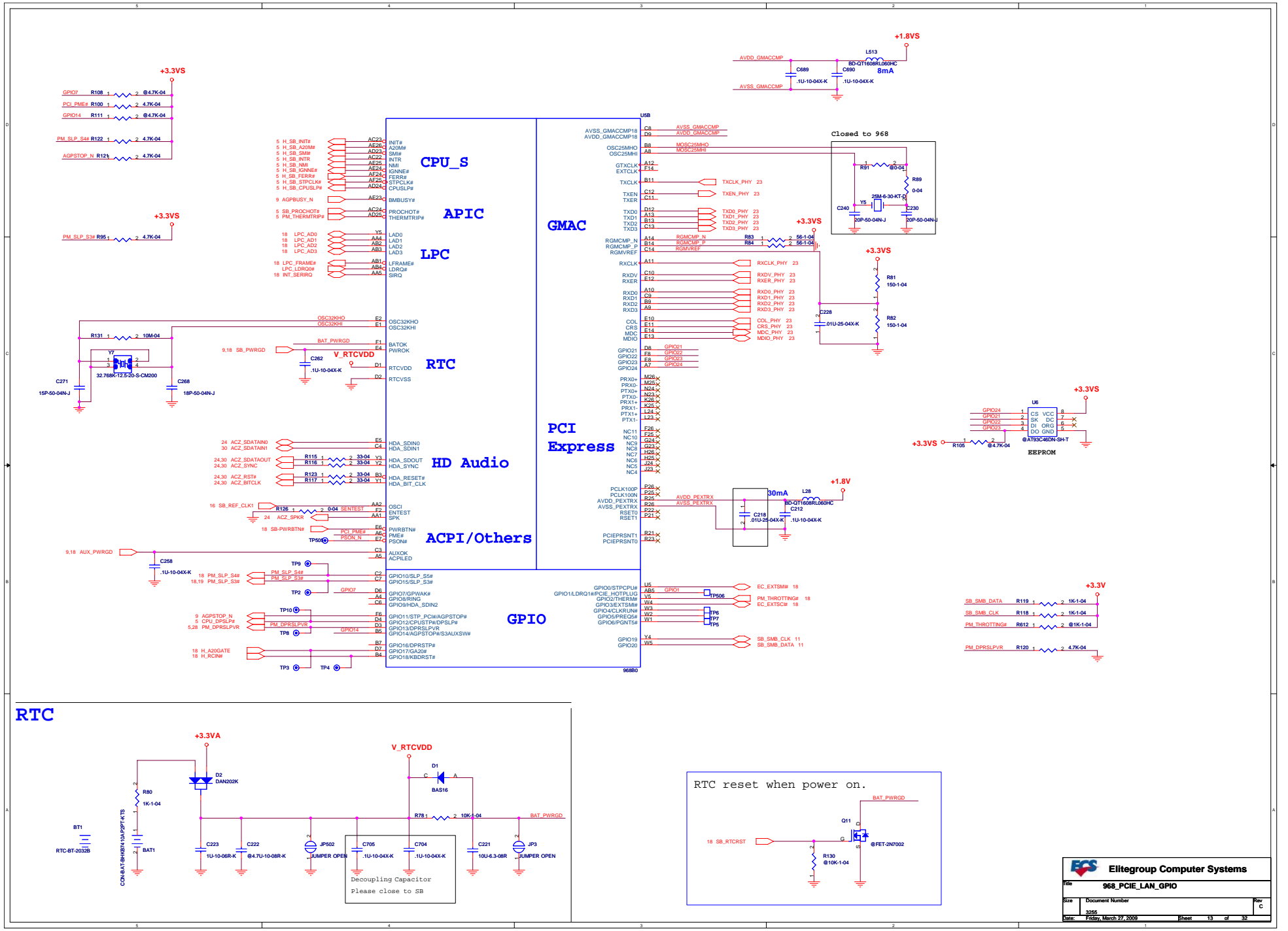




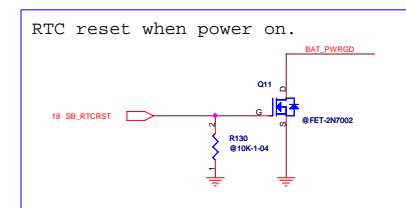
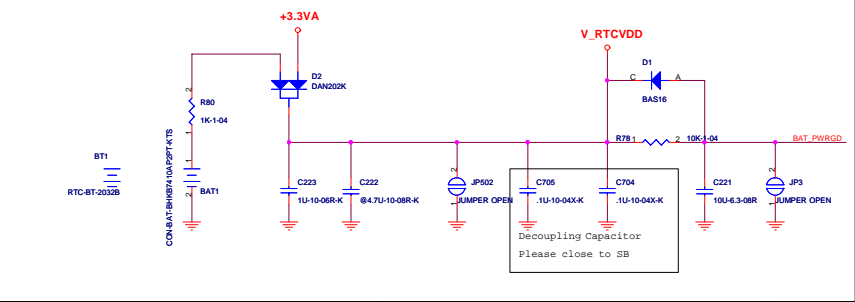




