

MODEL :	REV:	CHANGE LIST:	MODEL : Z01 MB		
Z01 MotherBoard	1A	FIRST RELEASE	PAGE	FROM	TO
	1B	PAGE02. 1. R447,455,456 MODIFY to EP P/N:CS14752FB11 PAGE03. 1. STUFF HOLE6 P/N:FBZ01007010 2. STUFF HOLE7,8,15 P/N:FBED8001016 , 3. STUFF HOLE5 P/N:FBZ01006010 PAGE03. 1. STUFF HOLE23,25 P/N:FBZ01003010 2. STUFF HOLE18 P/N:FBZ01004010 3. STUFF HOLE31 P/N:FBZ01005010 PAGE05. 1. U22 MODIFY to GM965 P/N:AJ00N120T04 , 2. R193,194 MODIFY to EP P/N:CS03902FB11 PAGE06. 1. R242 MODIFY to EP P/N:CS33002JB23 PAGE08. 1. L52,53 MODIFY to EP P/N:CV01004KNO0 PAGE11. 1. R332 MODIFY to EP P/N:CS23243F930 , 2. U6 MODIFY to ICH8 P/N:AJ00M740T03 PAGE12. 1. R244,R347,R353 MODIFY to EP P/N:CS00004JA40 , 2. L28 MODIFY to P/N:CV-1005MZ01 PAGE13. 1. CN10 MODIFY to CRT P/N:DFDS15FR611 PAGE15. 1. R467 MODIFY to EP P/N:CS00004JA40,2. R50 MODIFY to EP P/N:CS31003J941,3.CN27 MODIFY to SATA P/N:DFHS22FR005 PAGE16. 1. CN16 MODIFY to RJ45/11 P/N:DFTJ15FR057 PAGE18. 1. R317,323 MODIFY to 0603 P/N:CS31003F949 , 2. R310 MODIFY to EP P/N:CS31003J941 PAGE20. 1. PR100 MODIFY to EP P/N:CS51002FB11 PAGE21. 1. PR86 MODIFY to EP P/N:CS24022FB13 , 2. PR38,82 MODIFY to 1% P/N:CS31002FB26 , 3. PR83 MODIFY to EP P/N:CS00004JA40 PAGE22. 1. PR1 MODIFY to EP P/N:CS32002FB29 , 2. PR6 MODIFY to 1% P/N:CS51003F934 PAGE23. 1. PR106 MODIFY to 0 ohm P/N:CS00002JB38 , 2. UN-STUFF PR107,PC111 PAGE24. 1. PR29 MODIFY to EP P/N:CS31003J941 2. PJ1 MODIFY to BATTERY P/N:DFHD07MR006 PAGE25. 1. PR70 MODIFY to EP P/N:CS32002FB29	1	1A	
			2	2B	
			3	2B	
			4	2B	
			5	2B	
			6	2B	
			7	2B	
			8	2B	
			9	2A	
	2A	PAGE02. 1. Connect VDDIO CLK to +1.25V 2. un-stuff R292;R445;R308 3. stuff C575,C574,C576,C578,C573,C546 for EMI issue PAGE06. 1. Connect ICH PWROK SIGNAL TO NB CLPWROK 2.un-stuff R242;R235;R422;R222;R421;R423 3. R360,R361 only stuff for UMA PAGE07. 1. MODIFY 22u to 10u PAGE08. 1. R489 MODIFY to 0805 2. Stuff L50;R182;C238 for EV@ (MXM) PAGE09. 1. Add PU for SMA MA14 ; SMB MA14 PAGE10. 1. un-stuff R337,C115,C127,C129,C298,C302,C294,C283,C291 PAGE11. 1. Q18 MODIFY to P/N:AL07SZ04C27 2.R395 connect to VCCRTC 3.R336;R251;R419;R255 un-stuff 4.R226 connect to +3V_S5 5.ICH_PWROK to SB CLPWROK PAGE11. 1. stuff C500,C509,C300,C513 33pF P/N:CH03306JB04 2. C507,C508 10pF change to 15pF P/N:CH01506JB06 , 3. stuff R238,R392,C298 for Contr-LINK PAGE12. 1. VCCHDA & VCSUSHDA change to 3V PAGE13. 1. ADD CRT DDC IN PU 2. R18,L9,L10 P/N change to 0.47UH for MXM , 3. C22,C24,C25,C27,C31,C32 P/N change to 47pF for MXM PAGE14. 1. CN6 MODIFY CONN. to 5 PIN P/N:DFHD05MRD98 PAGE15. 1. MODIFY SWITCH BOARD PIN DEFINE 2. Modify FAN circuit , 2. MR1 P/N change to AL000268000 PAGE16. 1. C46,C47 27pF change to 33pF P/N:CH03306JB04 2. stuff C104,C105,C119,C112 0.1uF P/N:CH41003ZB35 PAGE17. 1. CARD READER COLAY TO CN28, DEL CN30 2. C311 change to 27pF P/N:CH02706JB06 3. stuff R209 4. un-stff R213,C325,U11 PAGE18. 1. CHANGE MDC & CODEC to 3V 2.Delete D12 3. stuff R314,R483,C393,C595 PAGE19. 1. SWAP NBSWON# & ACIN 2. C363,C364 5.6pF change to 18pF P/N:CH01806JB07 PAGE20. 1. Modify PQ19 P/N PAGE21. 1. Modify Capacitor P/N to meet ME height limit PAGE22. 1. stuff PR74,PC69 2. Remove JP Pad PAGE23. 1. stuff PR126,PC131,PC137 2. Remove JP Pad 3. un-stuff +1.8V PAGE25. 1. un-stuff PR101,PQ21,PR22,PQ2,PR26,PR9,PR5,PC33,PC38,PC39,PC19,PC22,PU2	10	3A	3B
		11	2B		
		12	2B		
		13	3A	3B	
		14	3A		
		15	3A	3B	
		16	3A	3B	
		17	2A		
		18	2B	3A	
		19	3A	3B	
		20	2B		
	2B	PAGE02. 1. Change R293 to 2.2K for meet Intel Design checklist PAGE03. 1. Change XDP PU/PD resistors value to meet Intel Design checklist PAGE04. 1. Un-stuff C28,C457 PAGE05. 1. Add LVDS VREF strap PAGE06. 1. Add SDVO I2C strap PAGE07. 1. Remove NB resistors to GND PAGE08. 1. Remove DIODE for D27 2. Remove VCCA_DPLLA&B for external VGA PAGE10. 1. Add CRT & LVDS I2C Strap PAGE11. 1. Un-stuff Control Link Vref1 PAGE12. 1. Remove reserve ICH8 HDA 1.5V power rail PAGE13. 1. Modify LCD_VCC enable power rail 2. Add LVDS INV I2C Strap PAGE14. 1. Add EMI solution for debug port PCI clock PAGE15. 1. Change Q33,Q34 to MOSFET PAGE16. 1. Add PIN 59 & 3 PAGE18. 1. Change CN31 pin2 to +3V_S5 for Modem can't wake up from S3 PAGE19. 1. Add GPIO46 , 47 PAGE20~25. 1. Add EMI solution 2. Update Power component P/N	21	3A	
		22	3A		
		23	3A	3B	
		24	3A		
		25	3A	3B	
	3A	PAGE10. 1. Add +2.5V & +1.8V capacitors for nVIDIA MXM card PAGE11. 1. Change C507,C508 to 15pF for RTC PAGE13. 1. Add C609 & C610 to meet CM2009 specification PAGE14. 1. Reserve +5VPCU & Add Q40,R540 for CIR PAGE15. 1. Add C611 for PLC hall IC 2. Stuff R60 for G995 PAGE19. 1. CN44 un-stuff 2. D322,D332 reserve for ESD PAGE21. 1. Modify PC85 value PAGE22. 1. Modify PR4,PC13 value for sequence PAGE23. 1. Add PQ22 for nVIDIA MXM +1.8V PAGE24. 1. Modify PF1 P/N PAGE25. 1. Add PU2 for nVIDIA MXM +2.5V			
	3B	PAGE10. 1. Remove R337 & Add R542,Q41,Q42 for Nvidia ACIN function PAGE13. 1. Add D34-D36,D40 for ESD solution PAGE15. 1. R484,R485,R486 from 330 change to 220 ohm for LED light issue 2. Add D41,D42,D43 for ESD 3. Stuff Q39 PAGE16. 1. Add C621,C622 for EMI solution 2. C112,C119 change to 100pF/50V for EMI PAGE18. 1. Un-stuff L55, stuff U16,R470,R471 for internal Mic. issue PAGE19. 1. Modify D32,D33 package to 0402 for ESD PAGE23. 1. Add PR140,PR141 for +1.8V vltage PAGE25. 1. Stuff PR22,PR101,PQ2,PQ21 for nVIDIA MXM +1.8V & +2.5V Discharge			



PROJECT : Z01

APPROVE BY: JIM HSU

DRAWING BY:JACKY CHENG

REV 3A

COVER SHEET 1 OF 1

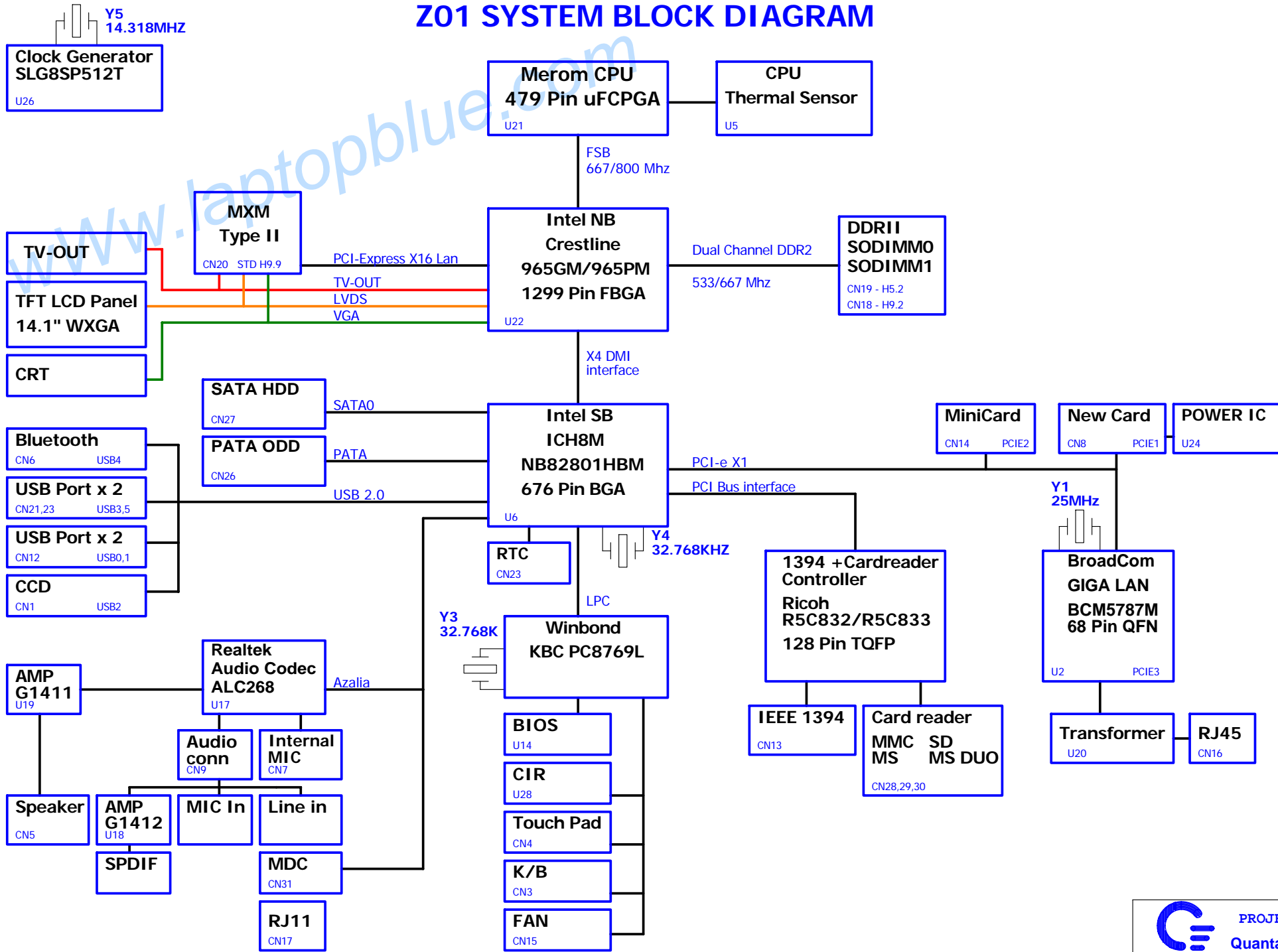
MB ASSY'S P/N : 31Z01MB00XX

PROJECT LEADER: JIM HSU

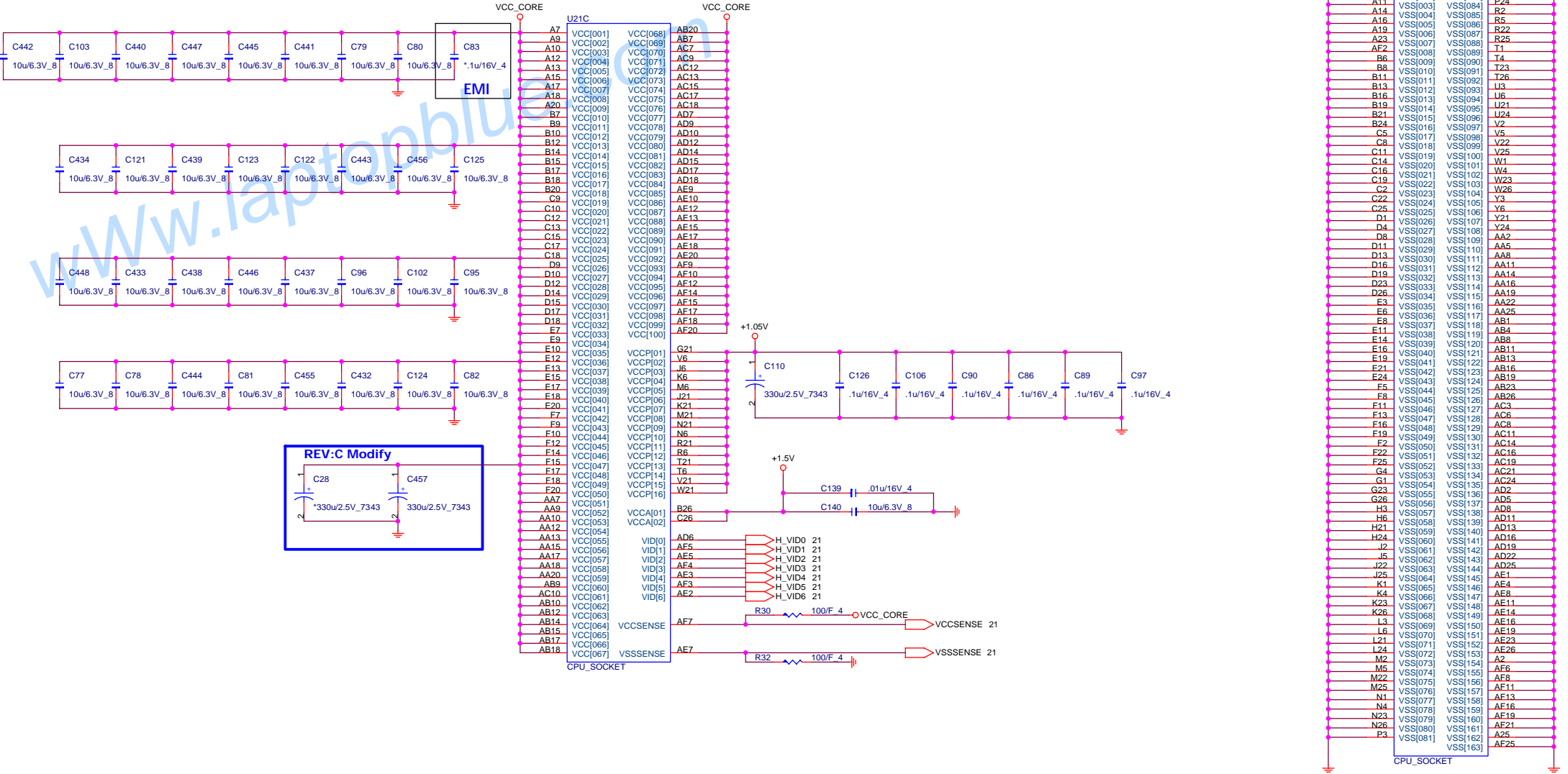
DOCUMENT NO: 204

DATE :2007/04/14

Z01 SYSTEM BLOCK DIAGRAM




CPU(Power)



