

INT@:UMA  
EXT@:Discrete  
V6@:64M VRAM  
V12@:128M VRAM  
G5@:LAN 5705E  
G7@:LAN 5787  
G9@:LAN 5709

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**ZE2**

**REV:A1A**

AC/BATT  
CONNECTOR Page 41

BATT  
CHARGER Page 40

**Yonah/Celeron-M**

(479 Micro-FCPGA)  
Page 4,5

**DC/DC**

NVDD/+1.2V  
+3V/+5V  
+1.05V/+1.8VSUS/+1.8V/+0.9V  
+1.5V/+2.5V  
Page 35,37,38,39

**CPU VR**  
SC452  
Page 36

**CLOCKS Generator**  
ICS954310BGLF  
Page 3

+0.9V  
+0.9VSUS  
+1.8VSUS

**DDR-SODIMM1**  
Page 10,11

DDR2 533/667 MHz

**DDR-SODIMM2**  
Page 10,11

DDR2 533/667 MHz

**CALISTOGA-GM/PM**

+1.05V  
+1.5V 1466 FCBGA  
+1.8VSUS  
+2.5V  
Page 6,7,8,9

HOST BUS 533/667 MHz

**EXT. VGA  
n-VIDIA NV72MV**

Page 12,13,14,15

EXT\_LVDS

EXT\_TVOUT

EXT\_VGA

**SWITCH**

**LCD Connector**  
Page 28

INT\_LVDS

INT\_TVOUT

INT\_VGA

**CIRCUIT**

VGA

Page 17

**CRT**  
Page 17

**DVI  
CH7307**

Page 16

**DOCKING**  
Page 33

**EZ4 DVI**

**Parallel-HDD**  
Page 32

ATA 66/100

**Multi-Bay**  
Page 32

ATA 66/100

Azalia

DMI interface

+1.5V  
+2.5V  
+3V  
+3VSUS  
+1.5VSUS  
**ICH7-M**  
**652 BGA**  
Page 18,19,20

PCIe

33MHz PCI

**MINI card**  
Page 29

**LAN (10M/100M/1G)  
BCM5787M/5789M**

Page 23

**LAN (10M/100M/1G)  
BCM 5705E**

AD22 / REQ1# / GNT1# / INTA#

Page 23

**CARDBUS/1394/3-IN-1  
TI 7411**

AD25 / REQ0# / GNT0# / INT E/F/G#

Page 21,22

**1394 PORT**  
Page 21

**ALC833  
(Codec)  
& 2 AMP**

Page 30

**MDC1.5**

Page 30

**RJ11**  
Page 24

**Head phone**  
Page 31

**INT SPK**  
Page 31

**Internal-MIC**  
Page 31

**MIC-IN**  
Page 31

**LINE-IN**  
Page 31

**SUPER I/O**

PC87391

Page 26

COM A

COM B

**Digitizer**  
Page 26

**FIR**  
Page 26

**EC NSC97551**

176 Pins LQFP

Page 27

+5V  
**JOGDIAL**  
Page 28

+5V  
**Keyboard**  
Page 27

+3VPCU  
**FLASH**  
Page 27

+5V  
**FAN 1**  
Page 25

USB

**USB PORT X 3**  
Page 25

**Mini-Bluetooth  
(USB bus)**  
Page 25

**Finger  
Printer** Page 28

**3 in 1  
socket  
MMC,SD,MS**  
Page 22

**CARDBUS  
CON.**  
Page 22

**PROJECT : ZE2**  
**Quanta Computer Inc.**

Size Document Number  
**Schematic Block Diagram**

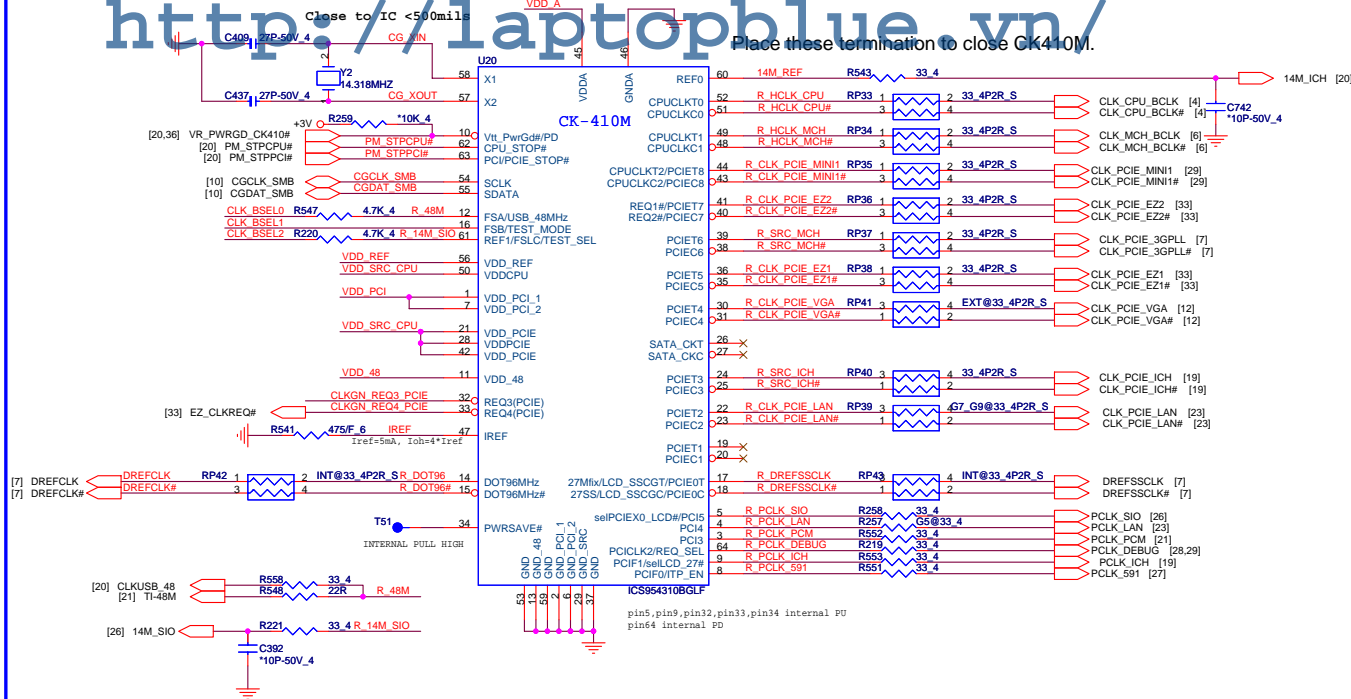
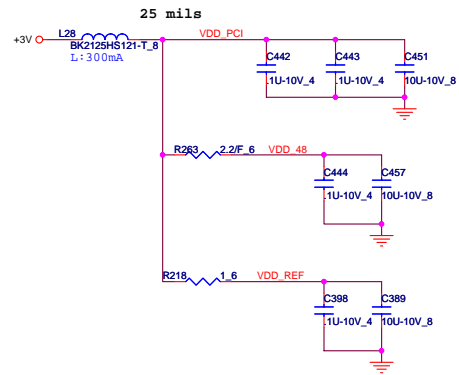
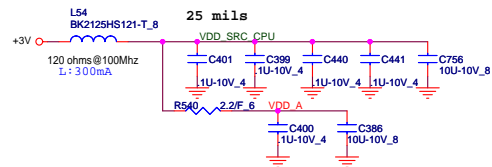
Date: Thursday, June 08, 2006 Sheet 1 of 42 Rev E2C



5/5 page29 MINI CARD pin define changed for debug card  
5/8 page31 Audio Jack GND connect to DGND  
5/10 page09 modify GMCH power for G72MV(original some parts no stuff for descrete,modify to stuff)  
5/10 page37,38 change PQ36,PQ37,PQ38,PQ40,PQ41,PQ45,PQ53 part number to BAm6402009 for EOL issue  
5/10 page31 change D19,D20,D22 part number to BC1SS355Z05 for EOL issue  
6/4 page26,27 change S\_SERIRQ net name to SERIRQ for fix KB no function issue, and add a cap of SERIRQ if noise  
6/4 page30 ,stuff U53 ,no stuff L60 for audio noise  
6/4 page31 R633 change from 15K to 22K to fix speaker voice is too low issue  
6/4 page31 tie SURR-L and SURR-R for fix no sound when volume bar adjust to right channel  
6/4 page30 change R627,R629 from 0 ohm to 4.7K ohm for fix HP voice is too loud  
6/4 page31 change R635,R640 change from 0 to 75 ohm for fix noise by ZC3 solution  
6/4 page31 add cap on linein\_PR for fix audio noise from docking Line in  
6/4 page28 LCD connector pin34 change to +3V for fix EDID LCD issue  
6/4 page13 add LCDID to VGA for Toshiba LCD that is no EDID support issue  
6/4 page19 change USB I/O port from port1 to port2 for Bluetooth detection issue  
6/4 page13 stuff R496 for fix no CRT issue by VGA SKU  
6/4 page27 change 1M BIOS ROM from B-stage  
6/4 page35 change PR55,PR146 to 100K and PC44,PC141 to 0.1uF to meet Nvidia power sequence requirement  
6/4 page32 add ODD RST PU resistor for S/W not ready  
6/4 page38 PL22 chagne p/n to CV-33D5MZ04 for package and footprint are difference issue  
6/4 page42 add modem hole for modem NUT issue  
6/4 page31 R630 change to LF part  
6/4 page36 change PC15,PC16,PR16,PR18 value for power requirement  
6/4 page35 change PR150 from 20K to 24K value for power requirement  
6/4 page36 Add snubber of 2.2 ohm/2200pf on CPU core  
6/4 page35,38,39 del short PAD  
6/4 page28 un stuff CN3 PCI debug card  
6/4 page15 R452,R478 change from 1K to 1.3K,R453,R469 change from 1K to 510 ohm ,Vref change from 0.5VDDQ to 0.7VDDQ for VRAM CLK un-stable issue  
6/4 page14 R462, change from 1K to 1.3K,R461 change from 1K to 510 ohm ,Vref change from 0.5VDDQ to 0.7VDDQ for VRAM CLK un-stable issue  
6/4 page42 change DIM H26,H35,H37 for SMT A open issue  
6/7 page19 stuff R340 for PCI LAN wake up  
6/7 page20,add RBAYID0,RBAYID1 PU for Swap Bay  
6/8 page31,reserve 0 ohm resistor for EMI request  
6/8 page19,change USB port for BT detection issue  
6/9 page31 C836 change to 0.1uf for background noise  
6/9 page40 change PD19 p/n for EOL issue

SKU	MB ID	BOM Property	ASSY PN	Description	VRAM vender
A test SKU1		ZE2A	31ZE2MB0006	ZE2 M/B ASSY (GM/5705E)	
A test SKU2		ZE2B	31ZE2MB0014	ZE2 M/B ASSY (PM/G72MV/64M/5787)	Samsung 8M*32
A test SKU3		ZE2C	31ZE2MB0022	ZE2 M/B ASSY (PM/G72MV/128M/5789)	Samsung 16M*32
B test SKU3		ZE2D	31ZE2MB0031	ZE2 M/B ASSY (GM)	





#### PCIE CLK enable/disable control

REQ3 Latched Select  
"0" : CLK Enable  
"1" : CLK Disable Control : PCIE 2,4

REQ4 Latched Select  
"0" : CLK Enable  
"1" : CLK Disable Control : PCIE 3,5,7

#### Starpping

R\_PCLK\_SIO R261 10K\_4

Latched Select (Pin 17,18)  
"0" : LCD CLK  
"1" : PCIE CLK

R\_PCLK\_591 R558 10K\_4

ITP/SRC7 SELECT  
0: SRC7  
1: ITP

R\_PCLK\_ICH R554 10K\_4

SELLCD\_27# Select. (Pin 17,18)  
"0" : 27MHz/SS/27MHz/SS# pair  
"1" : LCD CLK pair

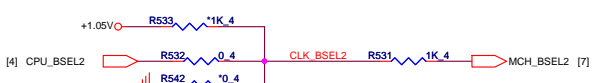
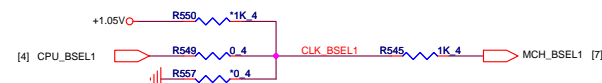
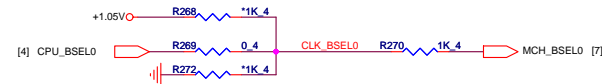
R\_PCLK\_DEBUG R262 10K\_4

PCIE CLK/REQ select  
"0" : PCIE CLK  
"1" : REQ pin

#### Frequency select

FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	200	100	33

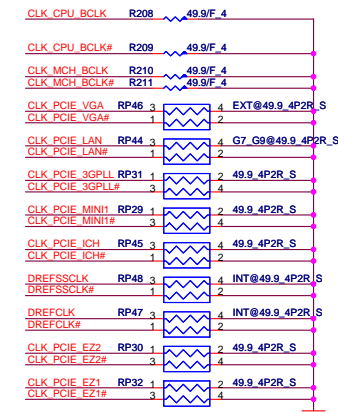
BSEL strappings need to be set for 533MHz Mobo Dick (Intel/915GM - Callistoga Interposer) (if Callistoga is designed for 667MHz board).



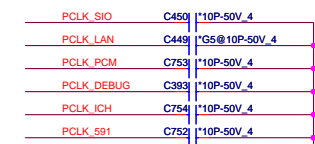
#### Power check

+3V [4,7,9,10,12,13,16,17,18,19,20,21,22,23,26,27,28,29,30,32,33,34,35,36,37,38,39]  
+1.05V [4,5,6,9,18,20,36,37,38]

#### Terminal Resistor

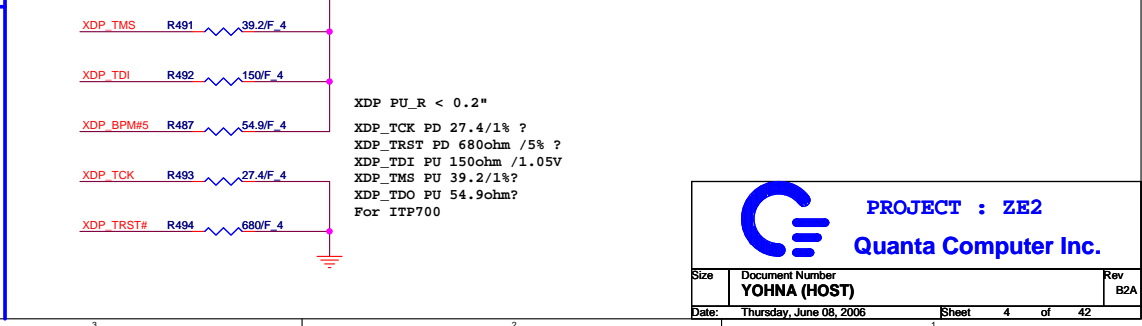
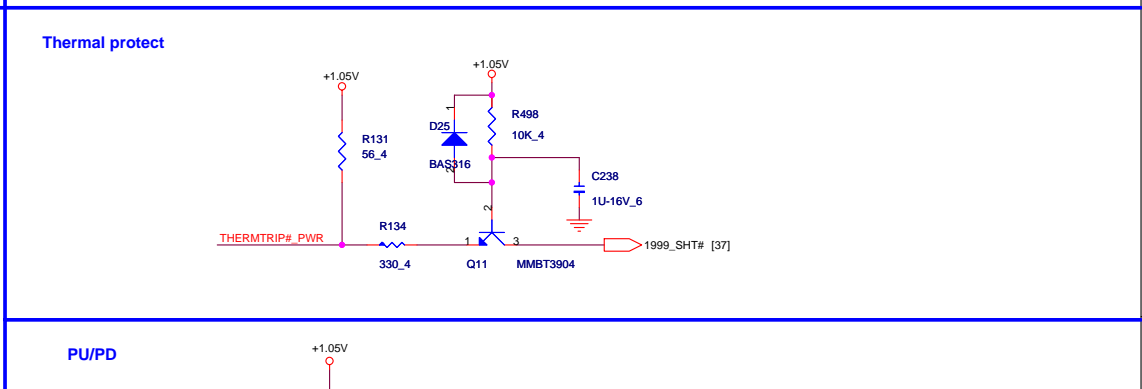
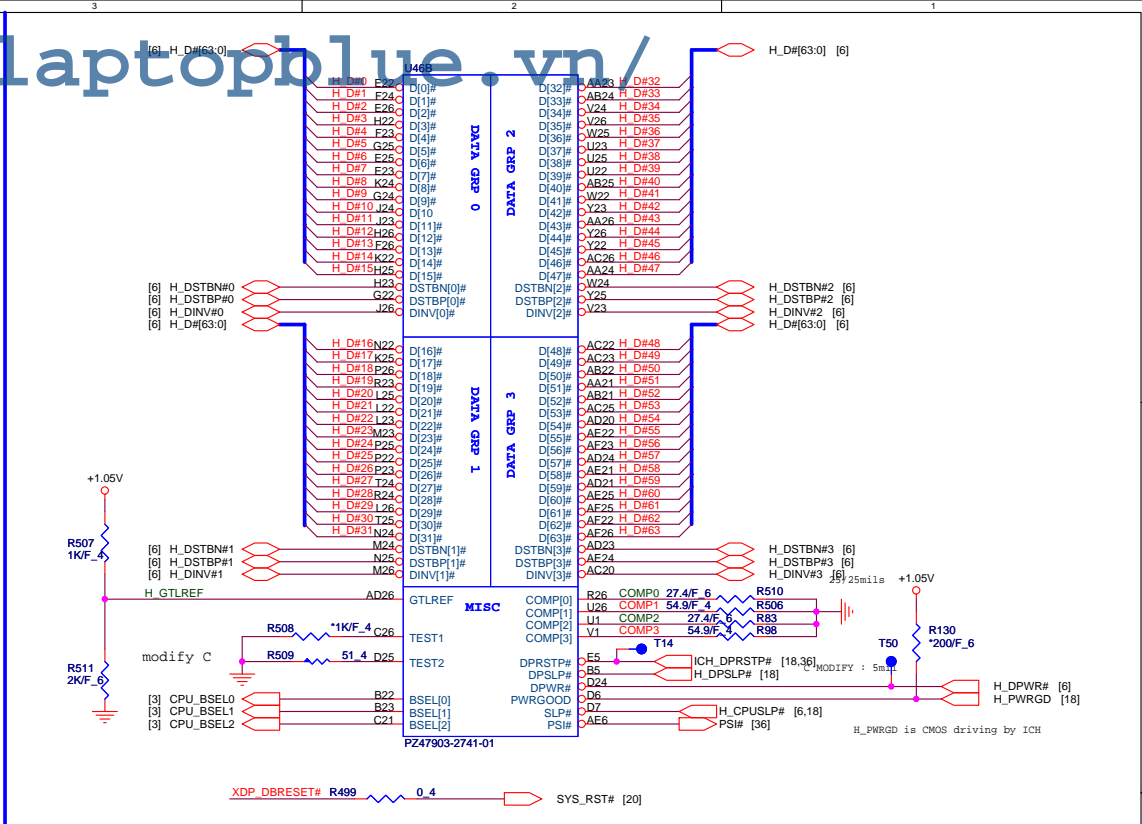