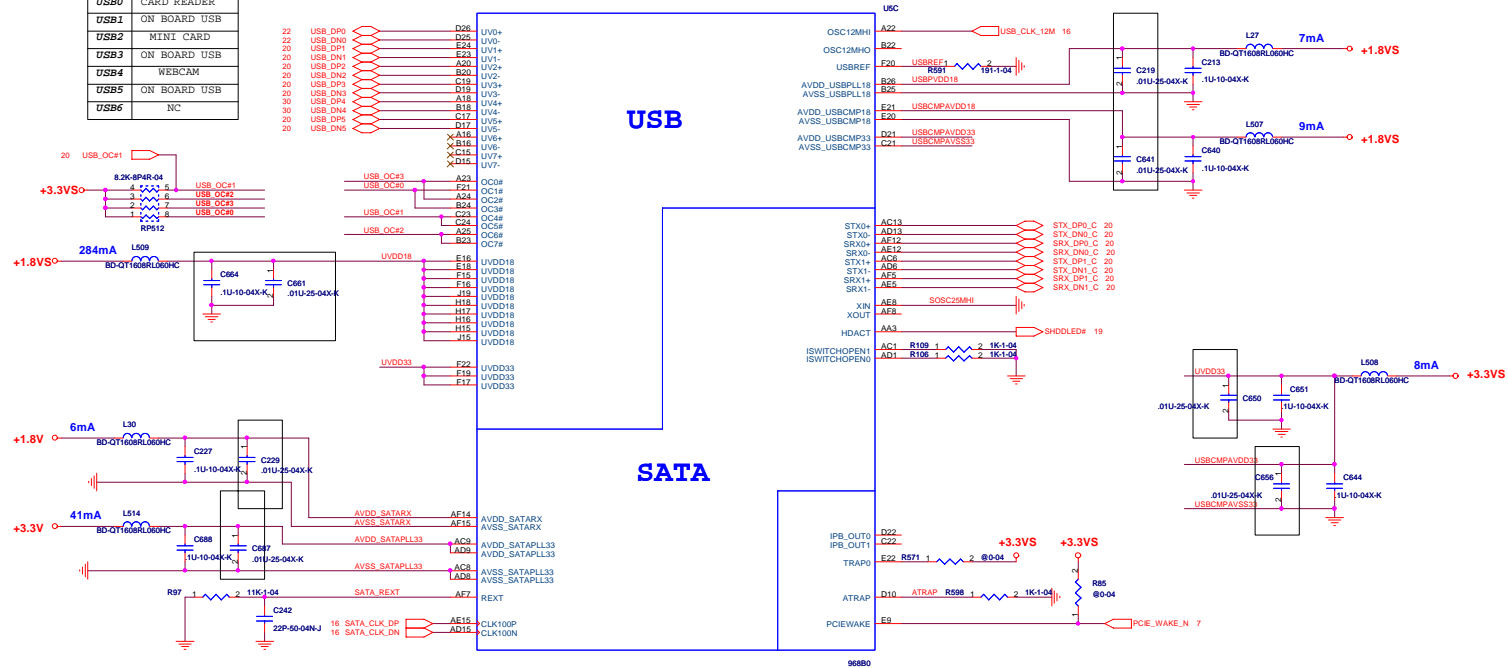


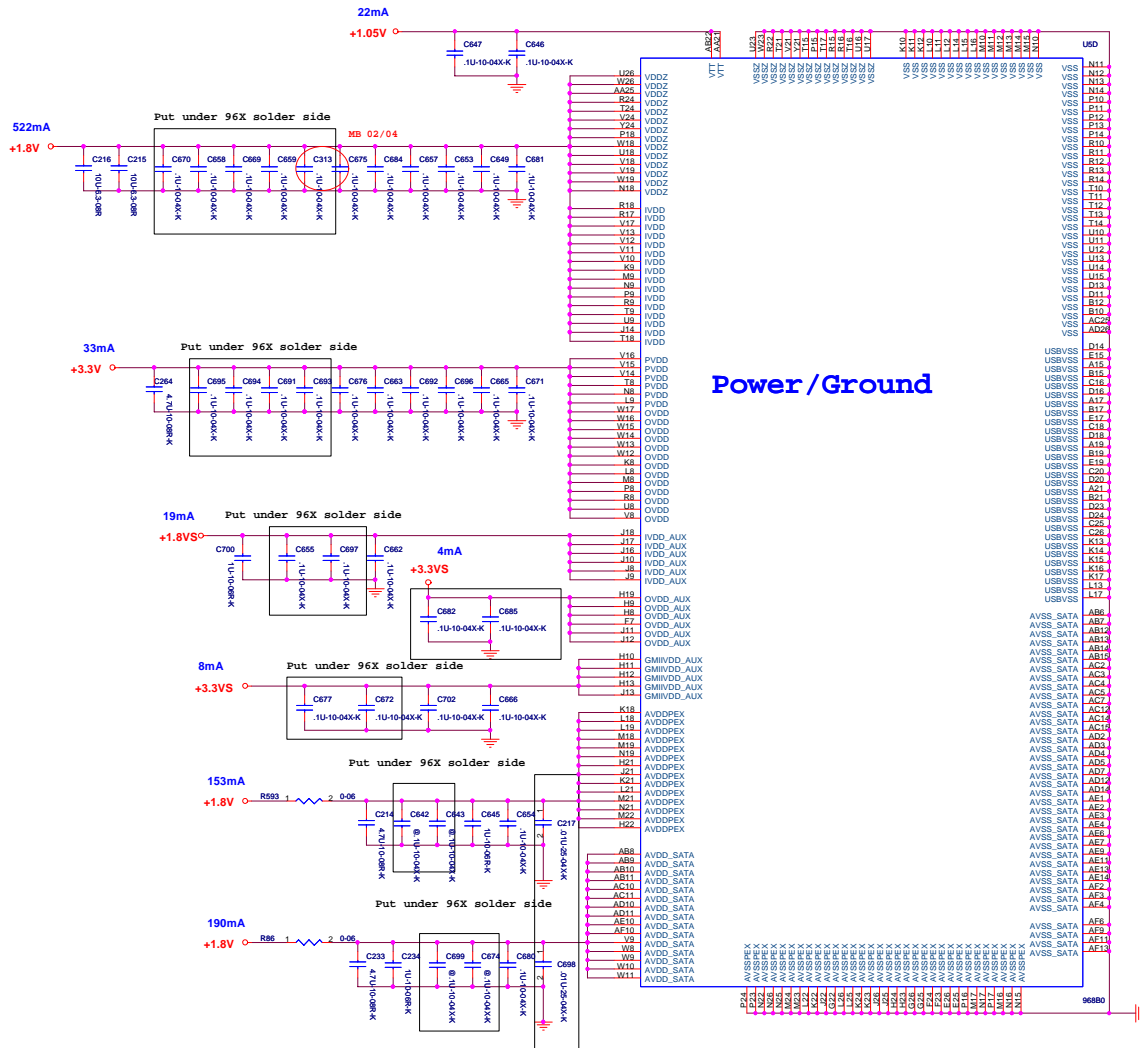


**RTC**

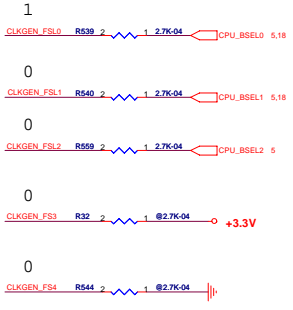
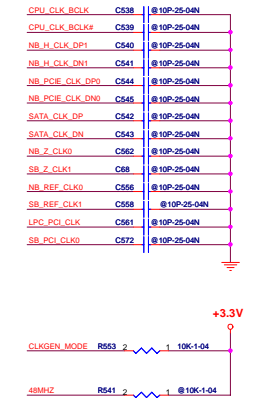
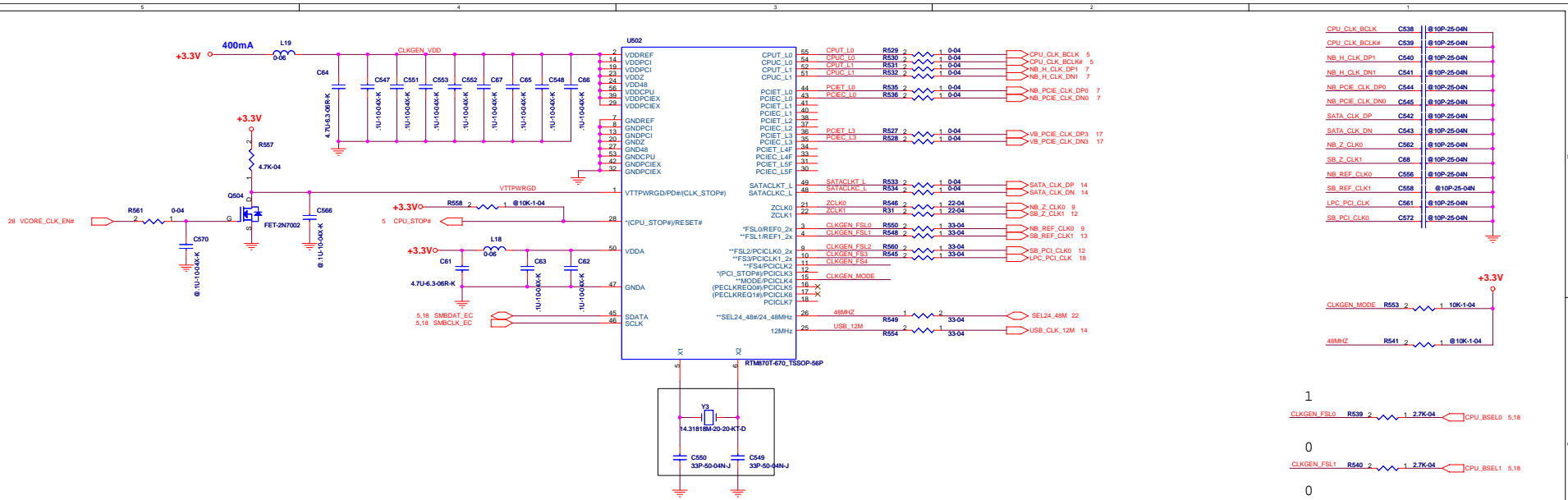


V306IX	
USB0	CARD READER
USB1	ON BOARD USB
USB2	MINI CARD
USB3	ON BOARD USB
USB4	WEBCAM
USB5	ON BOARD USB
USB6	NC

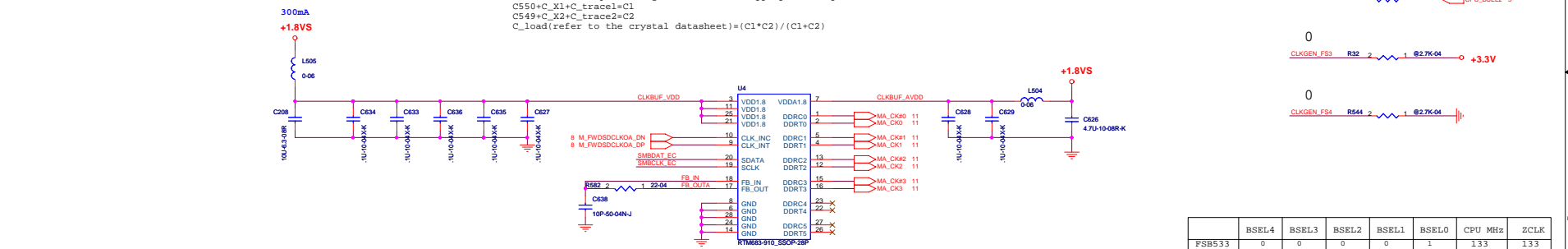




**Power / Ground**

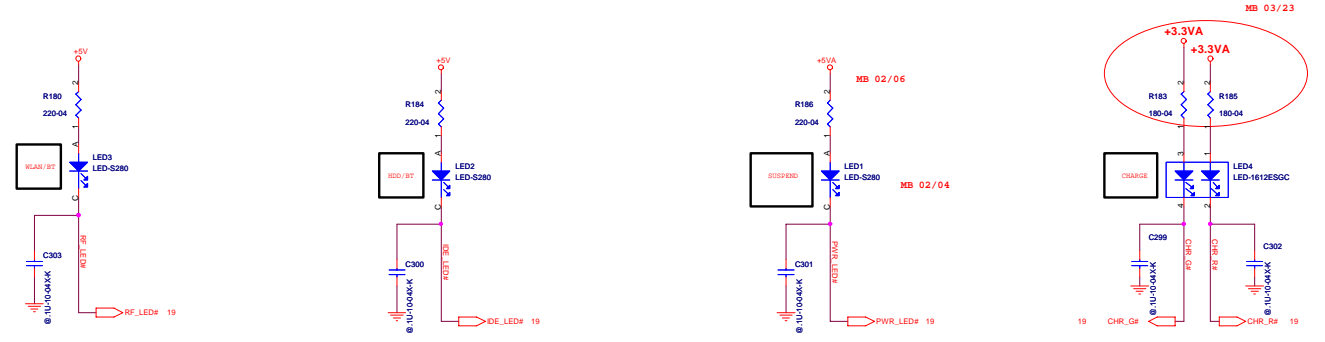


Please base on your design to choose the appropriate capacitor value.  
 $C_{S50} + C_{X1} + C_{trace1} = C1$   
 $C_{S49} + C_{X2} + C_{trace2} = C2$   
 $C_{load}(\text{refer to the crystal datasheet}) = (C1 * C2) / (C1 + C2)$

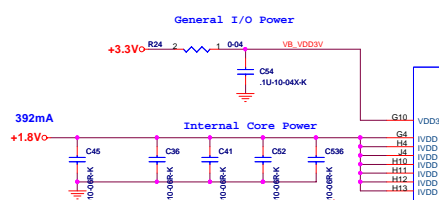
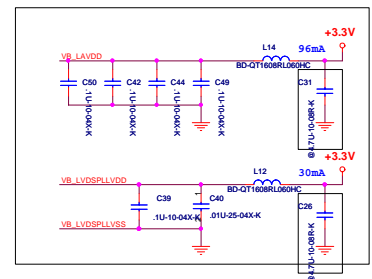
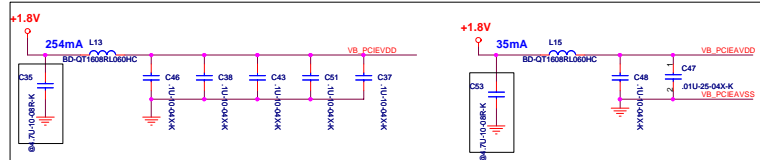


	BSEL4	BSEL3	BSEL2	BSEL1	BSEL0	CPU MHz	ZCLK
FSB533	0	0	0	0	1	133	133
FSB667	0	0	0	1	1	166	133
FSB800	0	0	0	1	0	200	133
FSB1066	0	0	0	0	0	266	133

### LED



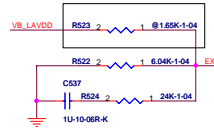




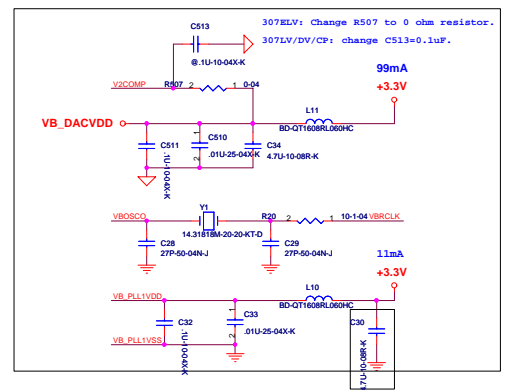
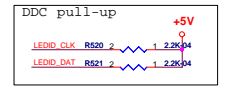
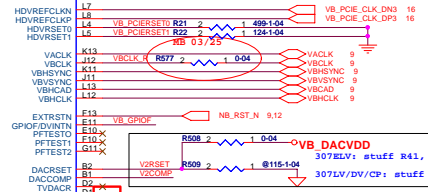
### 307LV/ELV//307DV/307CP

