

PCB STACK UP

LAYER 1 : TOP
LAYER 2 : SGND1
LAYER 3 : IN1
LAYER 4 : IN2
LAYER 5 : VCC
LAYER 6 : IN3
LAYER 7 : SGND2
LAYER 8 : BOT

Cable Docking

- TV_OUT
- VGA
- RJ-45
- CIR/Pwr btn
- SPDIF Out
- Stereo MIC
- Headphone Jack
- USB Port
- VOL Cntr

PAG 38

SYSTEM CHARGER(MAX8724)
PAG 39

SYSTEM POWER MAX8743A
PAG 40

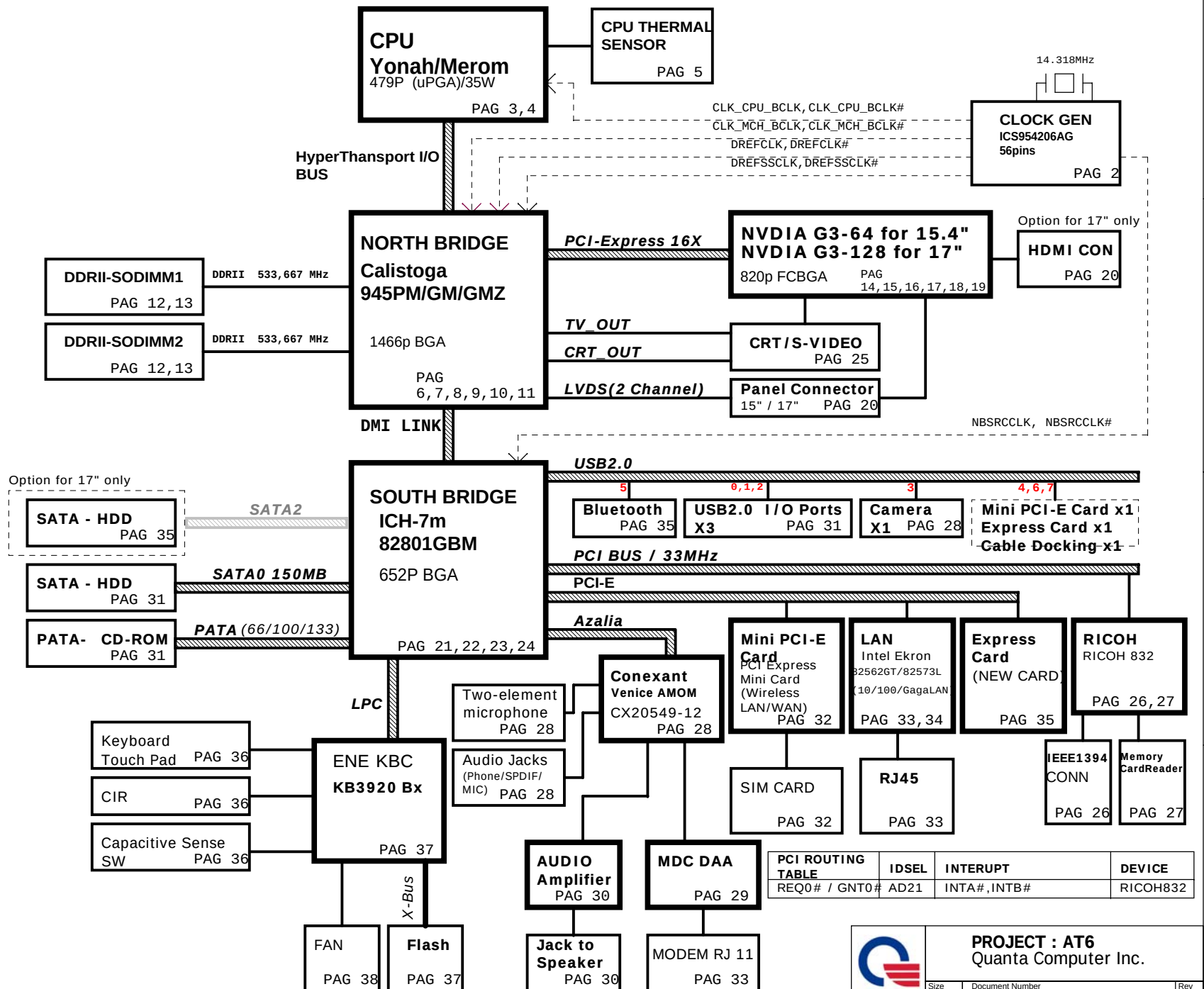
DDR II SMDR_VTERM
1.8V/1.8VSUS(MAX8632)
PAG 41

VCCP +1.5V AND
GMCH 1.05V(MAX8743)
PAG 42

VGACORE(1.025V)MAX1992
PAG 43

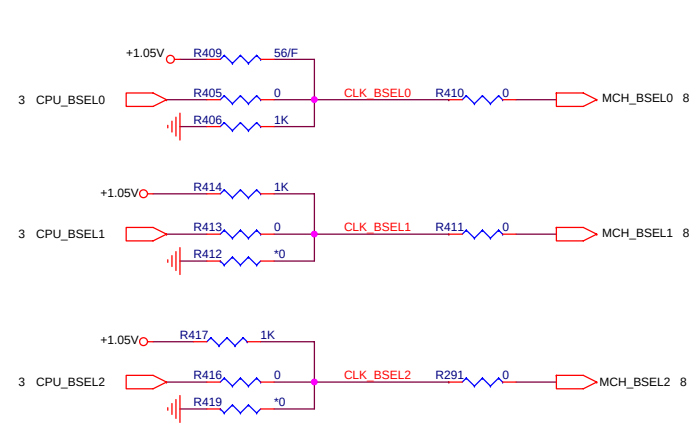
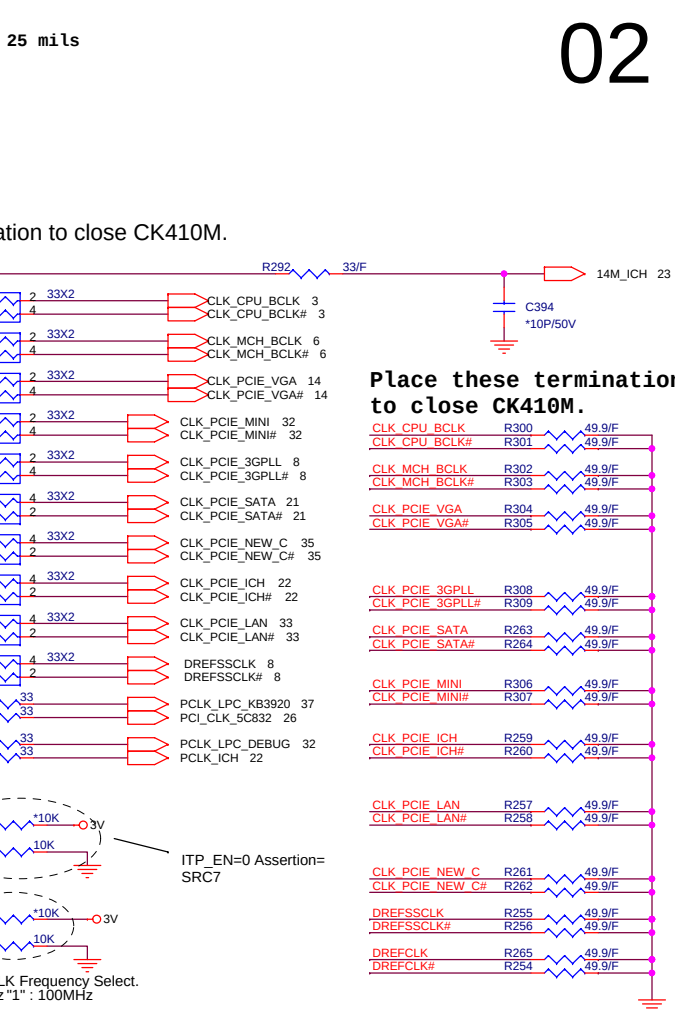
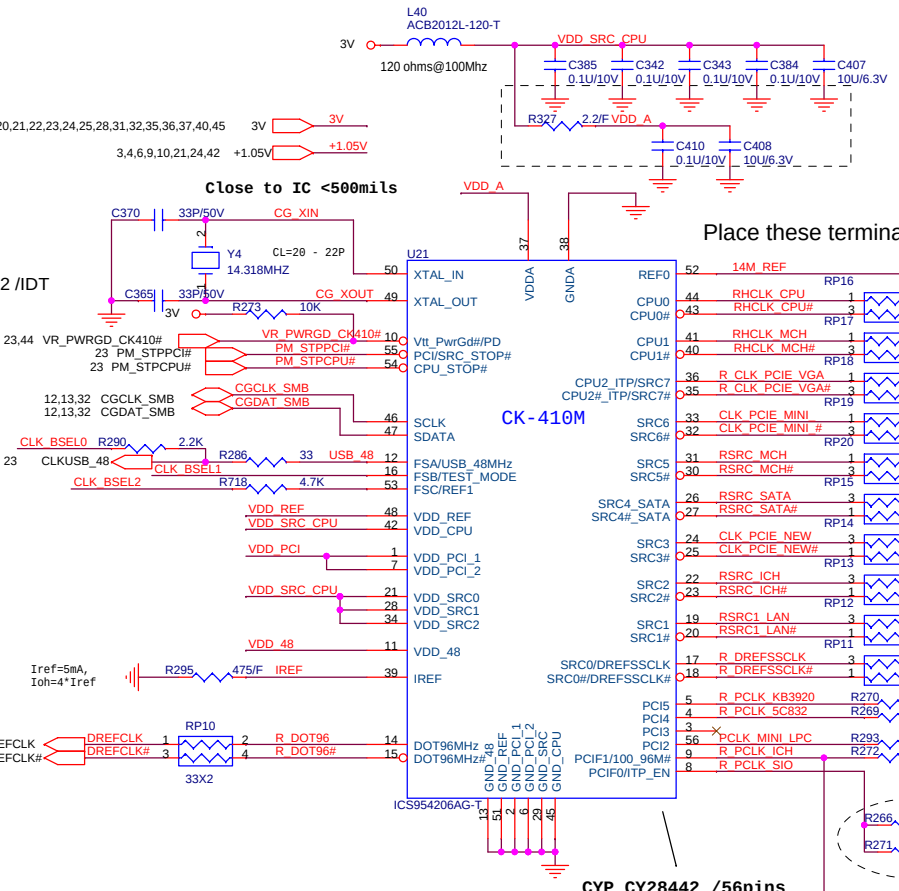
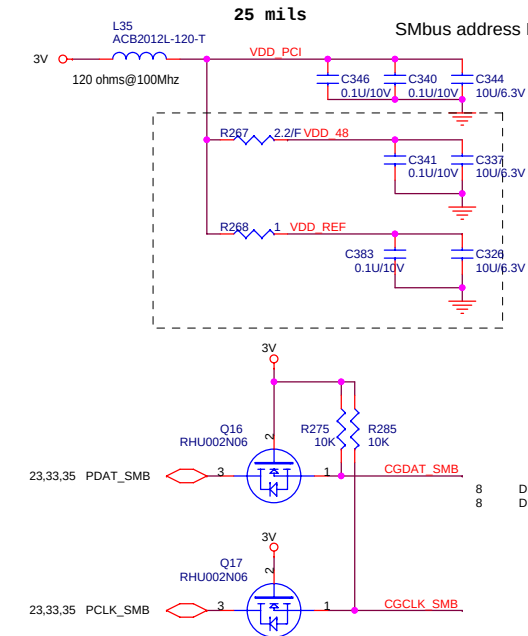
CPU CORE MAX8771
PAG 44

AT6 BLOCK DIAGRAM

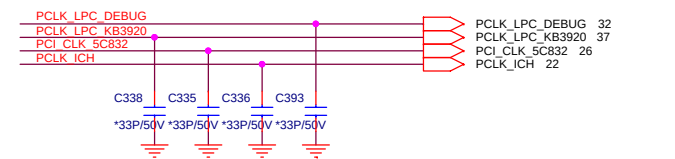


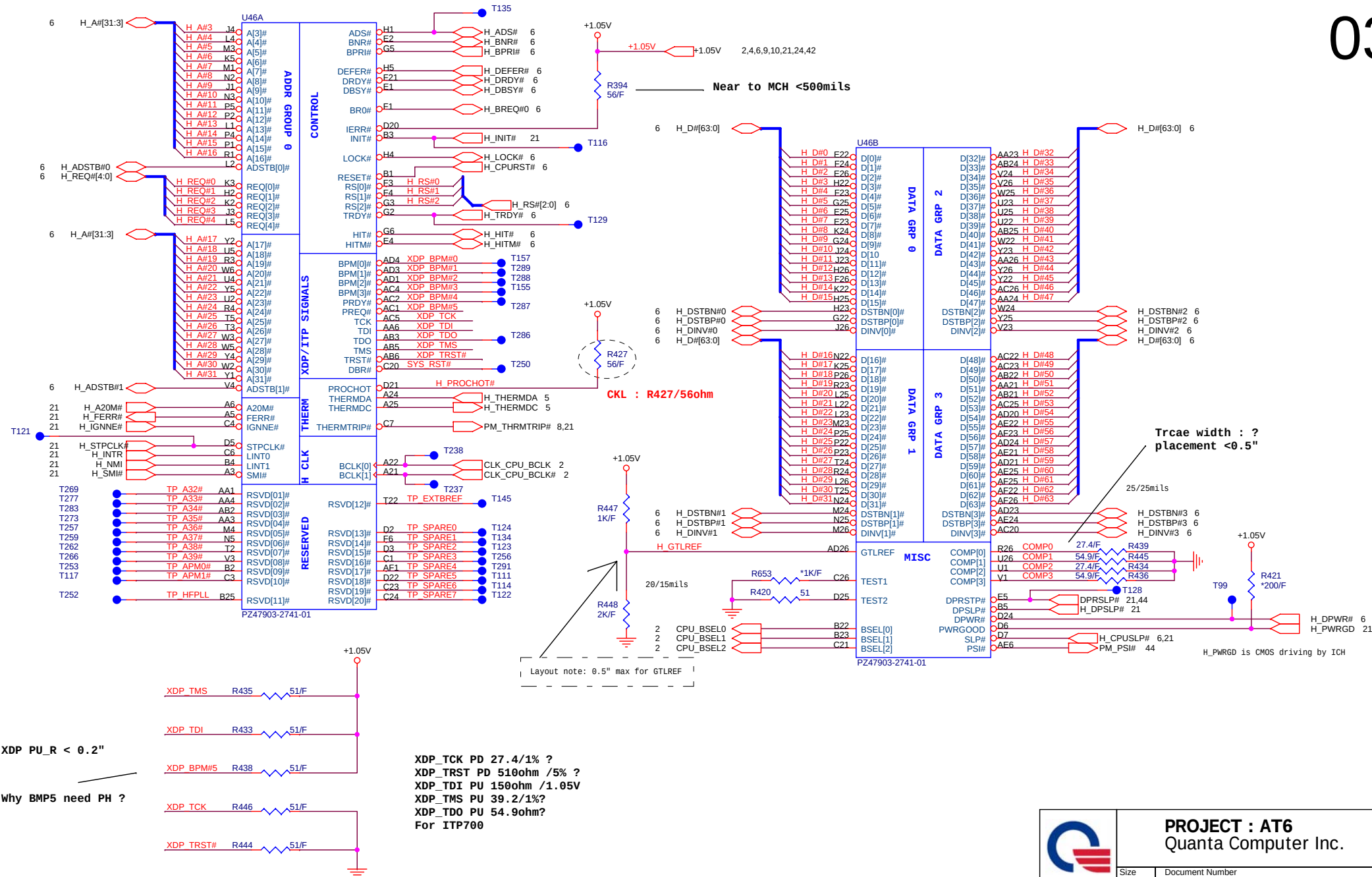
PROJECT : AT6
Quanta Computer Inc.

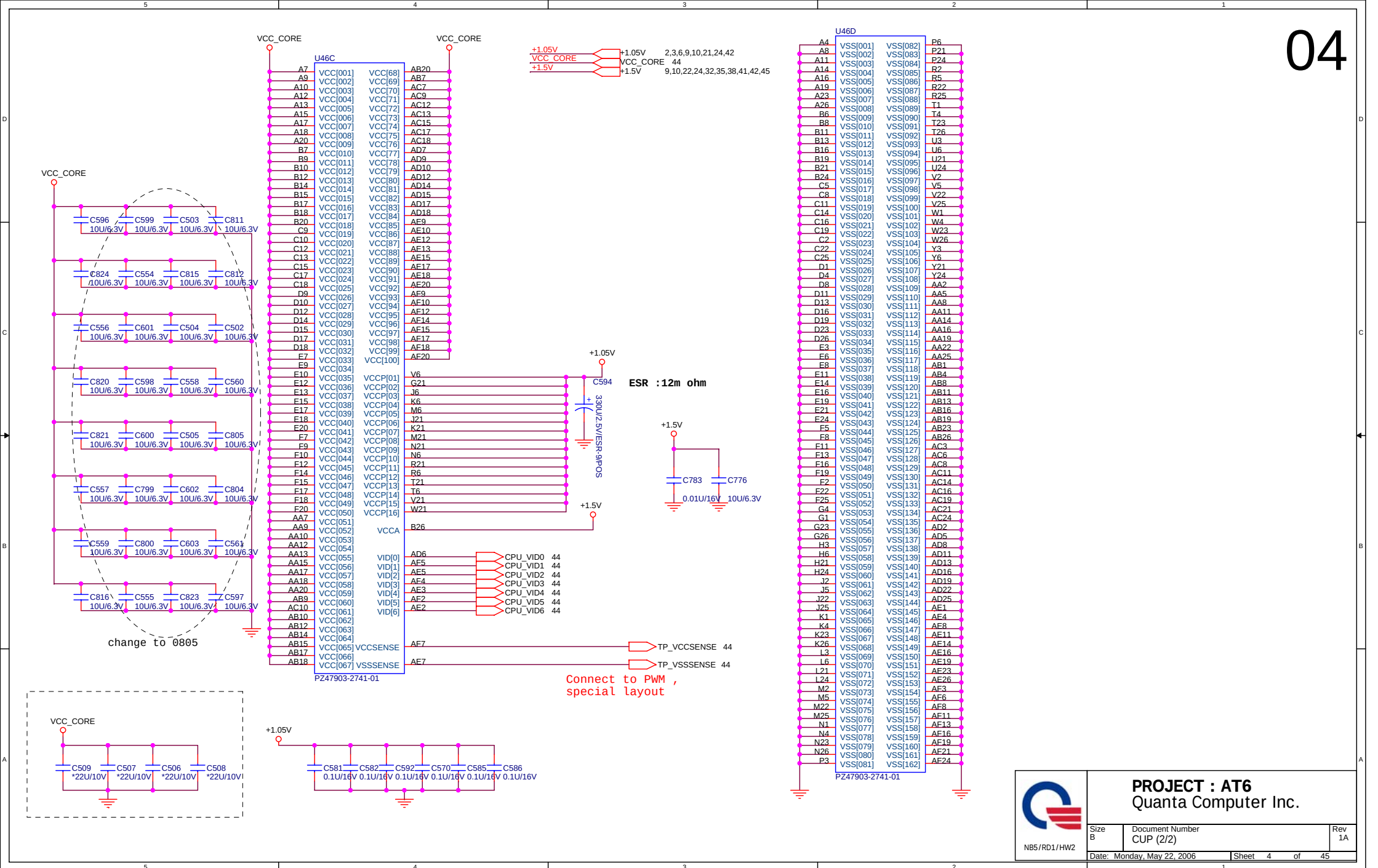
FSC	FSB	FSA	CPU	SRC	PCI	DOT
1	0	1	100	100	33	96
0	0	1	133	100	33	96
0	1	1	166	100	33	96
0	1	0	200	100	33	96
0	0	0	266	100	33	96
1	0	0	333	100	33	96
1	1	0	400	100	33	96
1	1	1	200	100	33	96

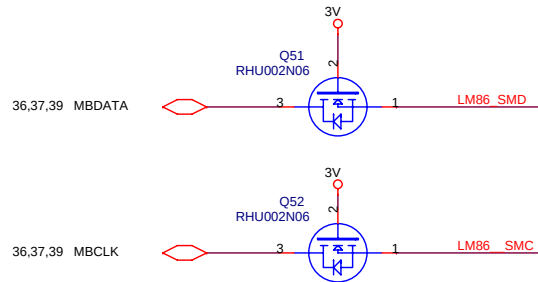
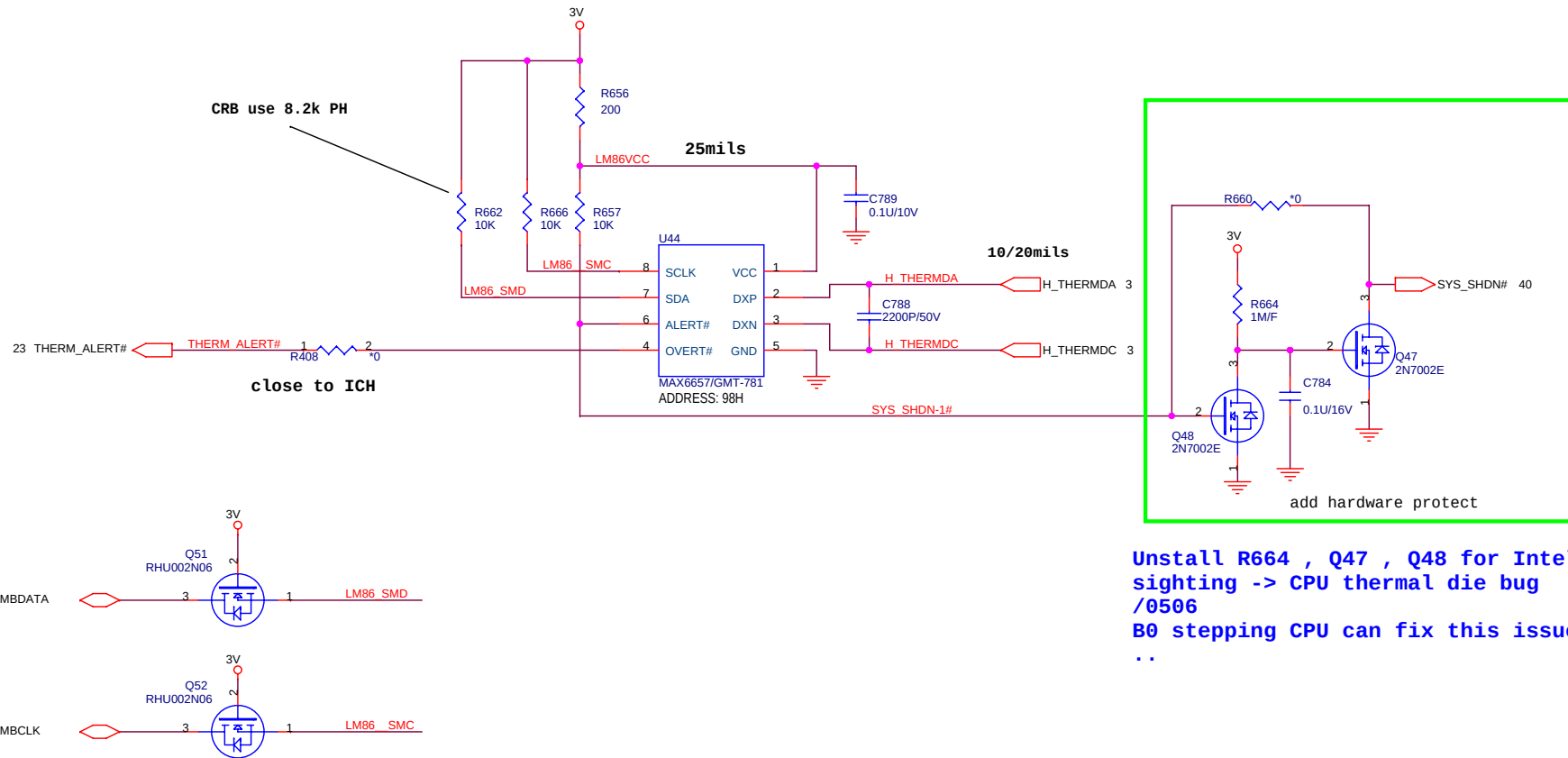


