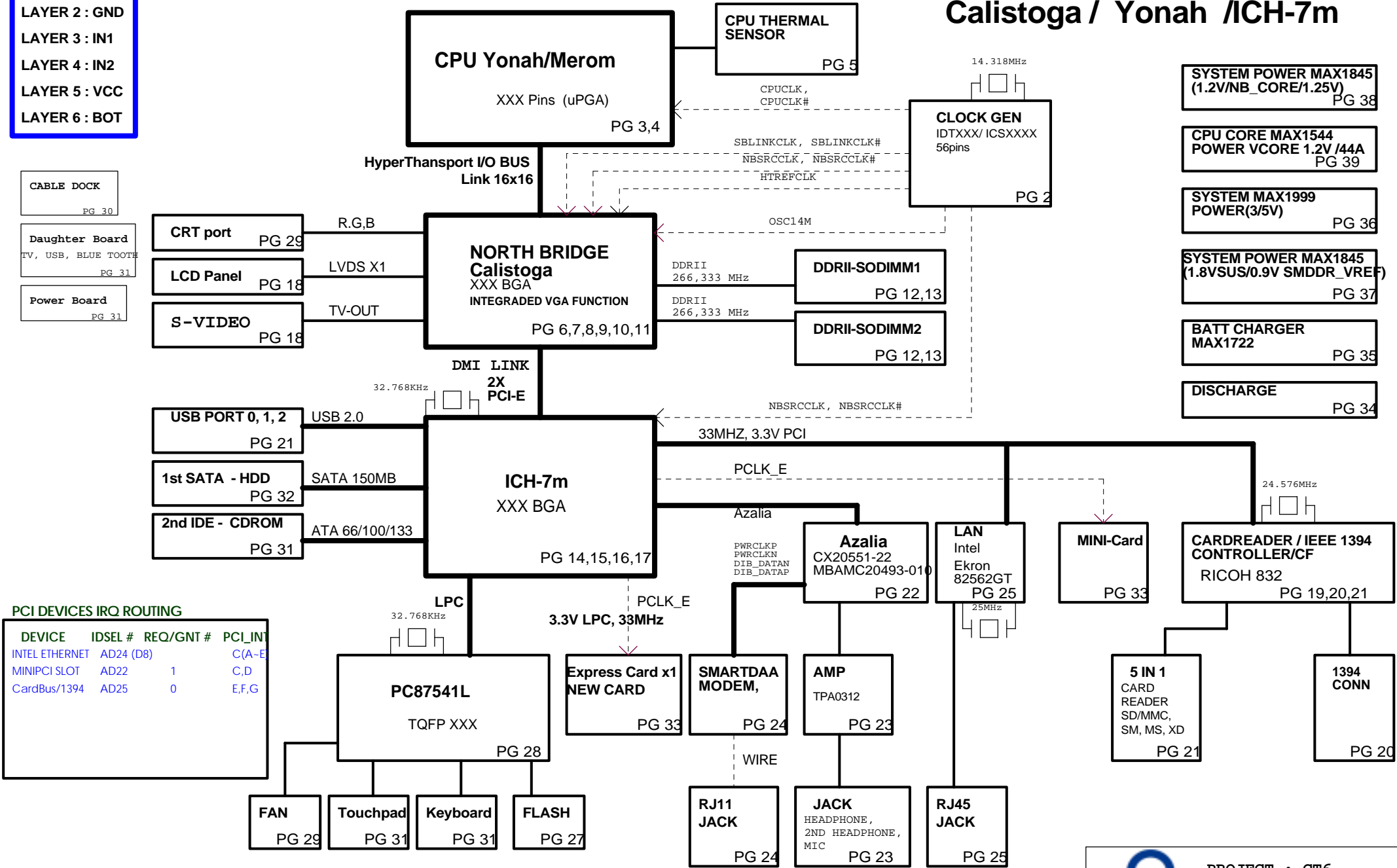


PCB STACK UP

- LAYER 1 : TOP
- LAYER 2 : GND
- LAYER 3 : IN1
- LAYER 4 : IN2
- LAYER 5 : VCC
- LAYER 6 : BOT

CT6 BLOCK DIAGRAM

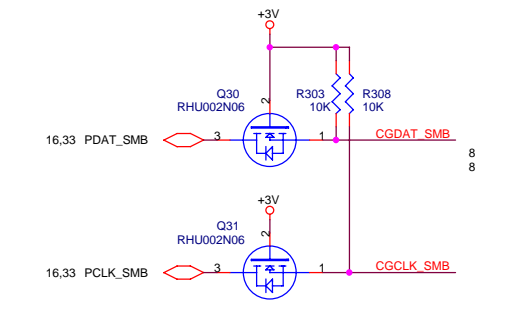
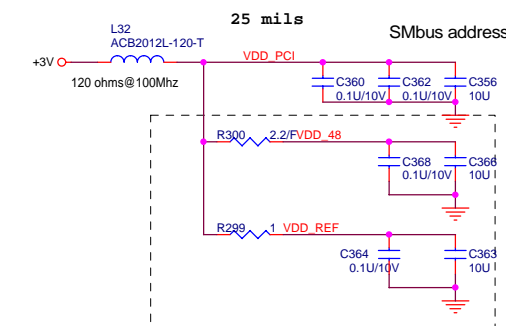
Calistoga / Yonah /ICH-7m



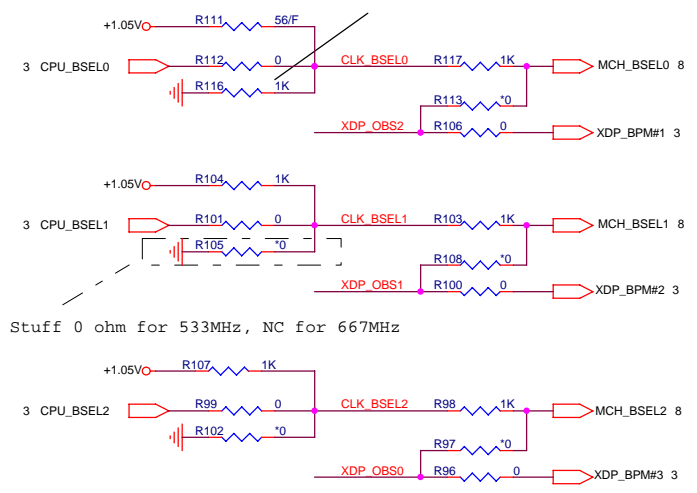
FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	200	100	33

Default

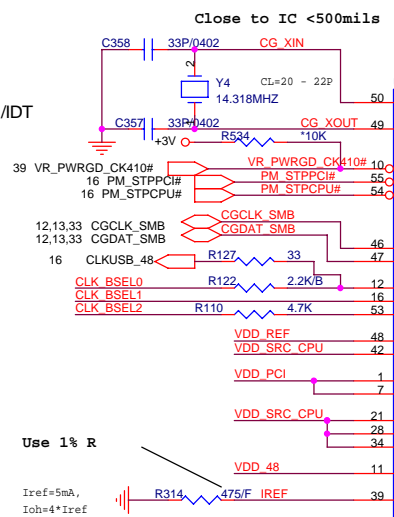
5,9,13,14,15,16,17,18,22,23,26,28,29,30,31,32,33,34,36,39,41,42 +3V  
14,17,38,42 +1.05V



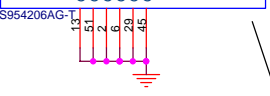
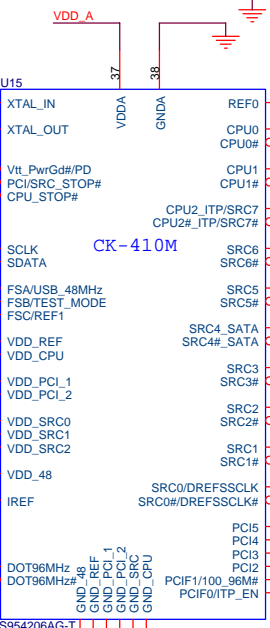
BSEL strappings need to be set for 533MHz Moby Dick (Intel7915GM - Calistoga Interposer) (if Calistoga is designed for 667MHz board).



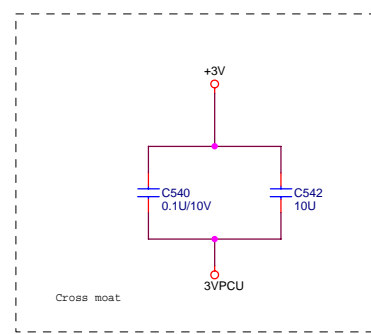
Stuff 0 ohm for 533MHz, NC for 667MHz



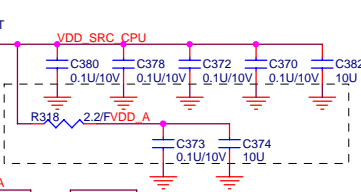
Use 1% R  
Iref=5mA, Ioh=4\*Iref



IDT CV140 /56pins  
ICS954206AGT /56pins



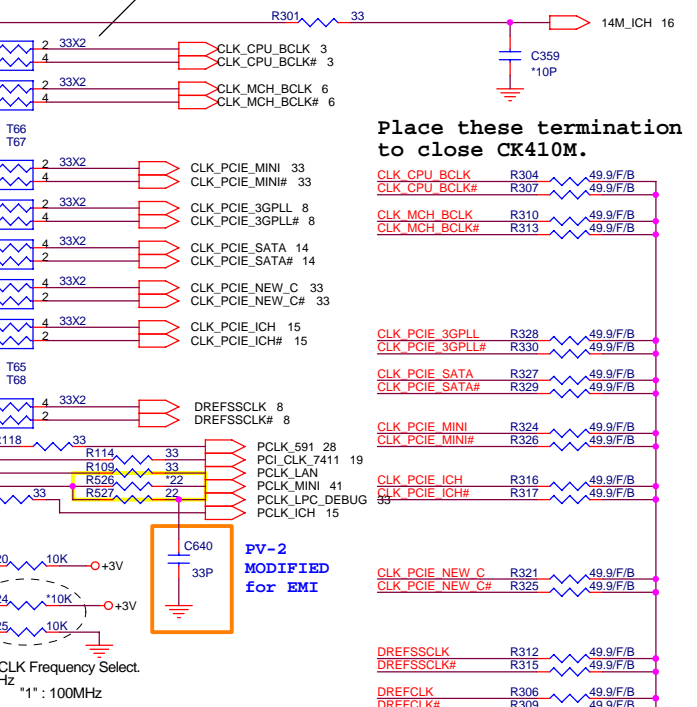
Check Intel



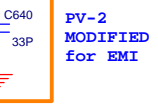
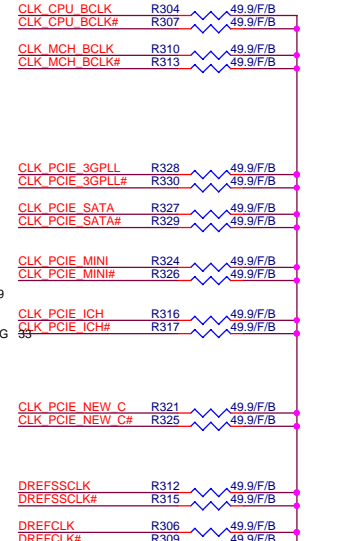
Place these termination to close CK410M.

25 mils

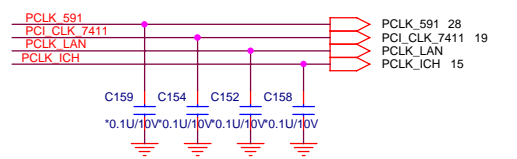
Use 33R/1%



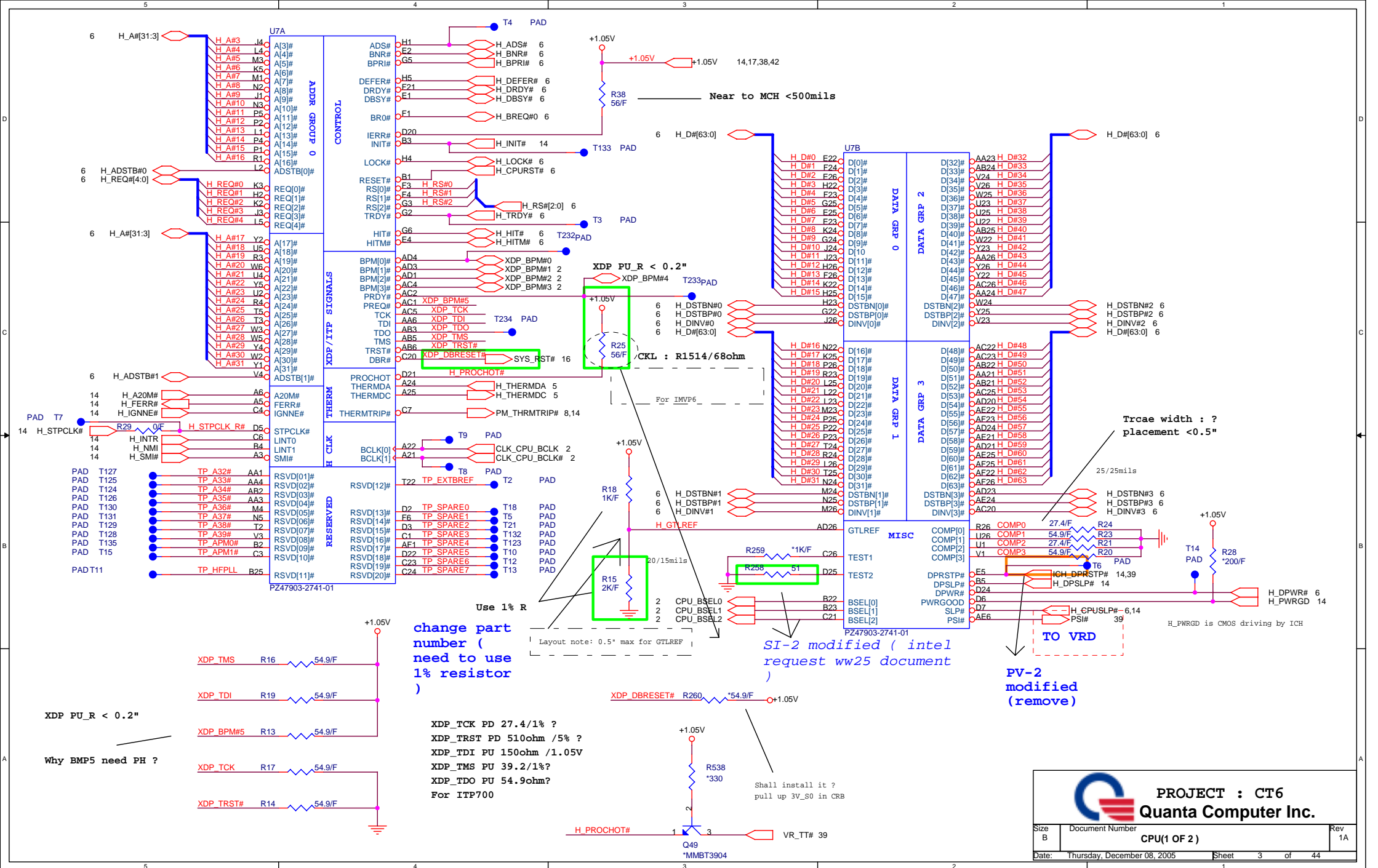
Place these termination to close CK410M.