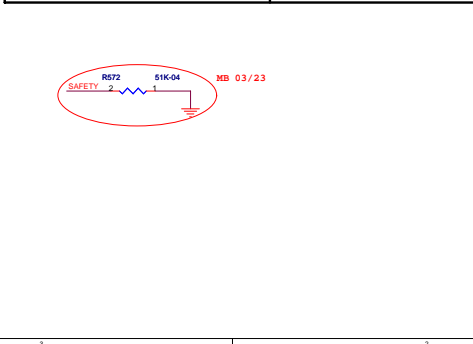
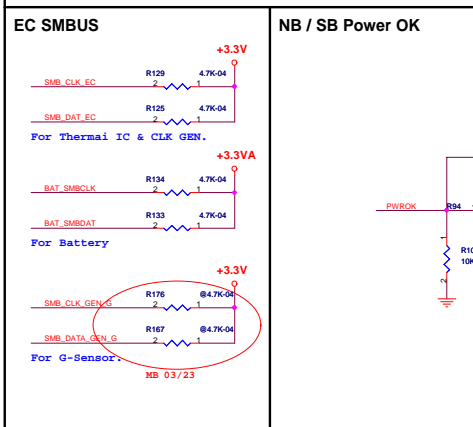
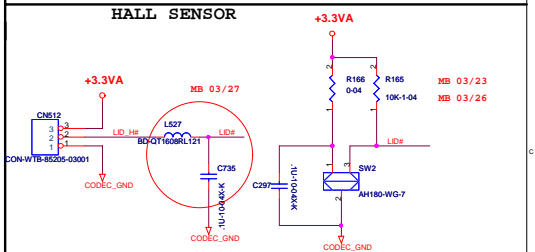
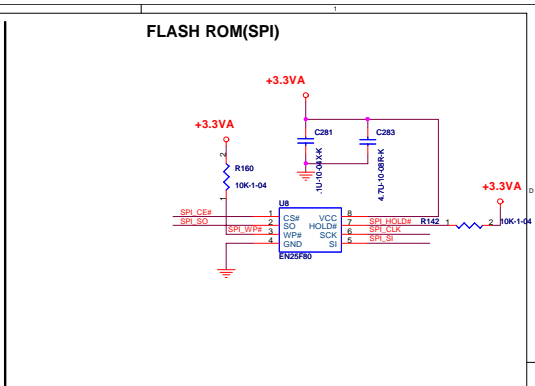
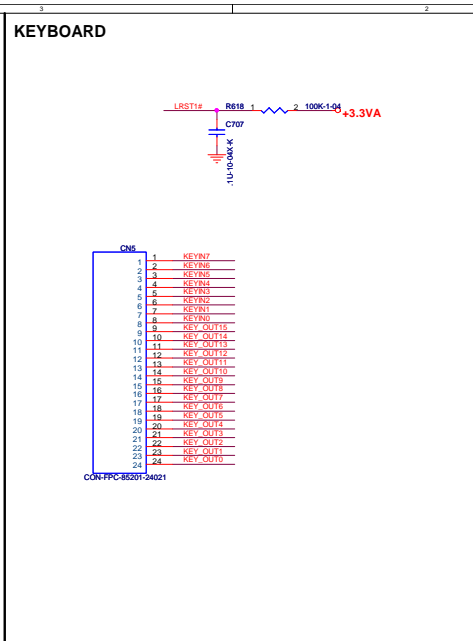
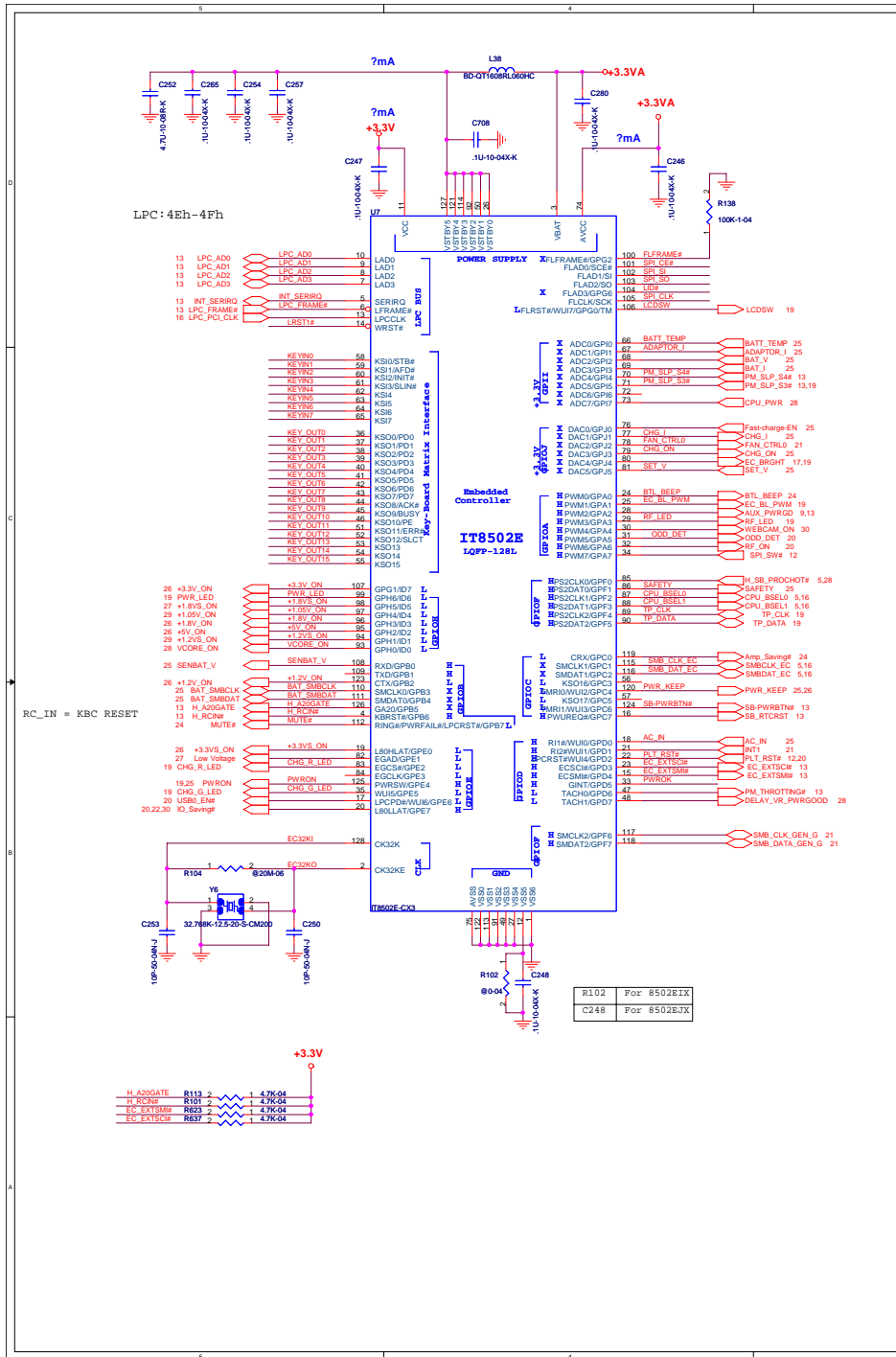
### HDV Signals