REV:C Modify

C28 330u/2.5V_7343

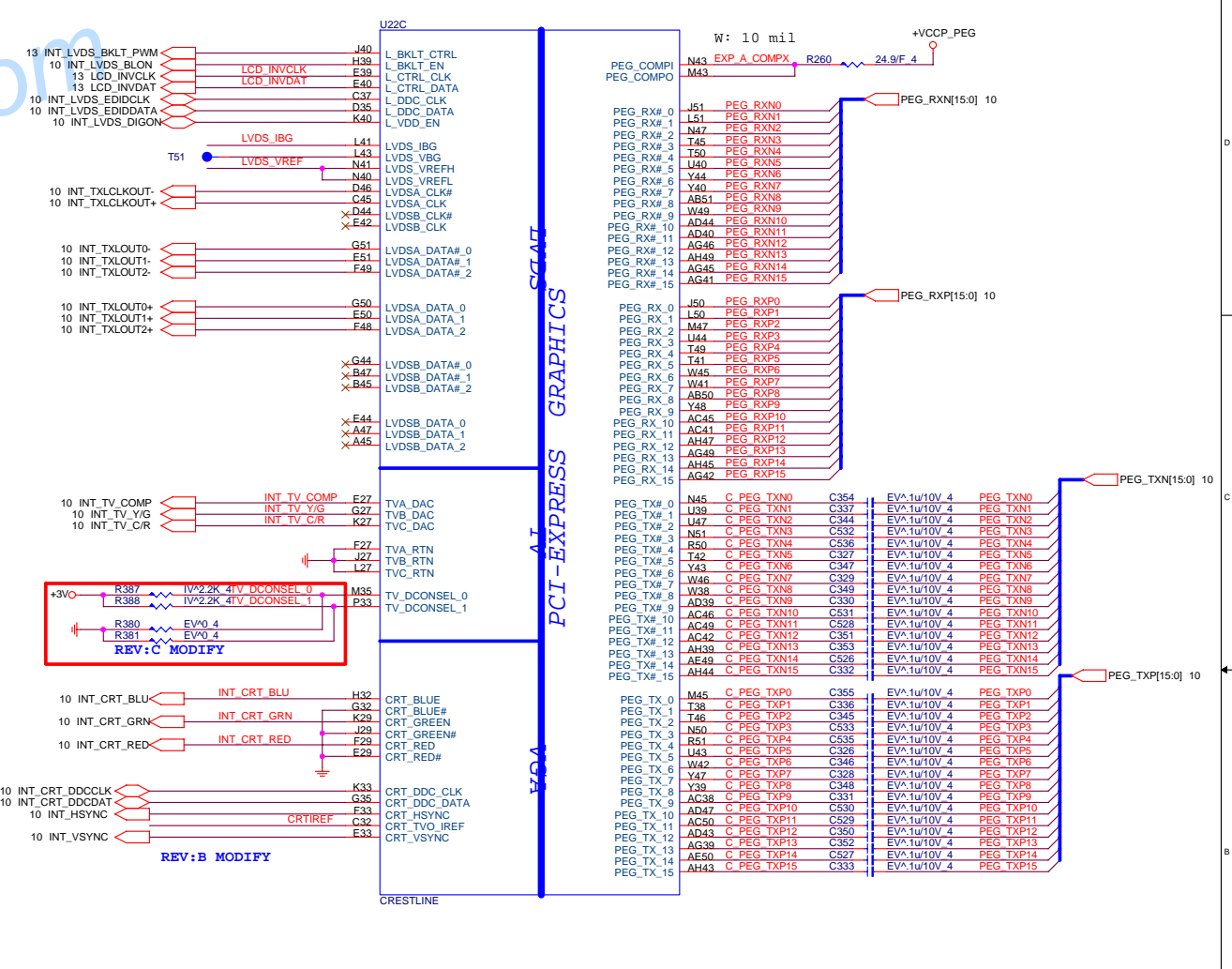
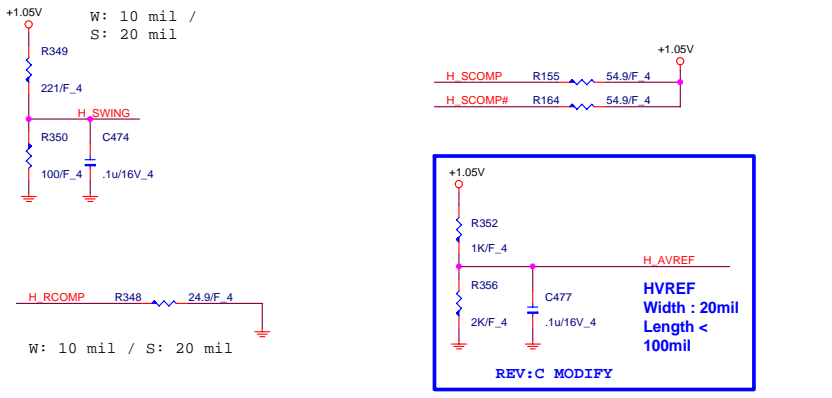
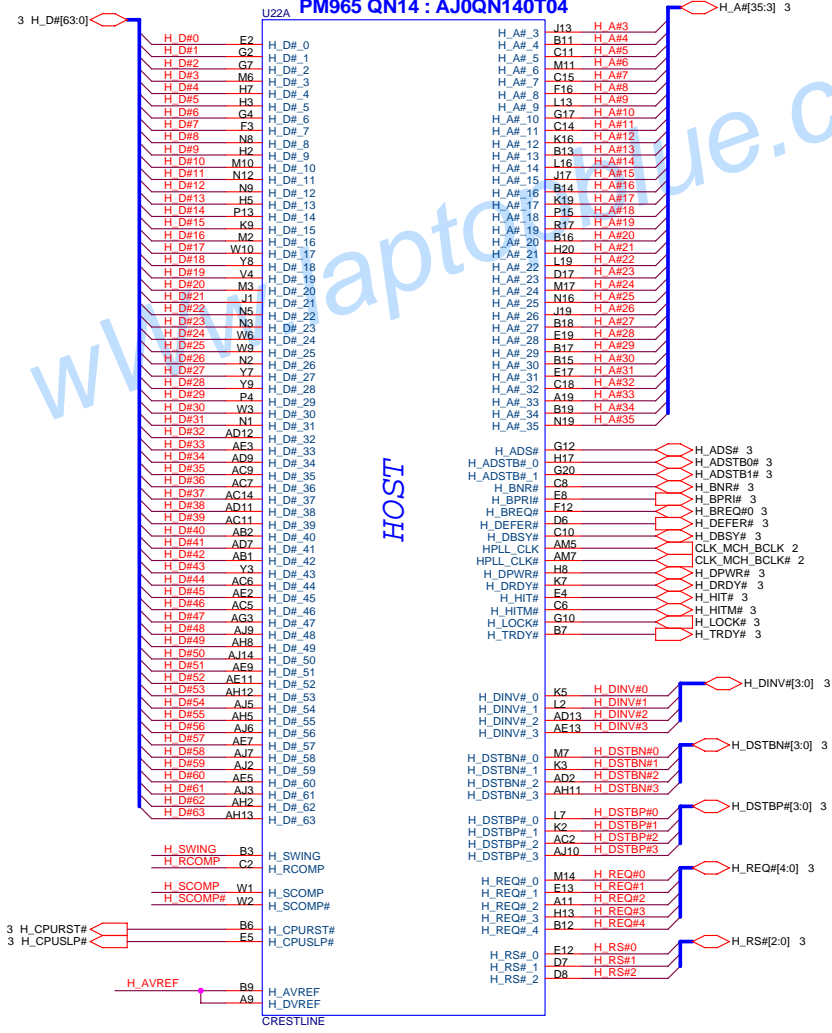
C457 330u/2.5V_7343



PROJECT : Z01
Quanta Computer Inc.

Size	Document Number	Rev
	CPU(2 of 2)Power	2B
Date:	Thursday, May 17, 2007	Sheet 5 of 26

GM965 QN12 : AJ0QN120T04
PM965 QN14 : AJ0QN140T04



<check list>
For EV@
Connect to GND
CRT R/G/B
TV A/B/C
HSYNC/VSNC

<check list>
For IV@
Connect to 150ohm:
CRT R/G/B
TV A/B/C
Connect to 30ohm:
HSYNC/VSNC

OOHM (PD) FOR EV (TV)
R197 150/F 4 INT TV_COMP
R198 150/F 4 INT TV_Y/G
R199 150/F 4 INT TV_C/R

OOHM (PD) FOR EV (RGB)
R214 150/F 4 INT CRT_BLU
R216 150/F 4 INT CRT_GRN
R204 150/F 4 INT CRT_RED

<check list & CRB> REV: C MODIFY
For Calero : 1.5K
For Cresline:2.4K

IV&EV Dis/Enable setting
<check list & CRB>
For Calero : 255 <-FAE>
For Cresline:1.3K/F
For external VGA.0

PROJECT : ZO1
Quanta Computer Inc.

Size	Document Number	Rev
	GMCH HOST & GRAPHICS	2B
Date:	Thursday, May 17, 2007	Sheet 6 of 26

All strap are sampled with respect to the leading edge of the GMCH PWROK signal

CFG[17:3] Have internal Pull-up

CFG[18:19] Have internal Pull-down

Any CFG signal strapping option not list below should be left NC Pin

CFG[2:0] FSB Frequency Select
 001 = FSB 533 MHz
 010 = FSB 800 MHz
 011 = FSB 667 MHz

CFG[4:3] Reserved

CFG5 DMI X2 Select
 0 = DMI X2
 1 = DMI X4(Default)

CFG6 Reserved

CFG7 CPU Strap
 0 = Reserved
 1 = Mobile CPU(Default)

CFG8 Low power PCI Express
 0 = Normal mode
 1 = Low Power mode

CFG9 PCI Express Graphics Lane Reversal
 0 = Reverse Lanes
 1 = Normal operation(Default)

CFG[11:10] Reserved

CFG[13:12] XOR/ALLZ
 00 = Reserved
 01 = XOR Mode Enable
 10 = All-Z Mode Enabled
 11 = Normal operation(Default)

CFG[15:14] Reserved

CFG16 FSB Dynamic ODT
 0 = Dynamic ODT disable
 1 = Dynamic ODT Enable(Default)

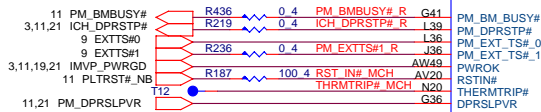
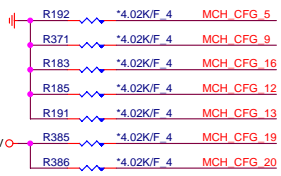
CFG[18:17] Reserved

CFG18 VCC select
 0 = 1.05V (Default)
 1 = 1.5V

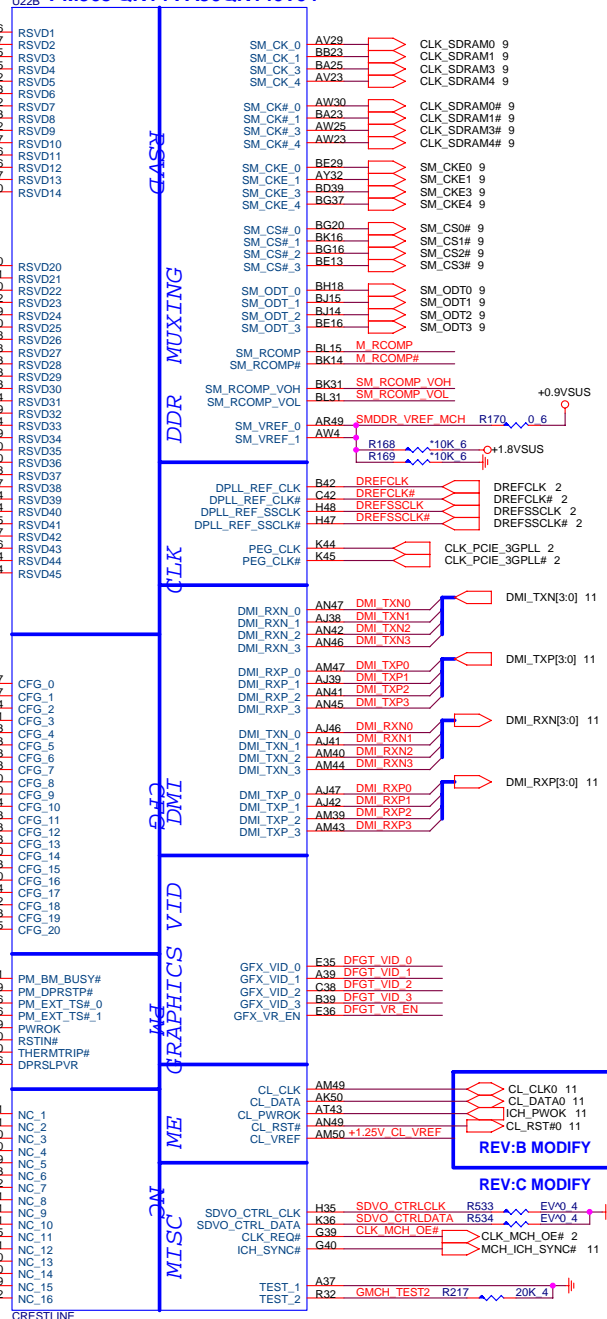
SDVO_CTRLDATA SDVO Present
 0 = No SDVO Card present(Default)
 1 = SDVO Card Present

CFG19 DMI Lane Reversal
 0 = Normal operation(Default)
 1 = Reverse Lanes

CFG20 SDVO/PCIE concurrent
 0 = Only SDVO or PCIE x1 is operation(Default)
 1 = SDVO and PCIE x1 are operating simultaneously via the PEG port

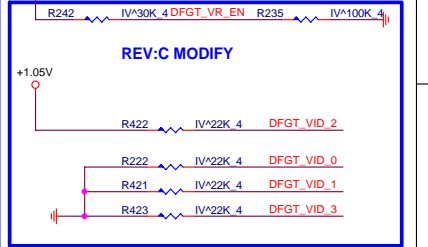
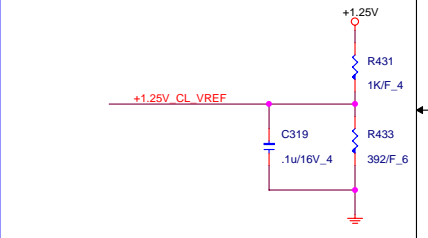
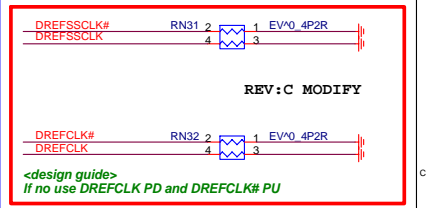
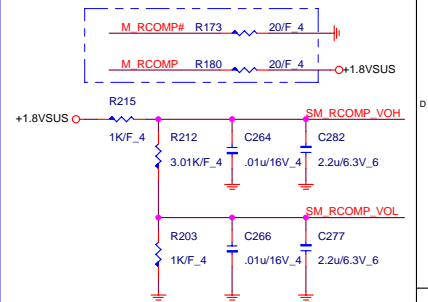


GM965 QN12 : AJ0QN120T04
 PM965 QN14 : AJ0QN140T04



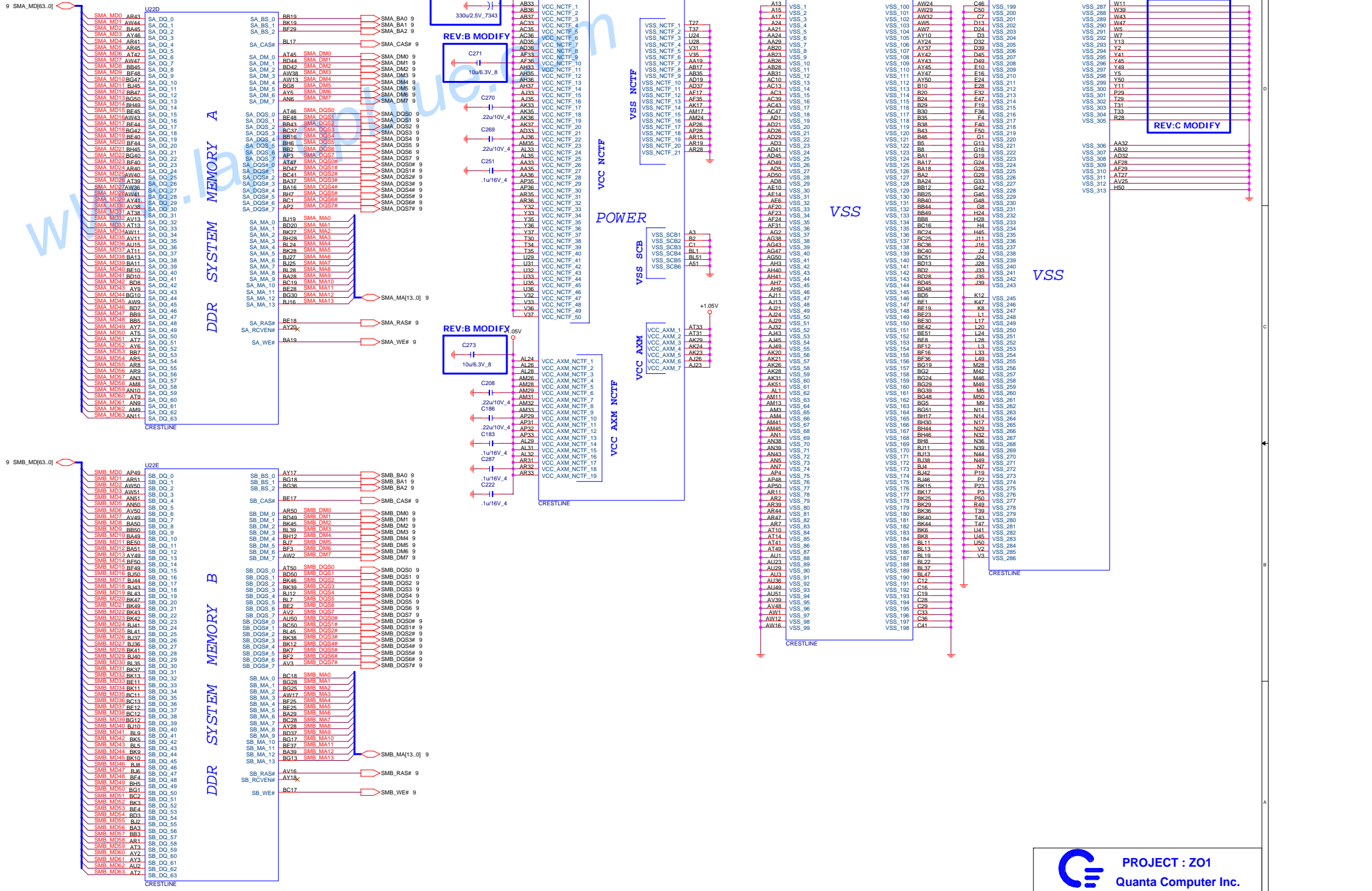
Width : 20mil
 Length < 500mil

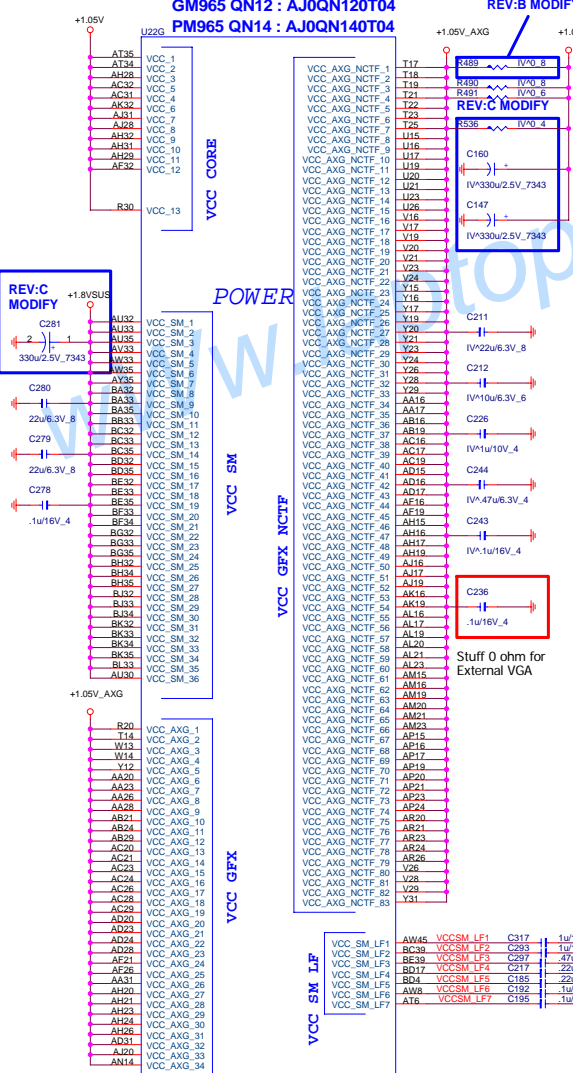
<check list & CRB>
 R Value select
 For Calero : 80.6ohm
 For Crestline:20ohm
 But check list use 80.6ohm



PROJECT : ZO1
 Quanta Computer Inc.