#### Reserve for EMI

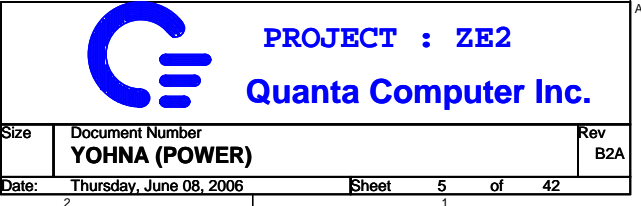


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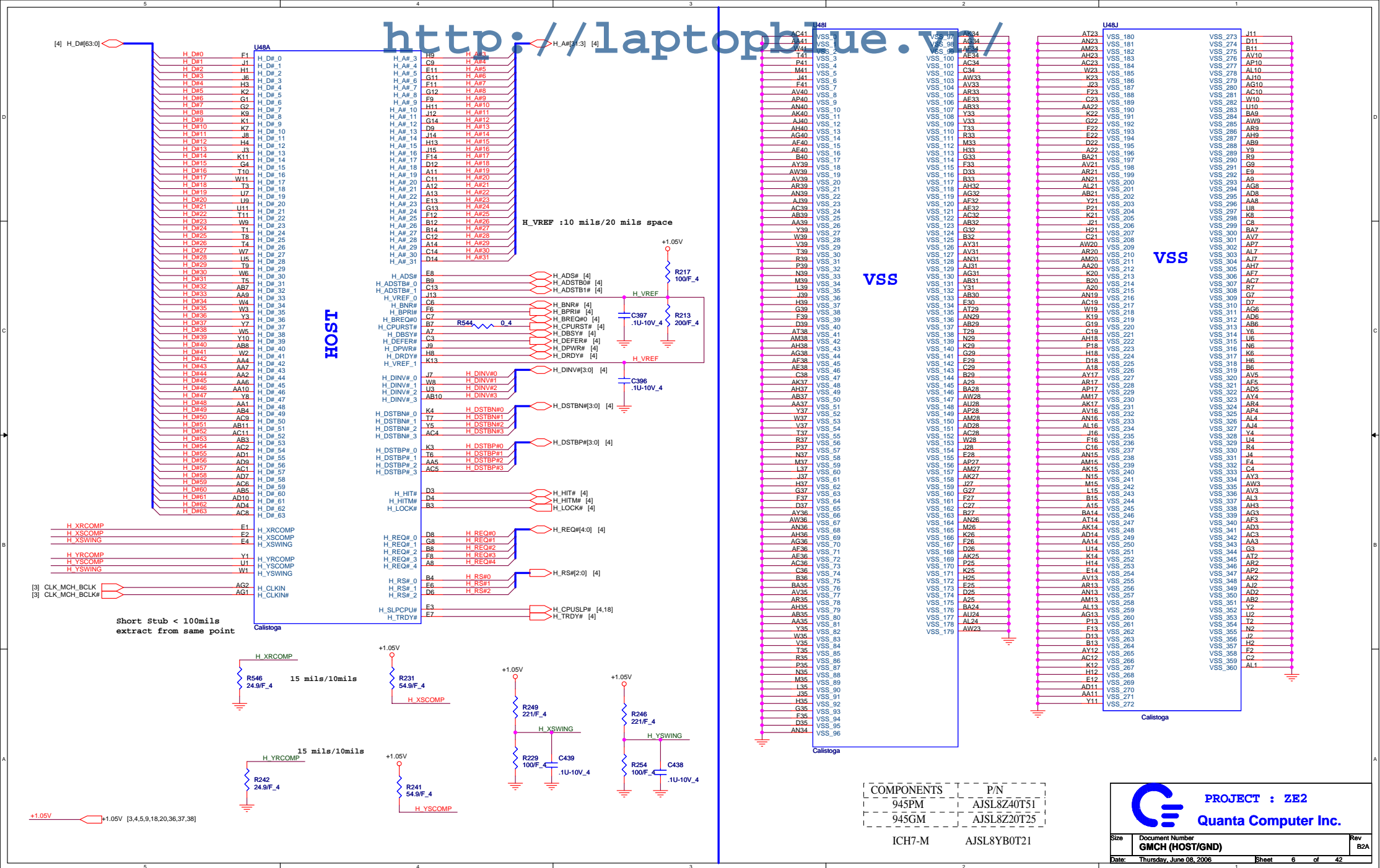




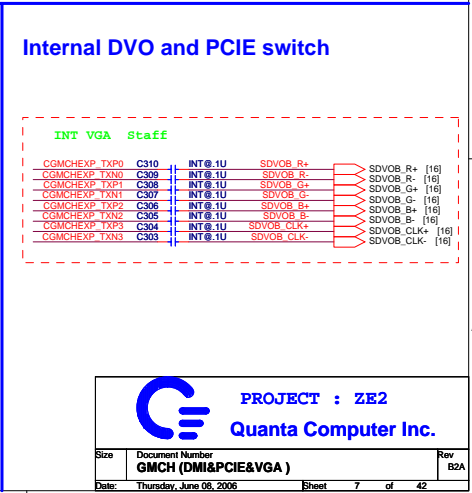
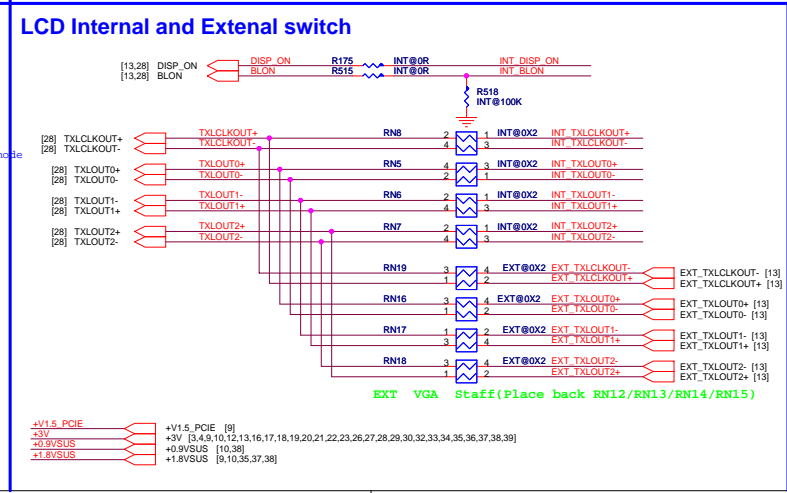
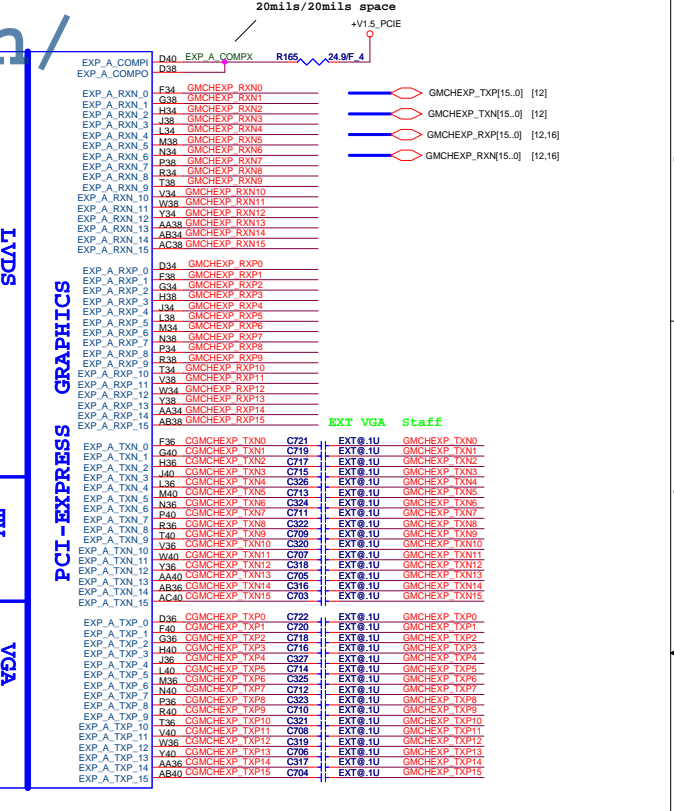
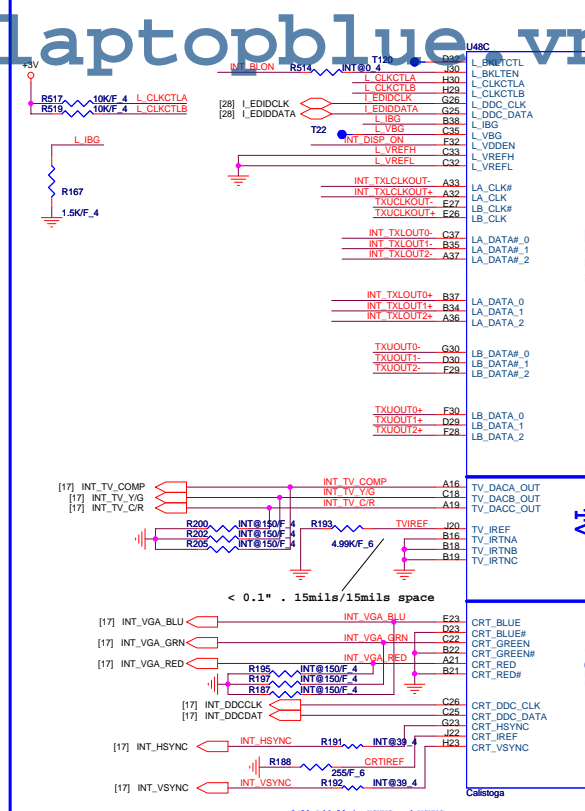




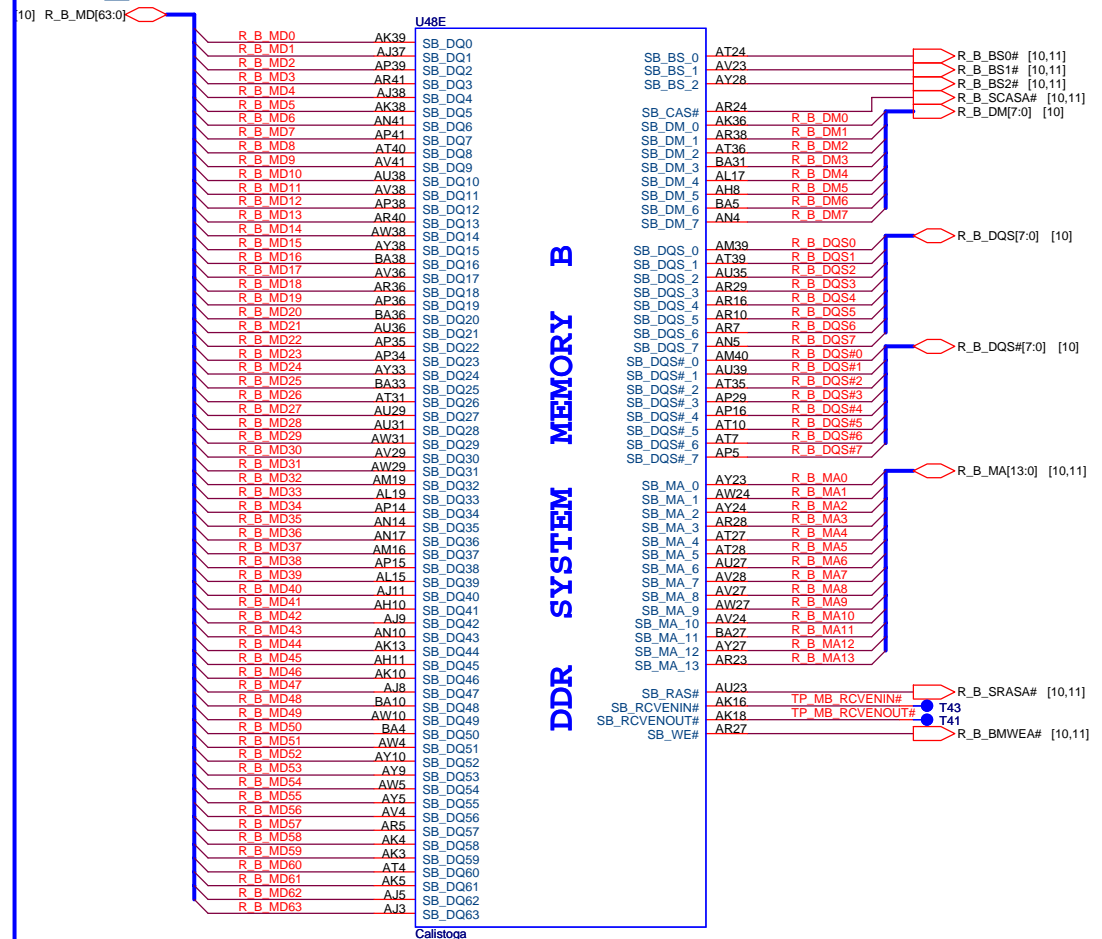




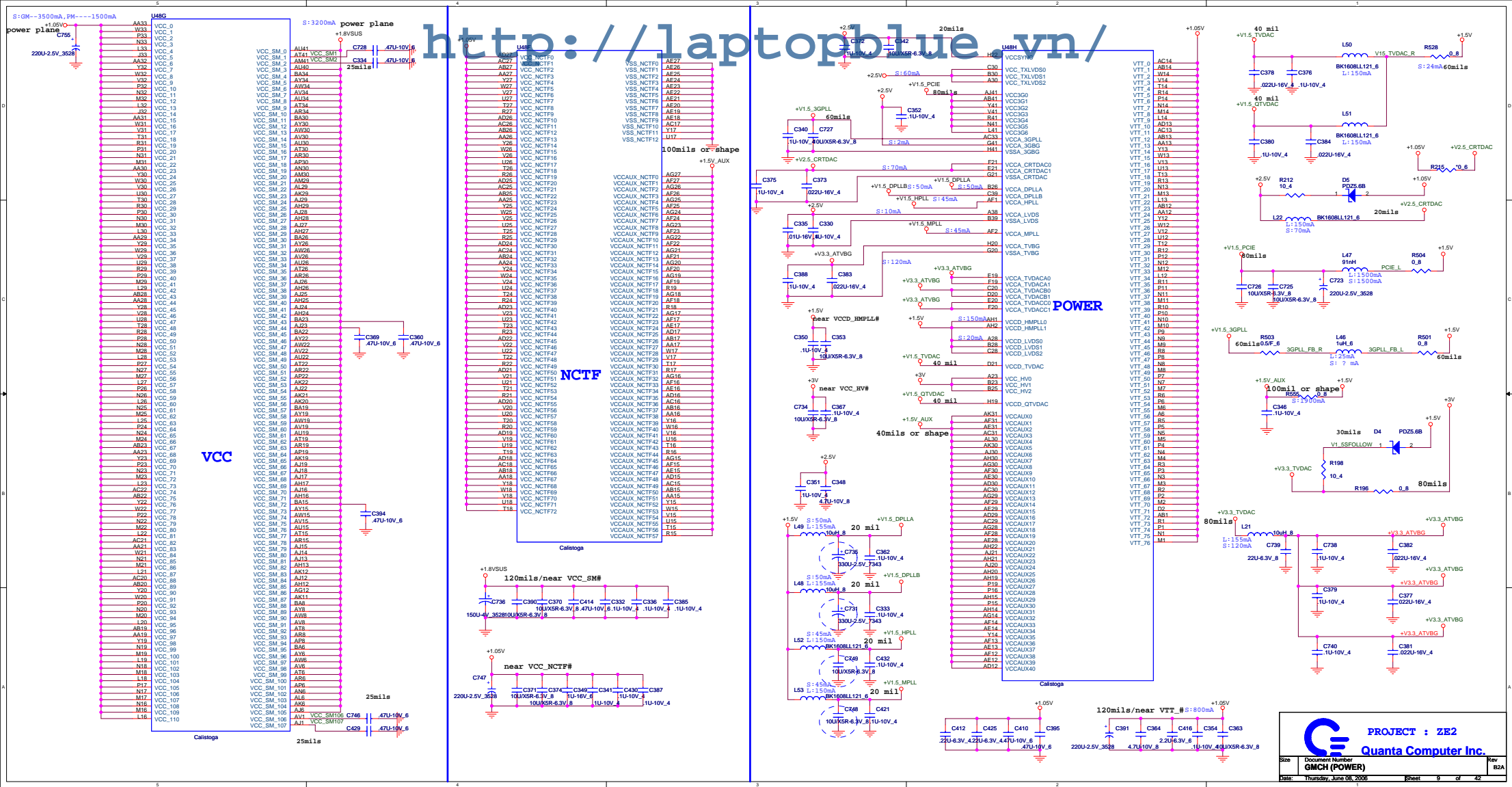






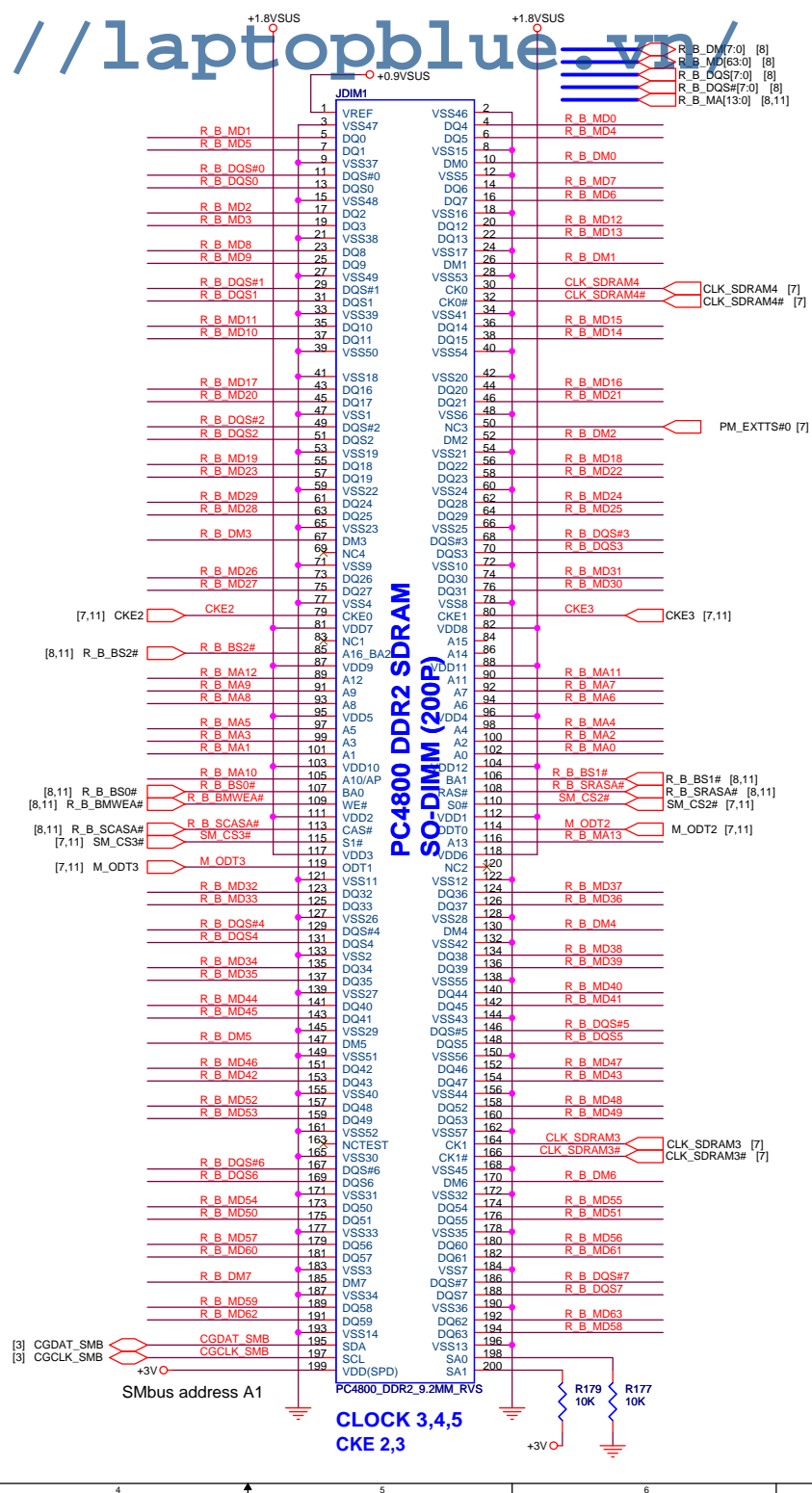
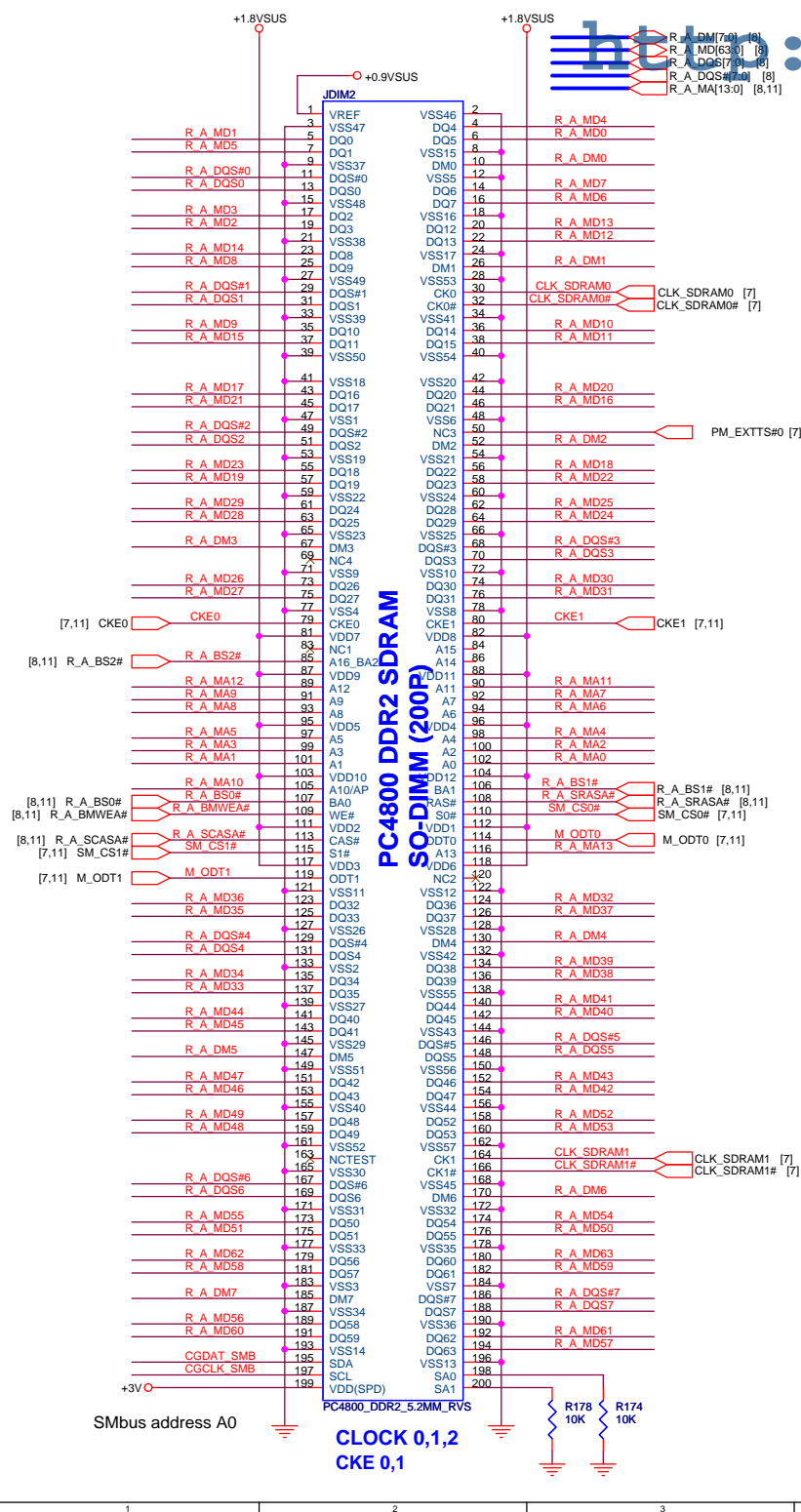