For 307LV/ELV only  
 19 VB\_LCVDD\_EN  
 19 VB\_BL\_EN

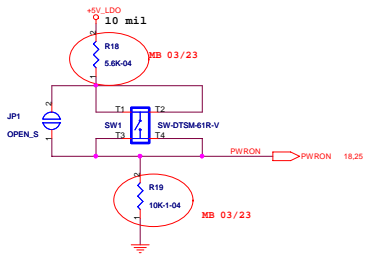


- 19 LVDSA\_P2
- 19 LVDSA\_N2
- 19 LVDSA\_P1
- 19 LVDSA\_N1
- 19 LVDSA\_P0
- 19 LVDSA\_N0
- 19 LVDSA\_CLKN

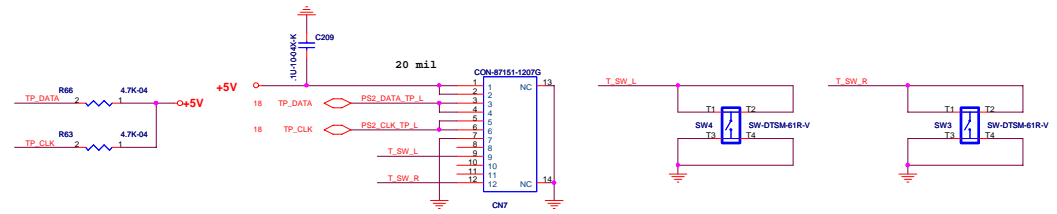




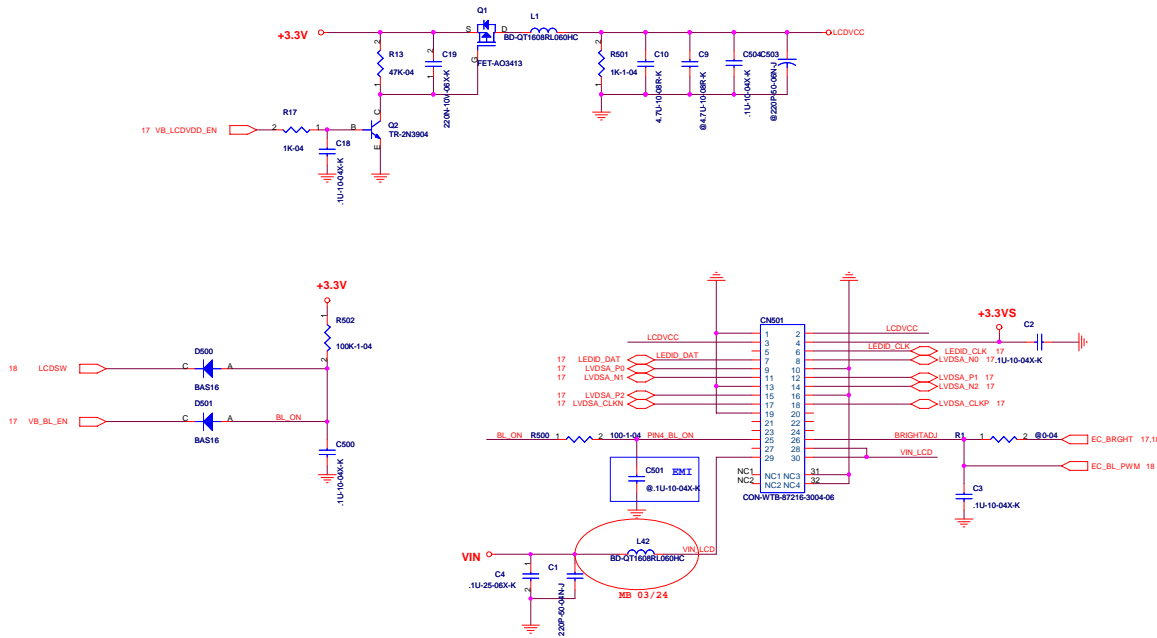
### PWR SW



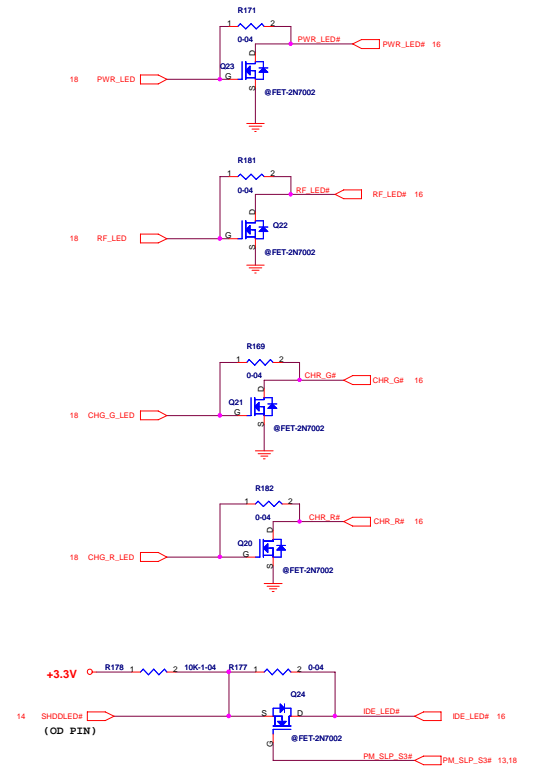
### Touch Pad



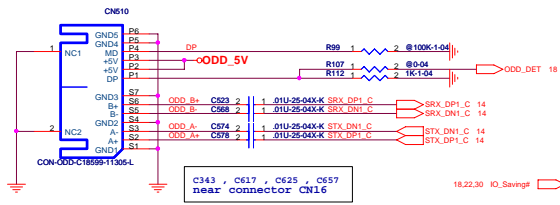
### LCD



### LED

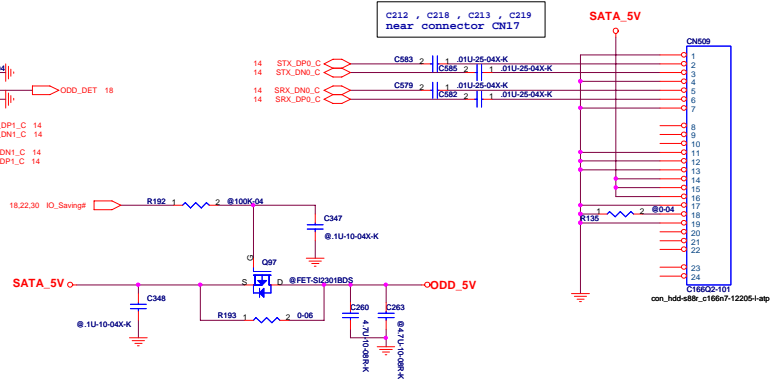


### CR-ROM



C343, C617, C625, C657 near connector CN16

### SATA-HDD

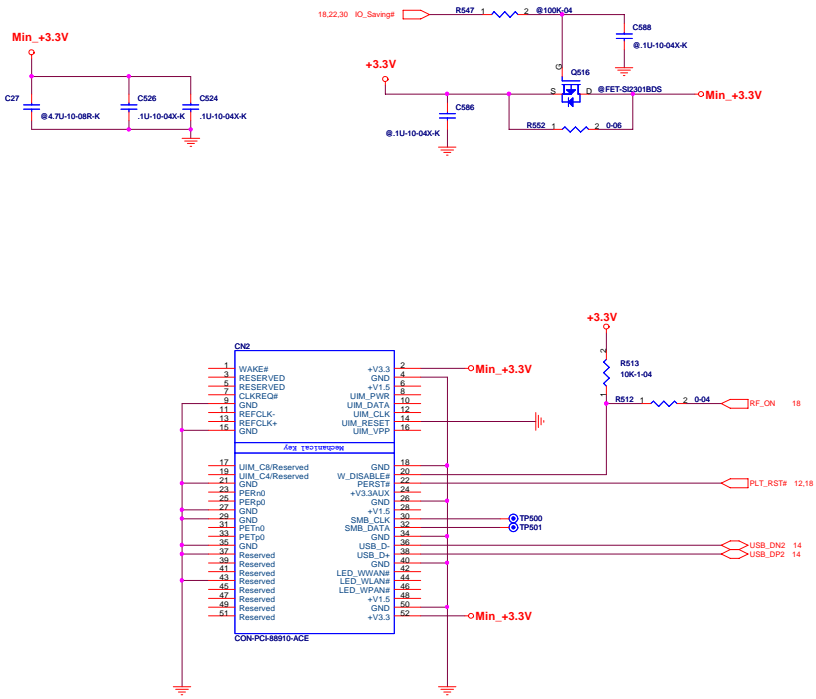


C212, C218, C213, C219 near connector CN17

SATA\_5V

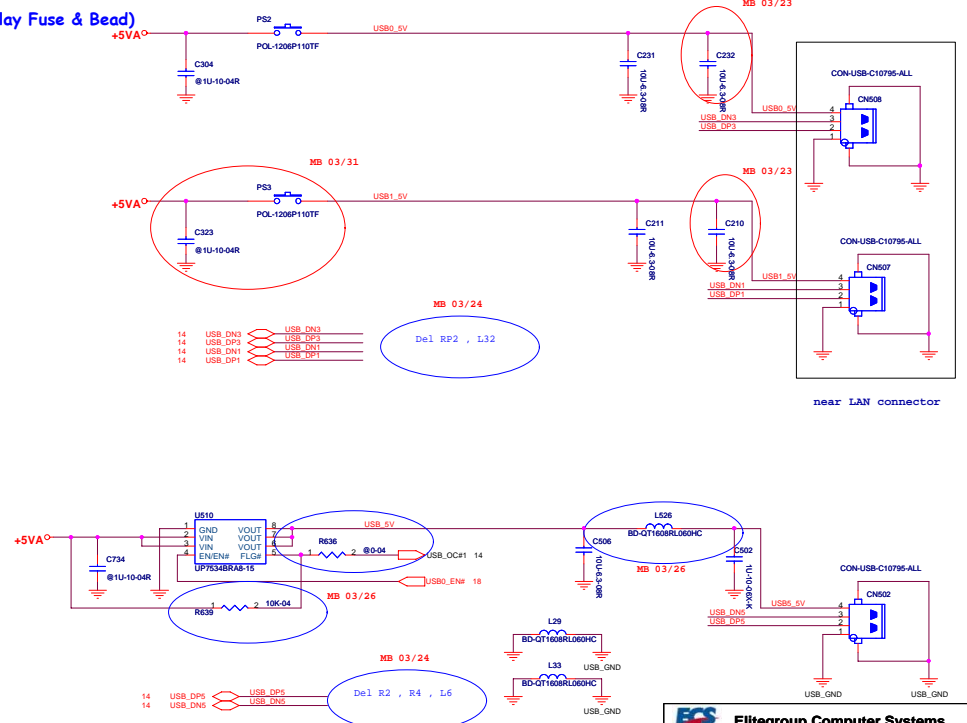
2A

### MINI CARD CONN



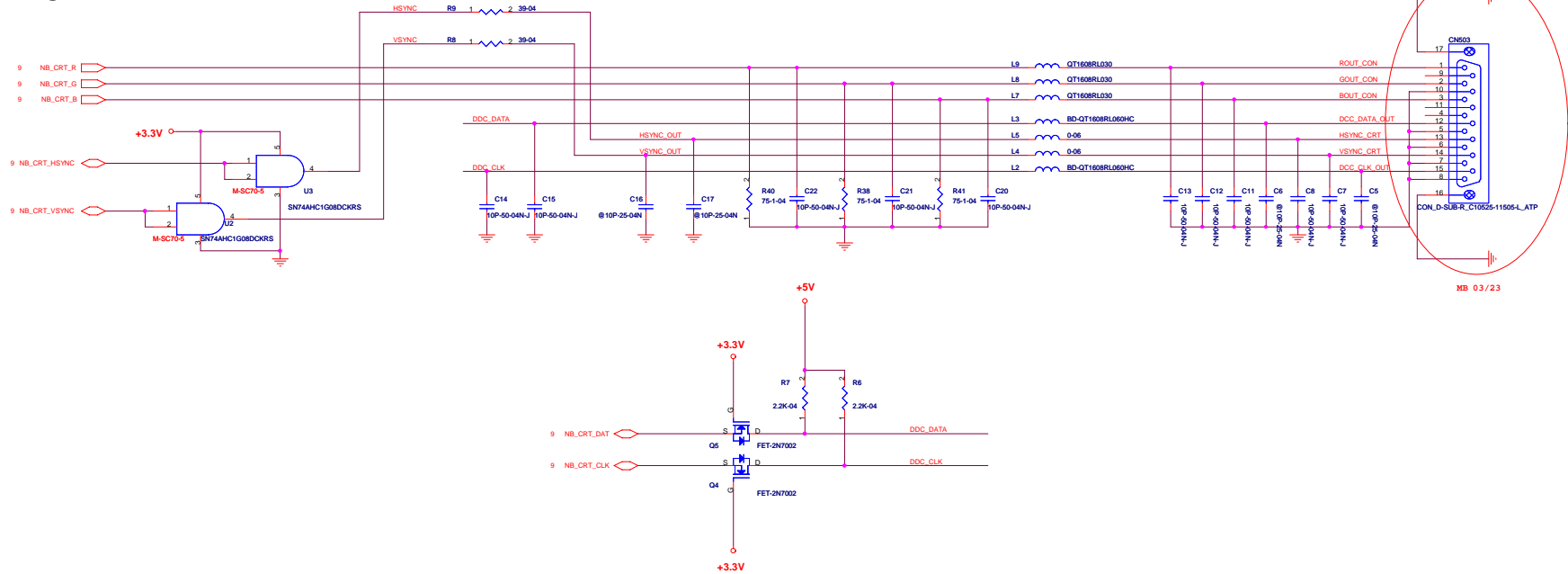
### USB Port

(Colay Fuse & Bead)



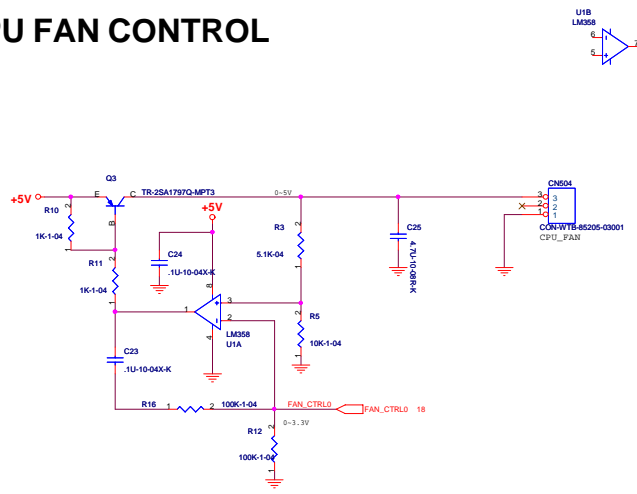
<b>Elitegroup Computer Systems</b>		
<b>HDD / ODD / USB / Mini Card</b>		
File	Document Number	Rev
	3364	C
Date:	Tuesday, March 31, 2009	Sheet 20 of 32