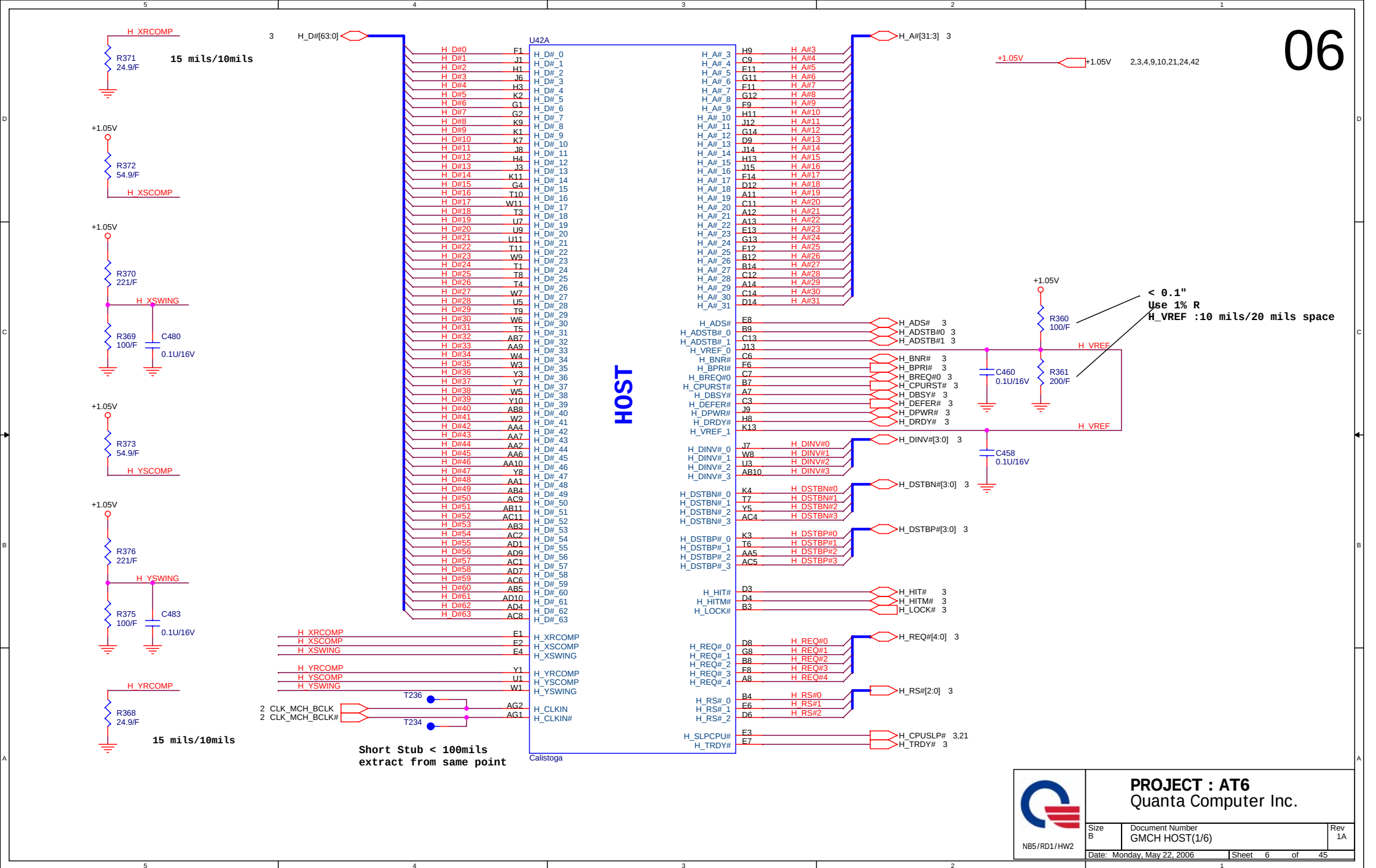
FSB Frequency Select		
FSB Freq (Mhz)	CPU DRIVEN (default)	R405=0 R406=1K R413=0 R414=1K R416=0 R417=1K
	533	R405=NO STUFF R409=56/F R413=NO STUFF R412=0 R416=NO STUFF R419=0
	667	R405=NO STUFF R409=56/F R413=NO STUFF R414=1K R416=NO STUFF R419=0





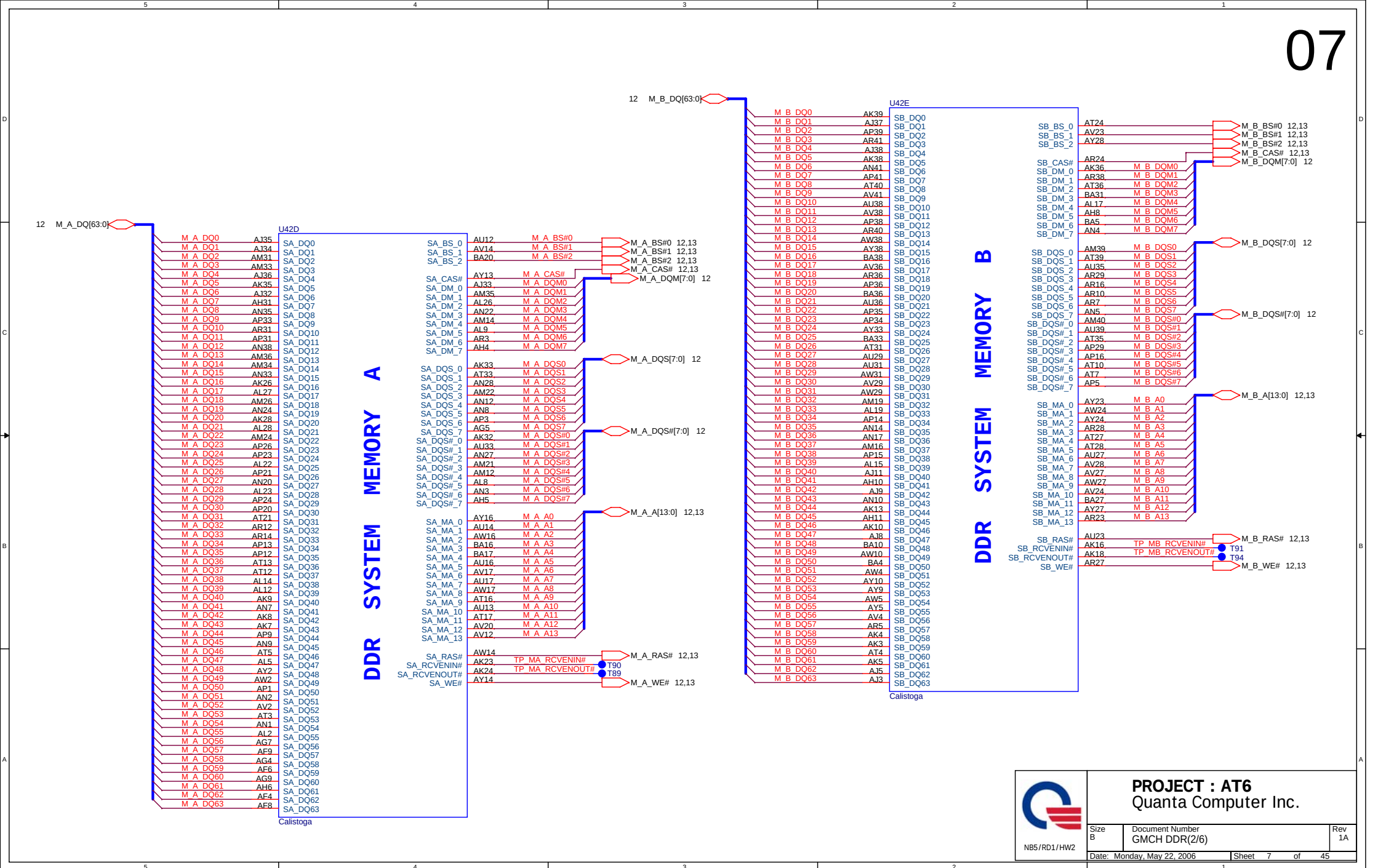


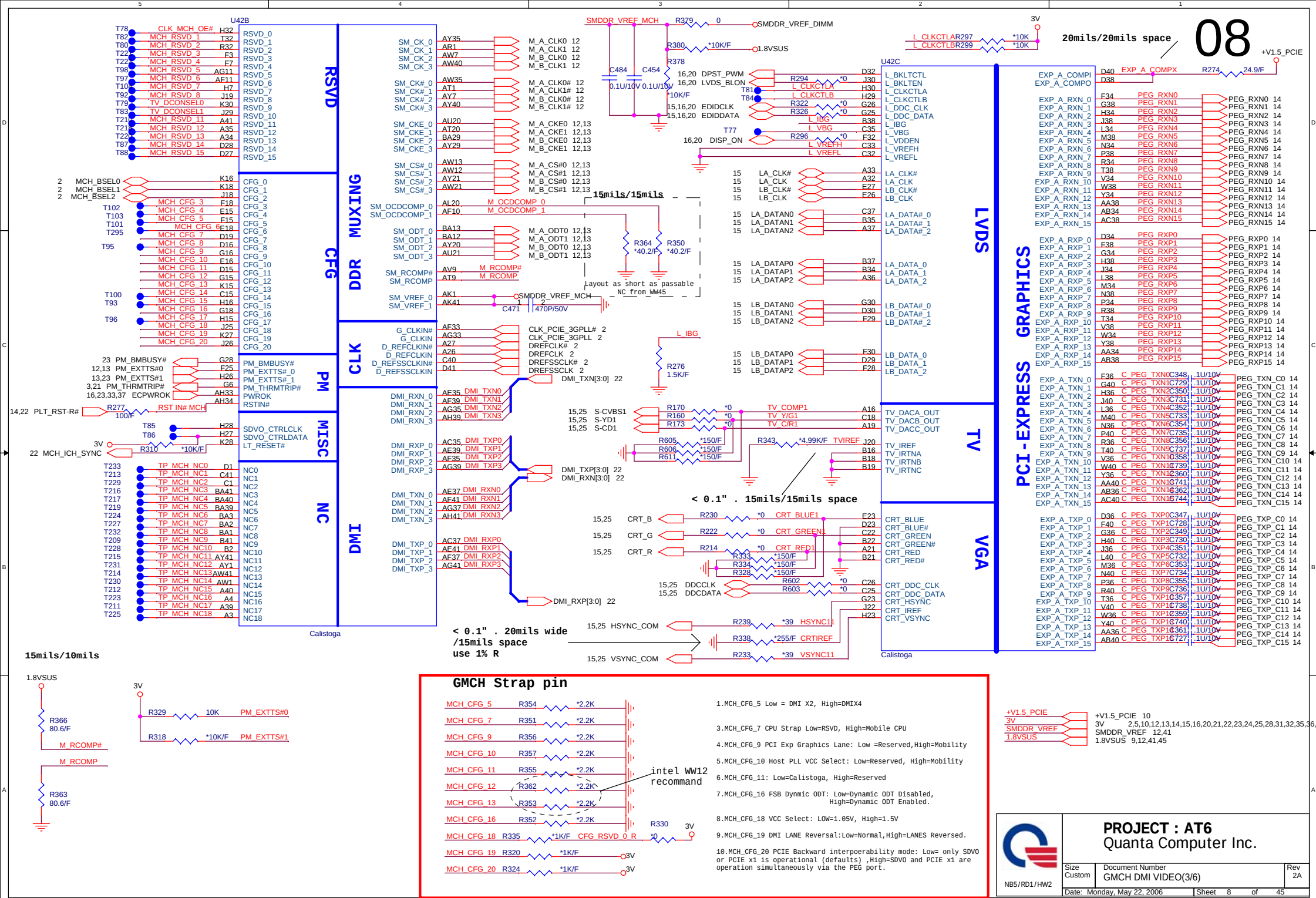


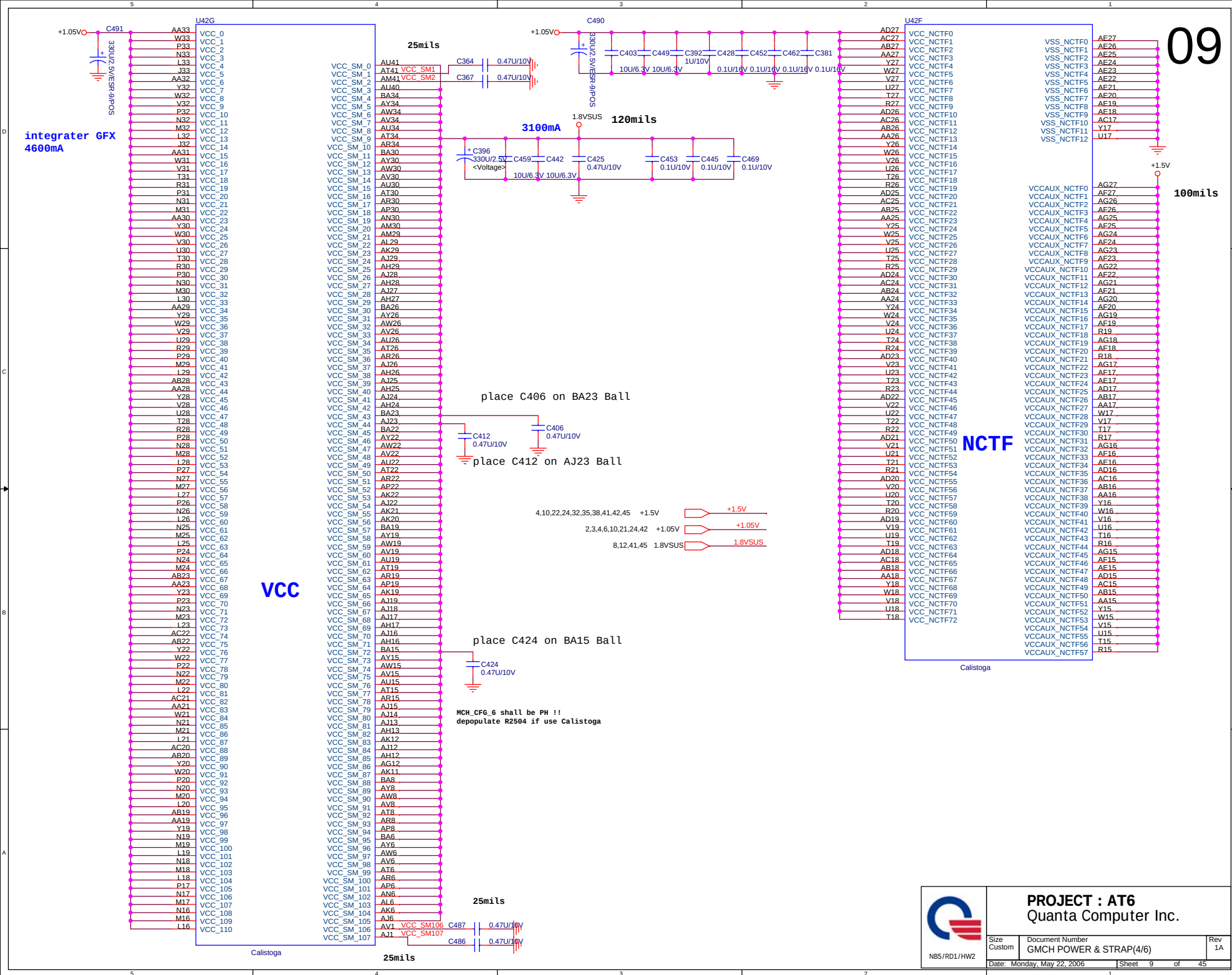


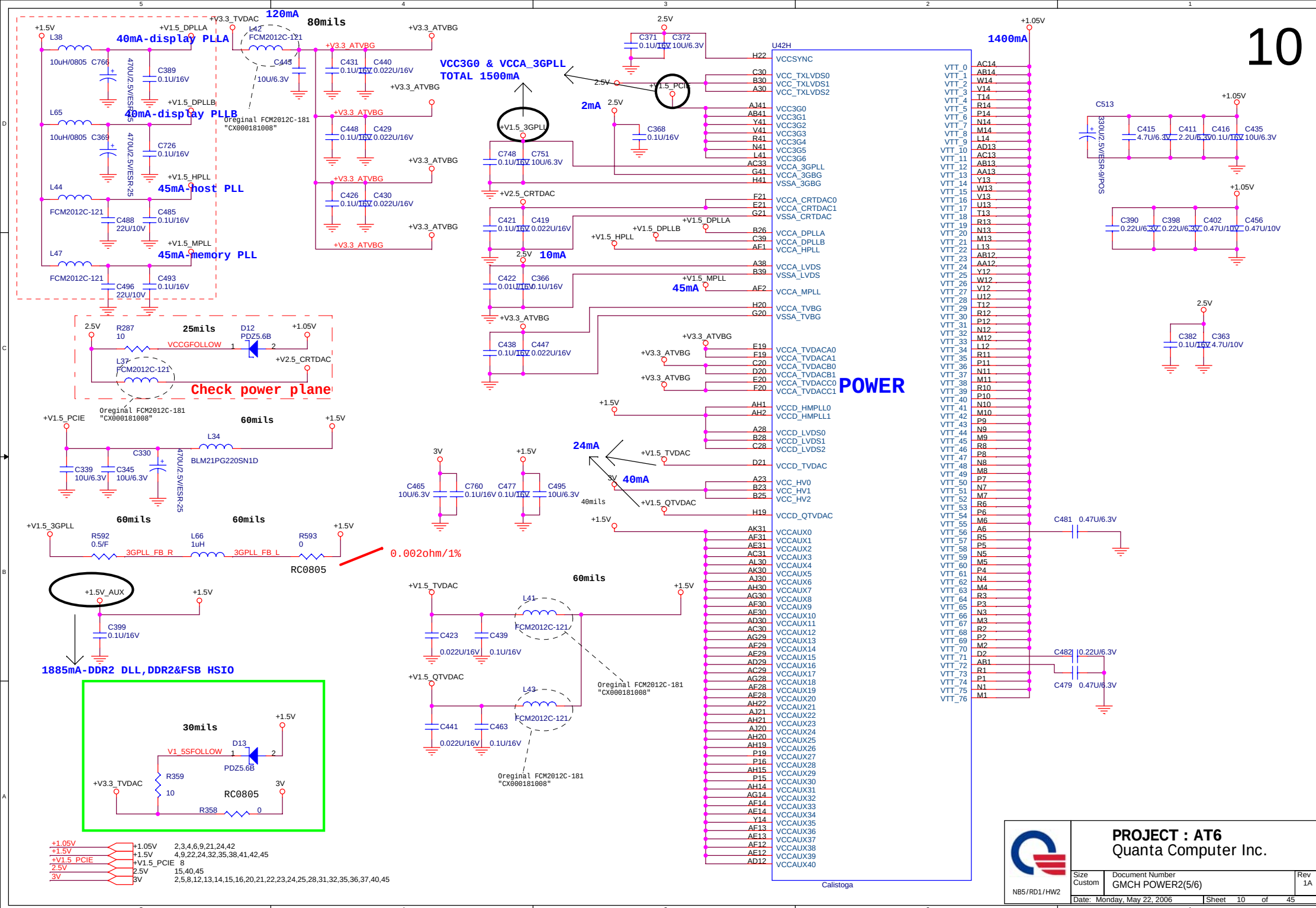
PROJECT : AT6
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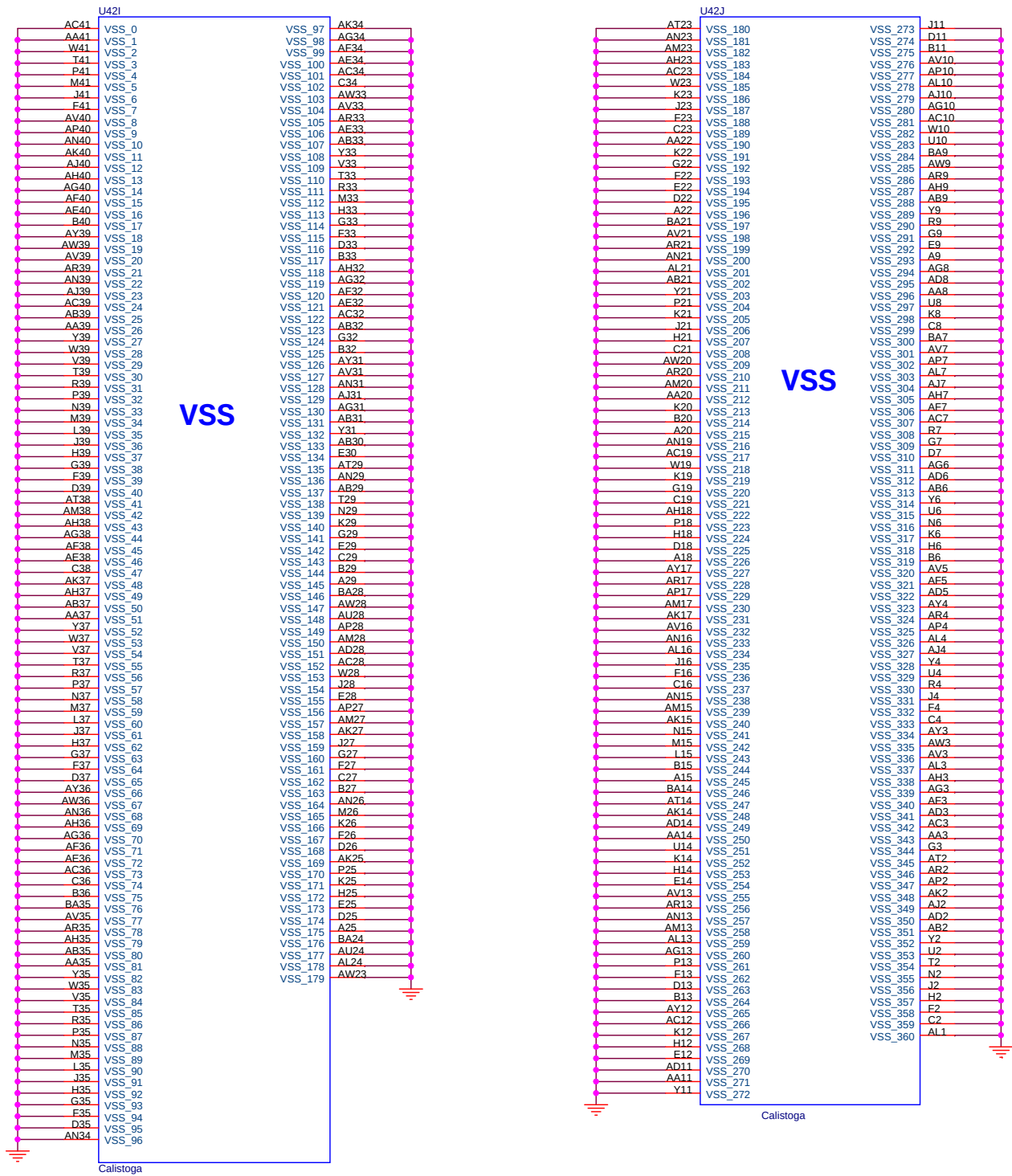
Size B	Document Number GMCH HOST(1/6)	Rev 1A
Date: Monday, May 22, 2006	Sheet 6 of 45	