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Close to JDIMM1

Close to JDIMM2

Place Close to JDIMM1

Place Close to JDIMM2

PROJECT : ZE2

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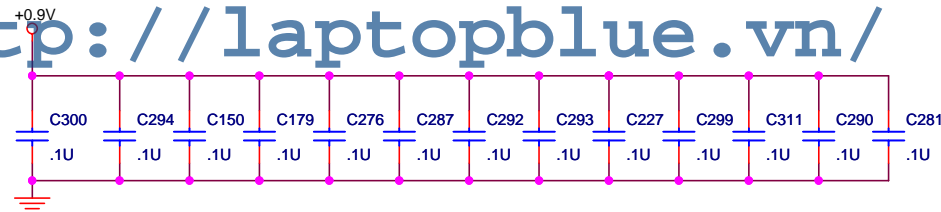
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DDR2 SO-DIMM (200P)

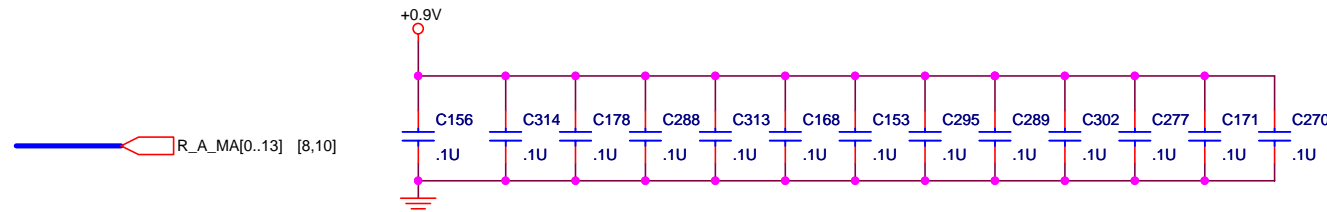
Date: Thursday, June 08, 2006 Sheet 10 of 42



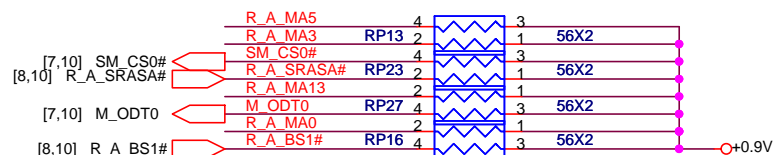
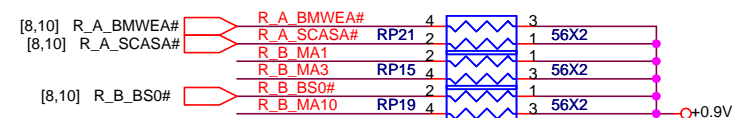
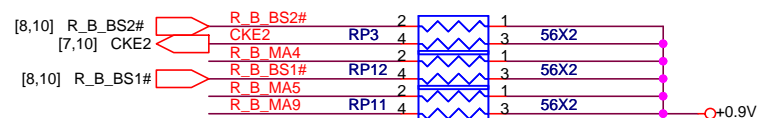
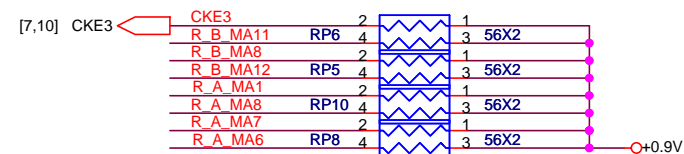
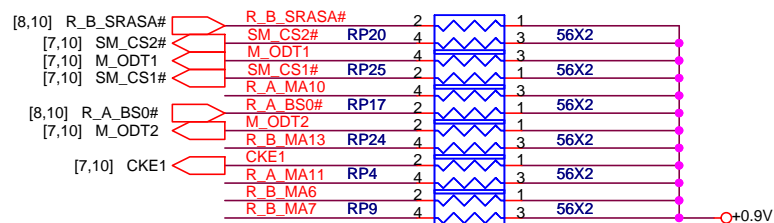
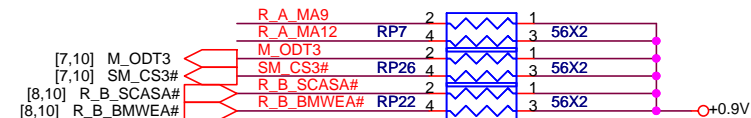
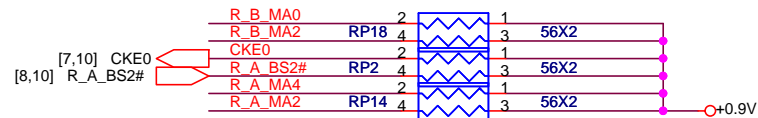
<http://laptopblue.vn/>



Layout note: Place one cap close to every 2 pullup resistors terminated to SMDR\_VTERM



Layout note: Place one cap close to every 2 pullup resistors terminated to SMDR\_VTERM



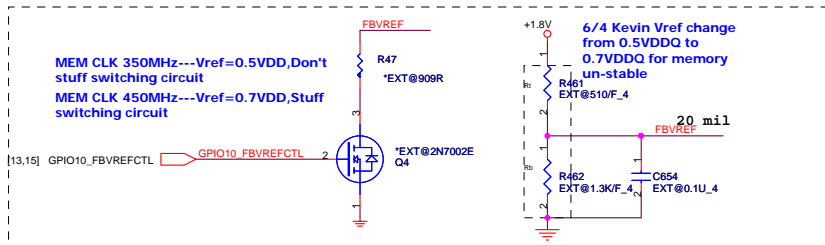
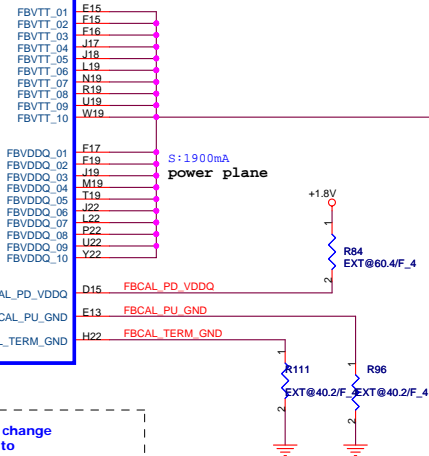
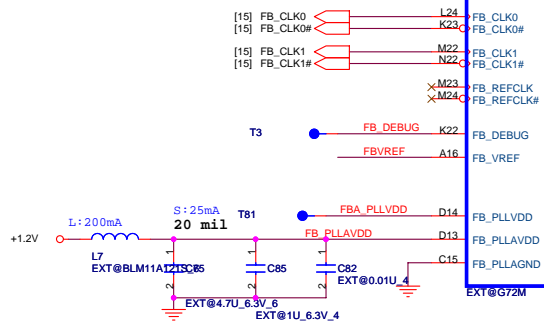
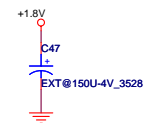
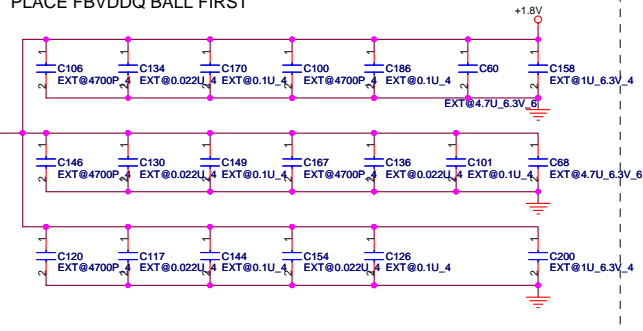
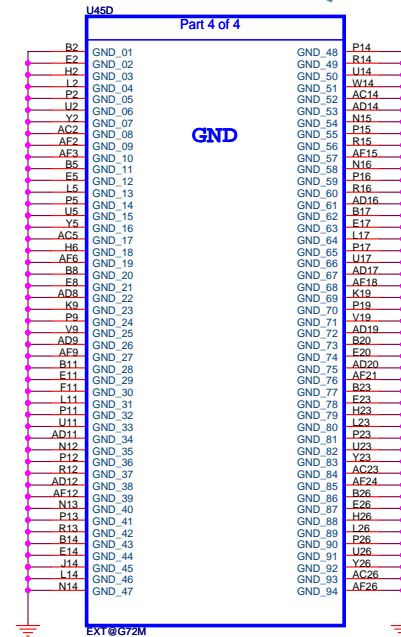
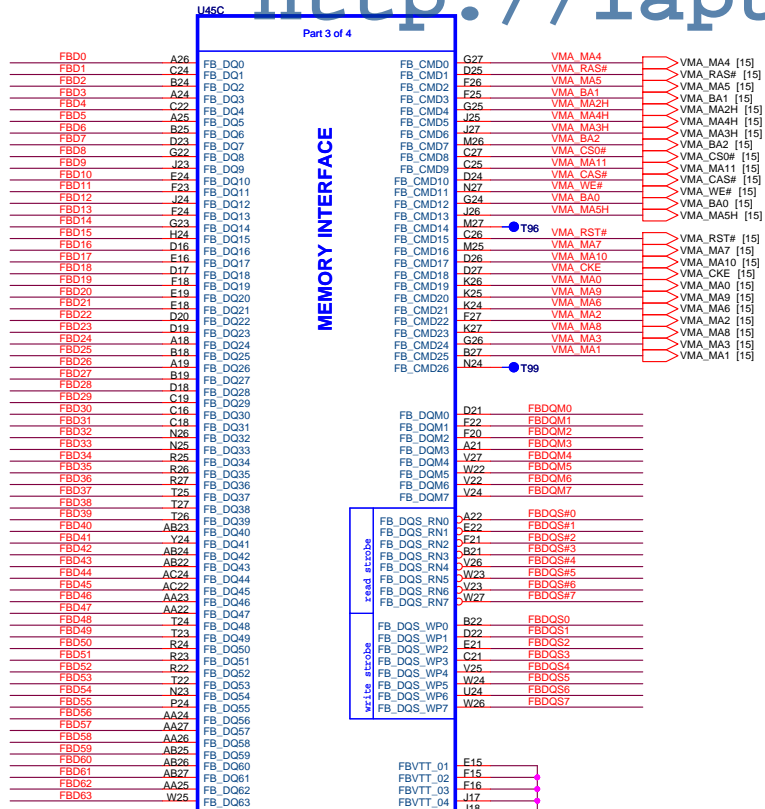
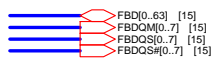












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Quanta Computer Inc.

Size	Document Number VGA-G72M (MEMORY,GUD)	Rev B2
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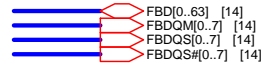


# DDR3

<http://latopblue.vn/>

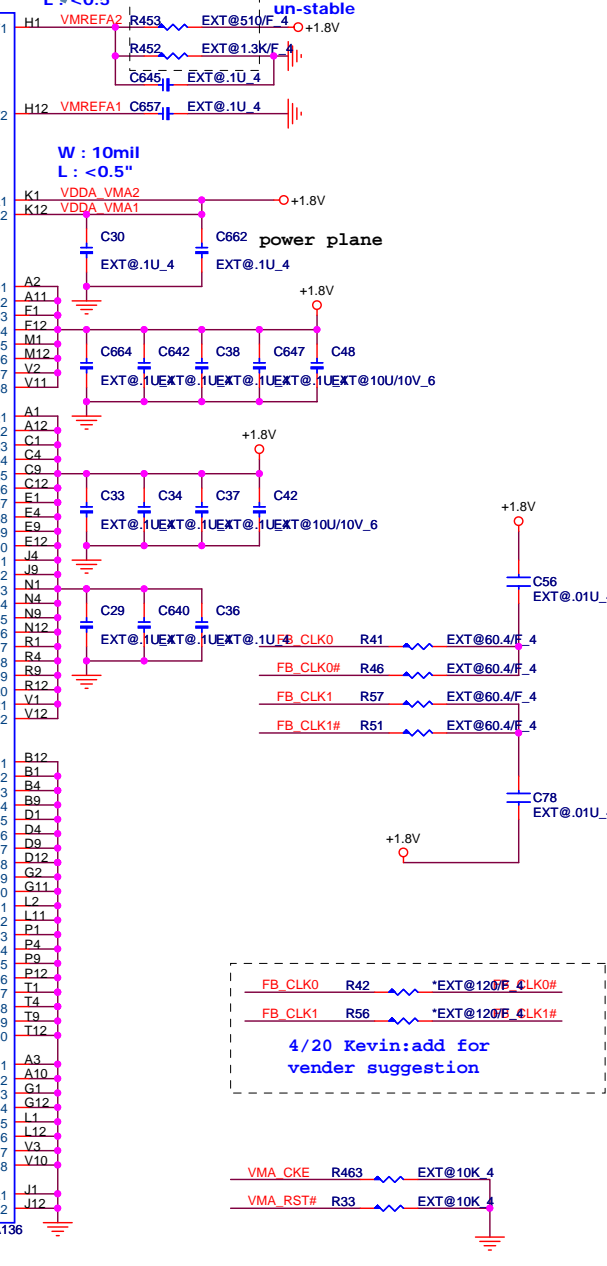
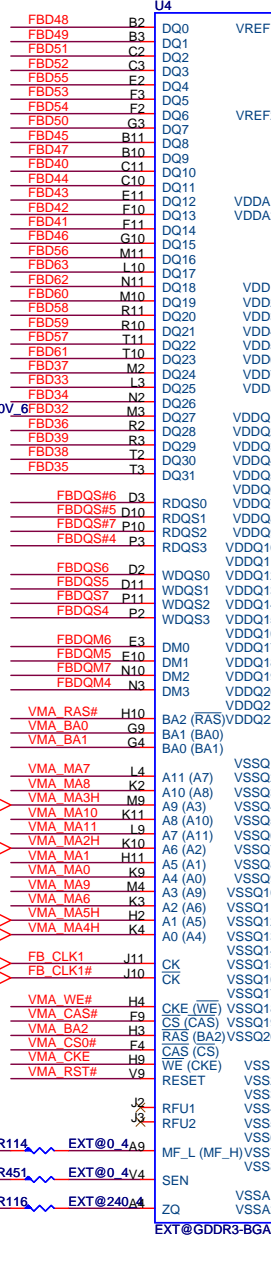
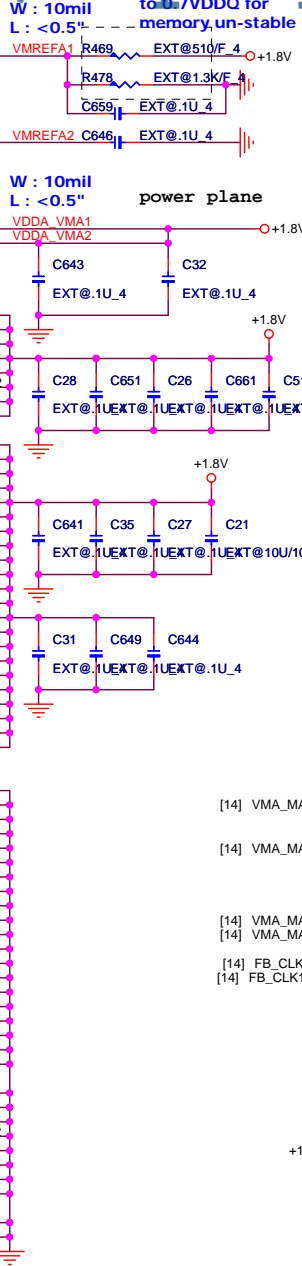
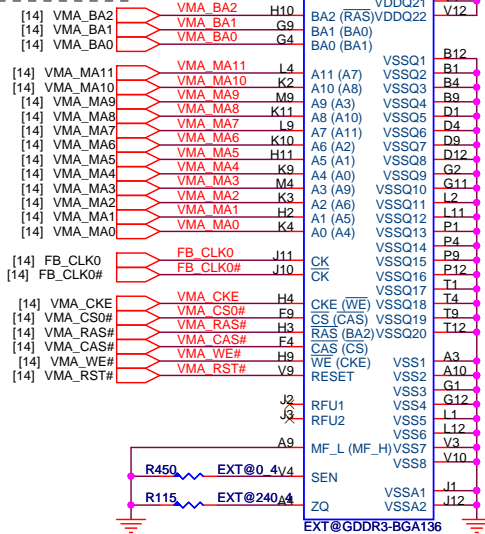
Normal

Mirror



4/27:reserve for nVIDIA requirement,default not stuff

MEM CLK 350MHz---Vref=0.5VDD,Don't stuff switching circuit  
MEM CLK 450MHz---Vref=0.7VDD,Stuff switching circuit



6/4 Kevin Vref change from 0.5VDDQ to 0.7VDDQ for memory un-stable

4/20 Kevin:add for vender suggestion

COMPONENTS	P/N	MEM CLK
Samsung 8M*32	AKD5JW-T503	500MHz
Samsung 16M*32	AKD5FW-T513	500MHz
Hynix 8M*32	AKD5JW-TW01	500MHz
Hynix 16M*32	AKD5FW-TW03	500MHz

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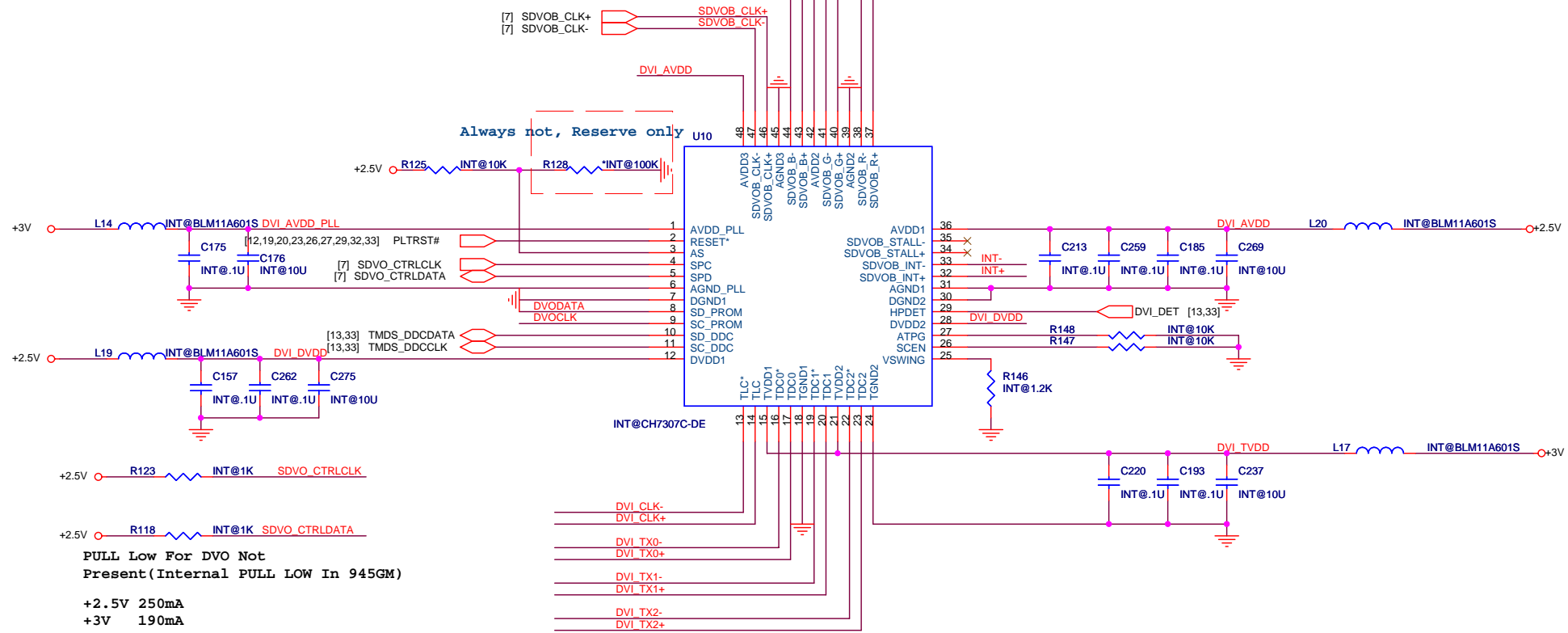
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# DVI control schematic(INT VGA USE)

