

ZF1A

Dothan/Yonah
(478 Micro-FCPGA)
PG 4,5

AC/BATT CONNECTOR PG 42

BATT CHARGER PG 42

DC/DC
+1.2V/+2.5V
+1.05V/+1.5V
+1.8V/+0.9V
+3V/+5V PG 37-41

CPU VR
PG 43

CLOCKS
PG 3

4X133MHZ

Alviso 915PM
1257 PCBGA
PG 6,7,8,9

DDR-SODIMM1 PG 10,11
400/533 MHZ DDR II
+0.9V
+1.8VSUS

DDR-SODIMM2 PG 10,11
400/533 MHZ DDR II

SATA-HDD PG 32
SATA

Parallel-HDD PG 32
IDE

Multi-Bay PG 31
IDE

M5285 PG 32
SATA

DMI interface

ICH6-M 609 BGA
PG 17,18,19

PCI EXPRESS

M24P/M26P DDrAm(64/128)
PG 12,13,14,15,16

LCD Connector

DVI
+2.5V
+3V

S-Video

CRT PG 16

DOCKING PG 33

33MHZ PCI

LAN (10M/100M/1G) BCM5788M PG 22

CARDBUS/1394 OZ711M3 PG 20,21

1394(TSB43AB21) PG 36

MINI-PCI Wireless LAN PG 28

PCI BUFFER PG 34

RJ45/Magnetics PG 23

Smart Card PG 20

CARDBUS CON. PG 20

4 in 1 socket XD,MMC,SD,MS PG 20

ALC880 (Codec) & PG 29,30

MDC1.5 PG 29

Mini-Bluetooth (USB bus) PG 24

USB

Euphonik DSP PG 35

Headphone/SPDIF PG 30

Internal-MIC PG 35

LINEIN/MICIN PG 30

PC87383 PG 25

SIO NSC97551 176 Pins LQFP PG 26

3.3V LPC, 33MHz

+3V FAN 1 PG 27

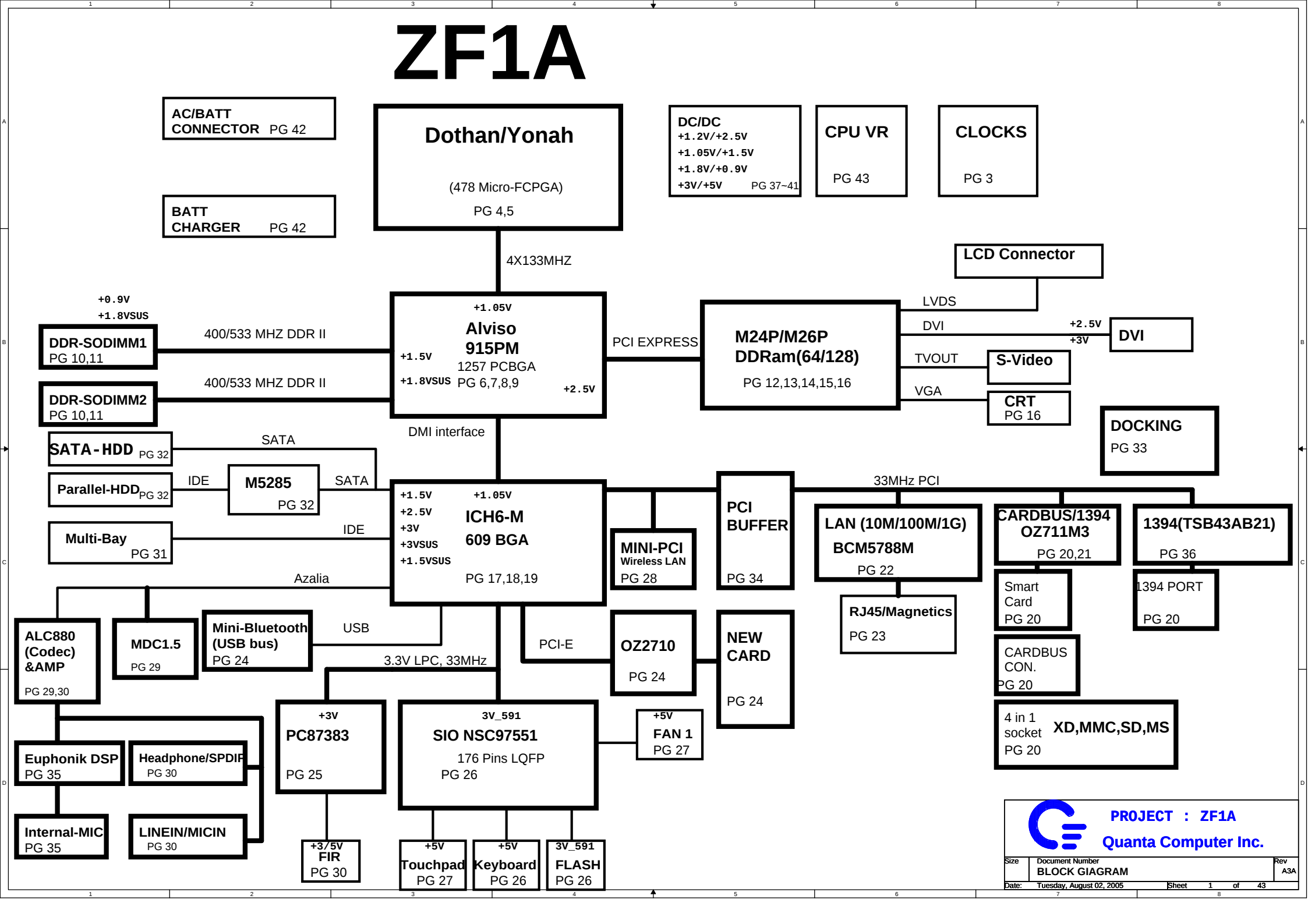
Touchpad PG 27

Keyboard PG 26

FLASH PG 26

PROJECT : ZF1A
Quanta Computer Inc.

Size Document Number BLOCK DIAGRAM Rev A3A
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Check again

Change History

Voltage Rails		ON S0-S1	ON S3	ON S4	ON S5	Control signal
12VOUT		X	X	X	X	
3V_591		X	X	X	X	
5VPCU		X	X	X	X	
+3V_S5		X	X	X	X	S5_ON
3V_LAN		X	X	X	X	
+1.5V_S5		X	X	X	X	S5_ON
+1.8VSUS		X	X			SUSON
+3VSUS		X	X			SUSD
+5VSUS		X	X			SUSD
SMDDR_VTERM	DDR Termination voltage	X	X			MAINON
SMDDR_VREF		X				MAINON
VGA_PCIE_1.2V		X				MAINON
VCC_CORE	Core voltage for Processor	X				VR_ON
+VCCP	1.05V rail for Processor I/O	X				MAINON
+1.5V		X				MAINON
+1.8V		X				MAIND
+2.5V		X				MAIND
+3V		X				MAIND
+5V						MAIND
+12V		X				MAINON
+3VRUN		X				PCI_Switch_Power_ON
+5VRUN		X				PCI_Switch_Power_ON

5/28
1.System DVI DET function move in EZ port , So,Del Q47,R557
2.Addition AND gate for DOCKING Power Good AND DockingIN Singal combine Circuit
3.Addition Power led circuit for system
4.Change D34 AND D35 + -
5.Addition LID Switch and LID connector
6.Addition RC Delay for PCIE1.2V
7.Change EC Three GPIO port same to ZL2
5/31
1.Change C145 PCB Footprint to 3528
2.Combine USB and bluetooth connector to 19pin connector 87212-1900
3.Change PCBFootprint 88216-1200 to 88213-1200
4.Change USB connector bypass C to 0805 10u
5.Adjust 80pin connector 3 singal
6/1
1.Update power all circuit for GND name
2.Addition OR to PRST
3.Change IDE RST
6/2
1.Change ICH-6 USB Port
2.Del CDR,CDL,CDGND Singal and DEL prevent CDR,CDL,CDGND noise circuit.
6/4
1.U49,U50 Form 3VRUN change to +3V AND CHANGE MINPCI connector to PCI BUS,And addition PCI_SWRST # AND PCI_SWRST1#
2.Change BT_POWER NAME
3.Change VOIP AGND
6/7
1.Change VOIP AGND TO AGND2 for Layout

External PCI Devices

Device	IDSEL#	REQ#/GNT#	Interrupts
CardBus+Smart Card	AD25	1	PIRQC/B
Mini-PCI	AD19	2	PIRQB/D
LAN	AD22	0	PIRQA
1394	AD23	3	PIRQD

EC SM Bus1 address

Device

Smart Battery
THERMAL SENSOR
LIGHT SENER
VOIP FLASH ROM

ICH6-M SM Bus address

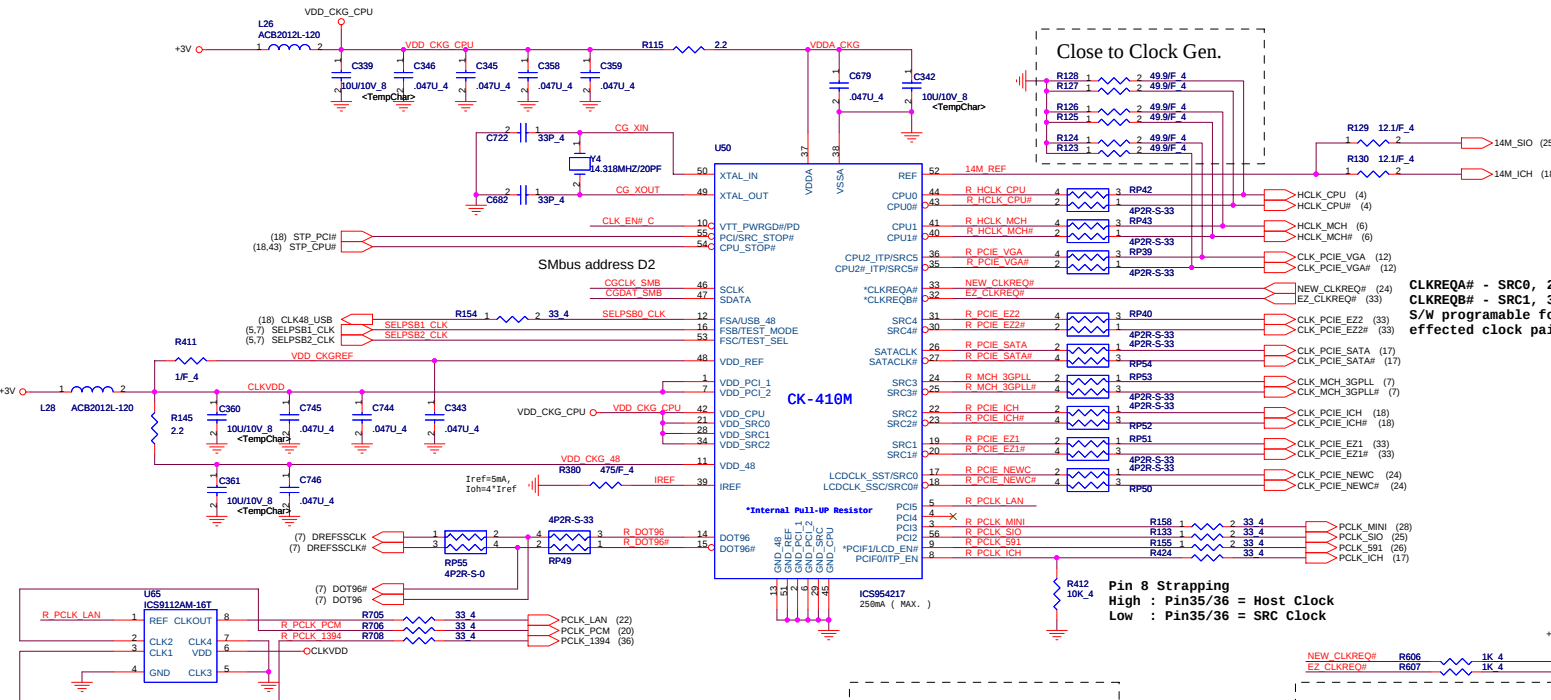
Device

SODIMM 1010 000X b
Clock Gen 1101 001x b



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Close to Clock Gen.

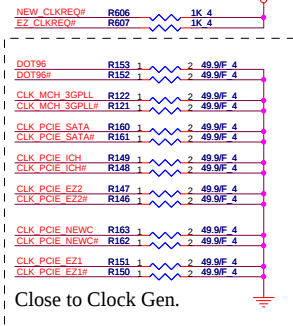
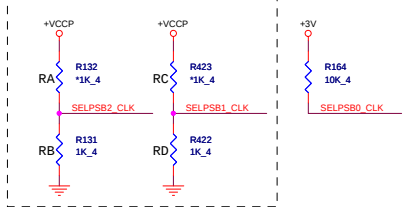
CLKREQA# - SRC0, 2, SATA
CLKREQB# - SRC1, 3, 4
S/W programmable for
effected clock pairs

CK-410M

Pin 8 Strapping
High : Pin35/36 = Host Clock
Low : Pin35/36 = SRC Clock

Resistor Stuff Table

	RA	RB	RC	RD
Dothan A 400	V	X	X	V
Dothan A 533	X	V	X	V
Dothan B	X	X	X	X



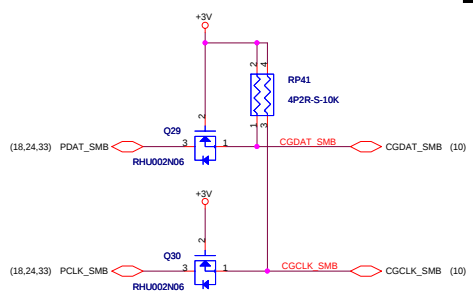
Close to Clock Gen.

Clock Gen. Frequency Selection Table

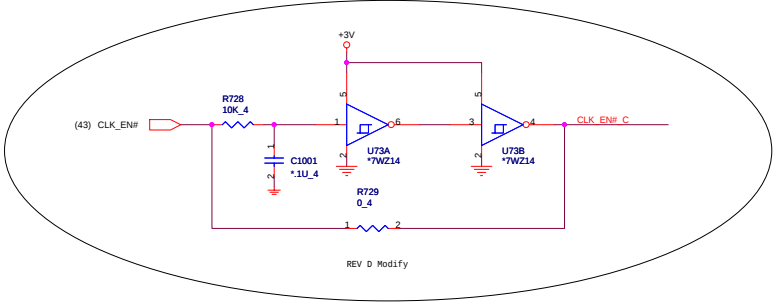
FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	RSVD	100	33

DOTHAN BSEL Output Value

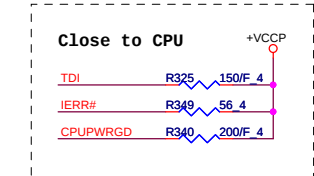
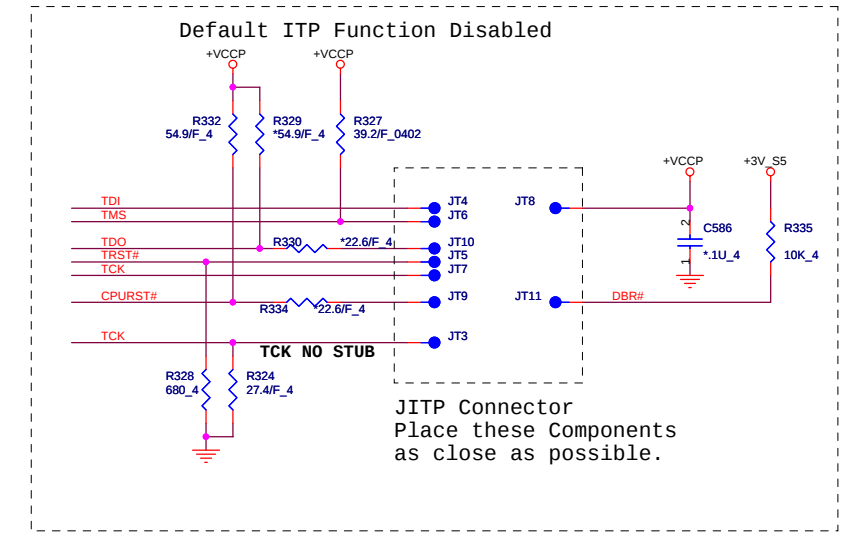
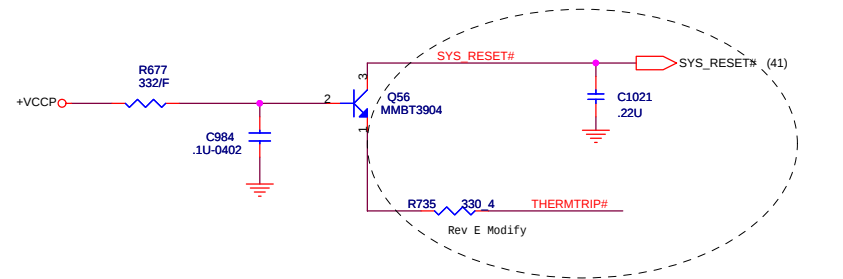
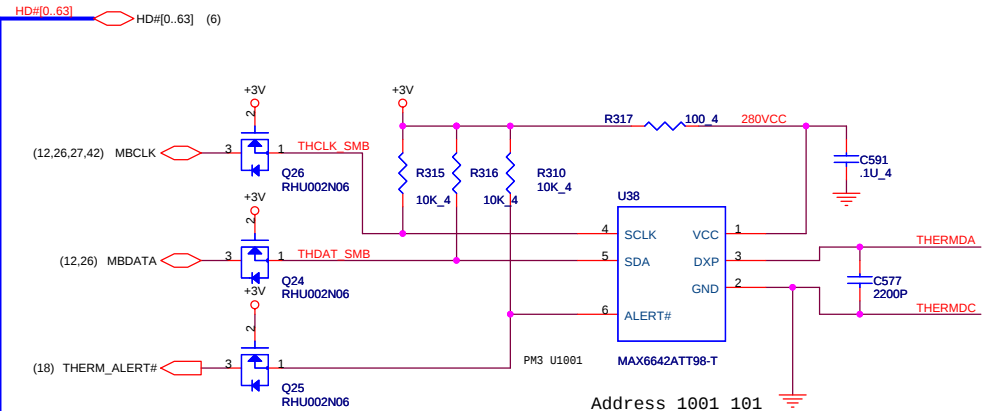
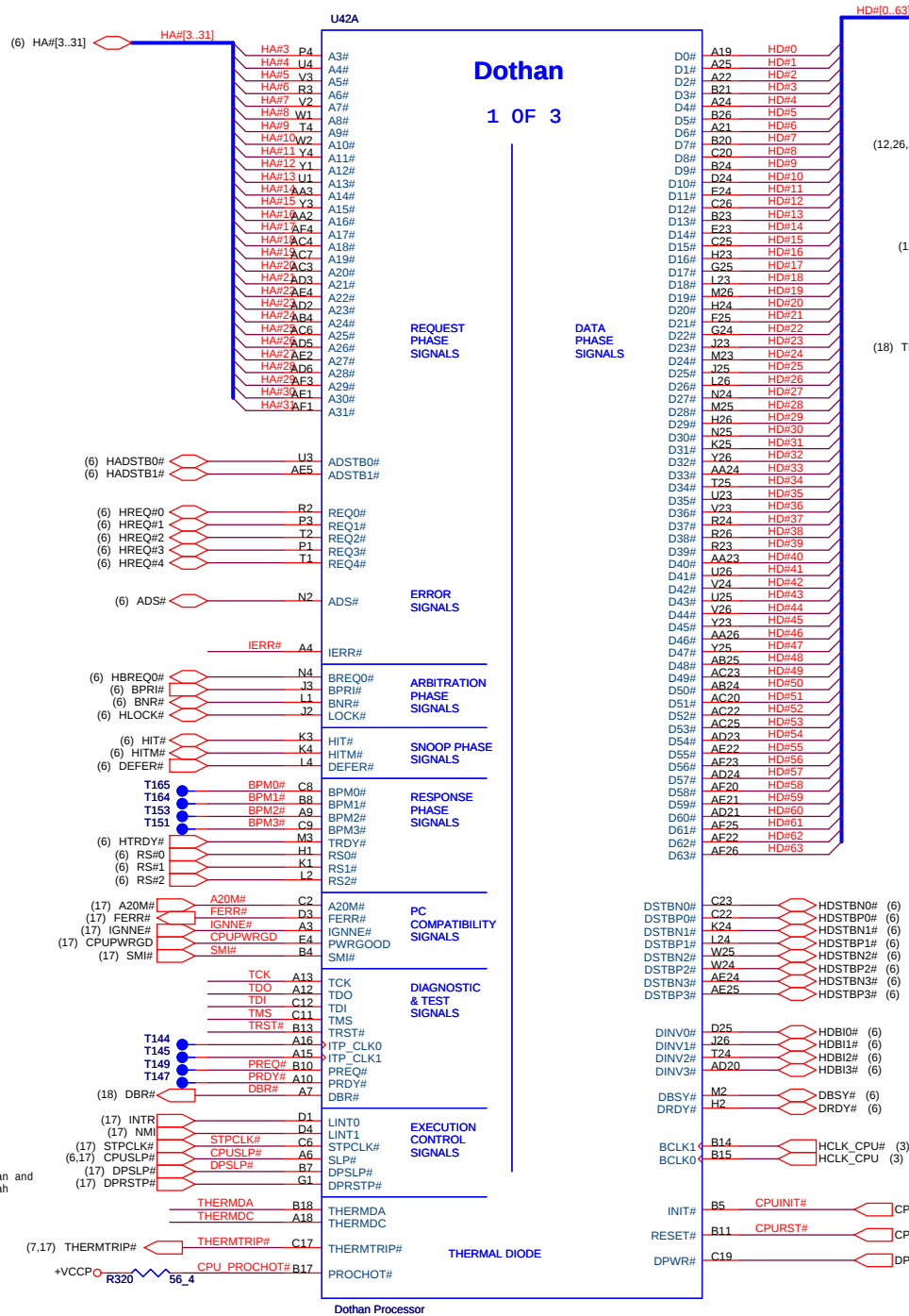
FSB Frequency	DOTHAN A-Step		DOTHAN B-Step	
	BSEL1	BSEL0	BSEL1	BSEL0
400 MHz	0	0	0	1
533 MHz	0	1	0	0