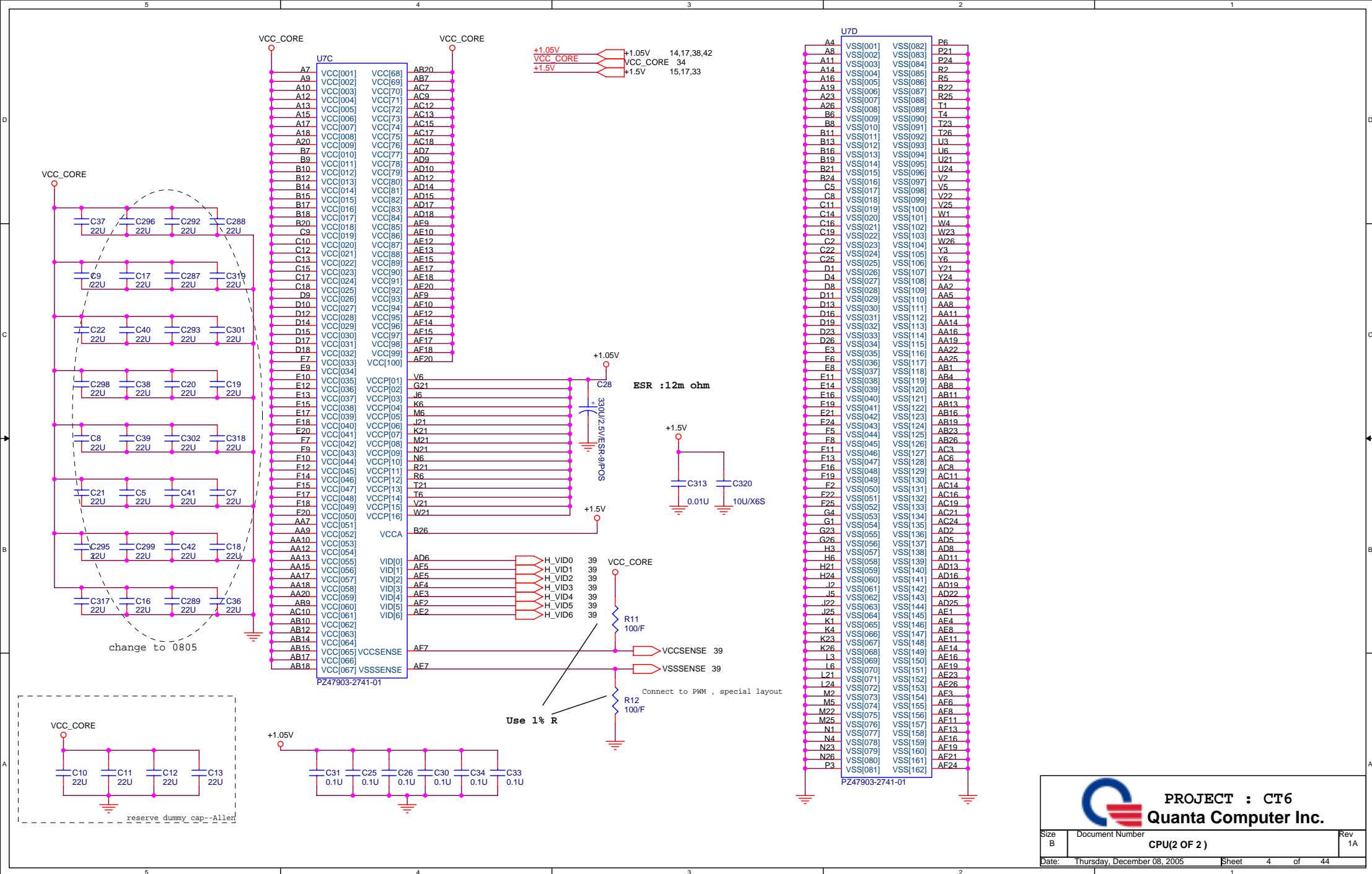


DREFSSCLK Frequency Select.  
"0": 96MHz "1": 100MHz



PROJECT : CT6  
Quanta Computer Inc.

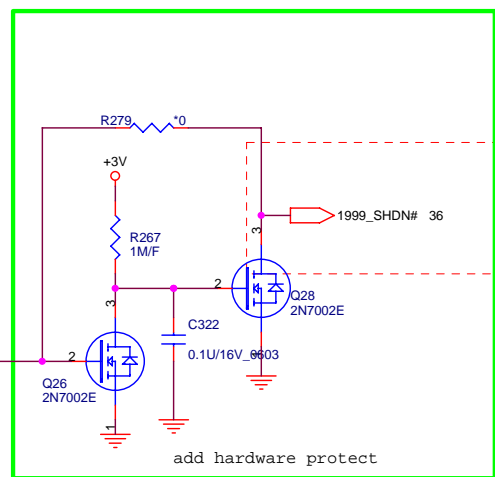




PROJECT : CT6  
Quanta Computer Inc.

Size B	Document Number <b>CPU(2 OF 2 )</b>	Rev 1A
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Date: Thursday, December 08, 2005 Sheet 4 of 44