NB5/RD1/HW2

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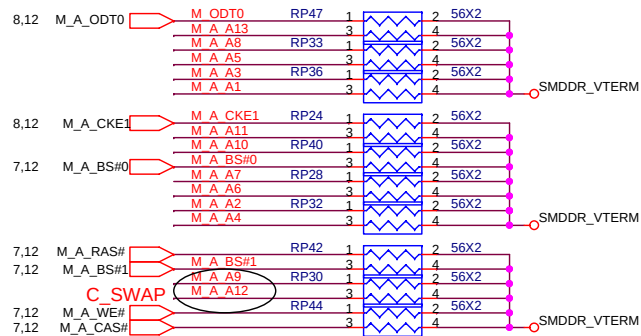
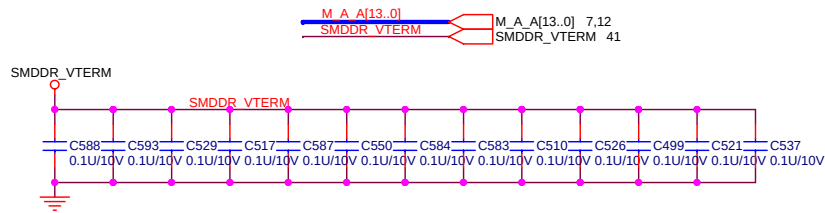
Size Custom	Document Number GMCH GND (6/6)	Rev 1A
Date: Monday, May 22, 2006		Sheet 11 of 45



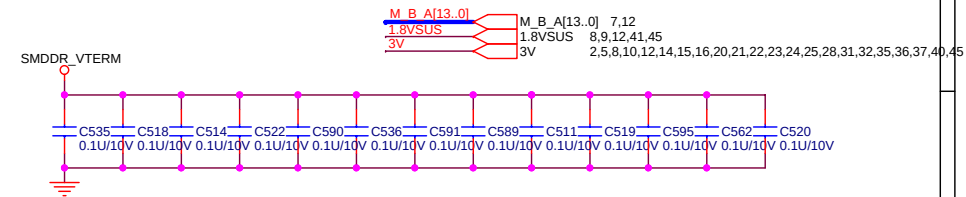
DDRII DUAL CHANNEL A, B.

13

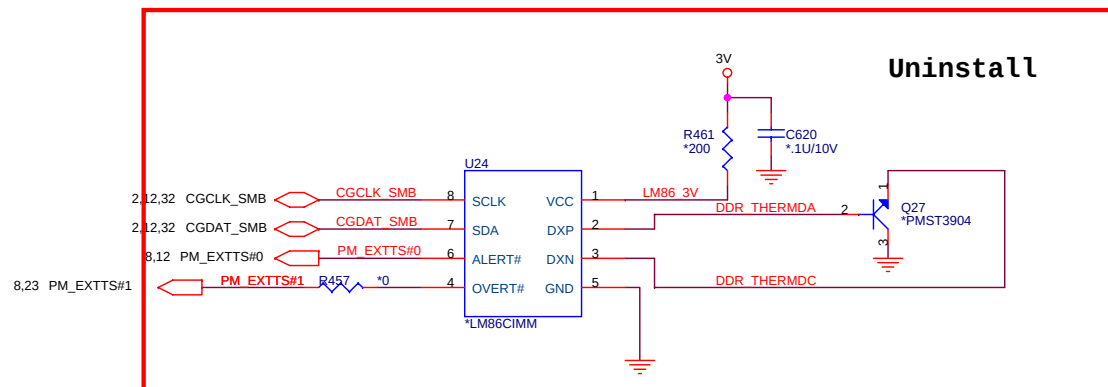
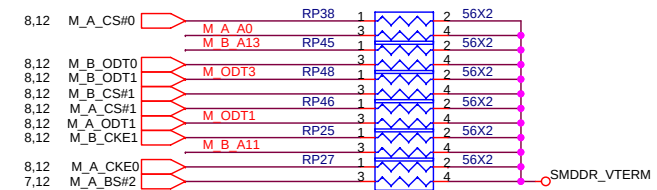
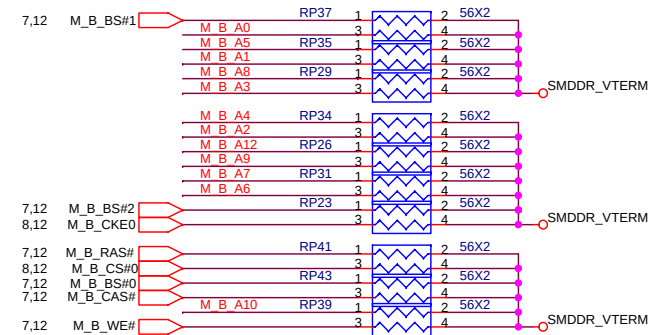
DDRII A CHANNEL



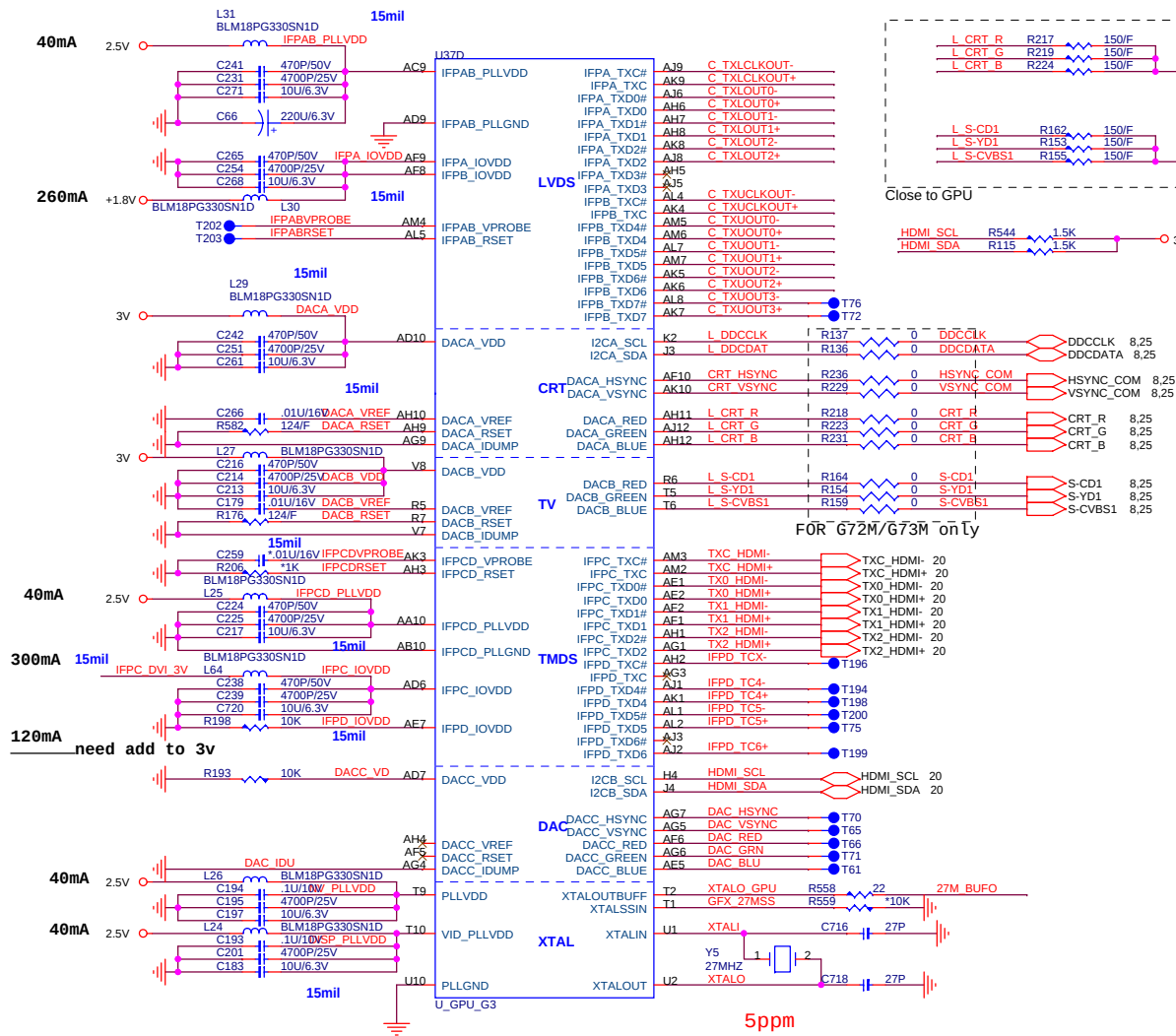
DDRII B CHANNEL



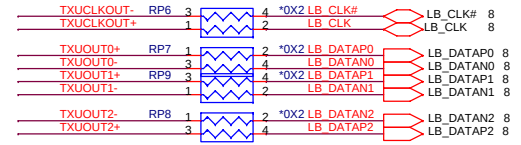
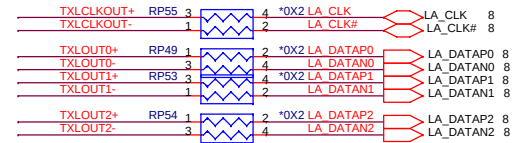
Layout note: Place one cap close to every 2 pullup resistors terminated to SMDR_VTERM



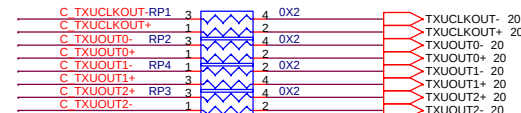
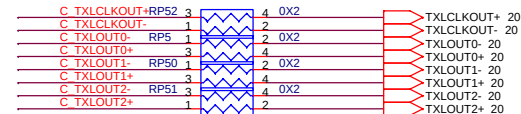




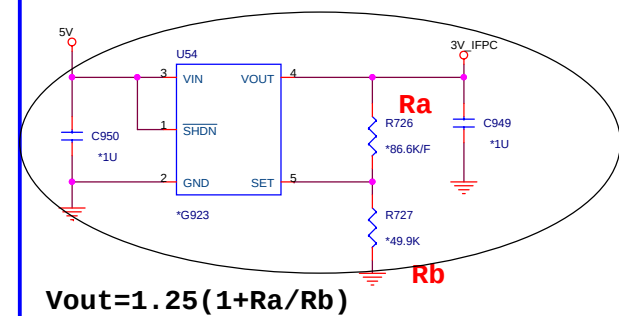
OPTION SIGNAL FROM NB FOR UMA VGA



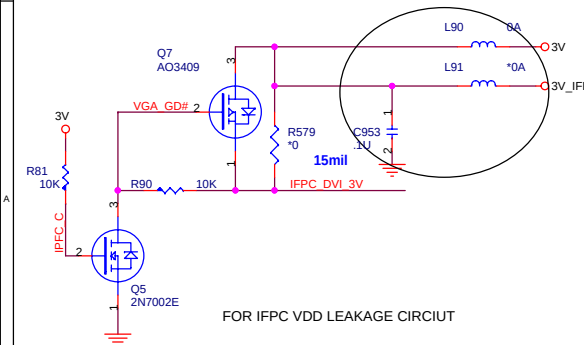
OPTION SIGNAL FROM Nvidia to VGA



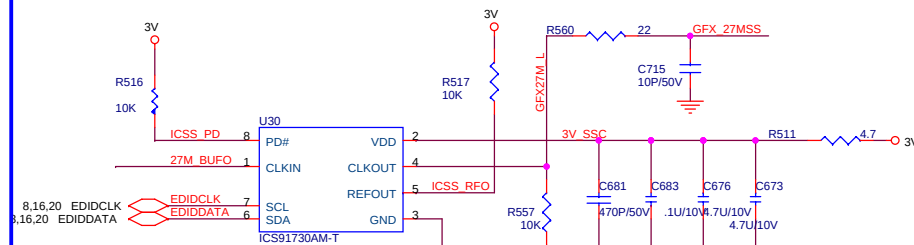
C. For HDMI Nvidia's PUN issue



C. For HDMI Nvidia's PUN issue



SPREAD SPECTRUM

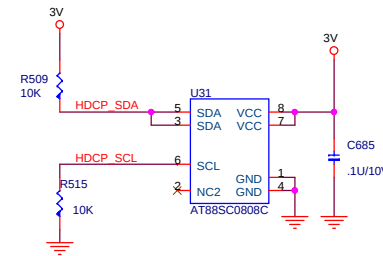


I2C ADDRESS: 0xD4H



PROJECT : AT6
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Size Custom	Document Number NVG73M (LVDS/DVI/CRT/TV)	Rev 2A
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need to reserve or cancel

3V

R575 *10K ROMTYPE1 R577 *10K ROM_TYPE1

R573 *10K VIPD10 R571 *10K ROM_TYPE0

R202 *10K MIOBD0 R201 *10K RAM_CFG0

R576 *10K MIOBD1 R578 10K RAM_CFG1

R195 10K MIOBD8 R191 *10K RAM_CFG2

R190 10K MIOBD9 R189 *10K RAM_CFG3

R574 2K VIPD4 R568 *2K PCI_DEVICE0

R569 2K VIPD5 R564 *2K PCI_DEVICE1

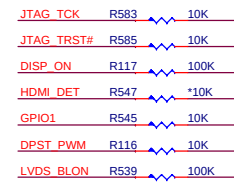
R572 2K VIPD3 R565 *2K PCI_DEVICE2

R187 *2K VIPD11 R186 2K PCI_DEVICE3

R150 *2K MIOAHSYNC R149 2K SLOT_CLOCK_CFG

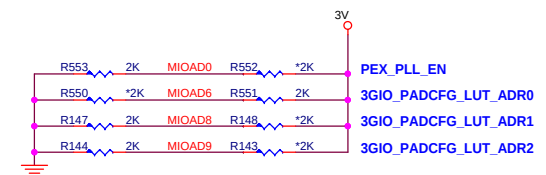
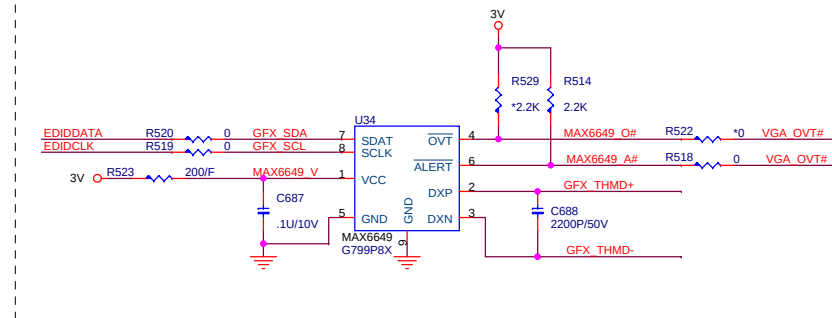
R548 2K MIOAD1 SUB_VENDOR

SHARE M/B SYSTEM BIOS, SUB VENDOR ID NEED PULL DOWN .



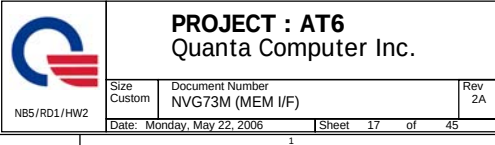
RAM_CFG[3:0]	DESCRIPTION	Vendor
0000	DDR2 16Mx16x4, 64bit, 128MB	Elpida
0001	DDR2 16Mx16x4, 64bit, 128MB	Samsung
0010	DDR2 16Mx16x4, 64bit, 128MB	Infineon
0011	DDR2 16Mx16x4, 64bit, 128MB	Hynix
0100	Reserved	
0101	DDR2 32Mx16x4, 64bit, 256MB	Samsung
0110	DDR2 32Mx16x4, 64bit, 256MB	Infineon
0111	DDR2 32Mx16x4, 64bit, 256MB	Hynix
1000	DDR2 16Mx16x2, 32bit, 64MB	Elpida
1001	DDR2 16Mx16x2, 32bit, 64MB	Samsung
1010	DDR2 16Mx16x2, 32bit, 64MB	Infineon
1011	DDR2 16Mx16x2, 32bit, 64MB	Hynix
others	Reserved	

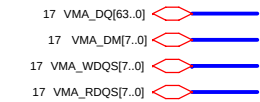
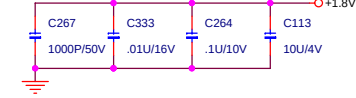
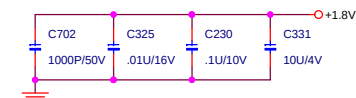
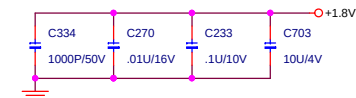
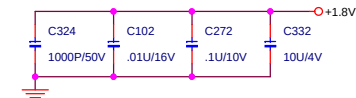
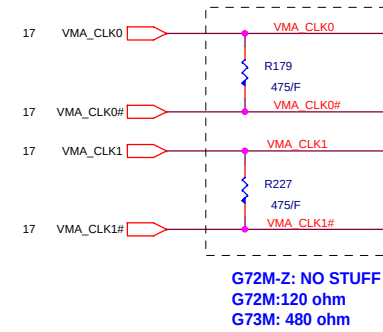
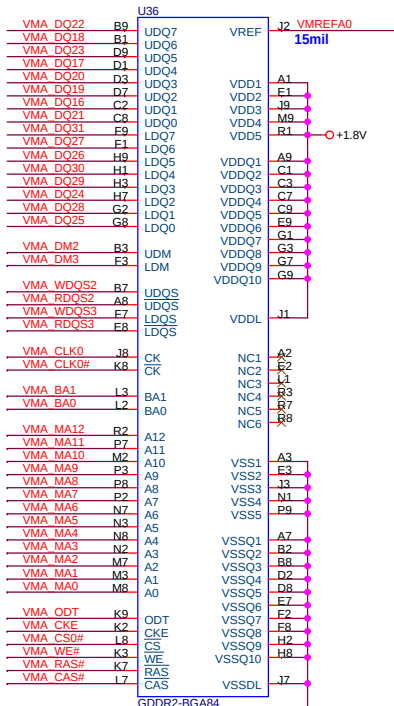
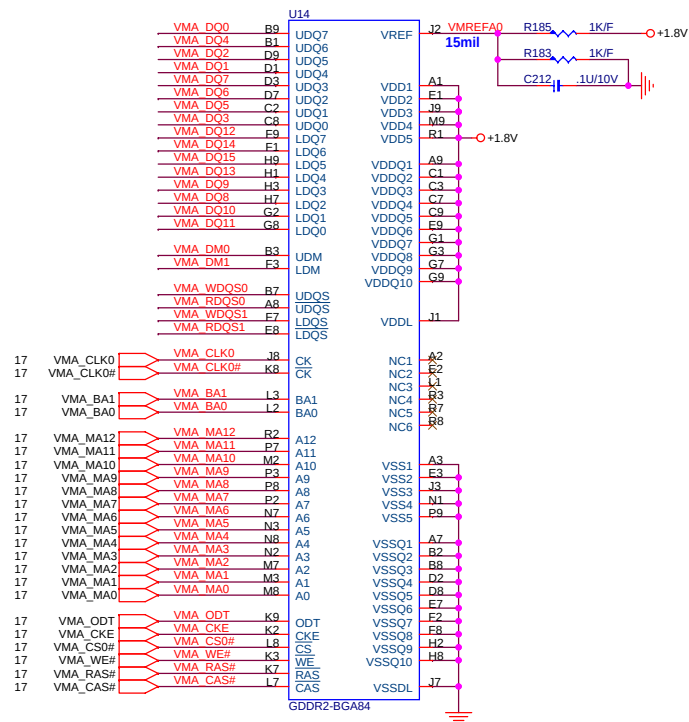
RAM_CFG[3:0]	DESCRIPTION	Vendor
0000	DDR2 16Mx16x8, 128bit, 256MB	Elpida
0001	DDR2 16Mx16x8, 128bit, 256MB	Samsung
0010	DDR2 16Mx16x8, 128bit, 256MB	Infineon
0011	DDR2 16Mx16x8, 128bit, 256MB	Hynix
0100	Reserved	
0101	DDR2 32Mx16x8, 128bit, 512MB	Samsung
0110	DDR2 32Mx16x8, 128bit, 512MB	Infineon
0111	DDR2 32Mx16x8, 128bit, 512MB	Hynix
1000	DDR2 16Mx16x4, 64bit, 128MB	Elpida
1001	DDR2 16Mx16x4, 64bit, 128MB	Samsung
1010	DDR2 16Mx16x4, 64bit, 128MB	Infineon
1011	DDR2 16Mx16x4, 64bit, 128MB	Hynix
1100	Reserved	
1101	DDR2 32Mx16x4, 64bit, 256MB	Samsung
1110	DDR2 32Mx16x4, 64bit, 256MB	Infineon
1111	DDR2 32Mx16x4, 64bit, 256MB	Hynix