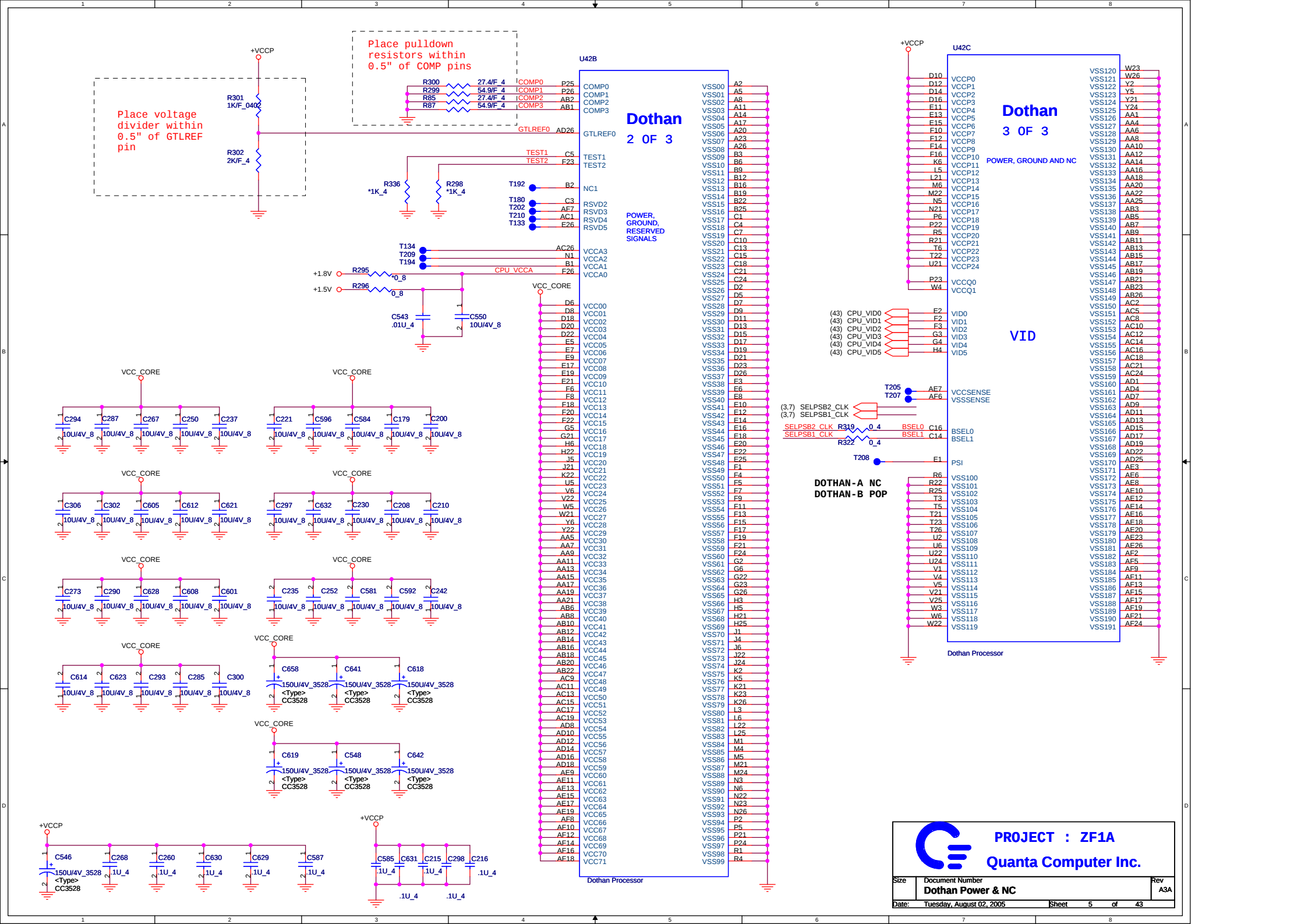


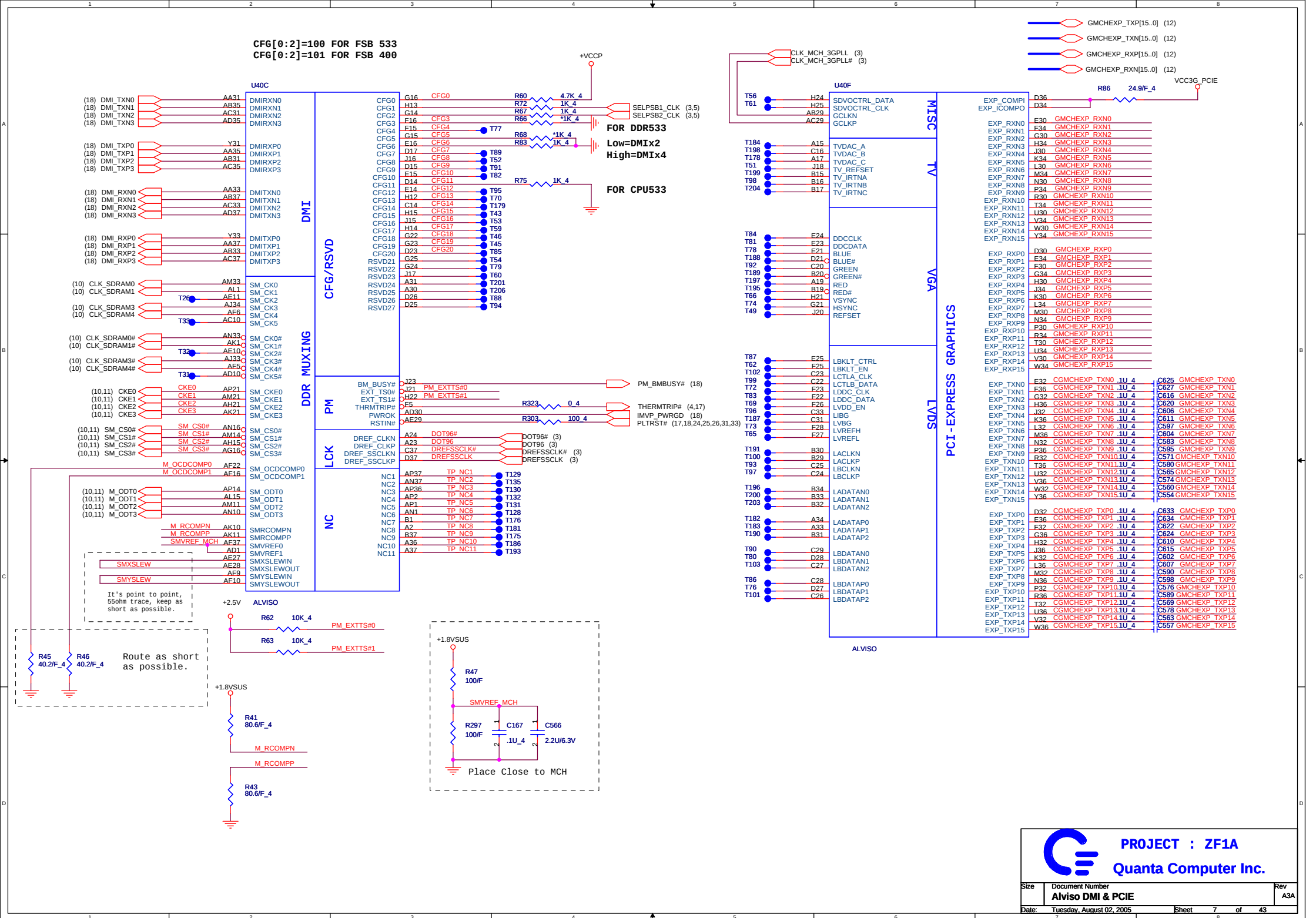
These are for backdrive issue



REV D Modify



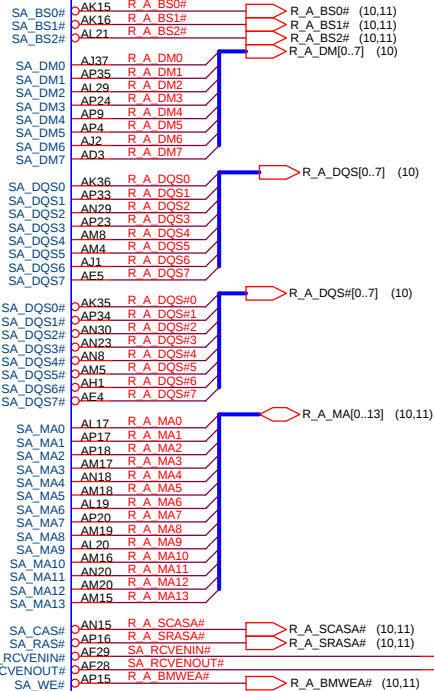




(10) R_A_MD[0..63]



DDR SYSTEM MEMORY A

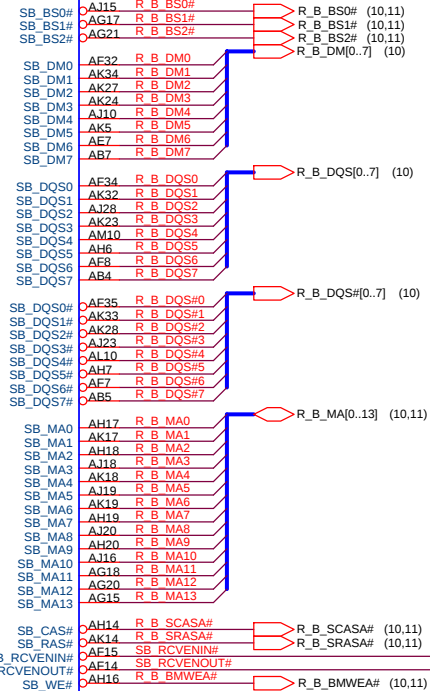


ALVISO

(10) R_B_MD[0..63]



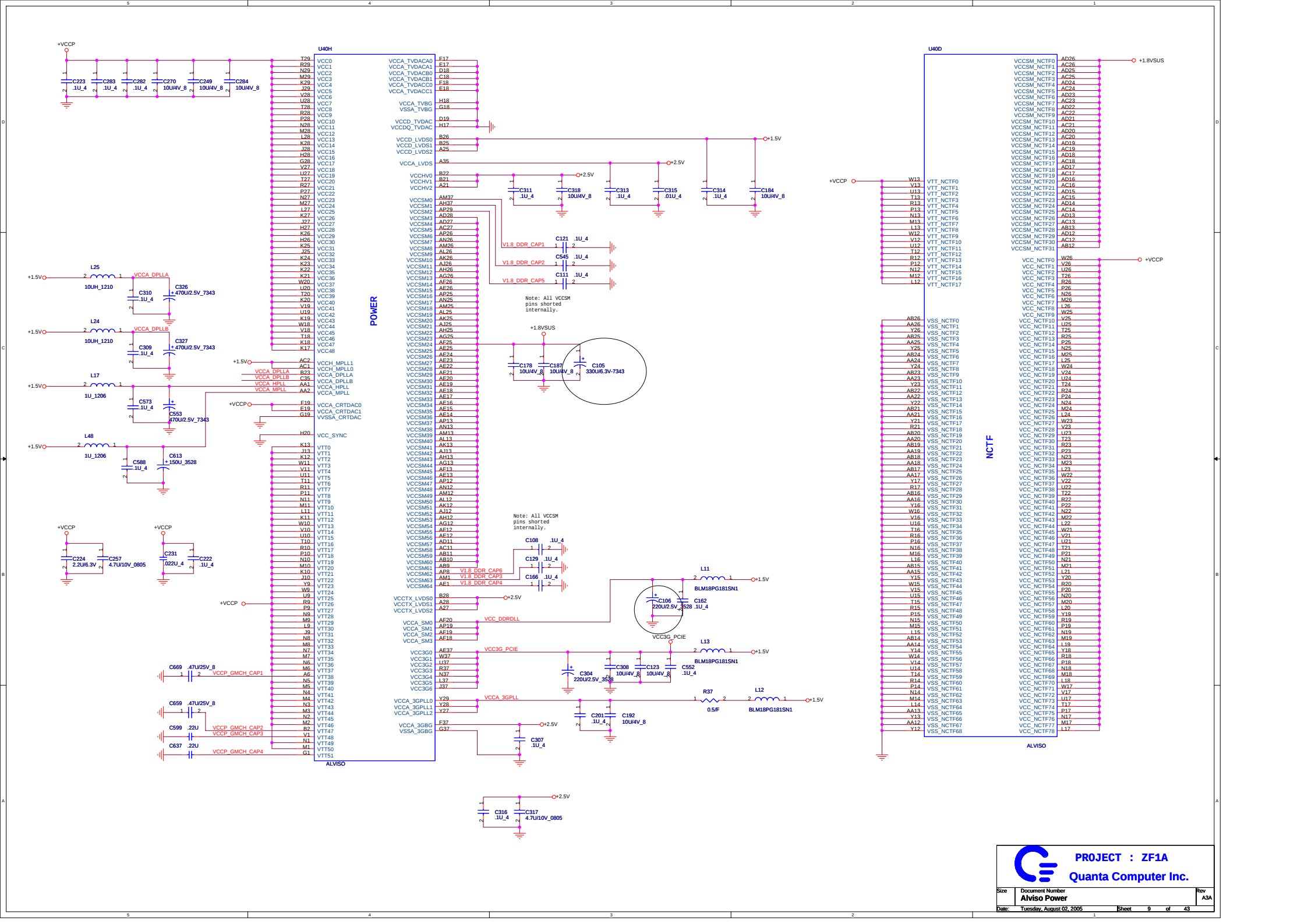
DDR SYSTEM MEMORY B

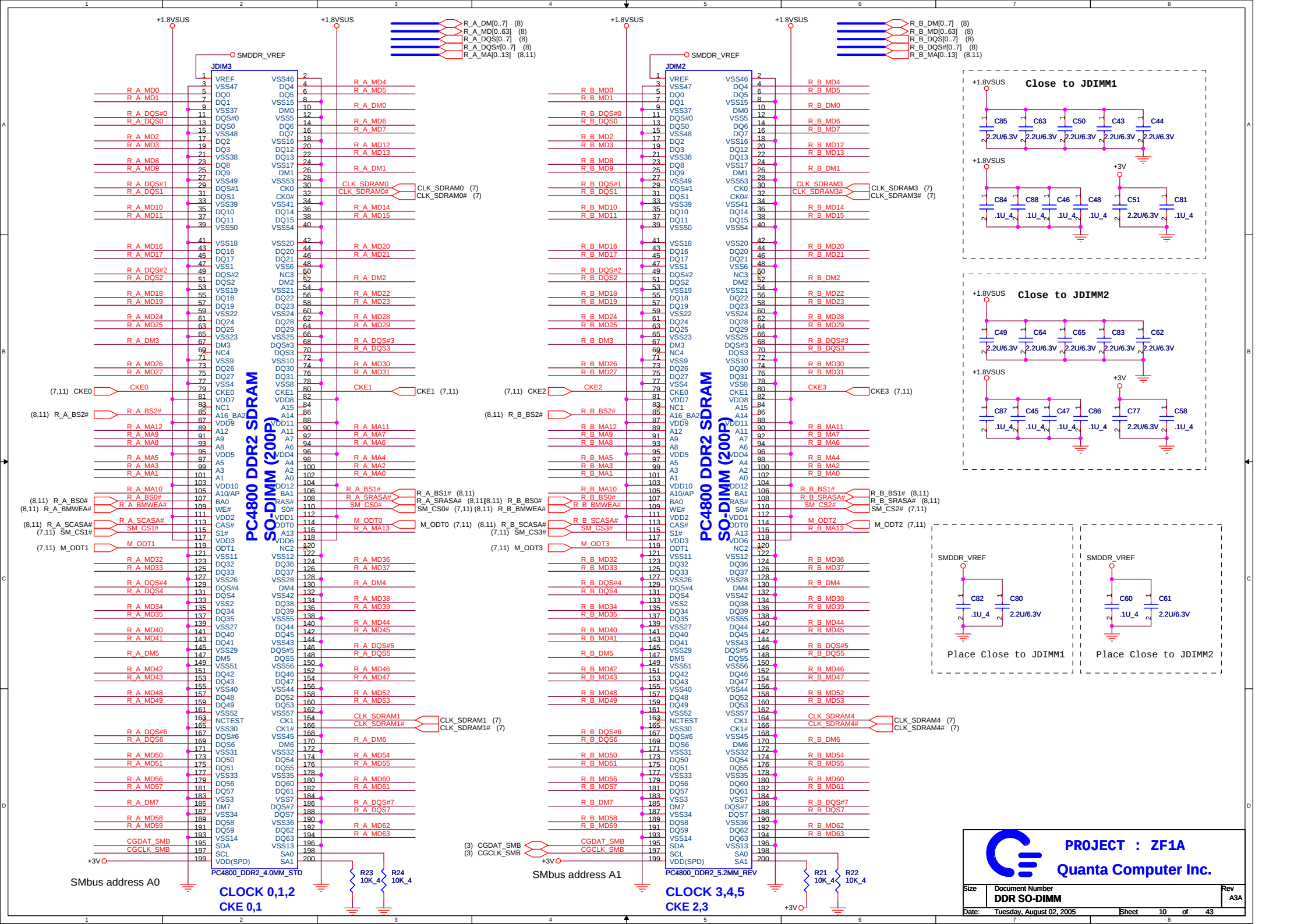


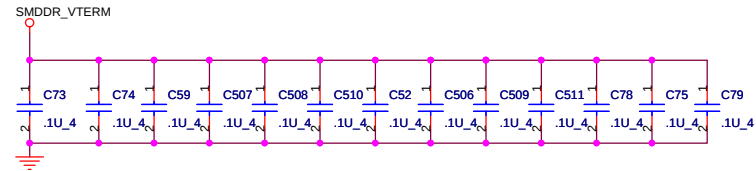
ALVISO



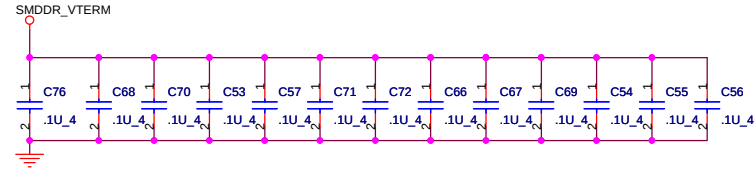
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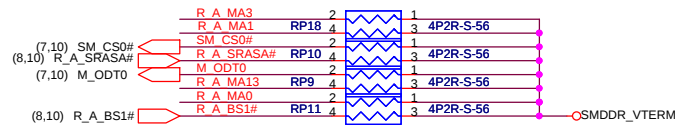
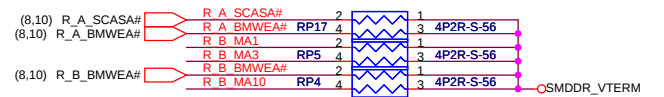
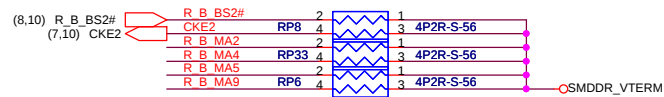
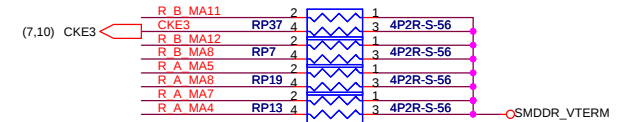
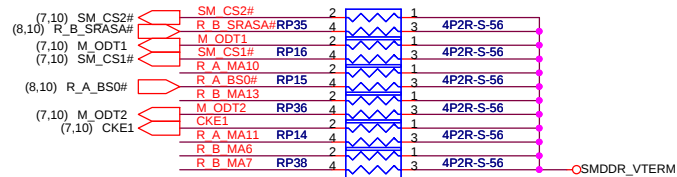
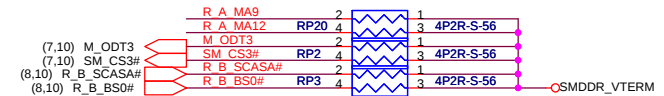
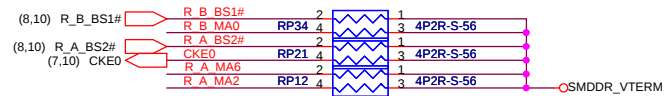