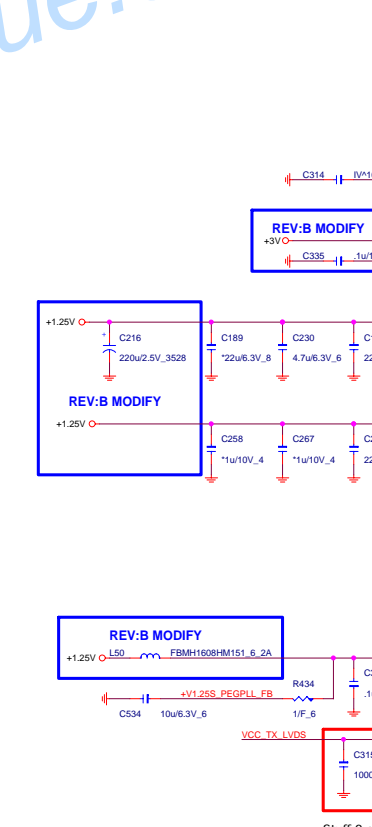
GM965 QN12 : AJ0QN120T04
 PM965 QN14 : AJ0QN140T04





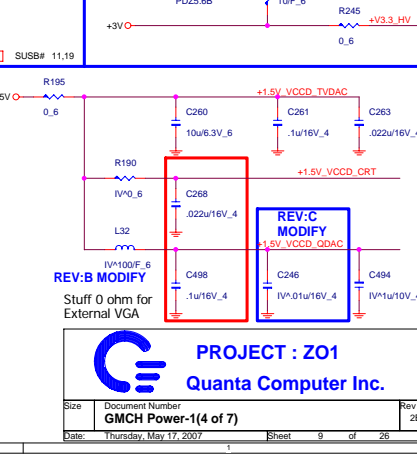
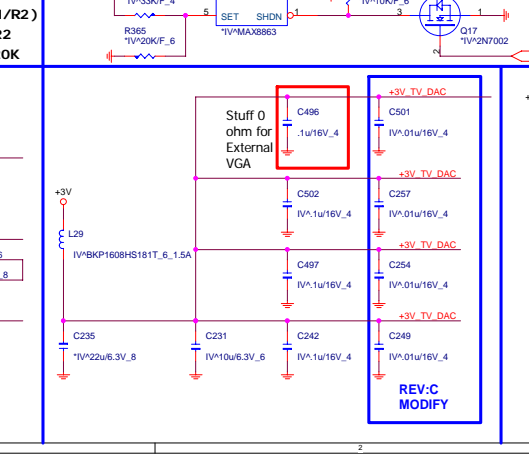
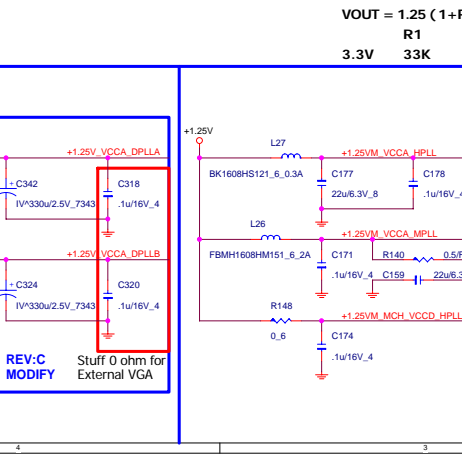
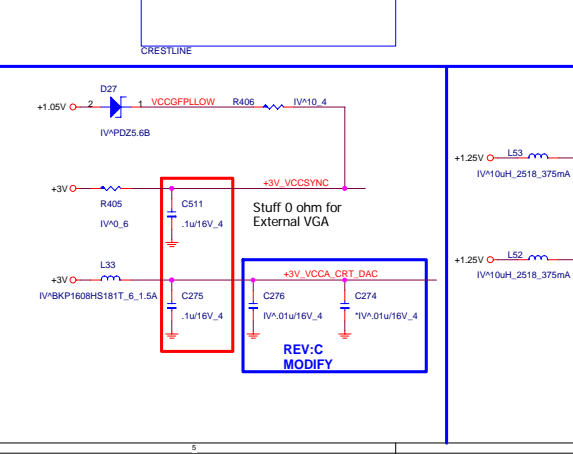
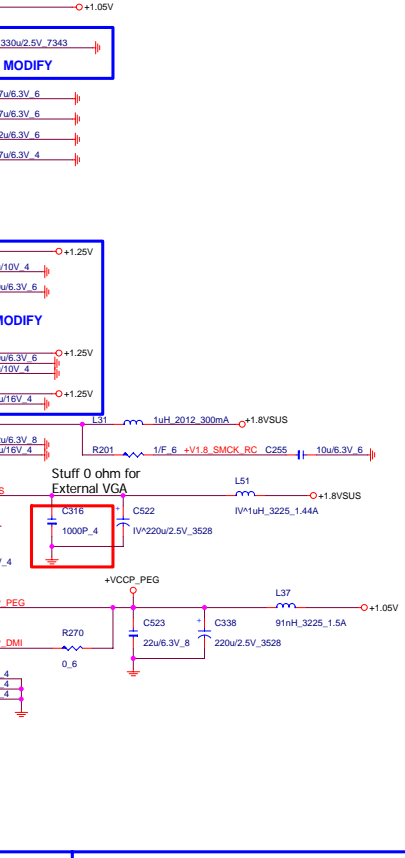
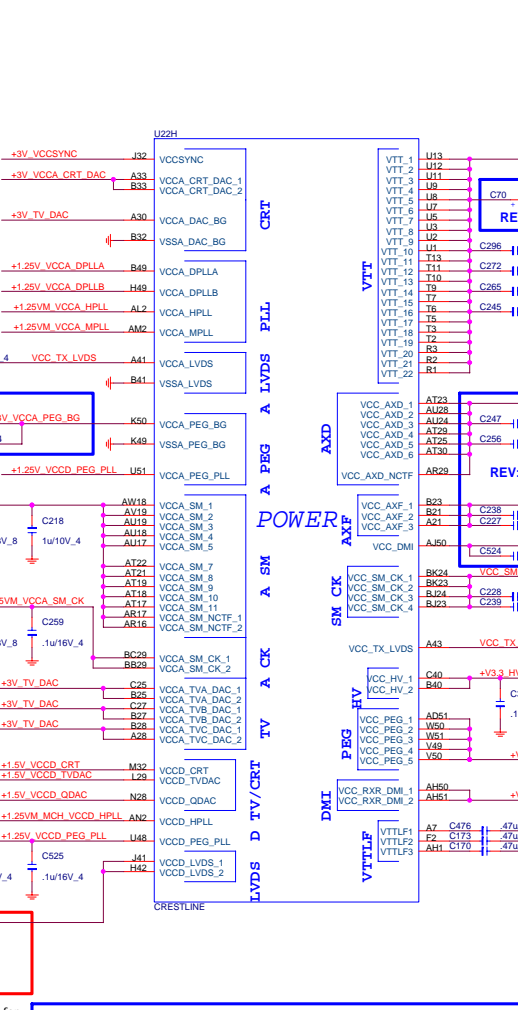
Ball	Enable	Disable	Ball	Enable	Disable
VCCA_CRT	3.3V	GND	VCCA_C_TVO	3.3V	GND
VCCD_CRT	1.5V	GND	VCCD_TVO	1.5V	1.5V
VCCDO_CRT	1.5V	GND	VCCABG_DAC	3.3V	GND
VCCA_A_TVOB3.3V	GND	GND	VSSABG_DAC	GND	GND
VCCA_B_TVOB3.3V	GND	GND	VCC_SYNC	3.3V	GND

CRT/TV Disable/Enable guideline
 External VGA with EV@part, Internal VGA with IV@part



LVDS Disable/Enable guideline
 External VGA with EV@part, Internal VGA with IV@part

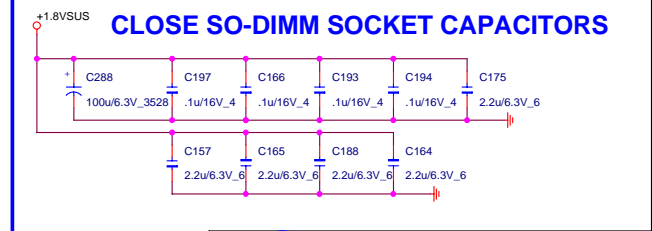
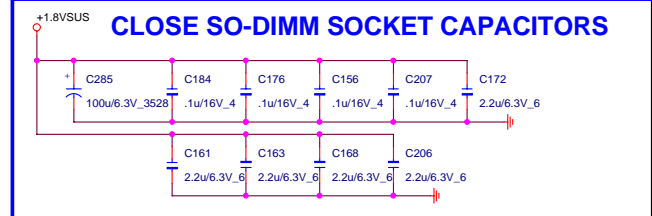
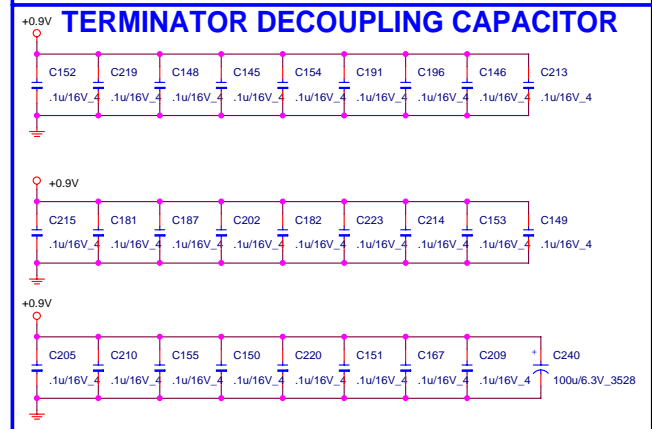
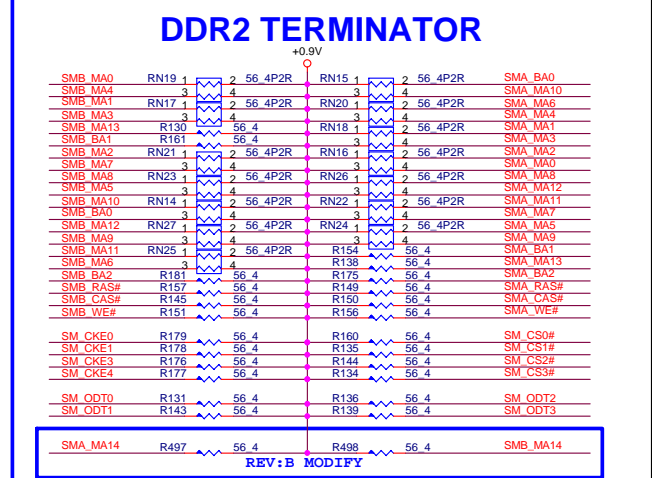
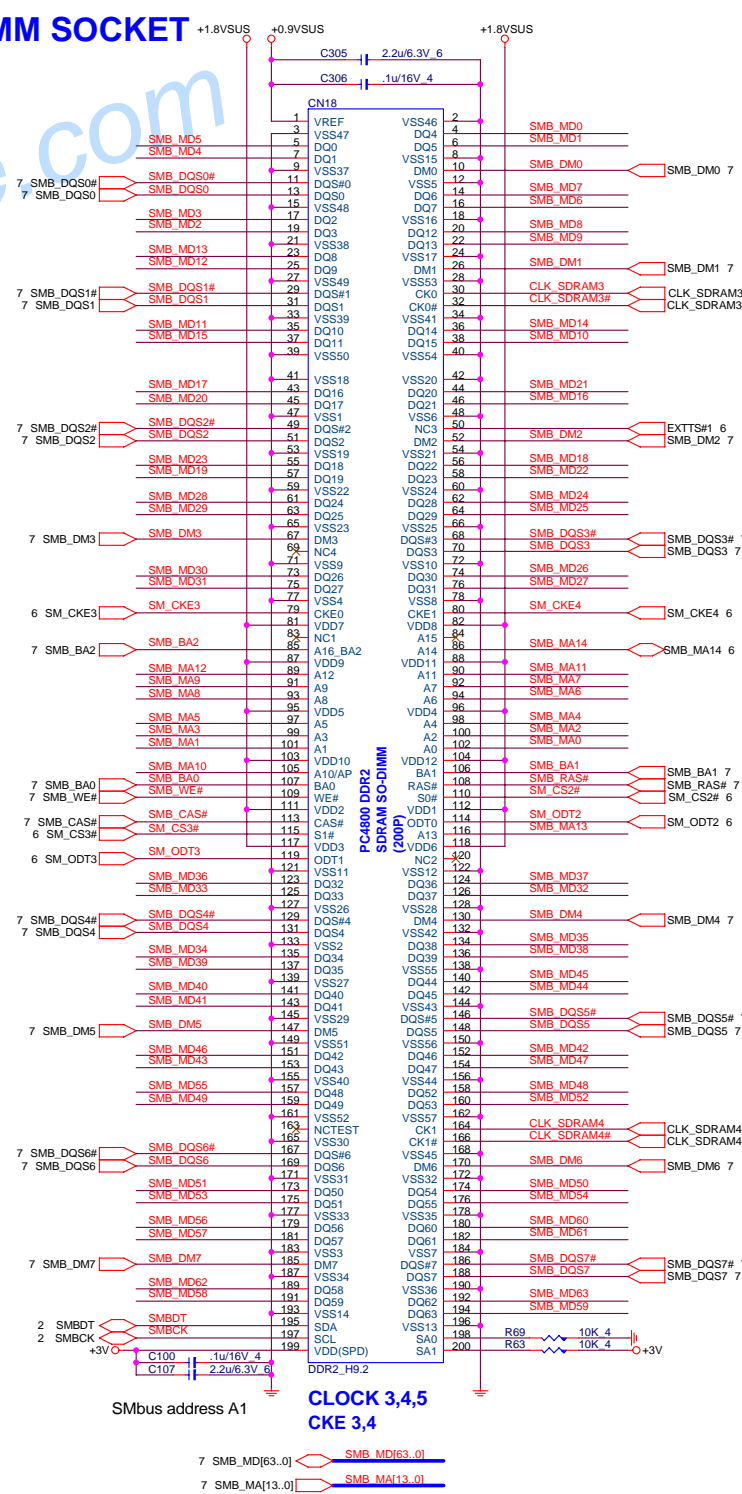
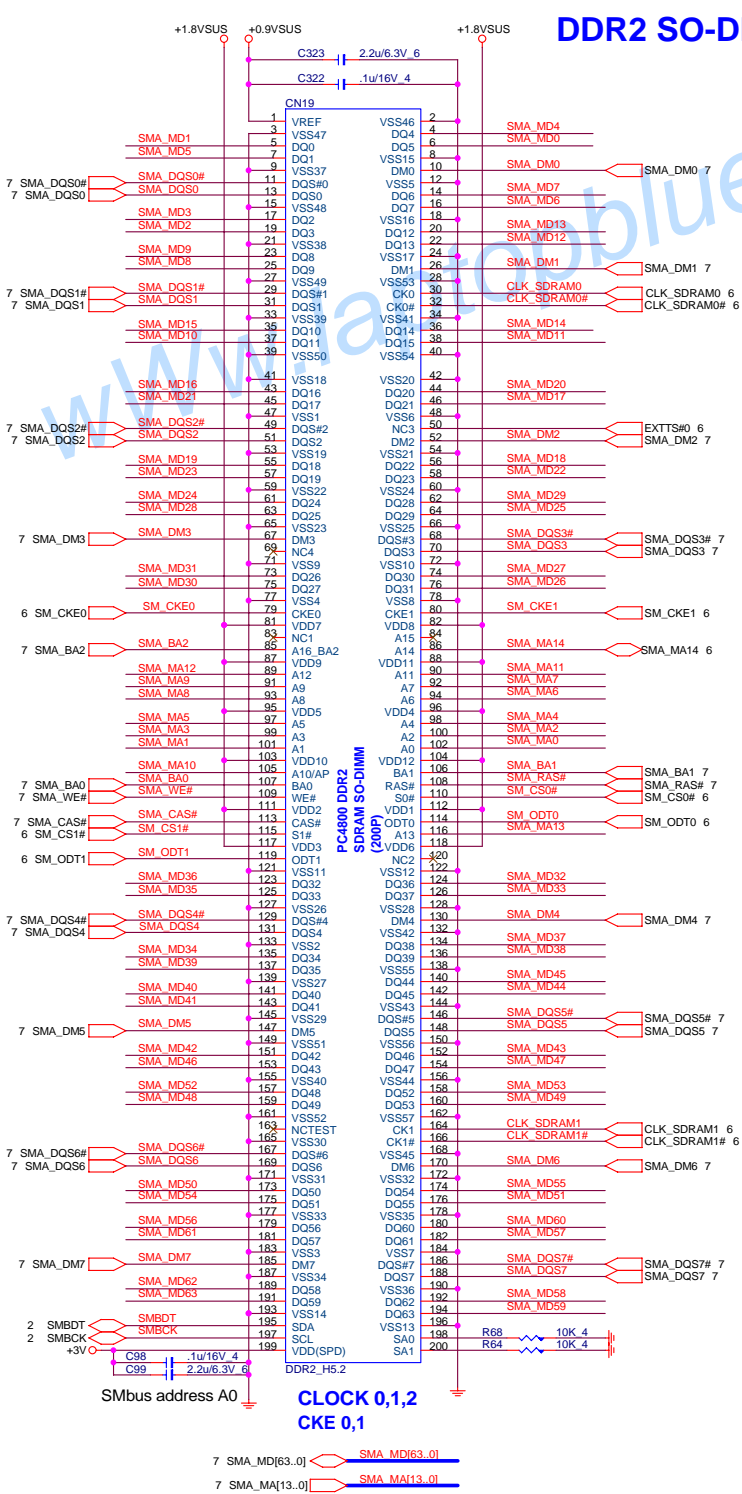
Signal	If SDVO Disable LVDS Disable	If SDVO enable LVDS Disable	If SDVO enable LVDS enable
VCCD_LVDS	GND	1.8V	1.8V
VCCA_LVDS	GND	GND	1.8V
VCCTX_LVDS	EXTERNAL	GND	1.8V