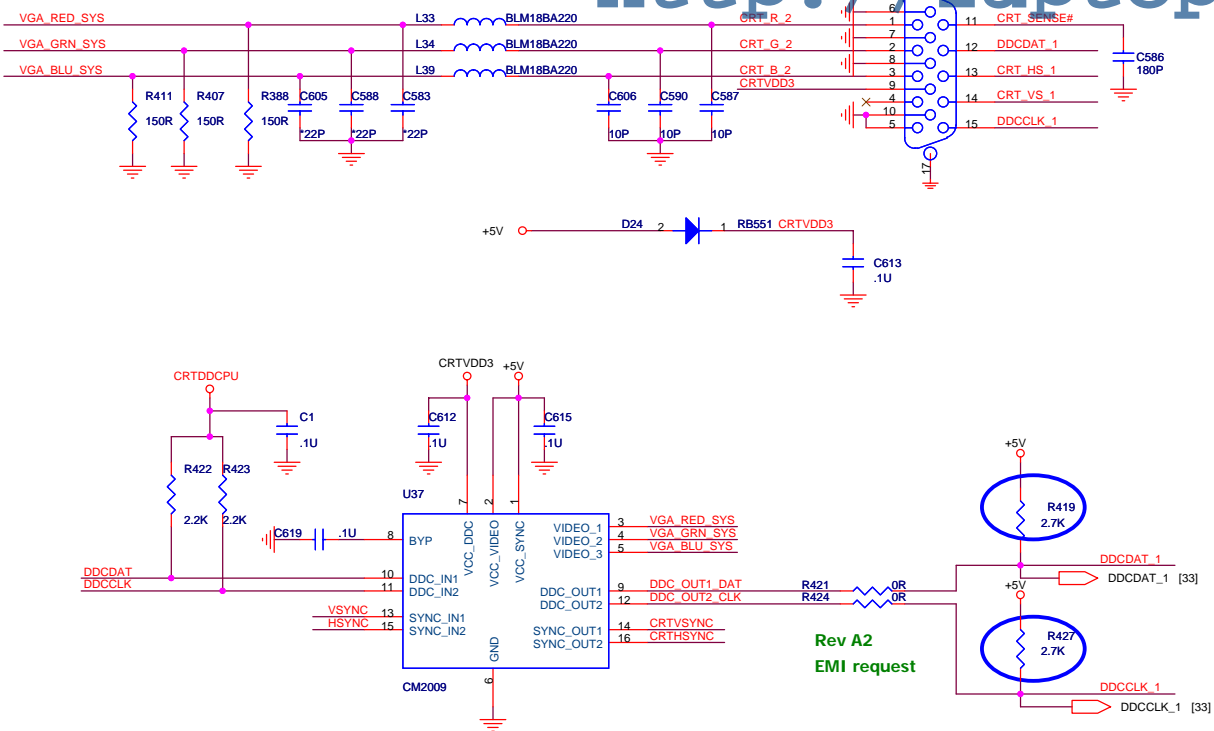
INT VGA Staff

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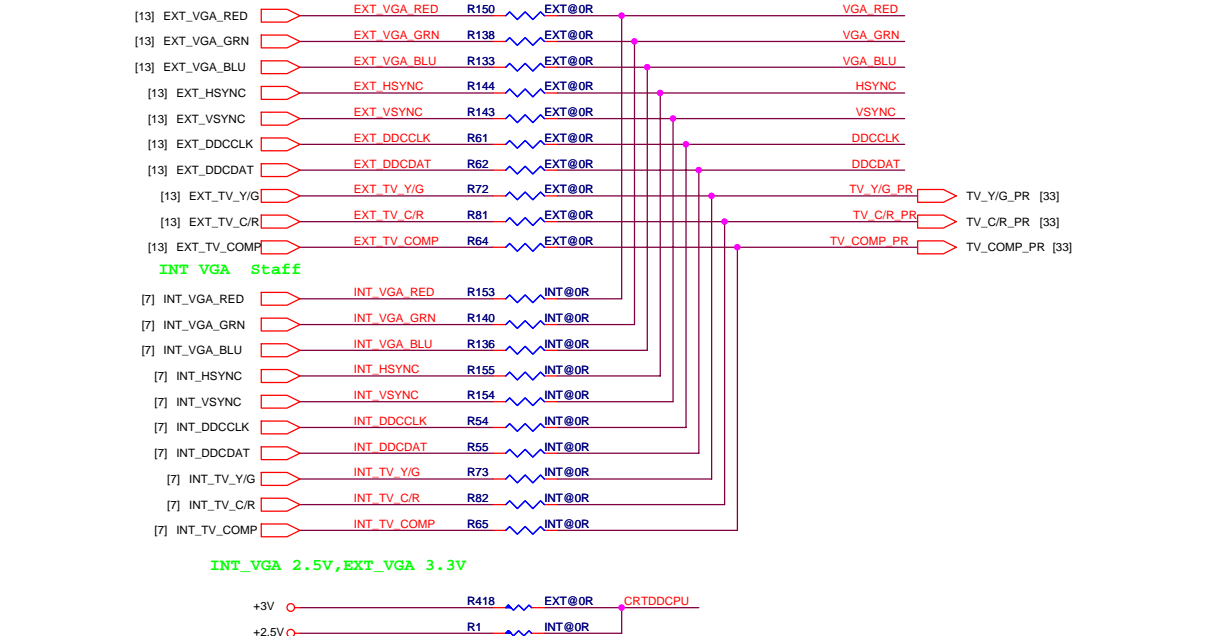




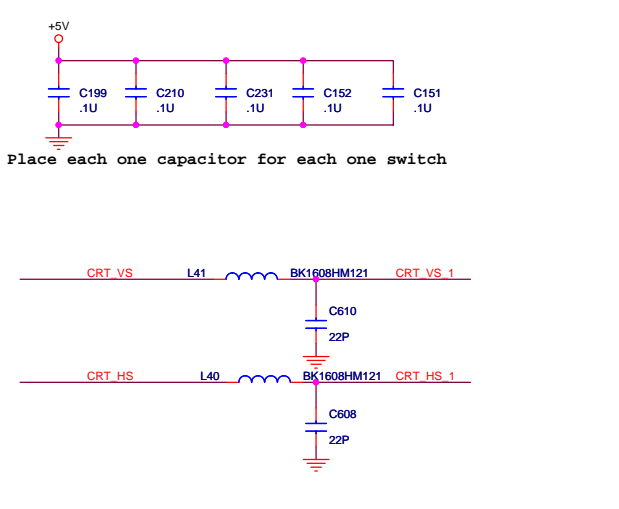
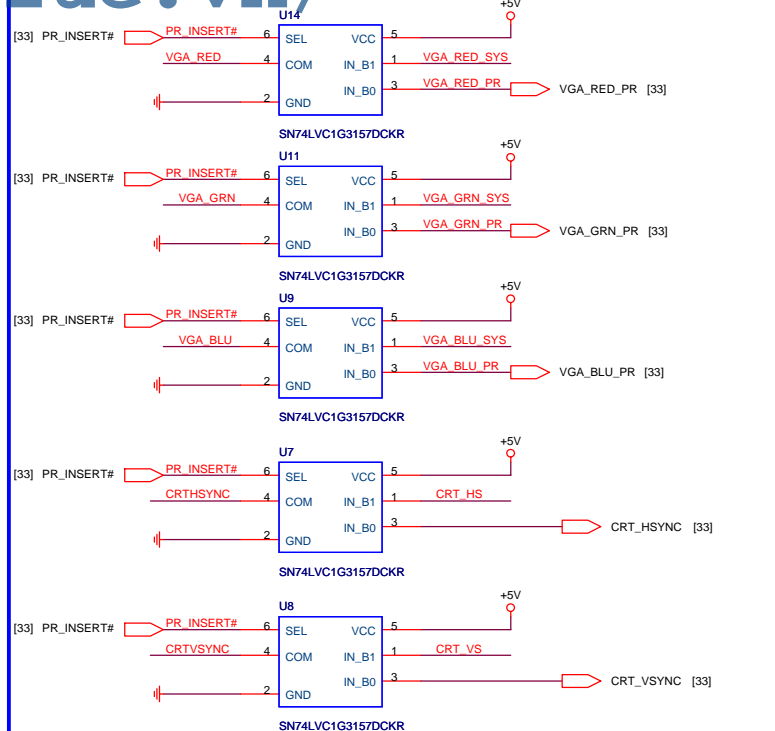
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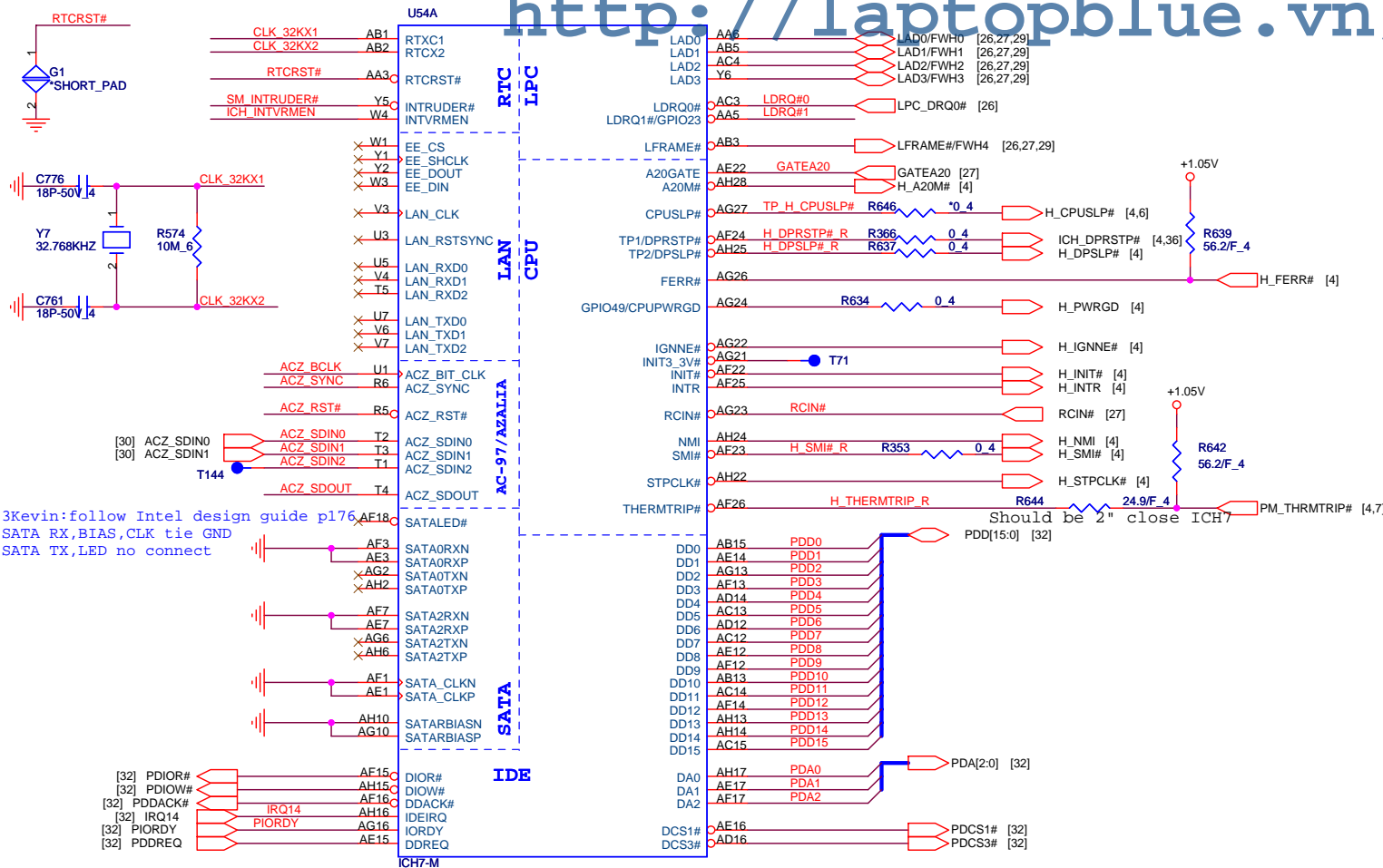
CRT Select



SWITCH CIRCUIT



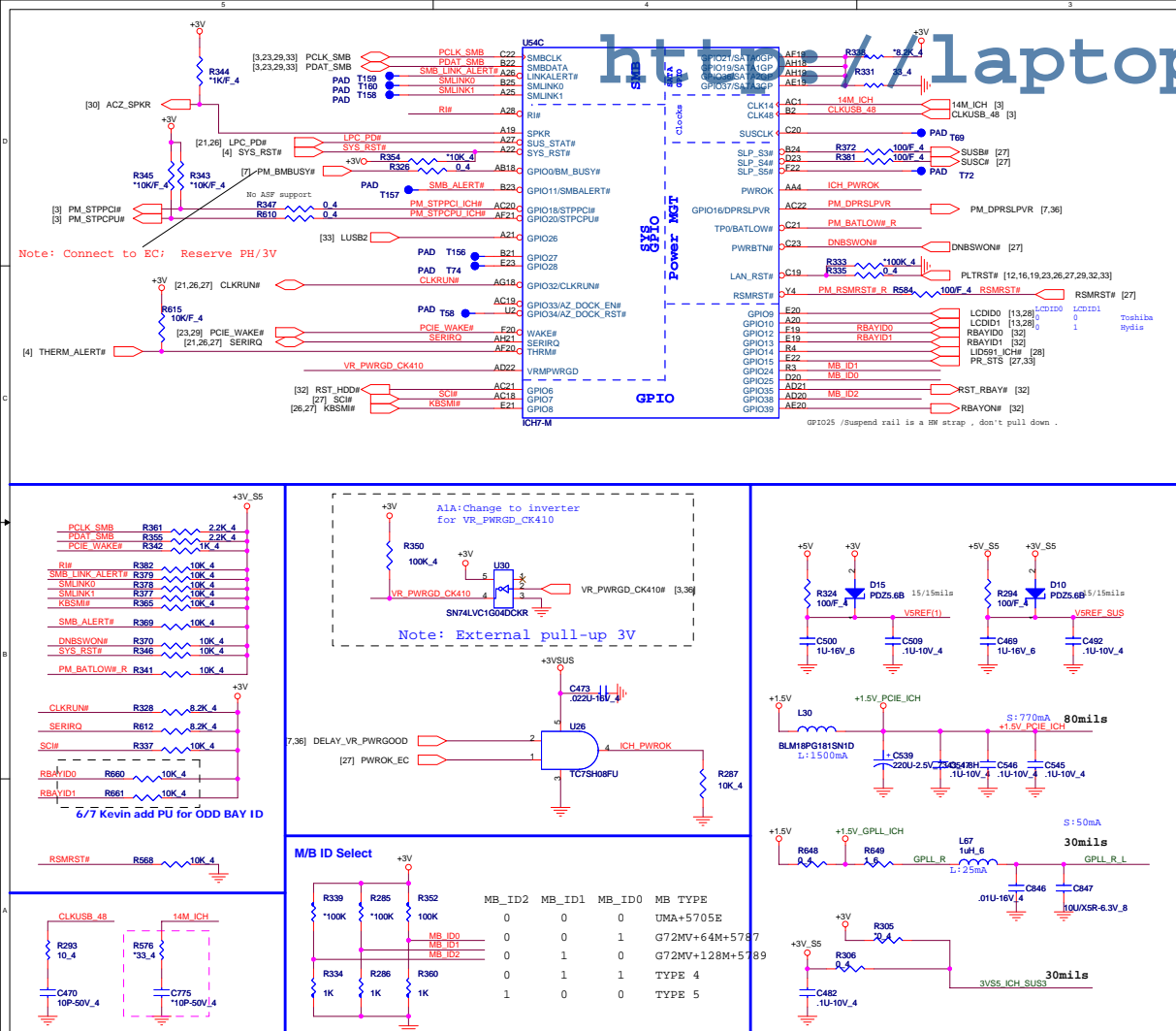






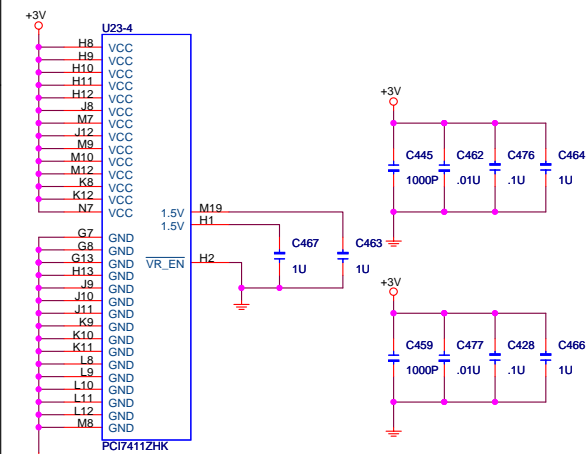
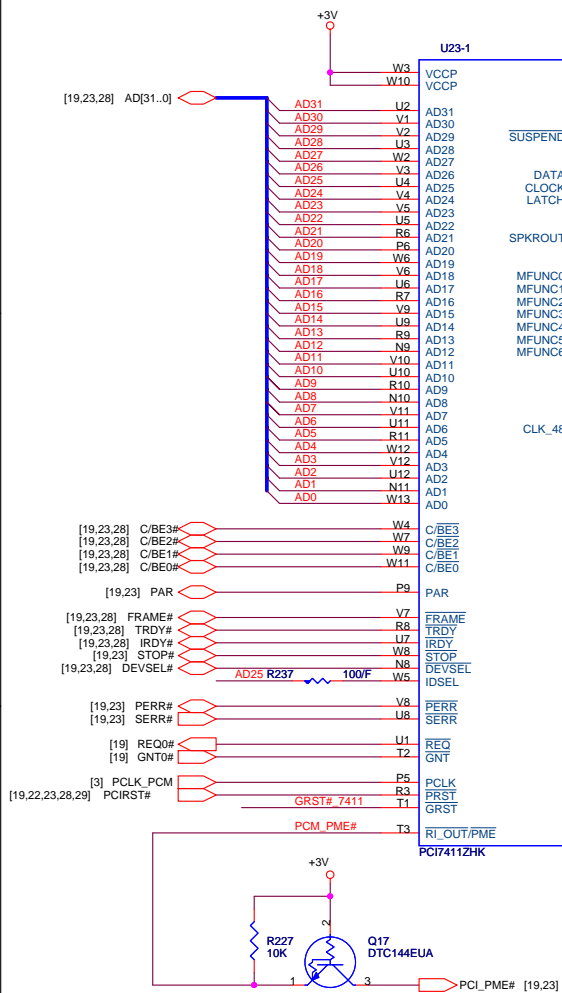