28,35 MBDATA

Q27  
RHU002N06

+3V

220

1

LM86\_SMD

28,35 MBCLK

Q29  
RHU002N06

+3V

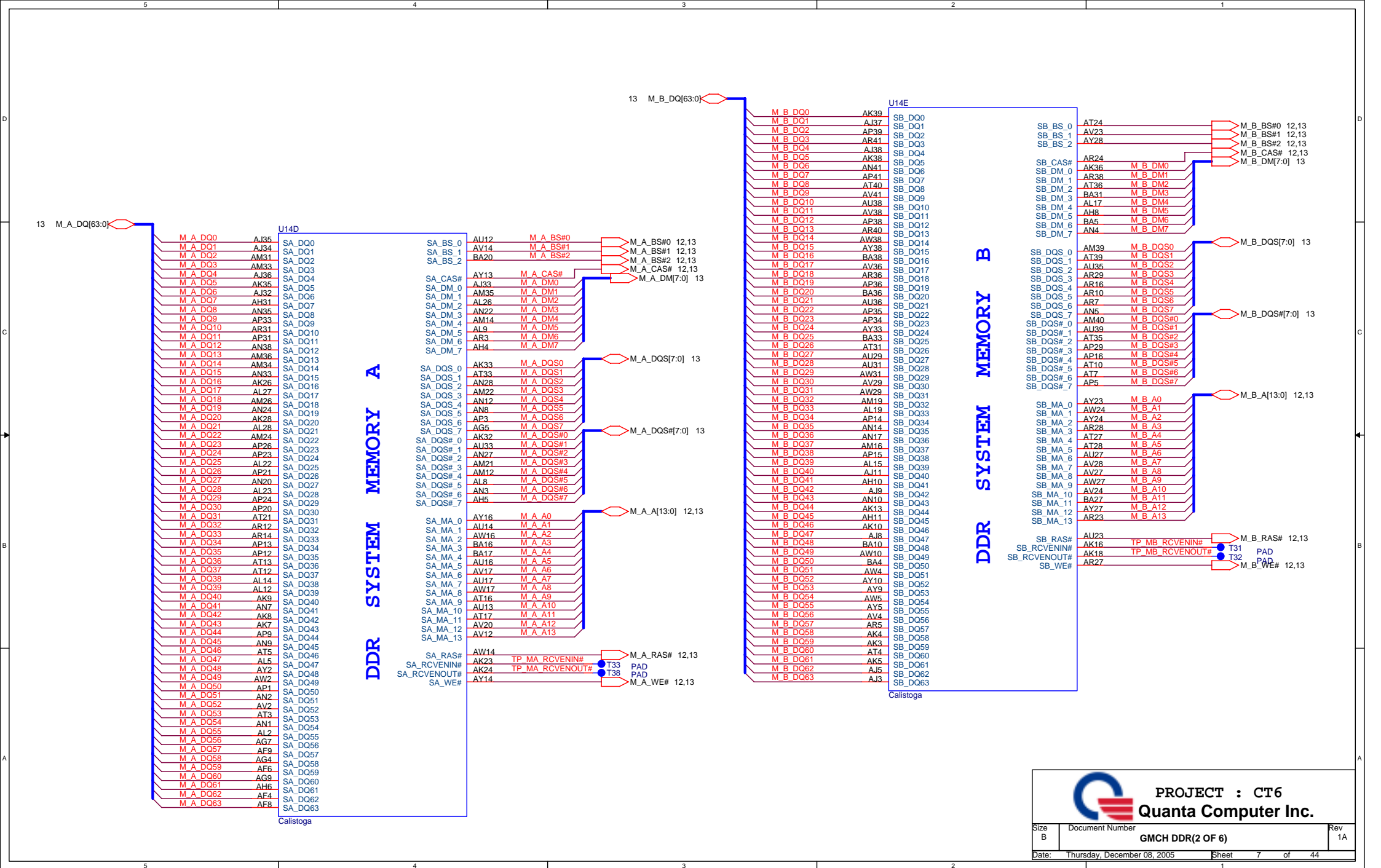
220

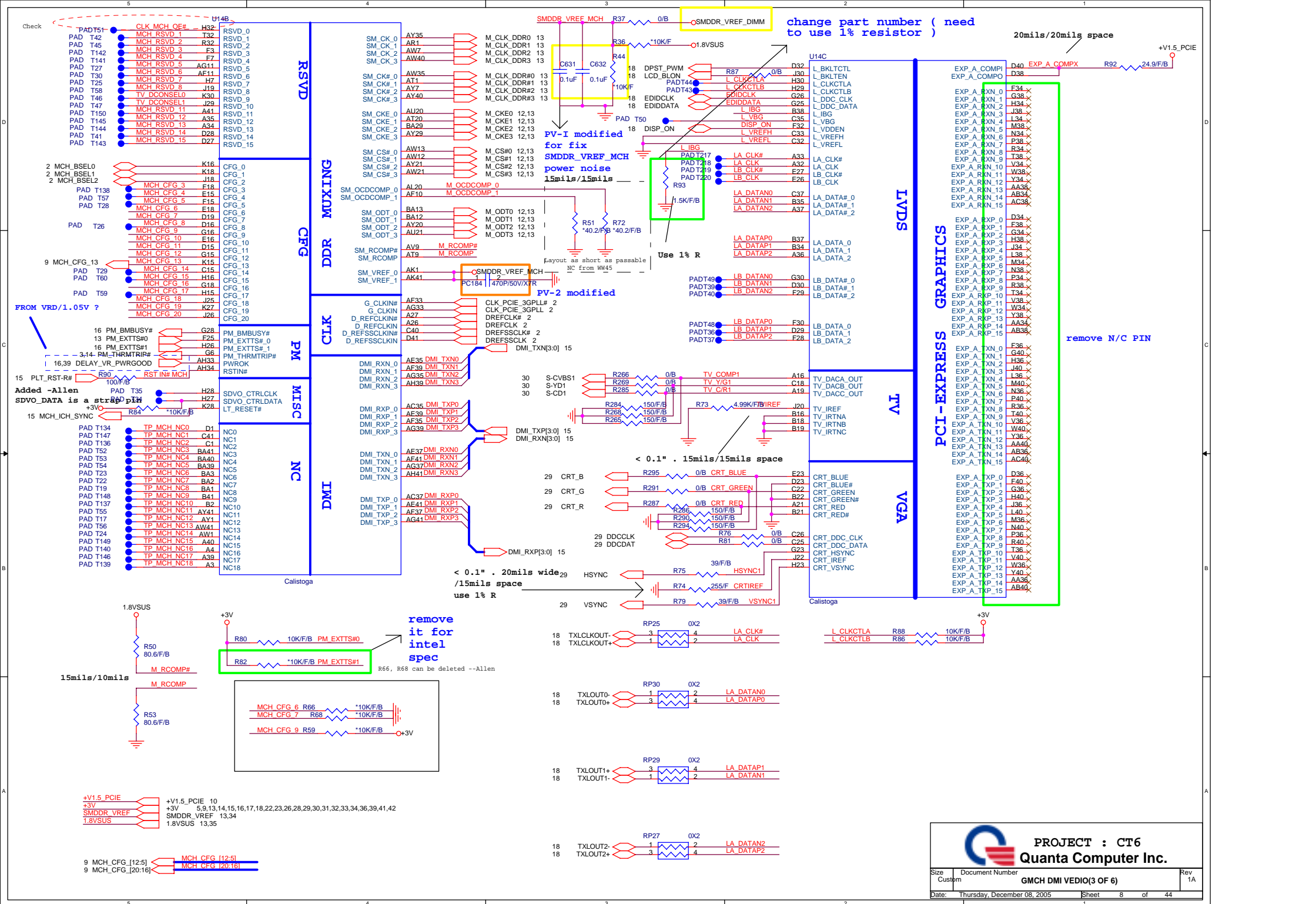
1

LM86\_SMC

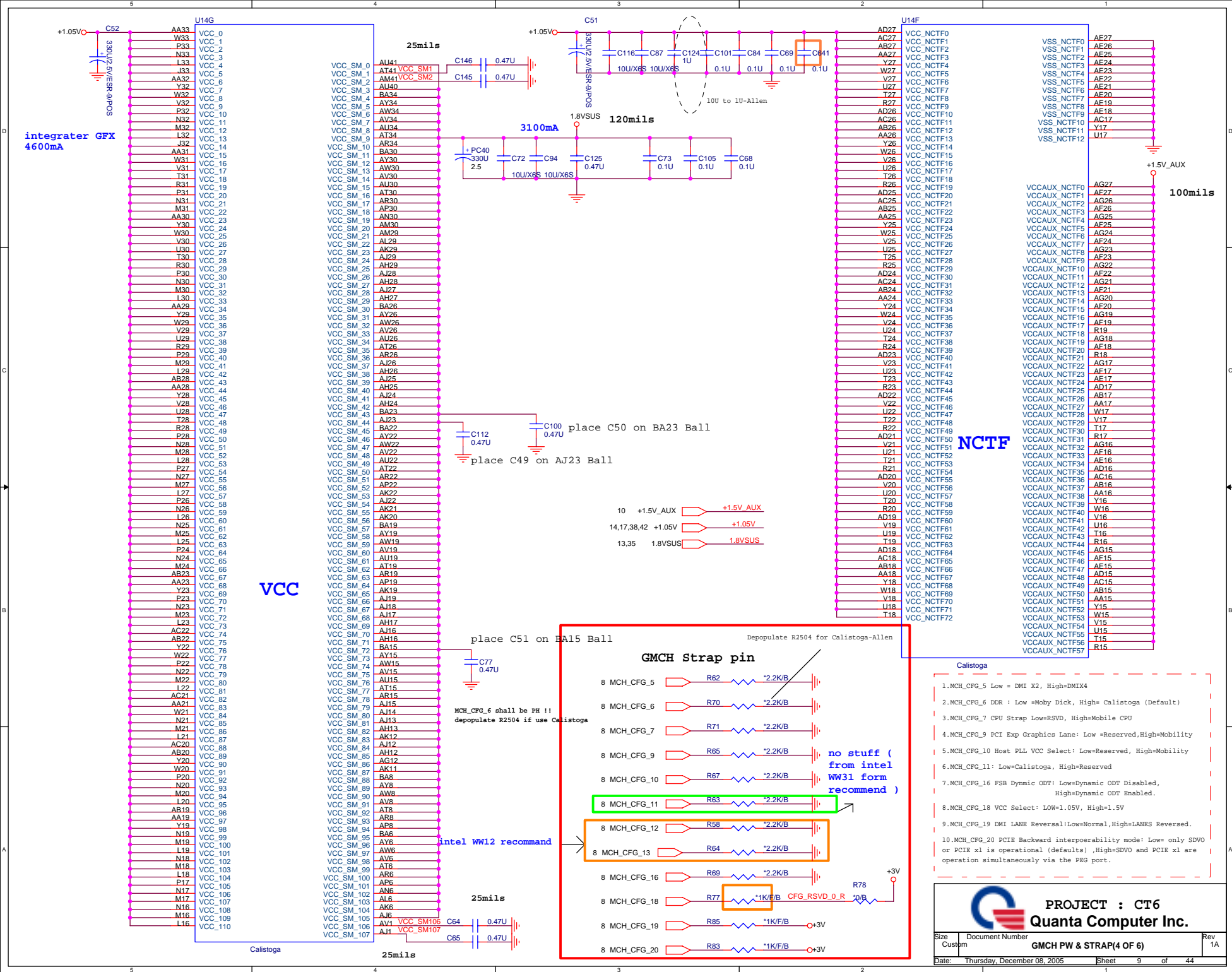


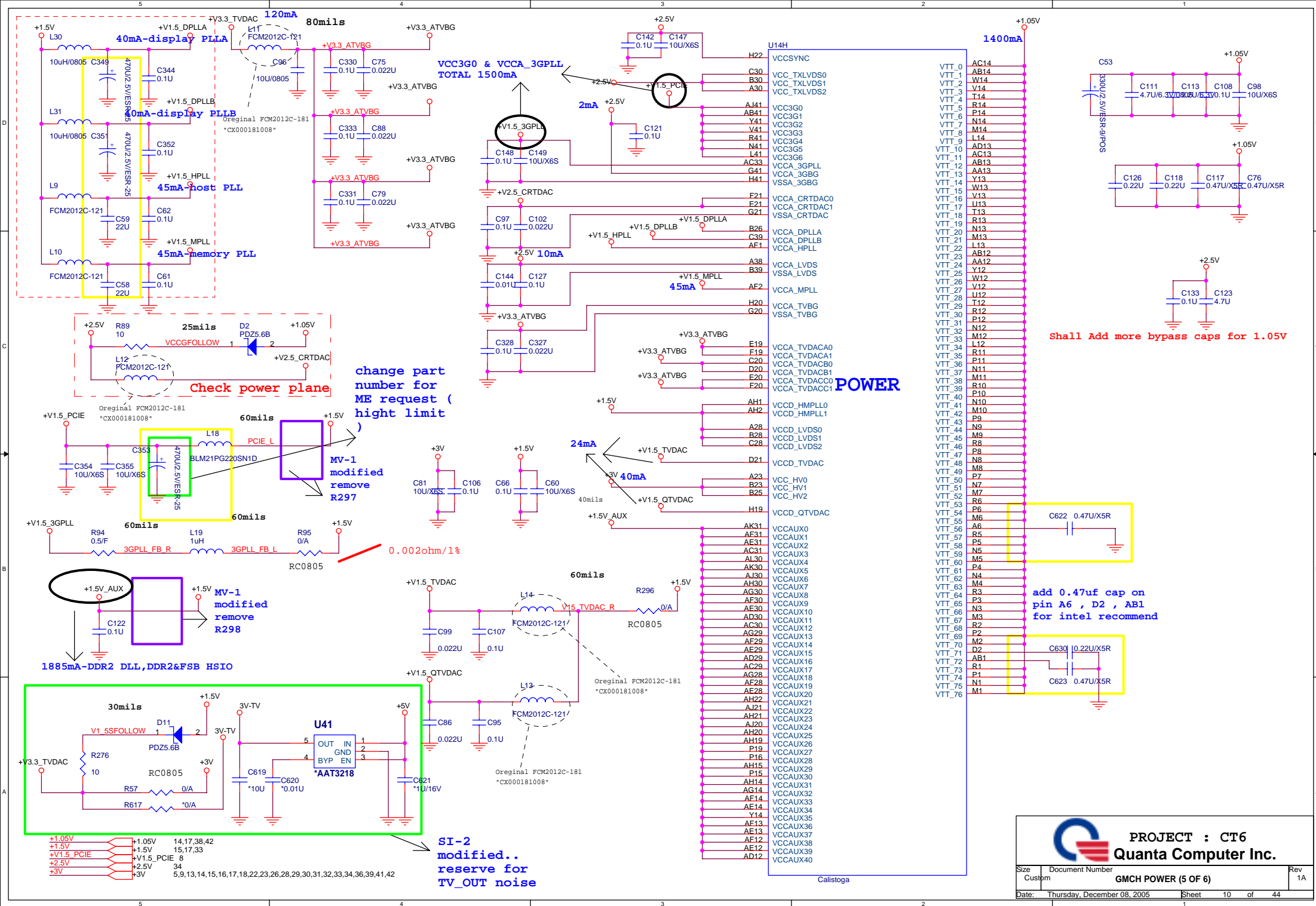


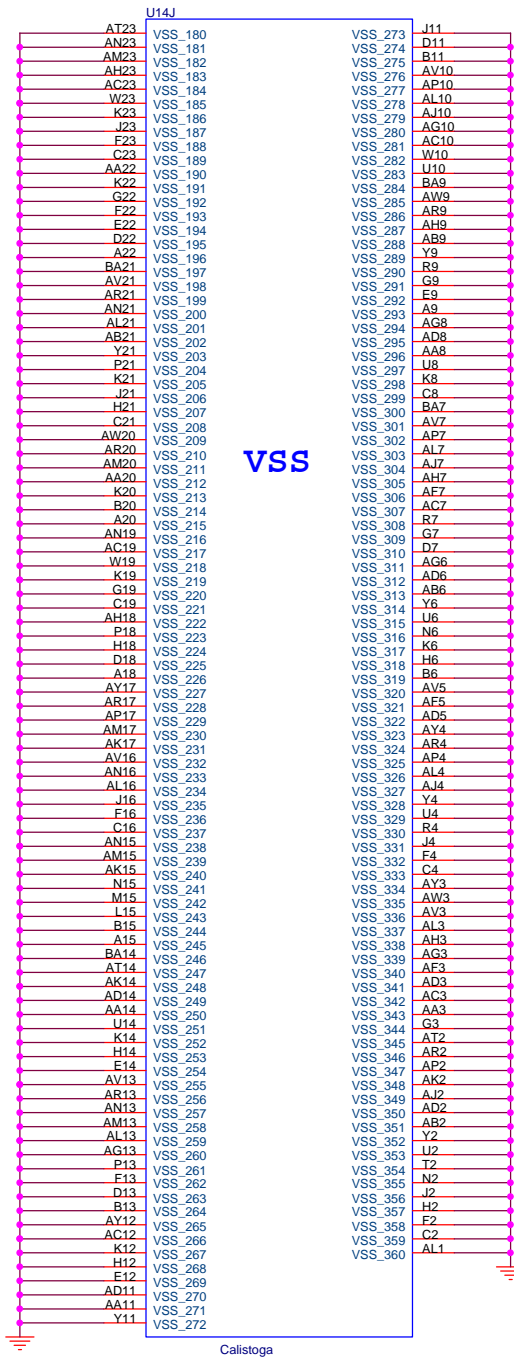
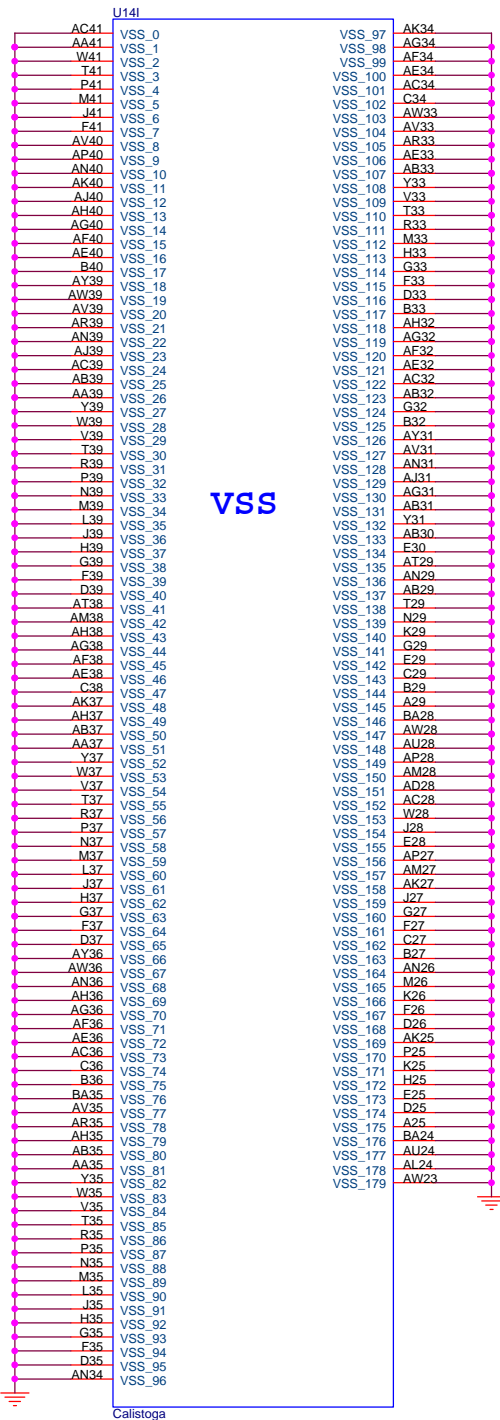






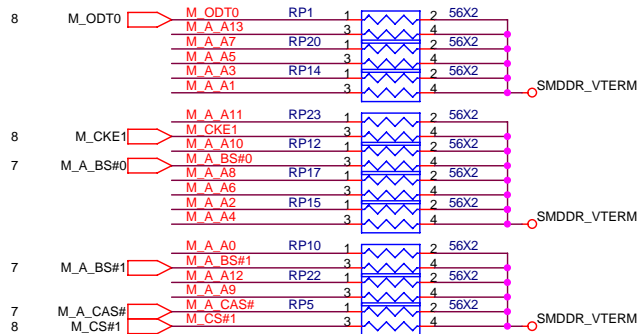
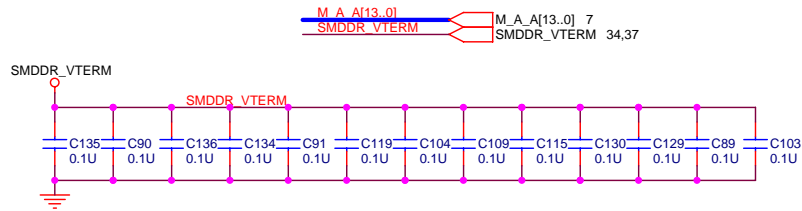




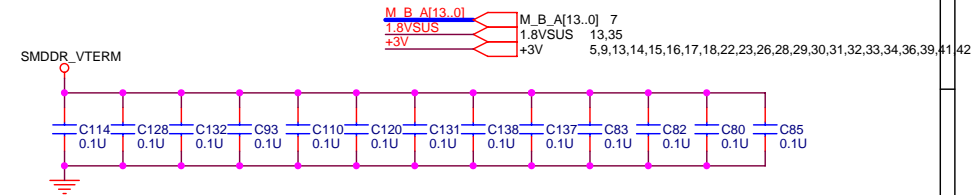


# DDRII DUAL CHANNEL A,B.

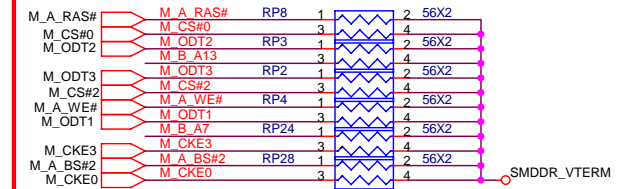
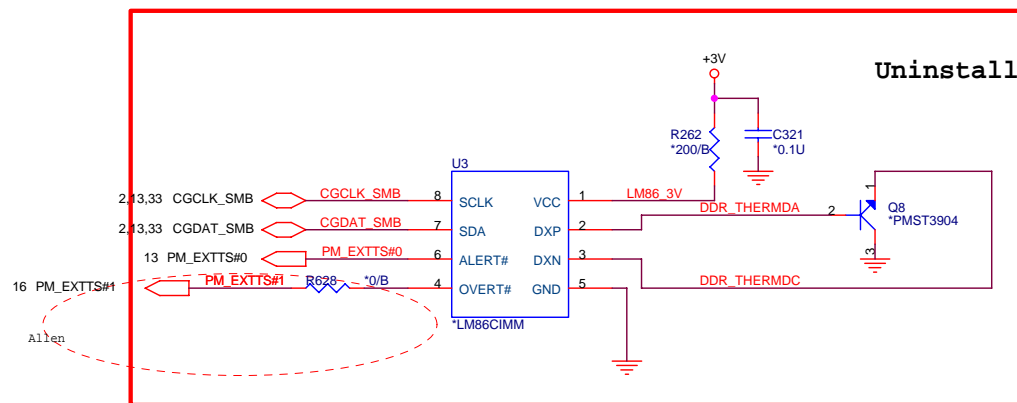
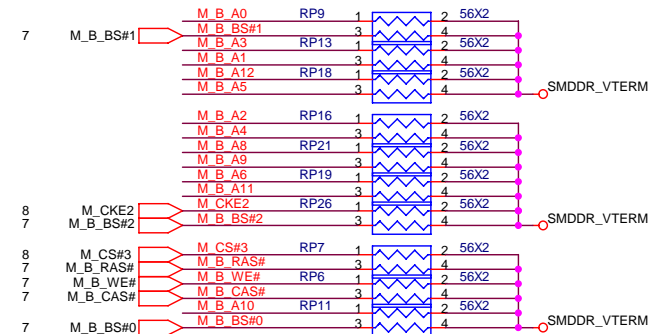
## DDRII A CHANNEL