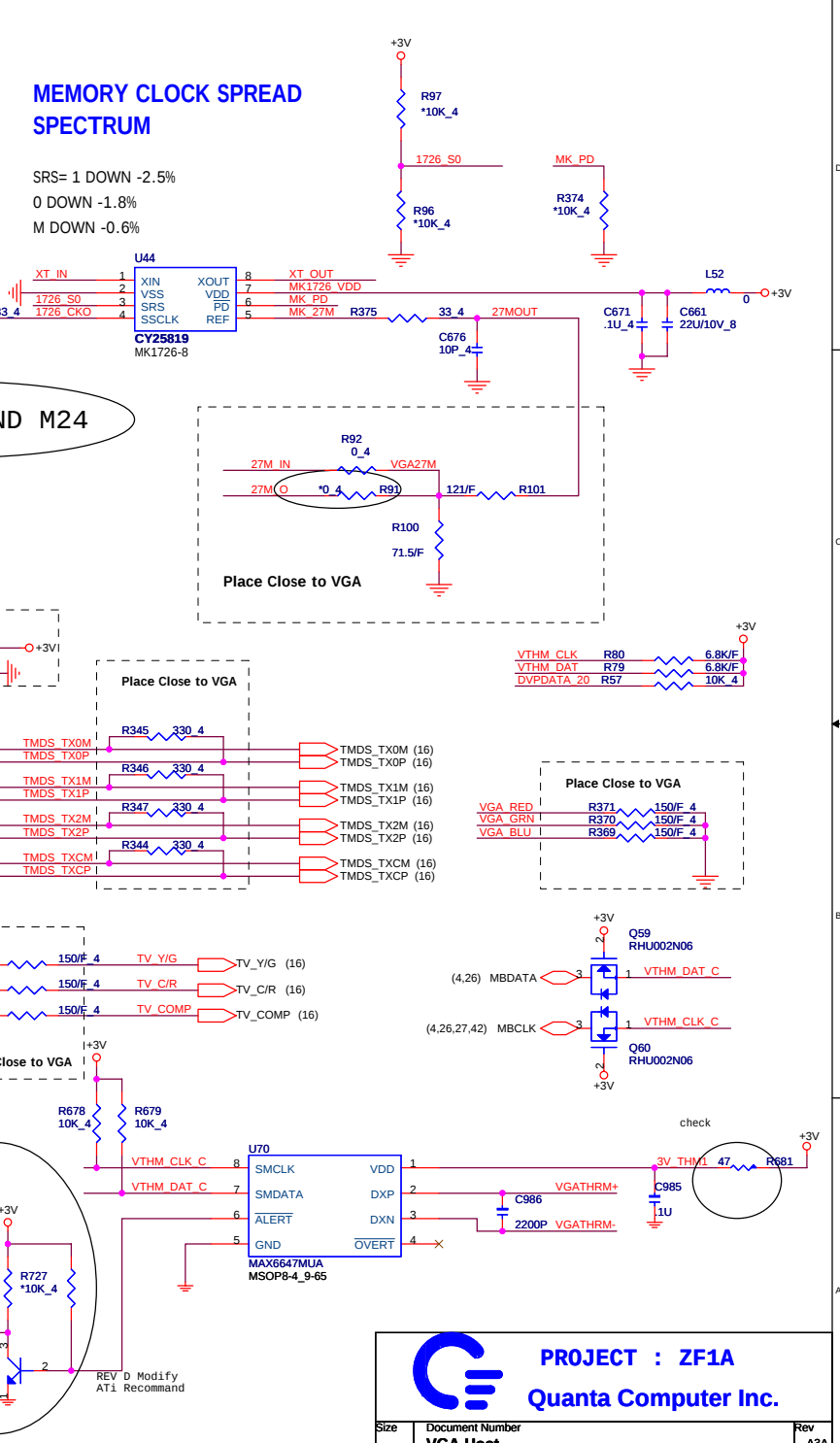
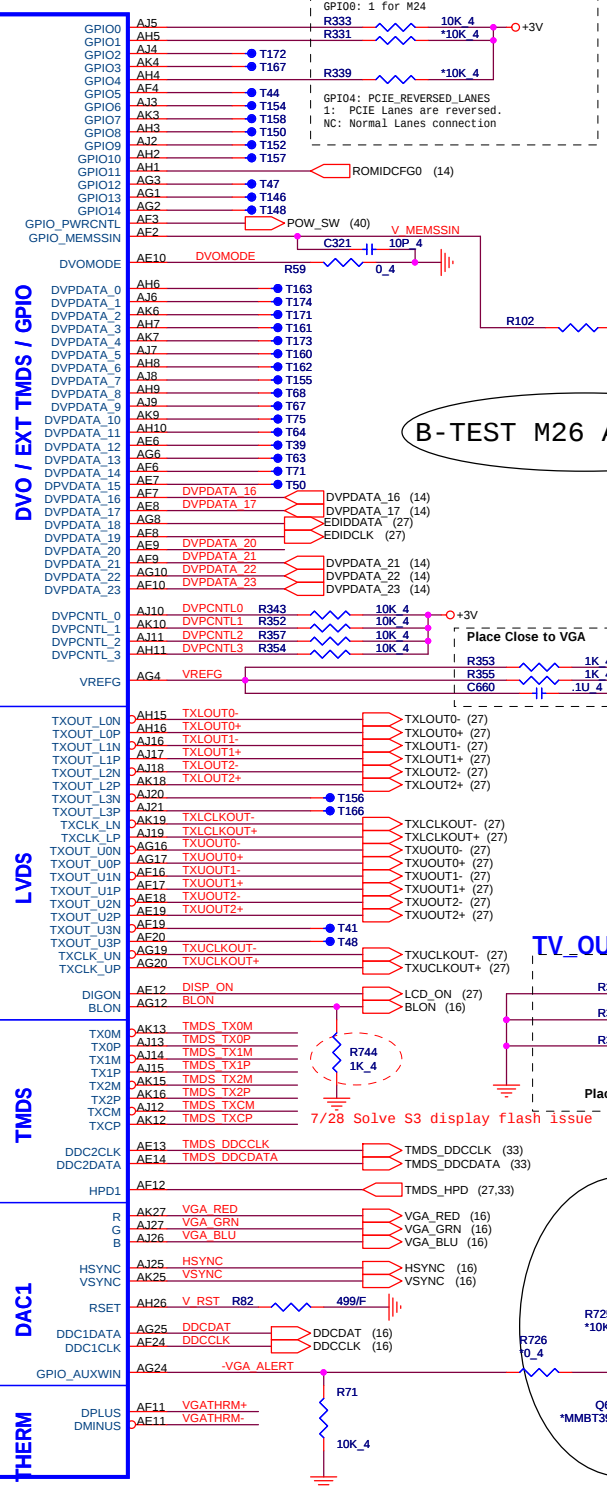
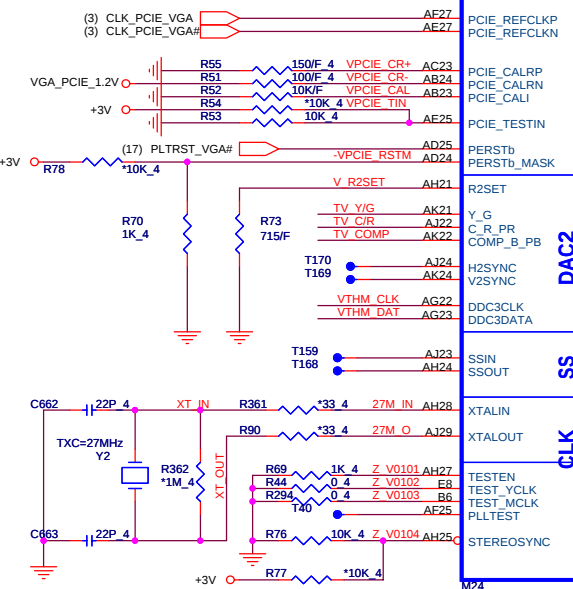
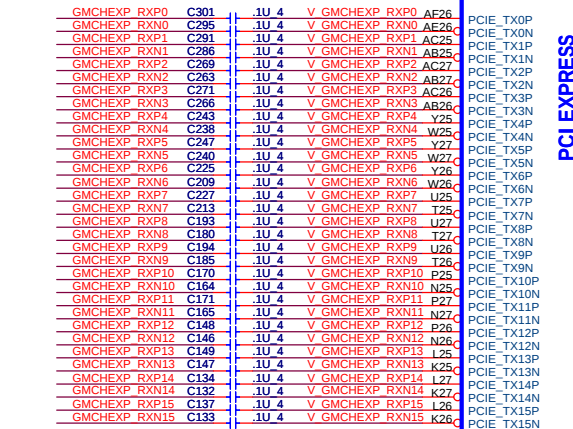


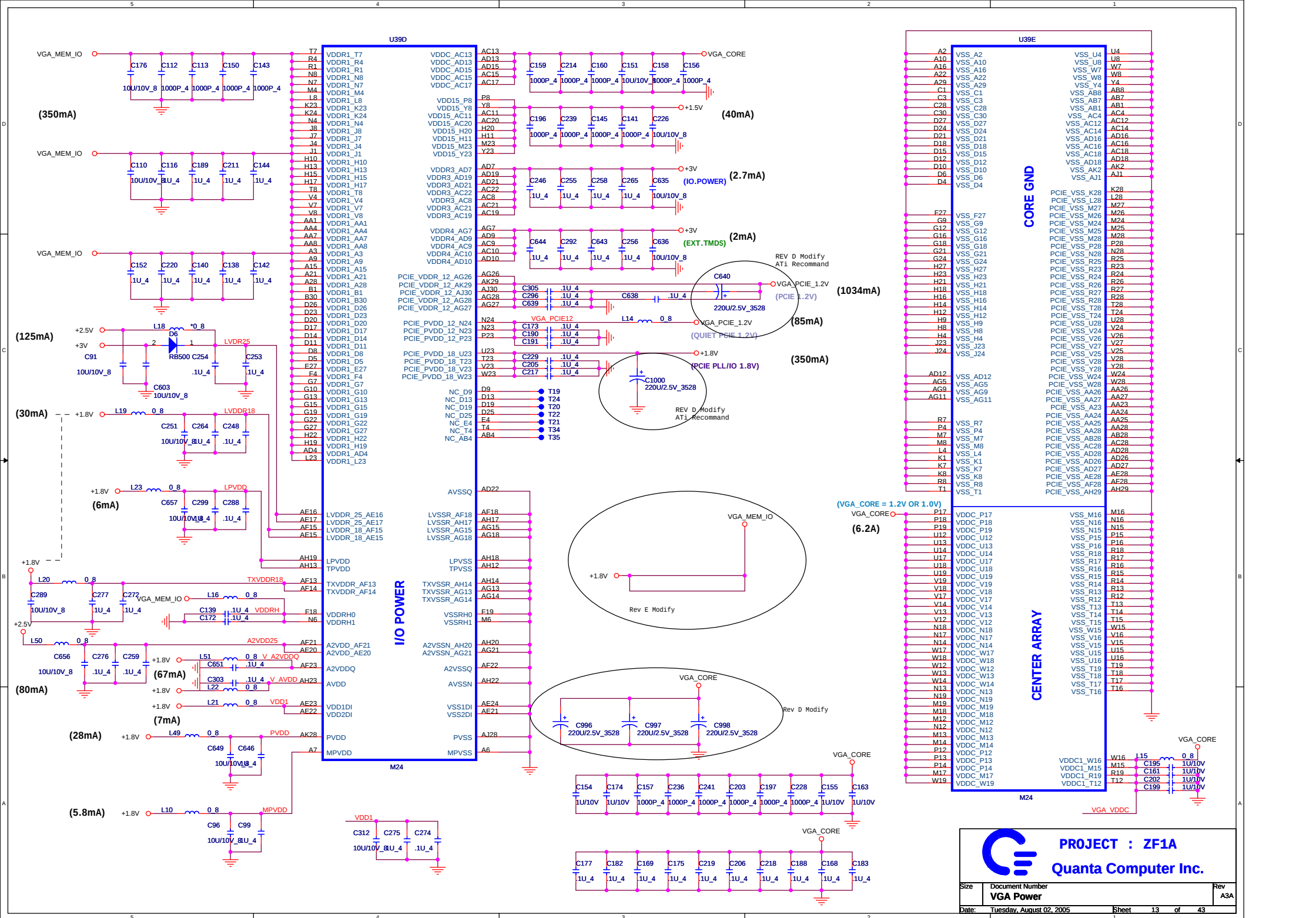
Layout note: Place one cap close to every 2 pullup resistors terminated to SMDDR_VTERM

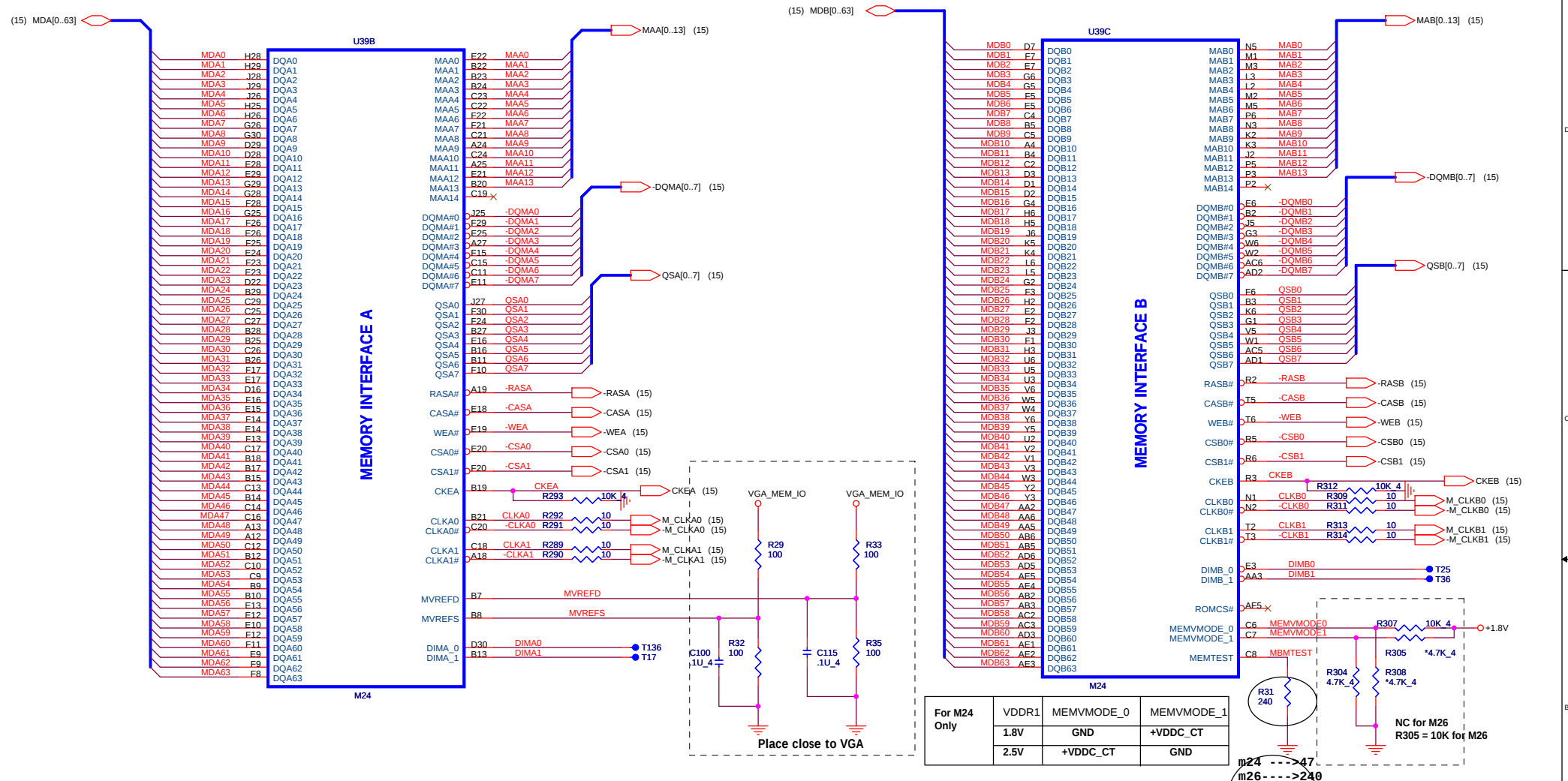


Layout note: Place one cap close to every 2 pullup resistors terminated to SMDDR_VTERM



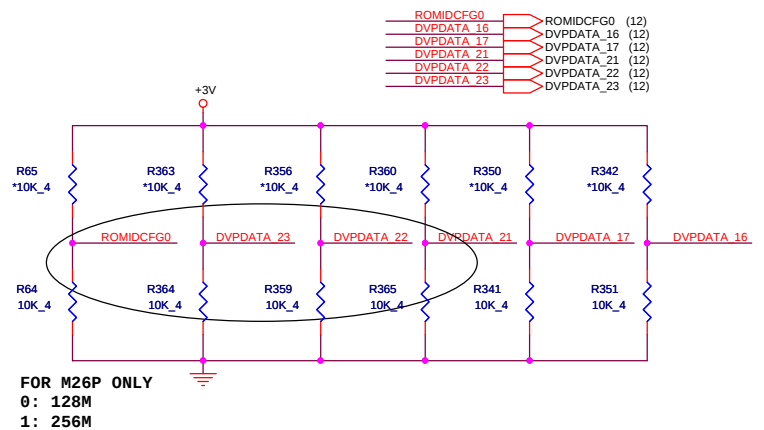






STRAPS PIN

GPIO(9,13:11) INT P/D	ROMIDCFG
	0x0x: No ROM, CHG_ID=0 0x1x: No Rom, CHG_ID=1 1000: Parallel ROM, Chip ID'S from ROM 1000: Parallel ROM, Chip ID'S from ROM
DVPDATA_21-23 MEM TYPE	DVPDATA_21: 0=4Mx32 1=8Mx32 DVPDATA_22: 0=128M 1=64M DVPDATA_23: 0=Hynix 1=Samsung