$V_{OUT} = 1.25 (1 + R1/R2)$
 R1: 3.3V, 33K
 R2: 20K

DDR4 SO-DIMM SOCKET

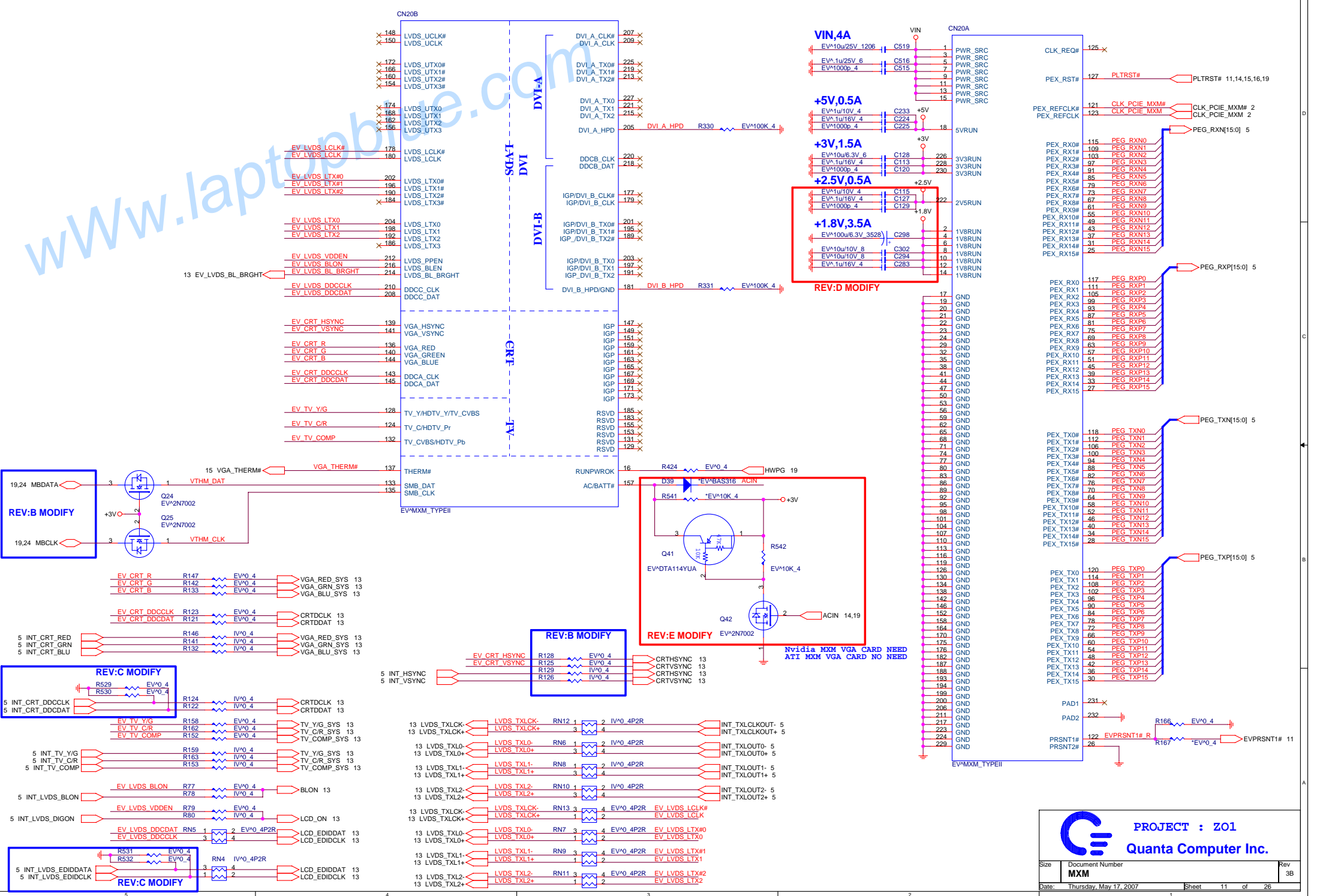
DDR2 TERMINATOR

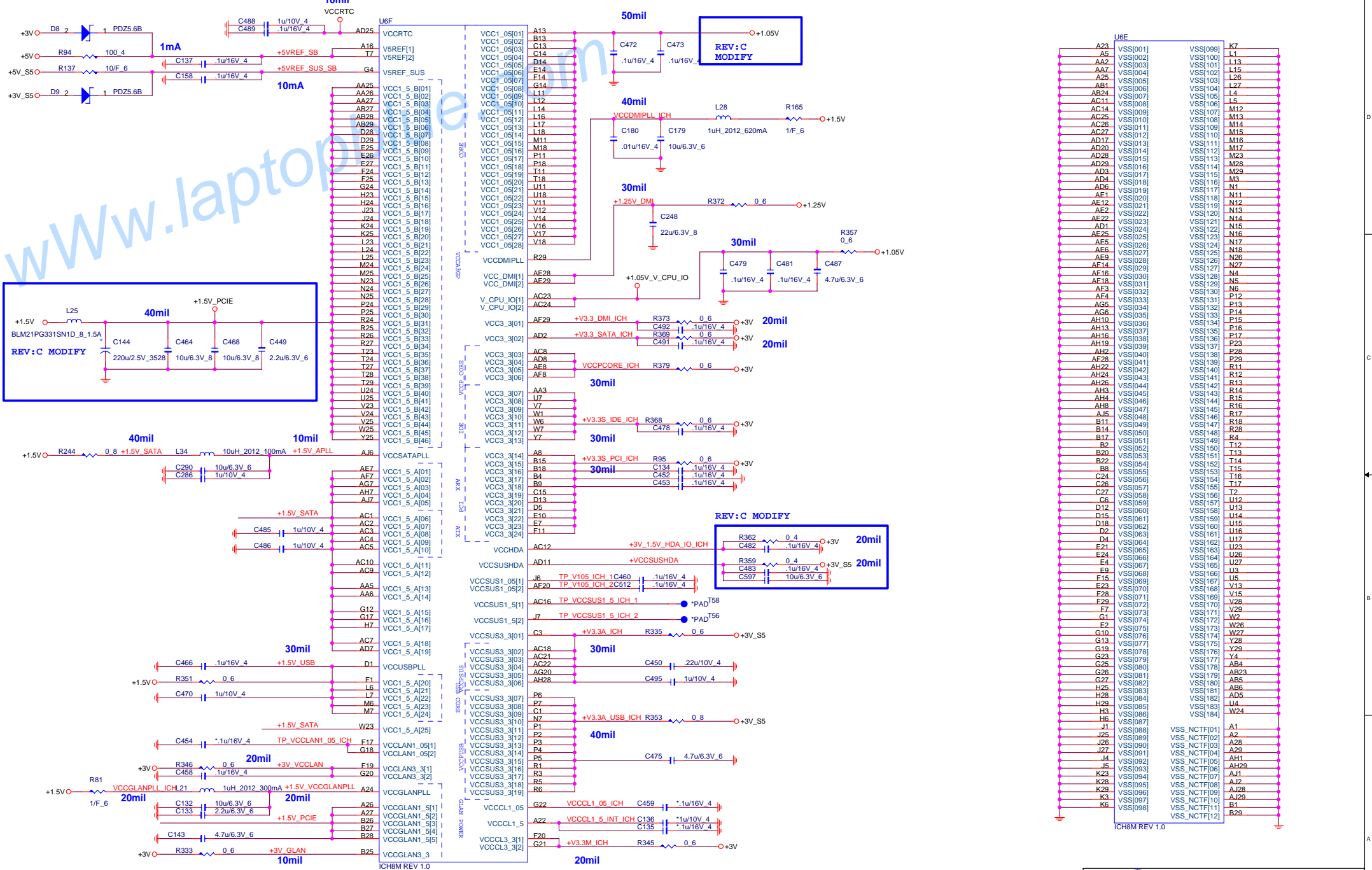


PROJECT : ZO1
Quanta Computer Inc.

Size: Document Number
DDR SO-DIMM(200P) Rev 2A

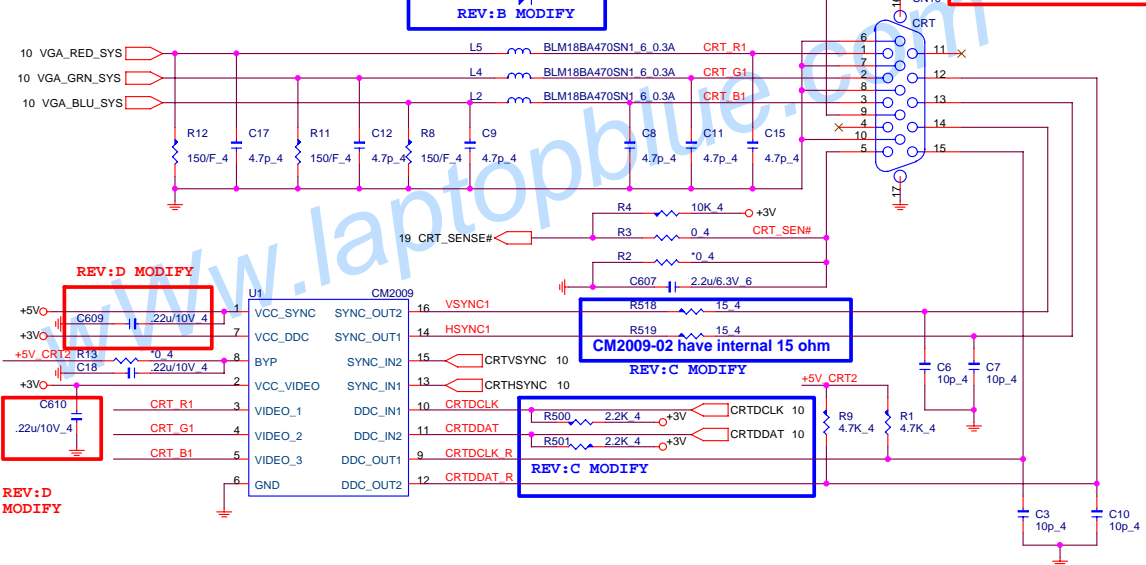
Date: Thursday, May 17, 2007 Sheet 10 of 26





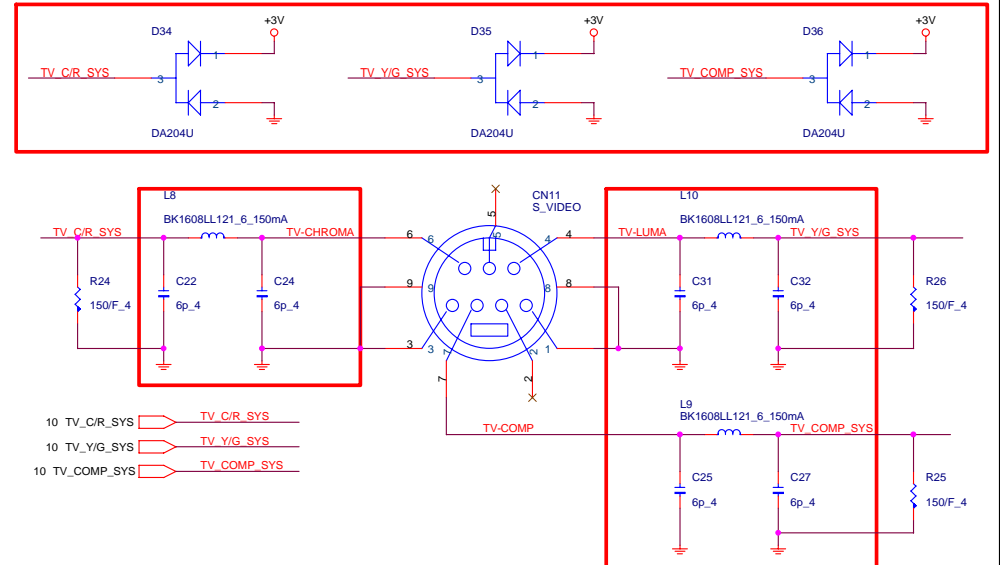
CRT

UMA mode
 1. C8,9,11,12,15,17 use 4.7pF CH-4716TB06
 2. L2,L4,L5 use CX8BA470003

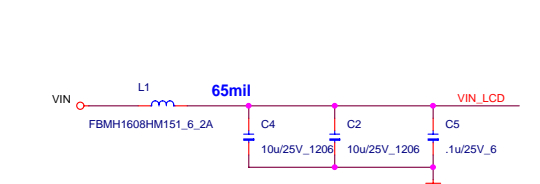
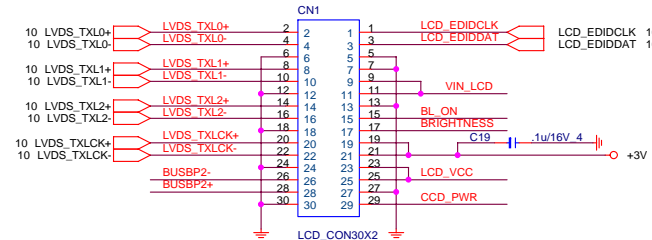