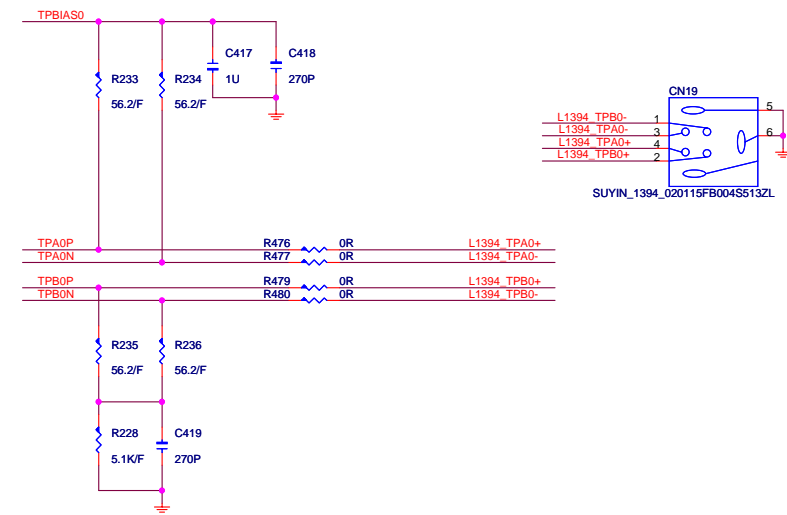
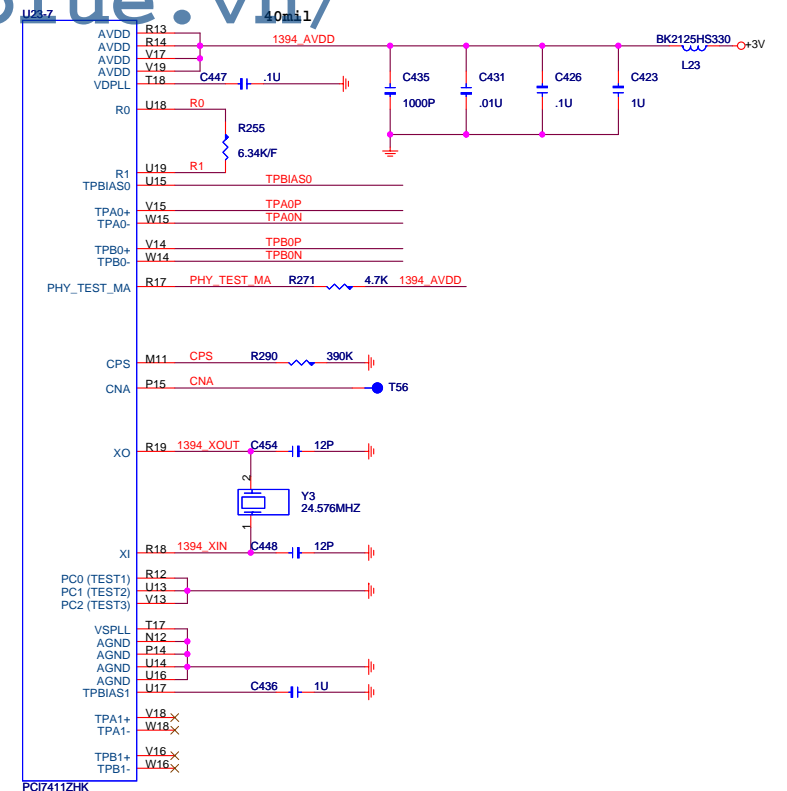
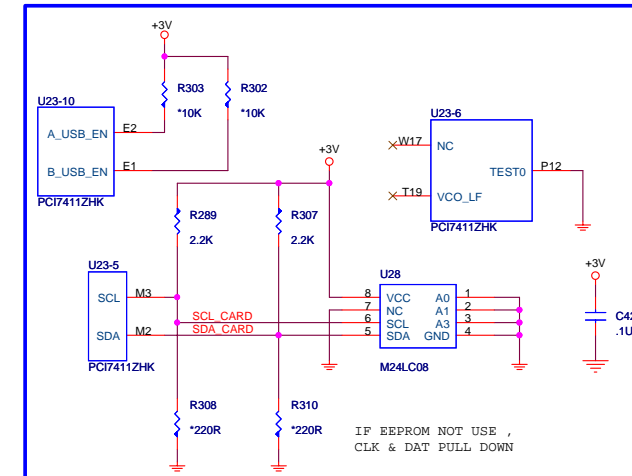
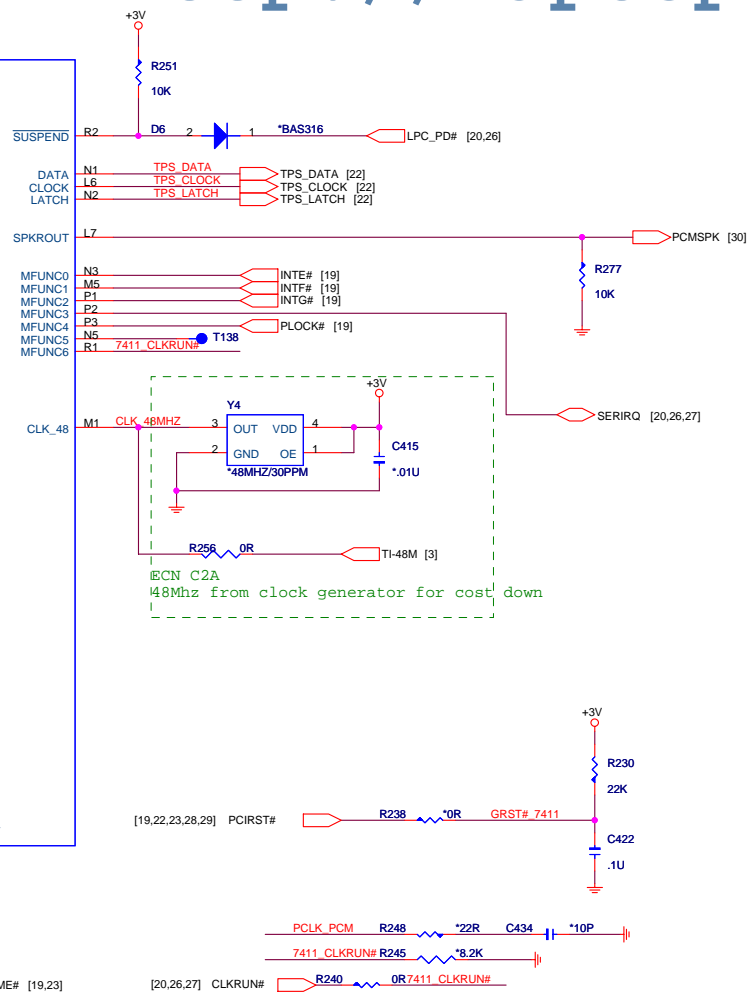
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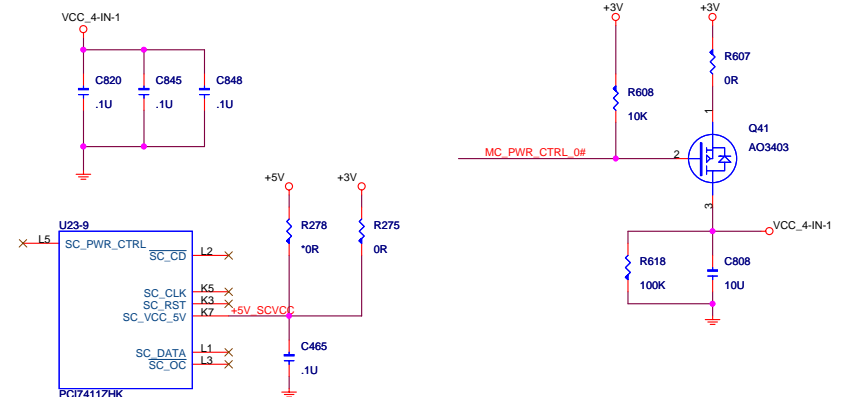
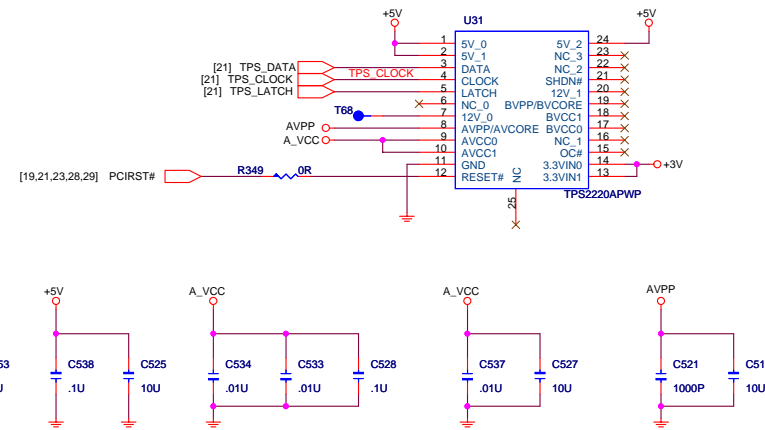
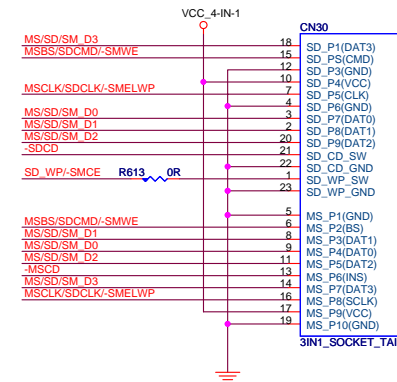
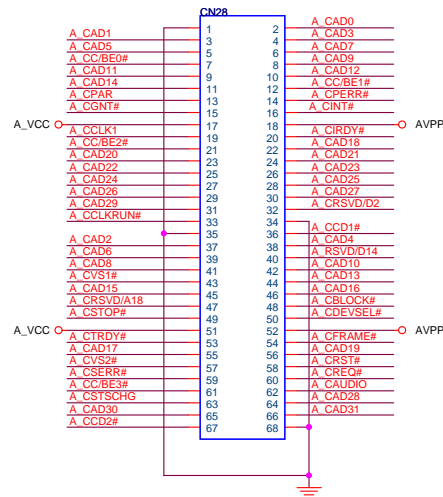
PCI routing REQ0#/GNT0#/AD25/INTE#,INTF#,INTG#



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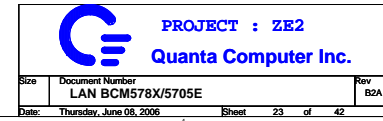






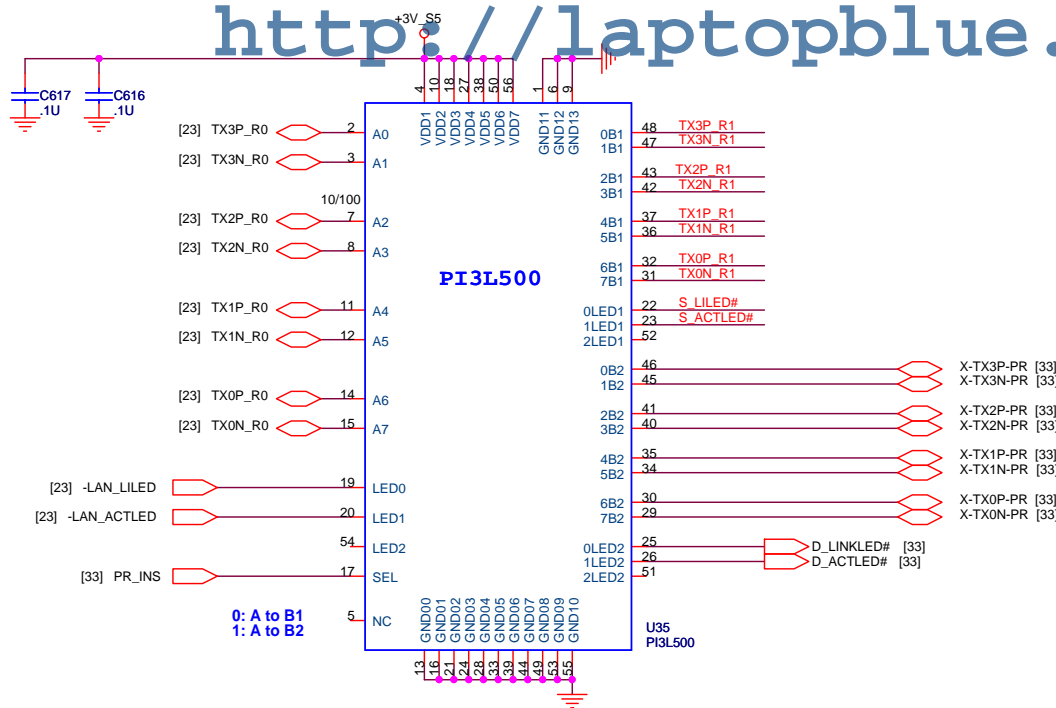
G5@ 5705E  
G7@ 5787  
G9@ 5789

COMPONENTS	P/N
5705E	AJ057050T70
5787M	AJ057870T00
5789 C1 version	AJ057890T19
5789 B1 version	AJ057890T01

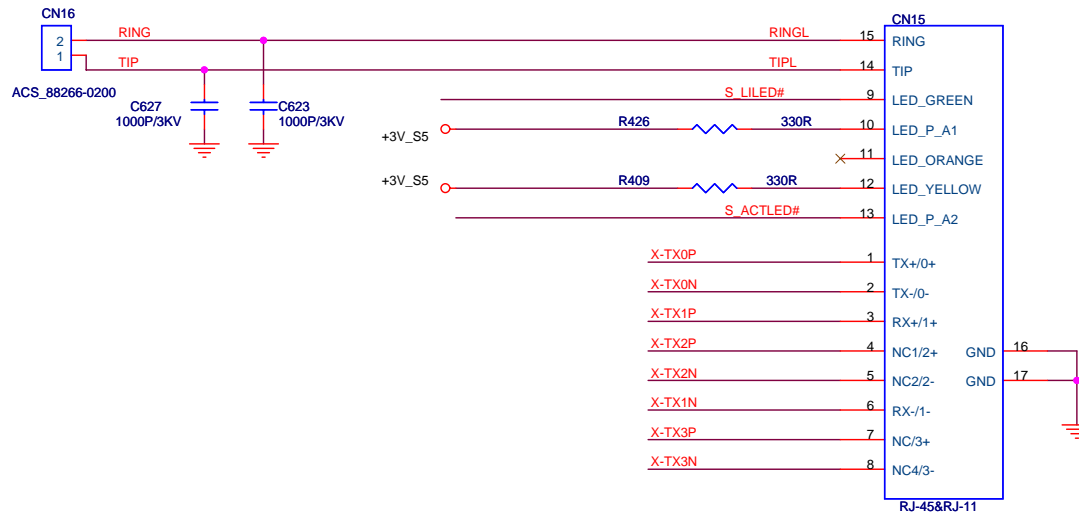




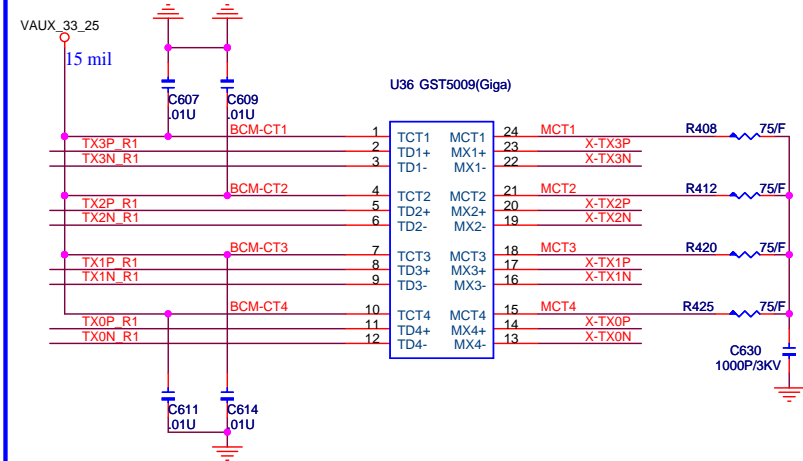
# LAN Switch



# Modem conn and LAN connect



# LAN transformer



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**USB PORTS**

Acet: every port support 1.5A current

<http://laptopblue.vn/>

**Bluetooth**

**FAN**

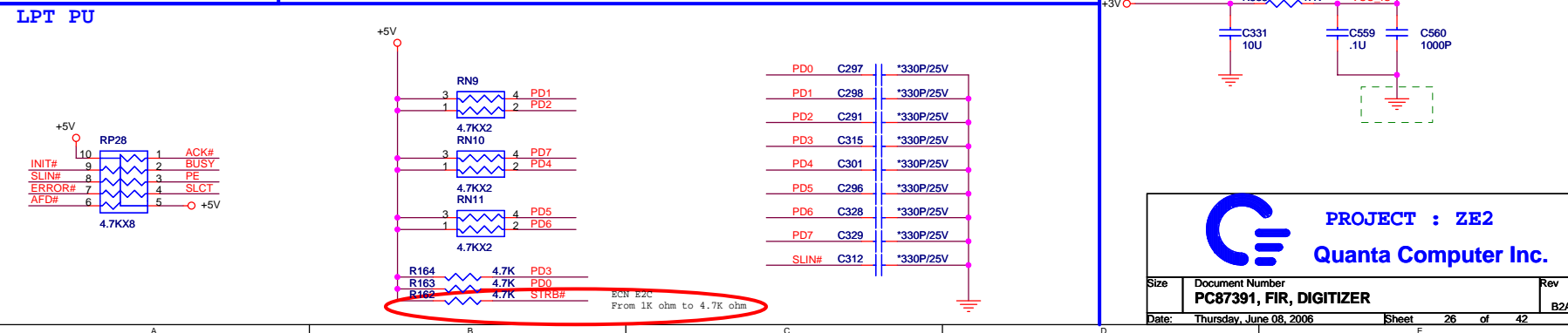
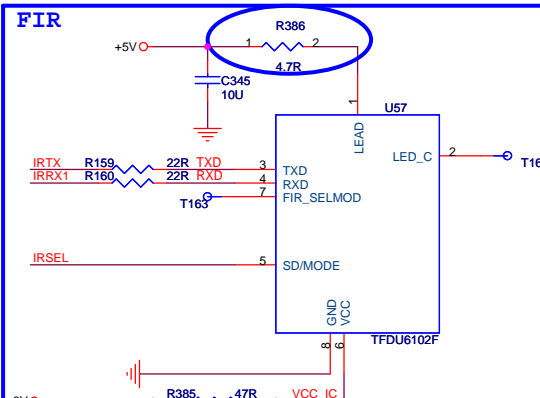
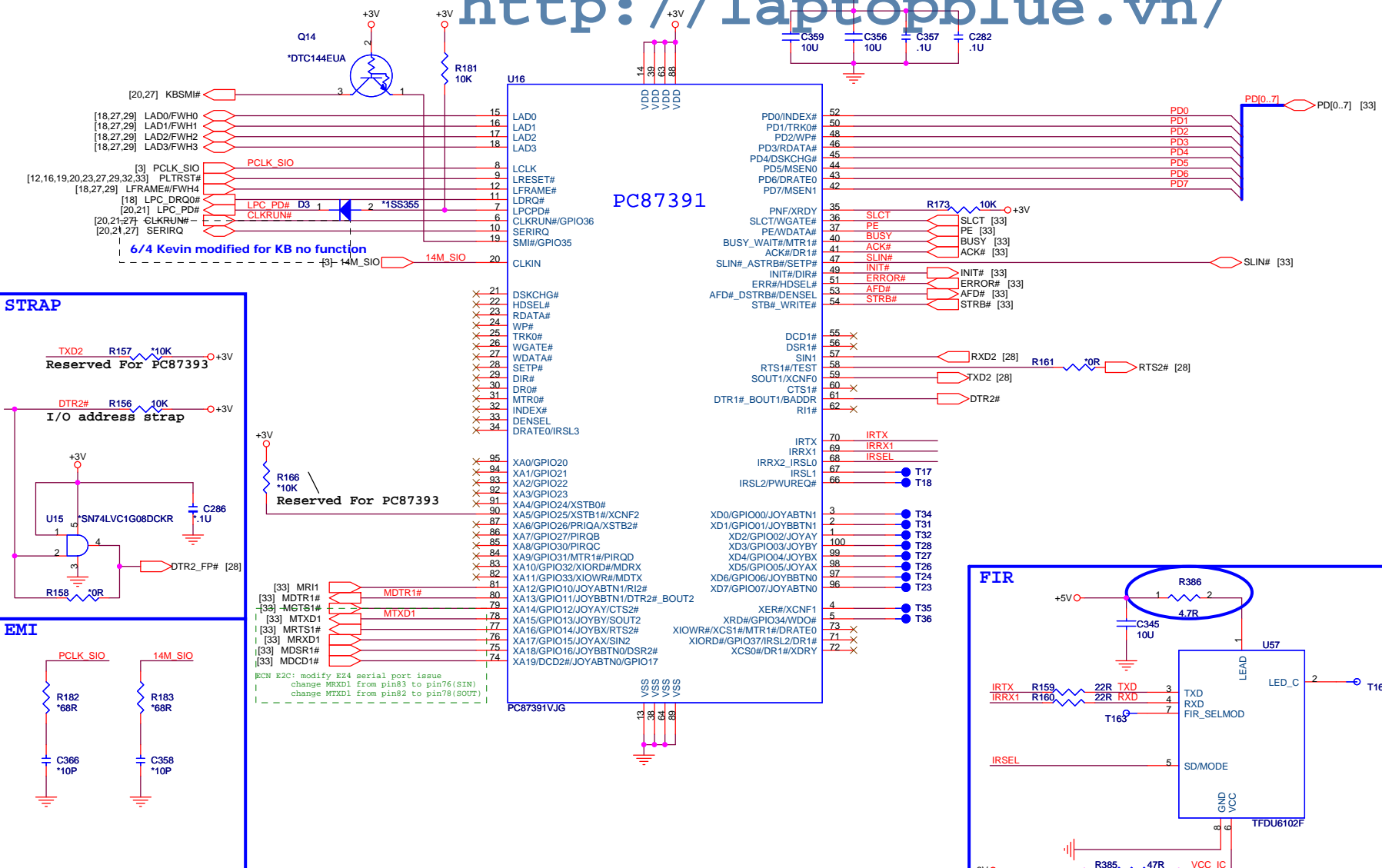
**PROJECT : ZE2**  
Quanta Computer Inc.