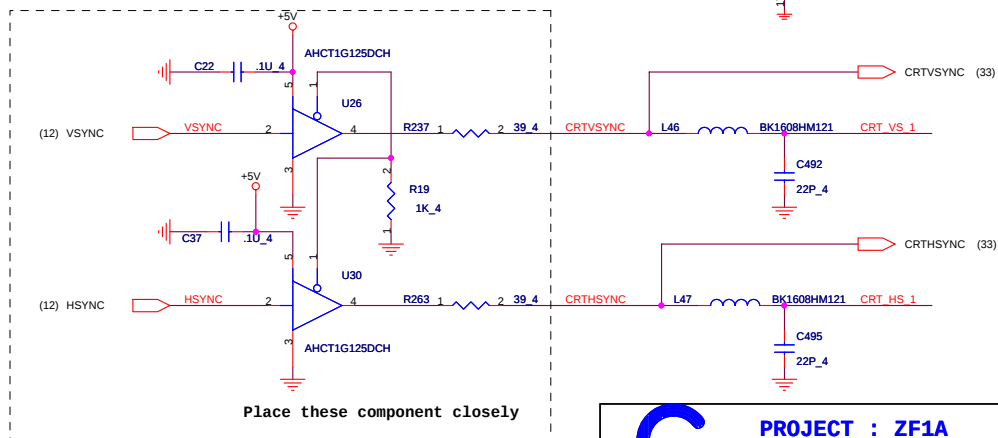
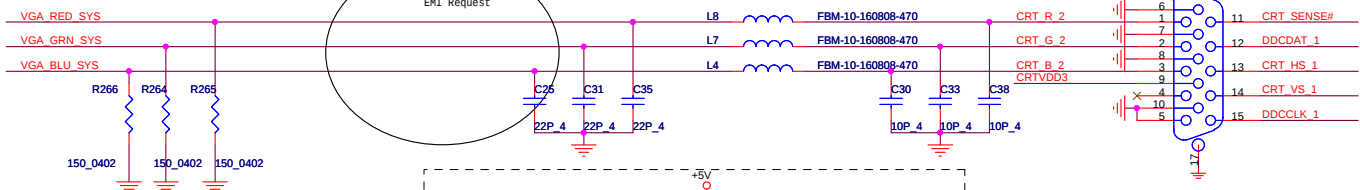
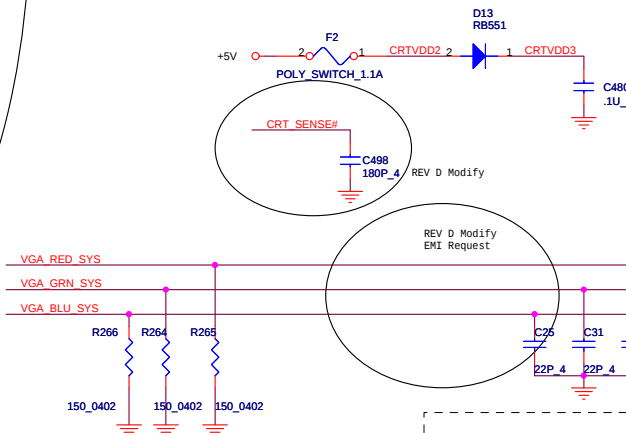
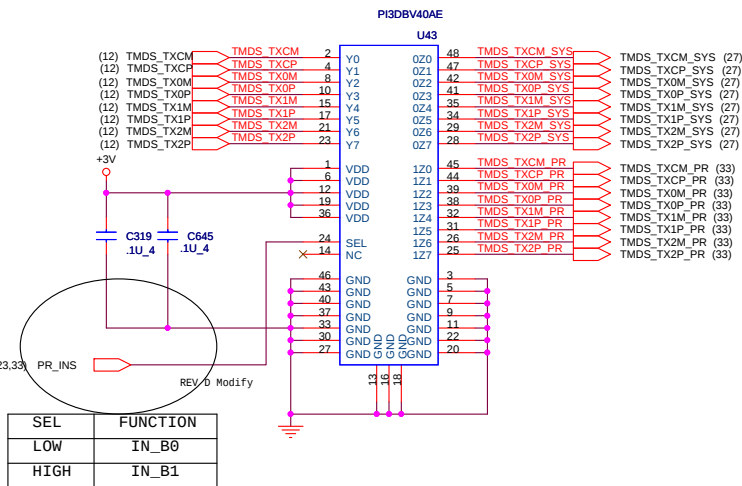
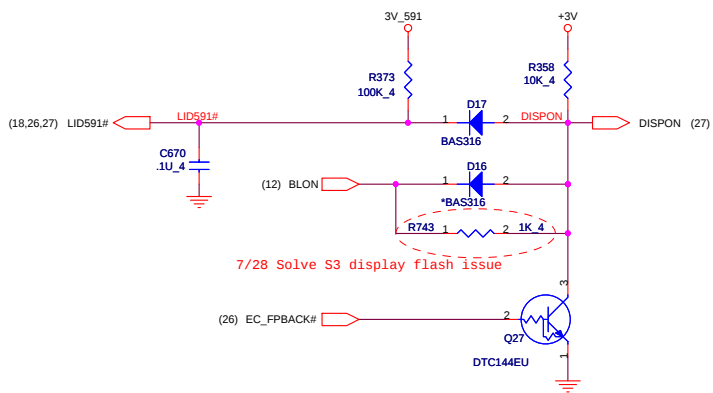
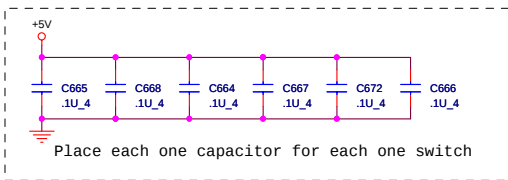
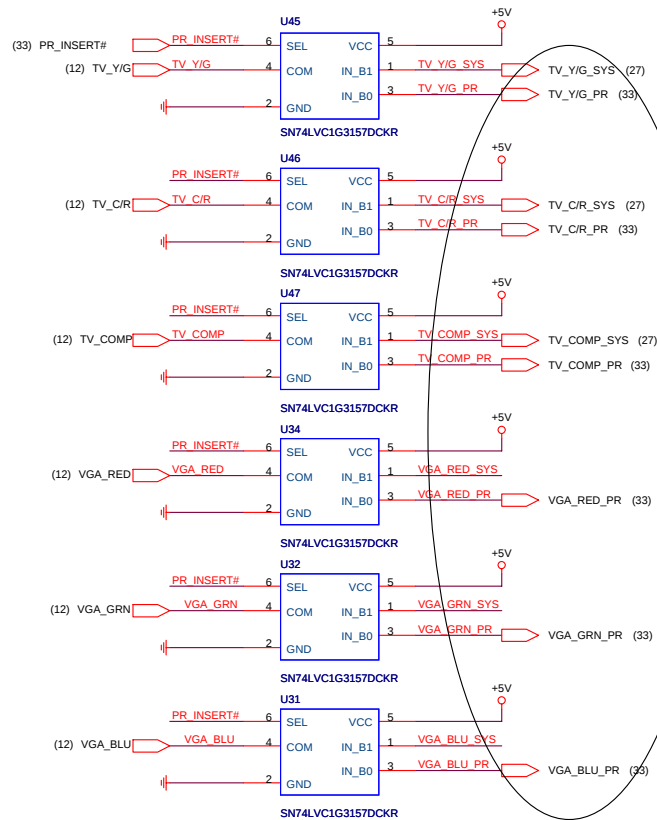


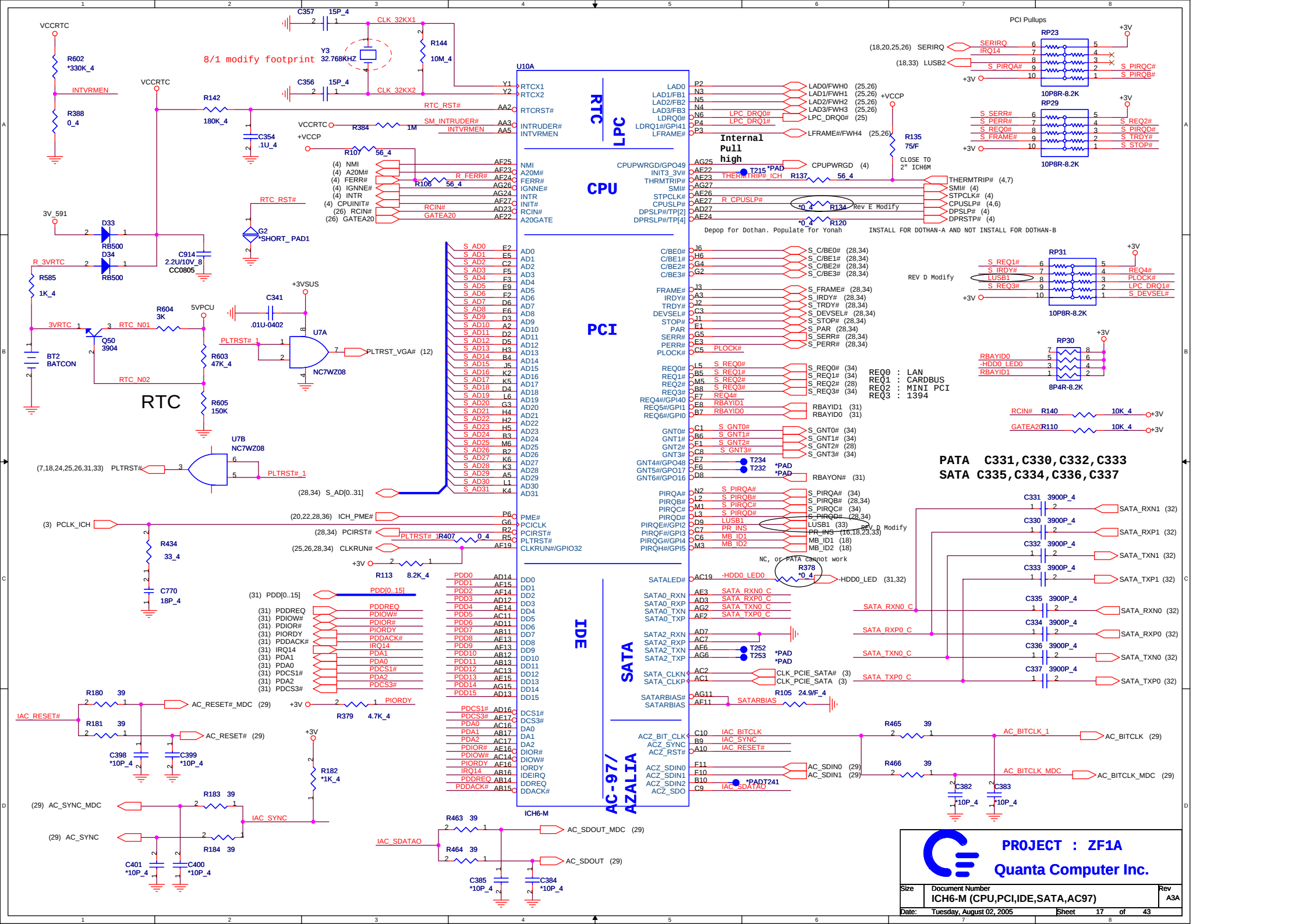


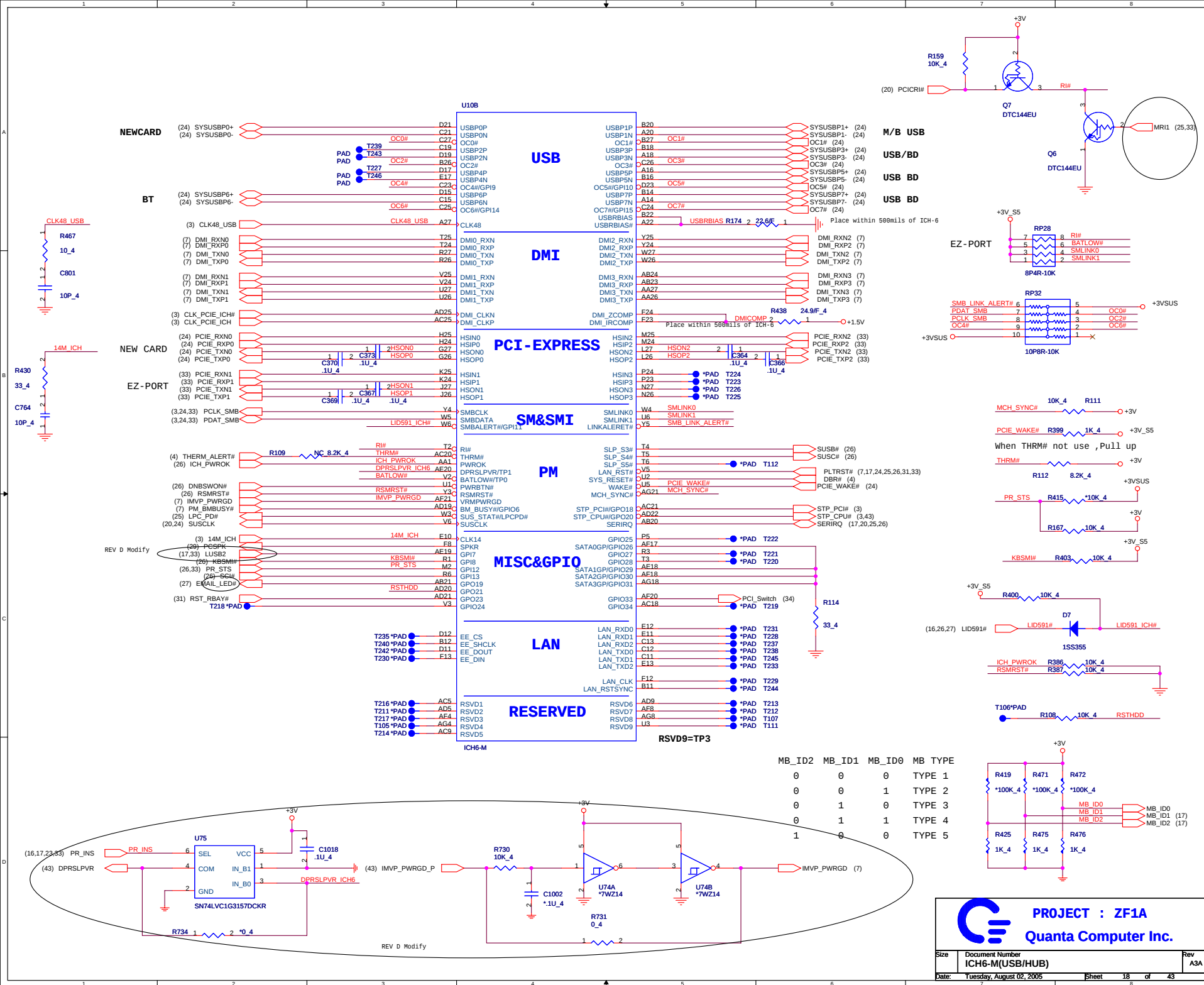
PROJECT : ZF1A

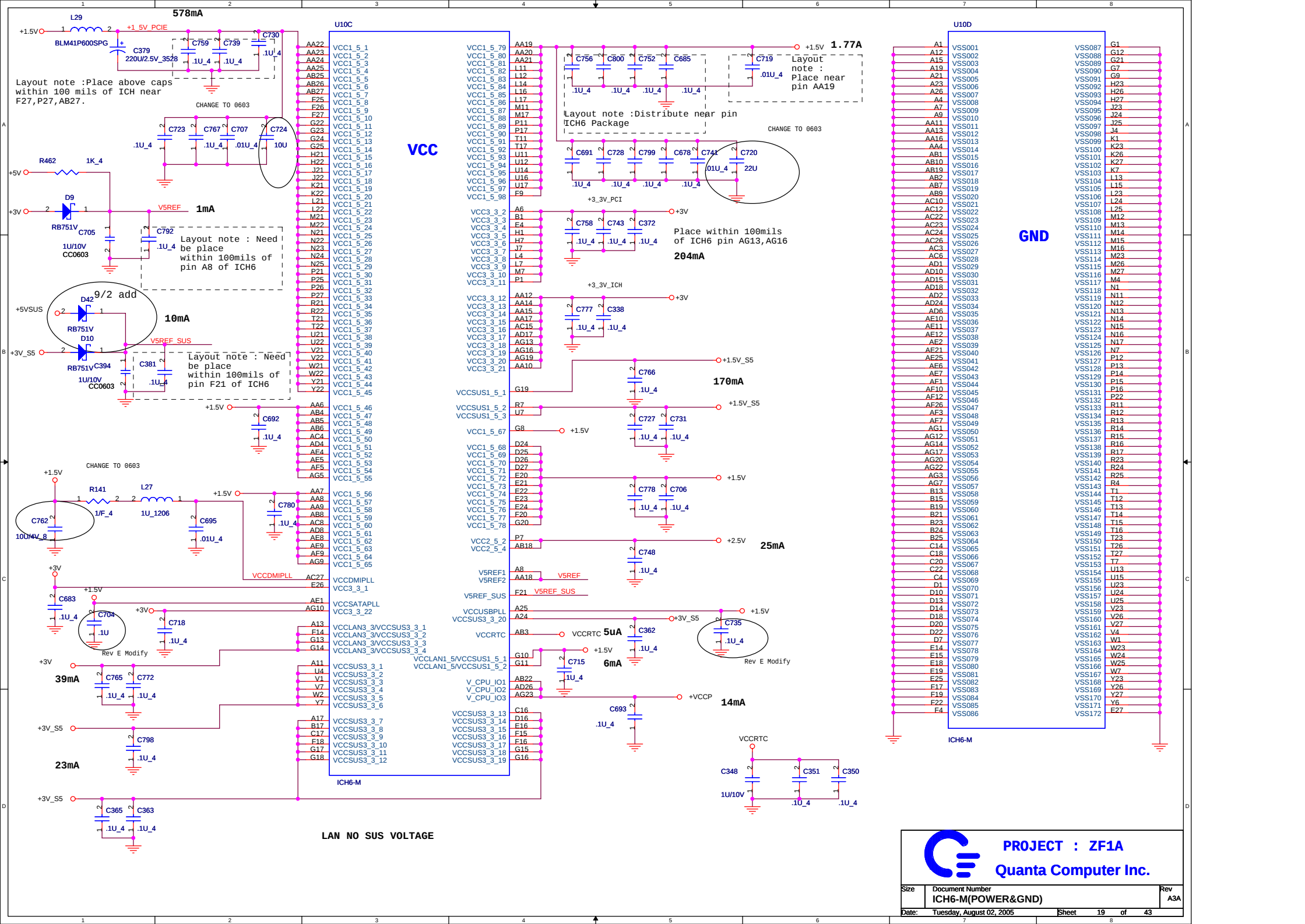
Quanta Computer Inc.

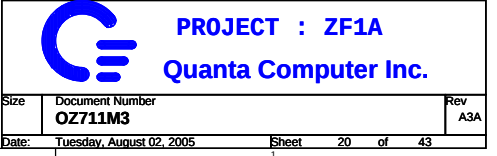
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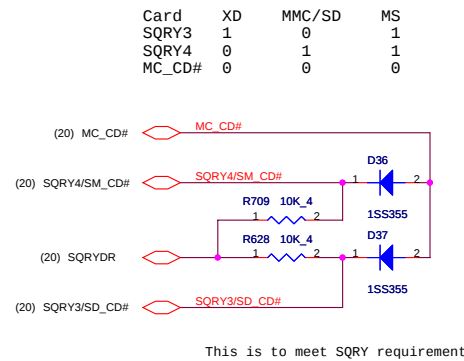
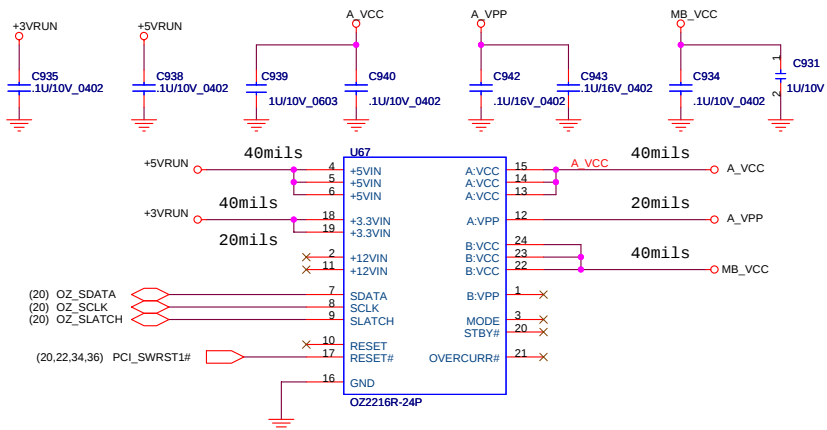