# CRT

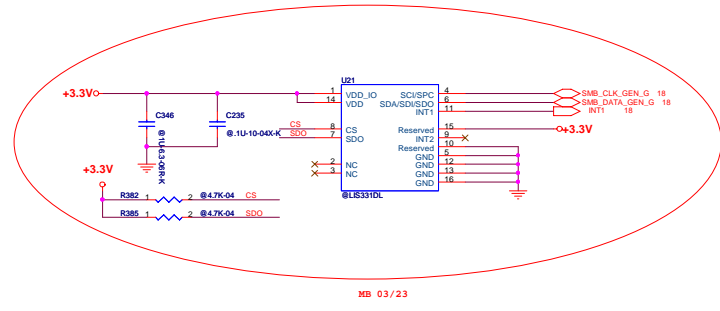


MB 03/23

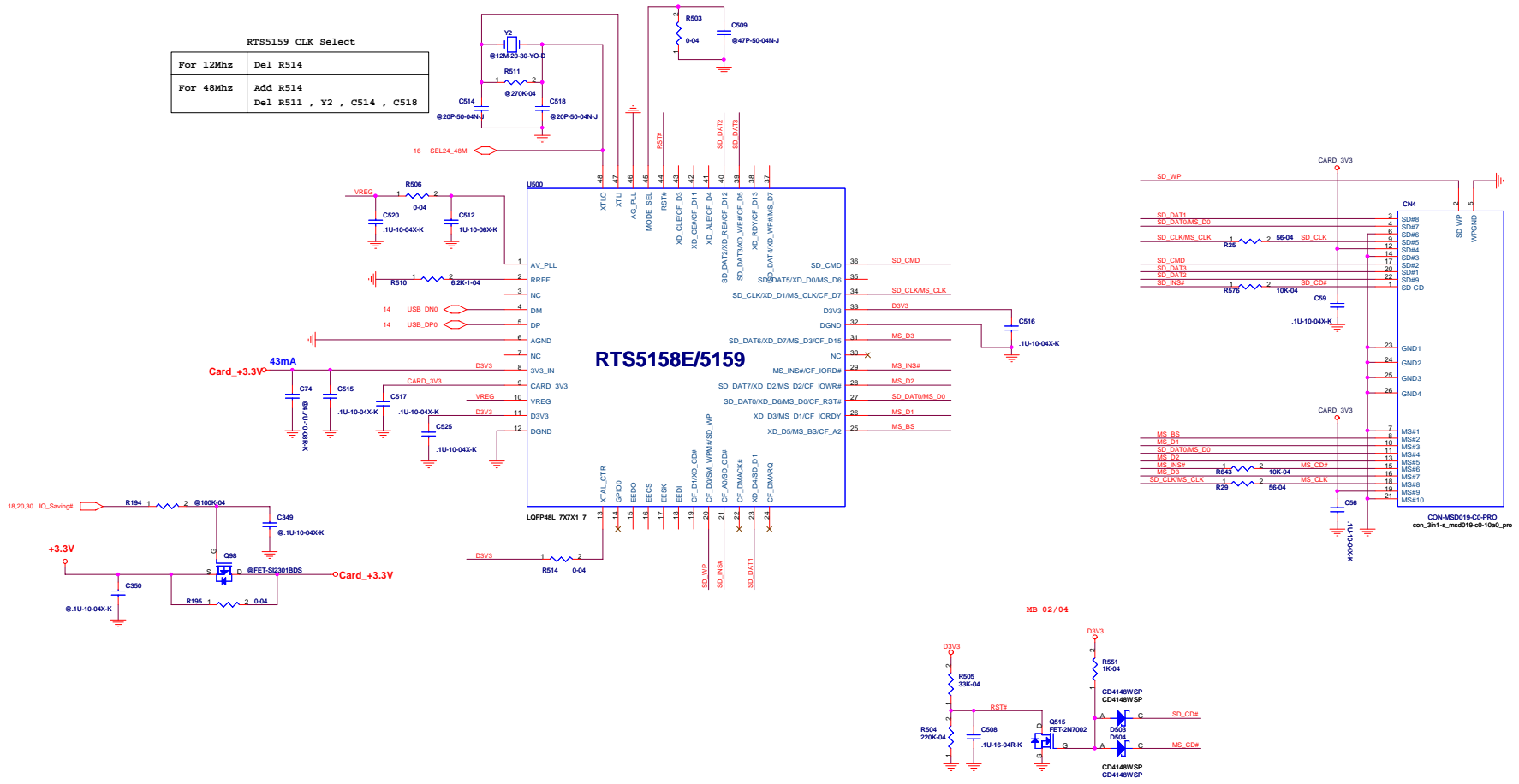
# CPU FAN CONTROL

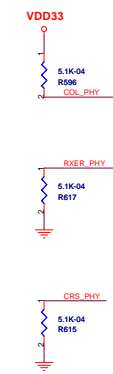


# G-SENSOR

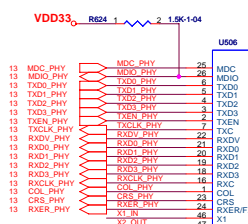


RTS5159 CLK Select	
For 12Mhz	Del R514
For 48Mhz	Add R514
	Del R511 , Y2 , C514 , C518

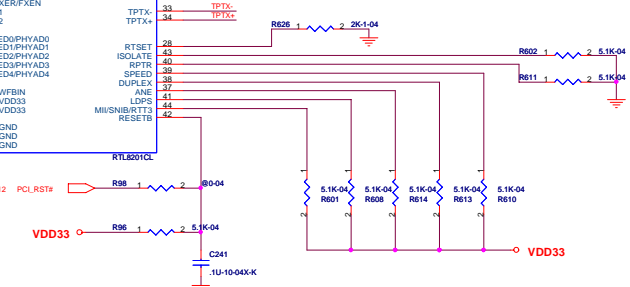
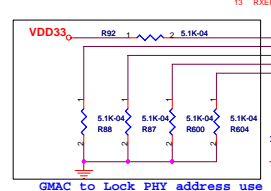
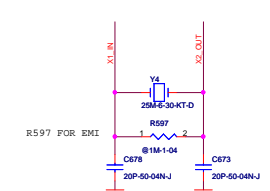
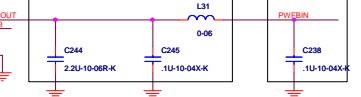




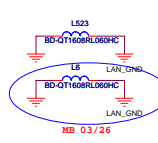
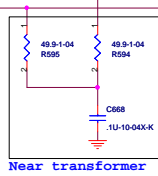
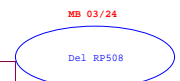
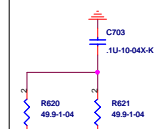
Connect to MAC which has MII interface



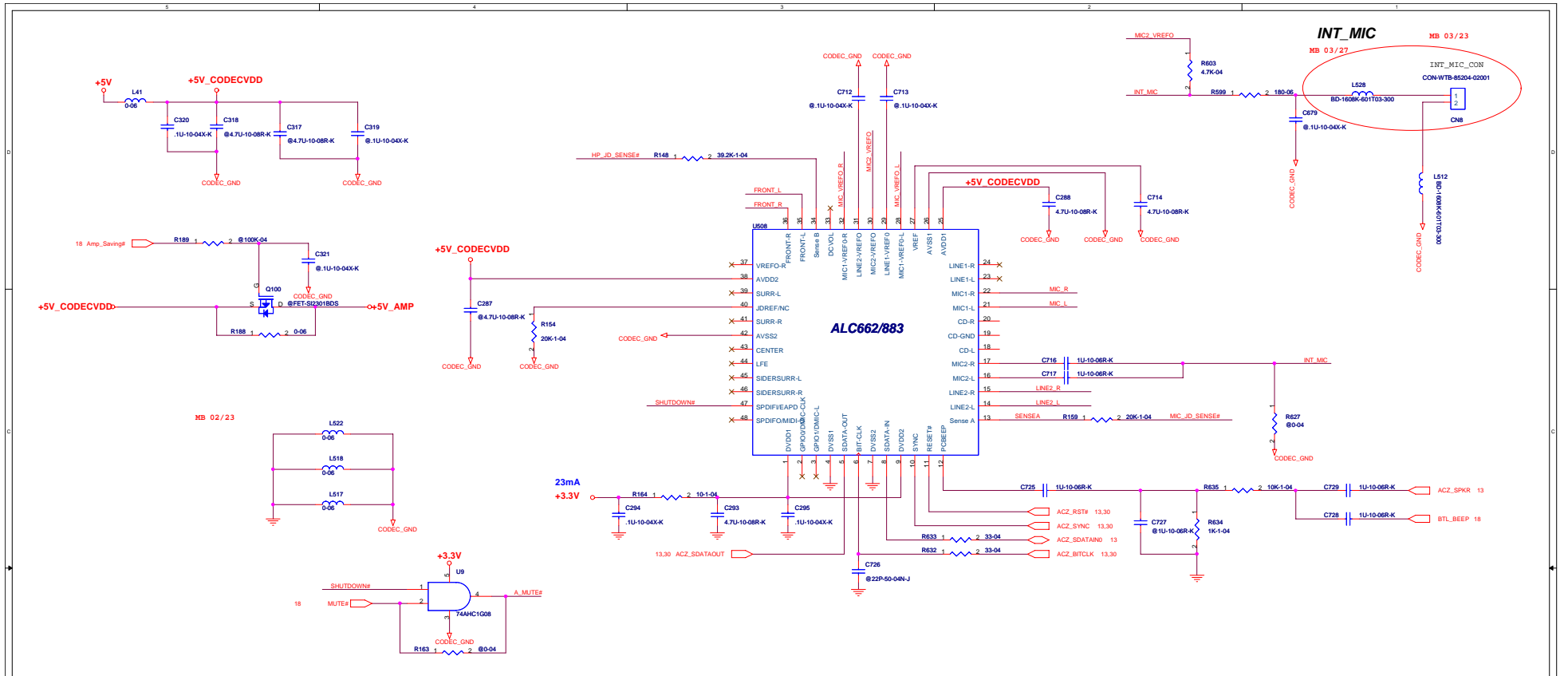
Close to PWFBOUT and Close to PWFBIN(U9.8)