S-VIDEO

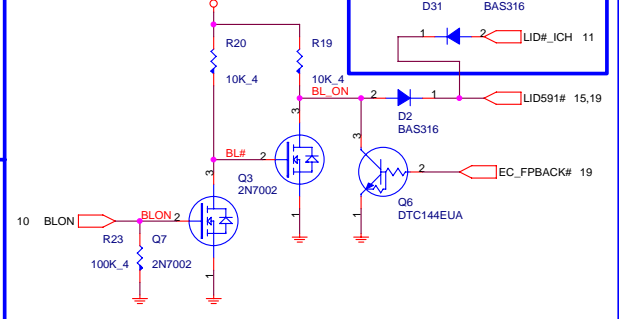
REV:E MODIFY



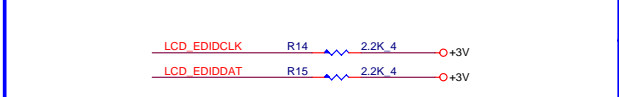
LVDS



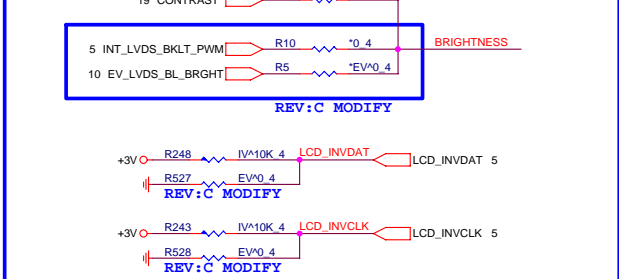
Backlight Control



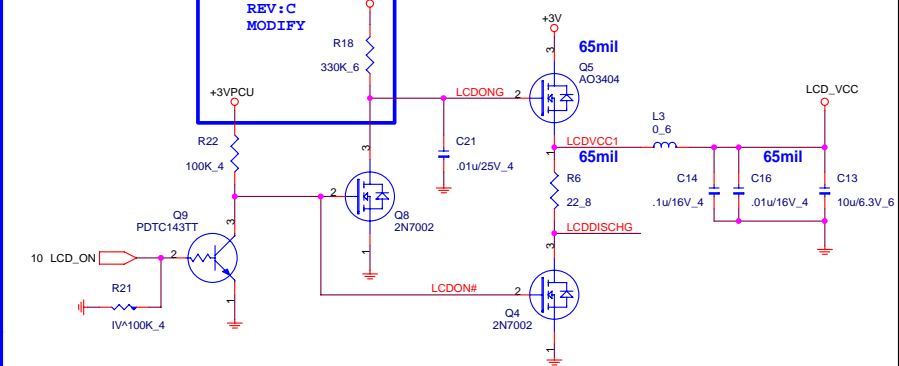
LCD EDID SMBus Pu



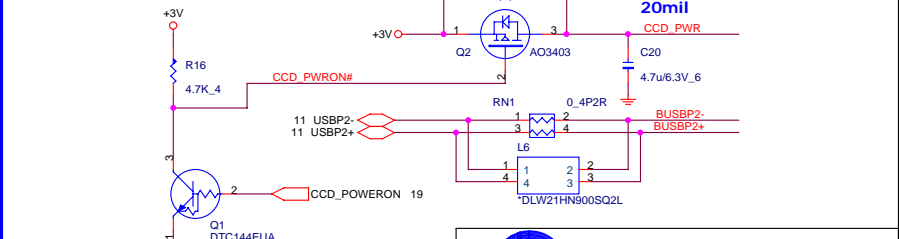
DPST



LCD_ON



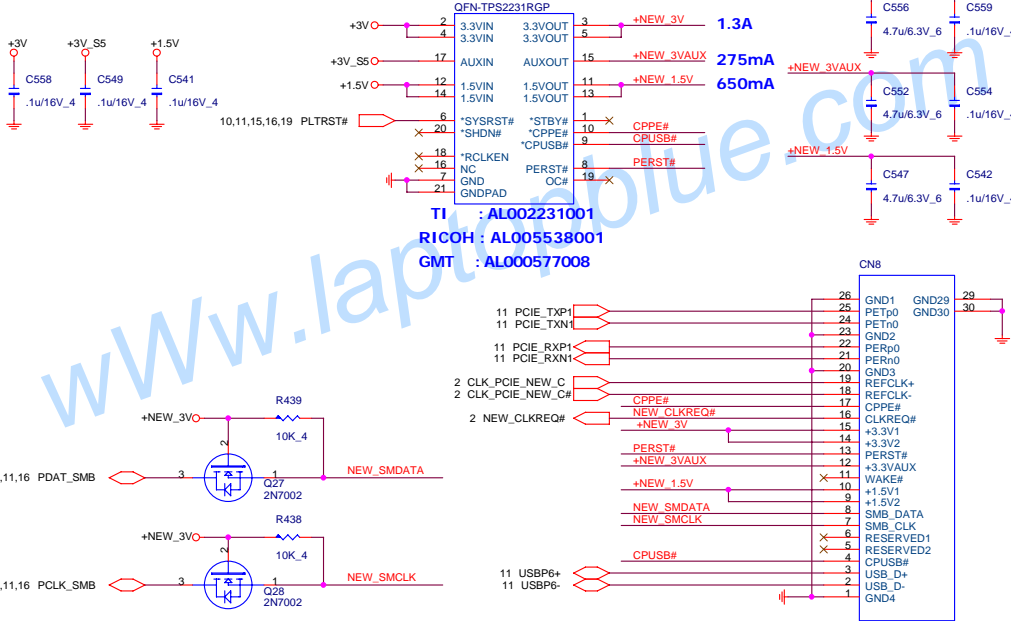
Camera



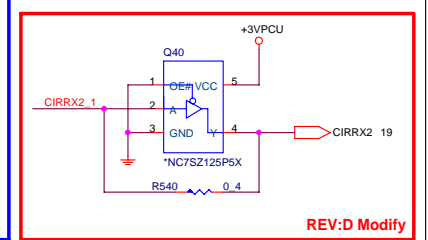
PROJECT : ZO1
Quanta Computer Inc.

Size: Document Number
LVDS/CRT/TVOUT/CCD
 Date: Thursday, May 17, 2007 Sheet 14 of 26 Rev 3B

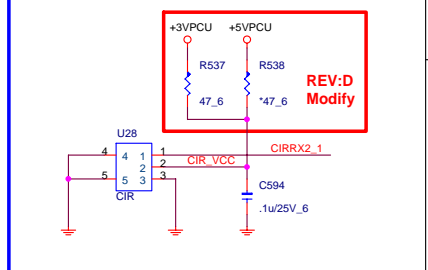
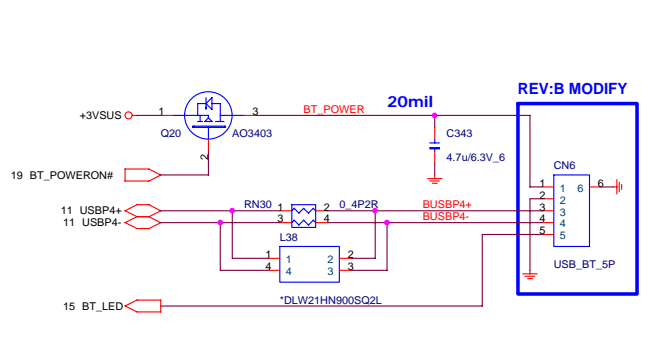
NEW-CARD



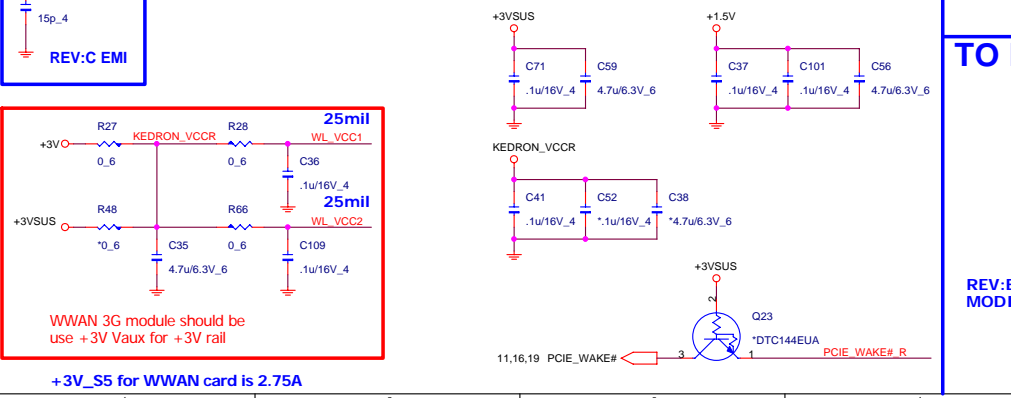
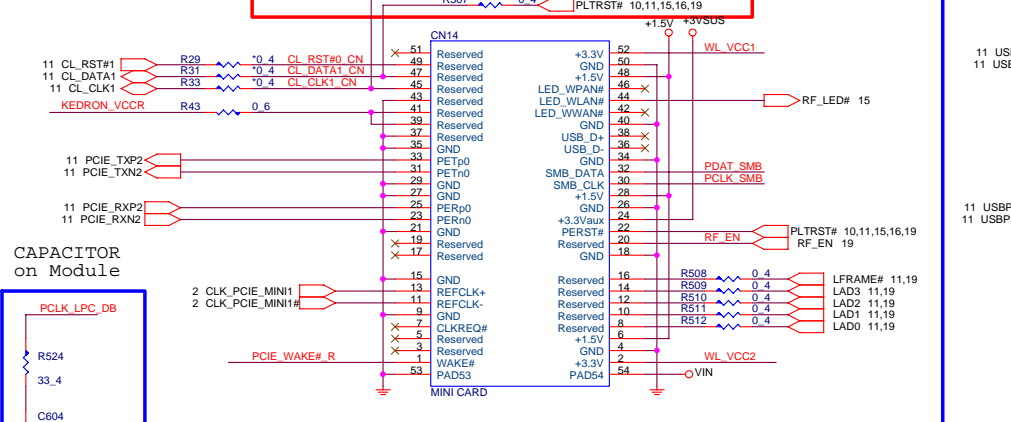
CIR



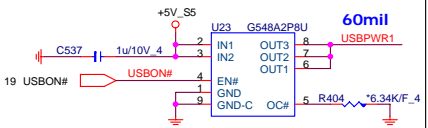
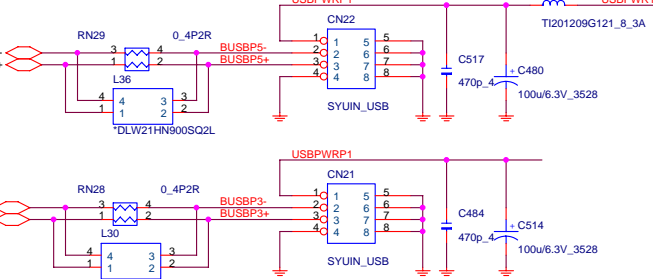
Bluetooth



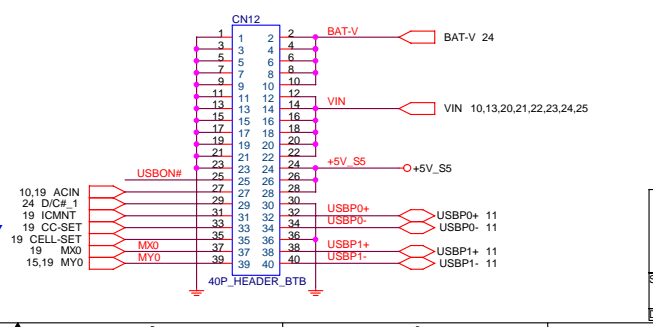
MINI-CARD



USB



TO POWER/B



PROJECT : Z01

Quanta Computer Inc.

Size Document Number

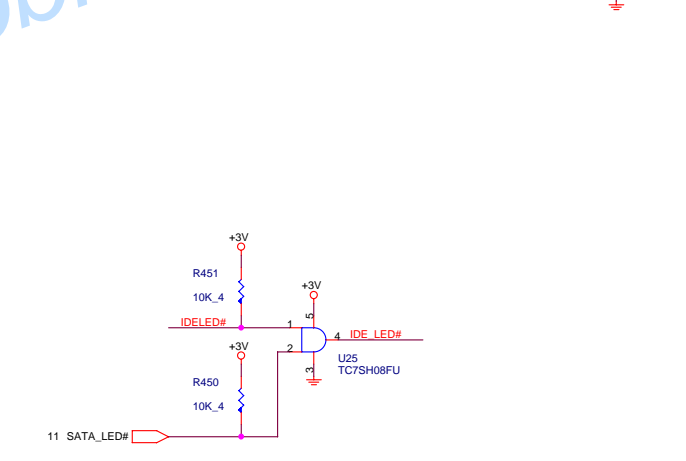
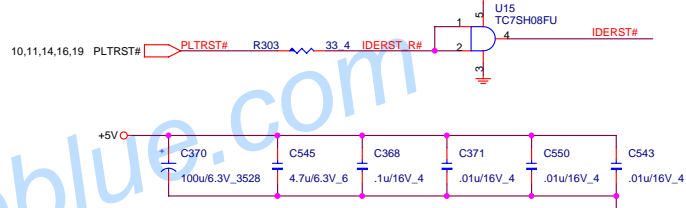
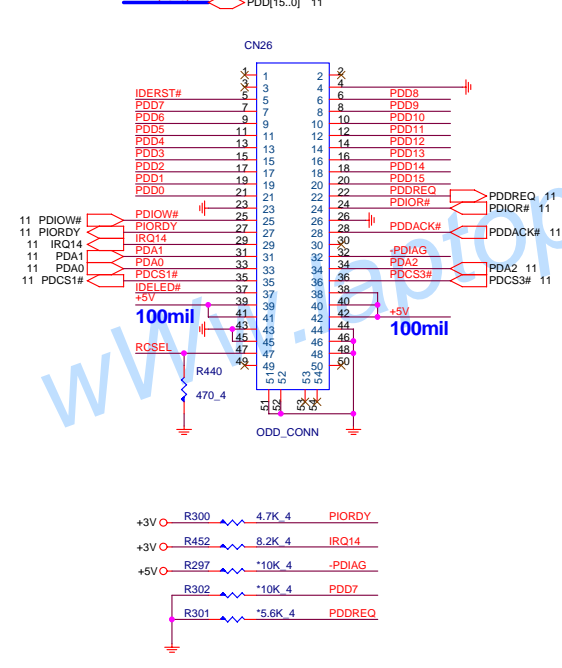
NEW&MINICARD/USB/BT/CIR/ACIN

Date: Thursday, May 17, 2007

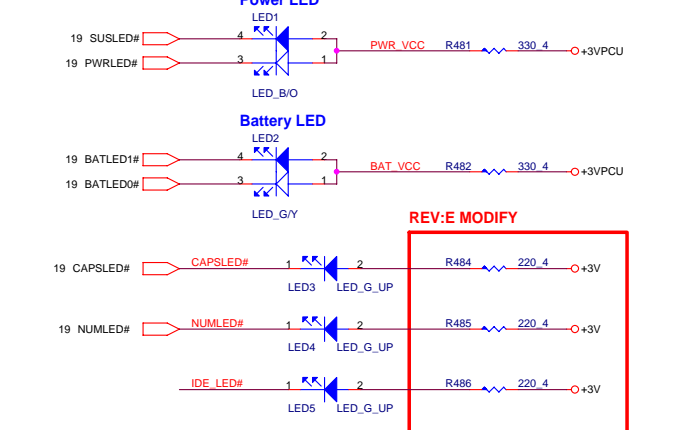
Sheet 15 of 26

Rev 3A

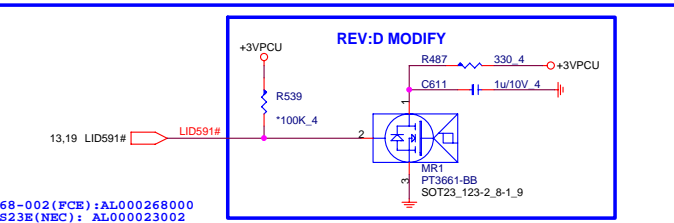
ODD



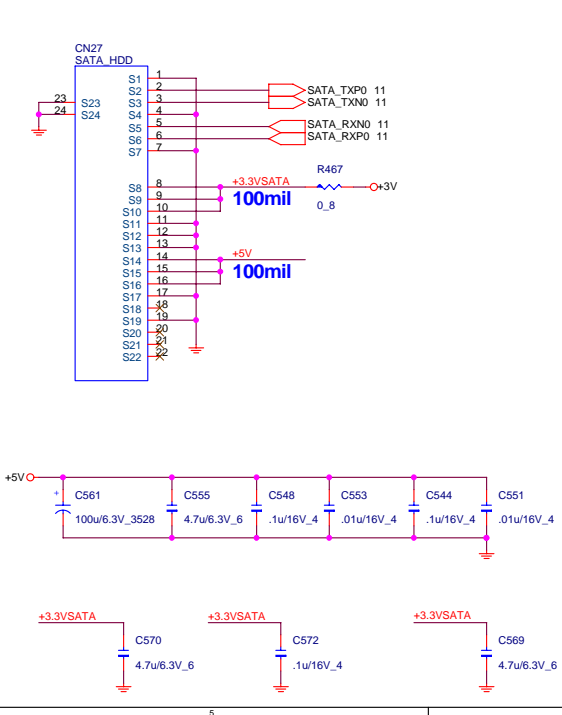
LED



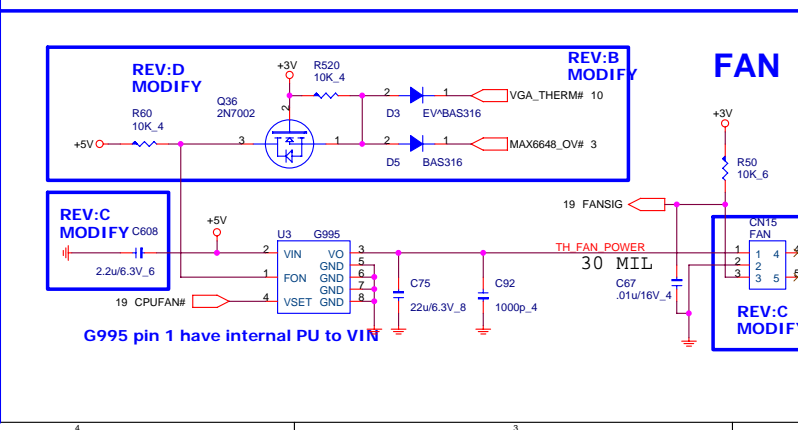
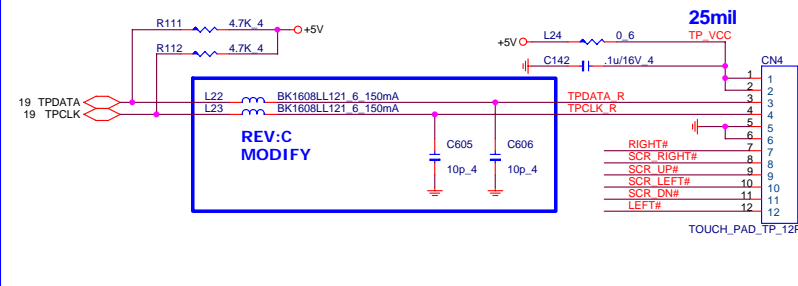
LID