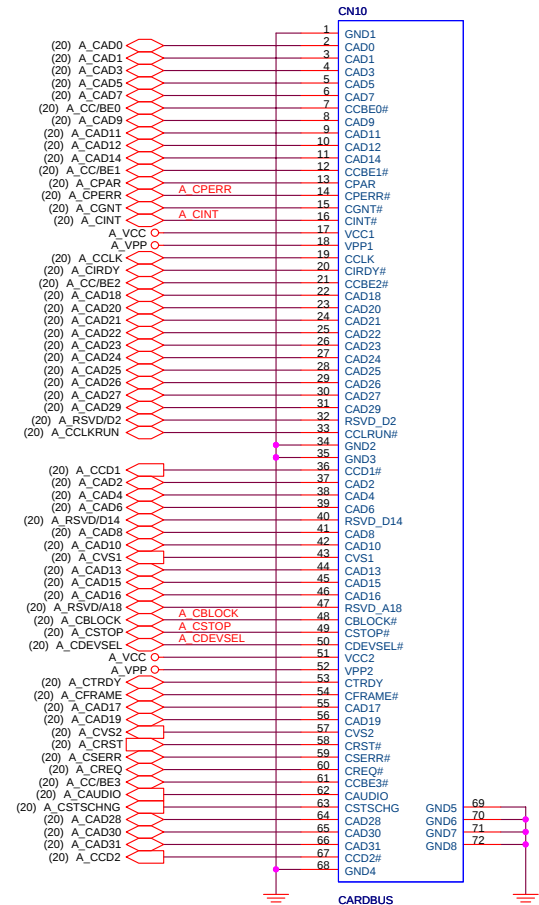
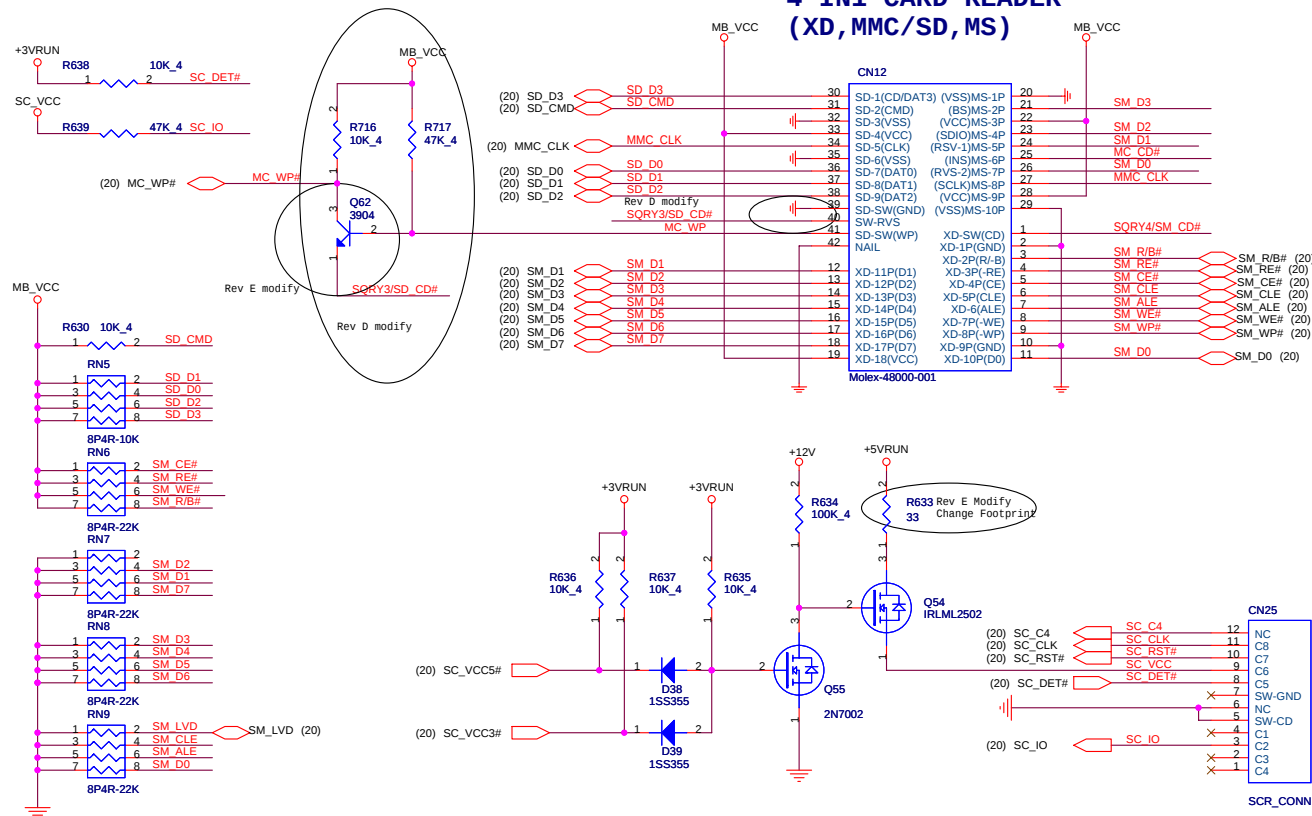




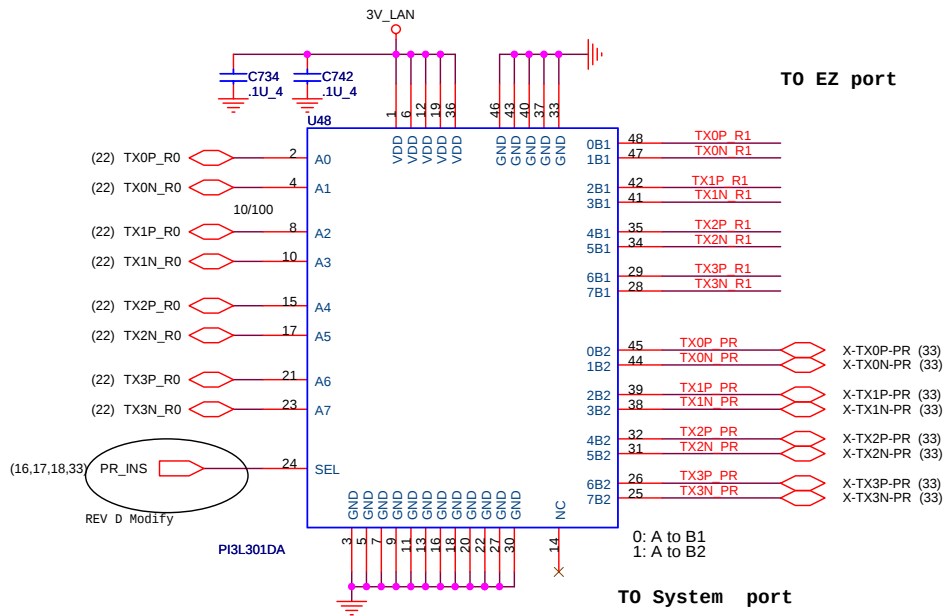




4 IN1 CARD READER (XD, MMC/SD, MS)

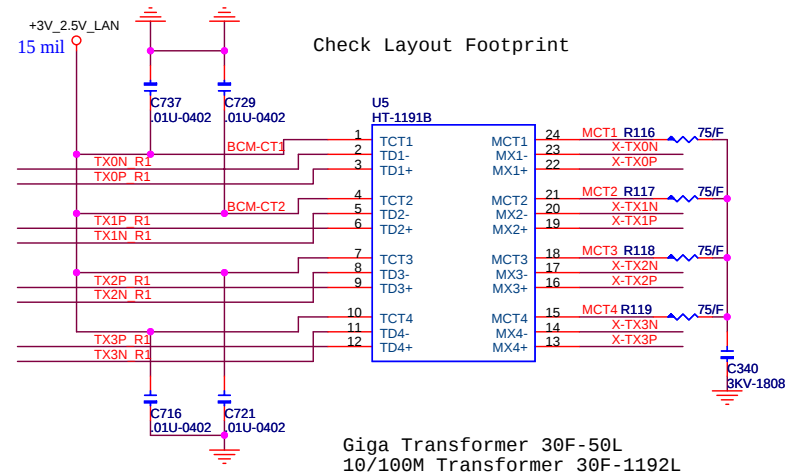


Lan Switch



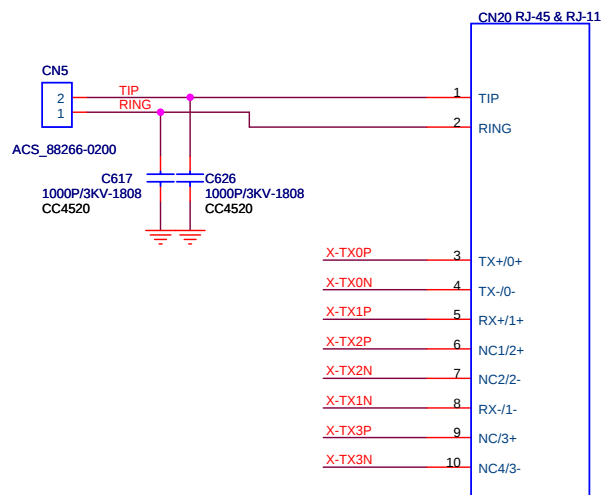
10/100/1000 M TRANSFORMER

Check Layout Footprint



LAN and RJ11 Jack

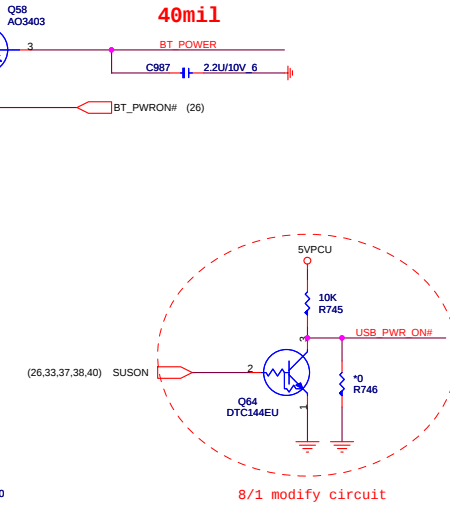
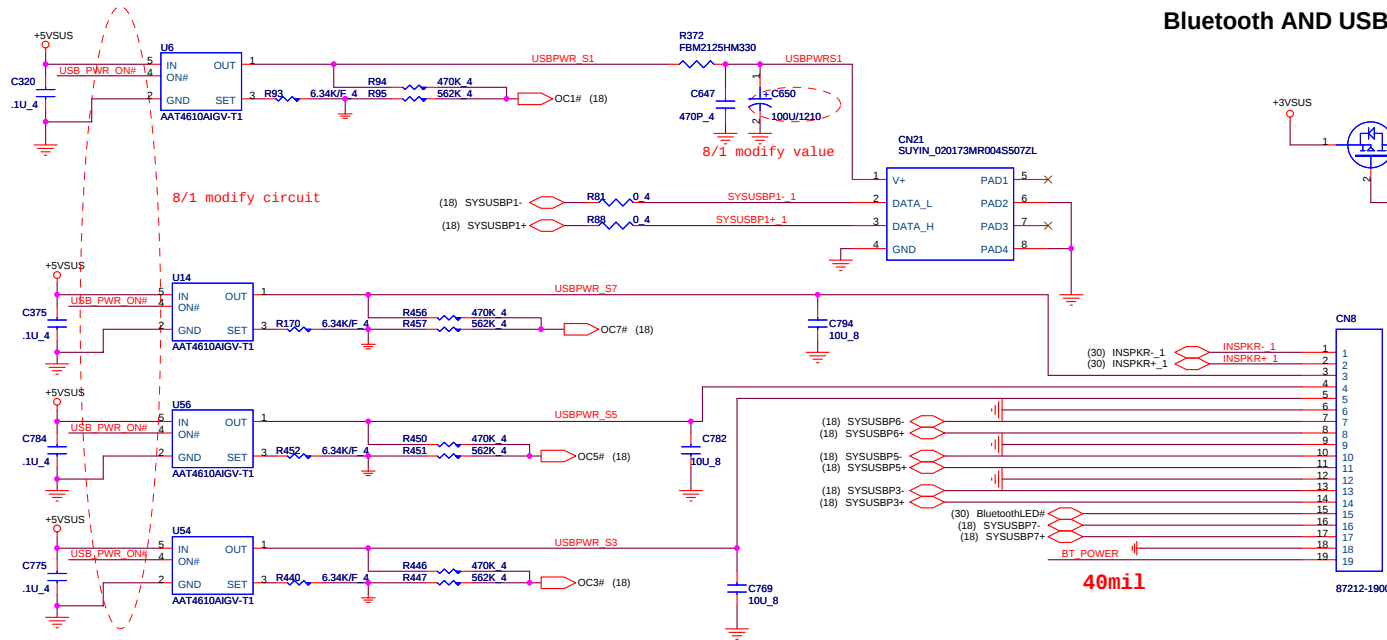
Check Layout Footprint



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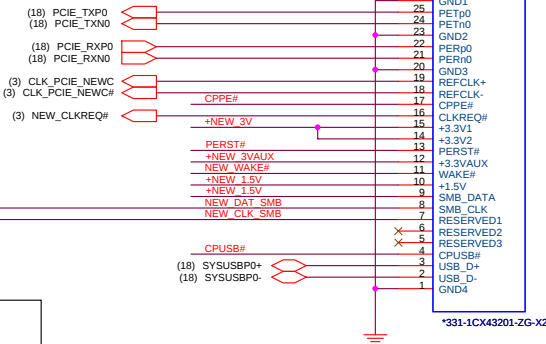
USB Connector and USB board

Bluetooth AND USB Connector

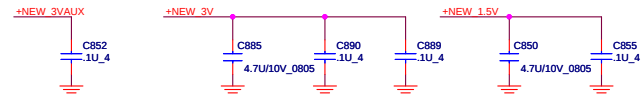


NewCard

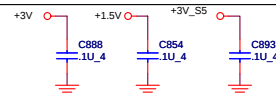
9/1 ADD



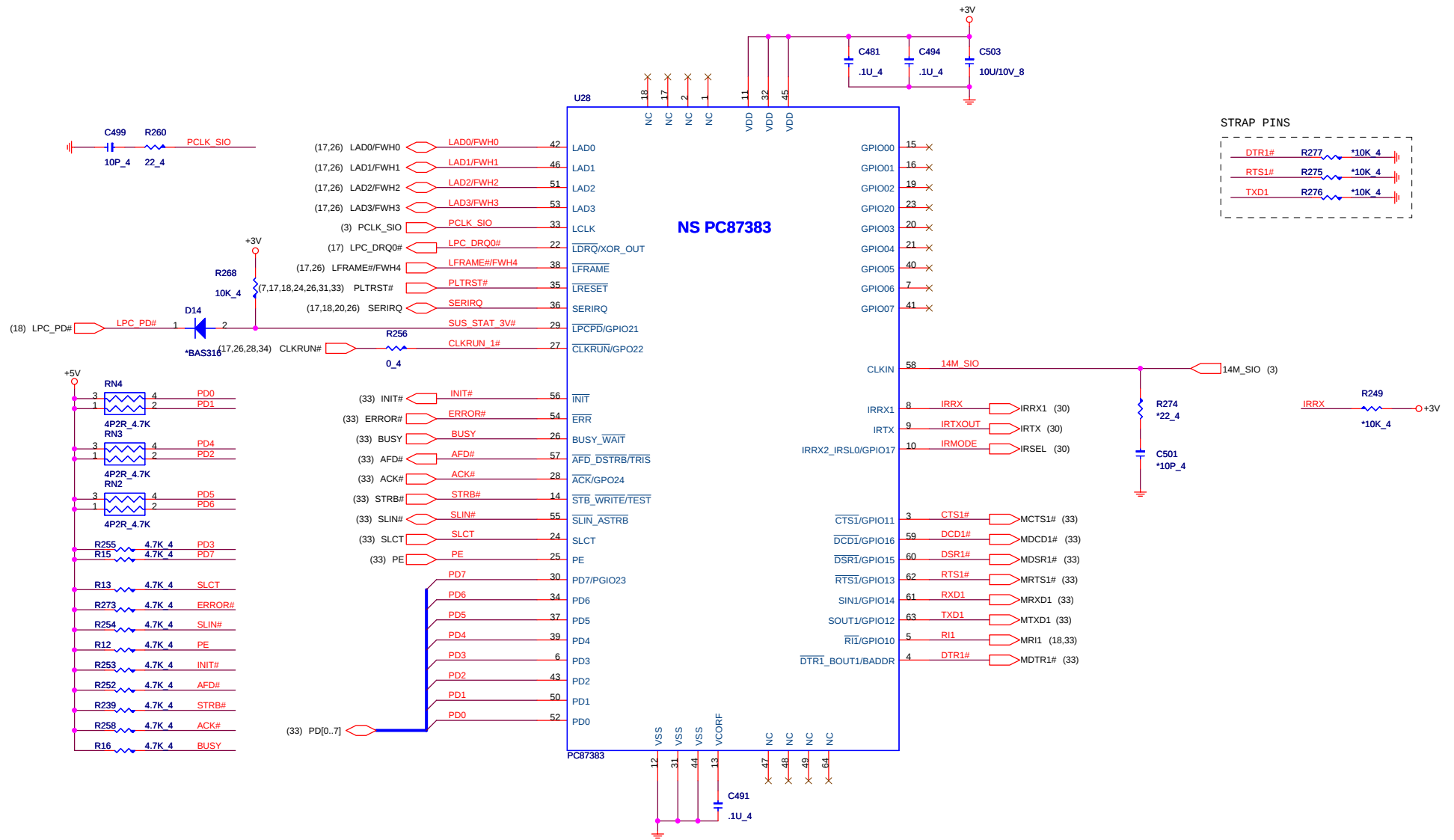
Decoupling C ,Please
close NewCard
Connector



Decoupling C ,Please
close 02710

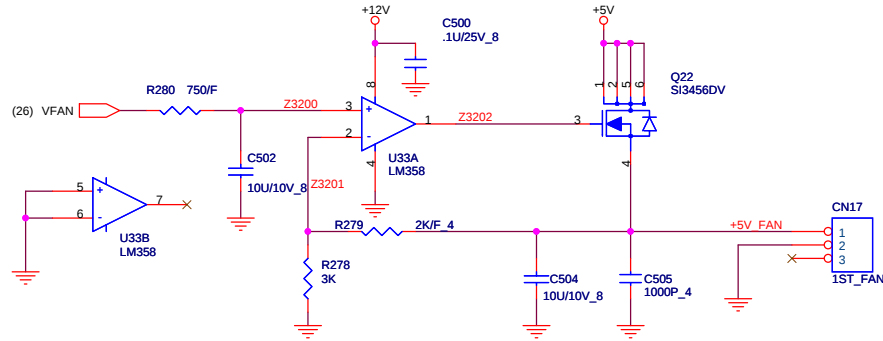


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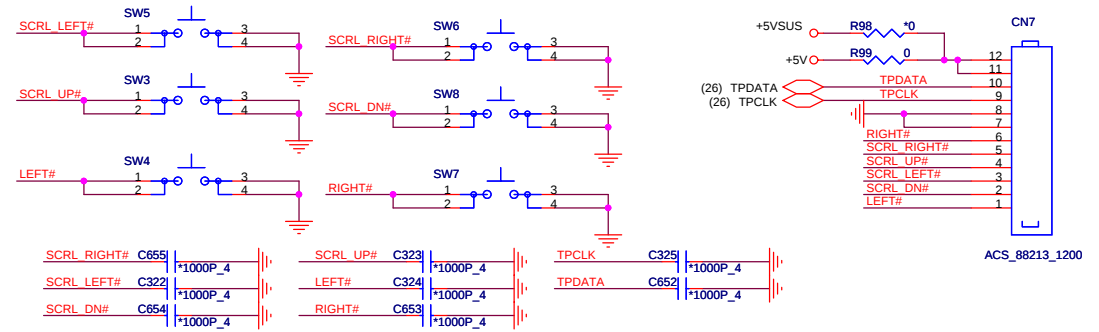


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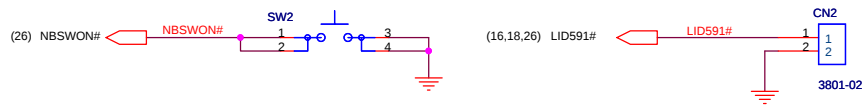
1st FAN OUT CONNECTOR



TouchPad Switch and T/P Module Connector

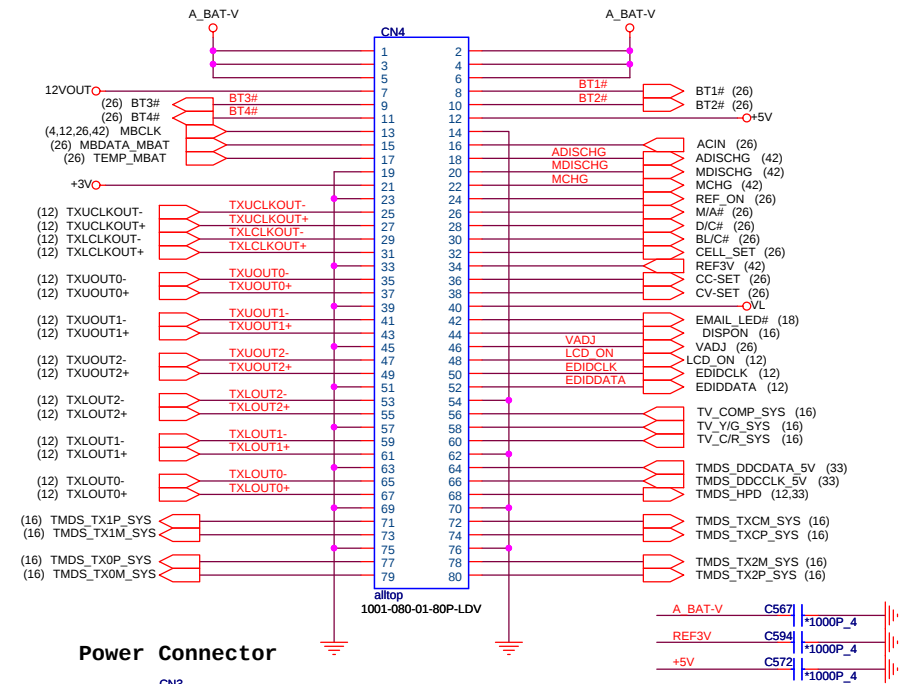
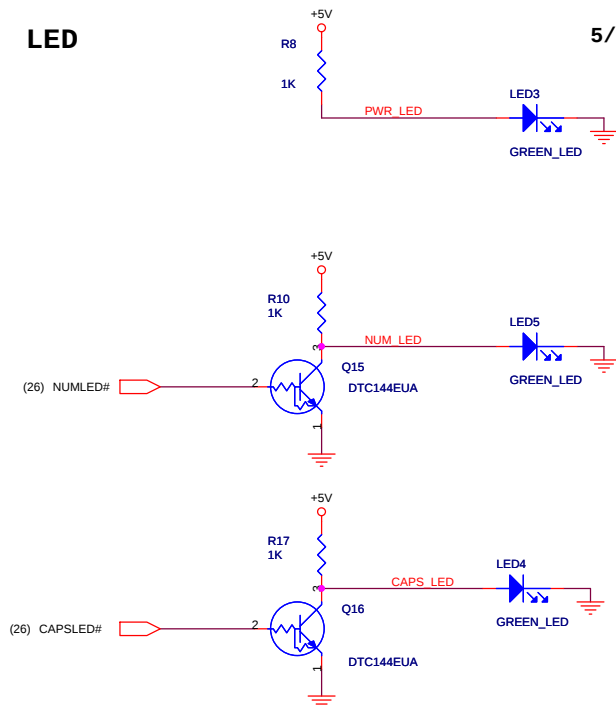