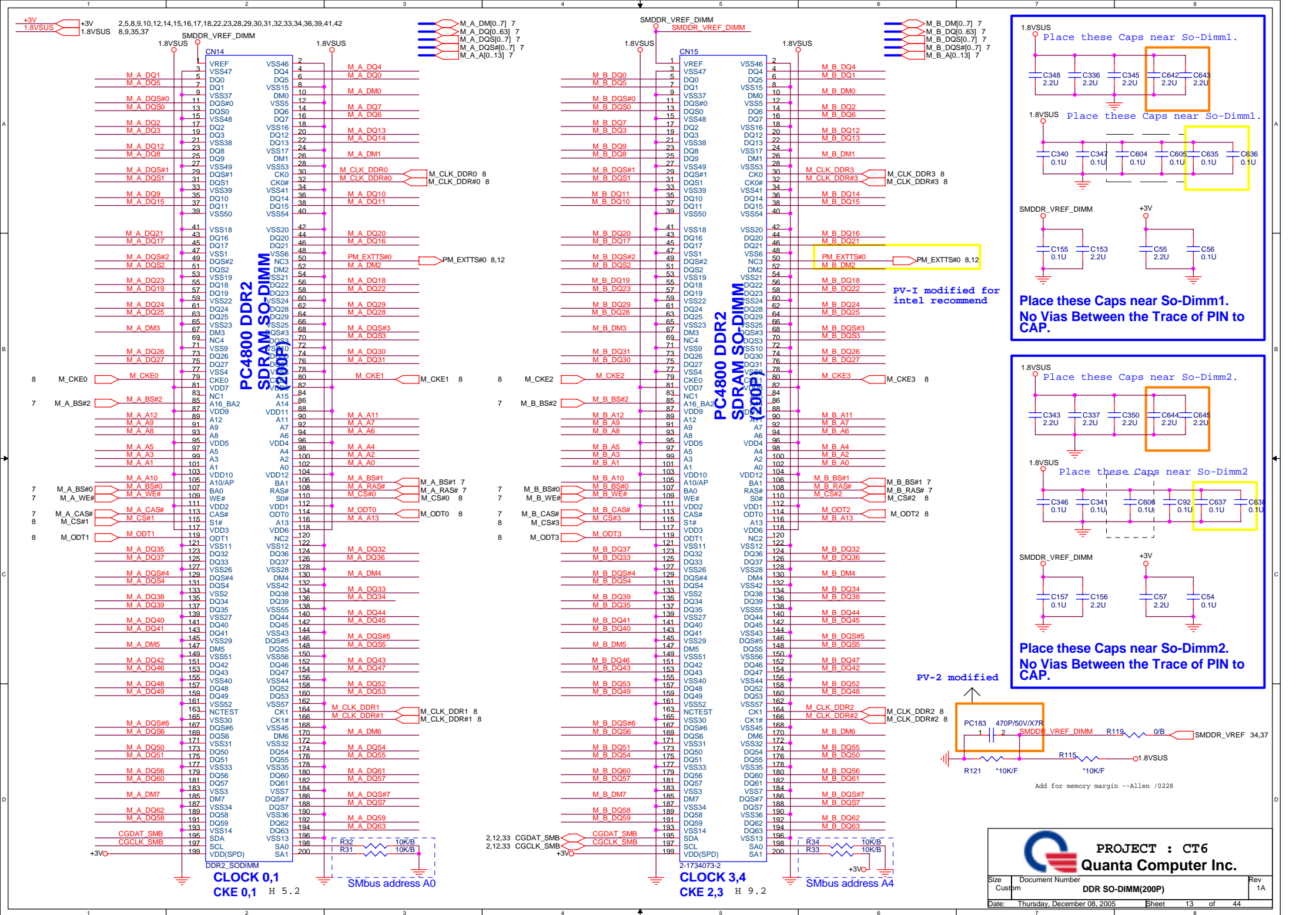


## DDRII B CHANNEL



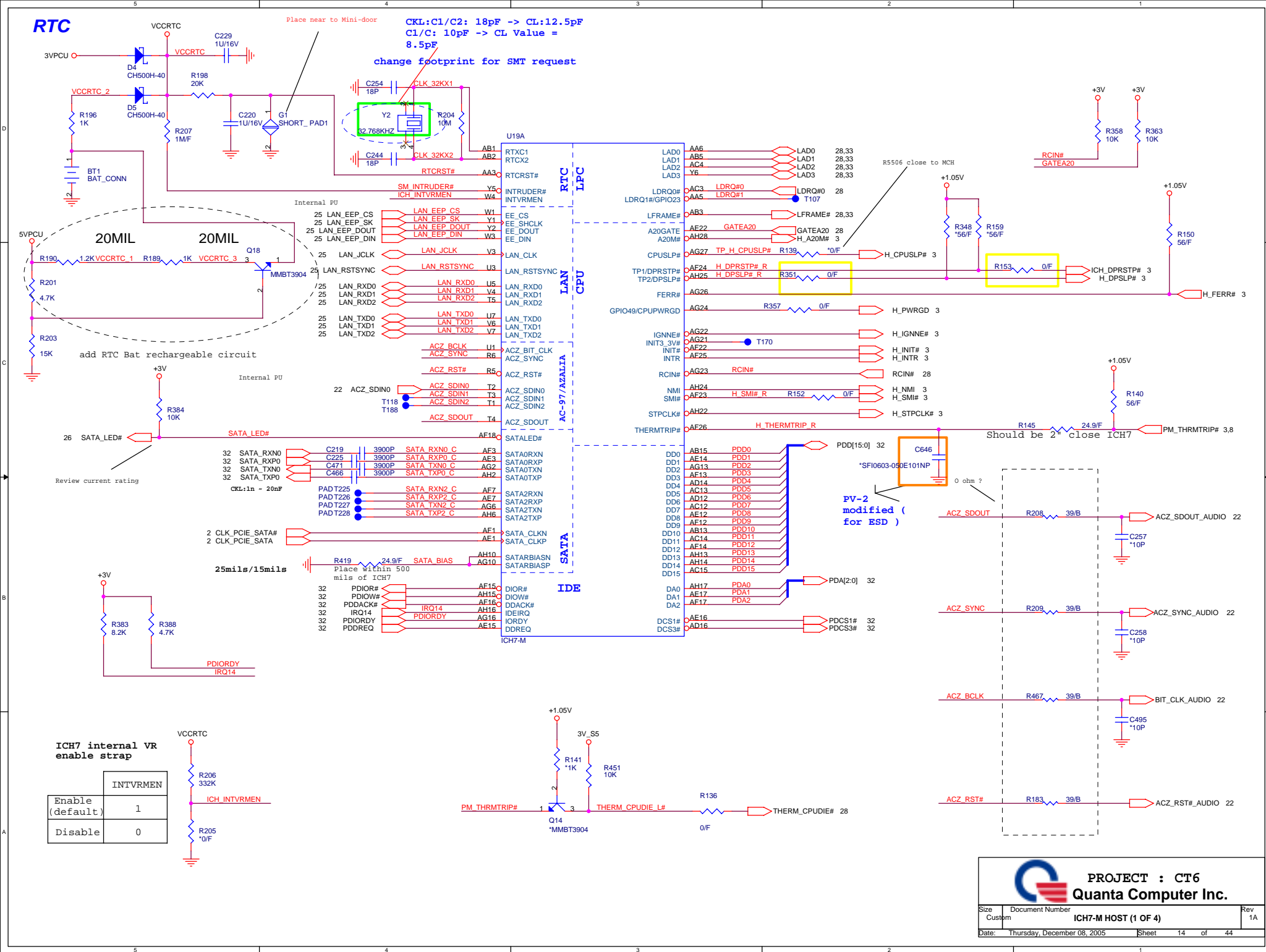
Layout note: Place one cap close to every 2 pullup resistors terminated to SMDR\_VTERM







**RTC**

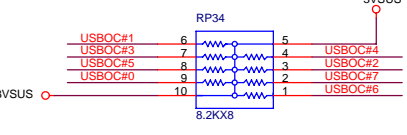
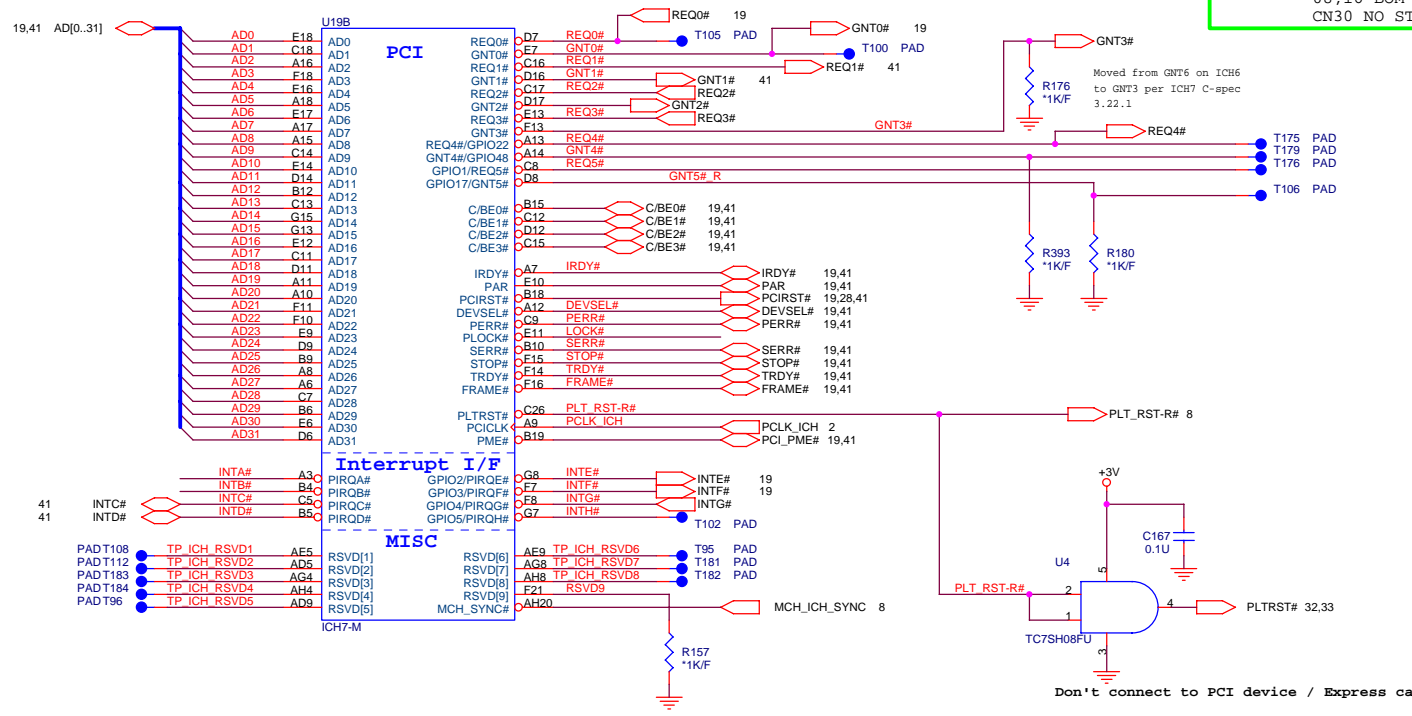


PROJECT : CT6  
Quanta Computer Inc.

Size Custom	Document Number <b>ICH7-M HOST (1 OF 4)</b>	Rev 1A
Date:	Thursday, December 08, 2005	Sheet 14 of 44




## EXPRESS CARD (NEW CARD)



add camara solution

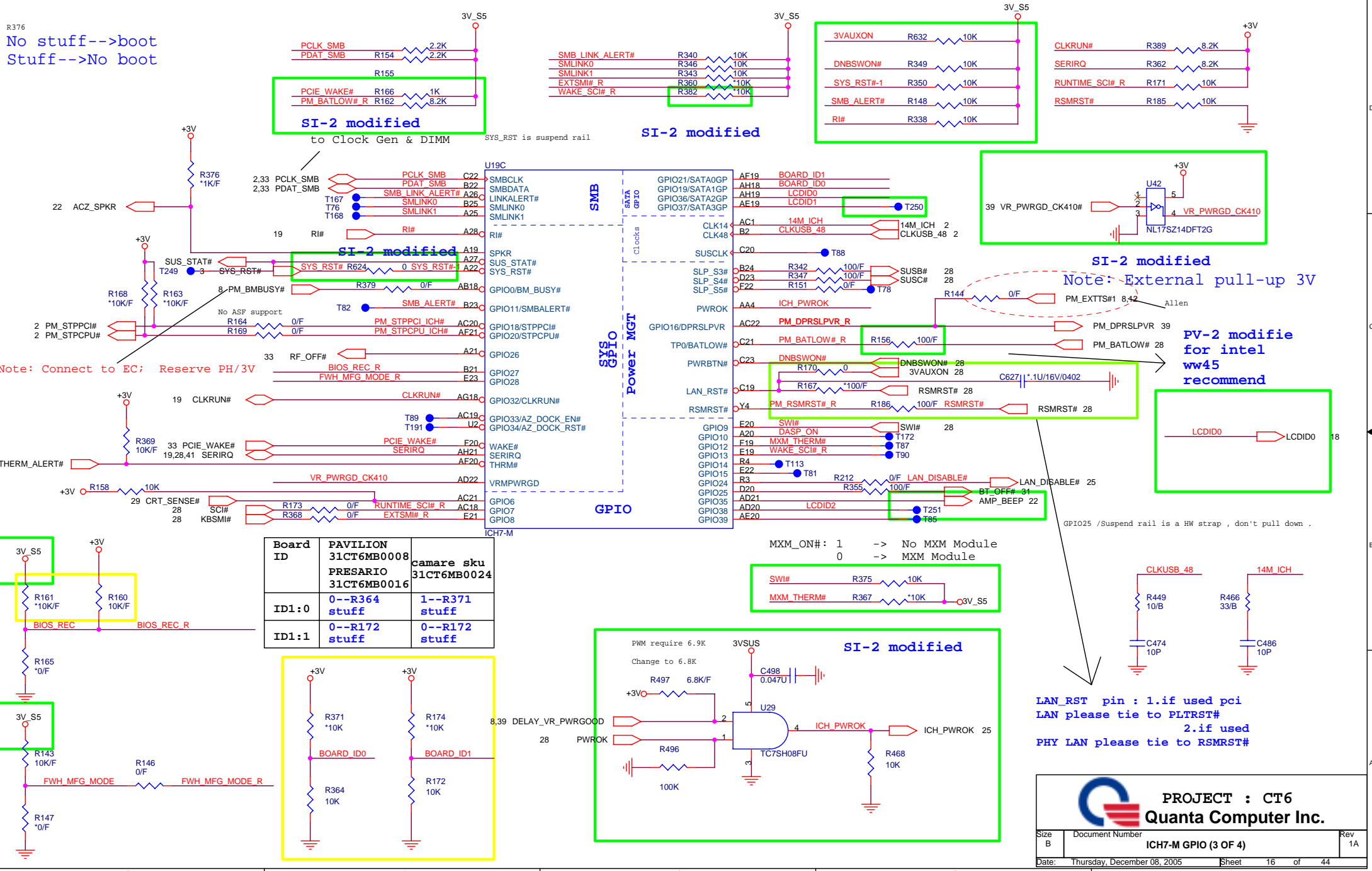
08,16 BOM  
CN30 NO STUFF

PCI DEVICE	IDSEL#	REQ# / GNT#	Interrupts
PCI7411	AD25	REQ3# / GNT3#	INT B/C/G#
Relteck Lan	AD16	REQ2# / GNT2#	INT C#

 <div style="display: inline-block; vertical-align: middle;"> <p><b>PROJECT : CT6</b></p> <p><b>Quanta Computer Inc.</b></p> </div>			
Size Custom	Document Number <b>ICH7-M PCI E (2 OF 4)</b>	Rev 1A	
Date:	Thursday, December 08, 2005	Sheet	15 of 44


R376

No stuff-->boot  
Stuff-->No boot



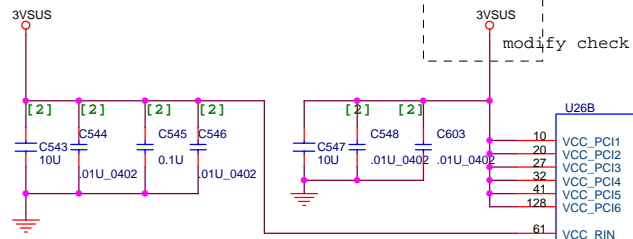
Board ID	PAVILION 31CT6MB0008 PRESARIO 31CT6MB0016	Camare sku 31CT6MB0024
ID1:0	0--R364 stuff	1--R371 stuff
ID1:1	0--R172 stuff	0--R172 stuff

```
LAN_RST pin : 1.if used pci
LAN please tie to PLTRST#
                2.if used
PHY LAN please tie to RSMRST#
```

 <div style="display: inline-block; vertical-align: middle;"> <p><b>PROJECT : CT6</b></p> <p><b>Quanta Computer Inc.</b></p> </div>			
Size B	Document Number	ICH7-M GPIO (3 OF 4)	Rev 1A
Date:	Thursday, December 08, 2005	Sheet	16 of 44



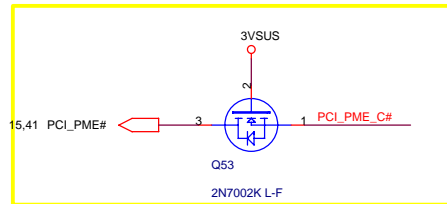




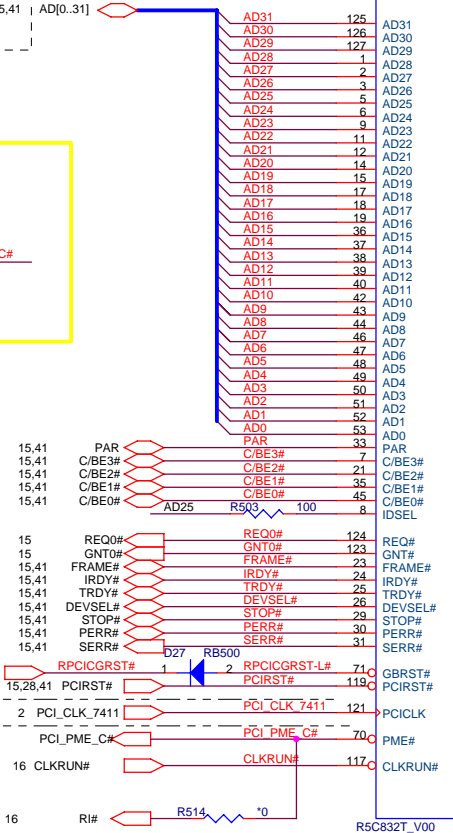
### PCI Bus

#### PowerOnReset for VccCore

When GRESET# is controlled by system, the pull-up resistor(R3) and capacitor(C13) do not need to apply.

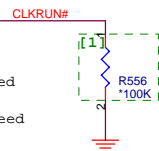


PV-1 modified to fix S5 WAKE-UP-LAN ISSUE ( CH7M has leakage power to card reader )

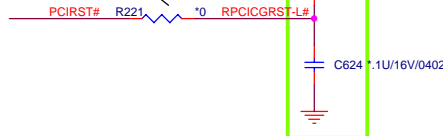


#### CoreLogic CLOCKRUN#

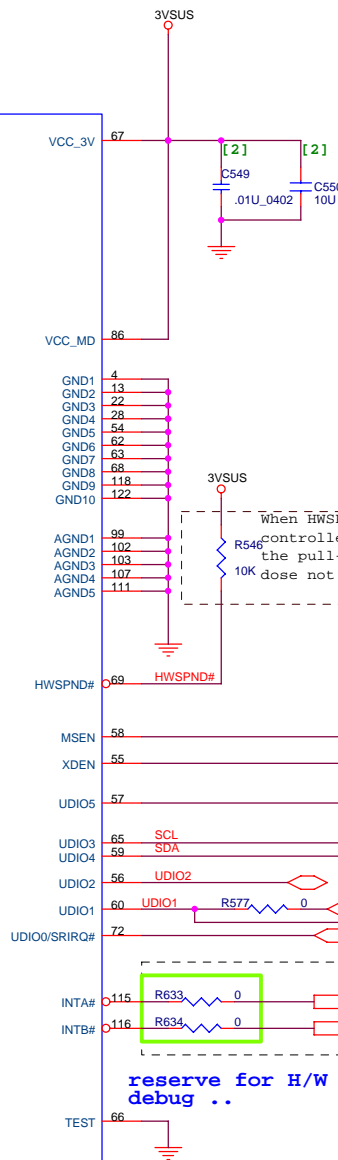
When CLKRUN# is controlled by system, the pull-down resistor(R14) dose not need to apply.



Check EC's RPCICGRST#. If uninstalls R221, R374 shall be installed/Allen.