Size: Document Number: Rev: D2B

Date: Thursday, June 08, 2006 Sheet 25 of 42

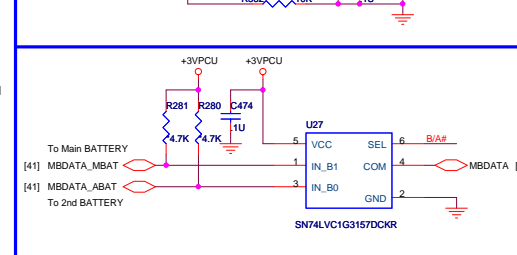
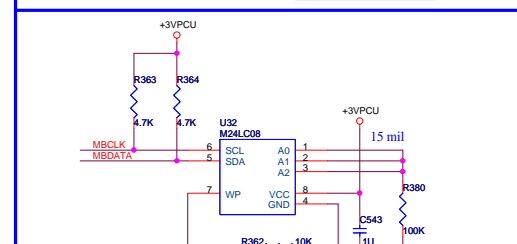
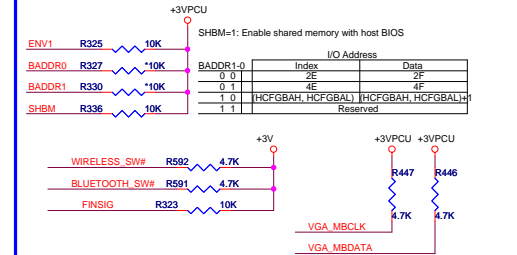
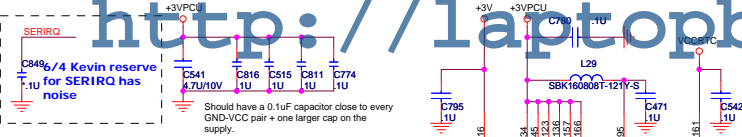
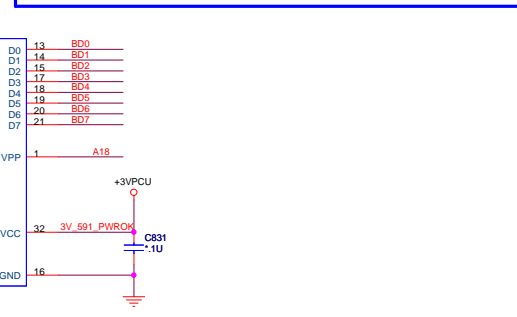
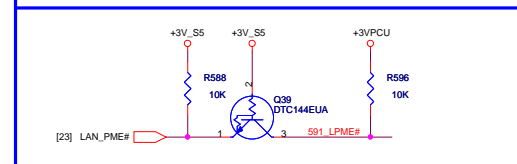
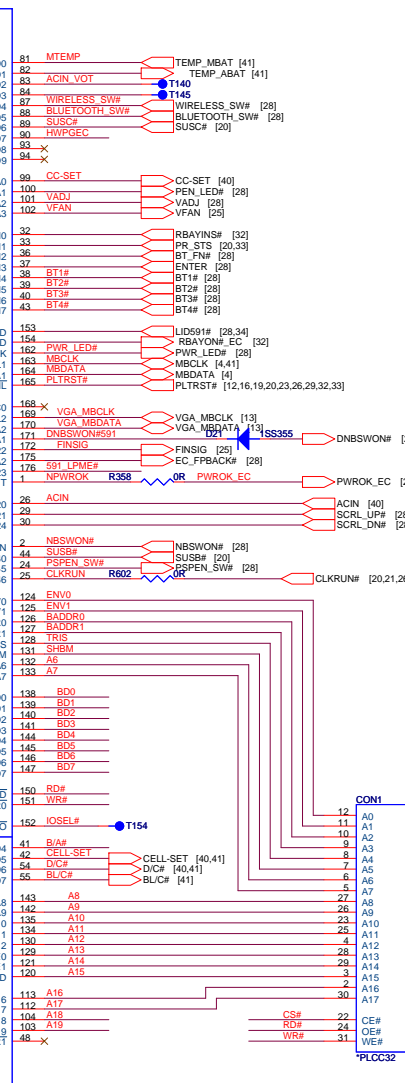


SIO(LPT/Serial port/Digitizer/FIR)





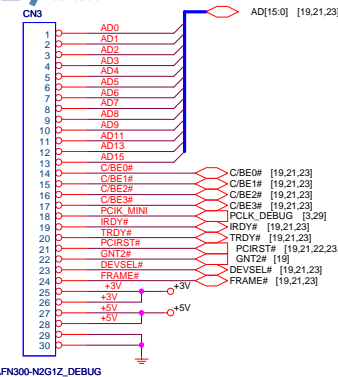
<http://laptopblue.vn/>

[illegible]

Size	Document Number	Rev	D
Date:	Friday, June 09, 2006	Sheet	27 of 42

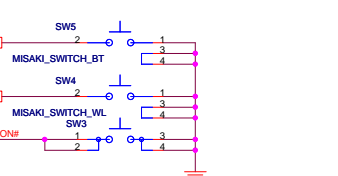


## Debug card interface

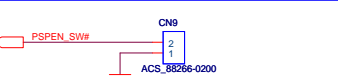


\*AFN300-N2G1Z\_DEBUG

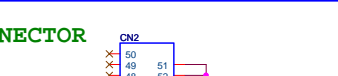
## LED



## Quick Button Board



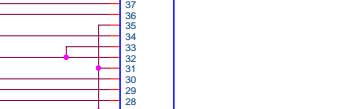
## Switch



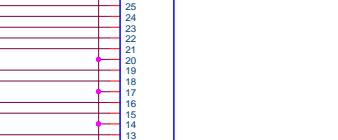
## Pressure Sensitive Pen Detect



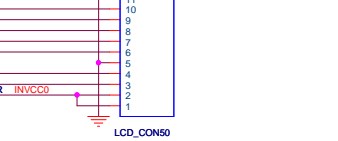
## Jogdial & CONN.



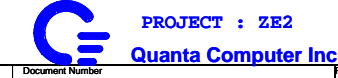
## LID/Display on



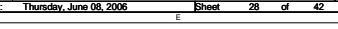
## LID circuit



## Power Board



## Tablet Button



## Digitizer



## Finger Printer



## LCD CONNECTOR



## LED, T/P, FAN, Q-BUTTON, LCD CONN.



## PROJECT : ZE2



## Size

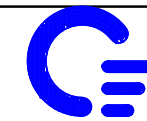
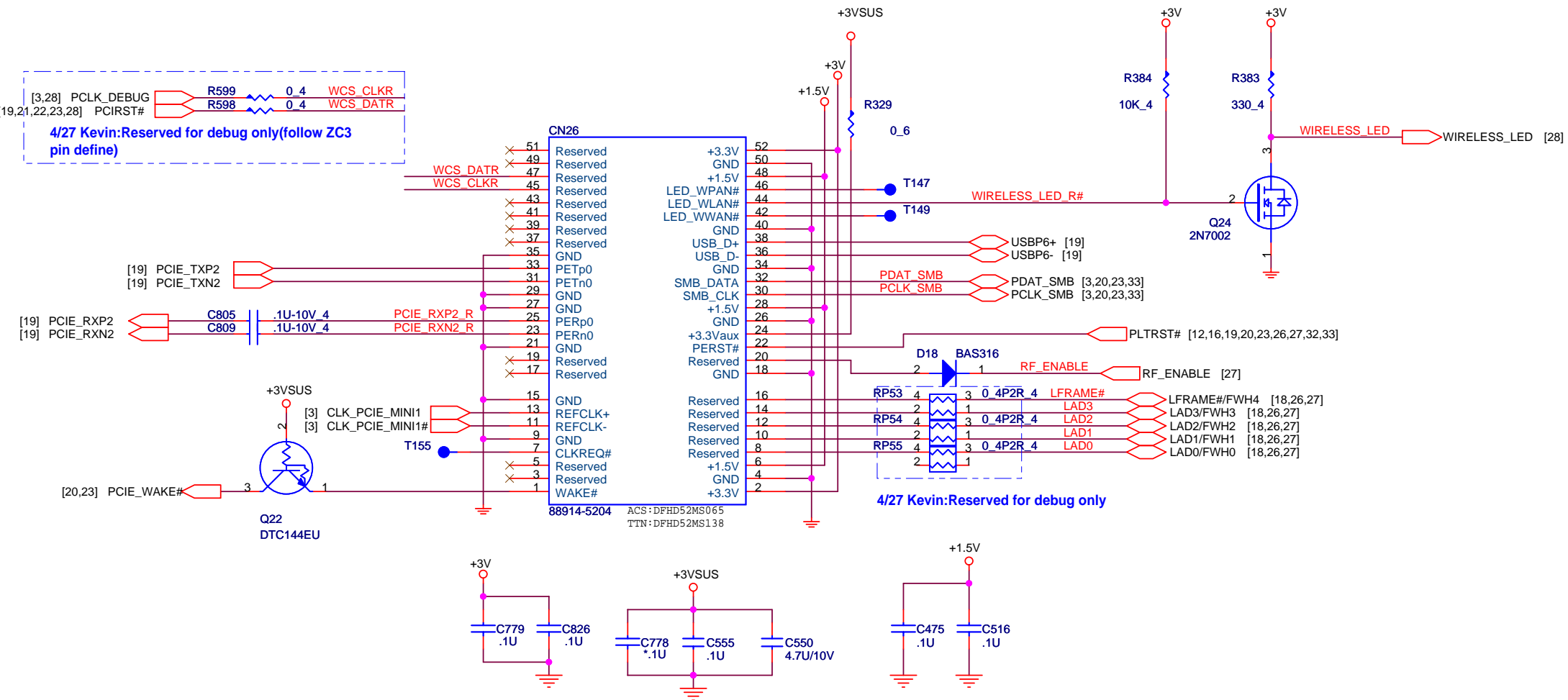


## Date





# MINI CARD

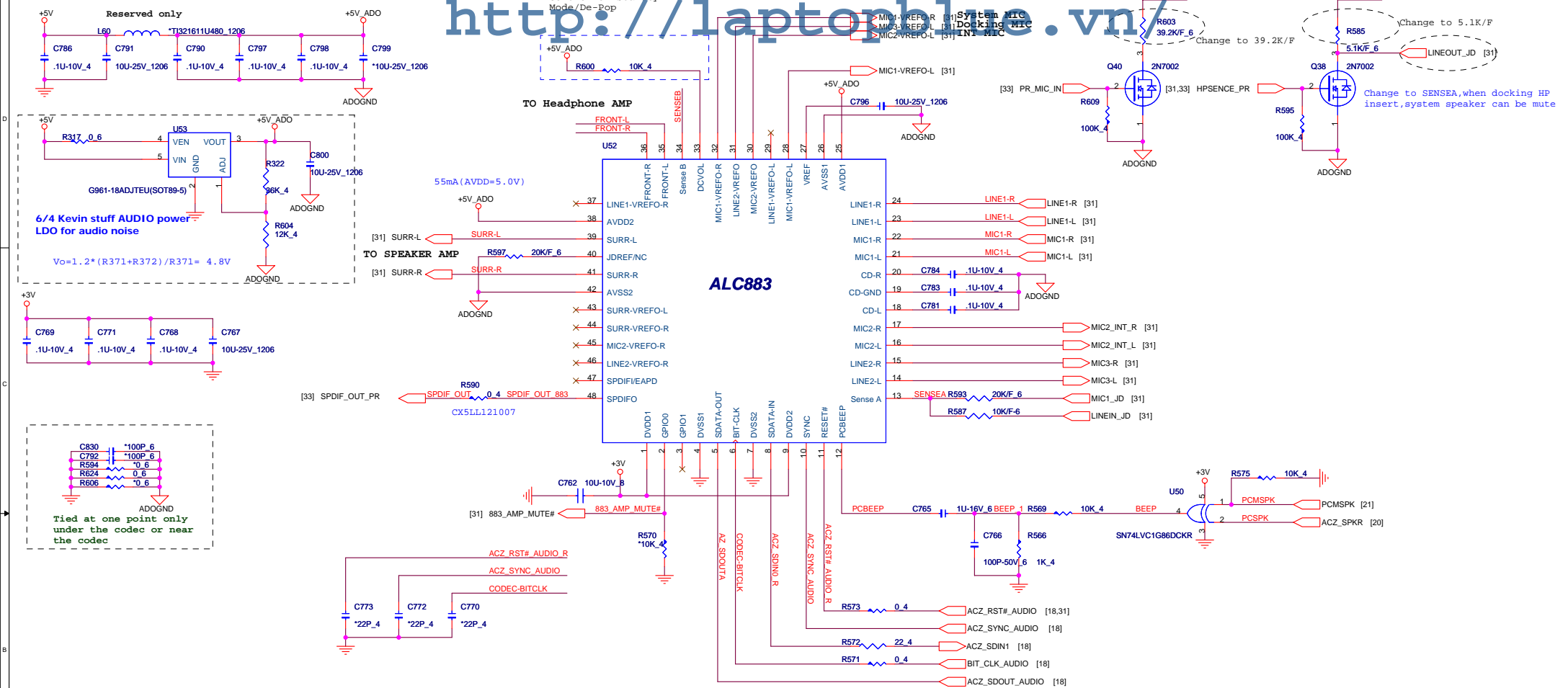


PROJECT : ZE2  
Quanta Computer Inc.

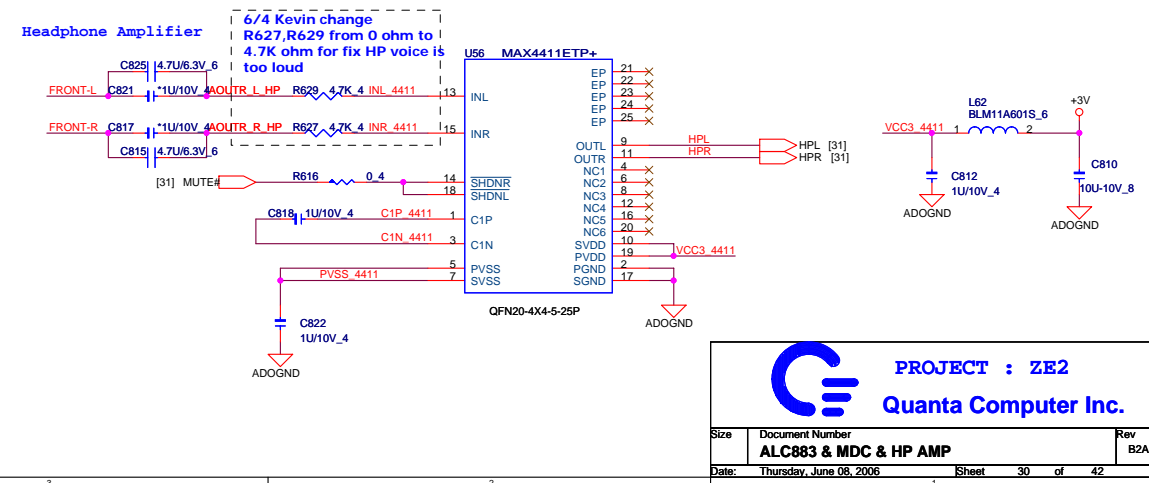
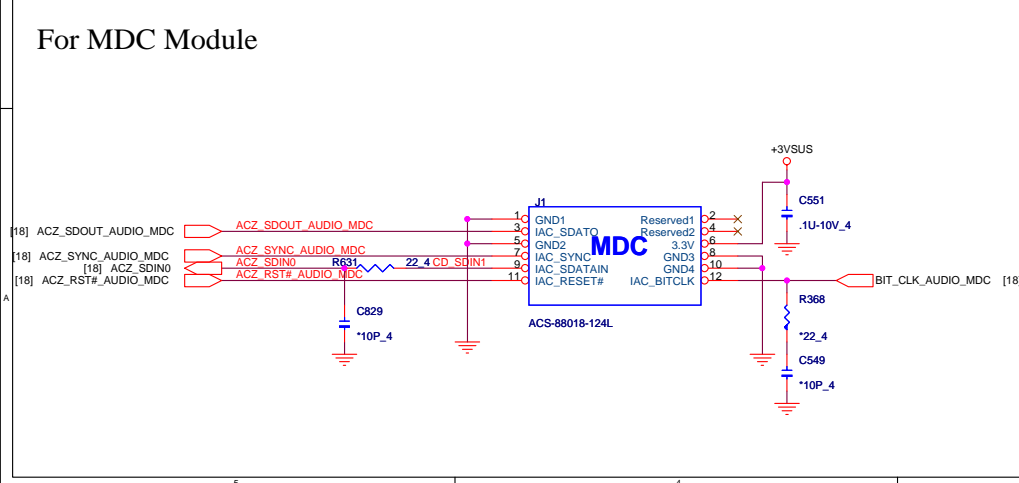
Size	Document Number	Rev
	MINI CARD	B2A

Date: Thursday, June 08, 2006 Sheet 29 of 42





For MDC Module





# Speaker Amplifier MAX9710

6/4 Kevin change from 15k to 22k for fix speaker voice is too low issue

6/4 Kevin change part to LF

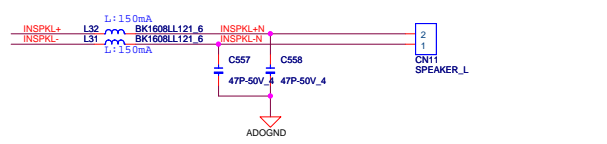
MAX9710 : QFN Pin21 Don't forget ThermalPAD Over 4 Vias to GND

QFN20-5X5-65-26P

Av = 2 \* (RF / RIN) = 2 \* (RF / 15K)

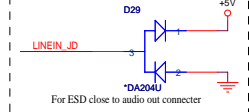
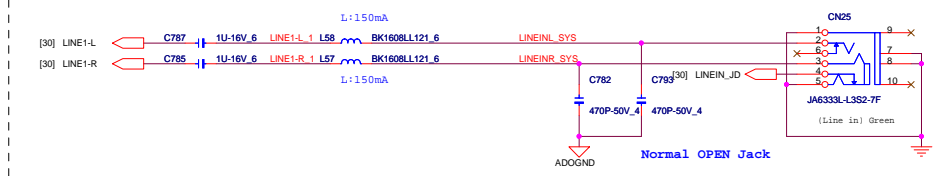
select R7143, R7147 according to the Gain

## SPEAKER

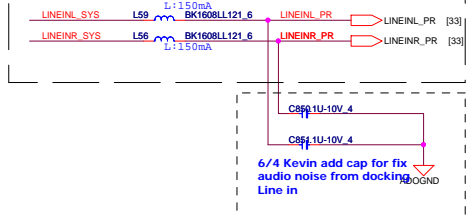


6/4 Kevin tie the SURR-L and SURR-R for fix no sound when volume bar adjust to right channel

## SYSTEM LINE IN

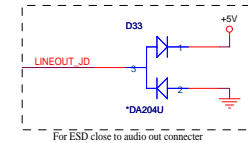
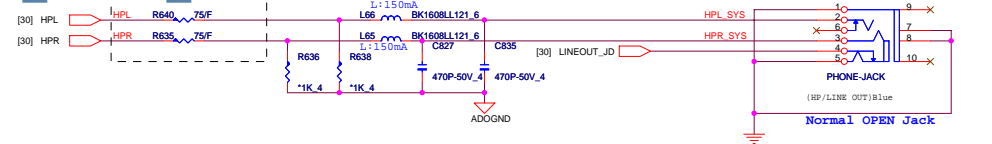


## Docking LINE IN

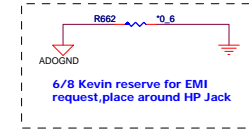


6/8 Kevin reserve for EMI request, place around Line in Jack

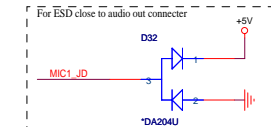
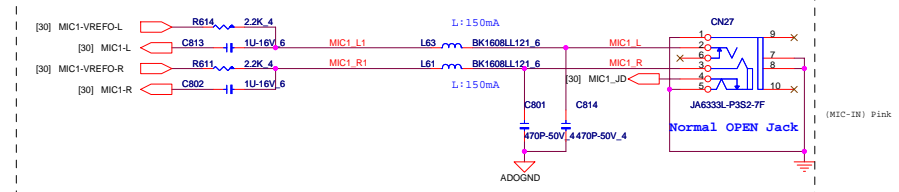
## SYSTEM LINE OUT/HP



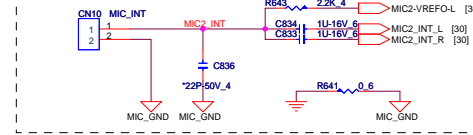
Reserved only, when performance can meet vista requirement, pls delete it.