Power Switch

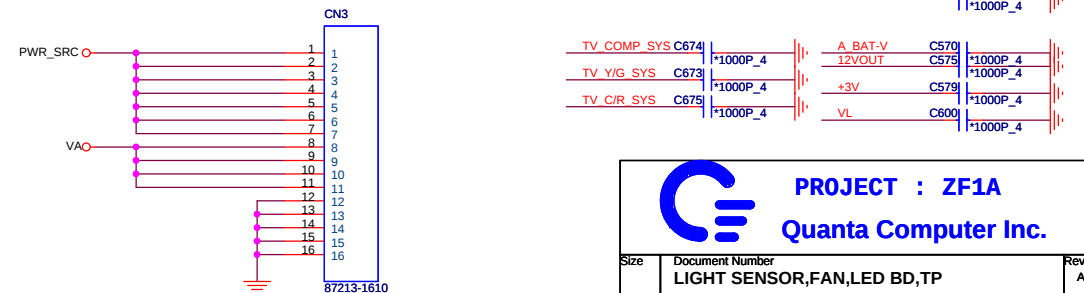


LED

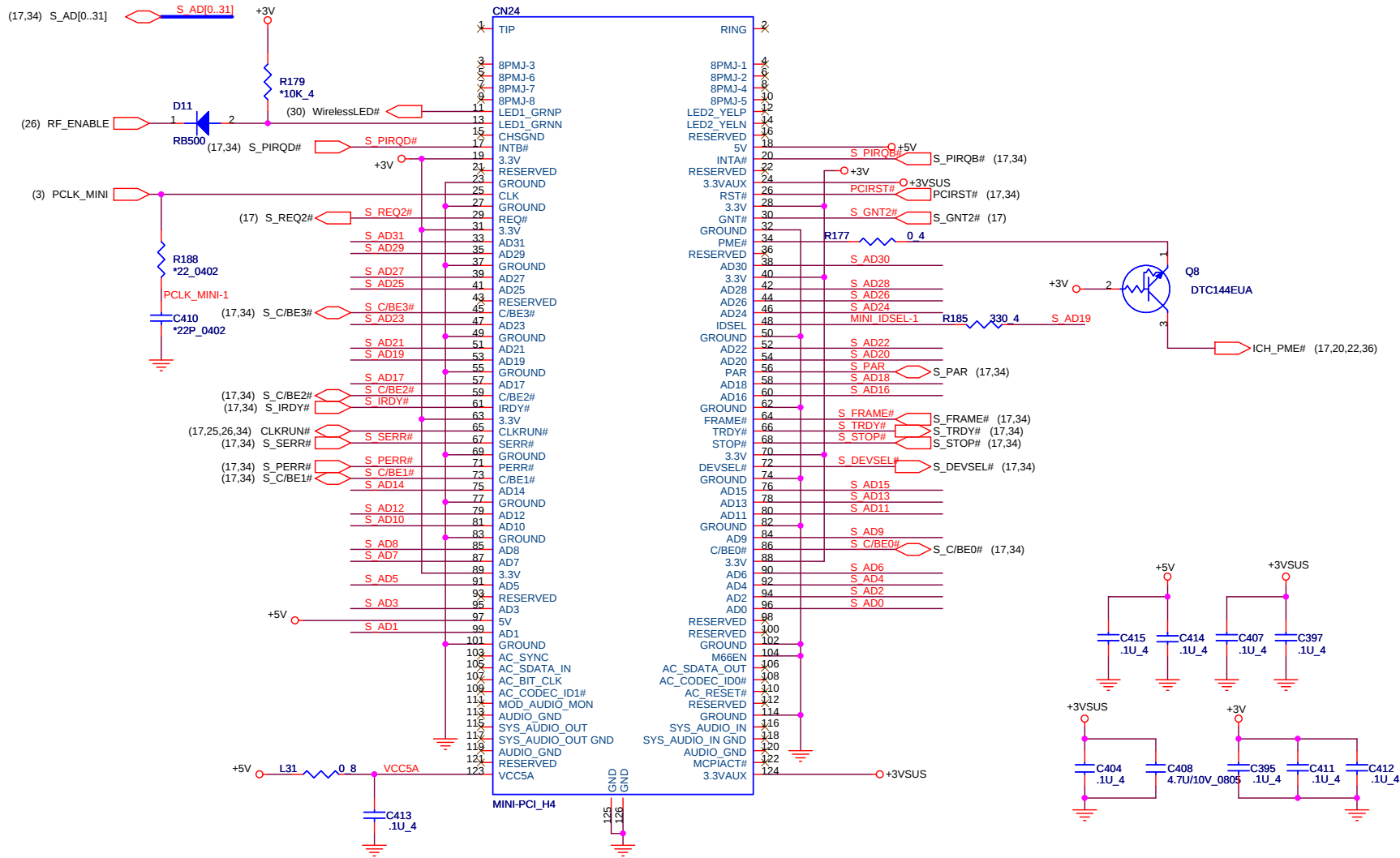
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Power Connector

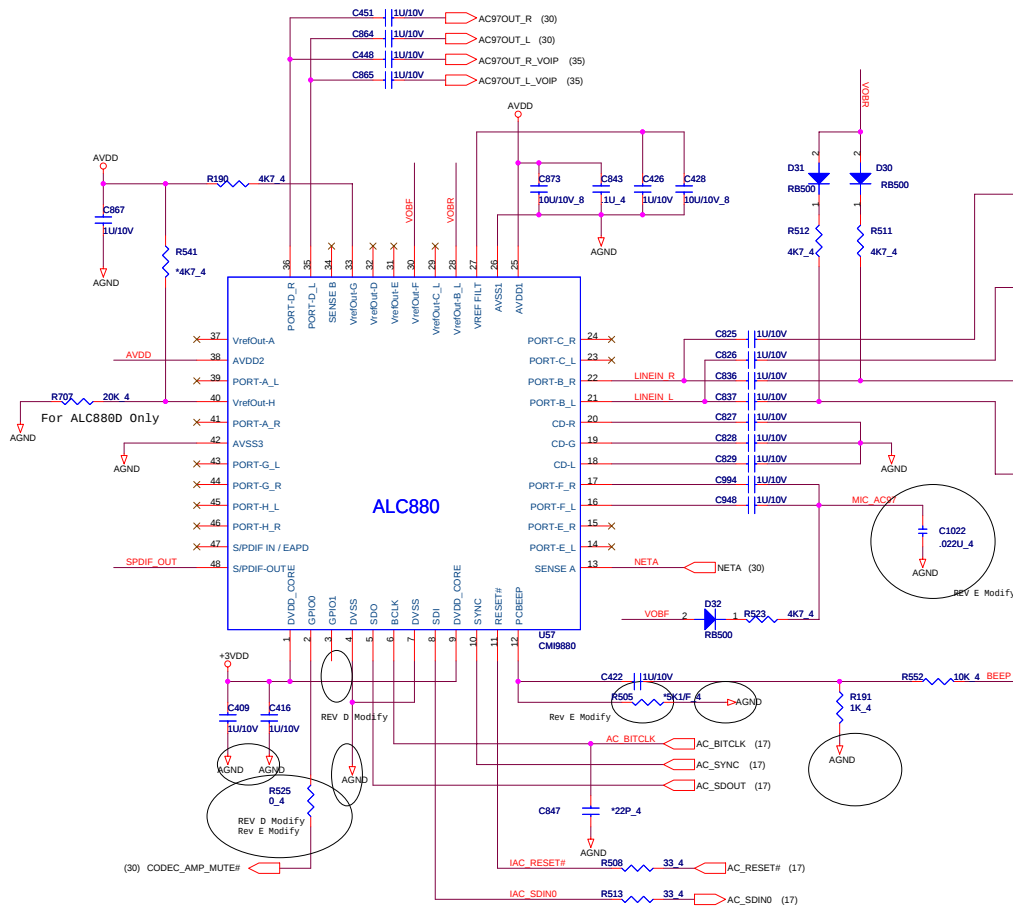


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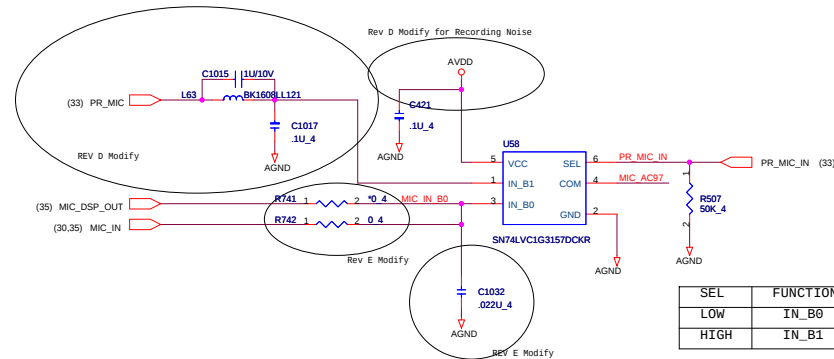
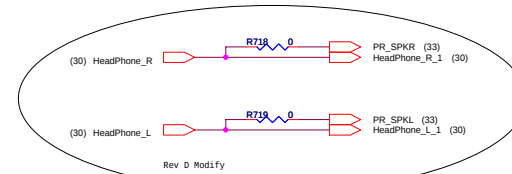
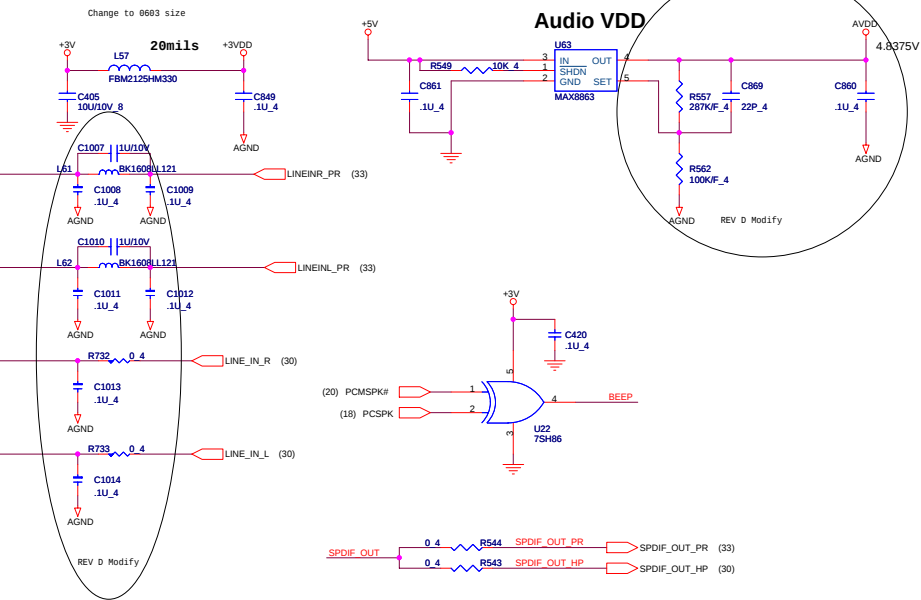
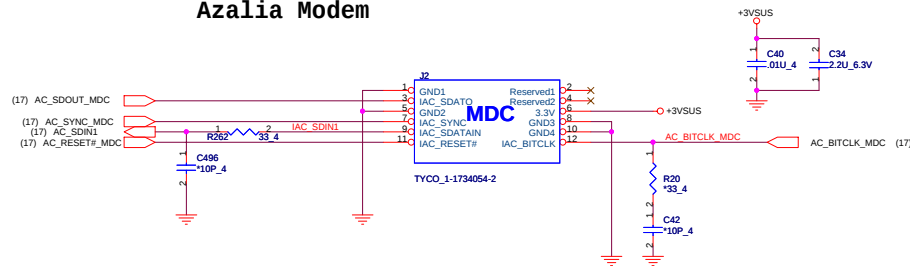


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Quanta Computer Inc.

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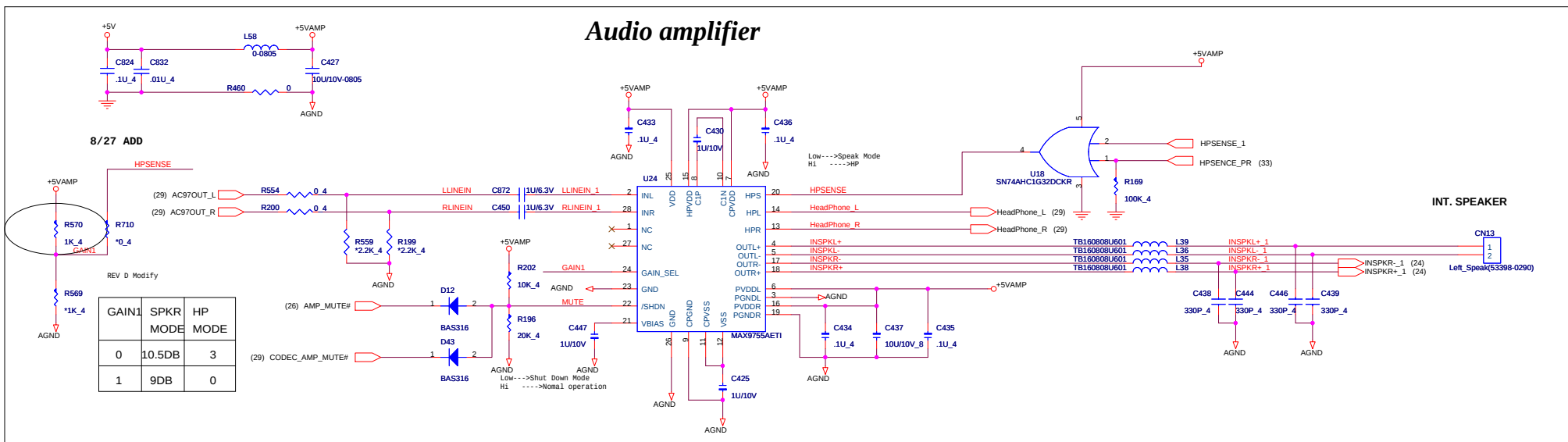
Azalia Modem



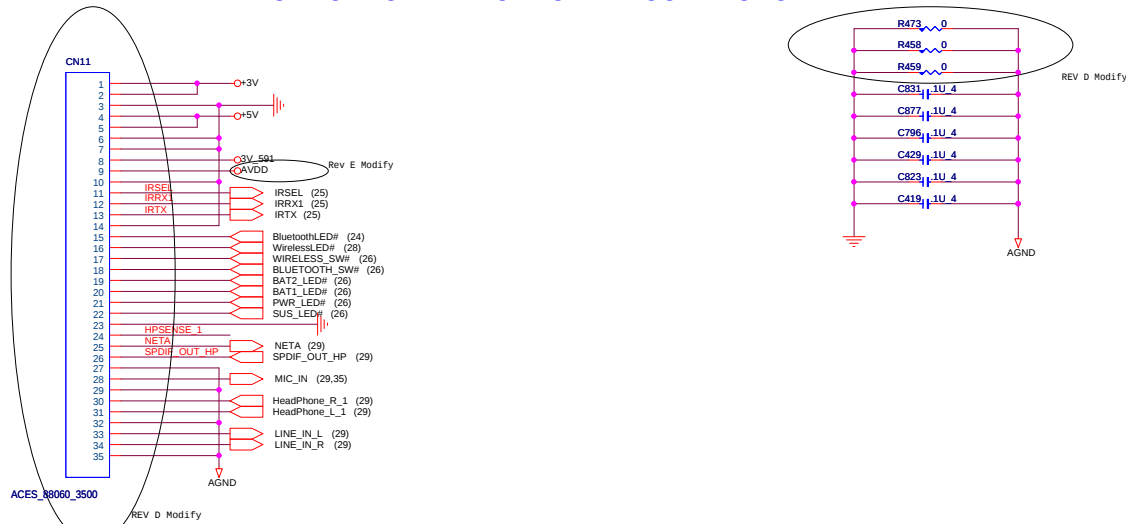
SEL	FUNCTION
LOW	IN_B0
HIGH	IN_B1



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AUDIO BOARD TO BOARD CONNECTOR



[illegible]

9/1 ADD

RIDE_LED#

D40 CH501H-40

R7 4.7K

+3V

IDE_LED

LED2

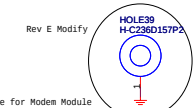
Orange_LED

D41 CH501H-40

Q3 DTC144EUA

(17.32) -H030_LED -H030_LED

DEL DE10 X2 AND ADD



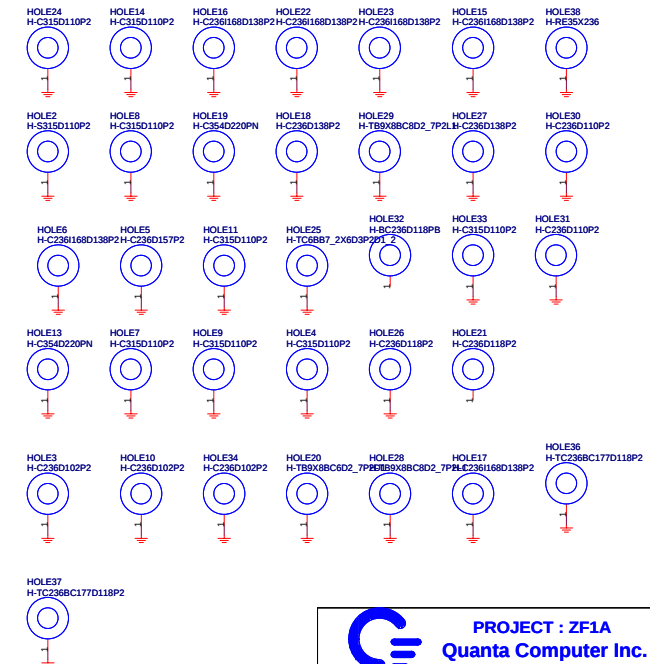
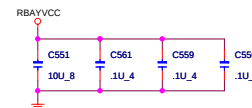
Multi-Bay Connector

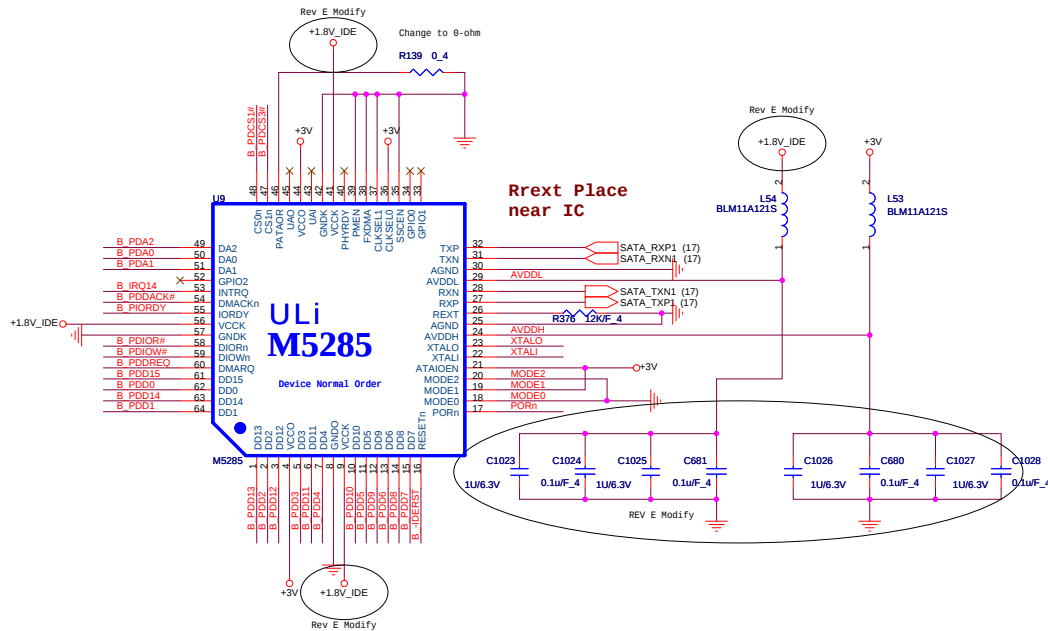
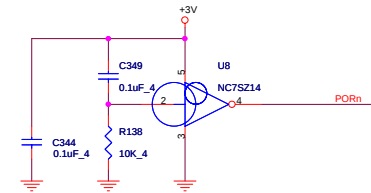
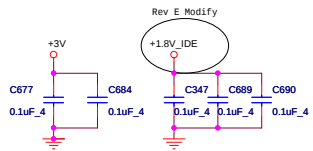
The diagram illustrates the electrical connections for a Multi-Bay Connector. It includes a list of signals on the left, a central connector pinout (CN19), and various passive components like resistors (R25, R26, R27, R283, R24) and capacitors (C93, C551, C561, C559, C556). A callout for R24 notes a revision: "Rev E Modify There is already pull-down in CD_ROM/B".