NB5/RD1/HW2

Size Custom	Document Number NVG73M (ROM/GPIO/STRAP)	Rev 2A
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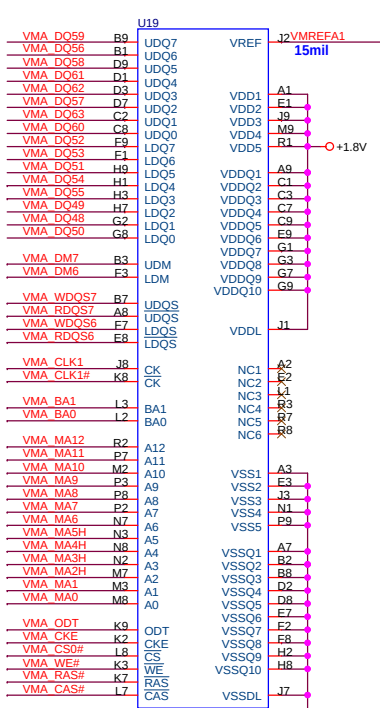
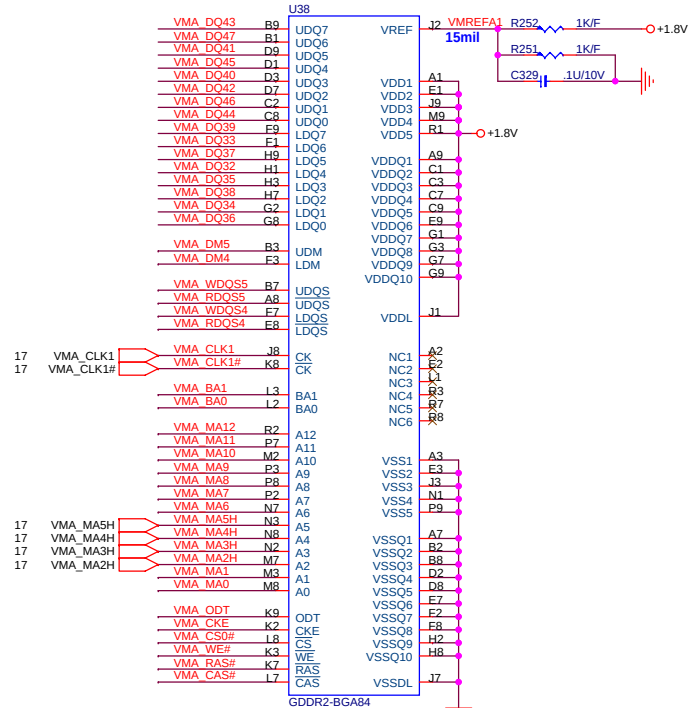
256Mb : AKD5JGAT*05

512Mb : AKD59G-T*01

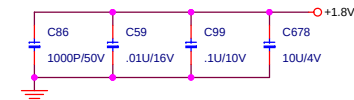
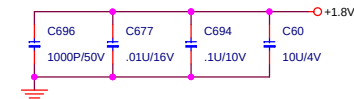
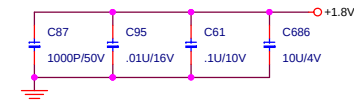
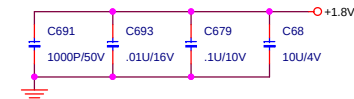


PROJECT : AT6
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Size Custom	Document Number NVG73M VRAN-1(GDDR2 BGA84)	Rev 1A
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VMC CKE R521 10K



17 VMC_DQ[63..0]  

17 VMC_DM[7..0]  

17 VMC_WDQS[7..0]  

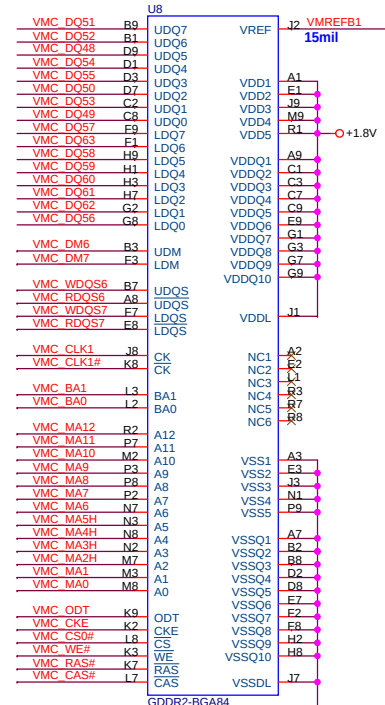
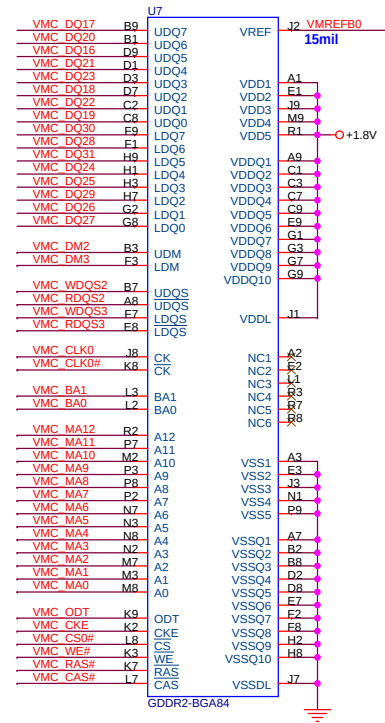
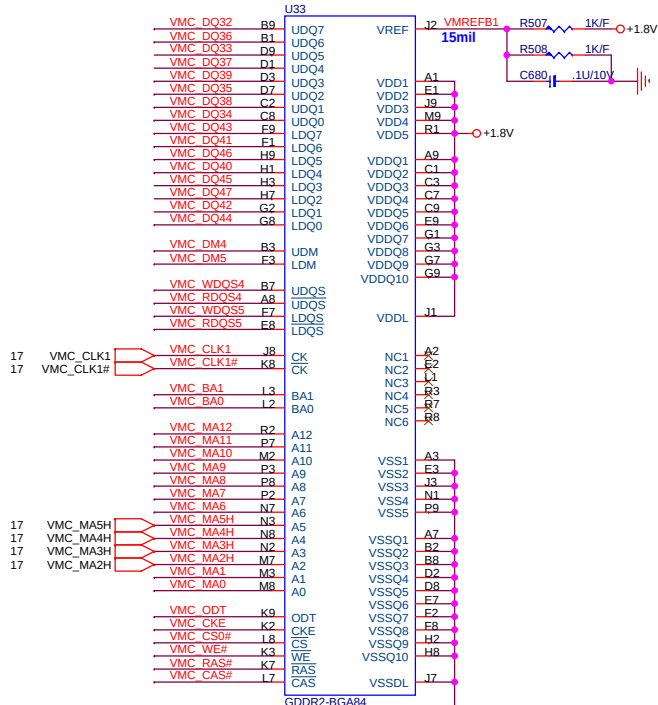
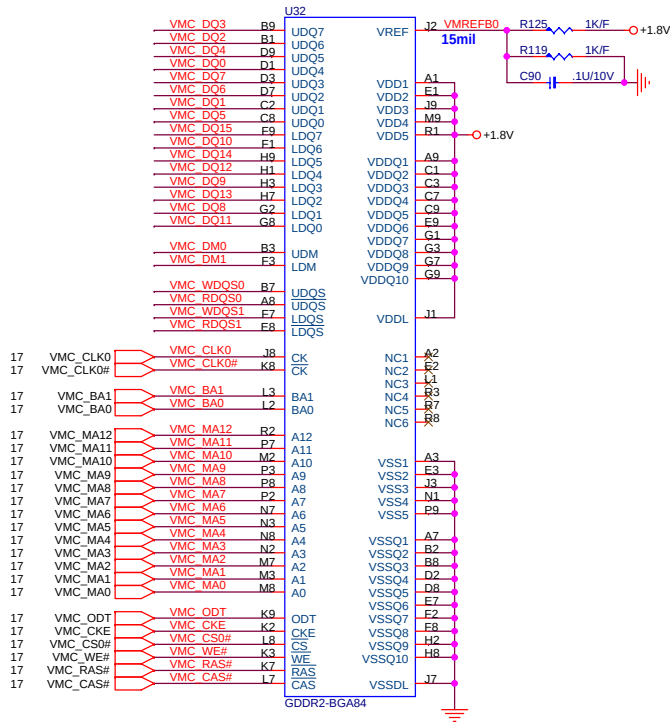
17 VMC_RDQS[7..0]  

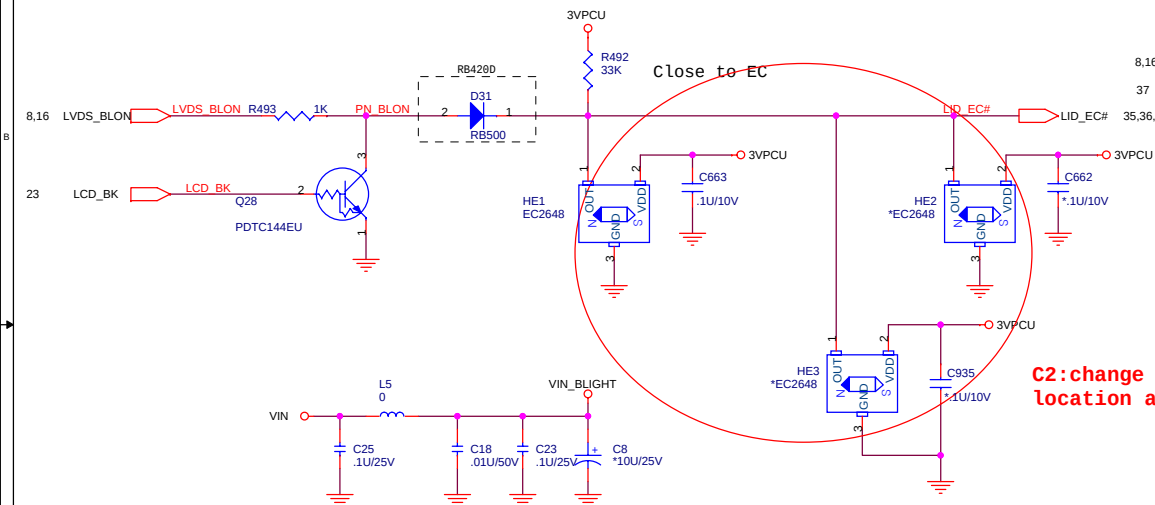
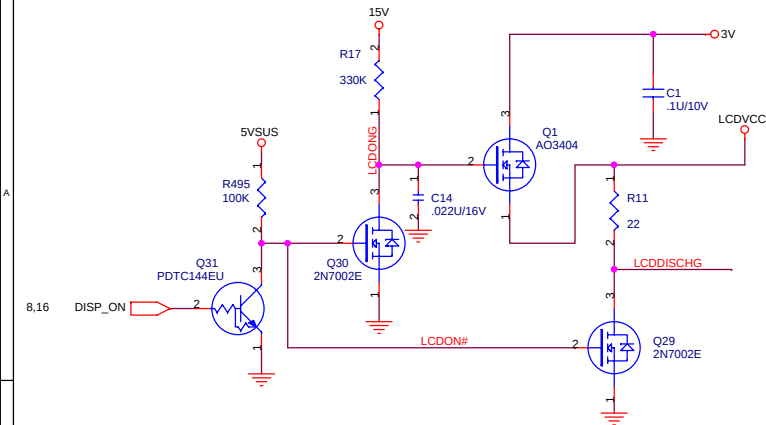


NB5/RD1/HW2

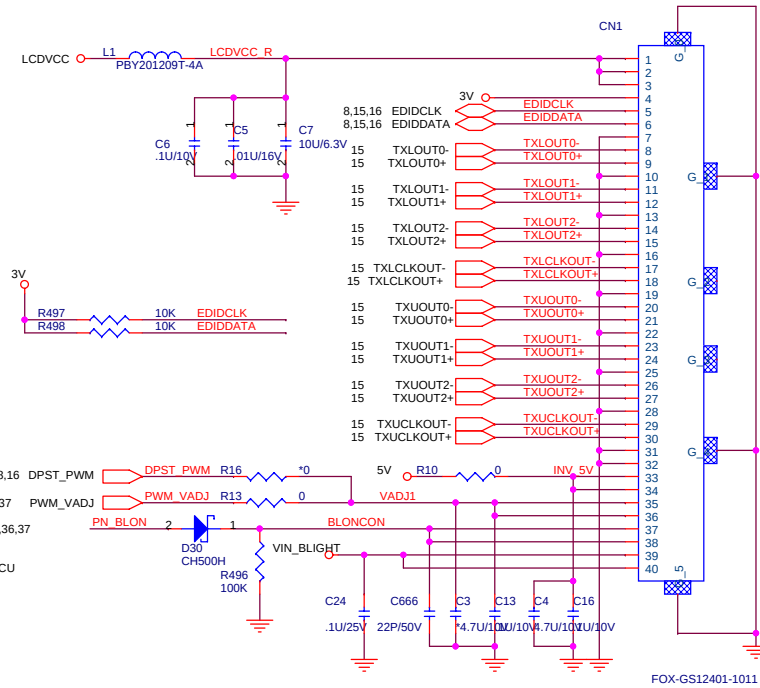
PROJECT : AT6
Quanta Computer Inc.

Size Custom	Document Number NVG73M VREM-2(GDDR2 BGA84)	Rev 1A
Date: Monday, May 22, 2006		Sheet 19 of 45



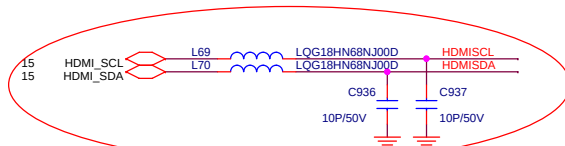


C2:change HE1,HE2 layout location and Add HE3



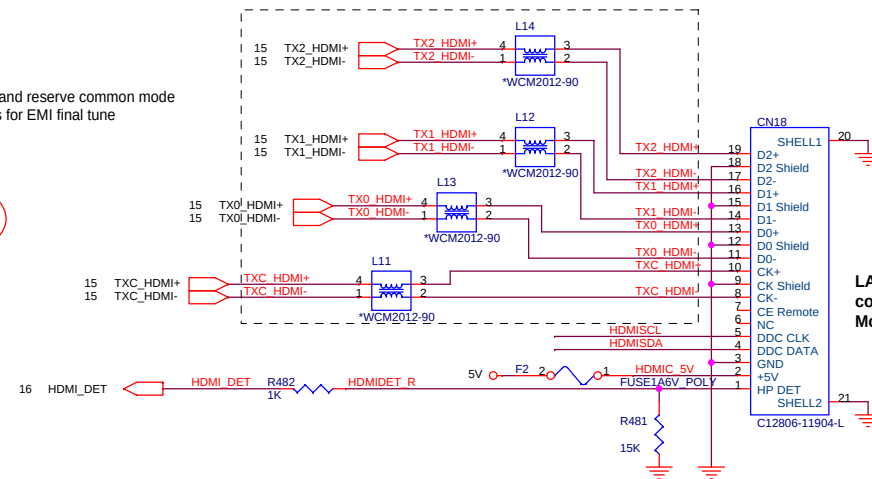
FOX-GS12401-1011

DB "short" and reserve common mode choke pads for EMI final tune



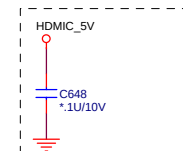
For HDMI Nvidia's PUN issue

C3:Add L69, L70, C936, C937 PUN issue



LAYOUT must support connectors from JAE, Molex and Acon.

HDMI PORT

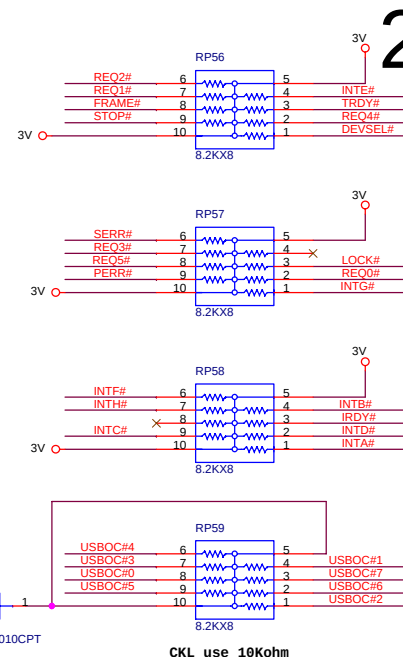


for EMI request

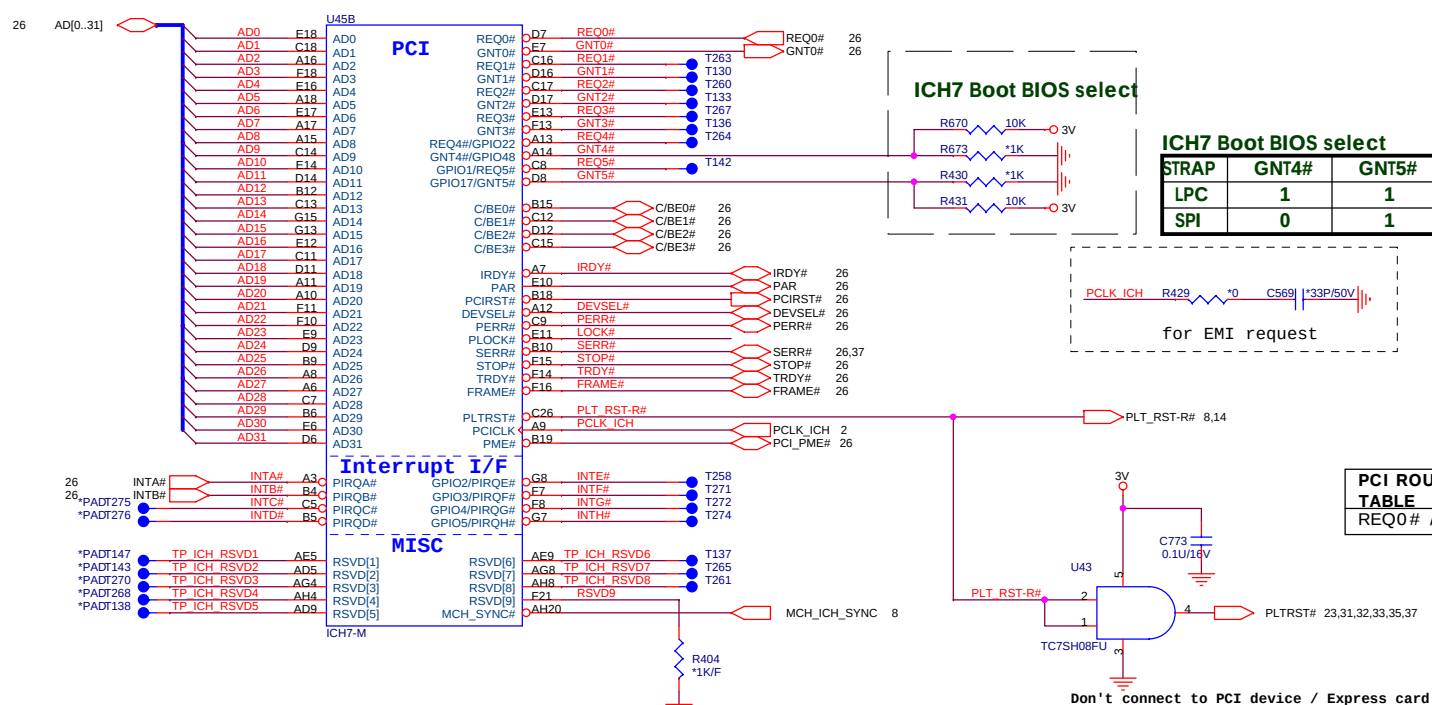


PROJECT : AT6
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Size	Document Number	Rev
Custom	LCD CONN/HDMI CONN	2A
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Carama USB
Docking
Bluetooth Module
Mini PCI-E
NEW CARD



STRAP	GNT4#	GNT5#
LPC	1	1
SPI	0	1

(default)

PCI ROUTING TABLE	IDSEL	INTERUPT	DEVICE
REQ0# / GNT0#	AD21	INTA#,INTB#	RICOH832

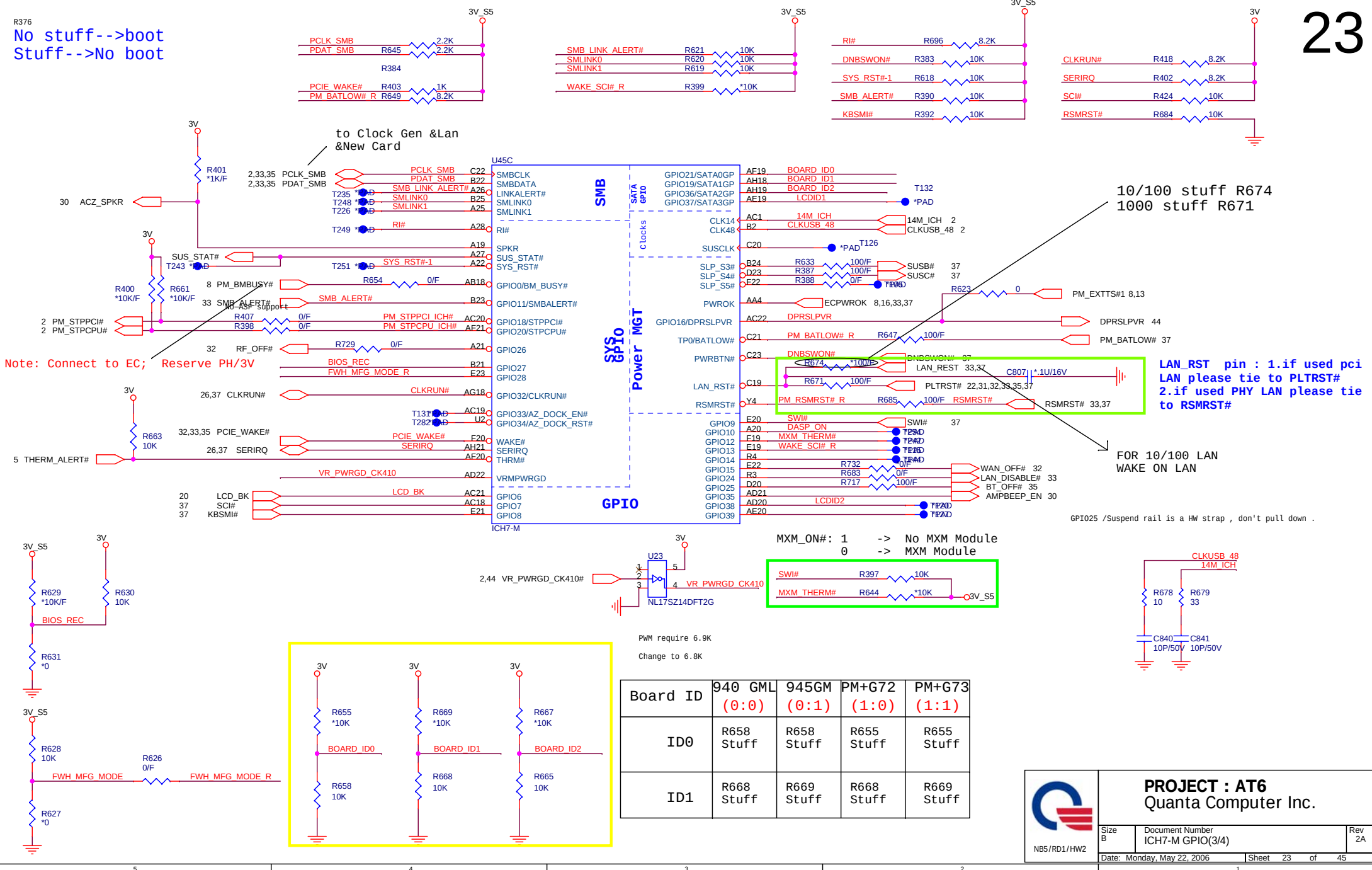


PROJECT : AT6
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Size Custom	Document Number ICH7-M M PCI E(2/4)	R
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R376