PCI / OTHER

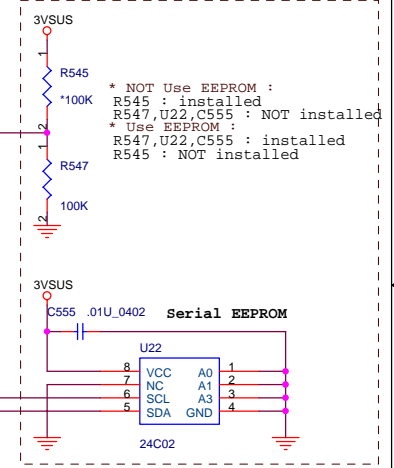


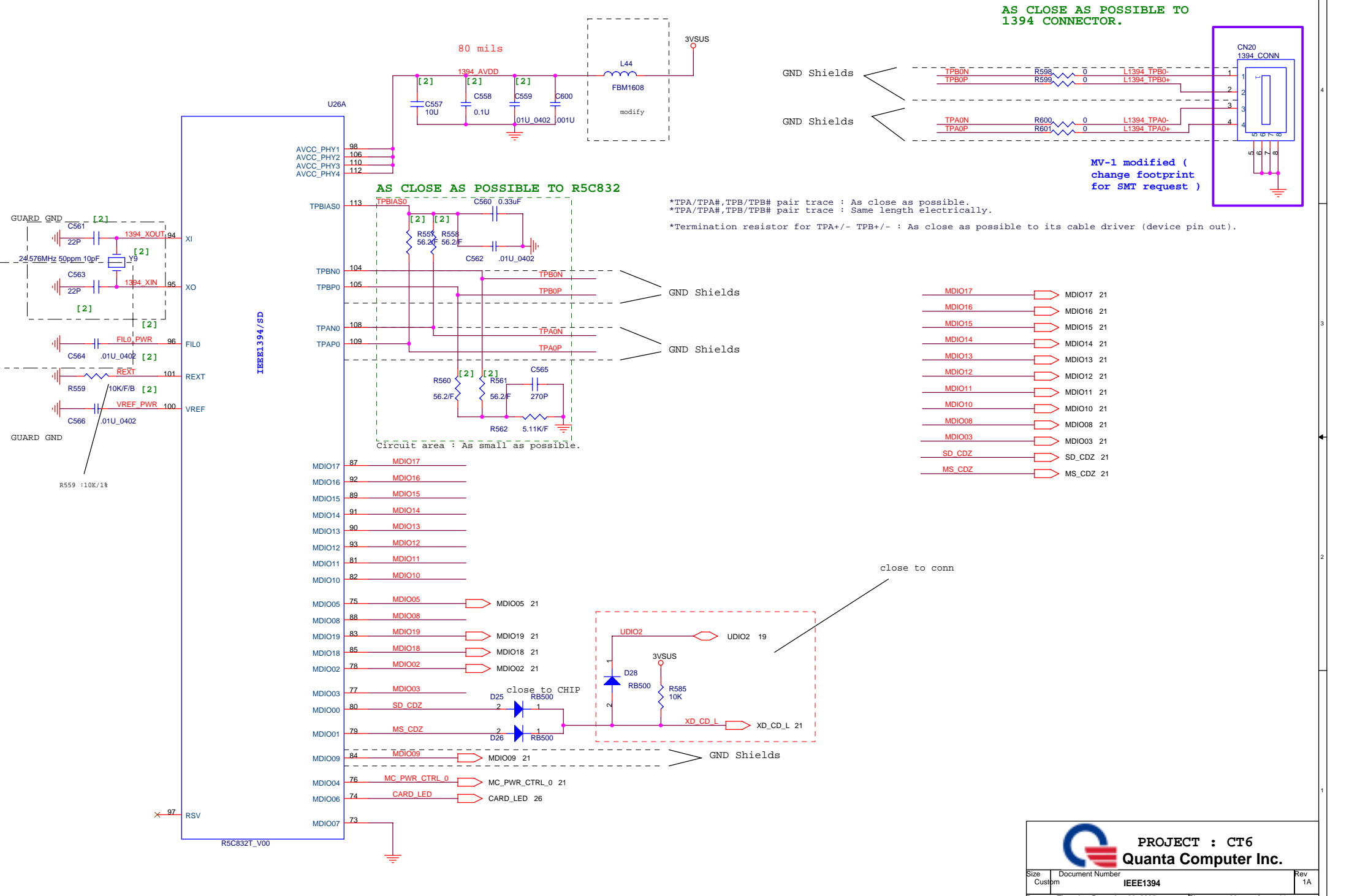
reserve for H/W debug ..

SI-2 modified

fix card reader LED always on when system into the S3

- [1] NOT INSTALLED
- [2] AS CLOSE AS POSSIBLE TO DEVICE TERMINALS
- [3] CLK LINE : SHIELDED BY GND. (RECOMMENDED)





AS CLOSE AS POSSIBLE TO  
1394 CONNECTOR.

GND Shields  
GND Shields

MV-1 modified (  
change footprint  
for SMT request )

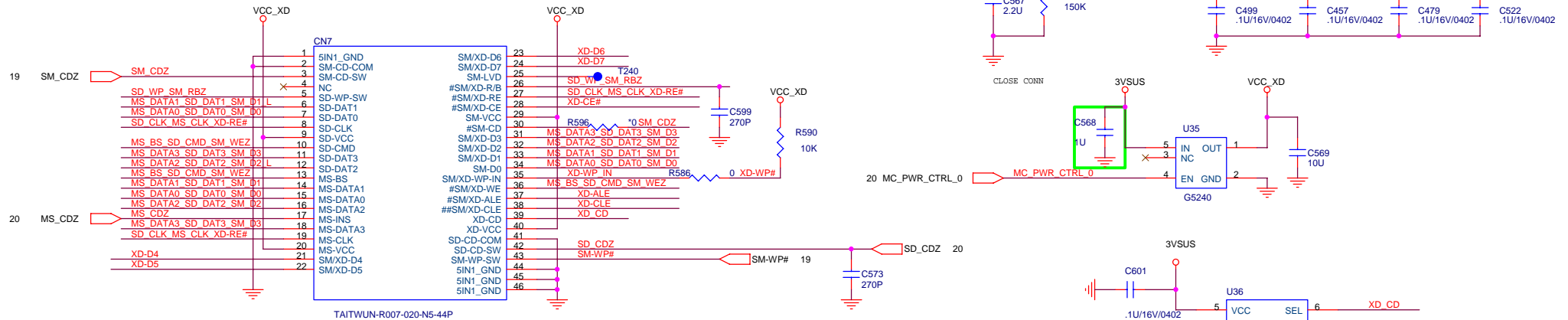
\*TPA/TPA#,TPB/TPB# pair trace : As close as possible.  
\*TPA/TPA#,TPB/TPB# pair trace : Same length electrically.  
\*Termination resistor for TPA+/- TPB+/- : As close as possible to its cable driver (device pin out).

- MDIO17 21
- MDIO16 21
- MDIO15 21
- MDIO14 21
- MDIO13 21
- MDIO12 21
- MDIO11 21
- MDIO10 21
- MDIO08 21
- MDIO03 21
- SD\_CDZ 21
- MS\_CDZ 21

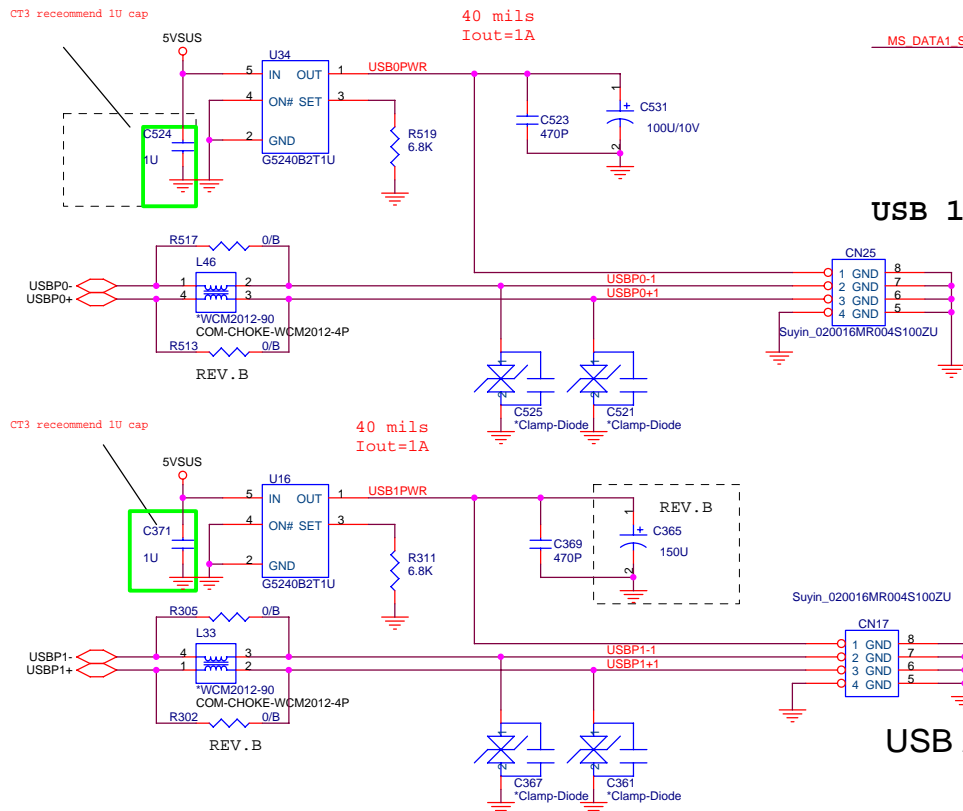
close to conn



**DO NOT INSERT SD/MMC, MEMORYSTICK AND XD SIMULTANEOUSLY.**

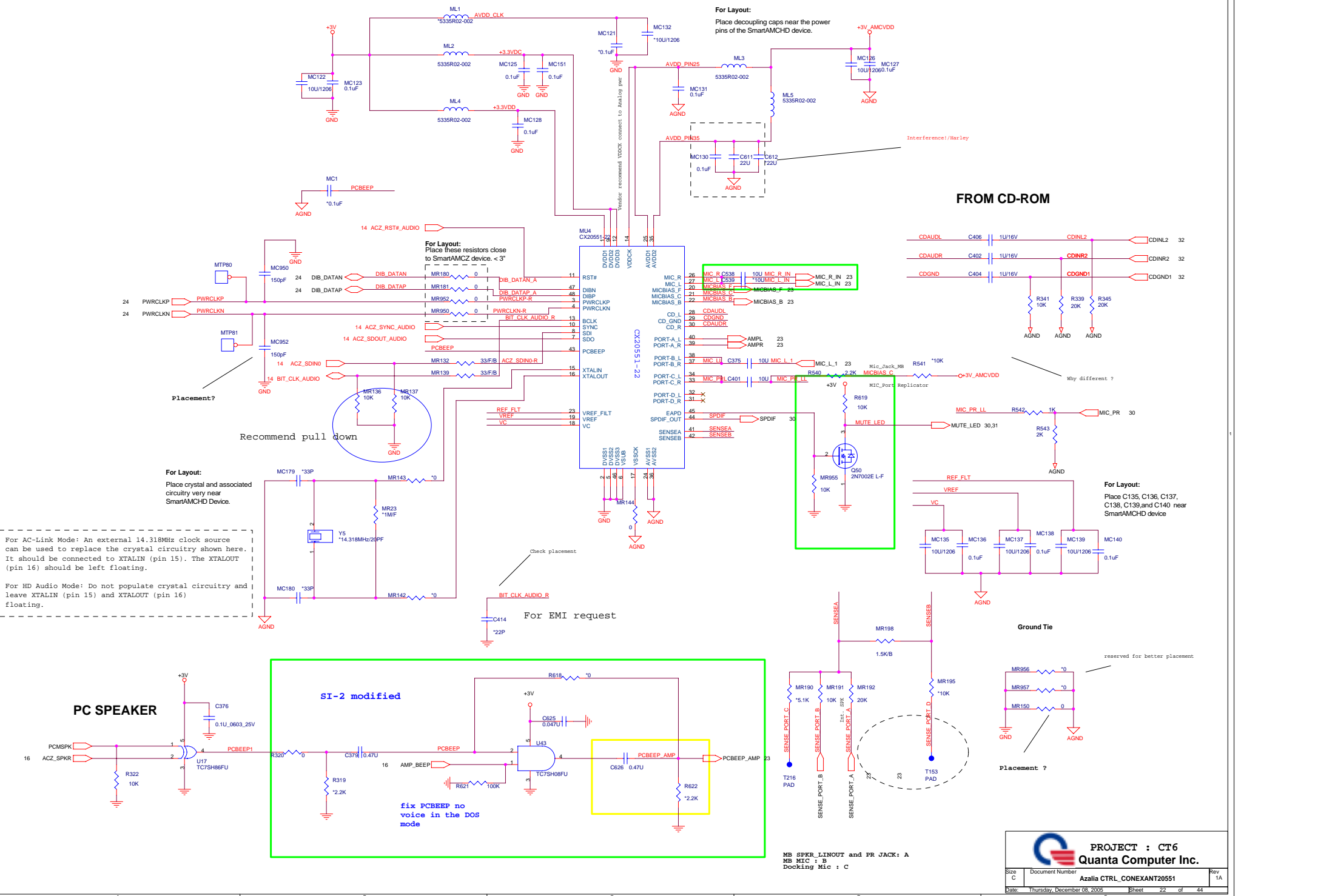


## 5 IN1 CARD READER



20	MDIO03	MDIO03	R587	56	SD_WP SM_RBZ
20	MDIO17	MDIO17	R200	56	XD-D7
20	MDIO16	MDIO16	R202	56	XD-D6
20	MDIO15	MDIO15	R210	56	XD-D5
20	MDIO14	MDIO14	R216	56	XD-D4
20	MDIO13	MDIO13	R191	56	MS_DATA3 SD_DAT3 SM_D3
20	MDIO12	MDIO12	R187	56	MS_DATA2 SD_DAT2 SM_D2
20	MDIO11	MDIO11	R184	56	MS_DATA1 SD_DAT1 SM_D1
20	MDIO10	MDIO10	R182	56	MS_DATA0 SD_DAT0 SM_D0
20	MDIO08	MDIO08	R181	56	MS_BS SD_CMD SM_WEZ
20	MDIO05	MDIO05	R197	56	XD-WP#
20	MDIO19	MDIO19	R563	56	XD-ALE
20	MDIO18	MDIO18	R564	56	XD-CLE
20	MDIO02	MDIO02	R220	56	XD-CE#
20	MDIO09	MDIO09	R222	56	SD_CLK MS_CLK XD-RE#

change from 0 ohm to 56 ohm ( from vendor recommend)



For AC-Link Mode: An external 14.318MHz clock source can be used to replace the crystal circuitry shown here. It should be connected to XTALIN (pin 15). The XTALOUT (pin 16) should be left floating.

For HD Audio Mode: Do not populate crystal circuitry and leave XTALIN (pin 15) and XTALOUT (pin 16) floating.