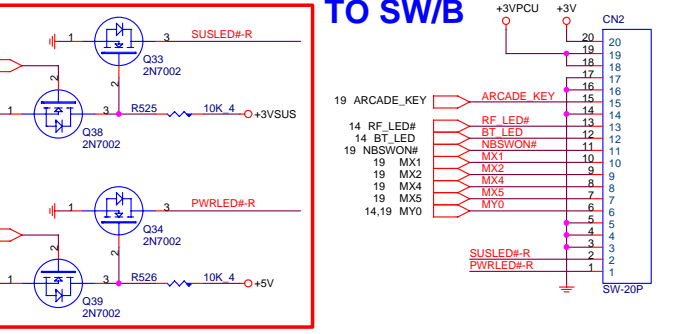
SATA



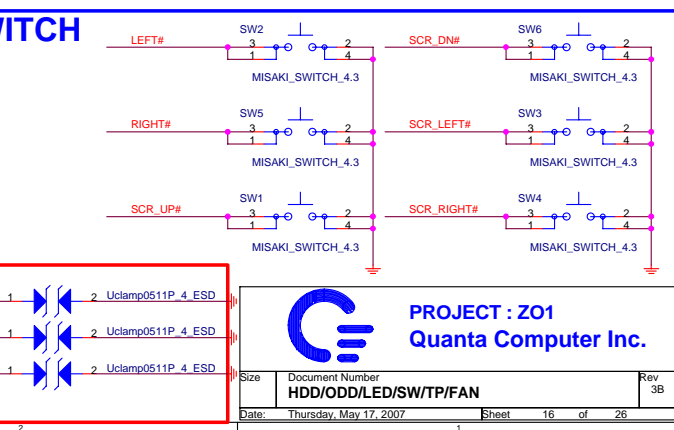
TP CONN



TO SW/B



TP SWITCH

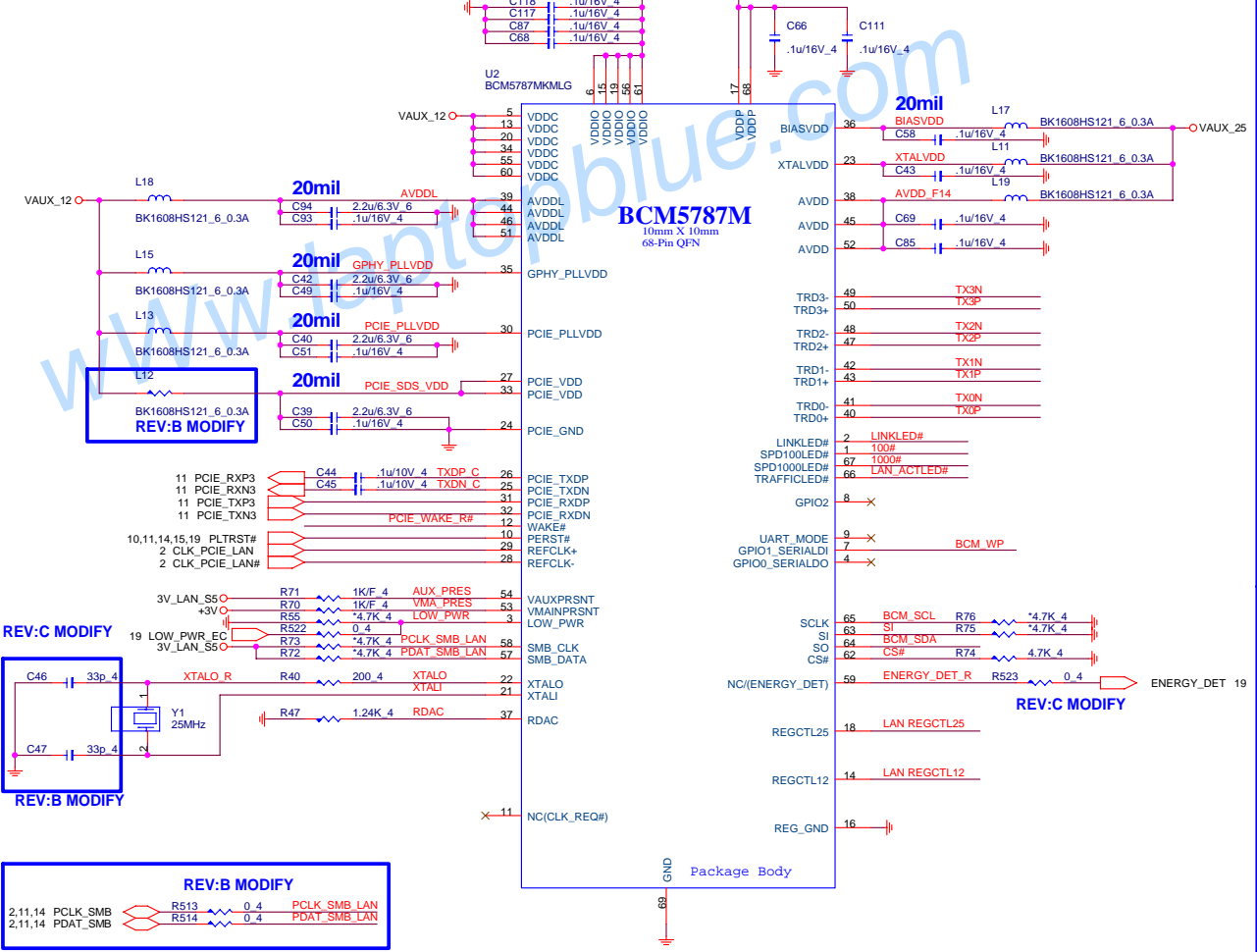


PROJECT : Z01
Quanta Computer Inc.

Size: Document Number
HDD/ODD/LED/SW/TP/FAN

Date: Thursday, May 17, 2007 Sheet 16 of 26 Rev 3B

Giga LAN BCN5785M



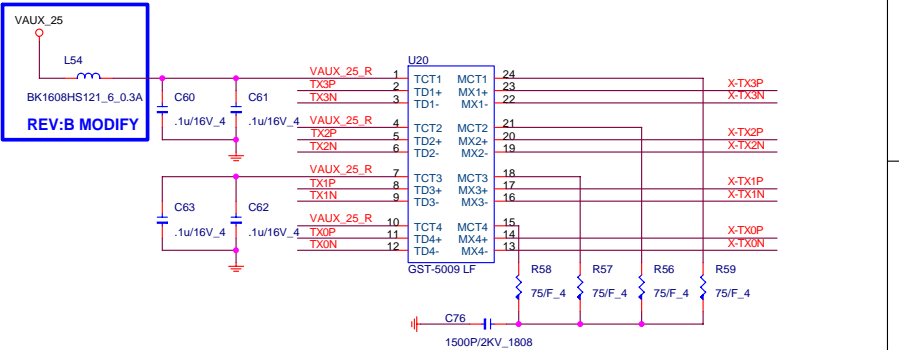
REV:C MODIFY

REV:B MODIFY

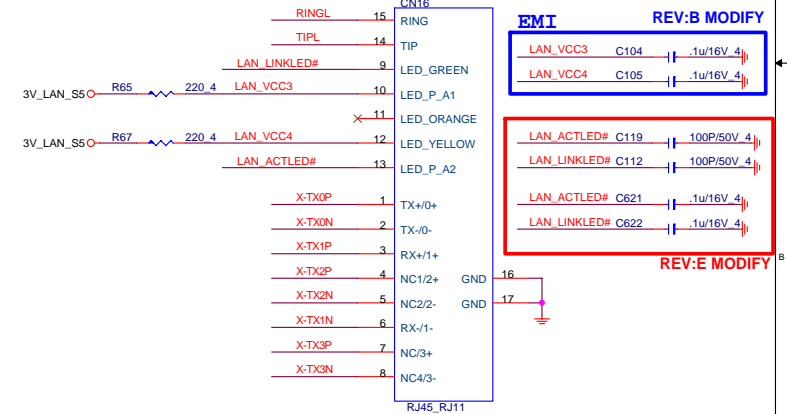
REV:B MODIFY

Transformer

- Source 1: DELTA LFE9249 DBOZR1LAN11
- Source 2: Bothand GST5009 DBKN1NLAN03
- Source 3: FCE NS892402 DBOZH1LAN06



RJ45 & RJ11 connector



EMI REV:B MODIFY

LAN_VCC3 C104 .1u/16V_4

LAN_VCC4 C105 .1u/16V_4

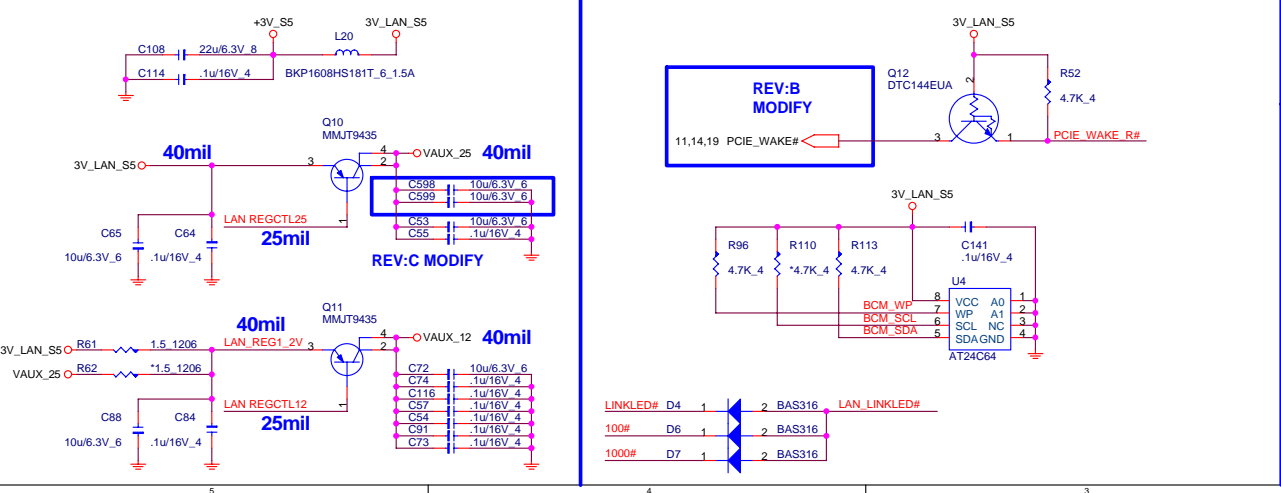
LAN_ACTLED# C119 100P/50V_4

LAN_LINKLED# C112 100P/50V_4

LAN_ACTLED# C621 .1u/16V_4

LAN_LINKLED# C622 .1u/16V_4

REV:E MODIFY

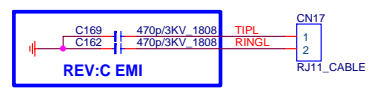



REV:B MODIFY

REV:C MODIFY

REV:C EMI

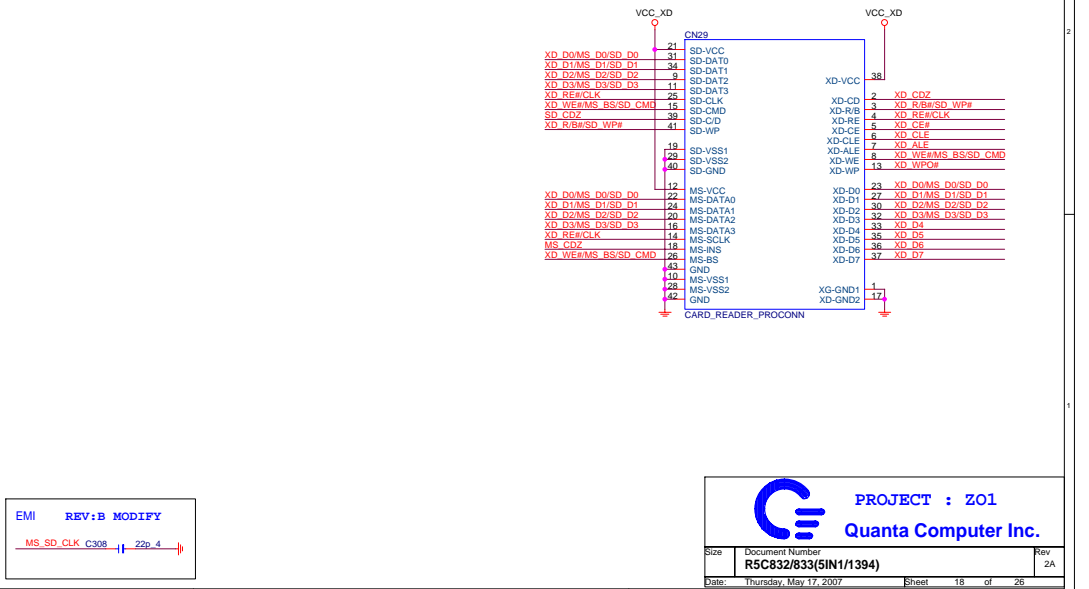
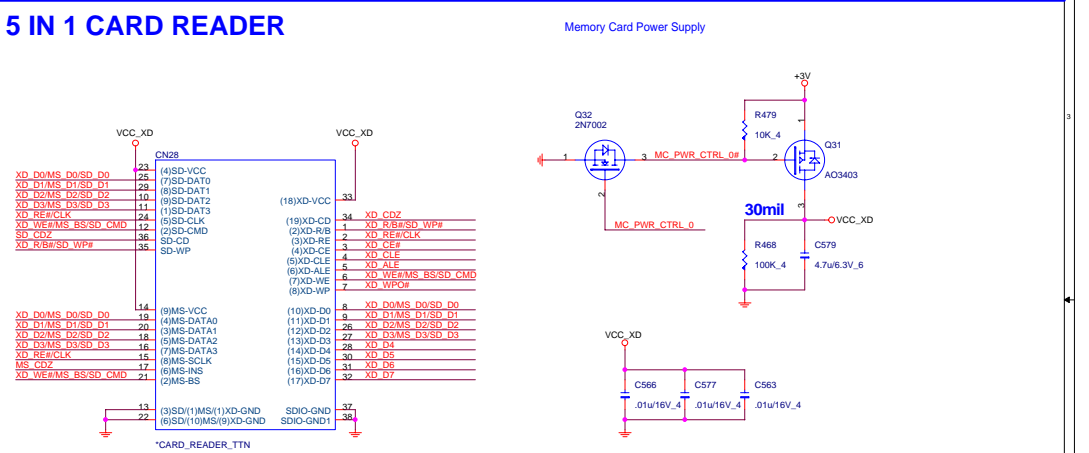
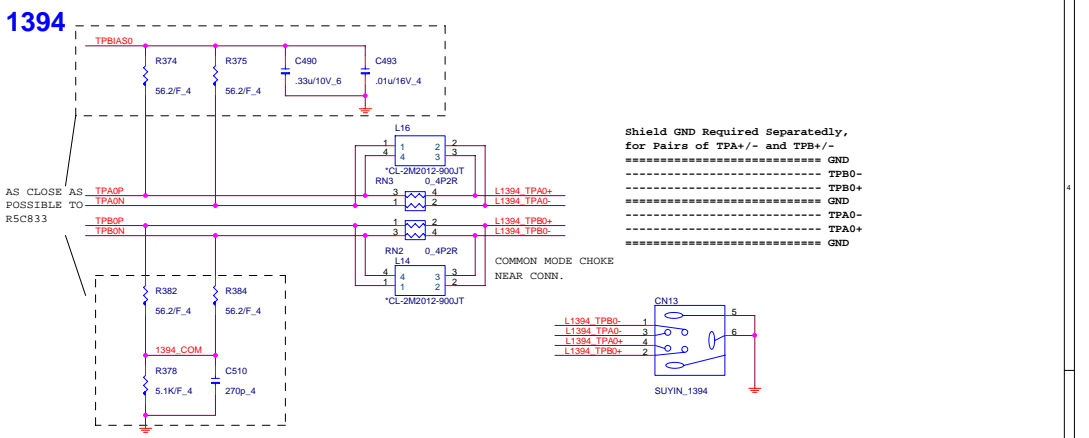
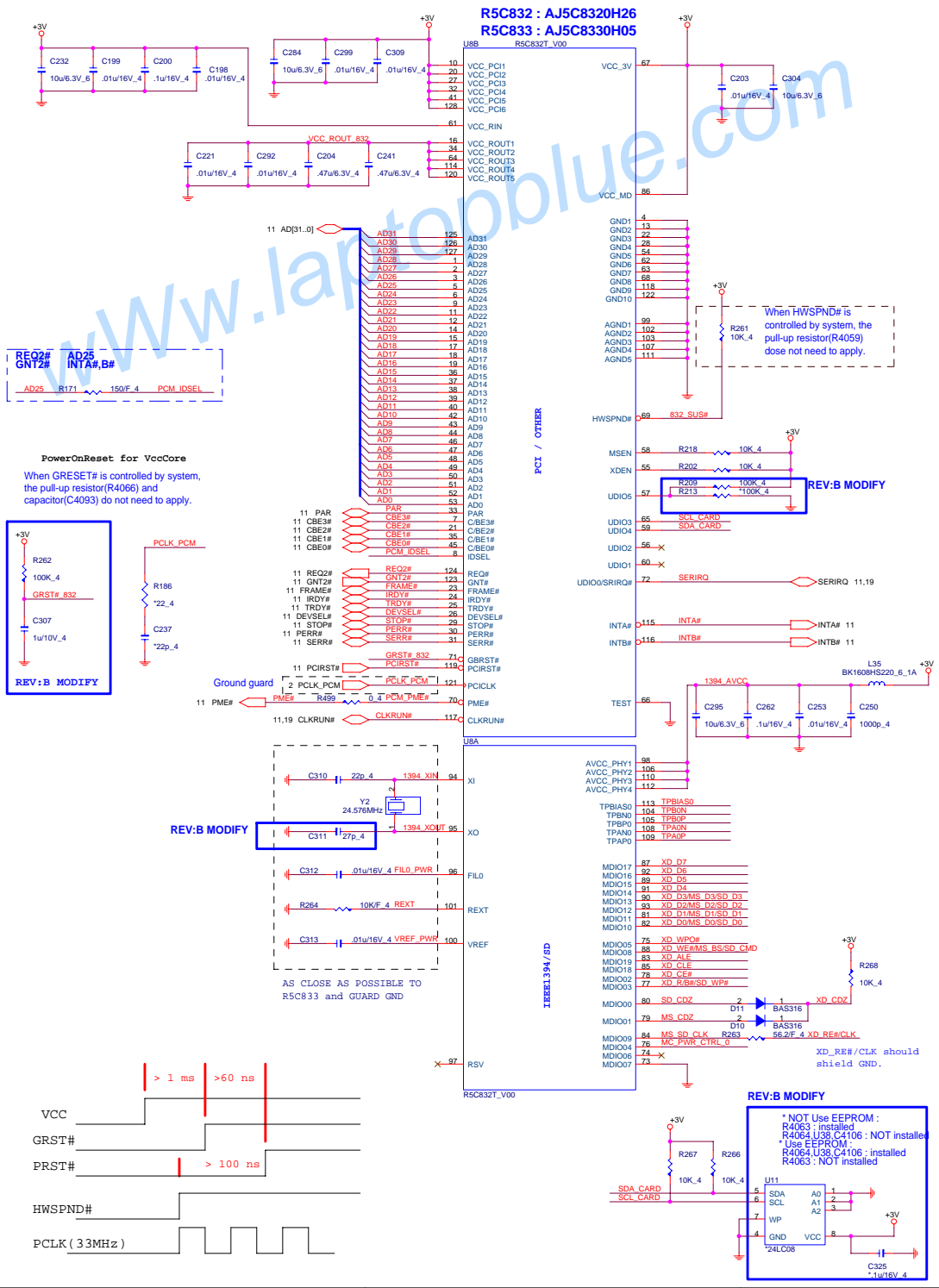
RJ11 cable

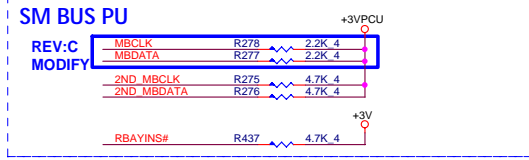
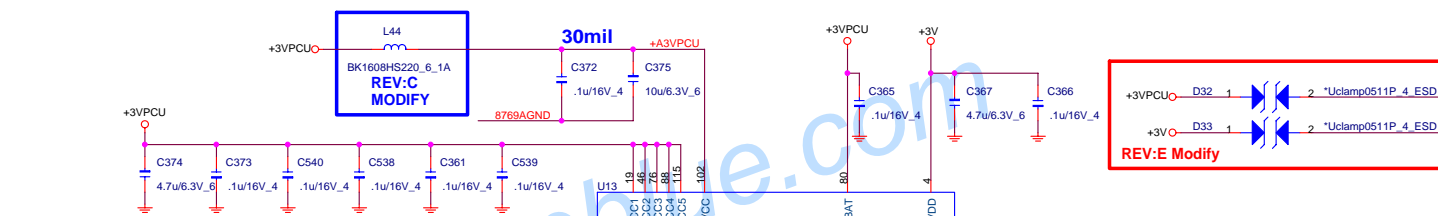




PROJECT : ZO1
Quanta Computer Inc.