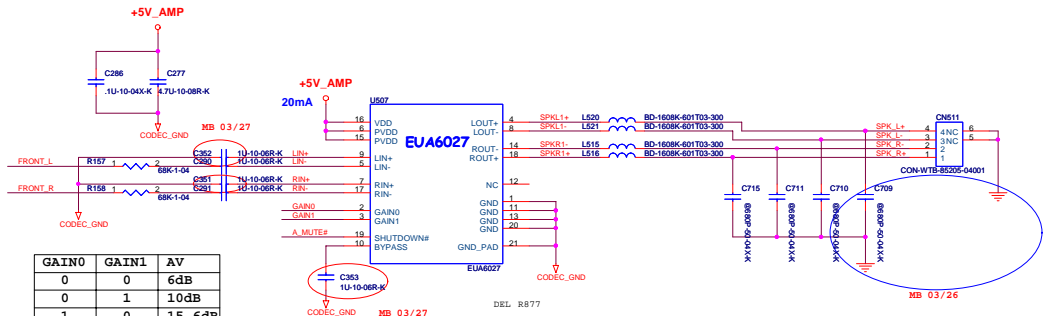
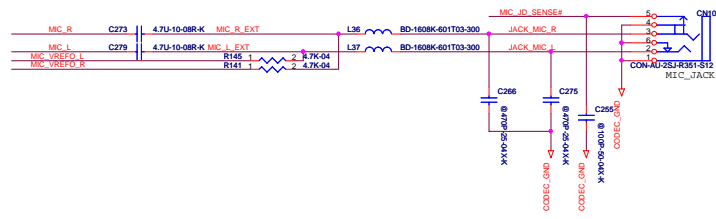
Near LAN PHY



<b>Eltegroup Computer Systems</b>		
File LAN PHY(RTL8201CL)		
Size	Document Number 3266	Rev C
Date	Friday, March 27, 2009	Sheet 23 of 32

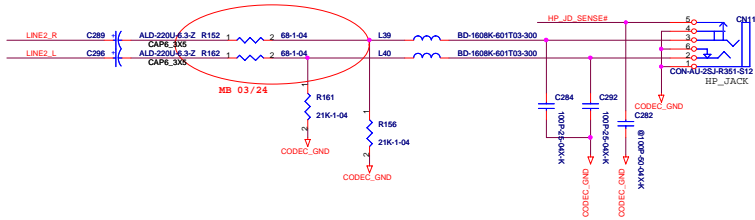


**MIC/Line In JACK**



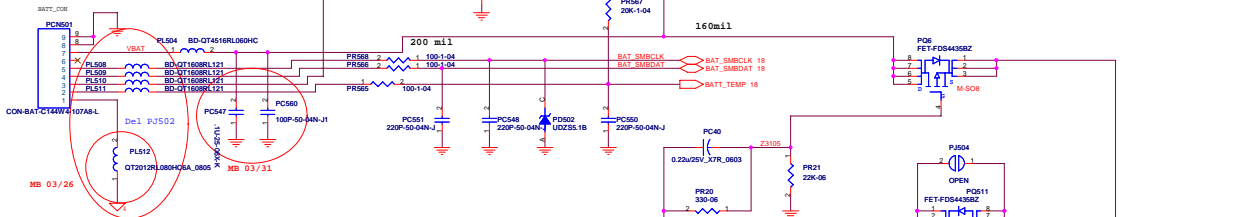
GAIN0	GAIN1	AV
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB

**HeadPhone JACK**



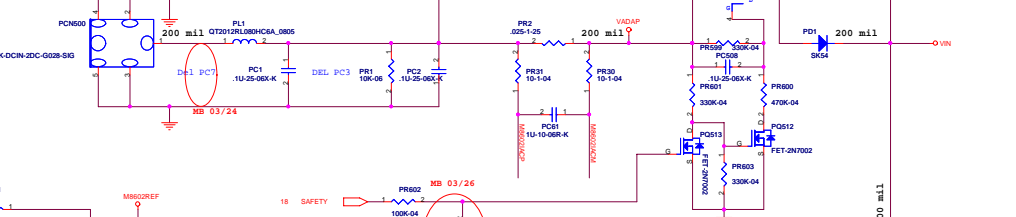


BAT IN MB 03/23



MB 03/26

DC IN



MB 03/24

CHG V	
H	16.8V (4CELL)
L	12.6V (3CELL)

CHG ON	
L	CHARGER ON
H	CHARGER OFF

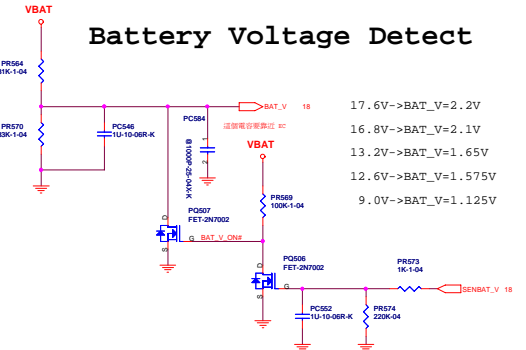
ADAPTOR I	
1A	0.25V
1.5A	0.375V
2A	0.5V
2.5A	0.625V
3A	0.75V
3.5A	0.875V

Fast-charge-EN	CHG_I	Ich
H	3V	2.8A
H	2.1V	2.5A
H	0.6V	2A
L	3V	1A
L	0.6V	0.200A
L	0.375V	0.125A

18 Fast-charge-EN Fast-charge-EN

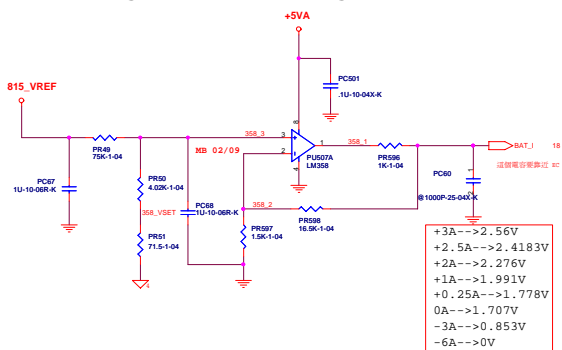
	BAT_AUX_ON	BAT_AUX_OFF
PQ22 2N7002	Remove	Add
PQ24 2N2907	Remove	Add

### Battery Voltage Detect



- 17.6V->BAT\_V=2.2V
- 16.8V->BAT\_V=2.1V
- 13.2V->BAT\_V=1.65V
- 12.6V->BAT\_V=1.575V
- 9.0V->BAT\_V=1.125V

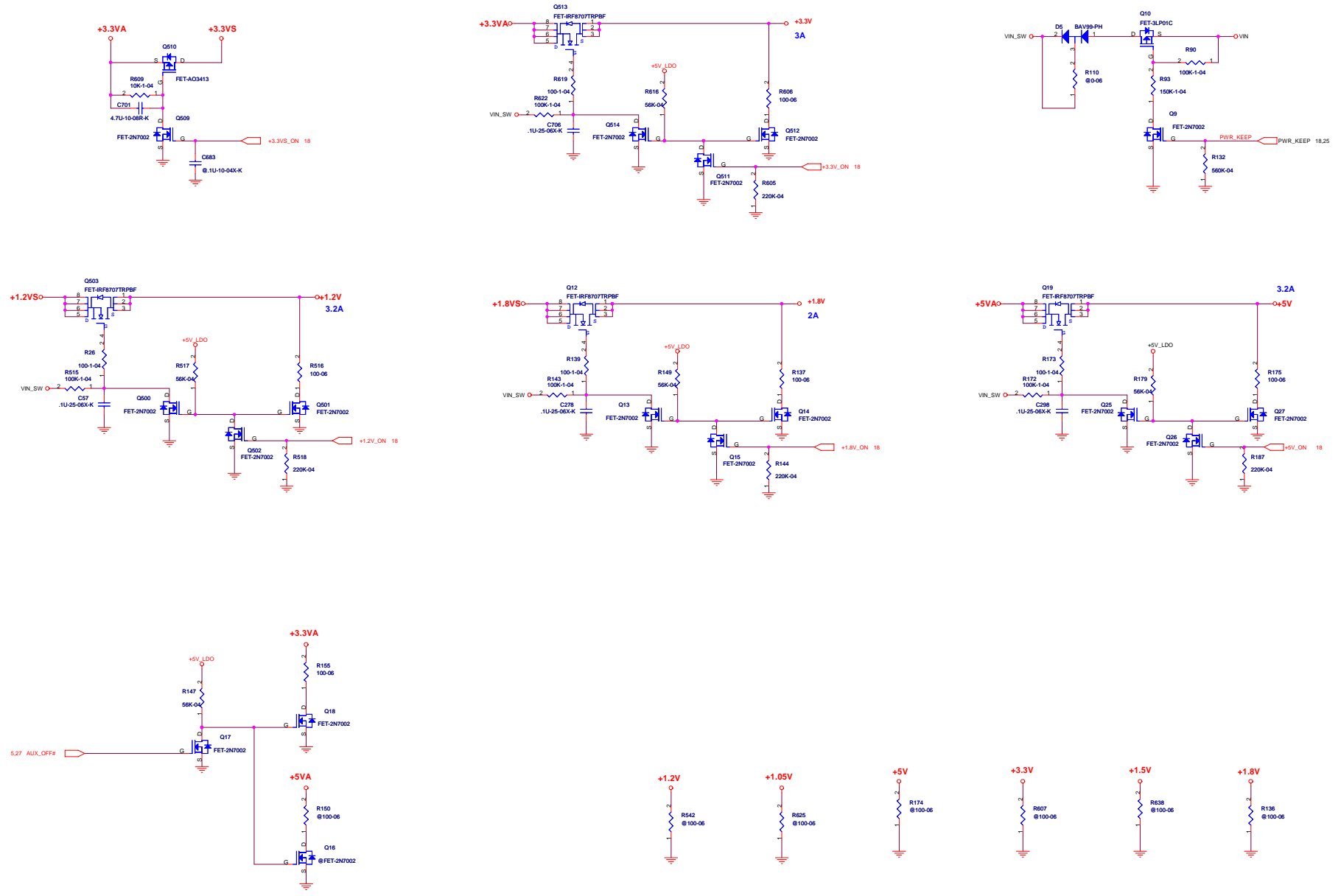
### Charge / Discharge Detect



- +3A-->2.56V
- +2.5A-->2.4183V
- +2A-->2.276V
- +1A-->1.991V
- +0.25A-->1.778V
- 0A-->1.707V
- 3A-->0.853V
- 6A-->0V

ECS ECS COMPUTER CORP.