**For Layout:**  
Place crystal and associated circuitry very near SmartAMCHD Device.

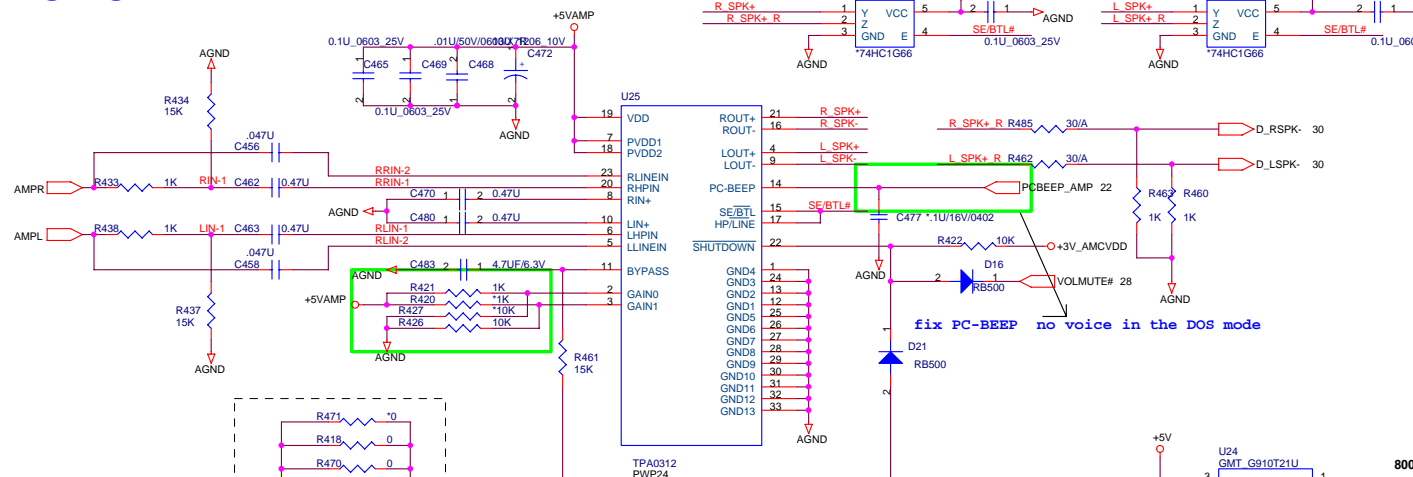
**For Layout:**  
Place these resistors close to SmartAMCHD device. < 3"

**For Layout:**  
Place decoupling caps near the power pins of the SmartAMCHD device.

**For Layout:**  
Place C135, C136, C137, C138, C139, and C140 near SmartAMCHD device

MB SPKR\_LINOUT and PR JACK: A  
MB MIC : B  
Docking Mic : C

# AUDIO AMPLIFIER

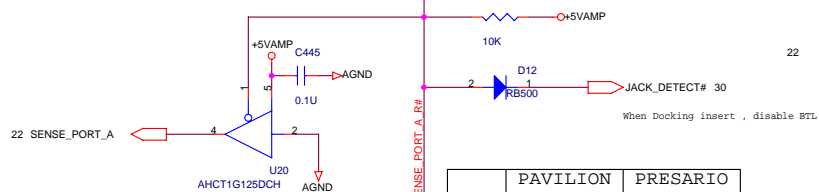
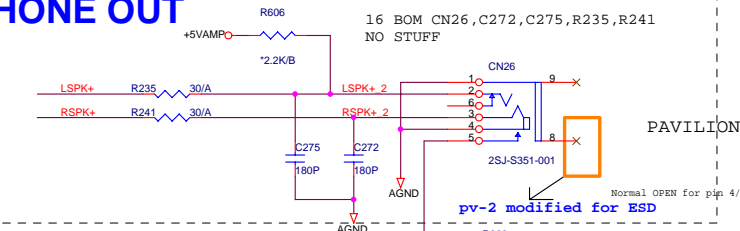


0312 Gain Table

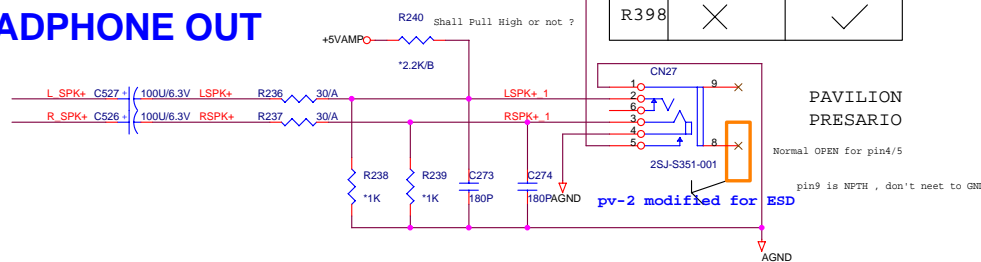
GAIN0	GAIN1	SE/BTL	AV(inv)
0	0	0	6 dB
0	1	0	10 dB
1	0	0	15.6 dB
1	1	0	21.6 dB
X	X	1	4.1 dB

Placement ?

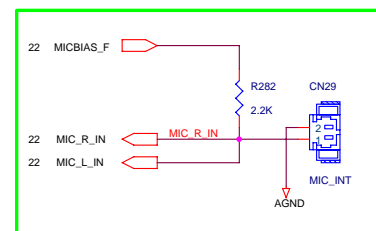
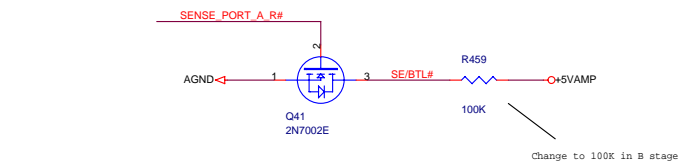
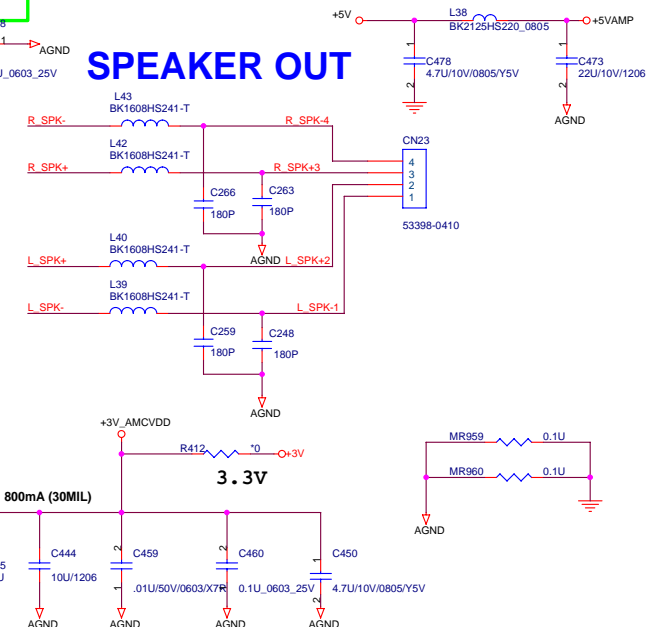
## 2ND HEADPHONE OUT



## HEADPHONE OUT

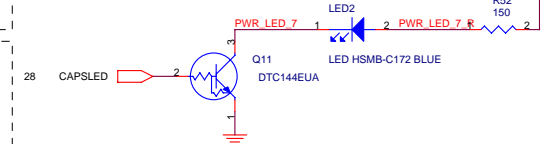
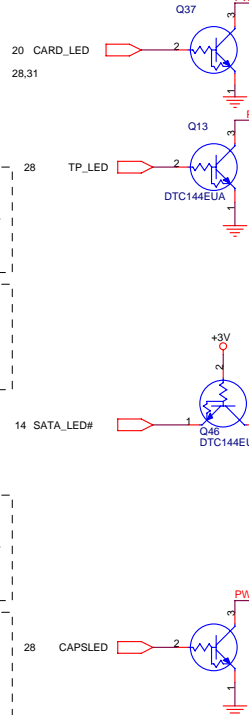
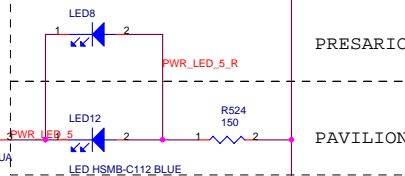
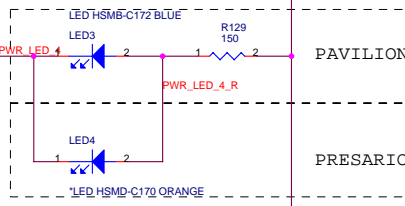
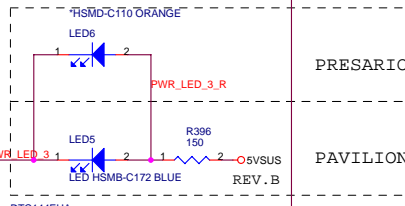
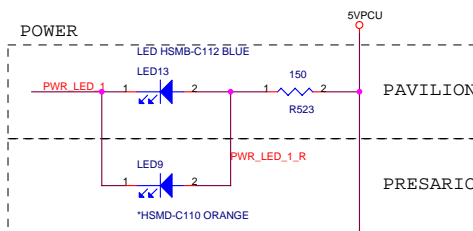
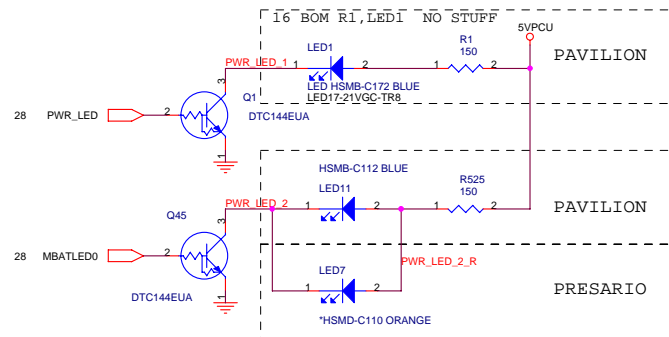


## SPEAKER OUT

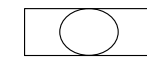




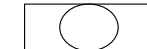




LED HSMB-C170 ORANGE



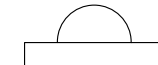
LED HSMB-C172 BLUE



LED HSMB-C110 ORANGE

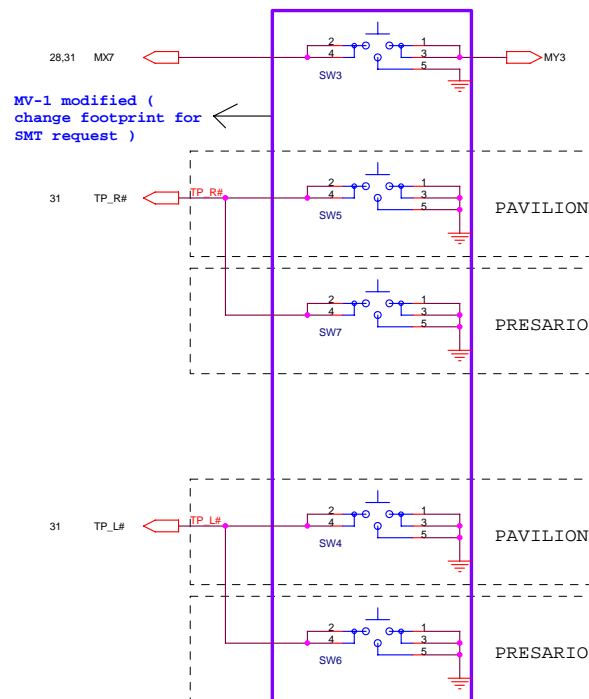


LED HSMB-C112 BLUE



REV.B: LED7 AND LED8 SWAP

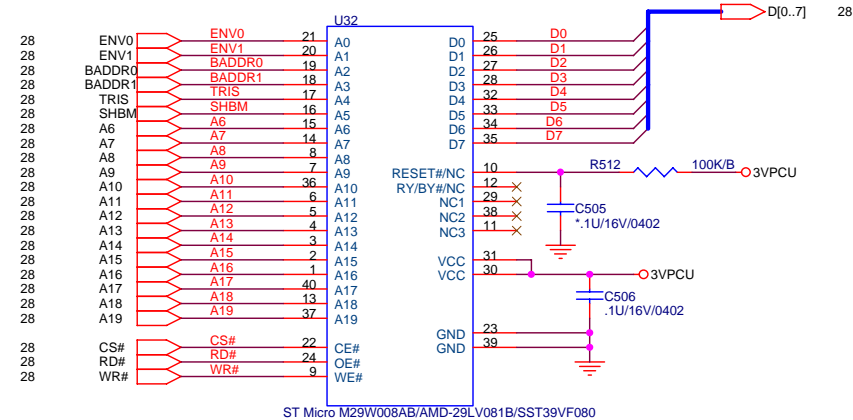
## Touchpad control



PROJECT : CT6  
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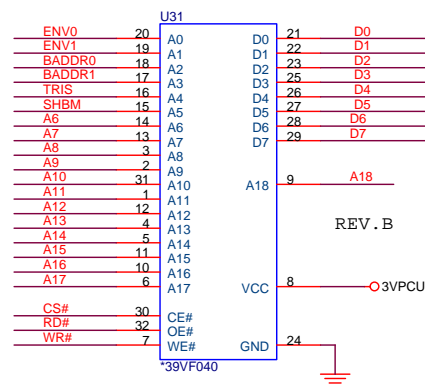
## 8Mbit (1M Byte), TSSOP40



AMD :Pin 10 is RESET# ; Pin12 is RY/BY#  
SST :Pin10,12 are NC

- 1.AMD-29LV081B require MAX 500nS Tready for it's hardware reset.And MAX6326\_UR29 has >100mS reset timing.So we can tie it's reset# pin to +3VALW directly.
- 2.SIO has internal 20 mS delay of VCC1\_PWROK

4Mbit (512k Byte), TSSOP32



08,24,16 BOM  
U31 NO STUFF



PROJECT : CT6  
Quanta Computer Inc.

Size	Document Number
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BIOS ROM

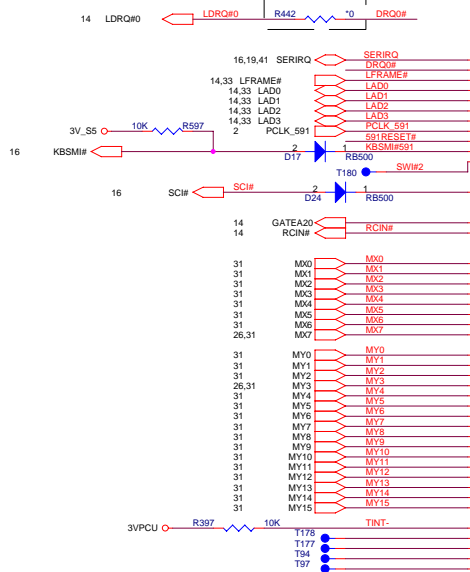
Rev  
1A

Date: Thursday, December 08, 2005

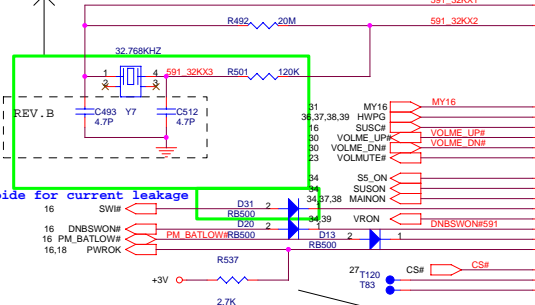
Sheet 27 of 44

# KBC-NS87541L

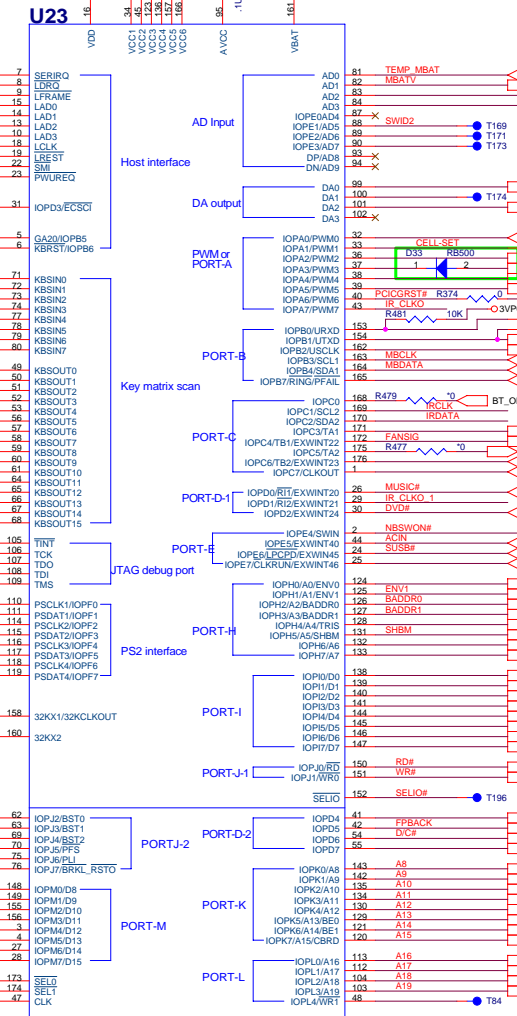
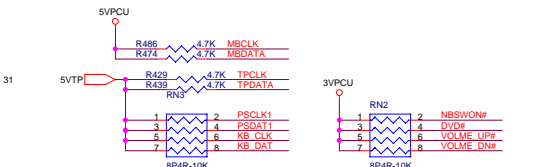
LDRQ#(pin 8) internal is no use