Size	Document Number	Rev
	GigaLAN BCM5787M & RJ45/11	3A
Date:	Thursday, May 17, 2007	Sheet 17 of 26

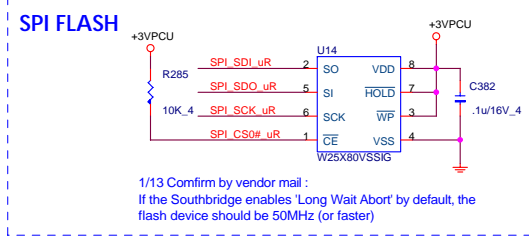
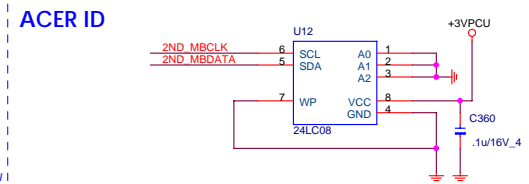
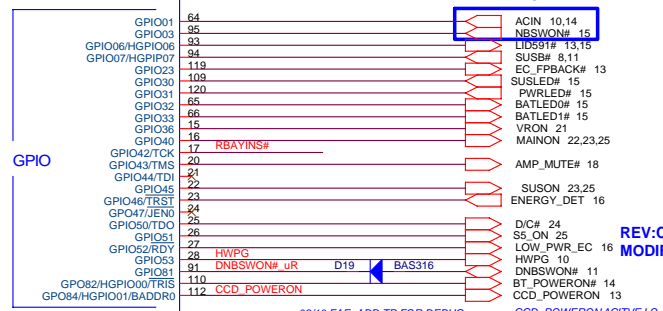
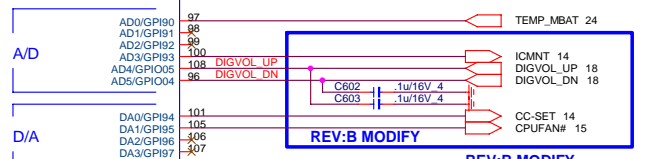
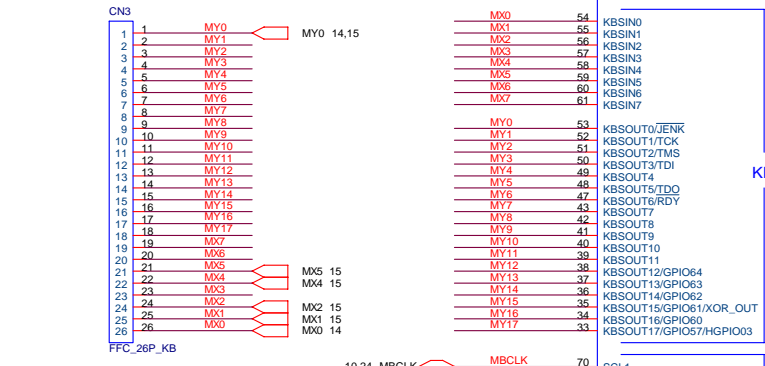
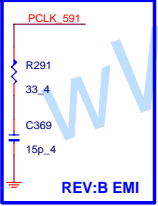
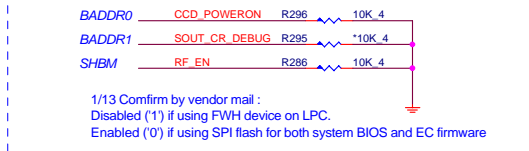




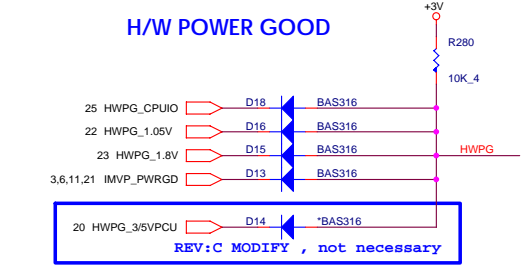
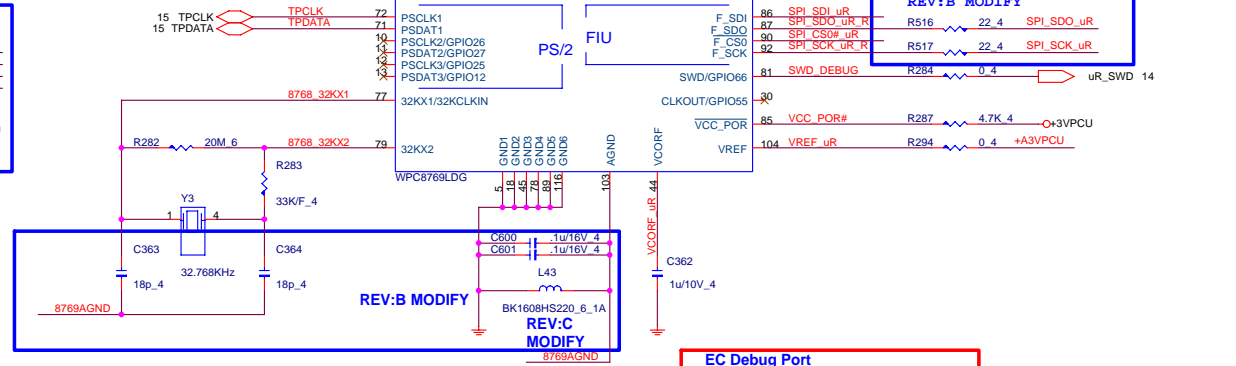
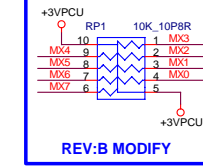
I/O ADDRESS SETTING

BADDR1-0	Index	Data
0 0	XOR TREE TEST MODE	
0 1	CORE DEFINED	
1 0	2Eh	2Fh
1 1	164Eh	164Fh

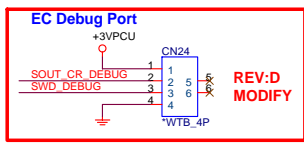
SHBM=0: Enable shared memory with host BIOS

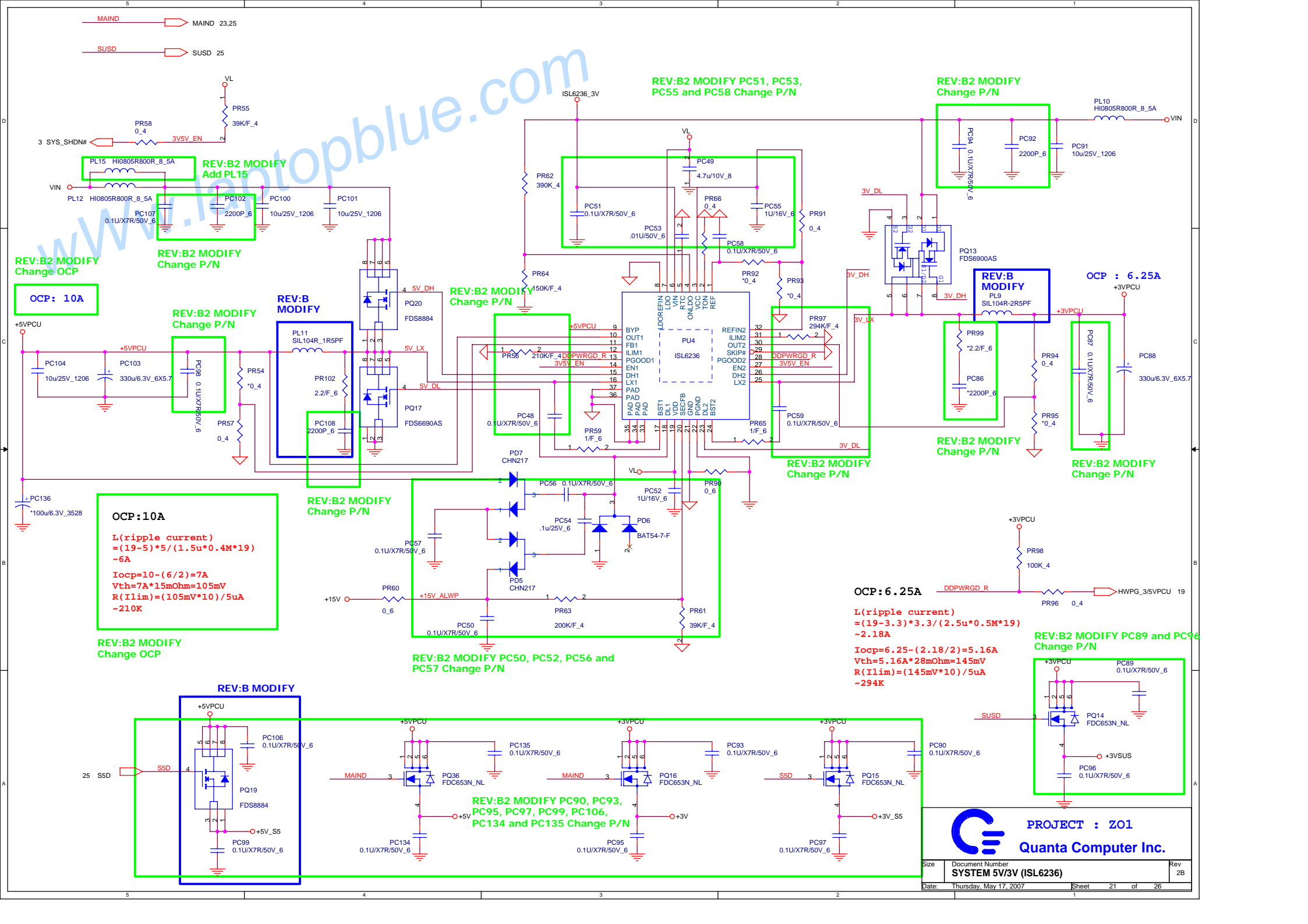


FOLLOW INTEL ME-EC INTERFACE SPECIFICATION.
2ND_SMB IS DEDICATED FOR ICH8 CONTROLLER LINK BUS



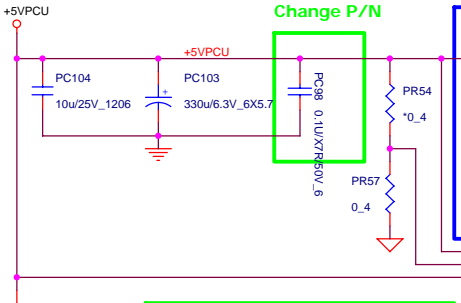
08/10 FAE:
L83 CAN CHANGE FROM BEAD TO SHORT.
BUT, PLEASE PUT AGND & 32K CAP & AVCC CAP AT ONE POINT.
ZS1 STILL USE BEAD FOR SAFE.





REV:B2 MODIFY
Change OCP

OCP: 10A

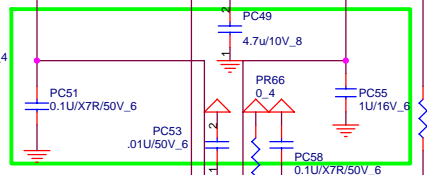


OCP:10A

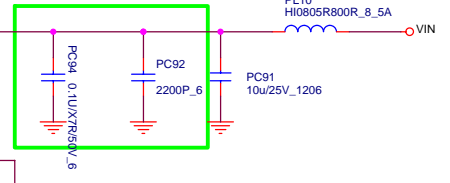
$L(\text{ripple current}) = (19-5) * 5 / (1.5u * 0.4M * 19) \sim 6A$
 $I_{ocp} = 10 - (6/2) = 7A$
 $V_{th} = 7A * 15m\Omega = 105mV$
 $R(I_{lim}) = (105mV * 10) / 5uA \sim 210K$

REV:B2 MODIFY
Change OCP

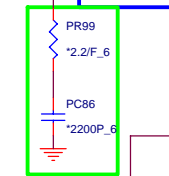
REV:B2 MODIFY PC51, PC53,
PC55 and PC58 Change P/N



REV:B2 MODIFY
Change P/N



REV:B
MODIFY
PL9
SIL104R-2R5PF



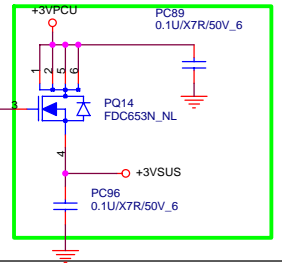
REV:B2 MODIFY
Change P/N

REV:B2 MODIFY
Change P/N

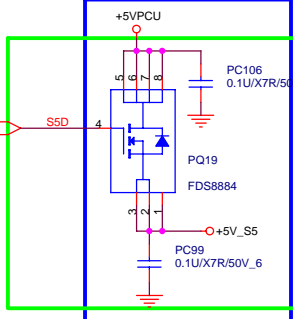
OCP: 6.25A

$L(\text{ripple current}) = (19-3.3) * 3.3 / (2.5u * 0.5M * 19) \sim 2.18A$
 $I_{ocp} = 6.25 - (2.18/2) = 5.16A$
 $V_{th} = 5.16A * 28m\Omega = 145mV$
 $R(I_{lim}) = (145mV * 10) / 5uA \sim 294K$

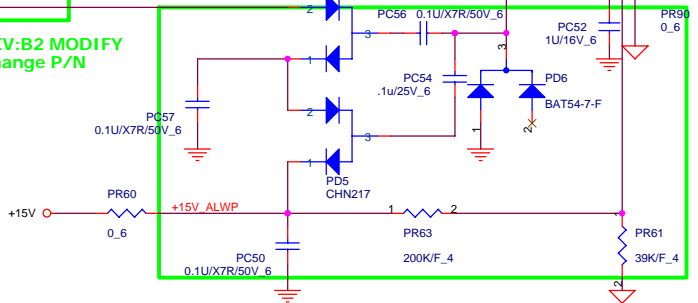
REV:B2 MODIFY PC89 and PC96
Change P/N



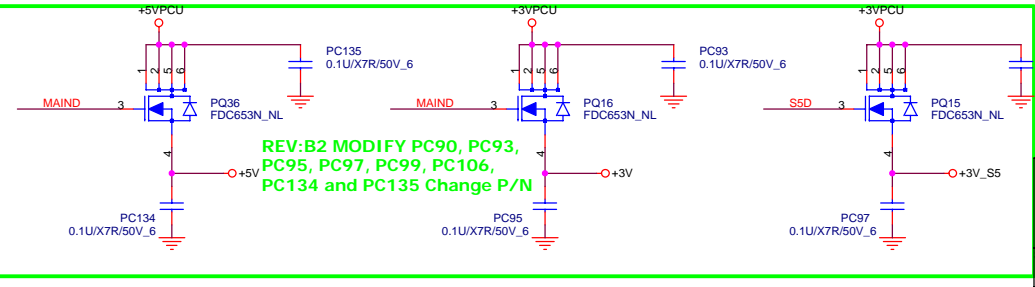
REV:B MODIFY



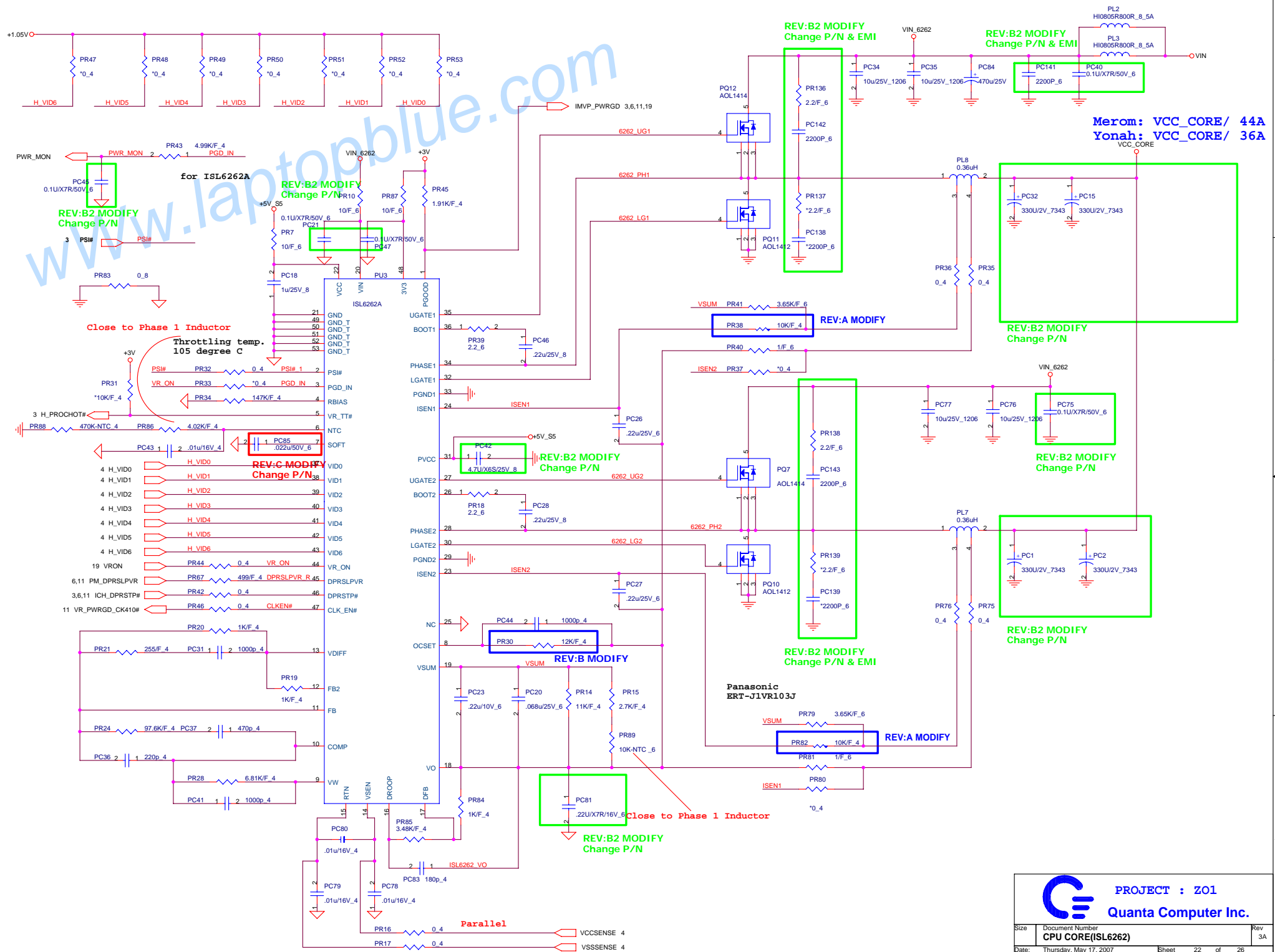
REV:B2 MODIFY PC50, PC52, PC56 and
PC57 Change P/N