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

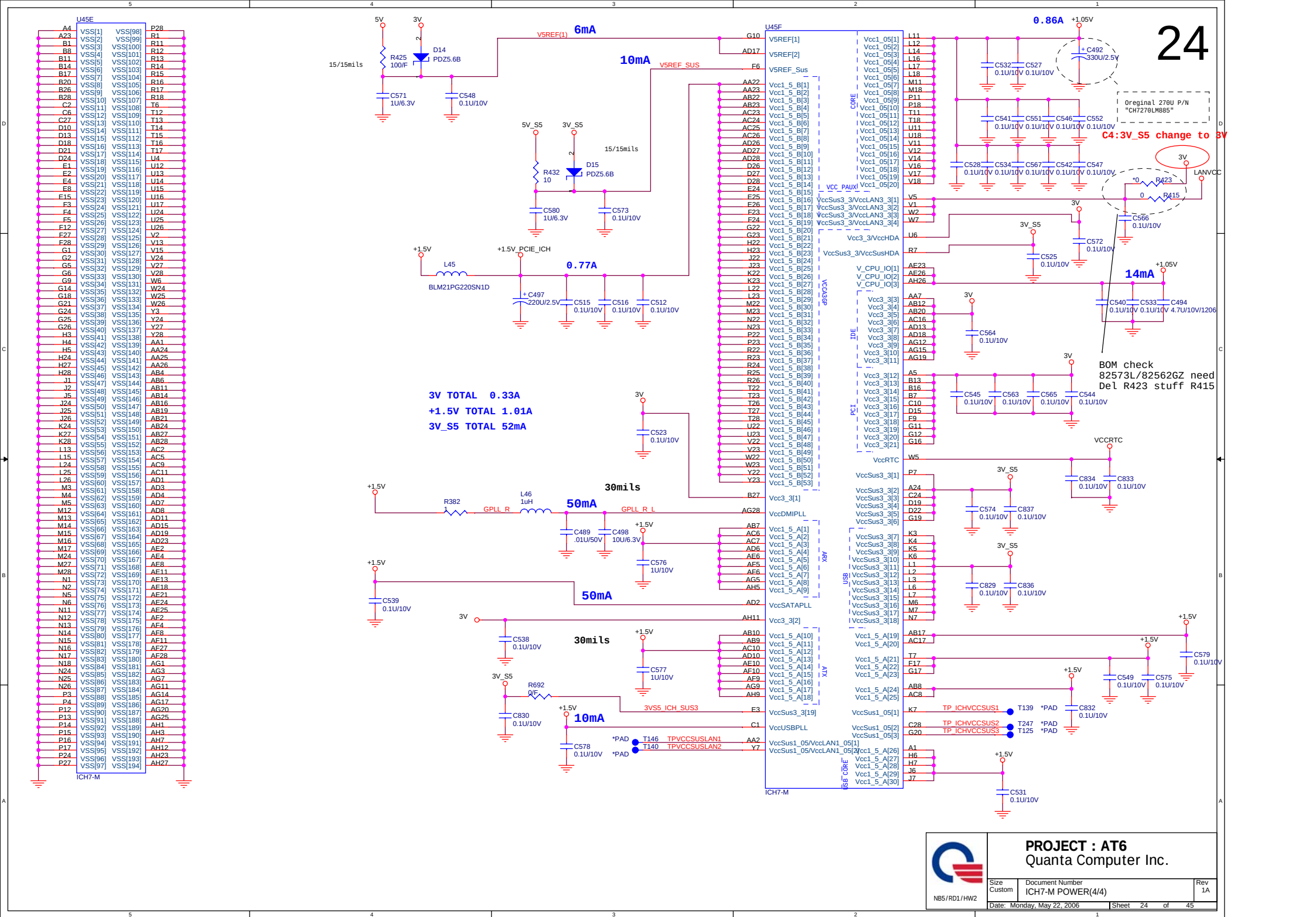


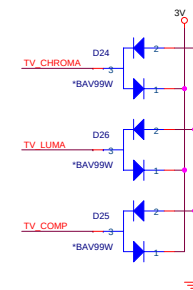
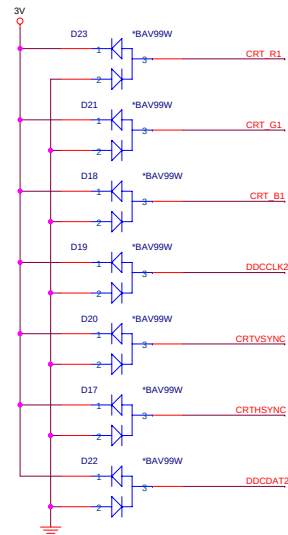
Board ID	940 GML (0:0)	945GM (0:1)	PM+G72 (1:0)	PM+G7 (1:1)
ID0	R658 Stuff	R658 Stuff	R655 Stuff	R655 Stuff
ID1	R668 Stuff	R669 Stuff	R668 Stuff	R669 Stuff



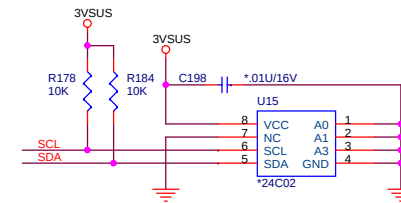
PROJECT : AT6
Quanta Computer Inc.

Size B	Document Number ICH7-M GPIO(3/4)	Rev 2A
Date: Monday, May 22, 2006	Sheet 23 of 45	





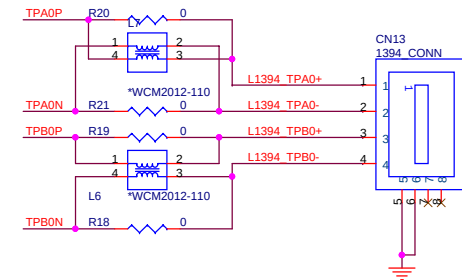
Serial EEPROM



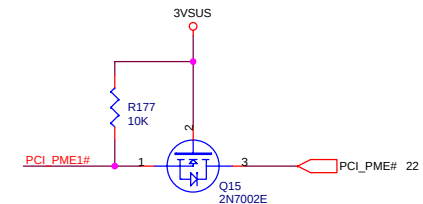
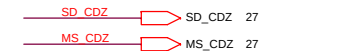
* NOT Use EEPROM :
R199 : installed
R207,U15,C198 : NOT installed

* Use EEPROM :
R207,U15,C198 : installed
R199 : NOT installed

AS CLOSE AS
POSSIBLE TO 1394
CONNECTOR.



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

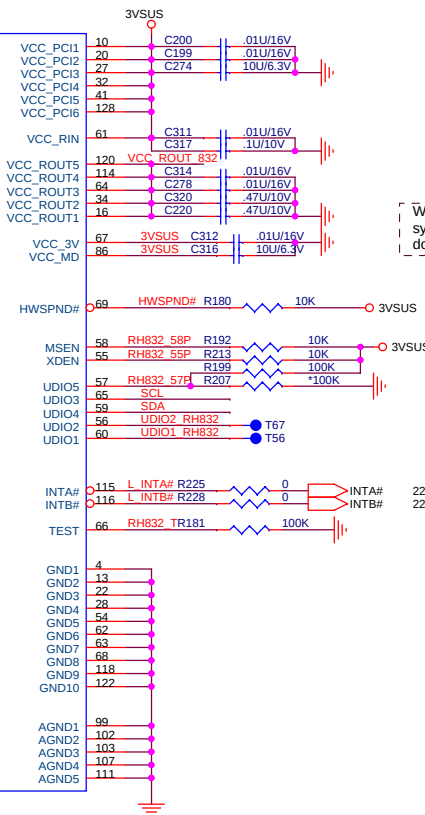


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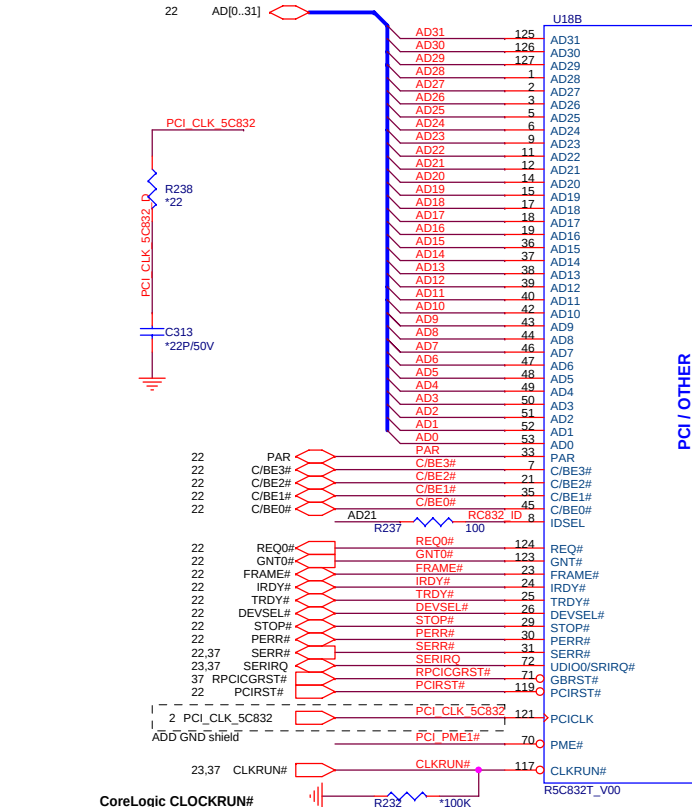
When HWSPND# is controlled by system, the pull-up resistor(R2) dose not need to apply.

PCI / OTHER

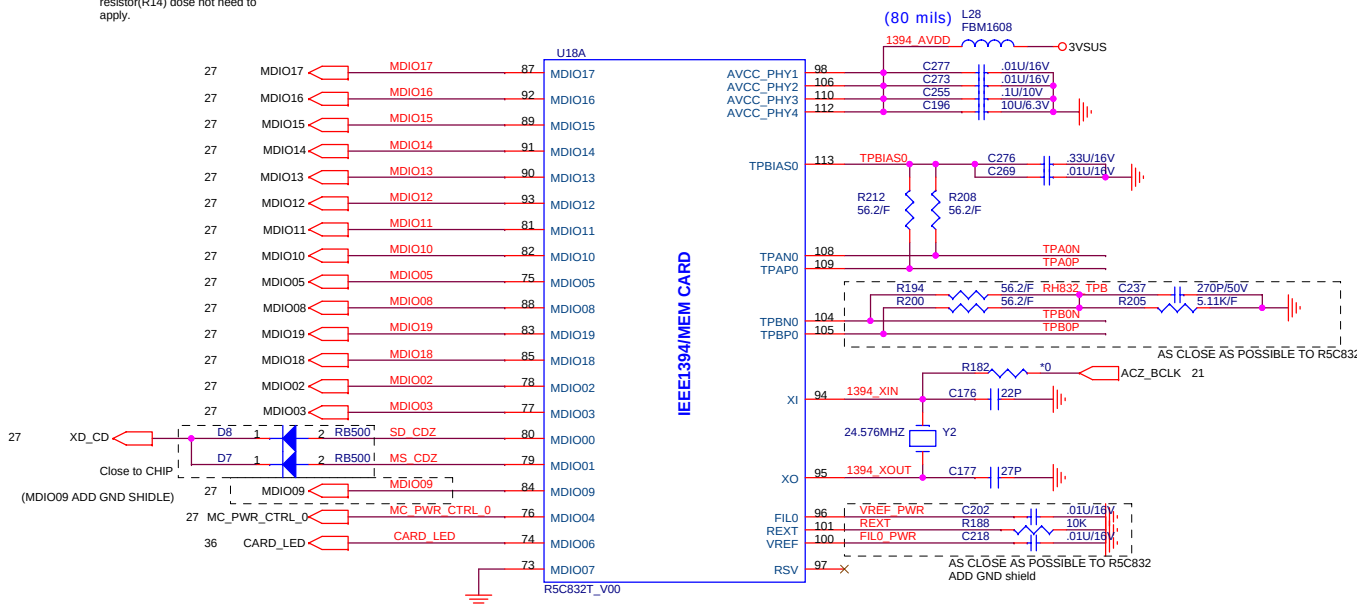


CoreLogic CLOCKRUN#

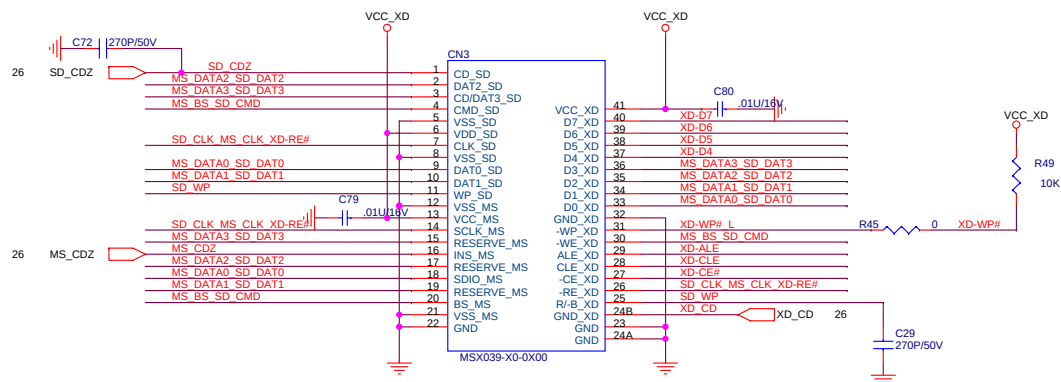
When CLKRUN# is controlled by system, the pull-down resistor(R14) dose not need to apply.



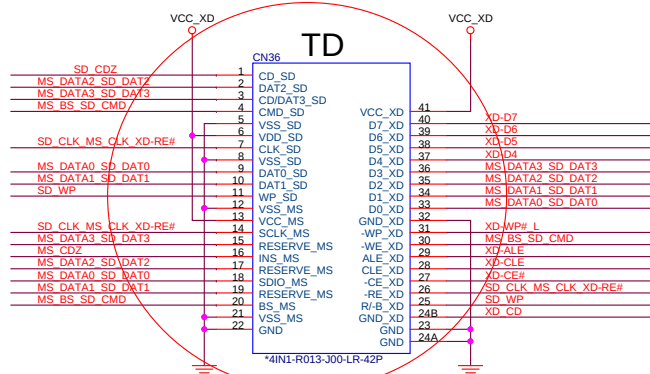
IEEE1394/MEM CARD



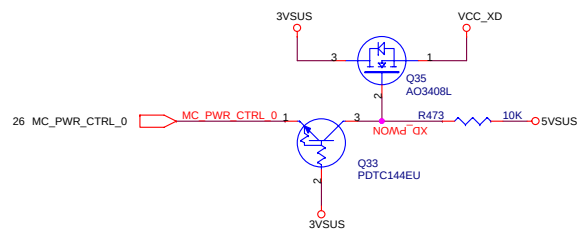
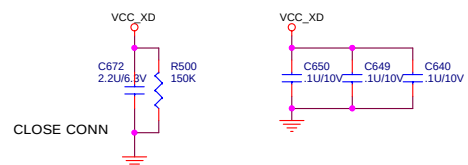
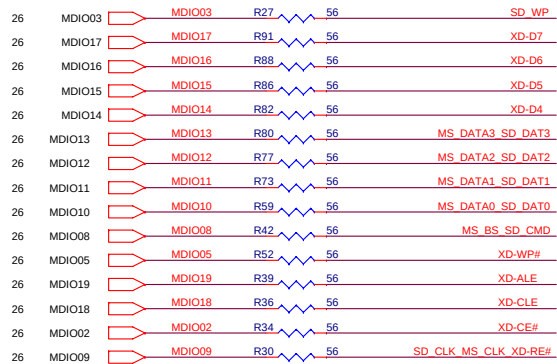
4 IN1 CARD READER
XD, MMC/SD, MS/MSP



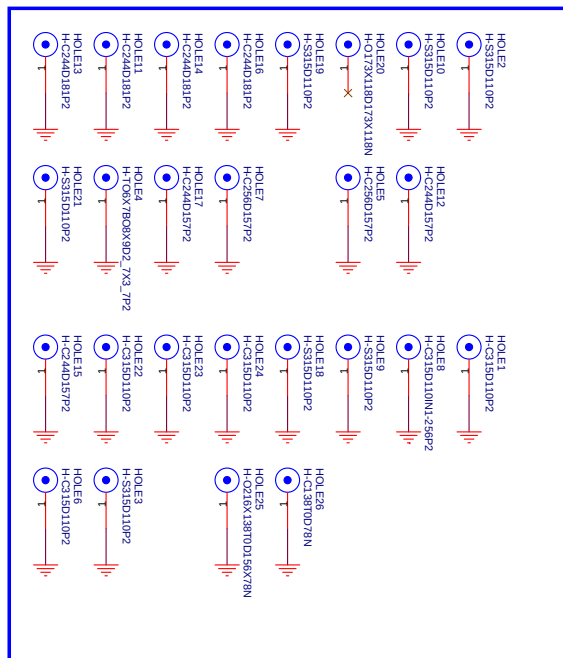
C7: change CN36 footprint



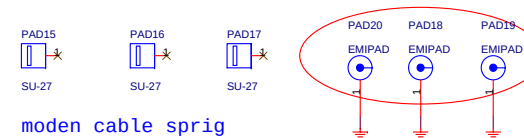
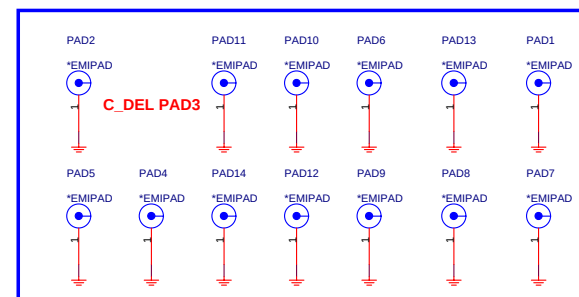
bom create 2'nd source



SCREW HOLE



EMI PAD



C8: Add lock bluetools cable sprig

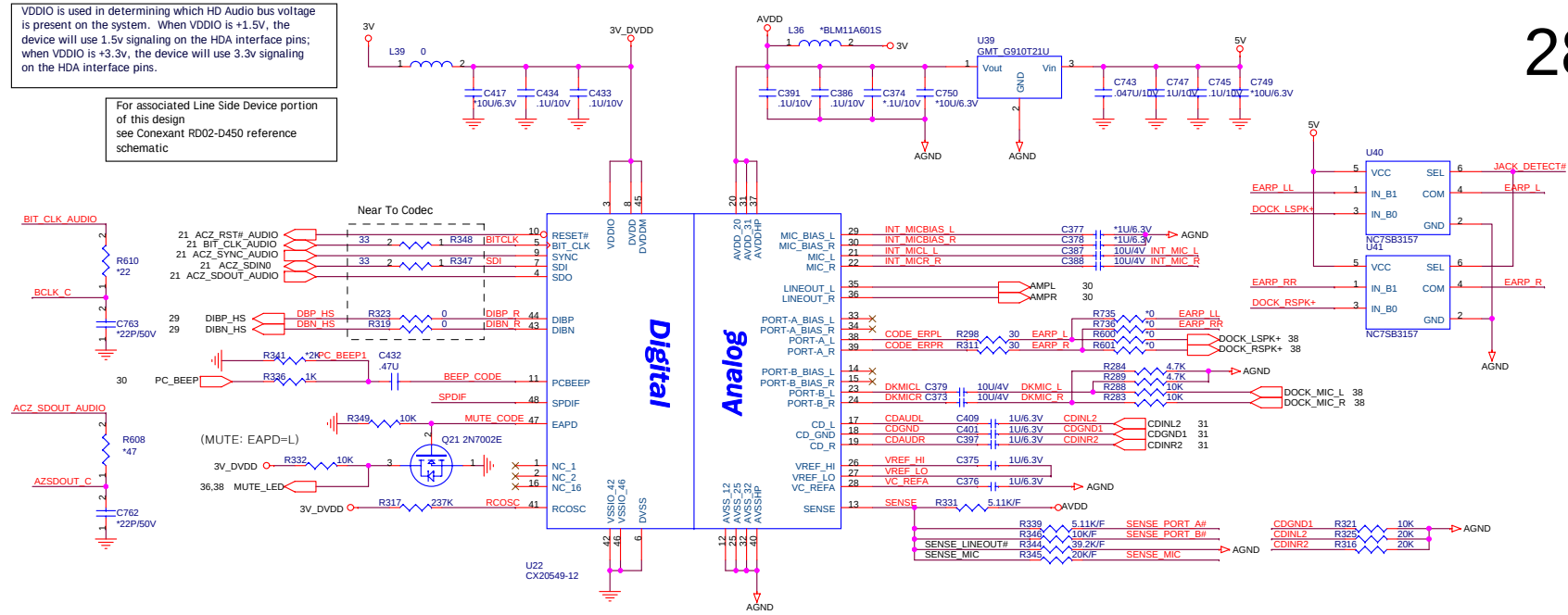


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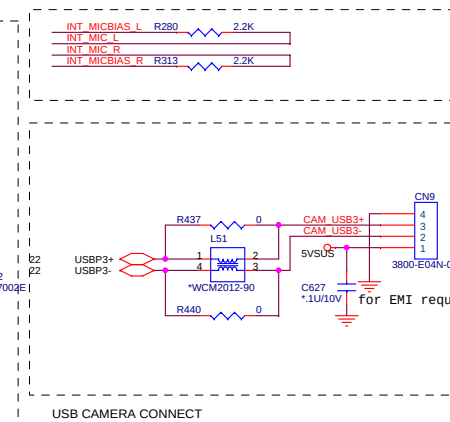
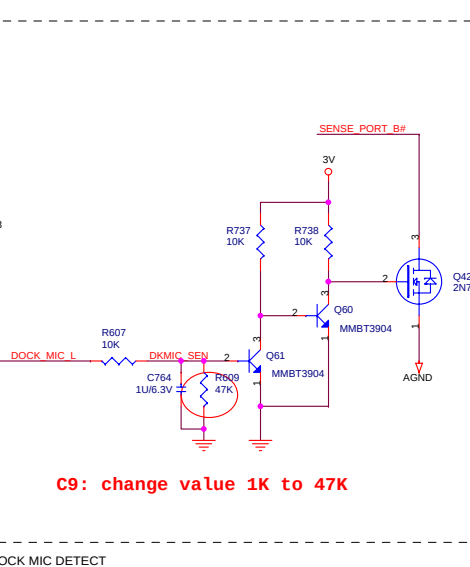
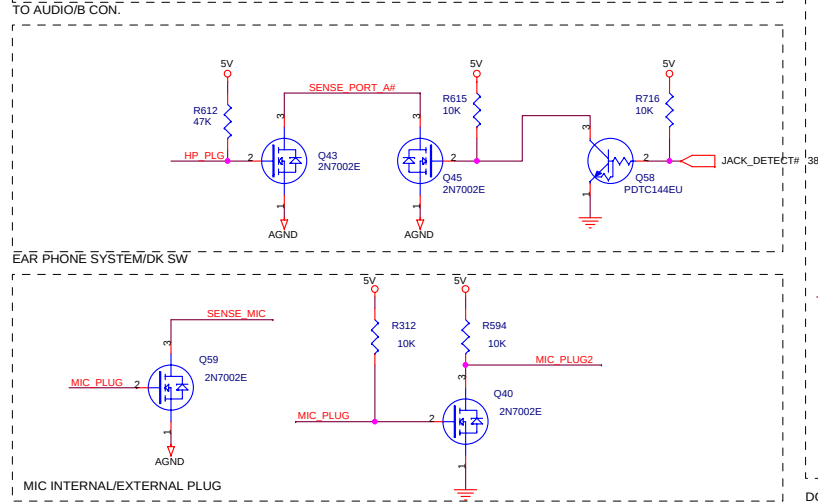
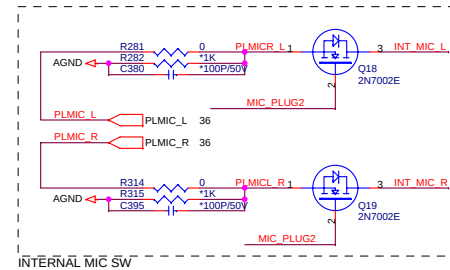
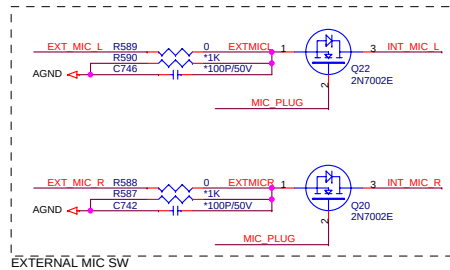
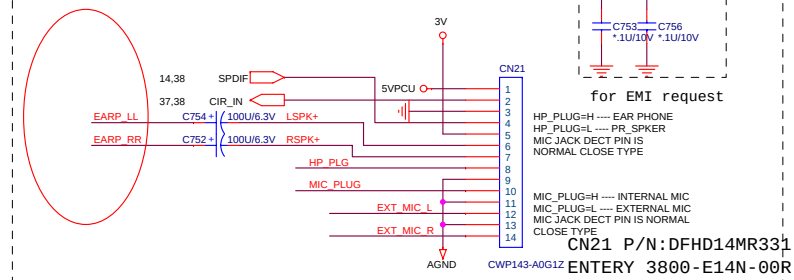
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For associated Line Side Device portion
of this design
see Conexant RD02-D450 reference
schematic