change footprint for SMT request

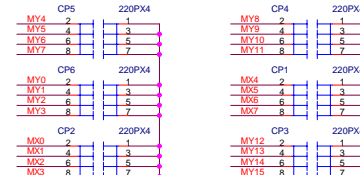
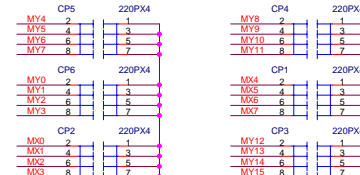
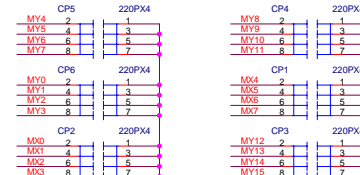
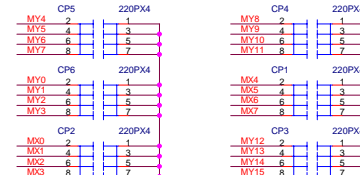
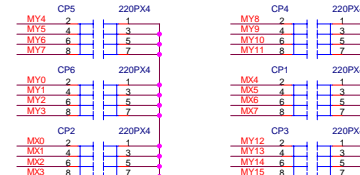
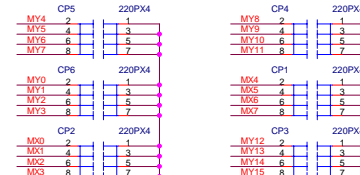
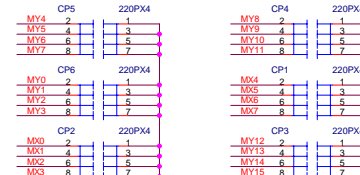
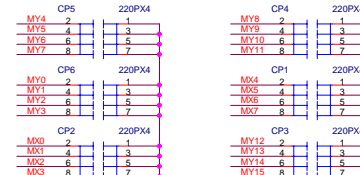
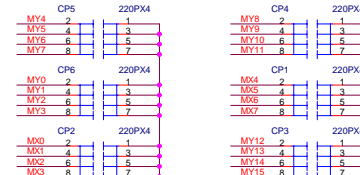
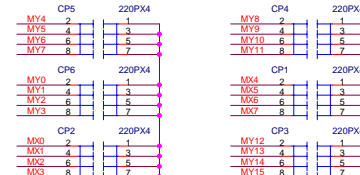
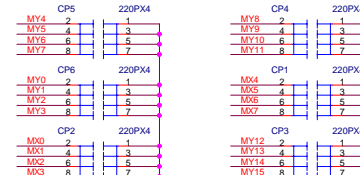
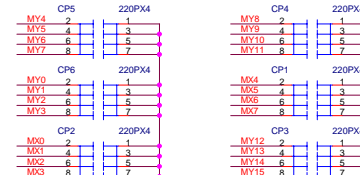
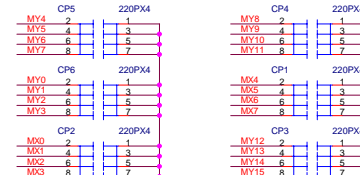
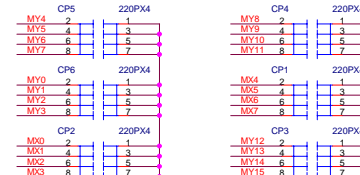
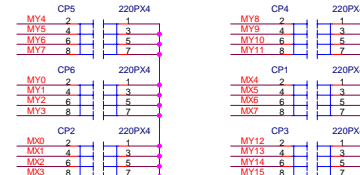
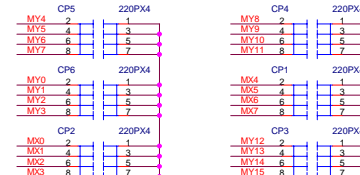
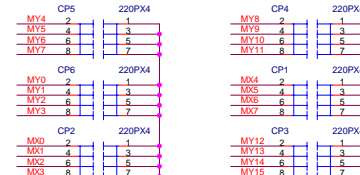
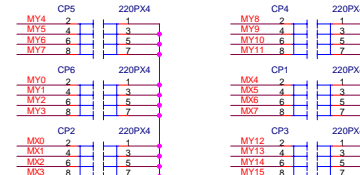


1. Remove R468.
2. Add a Diode D20 on BATLOW#.
3. R470 no stuff.

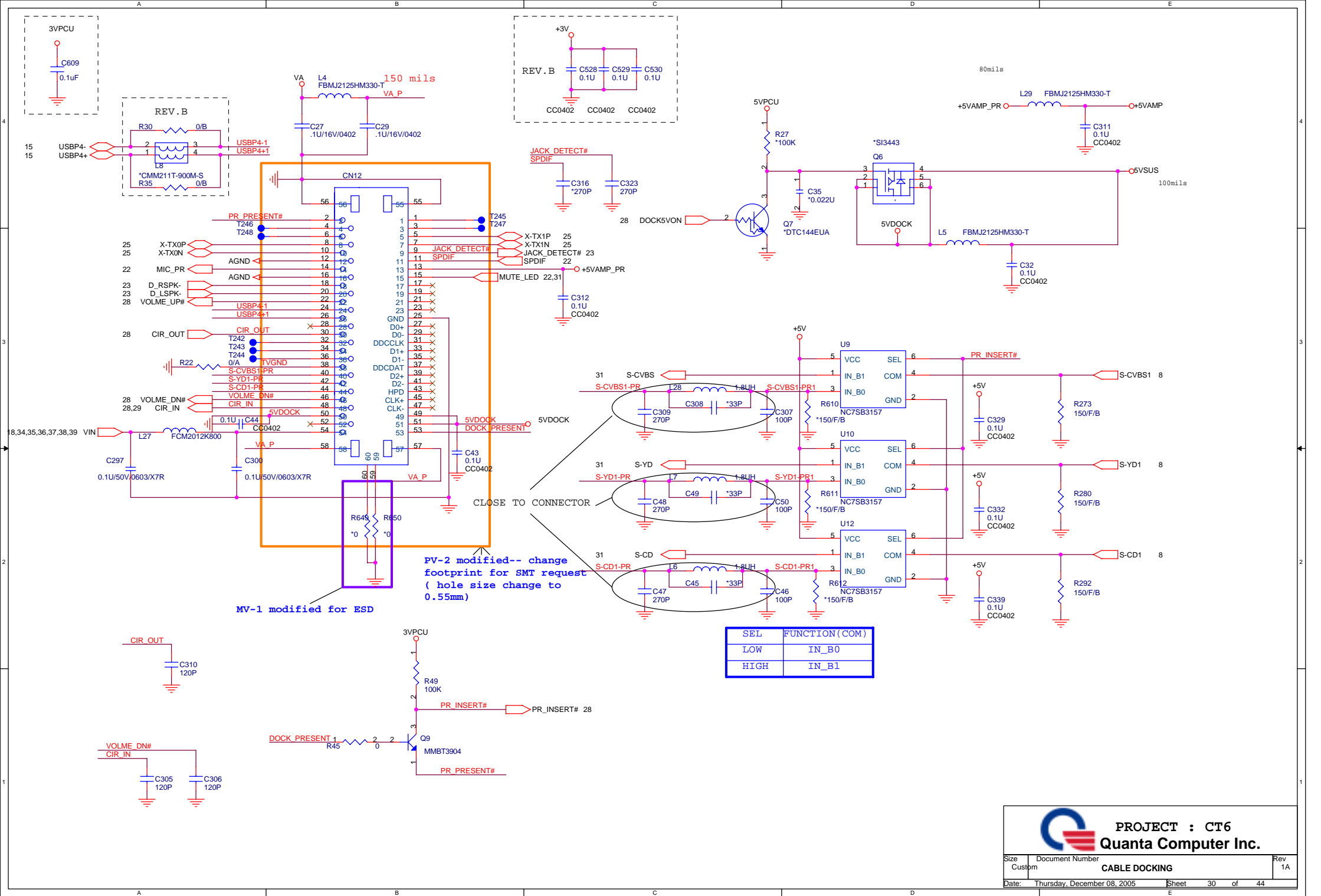


## PC87541L

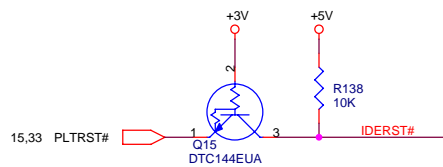
Pin 103 internal is "A19", Can't use to GPIO



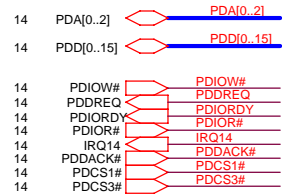
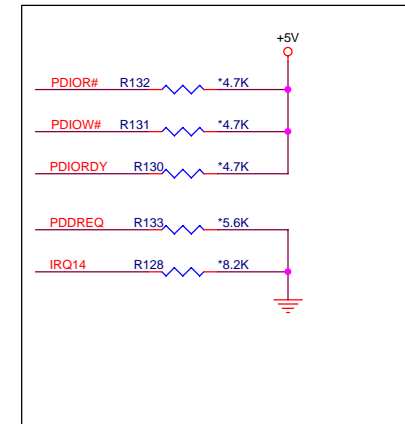
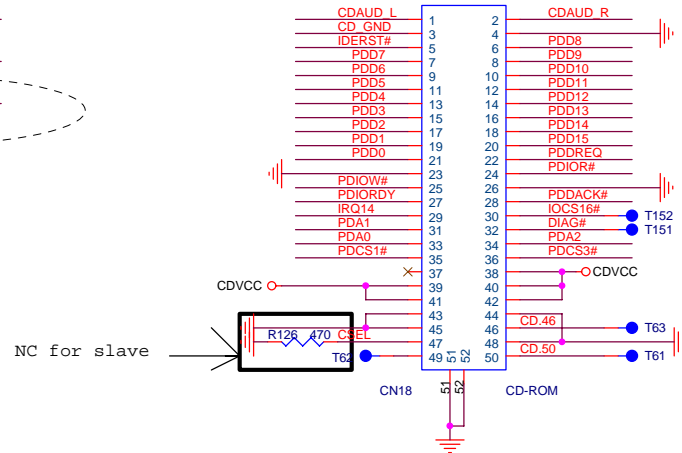
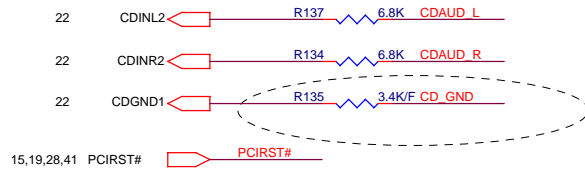
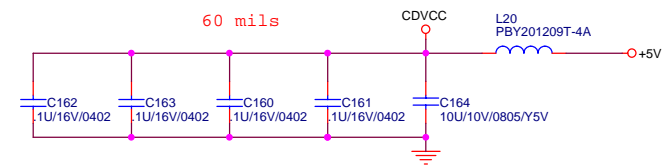




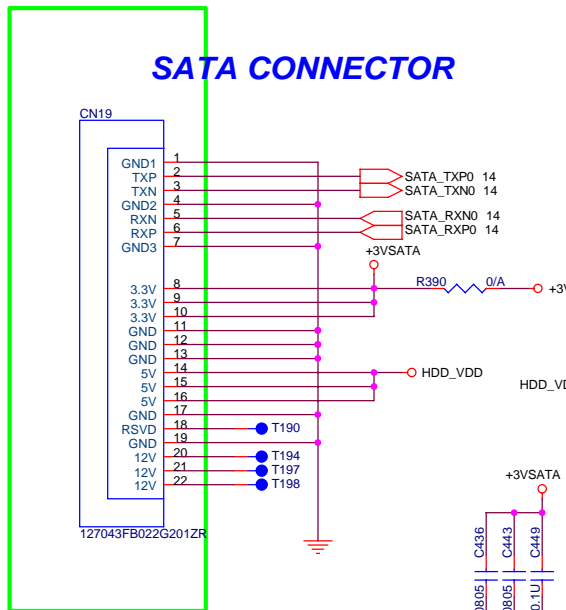




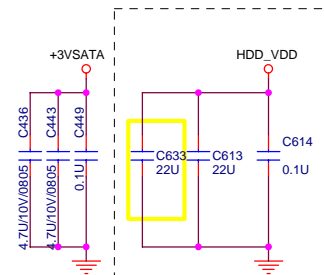
## CD-ROM



## SATA CONNECTOR

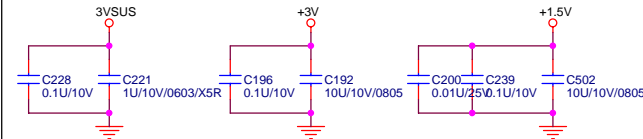


BOM P/N: DFHD07MS159

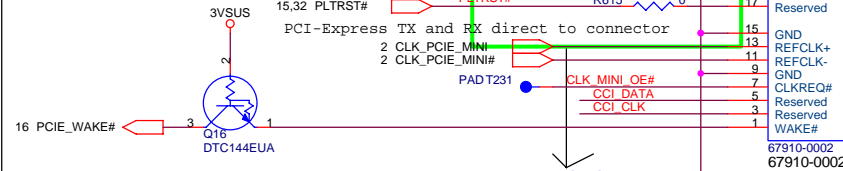




### Mini PCI-E Card

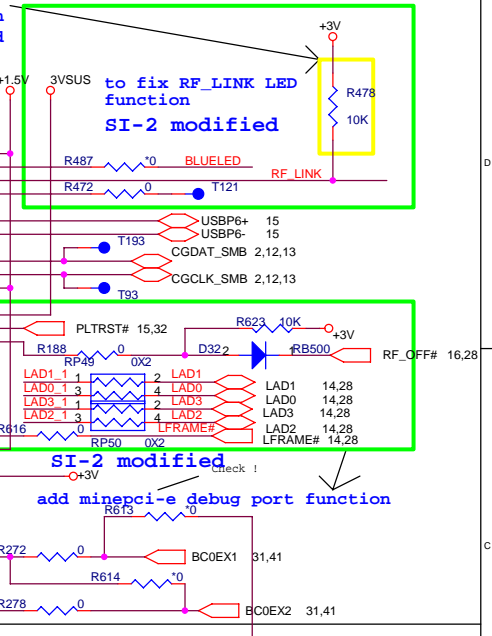
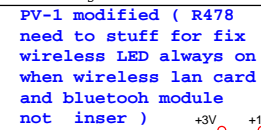


```
PV-I modified ( mini
PCI-E card internal
has a serial
cap,change component
from 0.1u cap to 0
ohm )
```

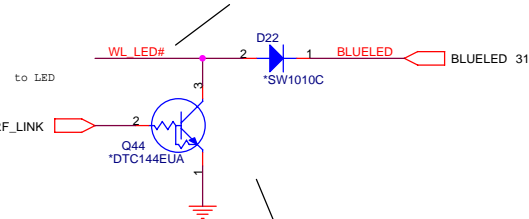


SI-2 modified

```
add minepci-e debug port function
```



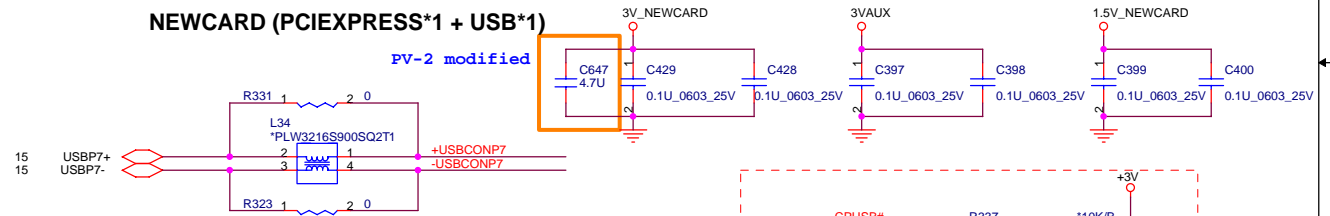
Need one more wireless LED /mini card on MB ?  
currently , No LED here