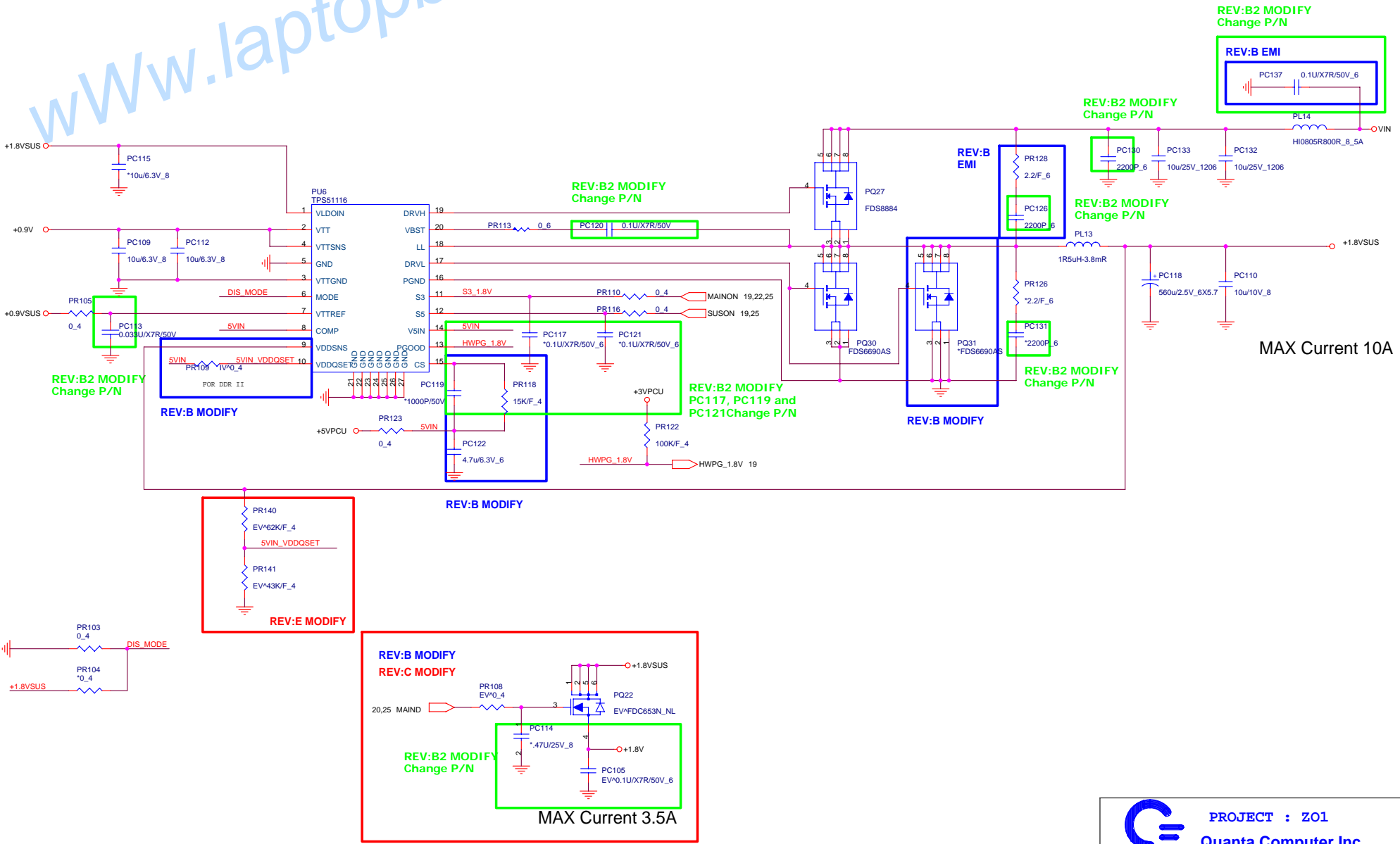
REV:B2 MODIFY PC90, PC93,
PC95, PC97, PC98, PC106,
PC134 and PC135 Change P/N



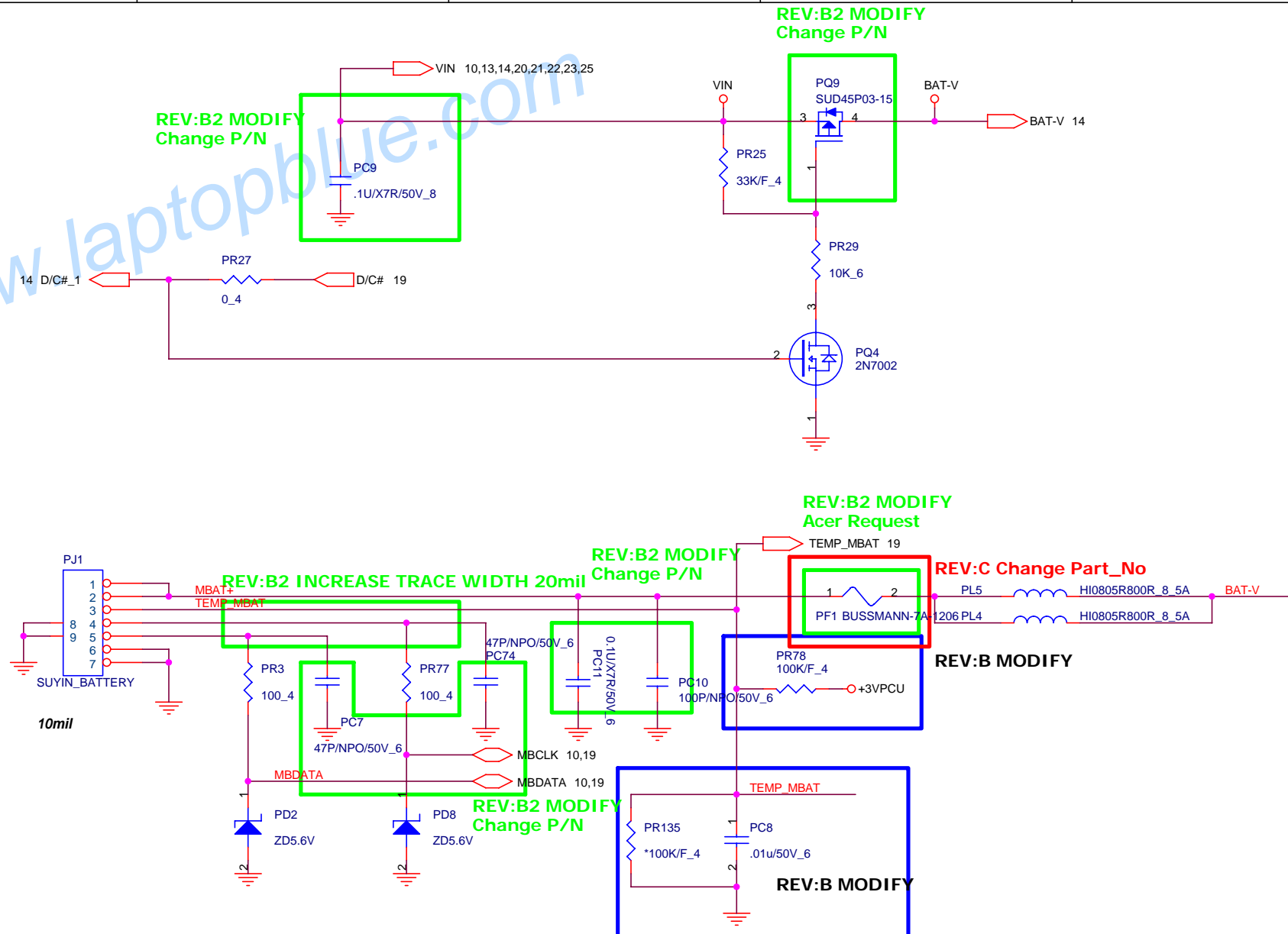
PROJECT : ZO1
Quanta Computer Inc.




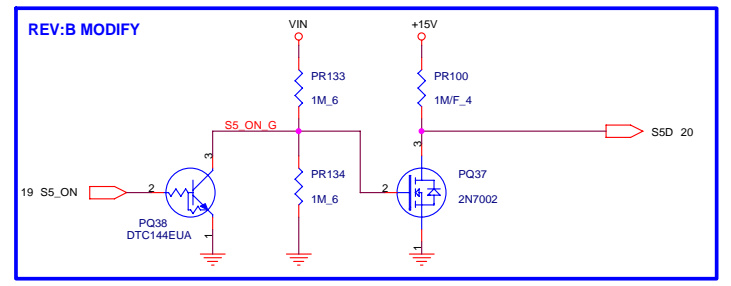
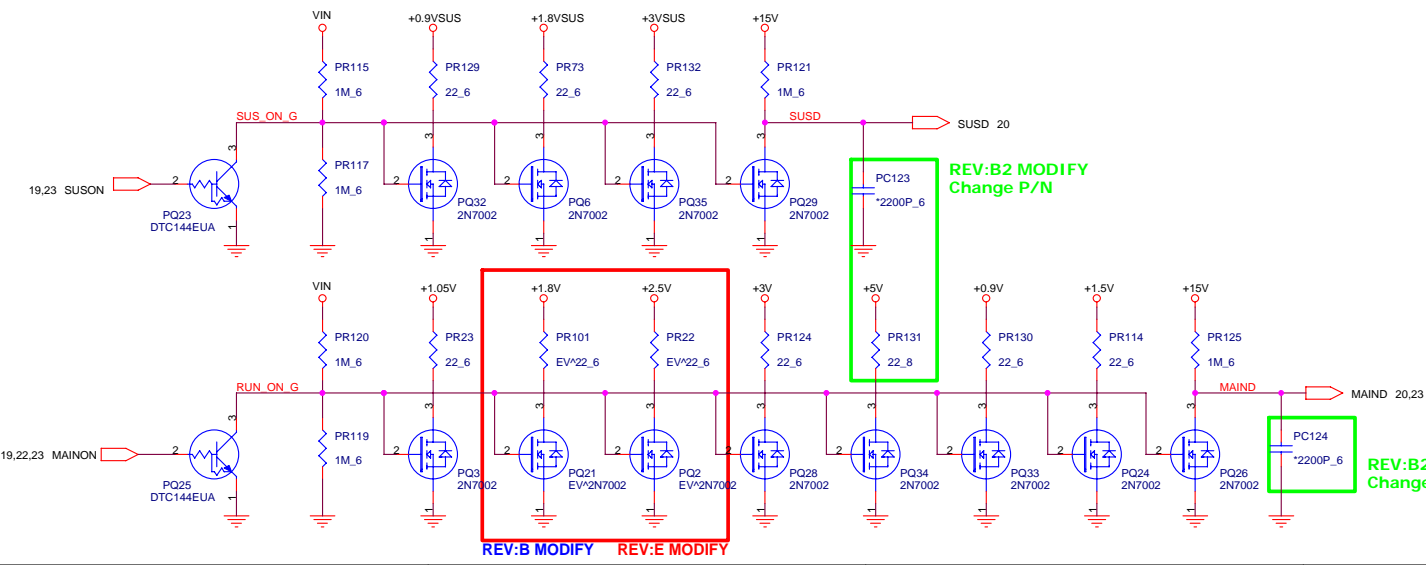
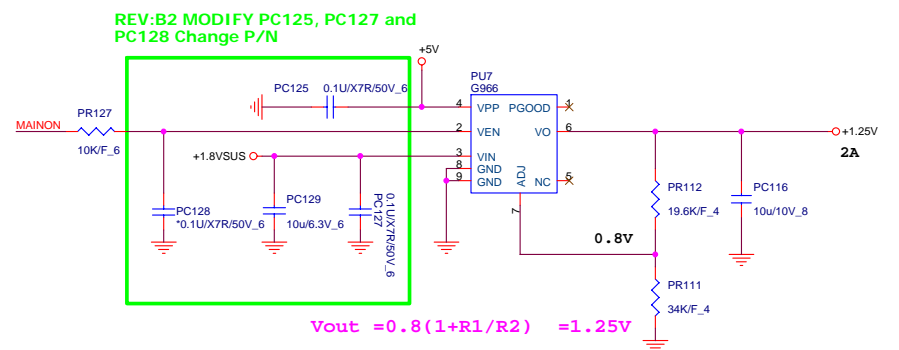
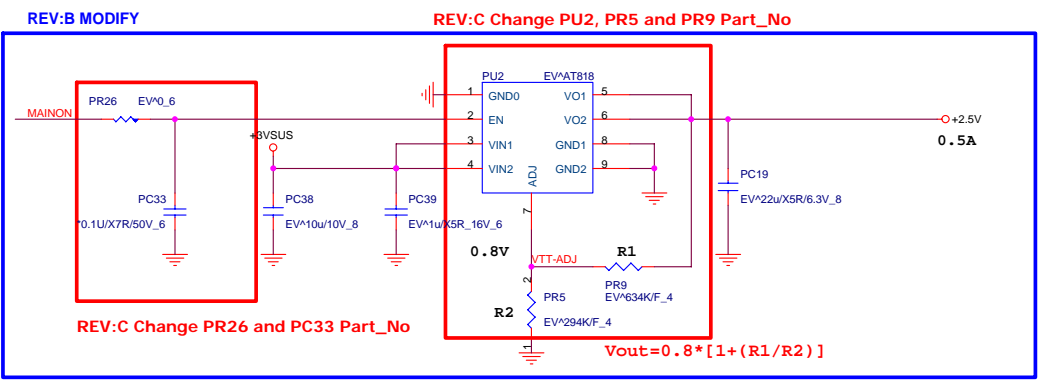
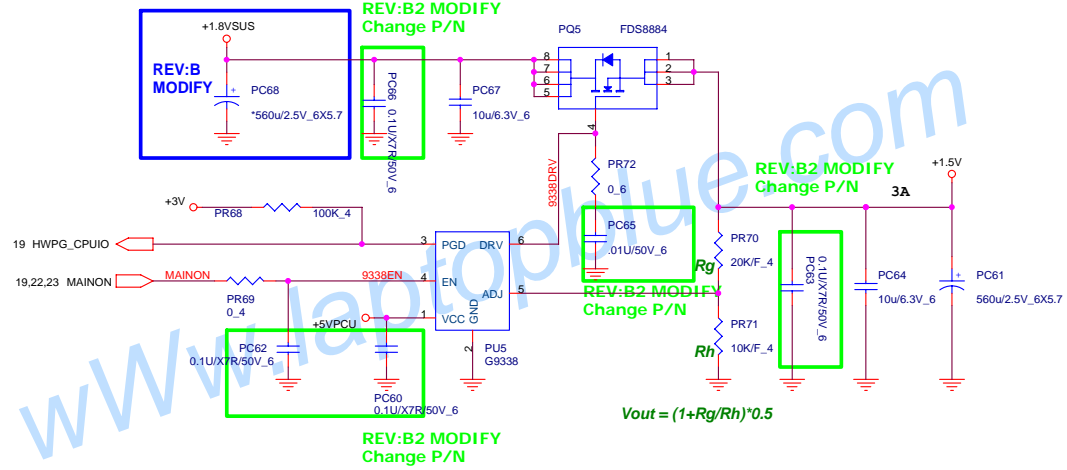
Merom: VCC_CORE/ 44A
Yonah: VCC_CORE/ 36A



www.laptopblue.com



 PROJECT : ZO1 Quanta Computer Inc.		Rev
		3A
Size	Document Number	
CHARGER (ISL6251A)		
Date:	Thursday, May 17, 2007	Sheet 25 of 26



www.laptopblue.com

s-manuals.com