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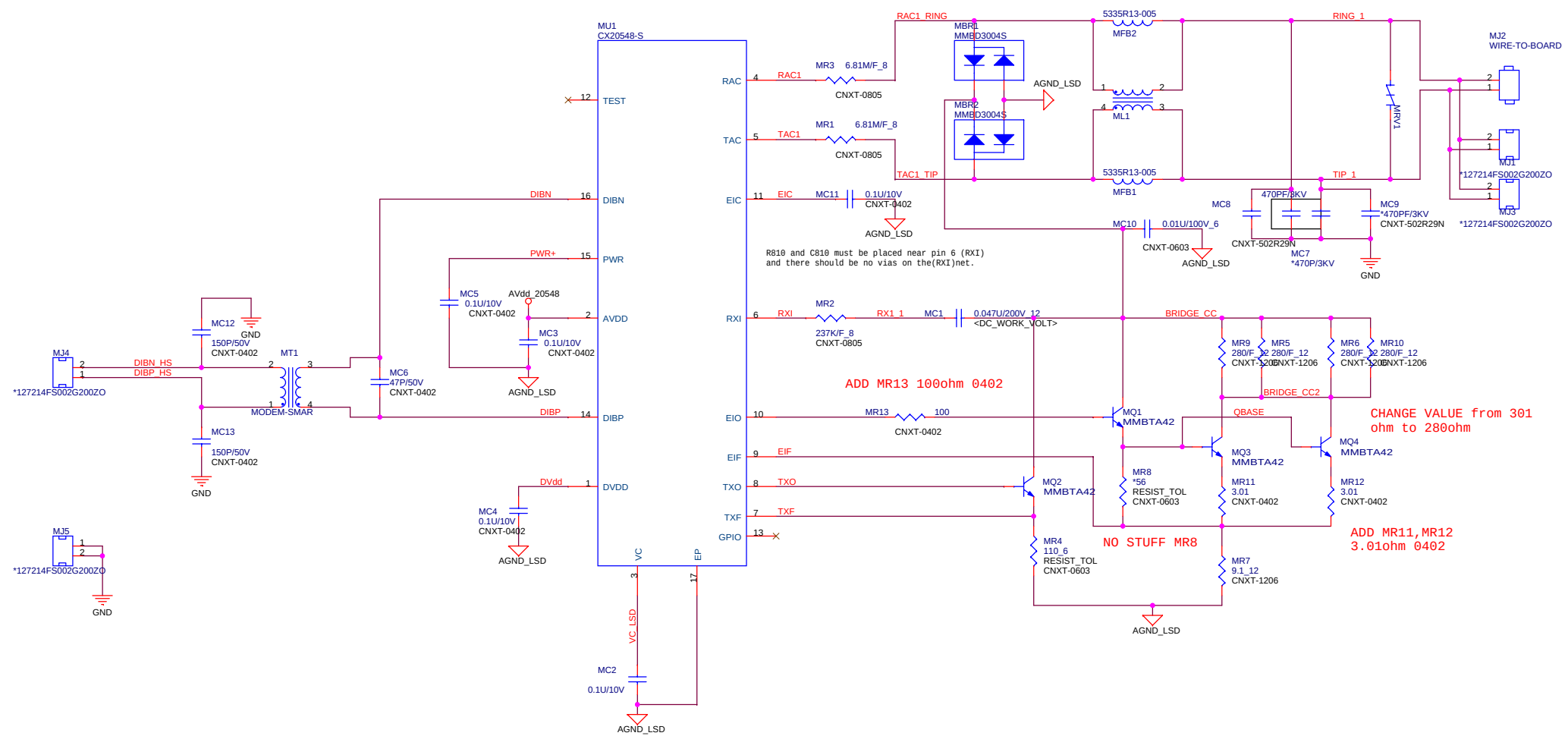


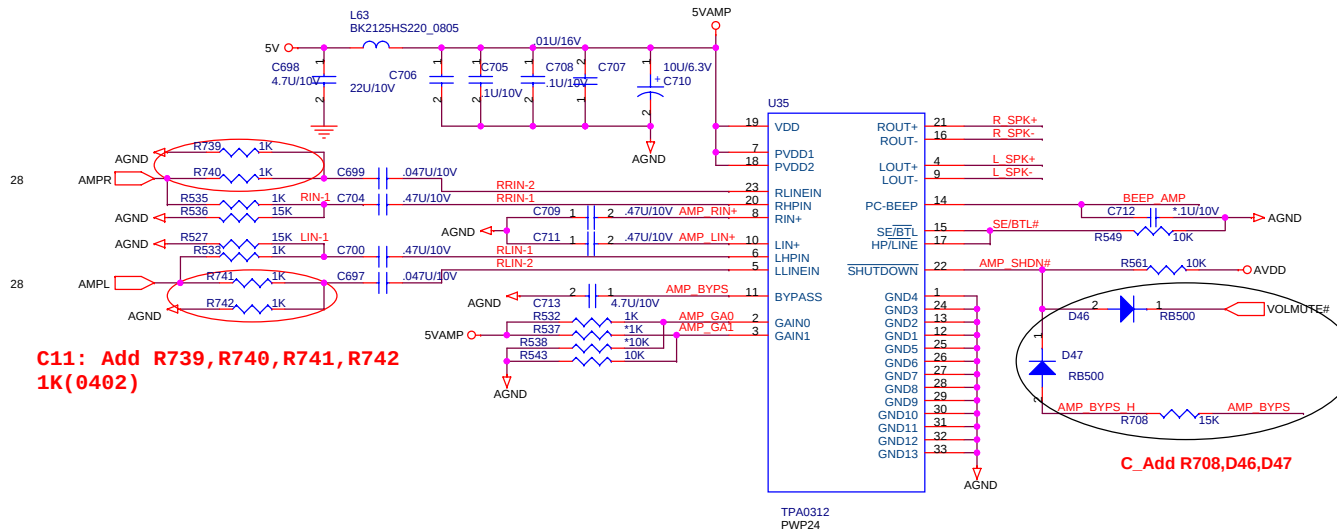
C10: layout del R595,R596,R597,R598



Revision History		
REV	Description	Date
0	Initial Release	April 26, 2005

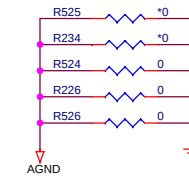
28 DIBN_HS DIBN_HS
28 DIBP_HS DIBP_HS





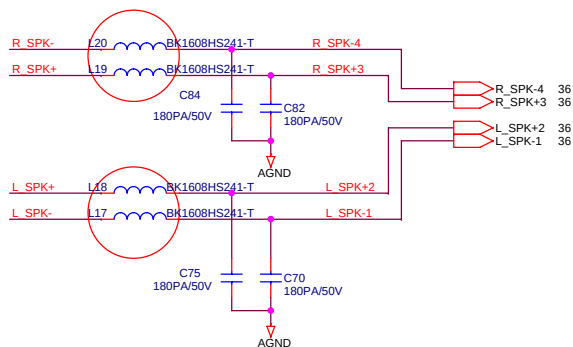
0312 Gain Table

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



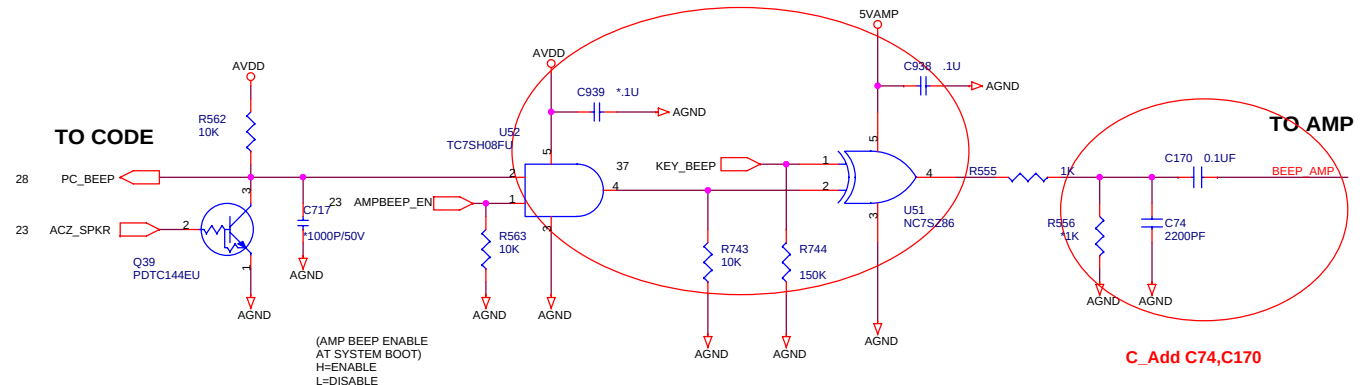
INT. SPEAKER

C12: change L17, L18, L19, L20 value to 240 Ohm

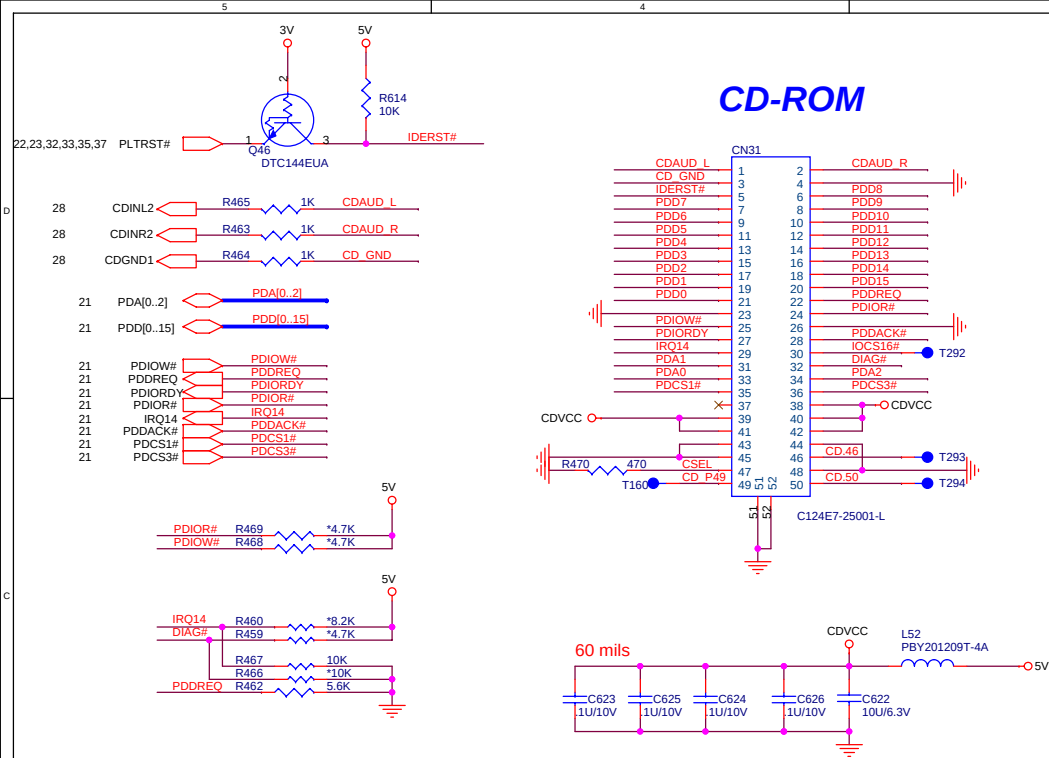


PCSPK BEEP

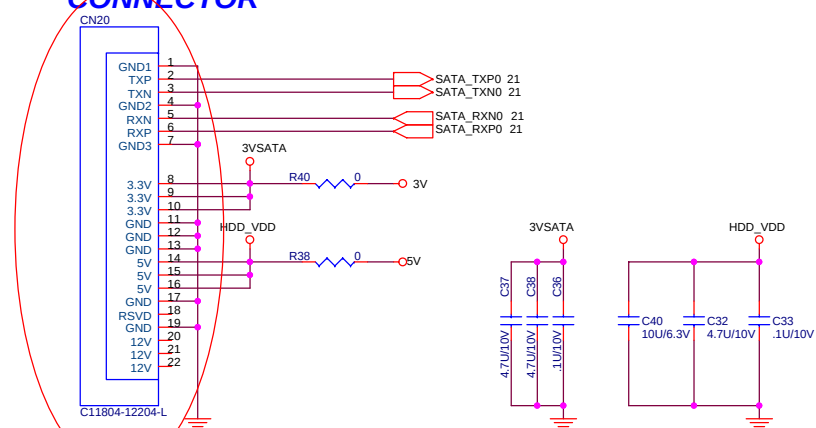
C13: Del Q57, R715, R554, C714 Add C938, U51, R774, R743, U52, C939, R563



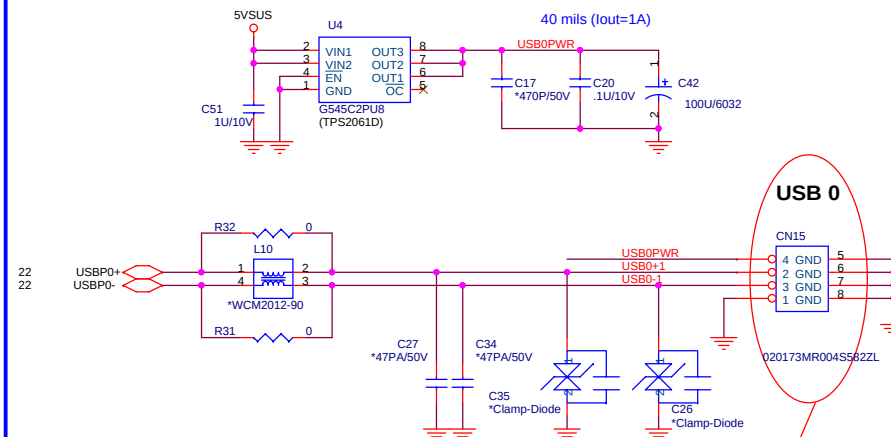
USBX2



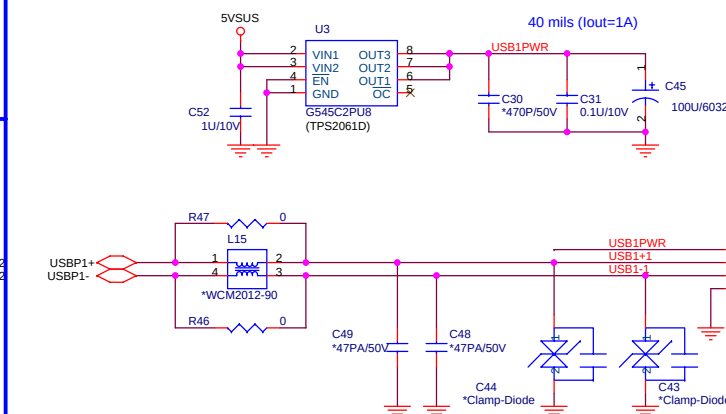
**SATA_1
CONNECTOR**



C14: change CN20 footprint

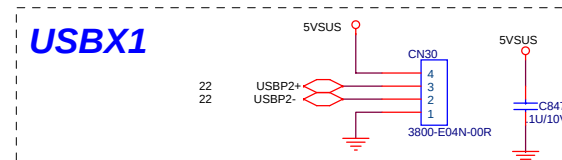


C15: change
CN14, CN15
footprint



USB 1

USBX1



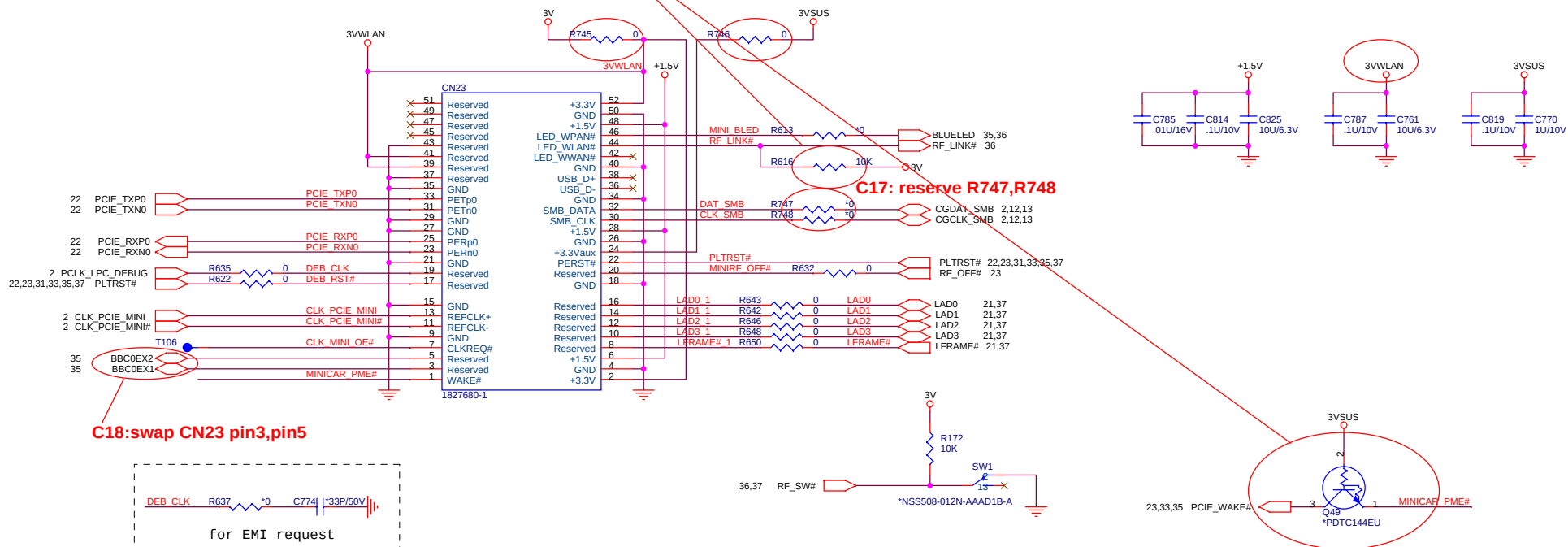
NB5/RD1/HW2

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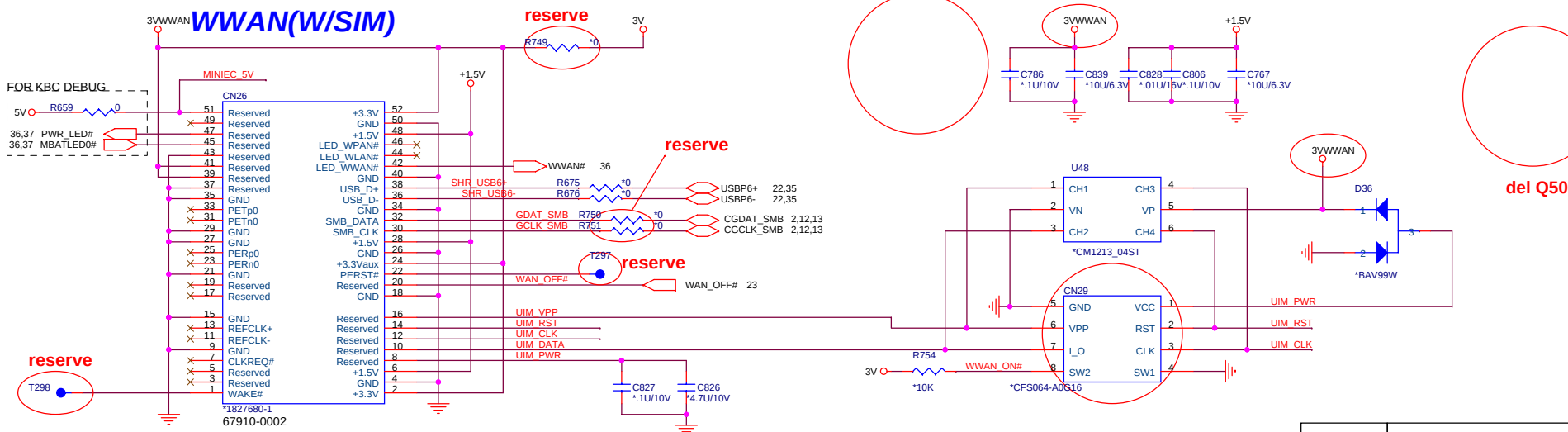
Mini PCI-E Card 1 WLAN