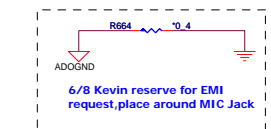
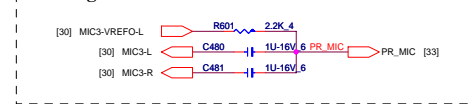
## SYSTEM MIC



## INT MIC



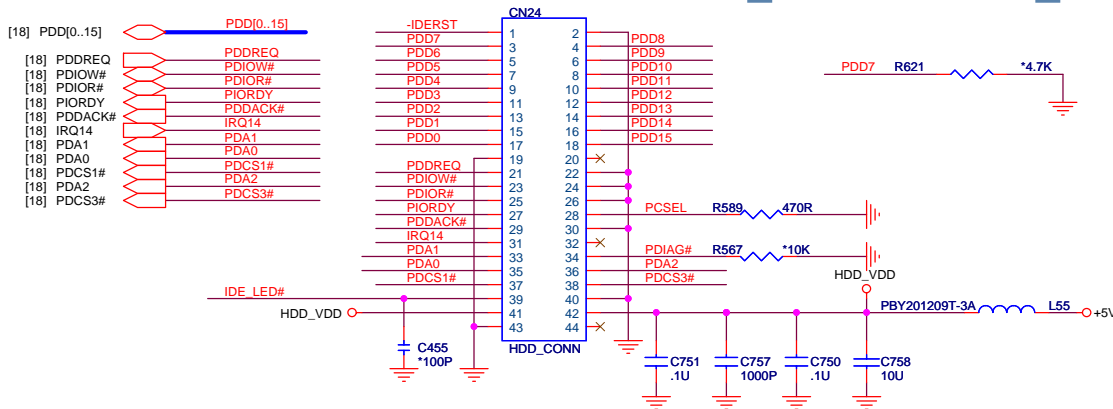
## Docking MIC



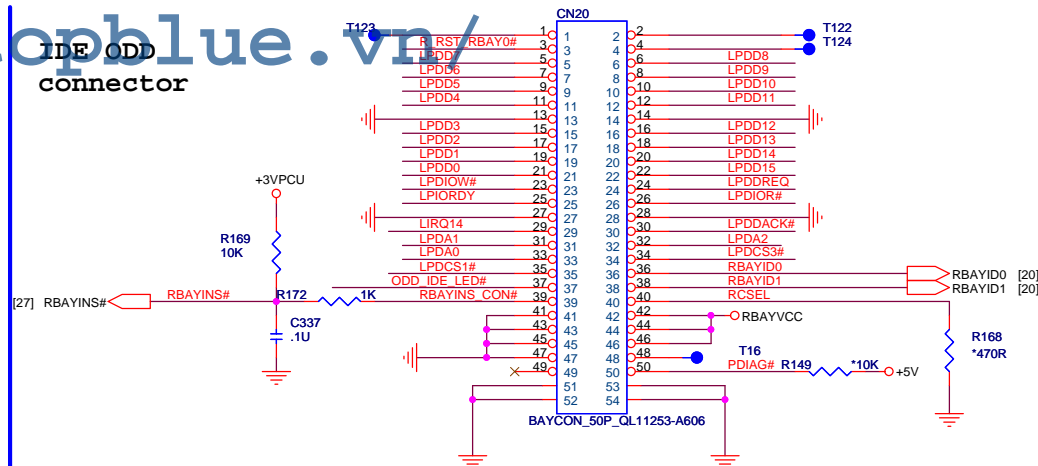
PROJECT : ZE2  
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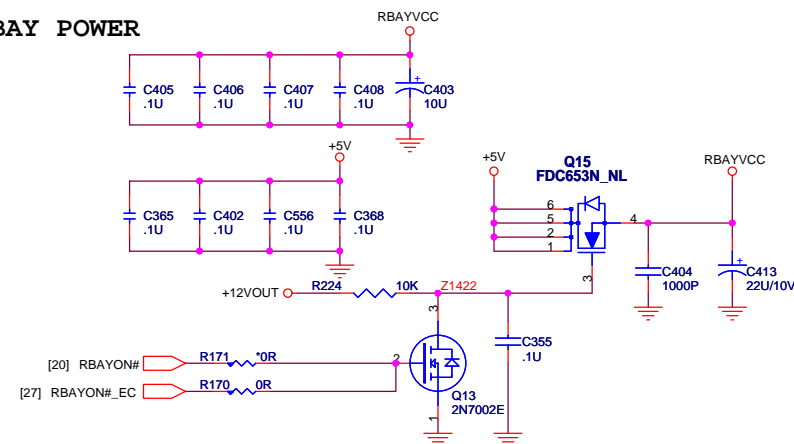
## PATA HDD connector



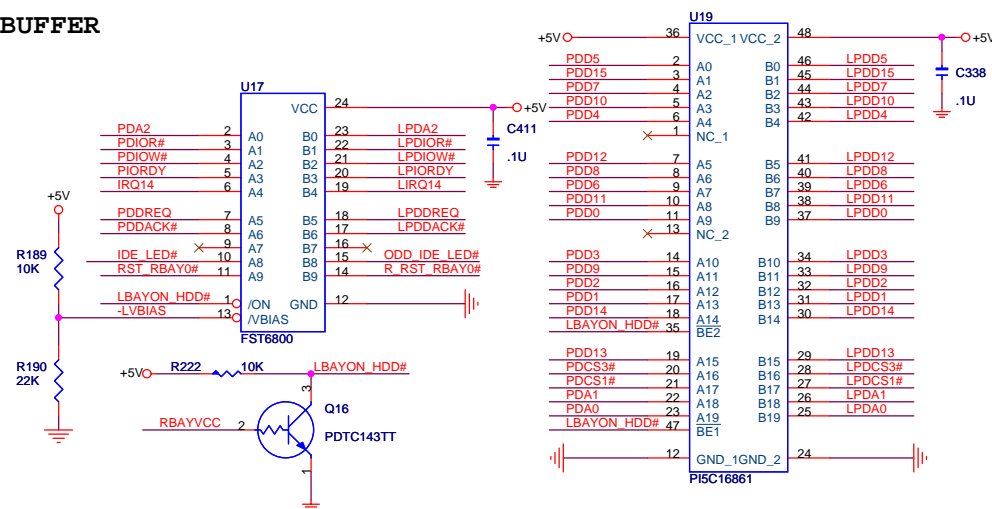
## IDE ODD connector



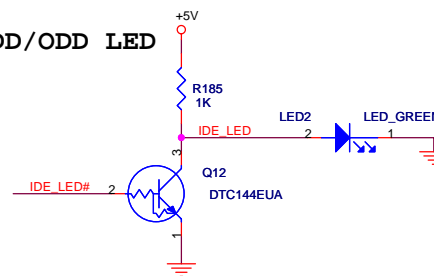
## ODD MULTI BAY POWER



## IDE BUFFER



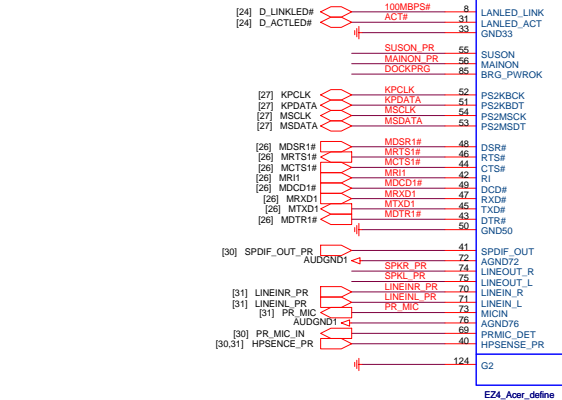
## HDD/ODD LED



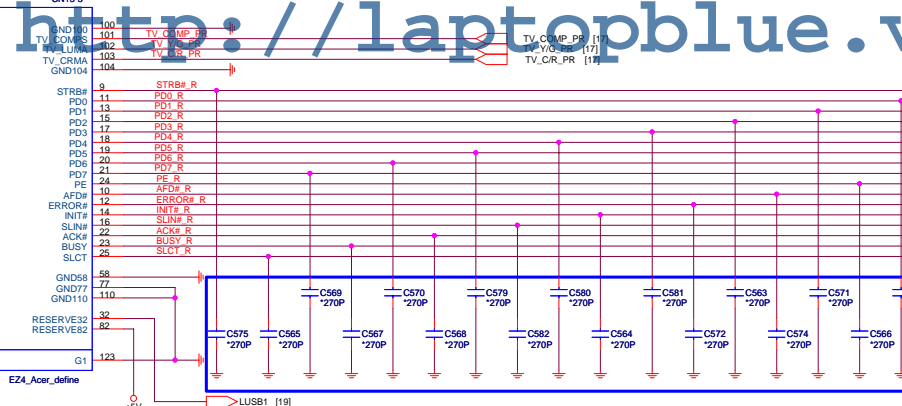
PROJECT : ZE2  
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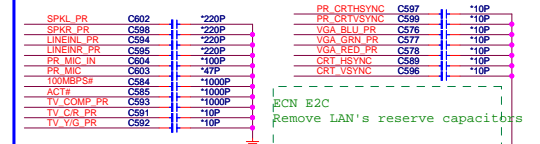
# Docking Interface



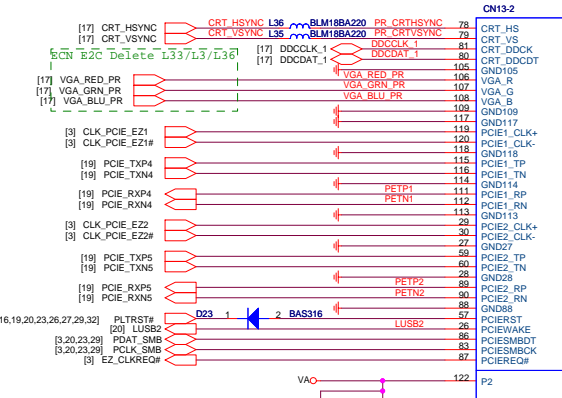
## CN13-3



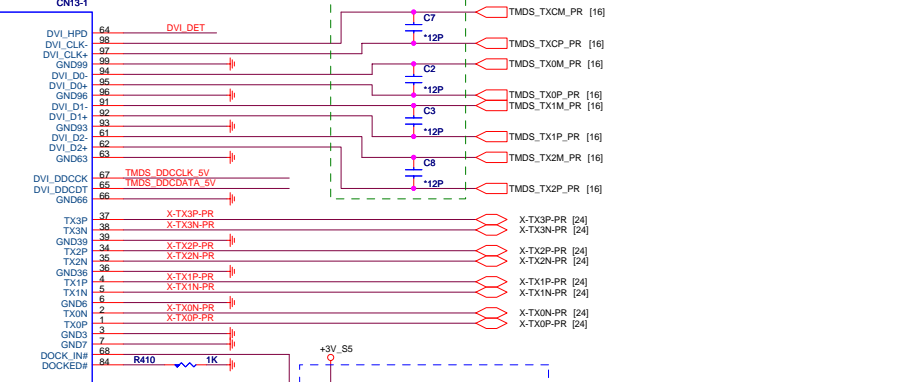
For EMI



Remove LAN's reserve capacitors



## CN13-1

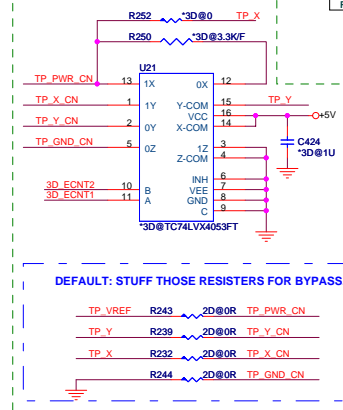




ALPS SOLUTION

Track point circuit and CONN

ECN C2A  
RESERVE FOR 3D FUNCTION



DEFAULT: STUFF THOSE RESISTORS FOR BYPASS

TP\_VREF R243 2D@0R TP\_PWR\_CN

TP\_Y R239 2D@0R TP\_Y\_CN

TP\_X R232 2D@0R TP\_X\_CN

R244 2D@0R TP\_GND\_CN

ECN C2A  
Change GND & PWR connect

TP\_GND\_CN 1 1

TP\_Y\_CN 2 2

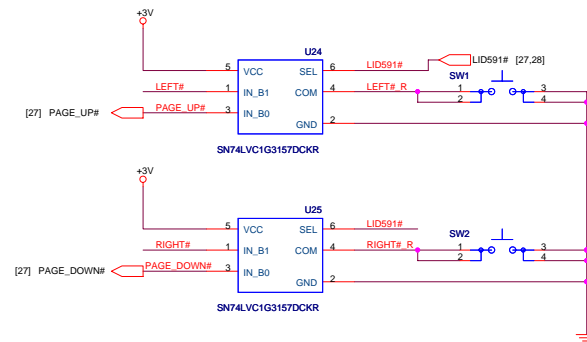
TP\_X\_CN 3 3

TP\_PWR\_CN 4 4

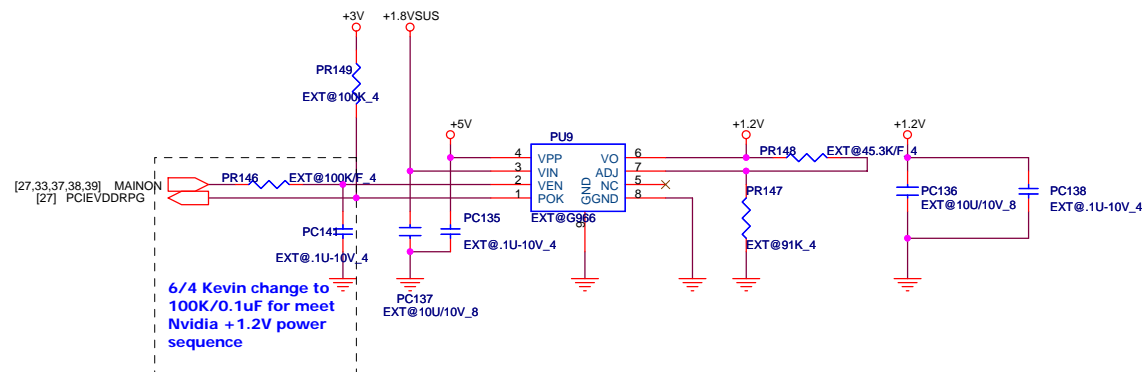
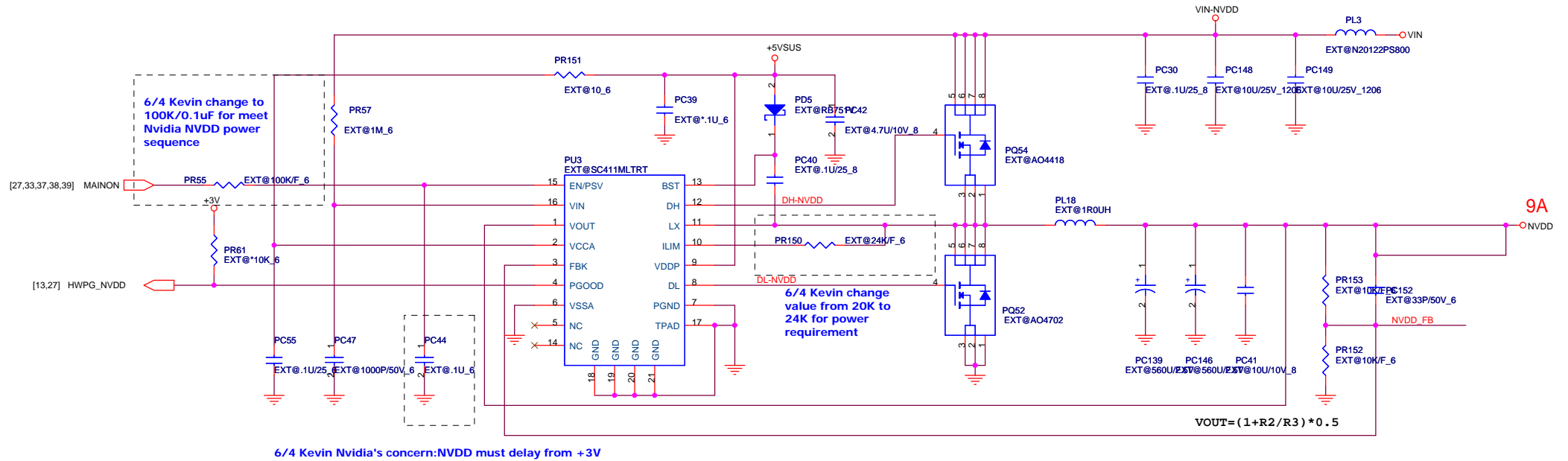
3D MODE: C128=NO STUFF

C420 2D@1U

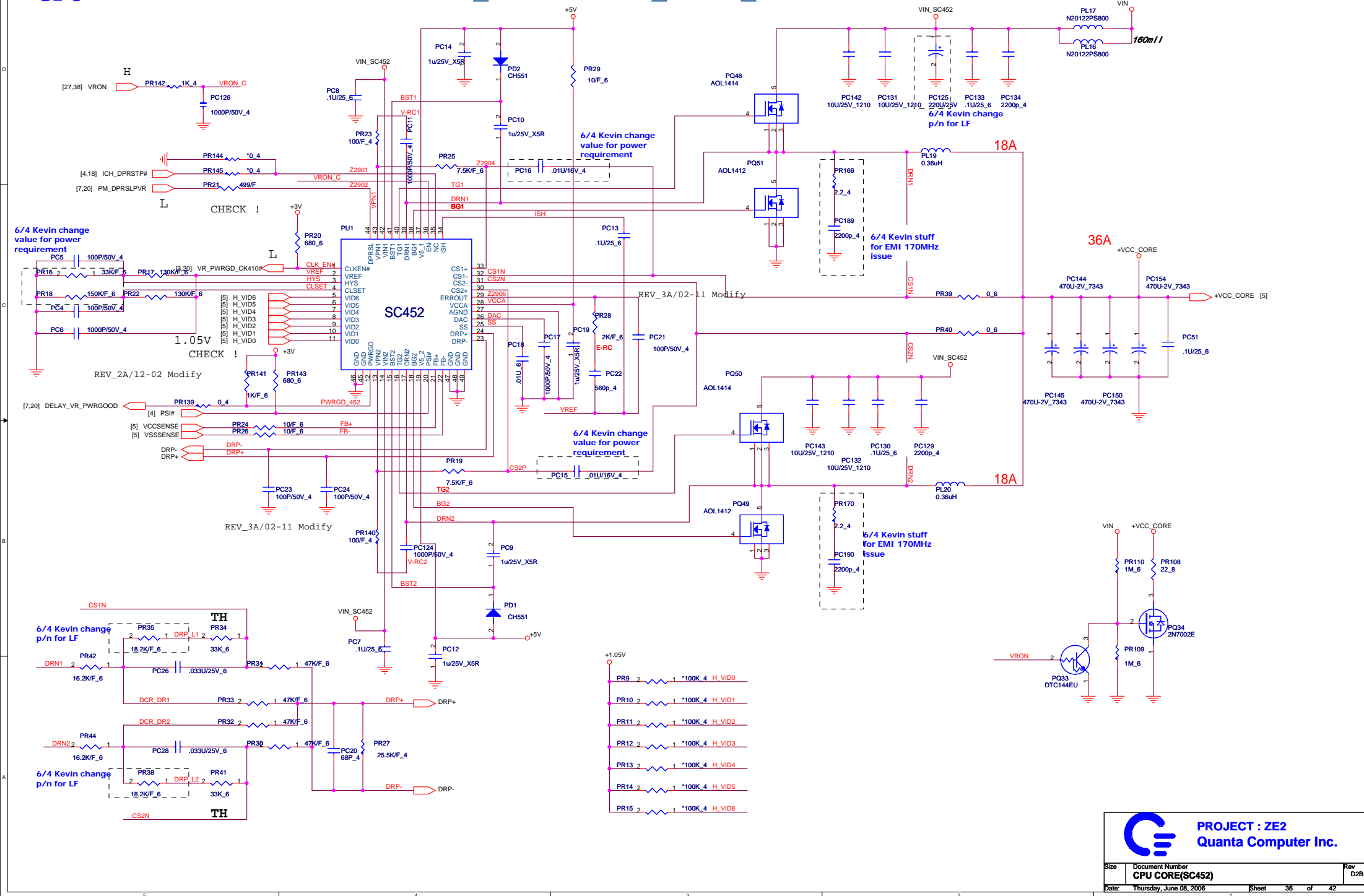
ECN D2B  
Change Footprint  
88264-04XX-4P-L