RF\_LINK# , check with KN1

## NEWCARD (PCIEXPRESS\*1 + USB\*1)

PV-2 modified

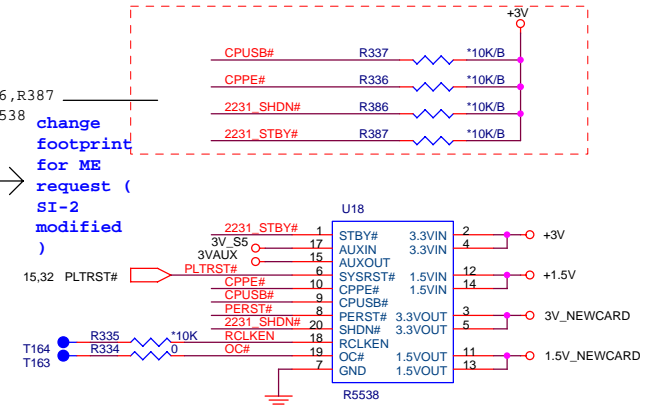
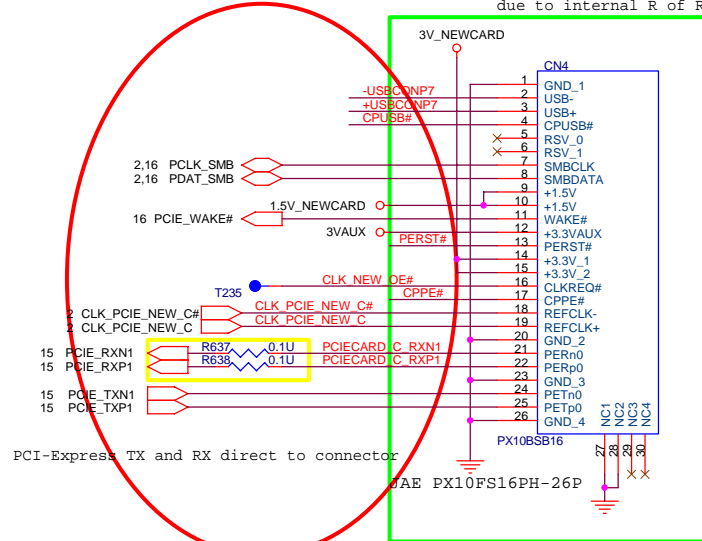


UNINSTALL R337 ,R336,R386,R387  
due to internal R of R5538

```

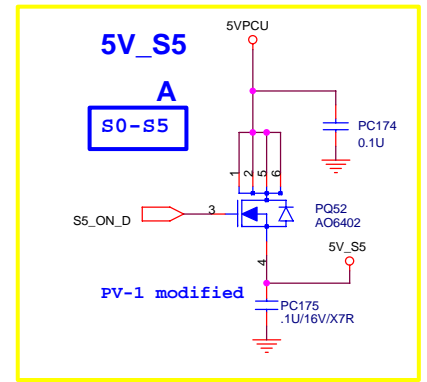
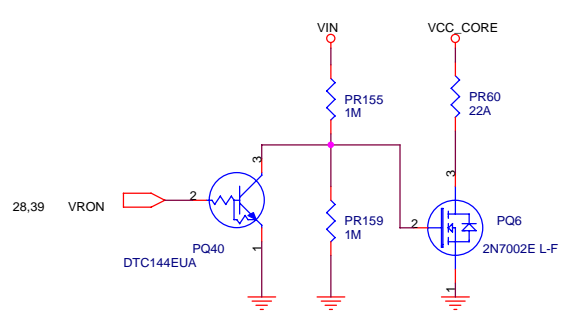
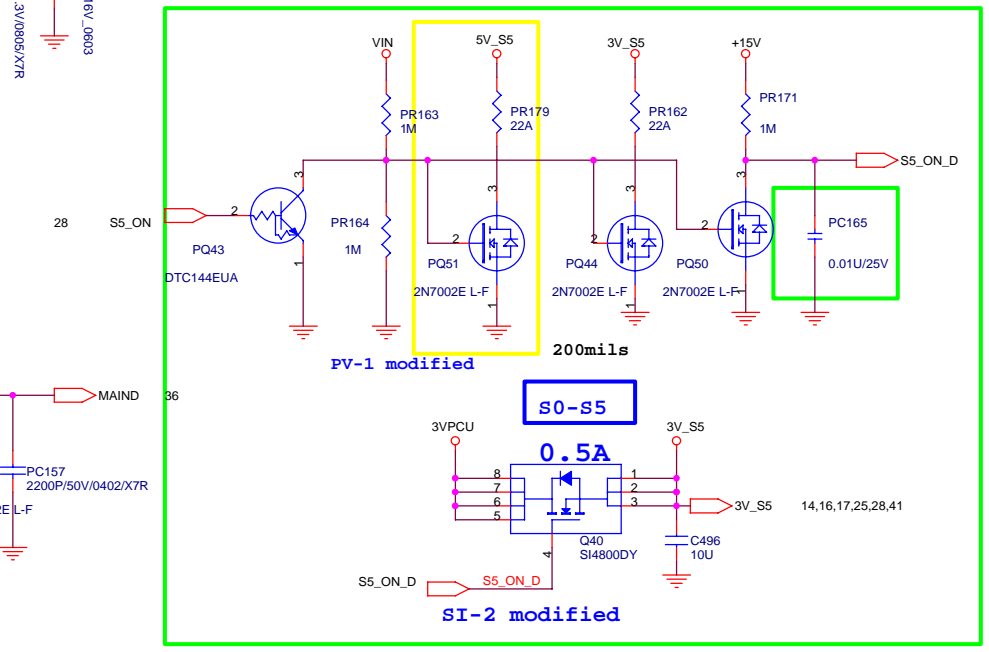
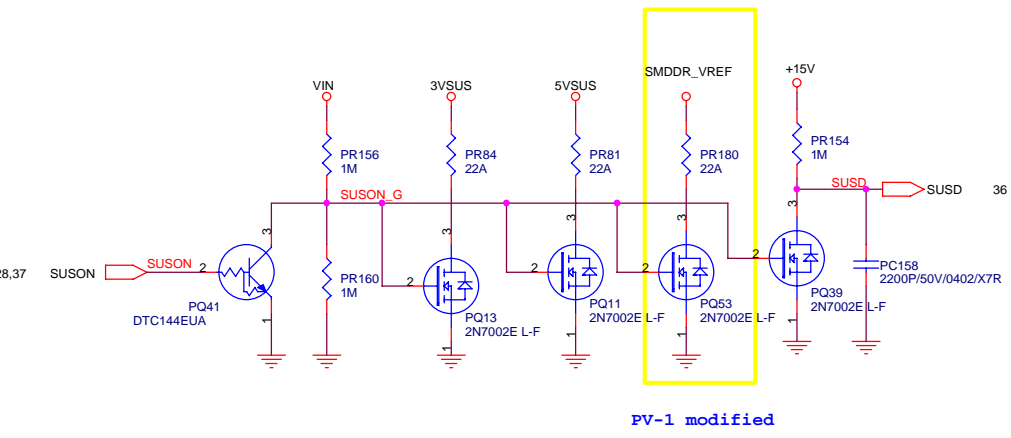
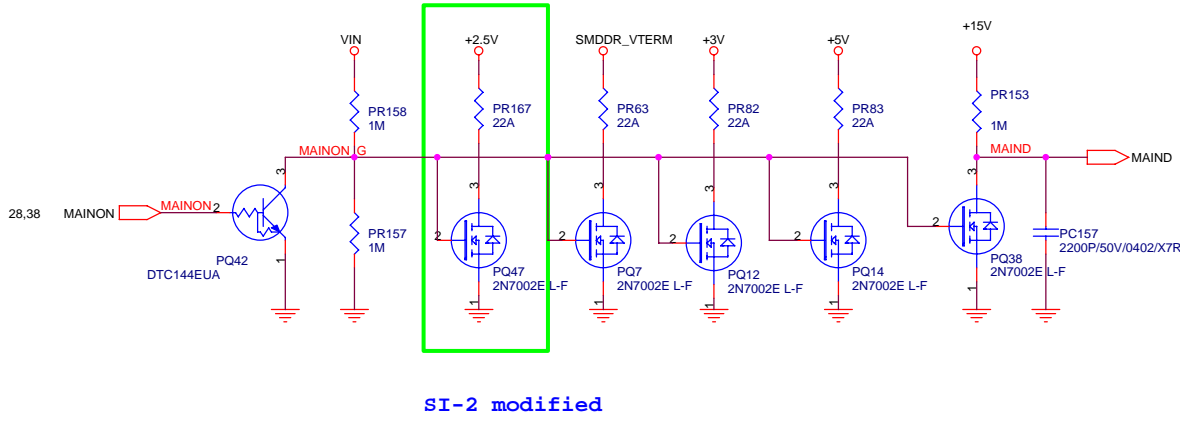
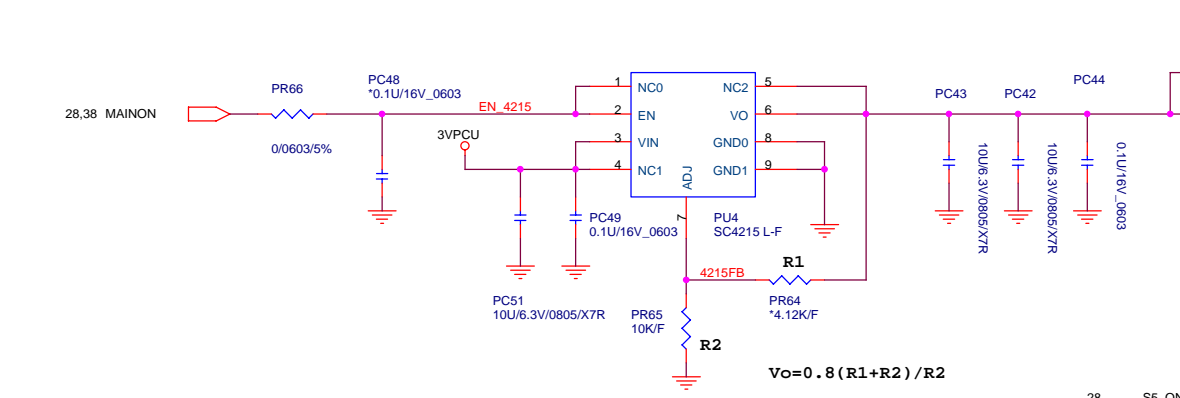
38 change
   footprint
   for ME
   request (
   SI-2
   modified
   )

```



PROJECT : CT6  
Quanta Computer Inc.

Size Custom	Document Number <b>NEW CARD, MINI CARD</b>	Rev 1A
Date: Thursday, December 08, 2005	Sheet 33 of 44	



**ADAPTER 18.5V 65W 3.51A**

Second:BAM66790014



PROJECT : CT6  
Quanta Computer Inc.

Size Custom	Document Number <b>CHARGER MAX1772</b>	Rev 1/
Date: Thursday, December 08, 2005	Sheet 35 of 44	



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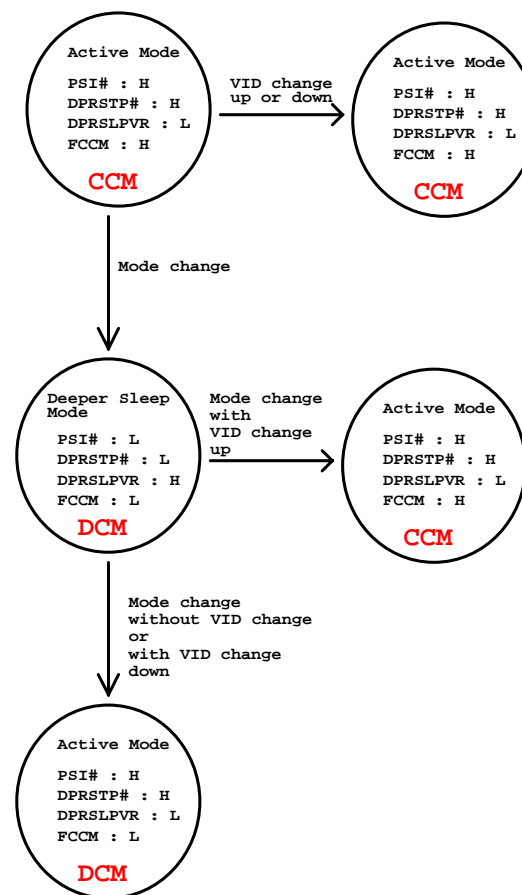
IMVP Spec. Rev. 0.8

(Nom.)	Yonah-2M	Meron
HFM	1.2875 V	1.1500 V
LFM	0.8375 V	0.8375 V
Deeper	0.7625 V	0.7625 V
VBOOT	1.2000 V	1.2000 V
SLOPE	-2.1 mV/A	-2.1 mV/A

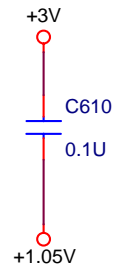
(Max.)	Yonah-2M	Meron
HFM	36 A	44 A
LFM	9.5 A	12.5 A
Deeper	3.5 A	5.5 A
Dynamic	27 A	34.5 A
TDC	26 A	32 A

V <sub>0</sub>	VID6	VID5	VID4	VID3	VID2	VID1	VID0
1.5000	0	0	0	0	0	0	0
1.4375	0	0	0	0	1	0	1
1.4000	0	0	0	1	0	0	0
1.3000	0	0	1	0	0	0	0
1.2875	0	0	1	0	0	0	1
1.2000	0	0	1	1	0	0	0
1.1500	0	0	1	1	1	0	0
1.1000	0	1	0	0	0	0	0
1.0000	0	1	0	1	0	0	0
0.9625	0	1	0	1	0	1	1
0.9000	0	1	1	0	0	0	0
0.8375	0	1	1	0	1	0	1
0.8000	0	1	1	1	0	0	0
0.7625	0	1	1	1	0	1	1
0.7500	0	1	1	1	1	0	0
0.7000	1	0	0	0	0	0	0
0.6000	1	0	0	1	0	0	0
0.5000	1	0	1	0	0	0	0
0.3000	1	1	0	0	0	0	0

CCM : Continuous Conduction Mode  
DCM : Dis-Continuous Mode







**PROJECT : CT6**  
**Quanta Computer Inc.**

Size A	Document Number <b>TPM</b>	Rev 1A
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MODEL		REV		CHANGE LIST		Model CT6 MB BOARD		
CT6 MB 31CT6MBXXXX		1A				Page	FROM	TO
						1	1A	
						2	1A	
						3	1A	
						4	1A	
						5	1A	
						6	1A	
						7	1A	
						8	1A	
						9	1A	
						10	1A	
						11	1A	
						12	1A	
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						14	1A	
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						35	1A	
						36	1A	
						37	1A	
						38	1A	
						39	1A	
						40	1A	
						41	1A	
						42	1A	
						43	1A	
44	1A							

description		31 BOM difference list ( base on 31CT6MB0008 BOM )	
31CT6MB0008	Pavilion FF		
31CT6MB0024	Pavilion FF+Camera/Mic	ADD : 1.CN30 2.CN31 3.CN32 4.CN29 <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> <div style="display: inline-block; vertical-align: middle; text-align: center;"> <div style="border-left: 1px solid black; border-right: 1px solid black; height: 10px; width: 10px; margin: 0 auto;"></div> <div style="border-top: 1px solid black; border-bottom: 1px solid black; height: 10px; width: 10px; margin: 0 auto;"></div> </div> <div style="display: inline-block; vertical-align: middle; text-align: center;"> <div style="border-left: 1px solid black; border-right: 1px solid black; height: 10px; width: 10px; margin: 0 auto;"></div> <div style="border-top: 1px solid black; border-bottom: 1px solid black; height: 10px; width: 10px; margin: 0 auto;"></div> </div> </div> <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">           for camera connector             for internal MIC connector         </div>	
31CT6MB0016	Presario FF	<div style="display: flex; justify-content: space-between;"> <div>           ADD:            LED 9 -- PWR_LED            LED 8 --SATA_LED            LED 7 --MBATLED            LED4 --TP_LED            LED2 --CAPD_LED            LED6 --CARD_LED            SW7 -- TP_R SWITCH            SW6 -- TP_L SWITCH         </div> <div>           REMOVE:            IR1--- IR component            LED13--PWR_LED            LED12 --SATA_LED            LED11 --MBAT_LED            C532 -- IR            R521 -- IR            CN22 -- AV BOARD            CN26 -- 2ND H/P CON            LED5 -- CARD_LED            LED3 -- TP_LED            LED2 -- CAPS_LED            LED1 -- PWR_LED            C267 -- AV BOARD EMI            C264 -- AV BOARD EMI            C260 -- AV BOARD EMI            C275 -- 2ND H/P EMI            C272 -- 2ND H/P EMI            R241 --2ND H/P damp res            R235 --2ND H/P damp res            R1 -- PWR RES            SW5 -TP_R SWITCH            SW4 -- TP_L SWITCH            SW2-NBWON# SWITCH         </div> </div>	

PROJECT : CT6

**Quanta Computer Inc.**

Size B

Date: Thursday, December 08, 2005

Document Number

change list

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Rev 1A