BAY ID STATUS

RBAYID0/ LBAYID0	RBAYID1/ LBAYID1	STATUS
0	1	HDD
1	0	CD/DVD

RBAYID0/ LBAYID0	RBAYID1/ LBAYID1	STATUS
0	1	HDD
1	0	CD/DVD



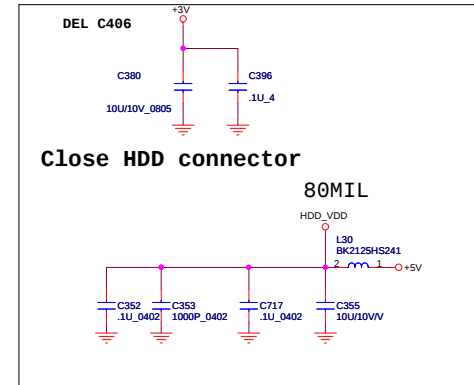
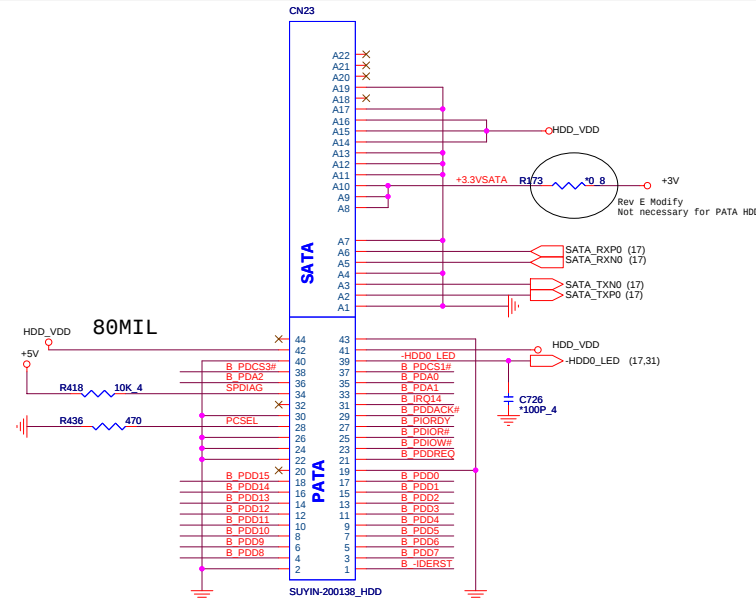
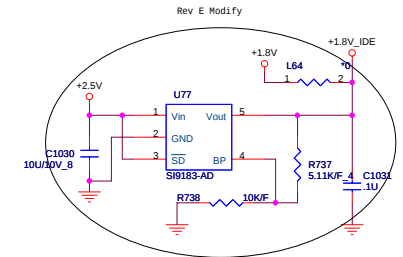
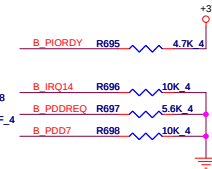


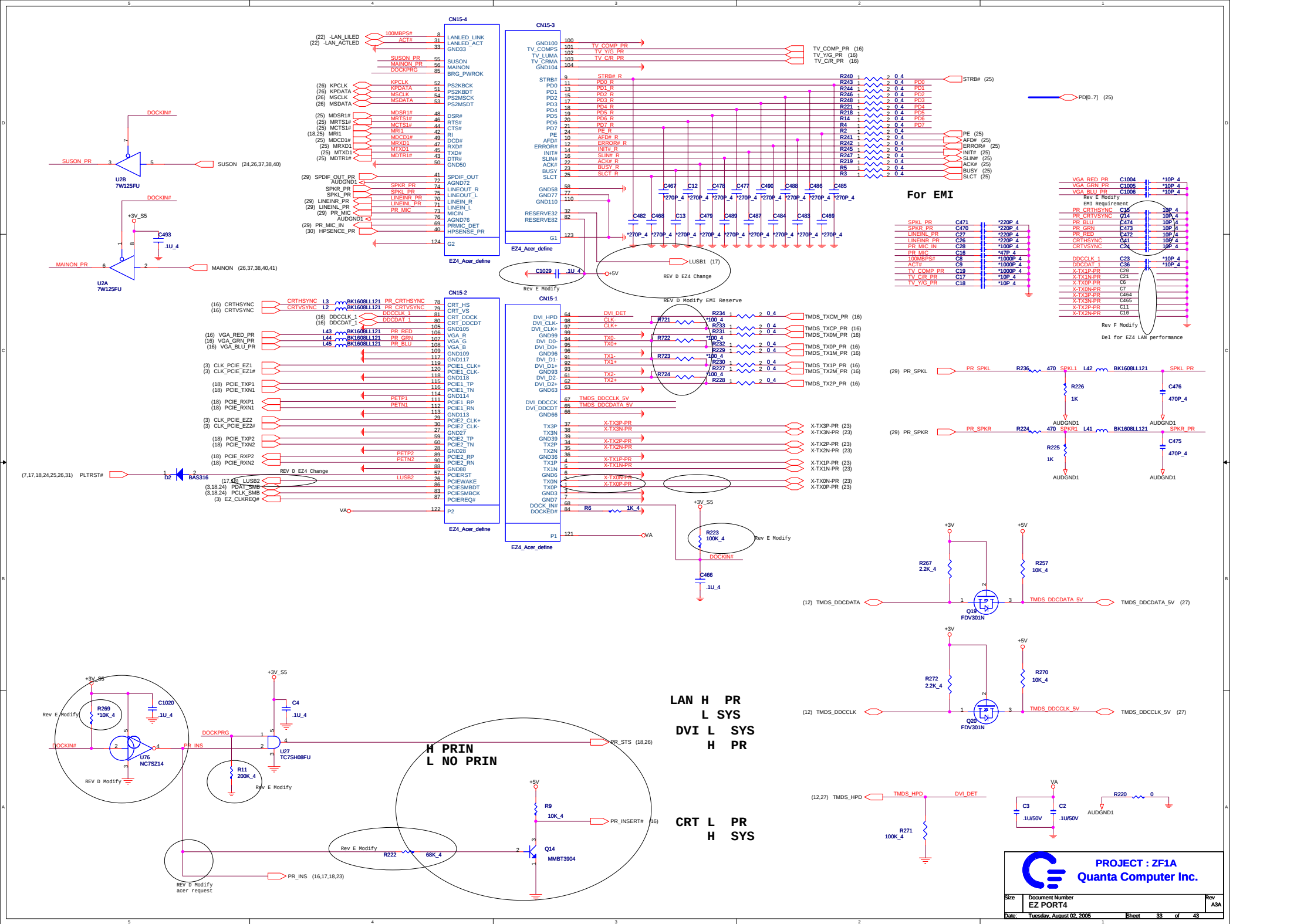
Operation Mode

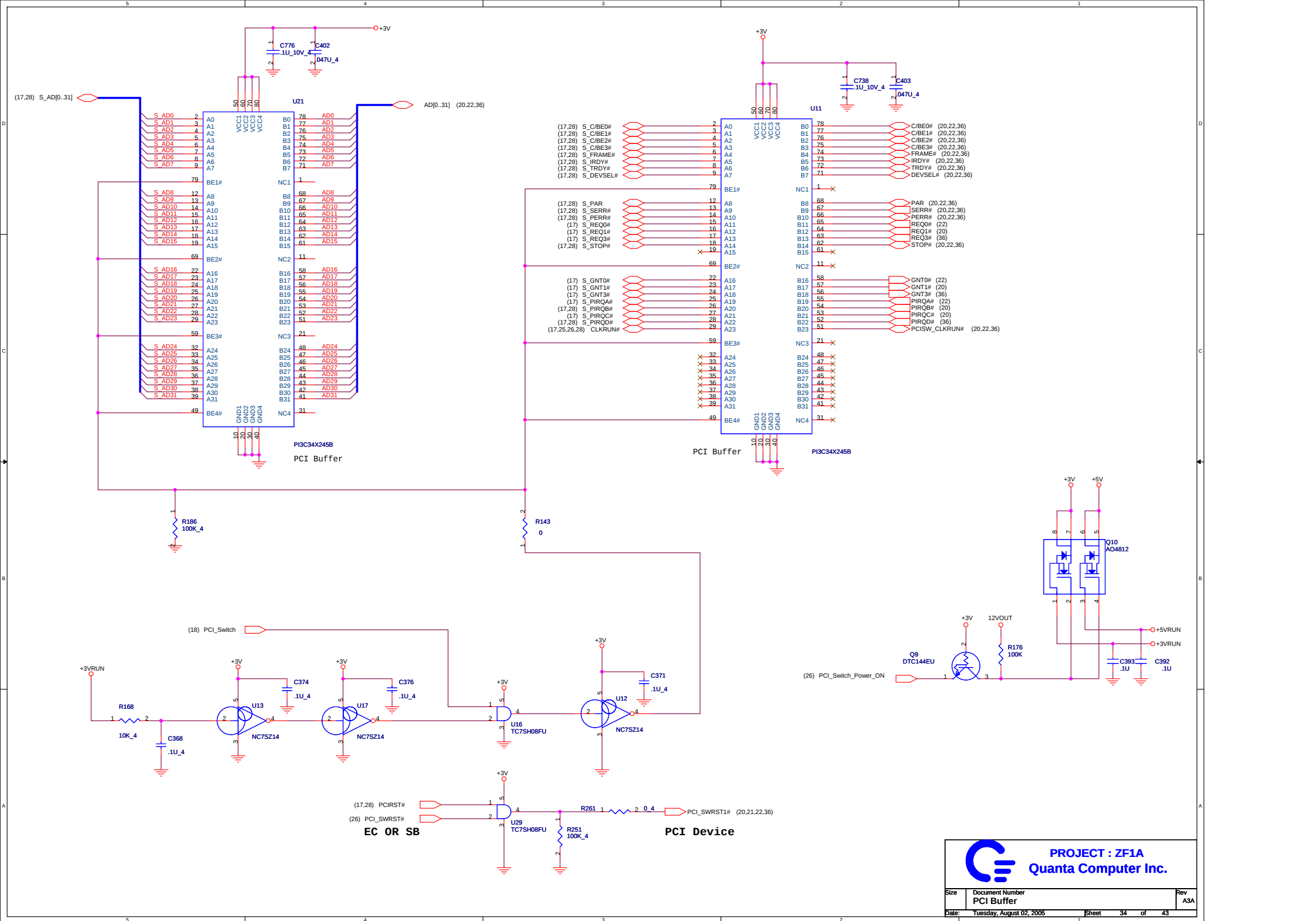
MODE[2..0]	
0 0 0	Device mode 100MB/S
0 0 1	Device mode 133MB/S
0 1 0	Device mode 150MB/S
0 1 1	RESERVE
1 0 0	Host mode 100MB/S
1 0 1	Host mode 133MB/S
1 1 0	Host mode 150MB/S
1 1 1	RESERVED

Reference clock select

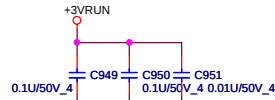
CLKSEL[1..0]	External clock
0 0	20 MHz
0 1	25 MHz



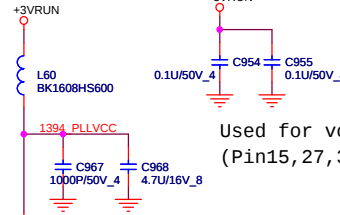




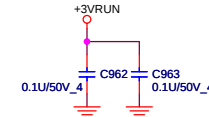
IEEE-1394



Used for vccp
(Pin20, 35, 48, 62, 78)



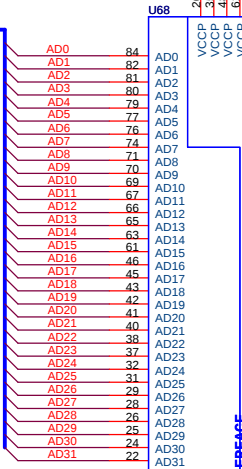
Used for vcc3
(Pin15, 27, 39, 51, 59, 72, 88, 100)



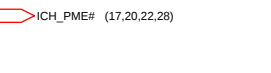
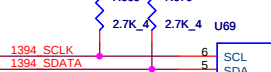
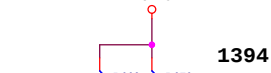
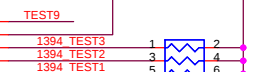
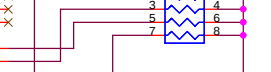
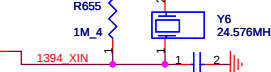
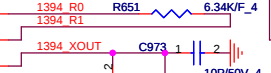
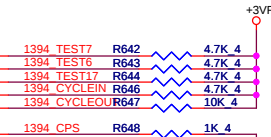
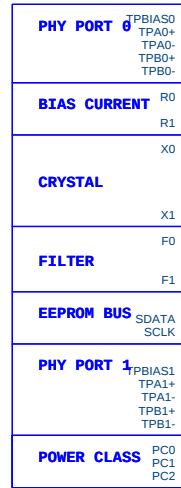
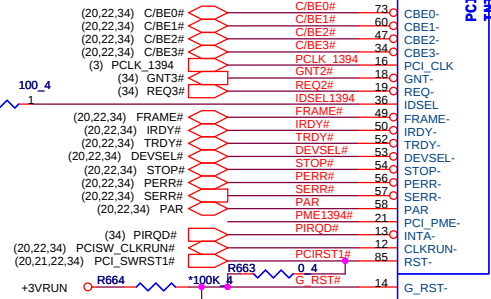
Used for AVCC
(Pin1, 2, 107, 108, 120)

ID Select : AD23
Interrupt Pin : PIRQD#
Request indicates : REQ3#
Grant indicates : GNT3#

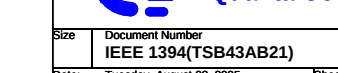
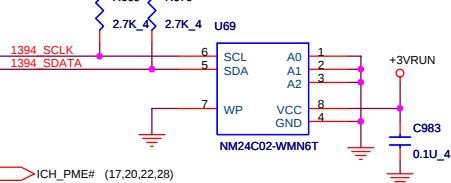
(20,22,34) AD[0..31]