AC IN & CHARGER (OZ8602)		
Doc	Document Number	V30S11
Rev	Revision	1.0
Date	Released	March 31, 2009
Page	of	32

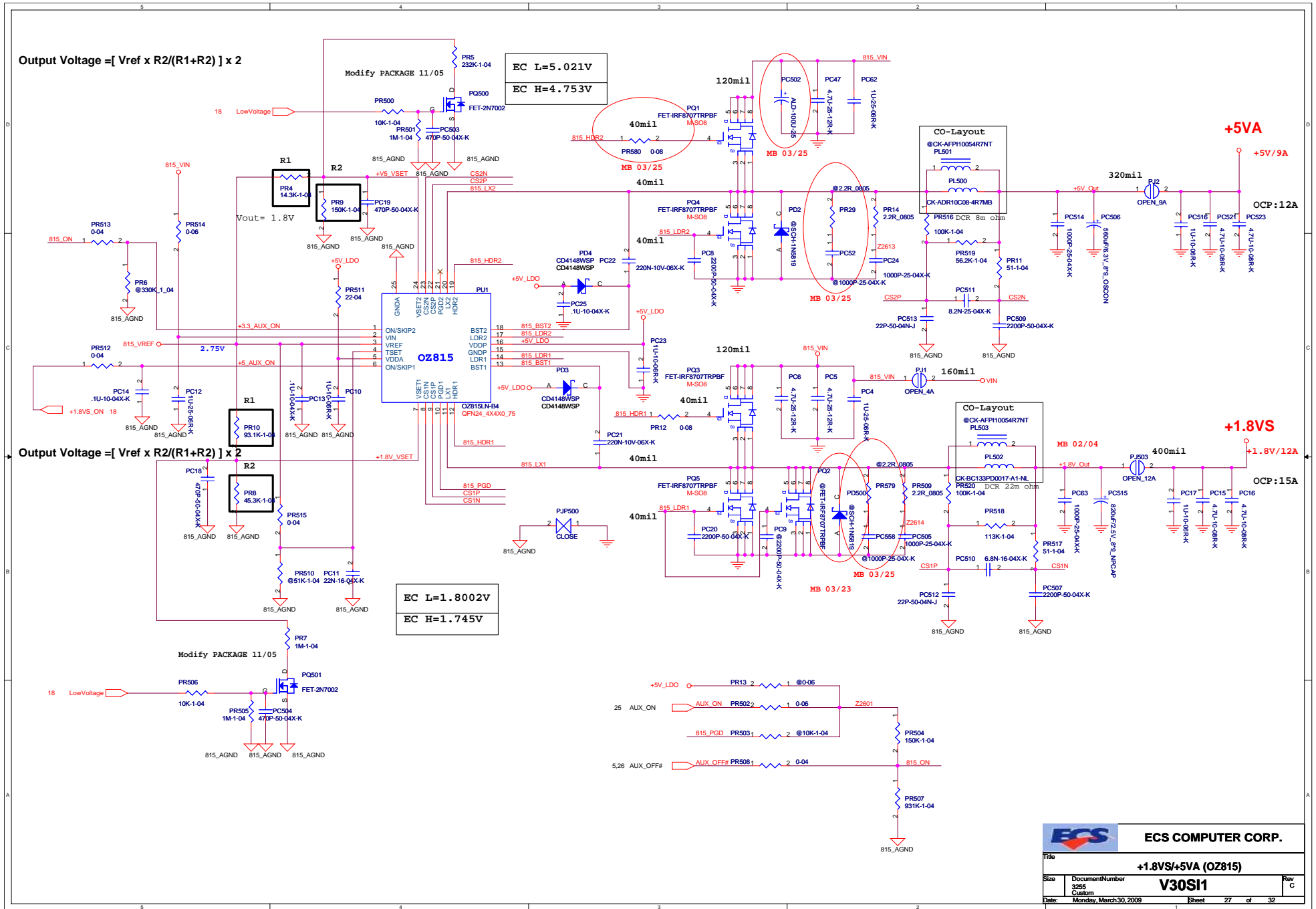


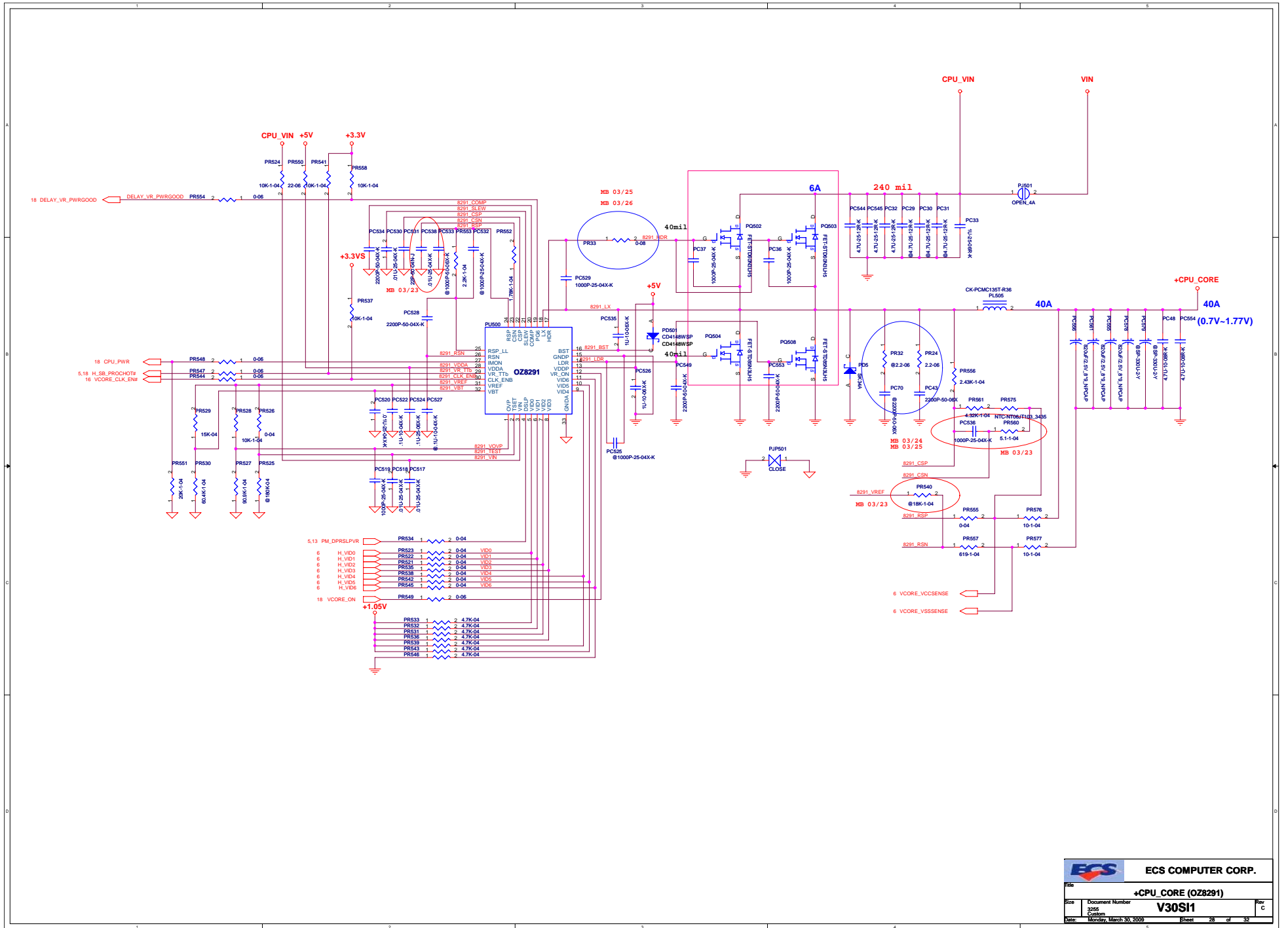
Output Voltage = [ Vref x R2/(R1+R2) ] x 2

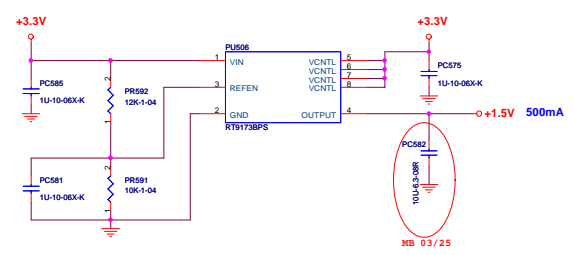
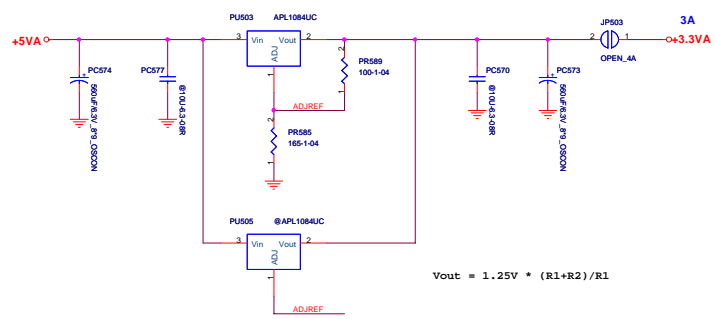
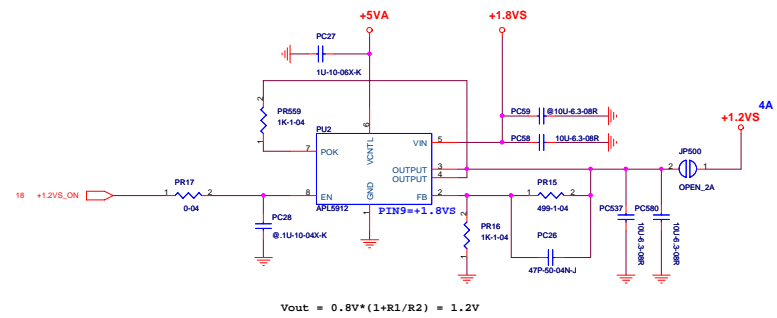
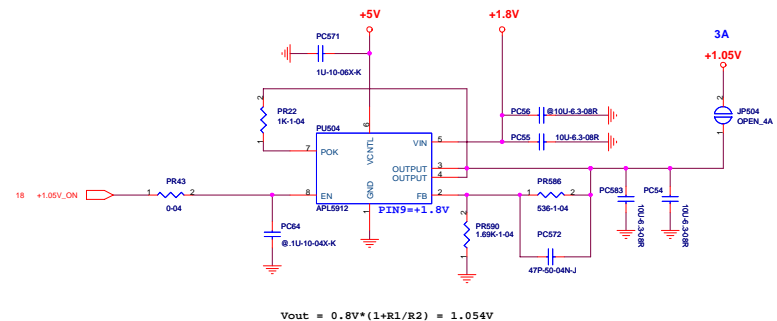
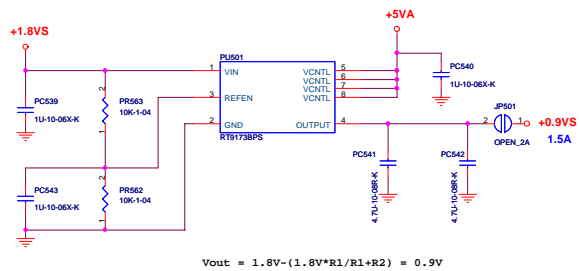
EC L=5.021V  
EC H=4.753V