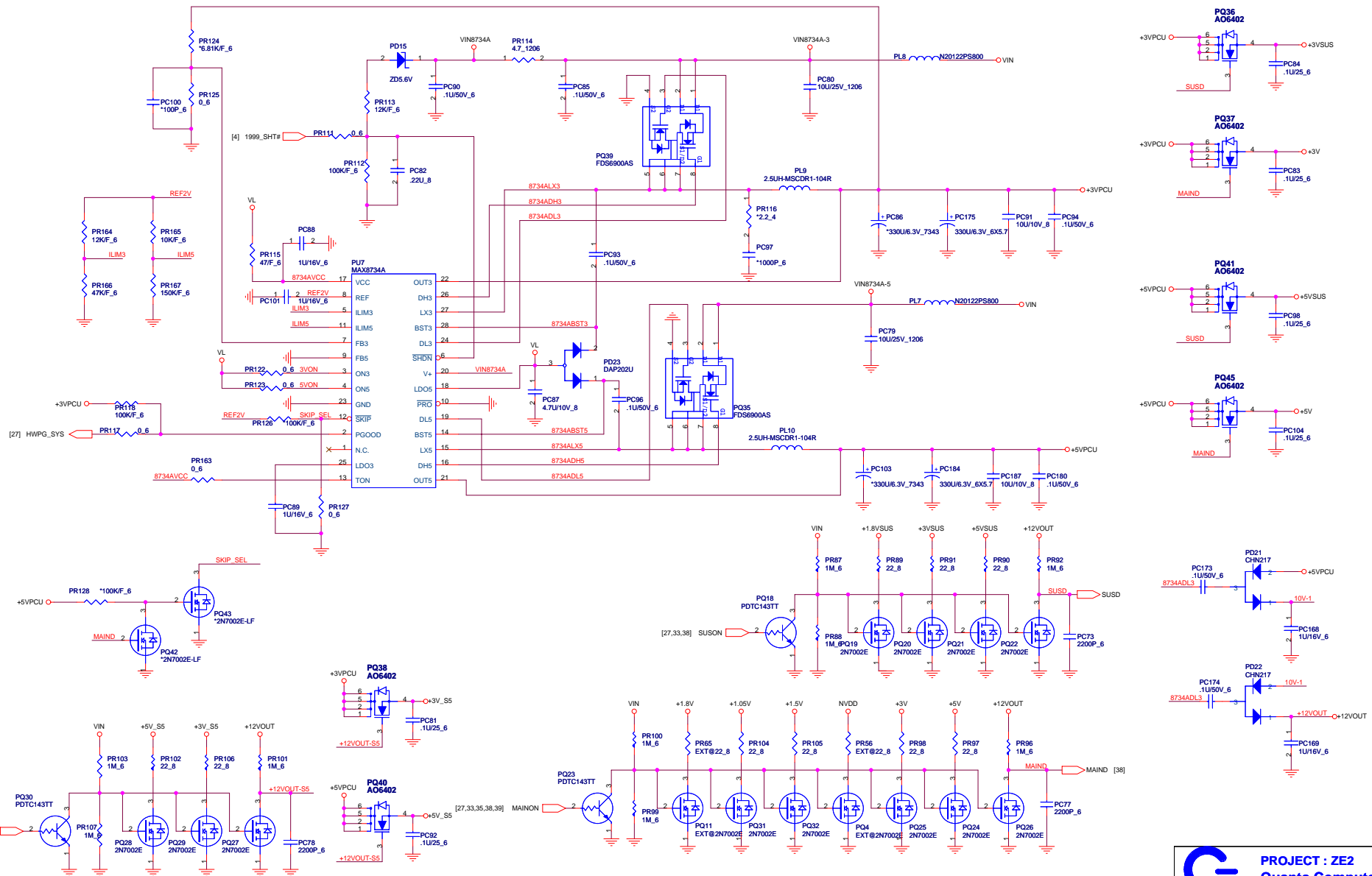




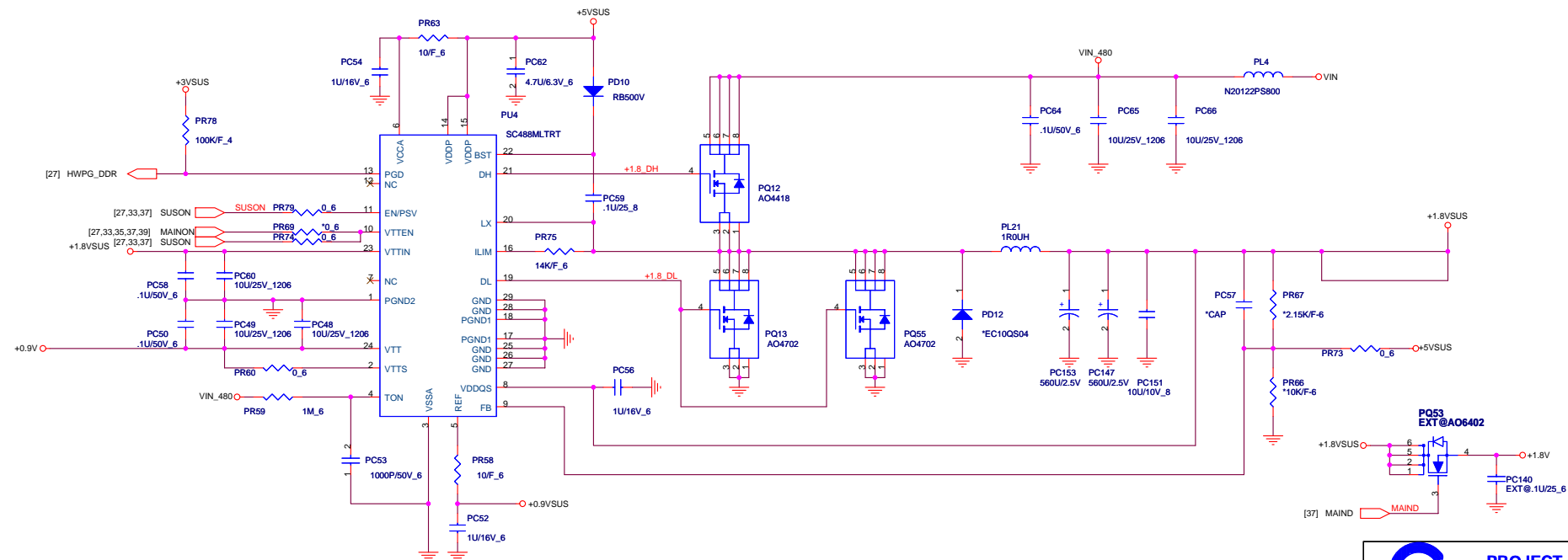
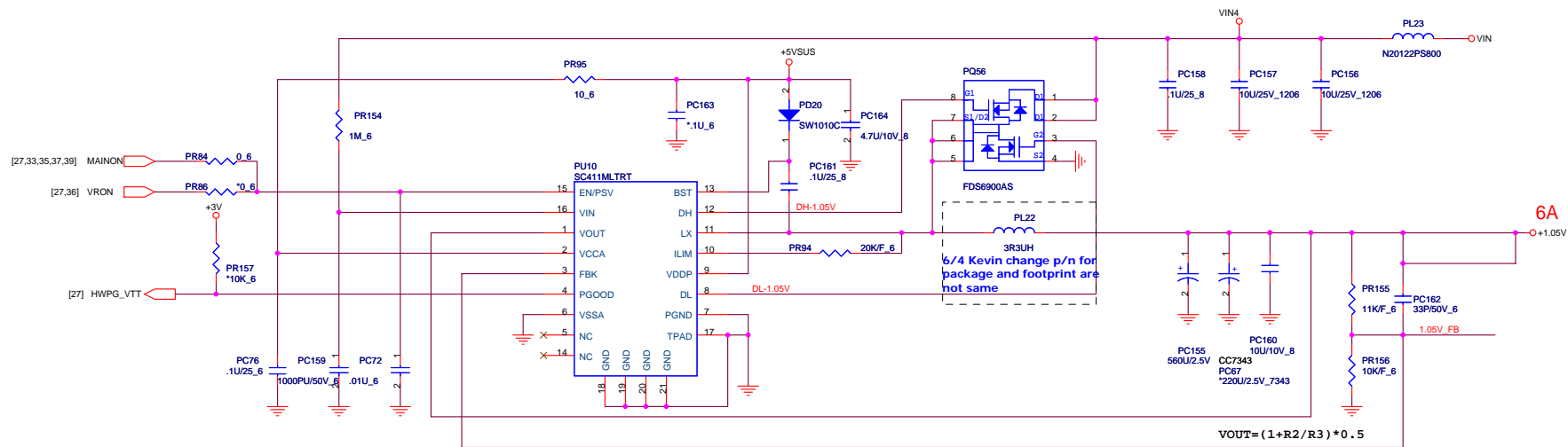






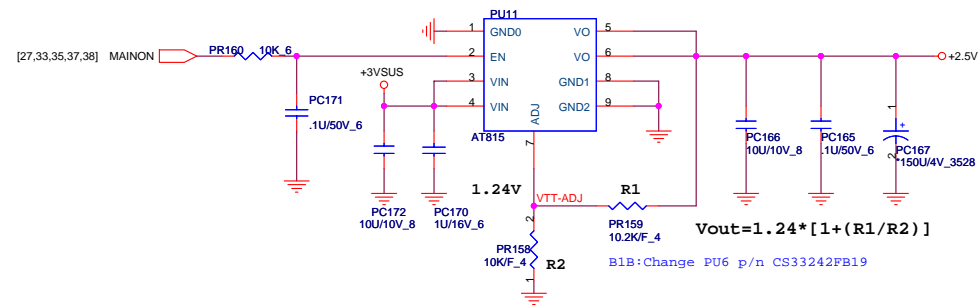
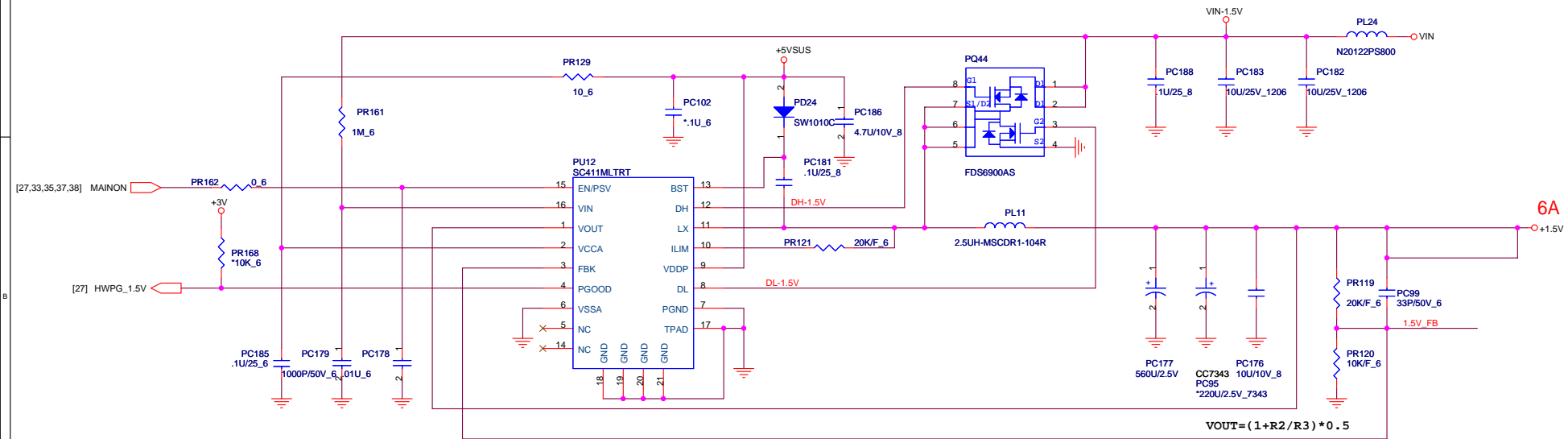






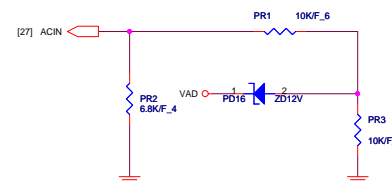
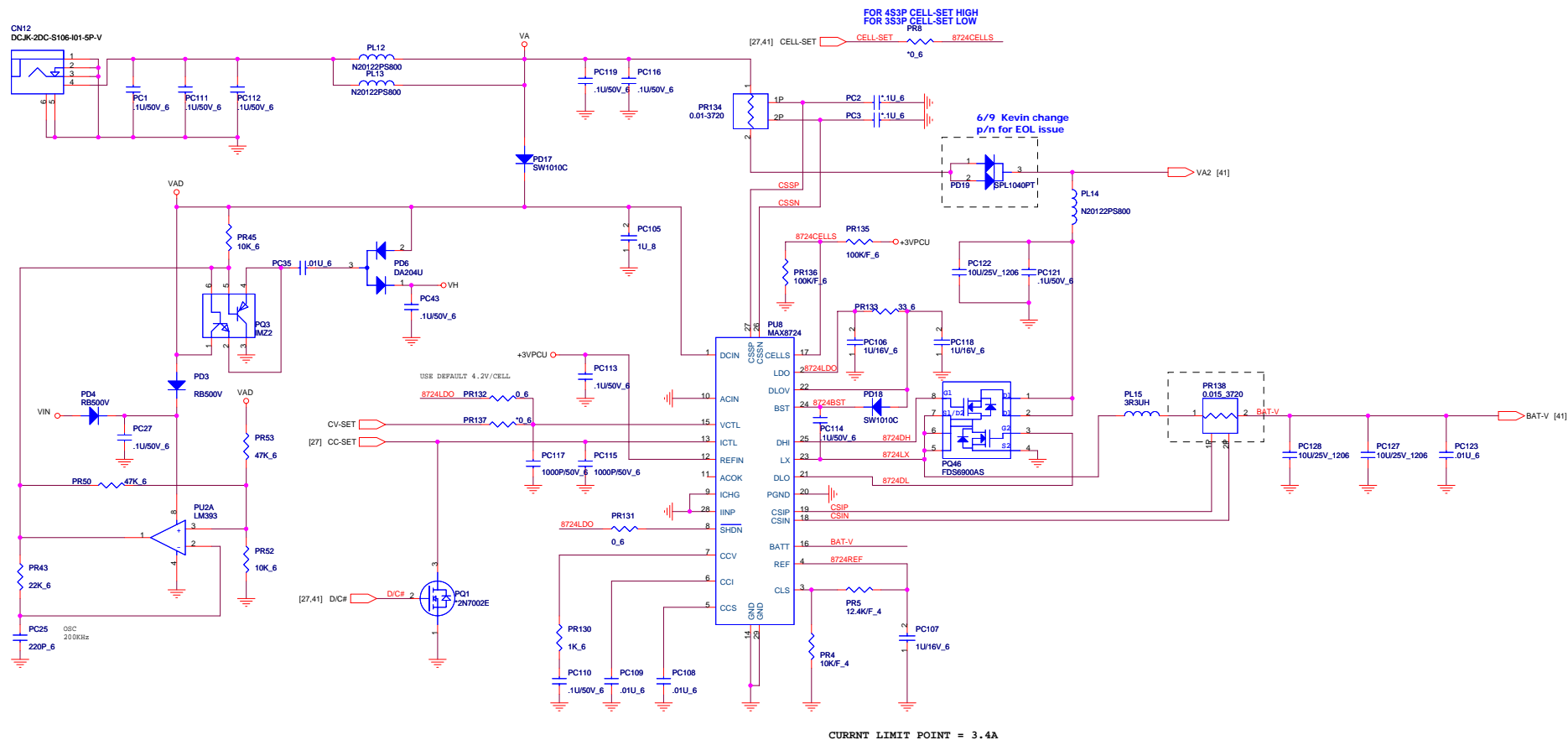
PROJECT : ZE2  
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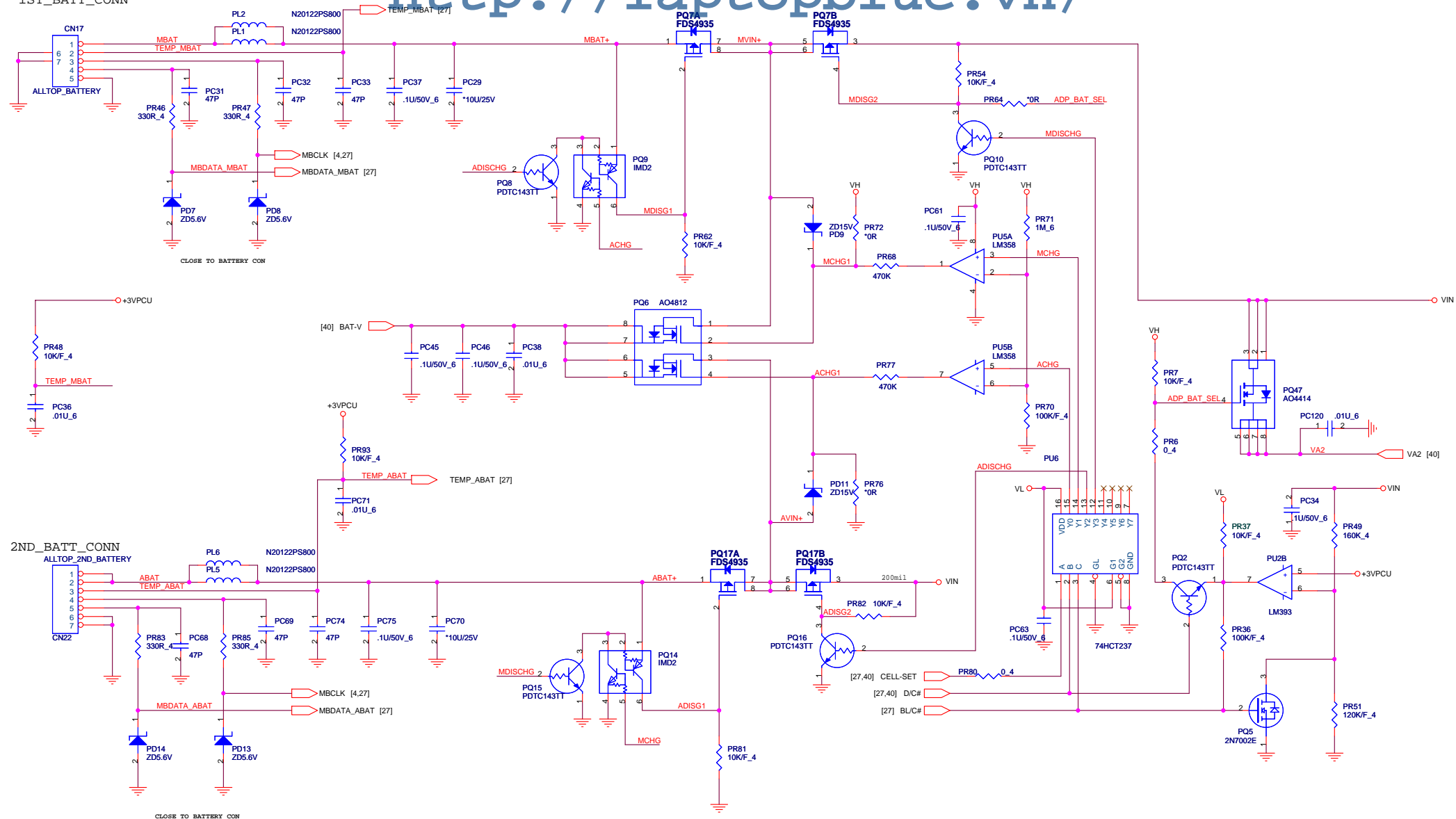


PROJECT : ZE2  
Quanta Computer Inc.











for fix modem cable