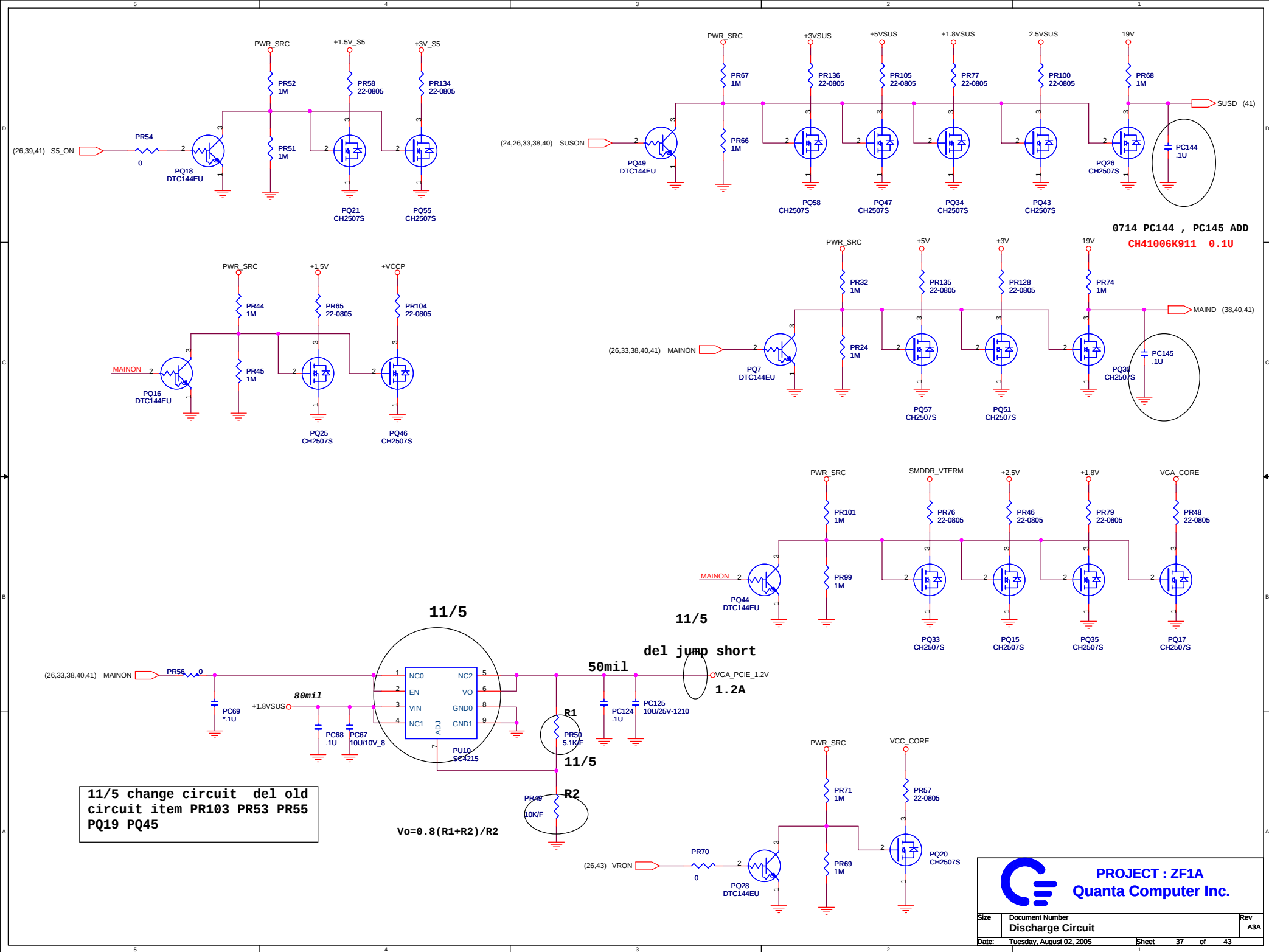


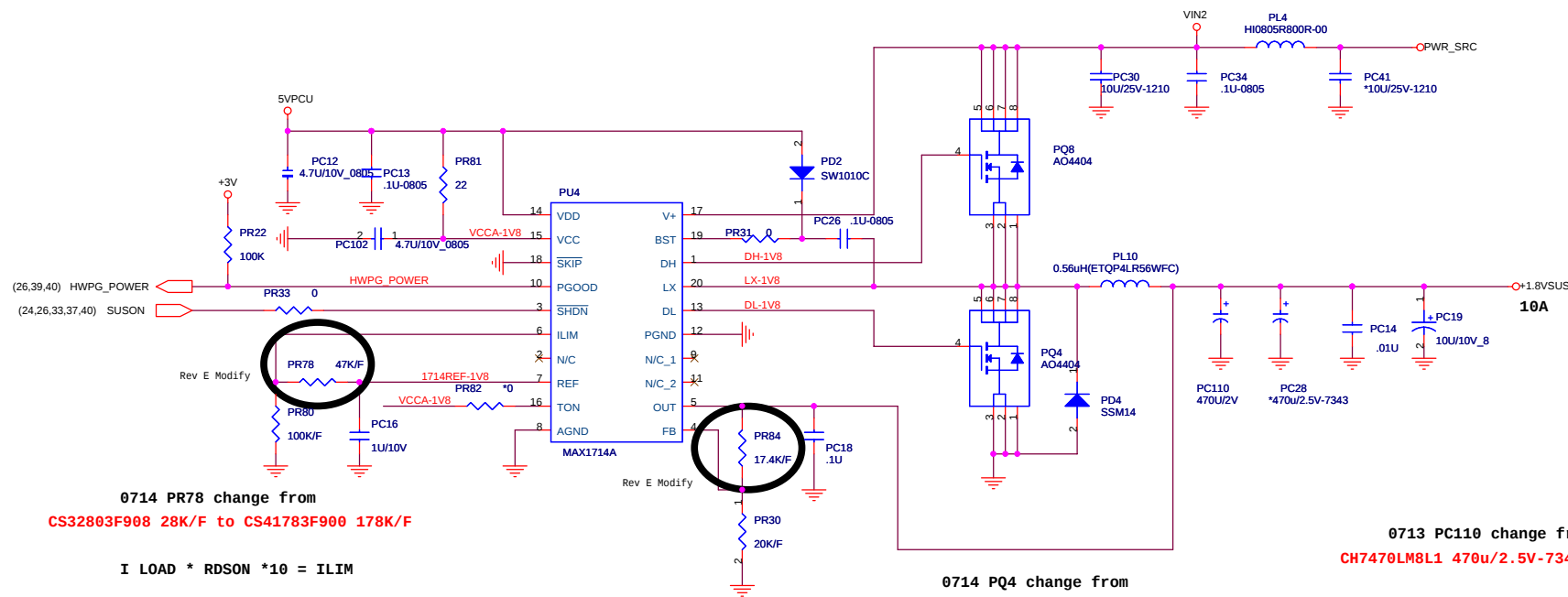
PCI INTERFACE



1394 EEPROM



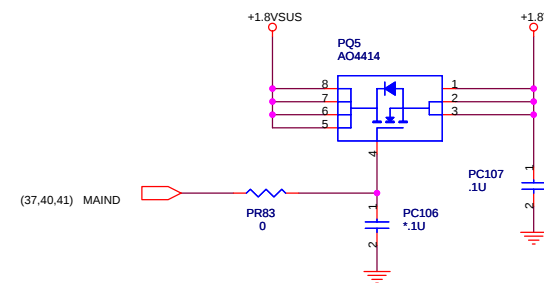
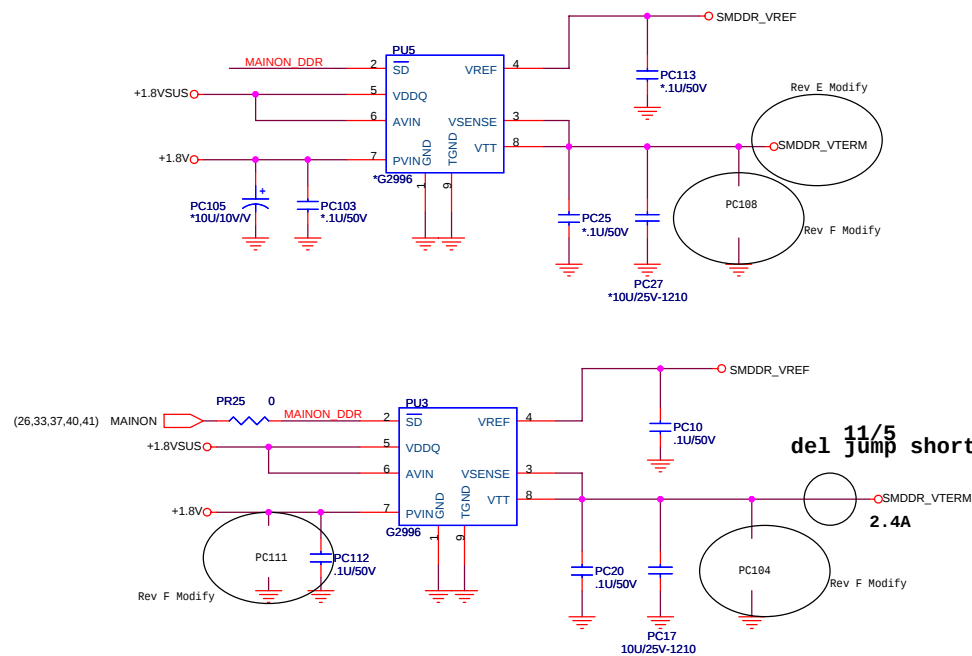




I LOAD * RDSON *10 = ILIM

FDD6688 RDSON 4.5V = 0.006 ohm

12 * 0.006 *10 = 0.72V (ILIM)



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$$L / RL(DCR) = Cqe * Rqe$$

$$3R3 \text{ DCR} = 0.0043$$

$$3.3u / 0.0043 = 0.1u * Rqe$$

$$Rqe = 7.68K$$

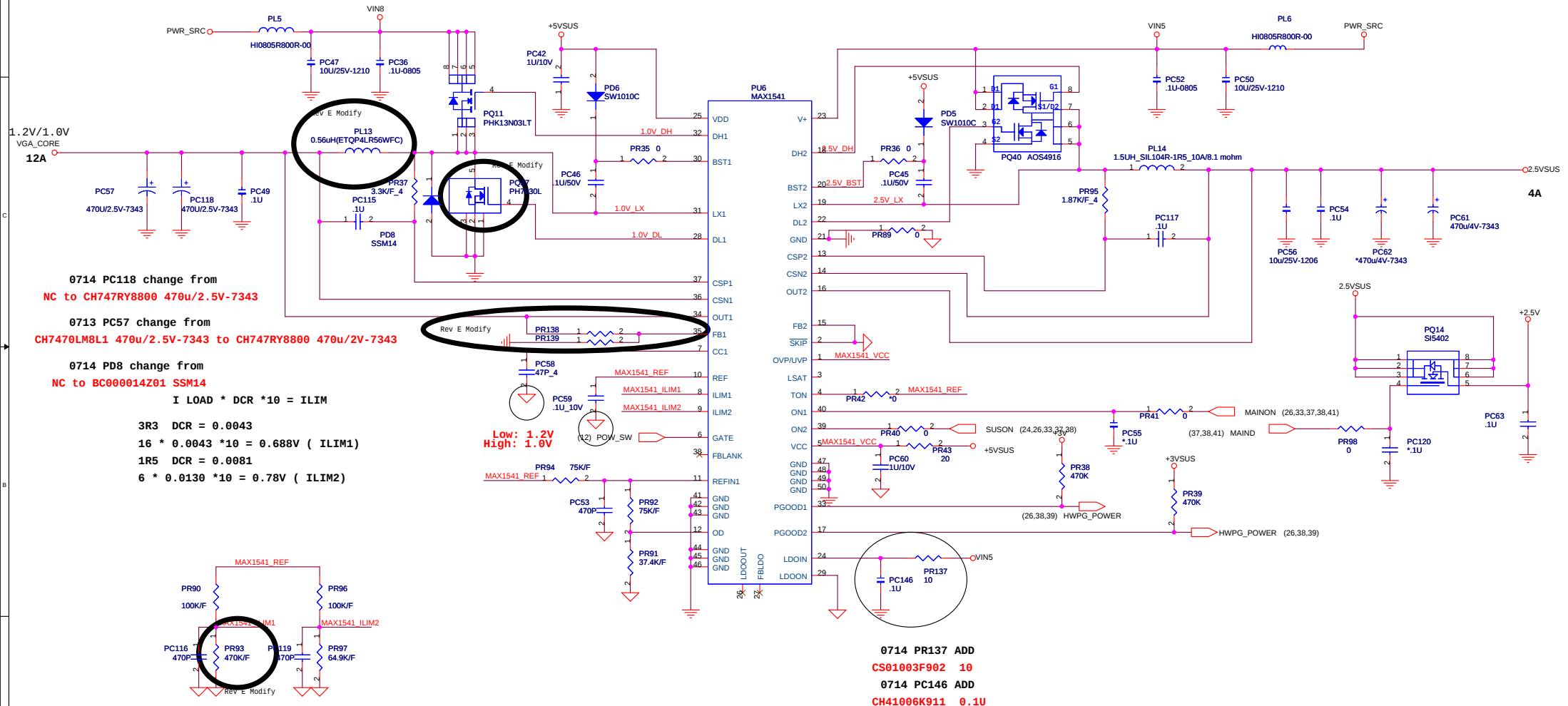
0714 PR37 change from
CS21823F902 1.82K/F to CS27683F909 7.68K/F
0714 PL13 change from
CV-15A0MZ05 1R5 to CV-33E0MZ01 3R3
0714 PQ11 change from
BAM44040012 A04404 to BAM60300Z11 FDD6030L
0714 PQ37 change from
BAM47040005 A04704 to BAM66800Z01 FDD6688

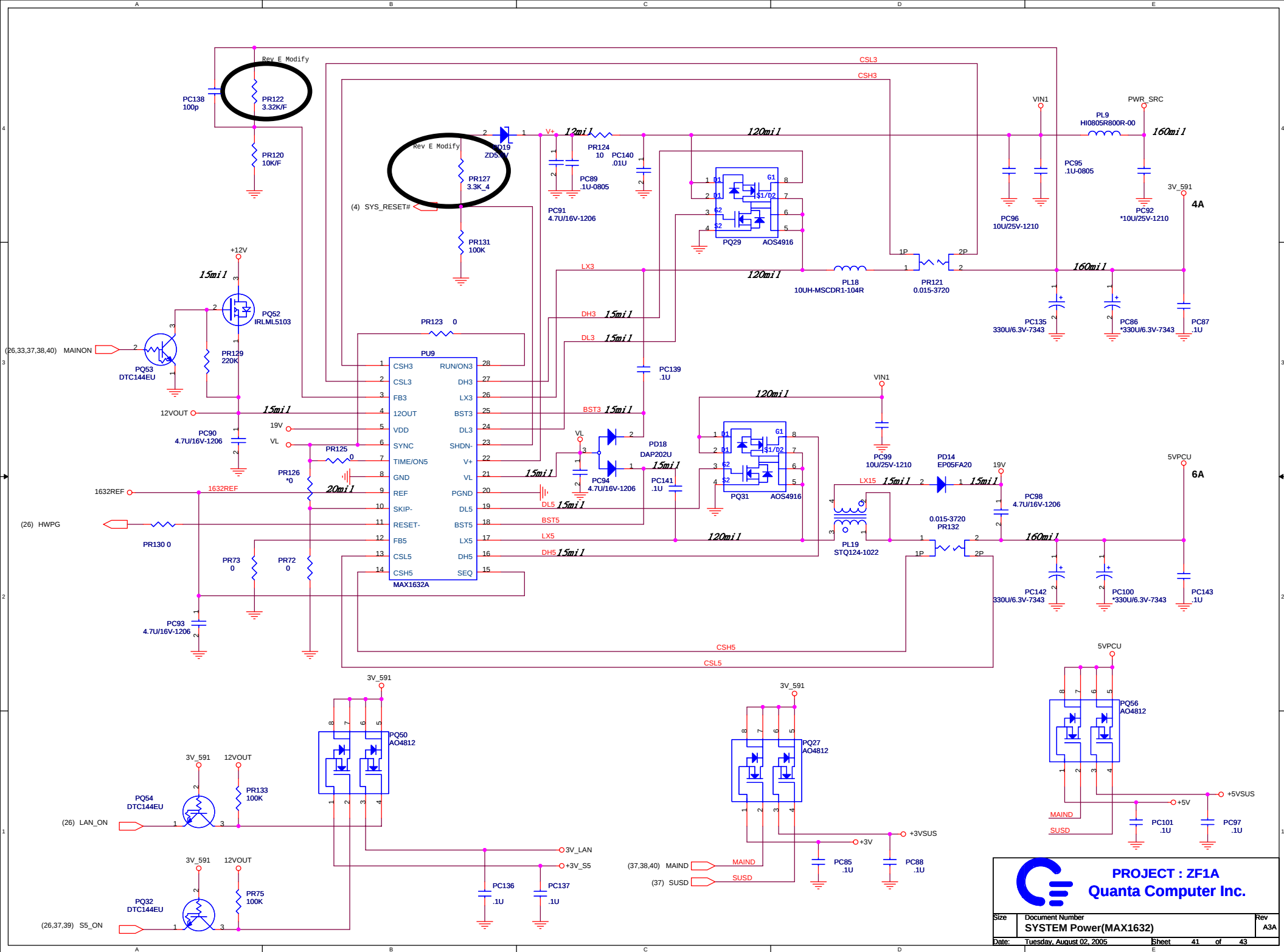
$$L / RL(DCR) = Cqe * Rqe$$

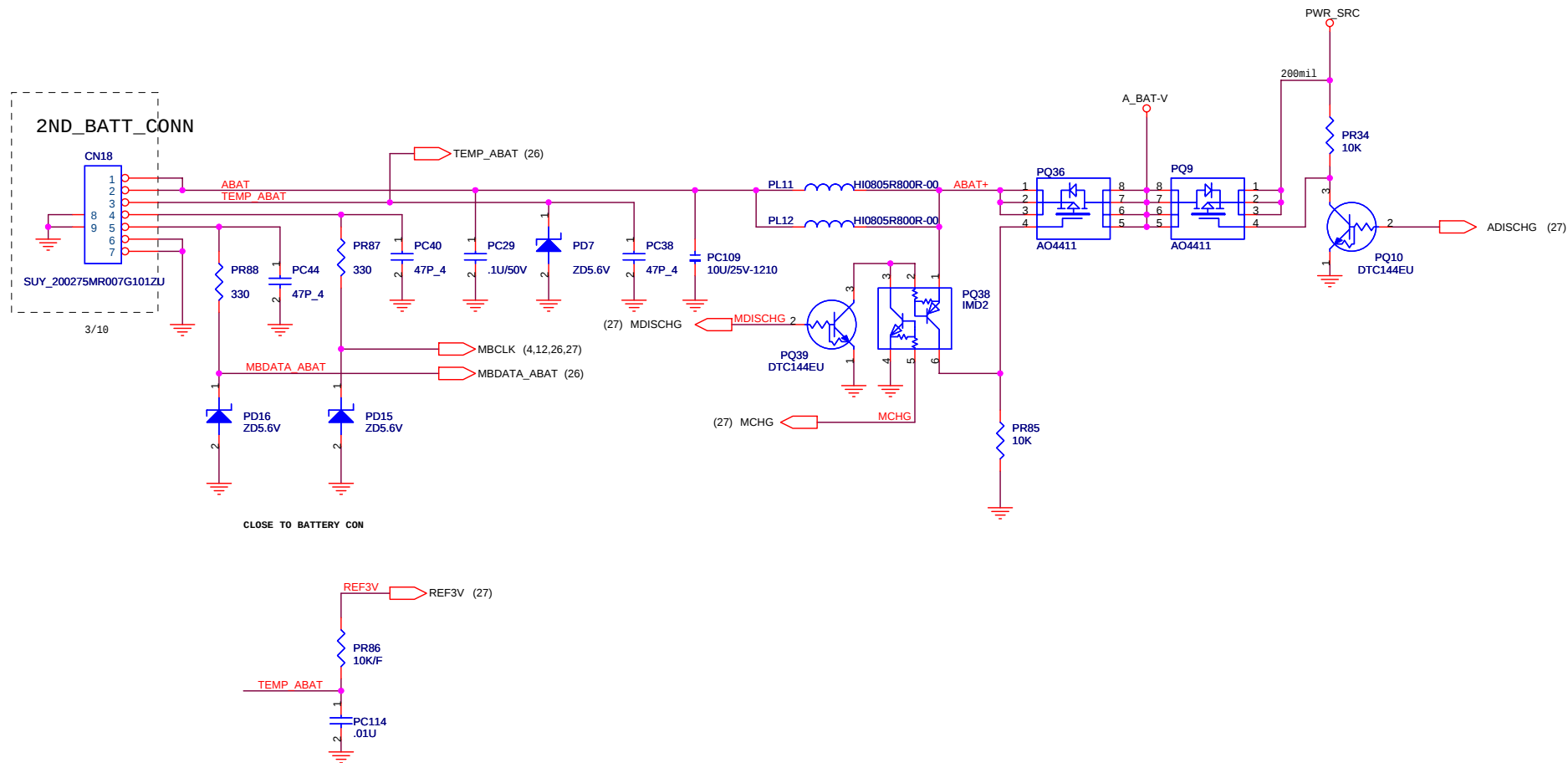
$$3R8 \text{ DCR} = 0.0130$$

$$3.8u / 0.0130 = 0.1u * Rqe$$

$$Rqe = 2.94K$$







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0714 PR19 change from

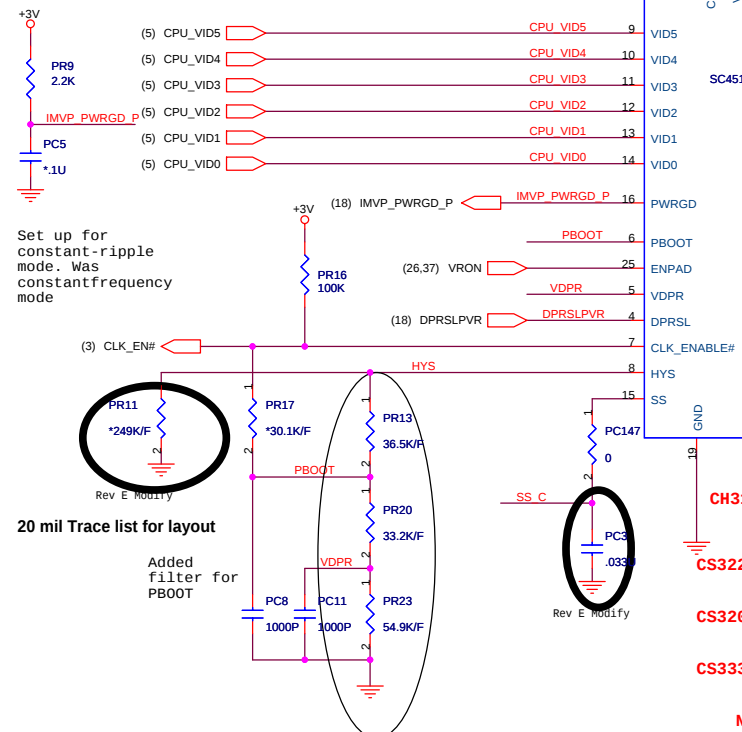
CS34223F901 42.2K/F to CS38253F909 82.5K/F

value provided
2.67% offset;
old value was
for old 4.62%
offset.

0714 PR27 change from

CS-33304JA09 3.3 to CS00004JA07 0

BG waveforms
improved. may
delete from
future
revision.



20 mil Trace list for layout

Added filter for PBOOT

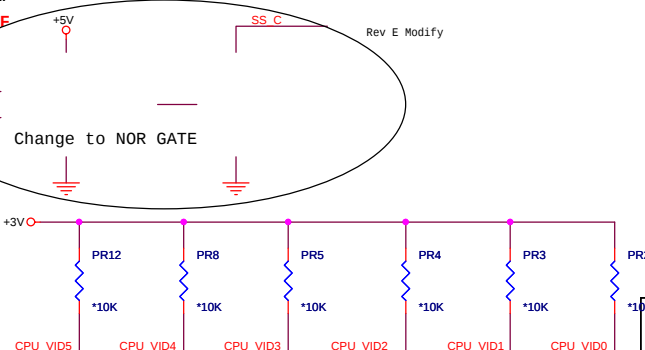
V I D							Vcore
VID 5	VID 4	VID 3	VID 2	VID 1	VID 0	V	V
0	1	0	1	1	1	1.340	
0	1	1	0	0	0	1.324	
0	1	1	0	1	0	1.292	
0	1	1	1	0	0	1.260	
0	1	1	1	0	1	1.244	
0	1	1	1	1	1	1.212	
1	0	0	0	0	1	1.180	
1	0	0	0	1	1	1.148	
1	0	0	1	1	0	1.100	
1	0	1	0	0	1	1.052	
1	0	1	0	1	1	1.020	
1	0	1	1	1	0	0.972	
1	1	0	0	0	0	0.940	

100 mil Trace list for layout

DH_VCORE
LX_VCORE
DL_VCORE
DH_VCORE2
LX_VCORE2
DL_VCORE2

10 mil Trace list for layout

SC1476
pin 4 pin
5 pin 7
pin 25
pin 30



Change to NOR GATE

0714 PR26 change from

CS17503F907 750/F to CS14753F905 475/F

0714 PR29 , PR21 change from

CS21543F901 1.54K/F to CS17153F905 715/F

0714 PC6 change from

CH16806J903 680p to CH12706J909 270p

0714 PC3 change from

CH31006K919 0.01u to CH31506K917 0.015u

0714 PR13 change from

CS32213F901 22.1K/F to CS33653F906 36.5K/F

0714 PR20 change from

CS32003F909 20K/F to CS33323F901 33.2K/F

0714 PR23 change from

CS33323F901 33.2K/F to CS35493F902 54.9K/F

0714 PR11 change from

NC to CS42493F906 249K/F

0713 PC122 , PC66 change from

CH7470LM8L1 470u/2.5V-7343 to CH747RY8800 470u/2V-7343



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