**C16: Add Bom R745(RC1206) R746(RC0603) and R616
Del Q49**



Mini PCI-E Card 2

del C771,C822



**C_Change to P-TWO footprint.
SDCARD-CSF064-A0G16-1-8P**

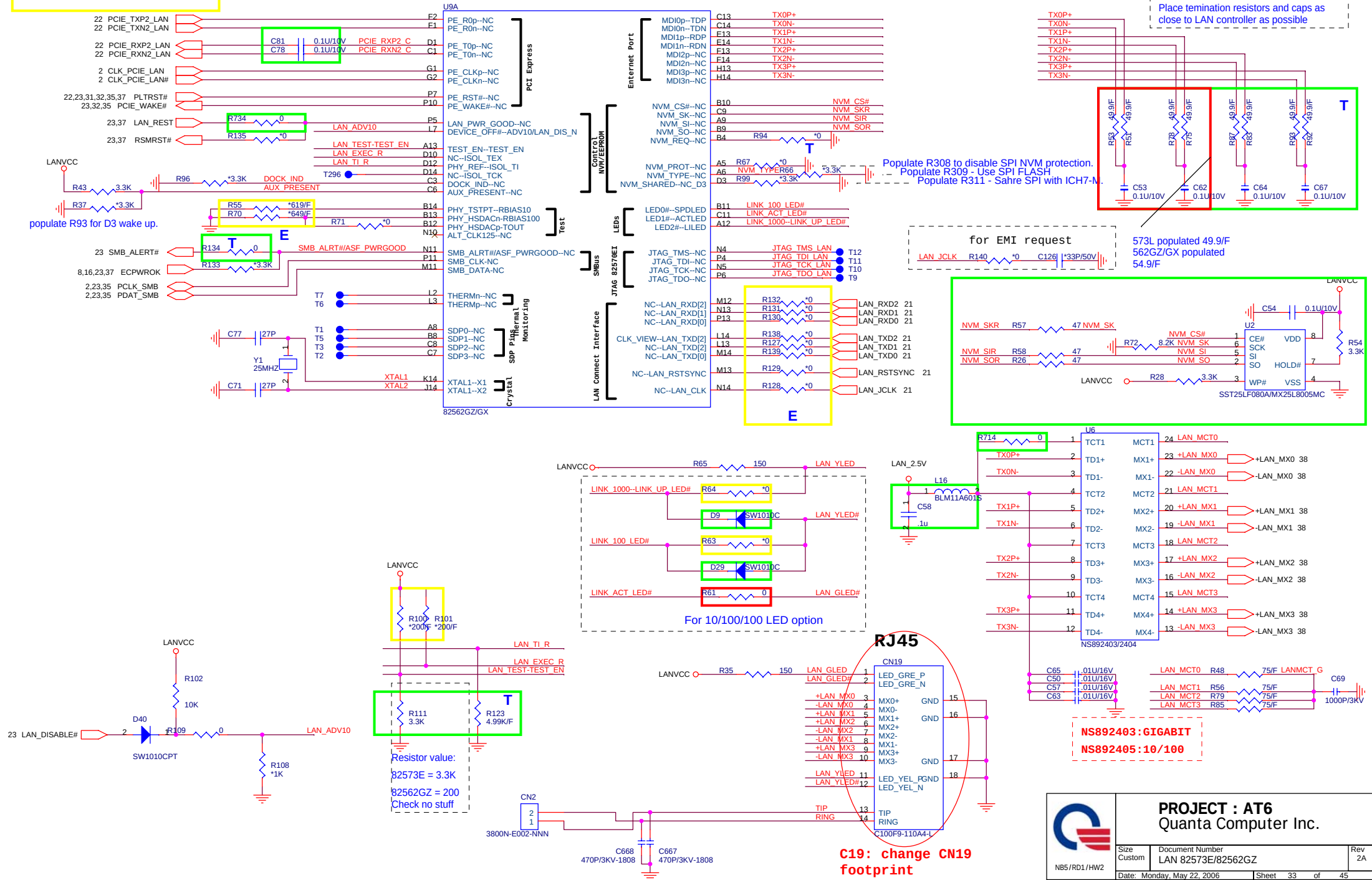


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T : Stuffed for 82573L(10/100/1000)

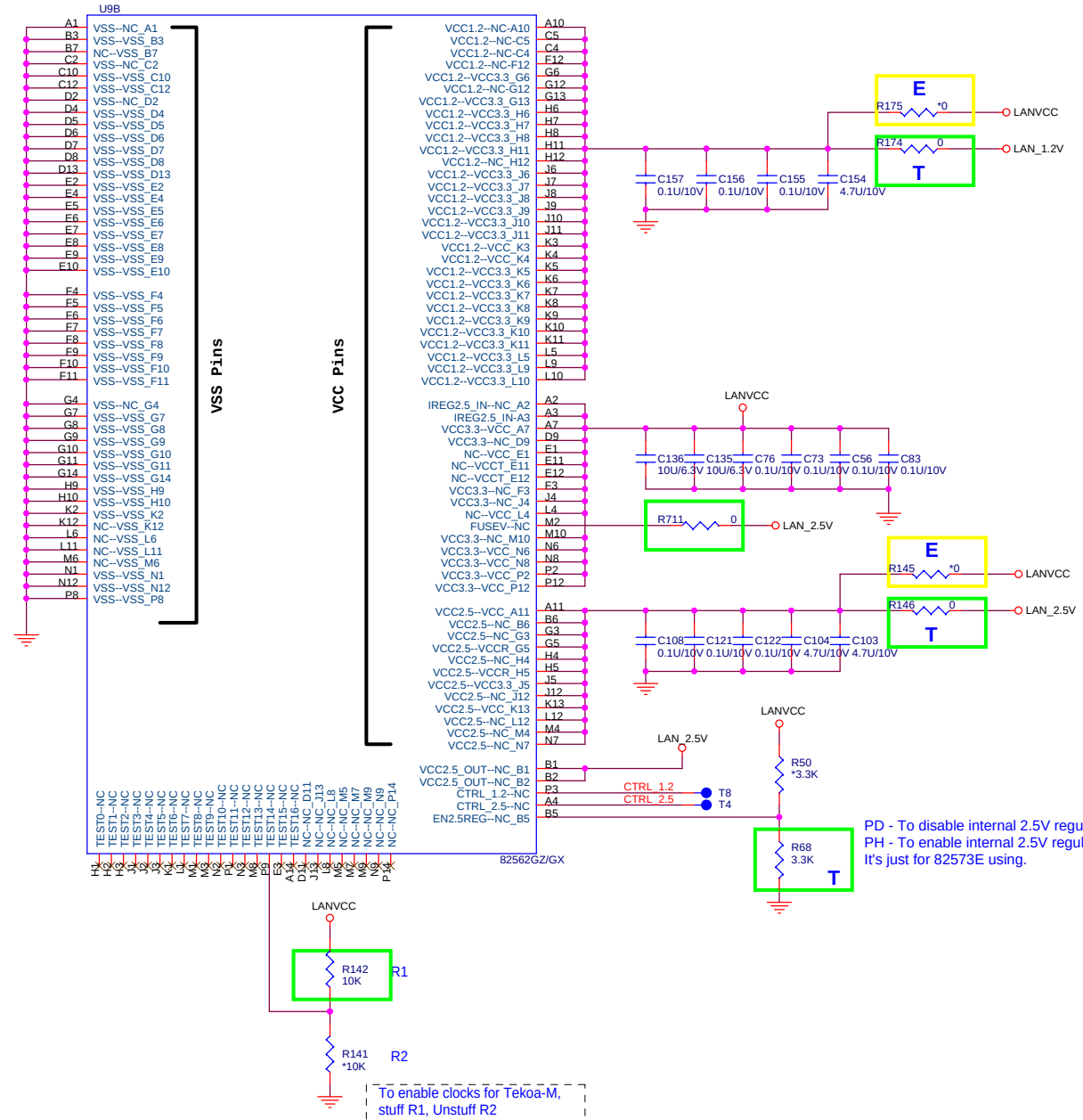
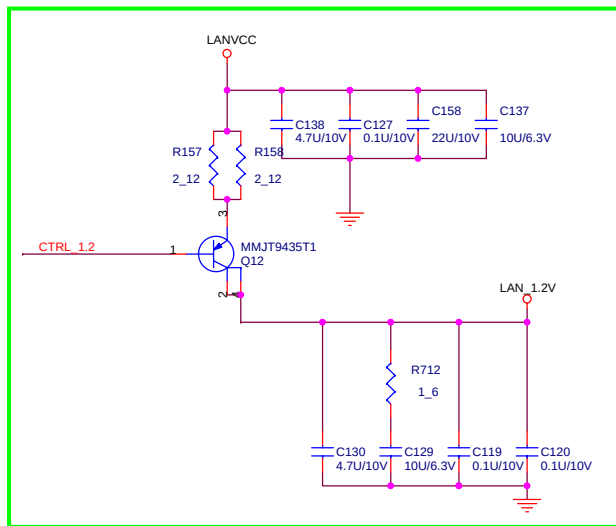
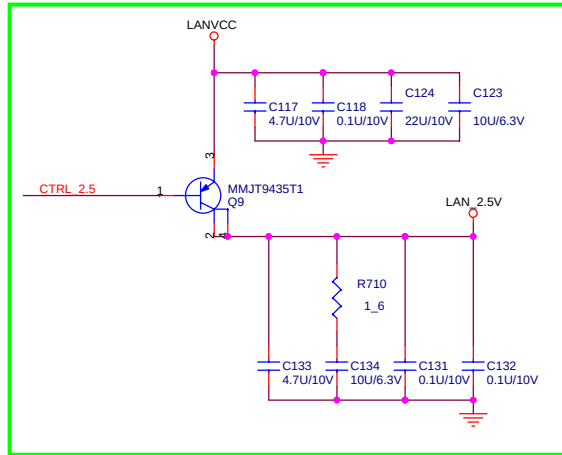
E : Stuffed for 82562GZ/GX(10/100)



C19: change CN19 footprint

T : Stuffed for 82573L(10/100/1000)

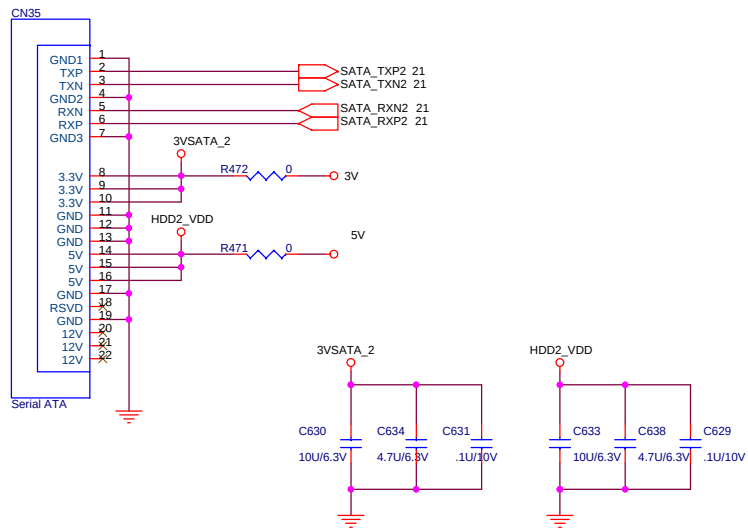
E : Stuffed for 8256GZ/GX(10/100)



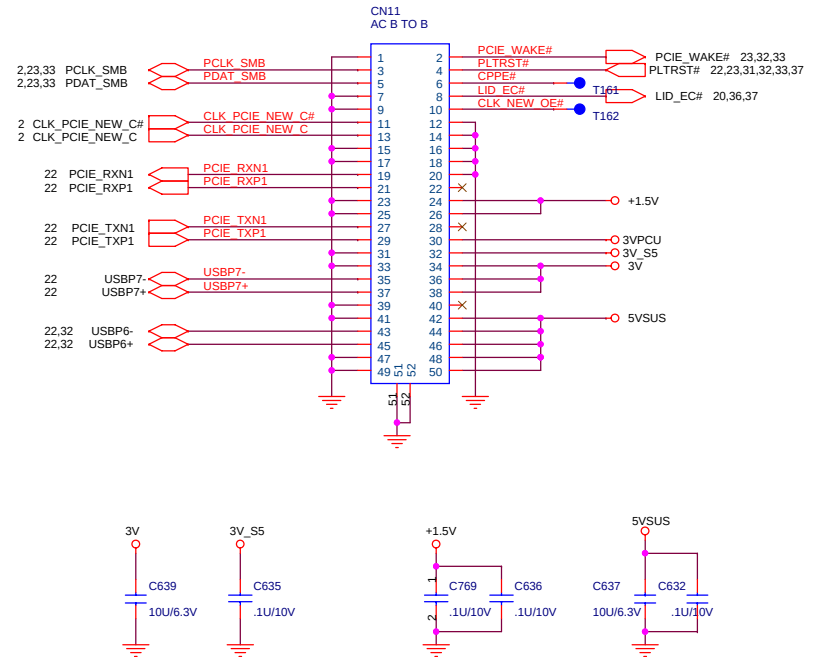
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Quanta Computer Inc.

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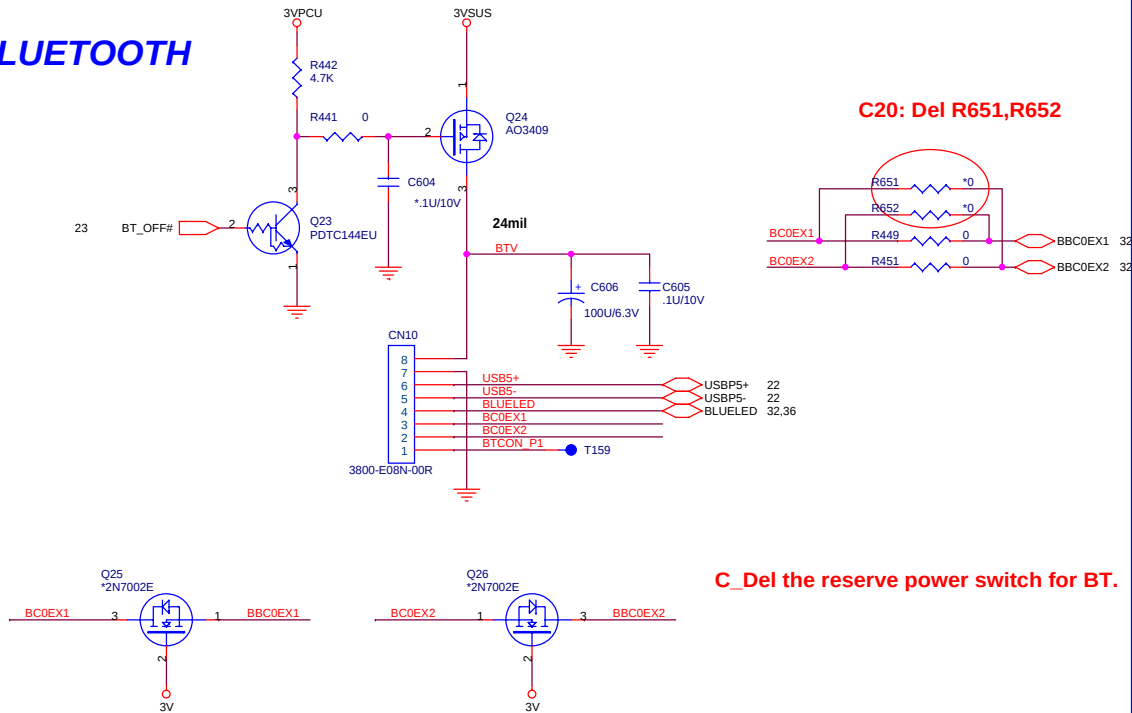
SATA_2 CONNECTOR
For 17"W Second HDD

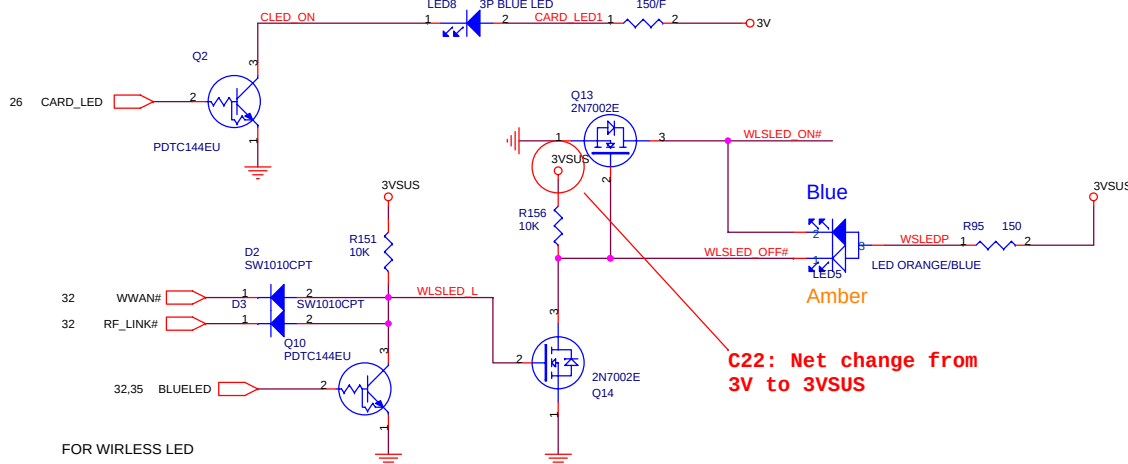
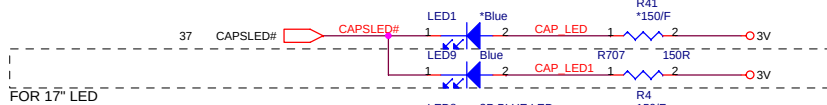
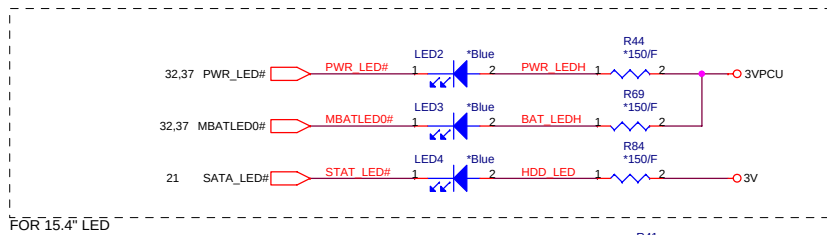
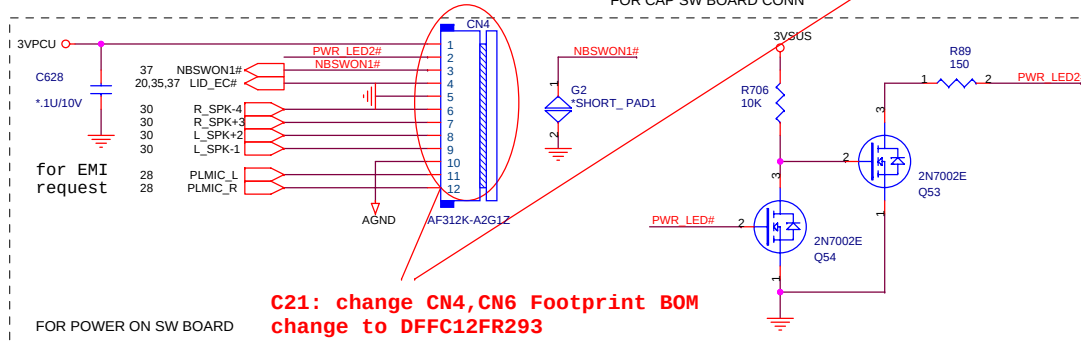
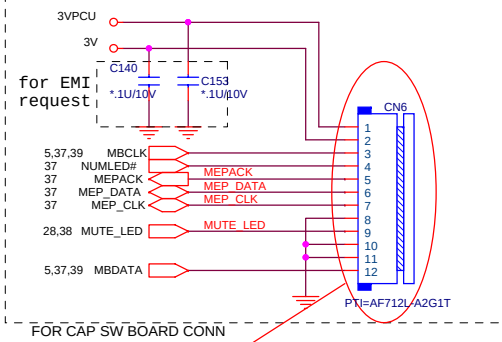
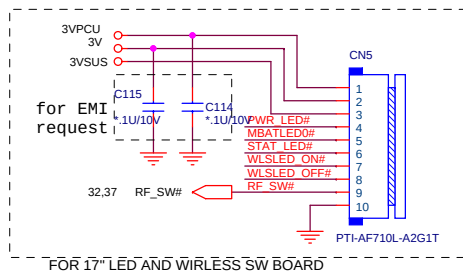
**NEWCARD**

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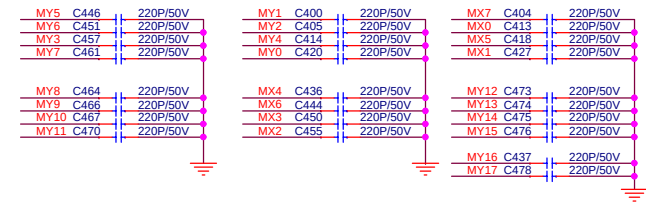


BLUETOOTH

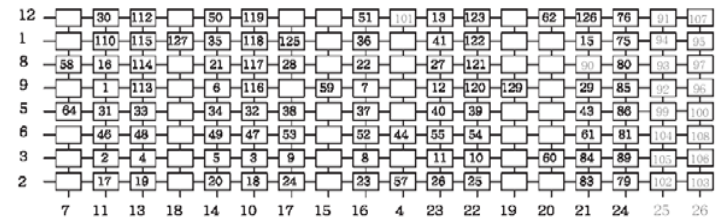
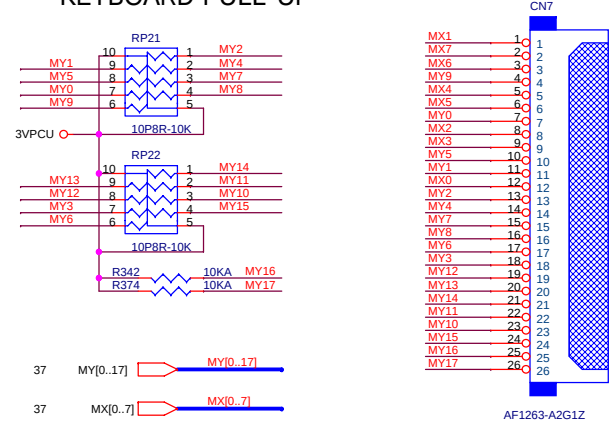