Output Voltage = [ Vref x R2/(R1+R2) ] x 2

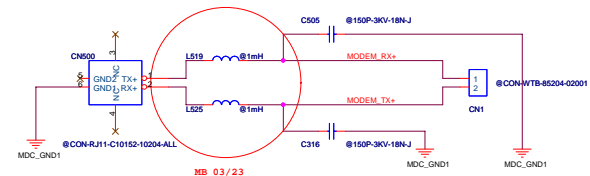
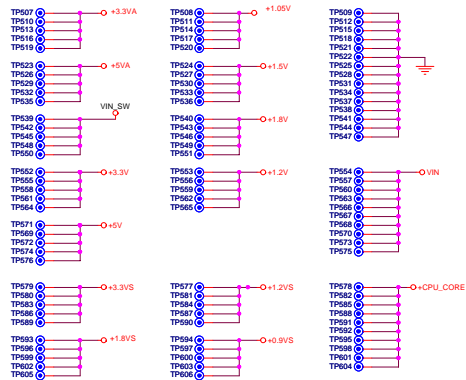
EC L=1.8002V  
EC H=1.745V



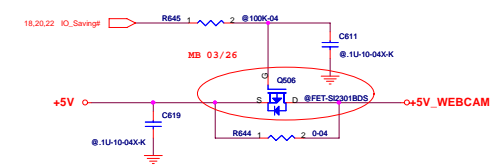
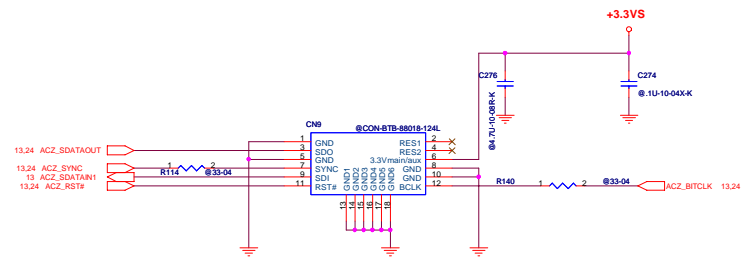




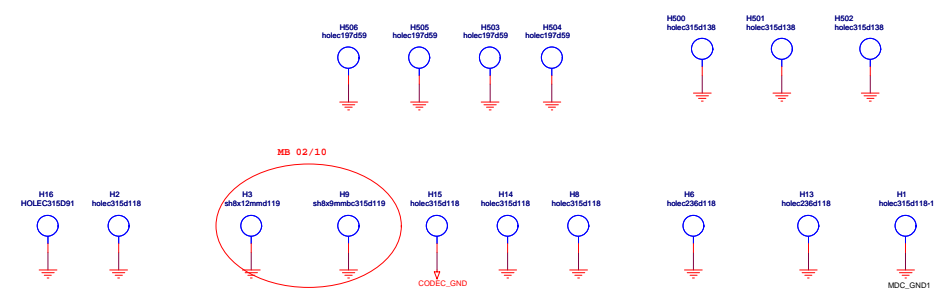
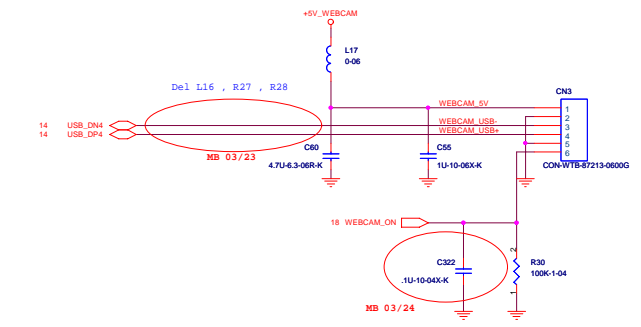
**POWER TP**



**MDC**



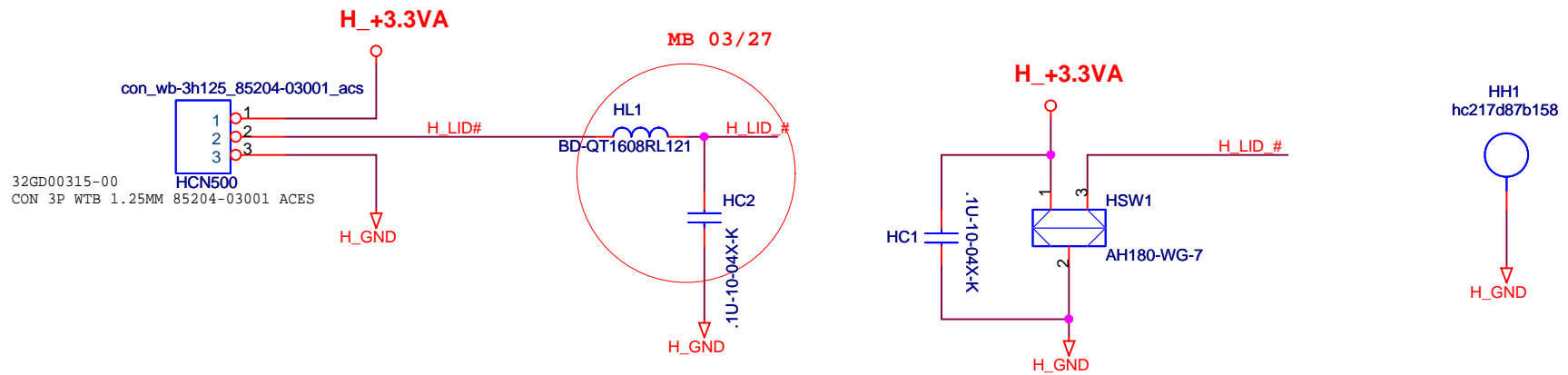
**WEBCAM**



Elitegroup Computer Systems		
File	MDC \ WEBCAM \ TP	
Size	Document Number	Rev
Date	3/27/2009	C
Printed	Friday, March 27, 2009	Sheet 30 of 32


V40SIX LID BD Ver:C  
P/N: 35GWV4000-C0  
Made in China

LID BD



32GD00315-00  
CON 3P WTB 1.25MM 85204-03001 ACES

MB 03/27

 <b>Elitegroup Computer Systems</b>		
Title <b>LID BD</b>		
Size	Document Number	Rev
	3255	C
Date:	Friday, March 27, 2009	Sheet 31 of 32

V30S11 C phase modify list:

MB 0323

1. page 9 C83 , C95 , C113 4.7uf modify to 10uf & no stuff -> stuff.
2. page 16 LED4 Green LED pull +SVA change to +3.3VA ; R185 110 ohm -> 180 ohm .
3. page 18 Add L43 , R572 ; R176 , R167 no stuff .
4. page 19 R18 56K -> 5.6K ; R19 100K -> 10K .
5. page 20 C232 , C210 1uf/0603 modify to 10uf/0805.
6. page 21 Del G-Sensor U21 , C346 , C235 , R382 , R385 4.7K no stuff ; CN503 change footprint " CON\_D-SUB-R\_C10525-11505-L\_ATP " .
7. page 24 CN8 modify to CON-WTB-85204-02001 ; Add L44 BD-1608K-601T03-300 .
8. page 25 Add PL508 , PL509 , PL510 , PL511 BD-QT1608RL121 & PL512 BD-QT1608RL060HC ; Del PJ502 .
9. page 27 PD500 on stuff.
10. page 28 PR540 18K change no stuff ; PC536 0.1uf -> 1000pf ; PR560 51 ohm -> 5.1 ohm ; PC538 1000pf -> 0.01uf .
11. page 30 L519,L525 change footprint " choke-4\_5x3\_2x2\_6 " ; Del R27 , R28 , L16 .

MB 0324

1. page 24 Add R152 , R162 75 ohm 1% -> 68 ohm 1% .
2. page 30 Add C322 0.1uf .
3. page 25 Del PC7 .
4. page 19 L42 0 ohm -> BD-QT1608RL060HC .
5. page 27 PR3 , PR12 0 ohm -> 4.7 ohm .
6. page 28 PR24 , PC43 no stuff change stuff ; Add PR604 4.7 ohm .
7. page 20 Del R2 , R4 , L6 , L32 , RP32 .
8. page 23 L506 stuff ; Del RP508 .

MB 0325

1. page 17 R23 change location to R577 .
2. page 27 PR3 , PR12 4.7 ohm -> 0 ohm ; Add PR29 , PR579 , PC52 , PC558 no stuff
3. page 28 PR604 4.7 ohm -> 0 ohm ; Add PR32 , PC70 no stuff .
4. page 27 PR3 change location to PR580 .
5. page 27 PC502 100uf/25V no stuff change stuff .
6. page 29 PC582 4.7uf change to 10uf .

MB 0326

1. page 25 PL512 BD-QT1608RL060HC change to QT2012RL080HC6A\_0805 .
  2. page 23 C637 GND change to LAN\_GND .
  3. page 24 CN511 , C709 , C710 , C711 , C715 CODEC\_GND change to GND .
  4. page 20 Add L526 BD-QT1608RL060HC .
  5. page 28 PR604 change location to PR33 .
  6. TOP change location to Bottom .
- Page25 PC57 -> PC559 ; Page30 Q101 -> Q506 ; Page20 R190 -> R636 ; R191 -> R639 .
7. page 23 L524 change location to L6 .
  8. page 18 Add C267 0.1uf .

MB 0327

1. page 18 Move L43,C267 to CN512 Side.
2. page 24 C722 -> Rename to C351 , C723 -> Rename to C352 , C724 -> Rename to c353 , R628 -> Rename to R196 , R631 -> Rename to R197 .
3. page 31 Add HL1.HC2
4. page 18 L43 -> Rename to L527 , C267 -> Rename to C735 .
5. page 24 L44 -> Rename to L528 .
6. page 25 Modify PJ504 footprint to " OPEN-SMALL-1" .

MB 0330

1. page 7 C129 , C128 4.7uf modify to 10uf & no stuff -> stuff.
2. page 9 C95 10uf/0805 modify to 22uf/1206 ; C97 , C106 4.7uf modify to 10uf .
3. page 10 C99 4.7uf modify to 10uf .

MB 0331

1. page 25 Add PC560 100pf ; PC547 Pin2 net change to PL504 Pin2 net .
2. page 20 Add PS3 "POL-1206P110TF" ; Add C323 1uf no stuff .