C22: Net change from 3V to 3VSUS



KEYBOARD PULL-UP

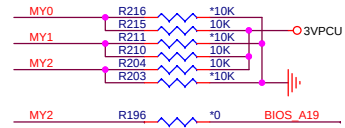


C23: SLP_BTN# change to DNBSWON# Add R753

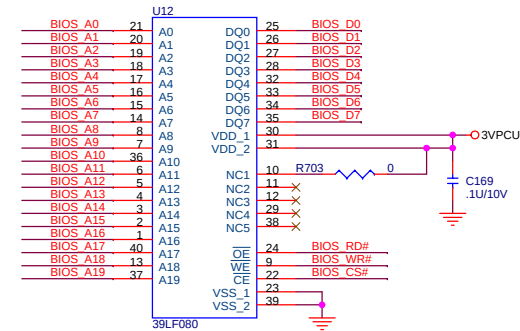


STRAP PIN

MY0	47	TP_TEST: Clock Test Mode Low: Test Mode. HIGH: 32kHz clock in normal running
MY1	48	TP_PLL: DPLL Test Mode Low: Test Mode. HIGH: Normal operation
MY2	49	TP_SPI: Default flash access Low: Boot from SPI flash part HIGH: Boot from ISA flash part
MY3	50	TP_ISP: In System Programming Mode Low: ISP Mode HIGH: Normal Mode



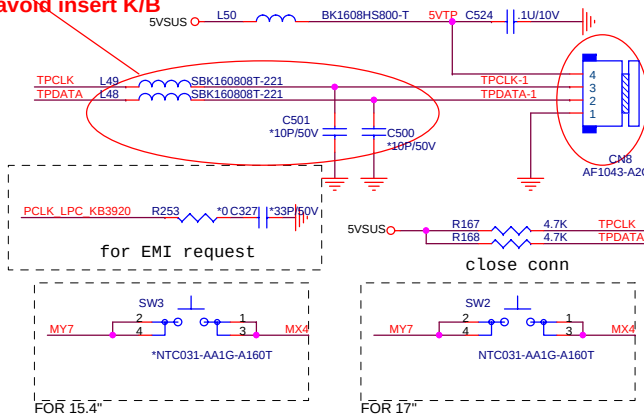
BIOS 1M FLASH ROM



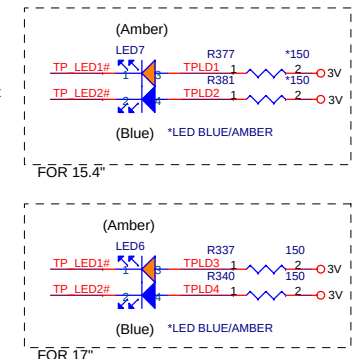
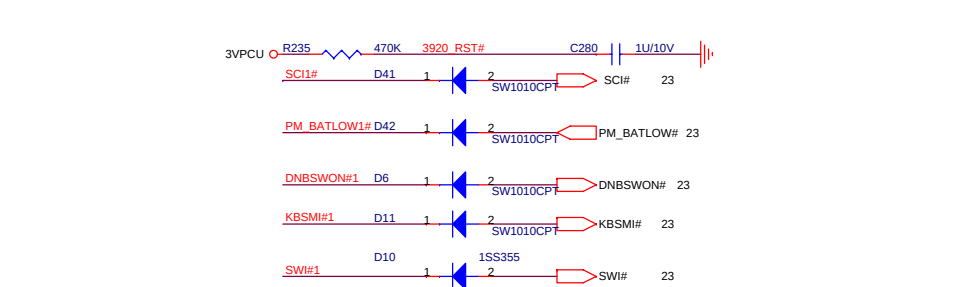
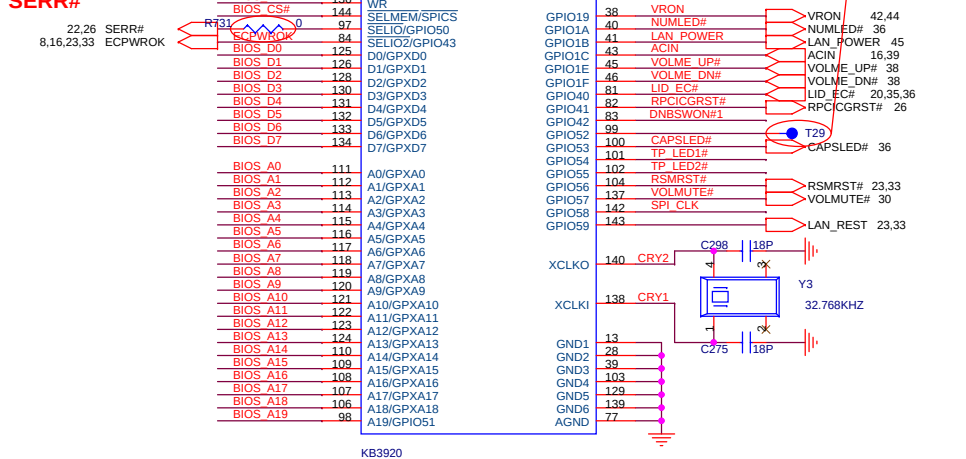
TOUCH PAD CONNECTOR

C25: layout Move
L48,L49,C500,C501 in order to
avoid insert K/B

25 mils

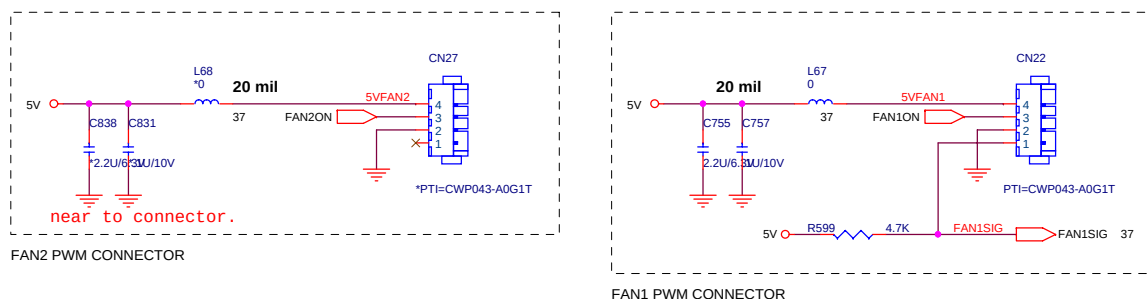
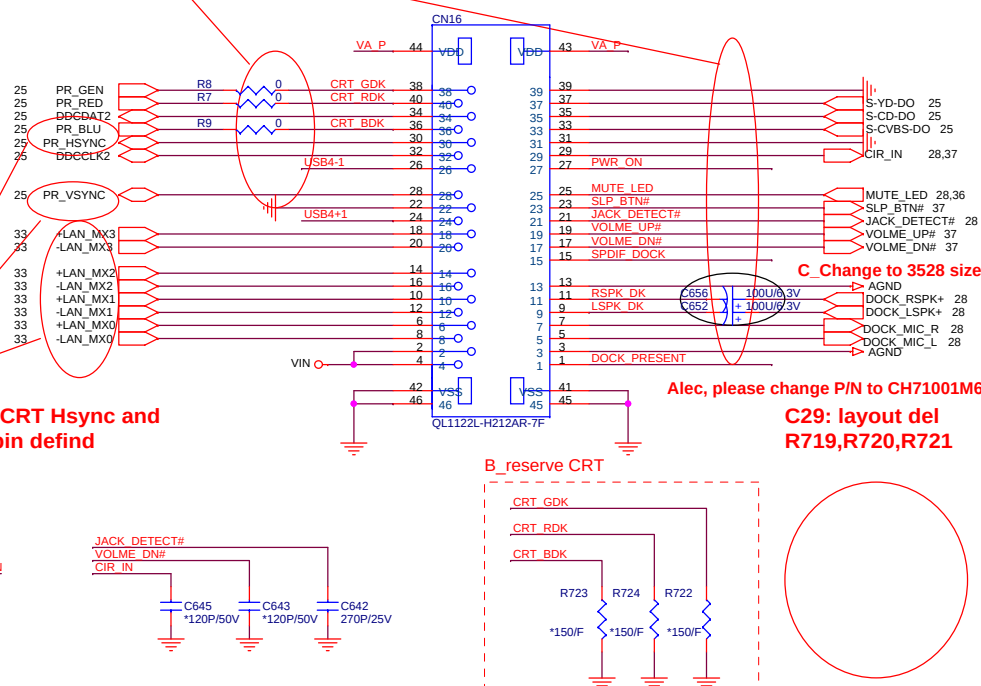
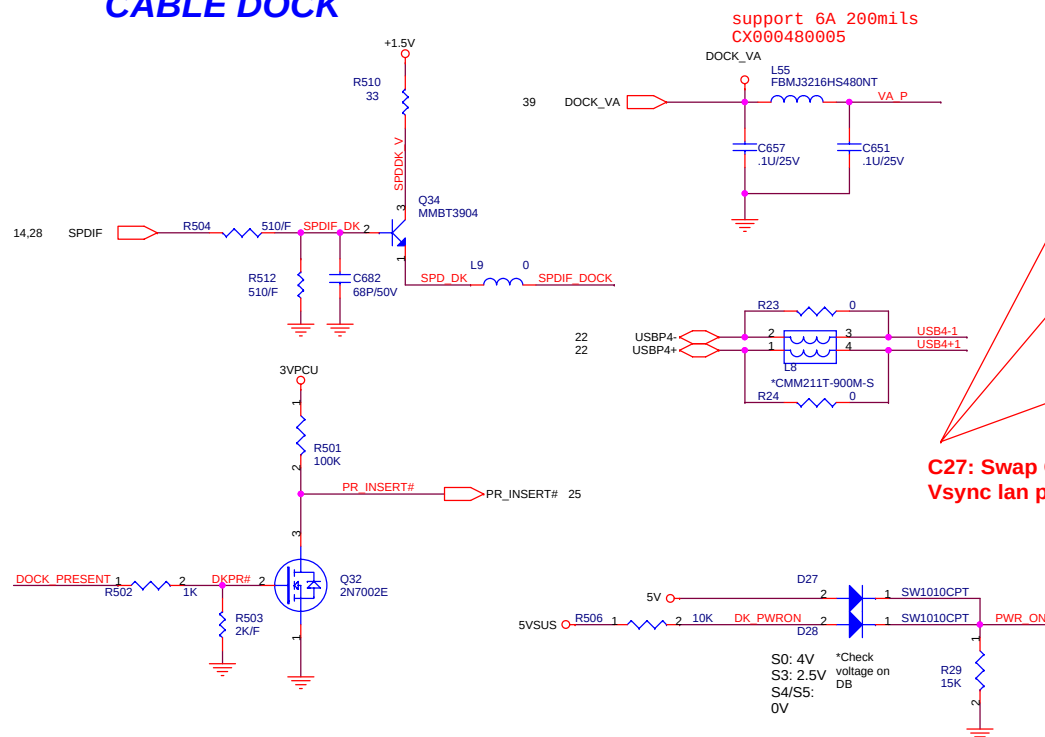


C26: Change CN8 footprint

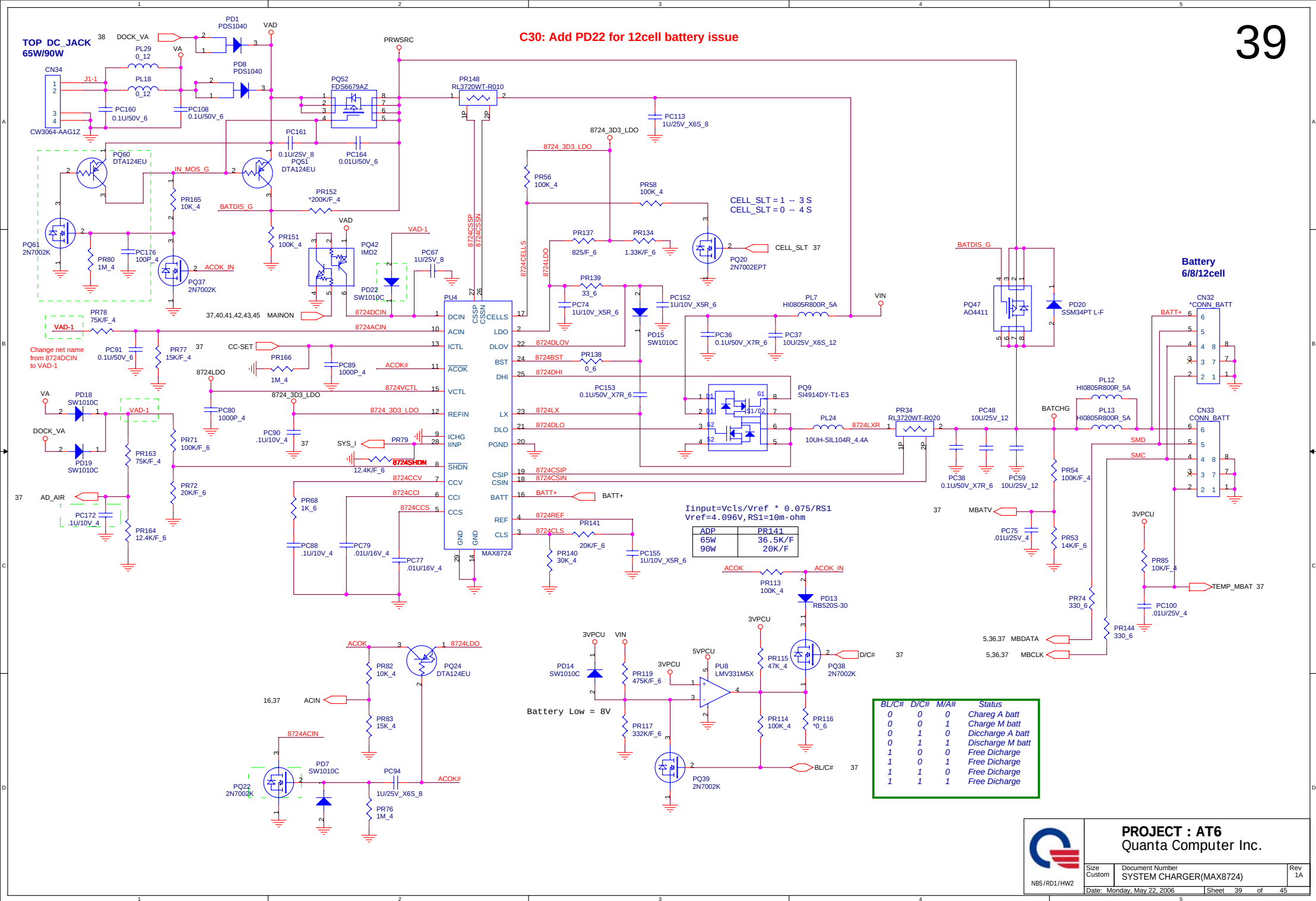
C24: add R731 for
SERR#

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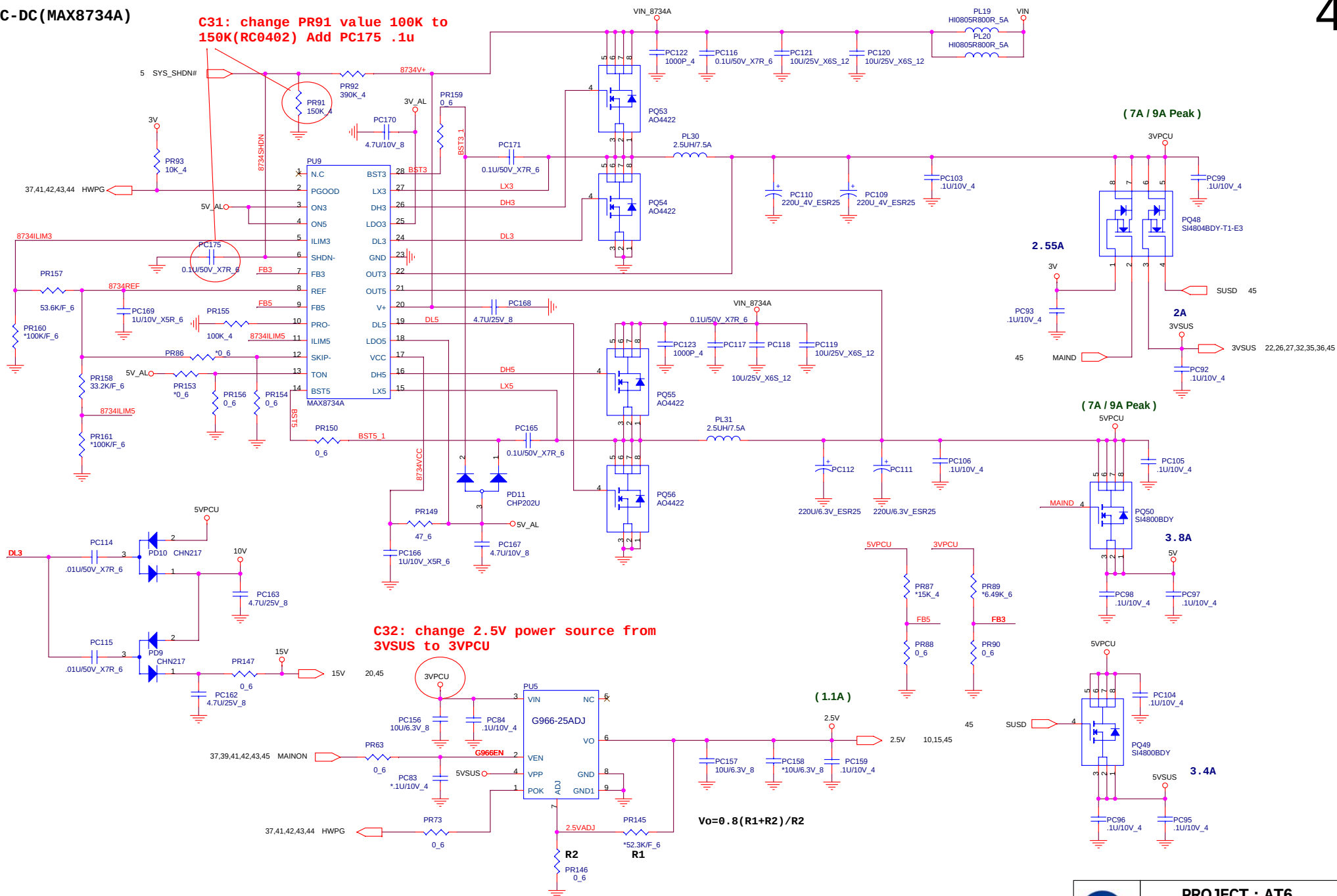


C30: Add PD22 for 12cell battery issue



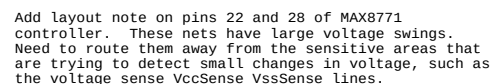
DC-DC (MAX8734A)

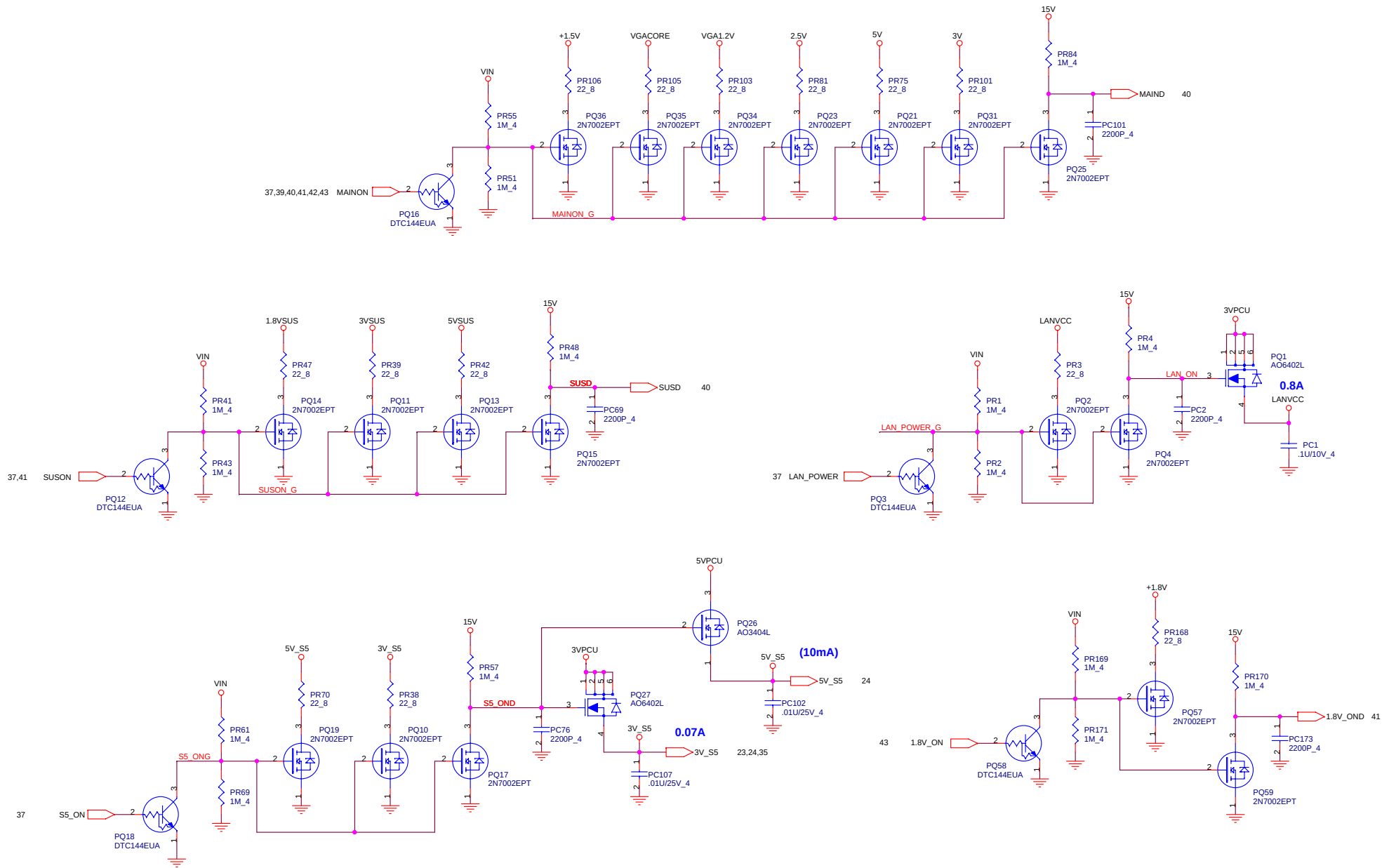
C31: change PR91 value 100K to 150K(RC0402) Add PC175 .1u



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