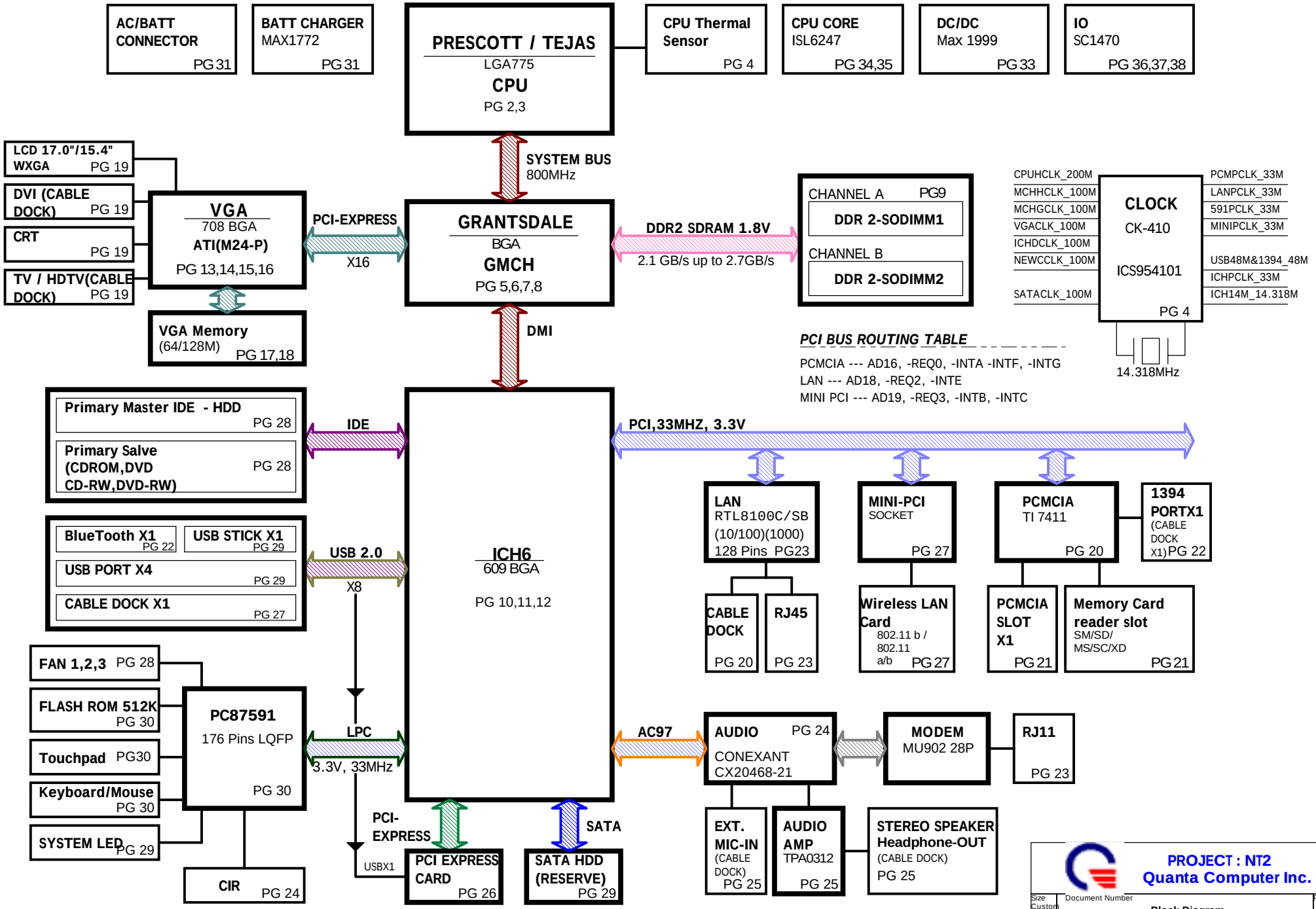
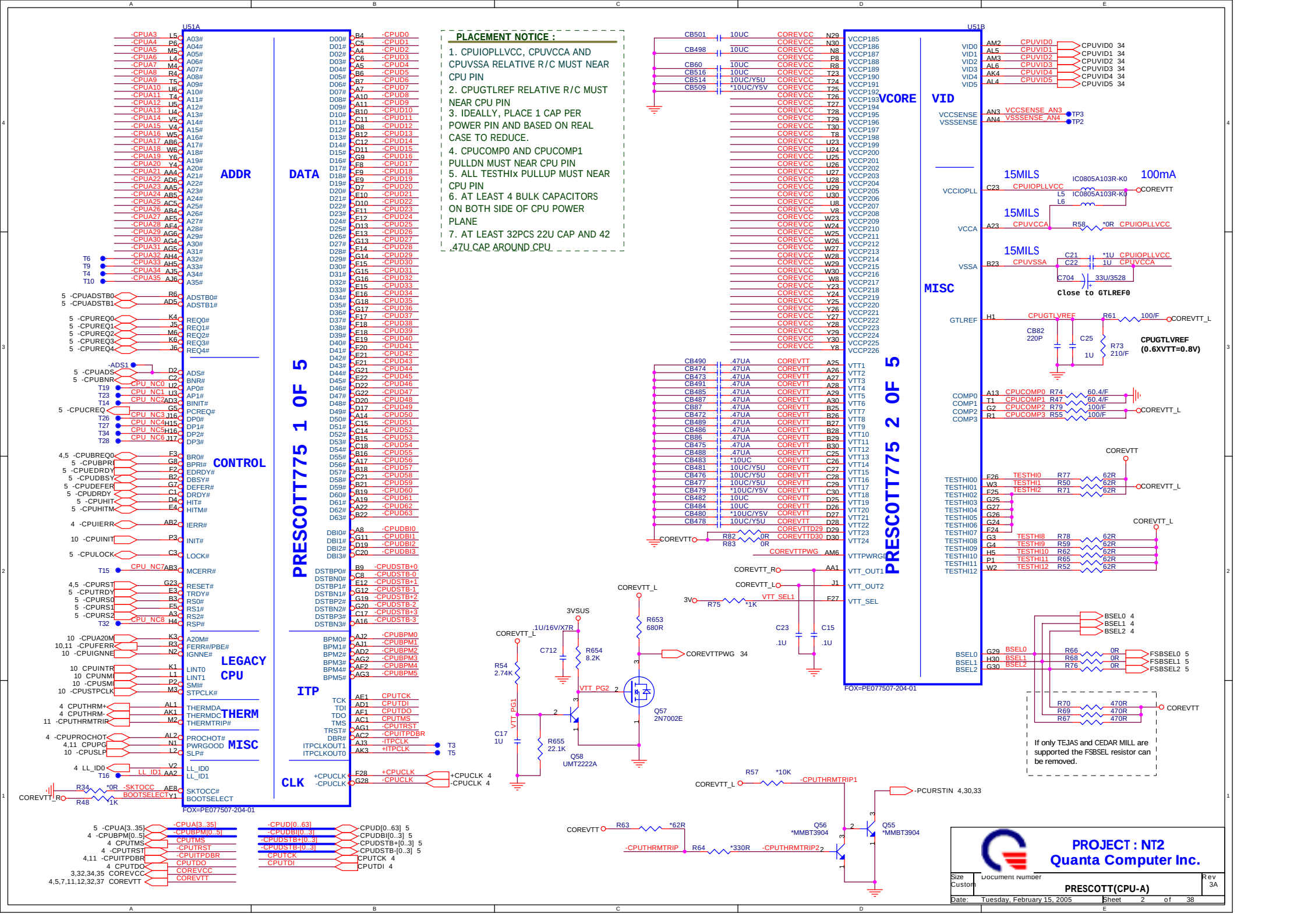
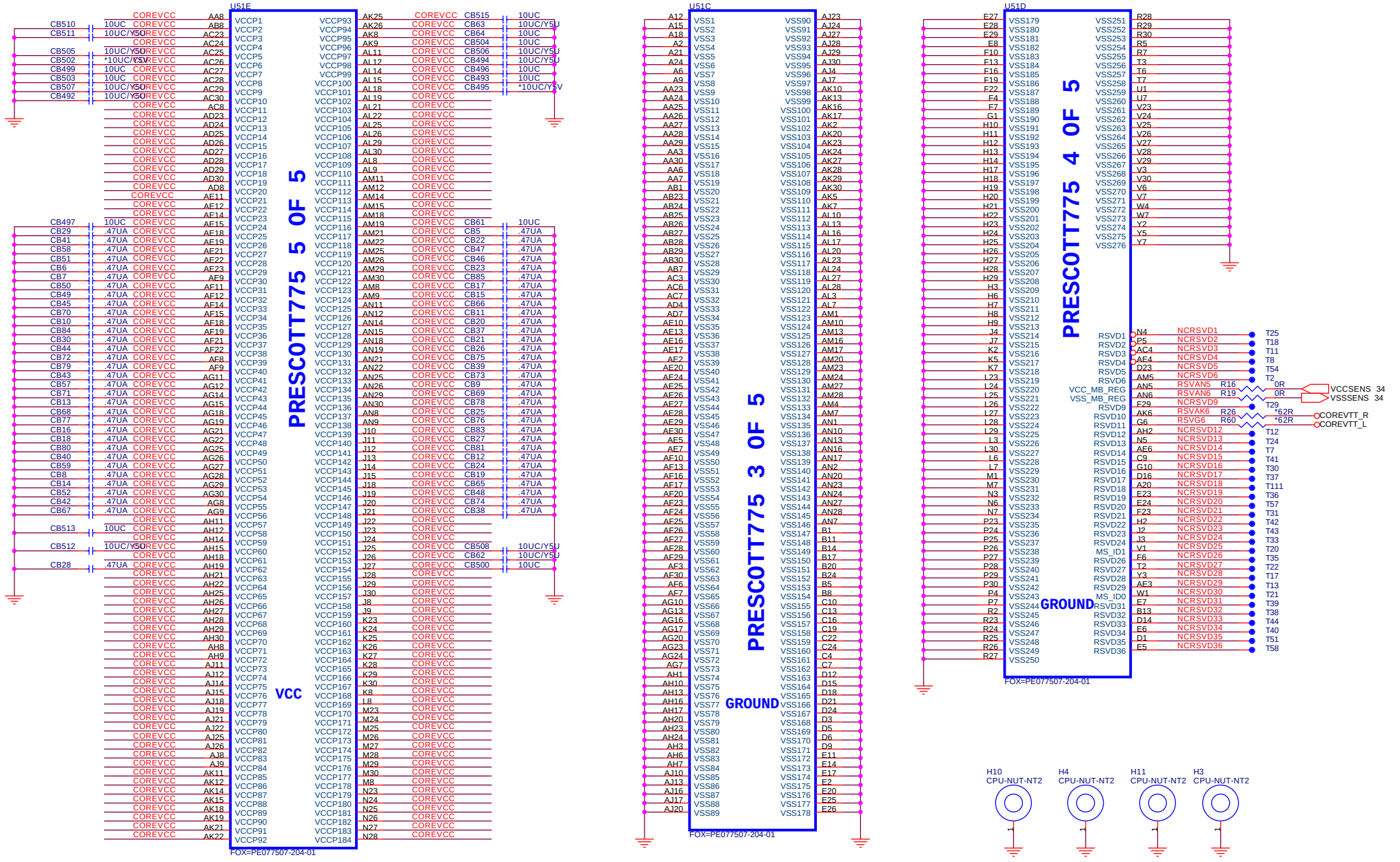
NT2 - Block Diagram



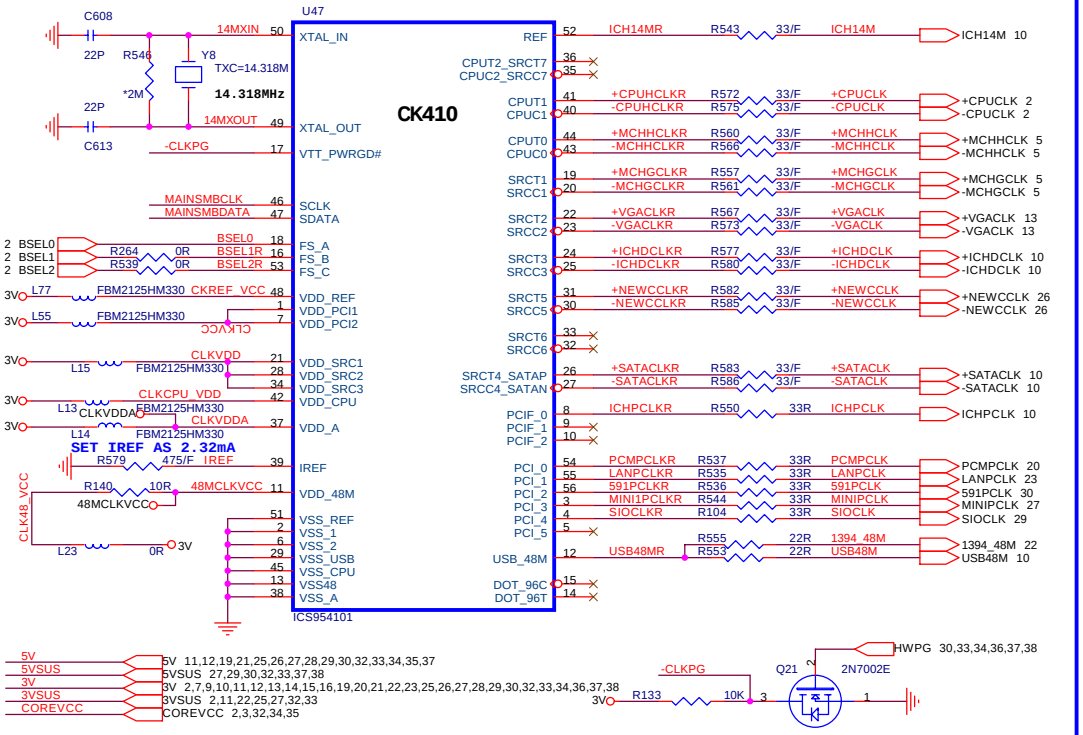

U51A
PRESCOTT775 1 OF 5
ADDR
DATA
CONTROL
LEGACY CPU
THERM
MISC
ITP
CLK
FOX=PE077507-204-01
PLACEMENT NOTICE :
1. CPUIOPLLVCC, CPUVCCA AND CPUVSSA RELATIVE R/C MUST NEAR CPU PIN
2. CPUGTLREF RELATIVE R/C MUST NEAR CPU PIN
3. IDEALLY, PLACE 1 CAP PER POWER PIN AND BASED ON REAL CASE TO REDUCE.
4. CPUCOMP0 AND CPUCOMP1 PULLDN MUST NEAR CPU PIN
5. ALL TESTHIx PULLUP MUST NEAR CPU PIN
6. AT LEAST 4 BULK CAPACITORS ON BOTH SIDE OF CPU POWER PLANE
7. AT LEAST 32PCS 22U CAP AND 42 .47U CAP AROUND CPU
U51B
PRESCOTT775 2 OF 5
VCORE
VID
MISC
FOX=PE077507-204-01
15MILS
100mA
IC0805A103R-K0
Close to GTLREF0
CPUGTLVREF
(0.6XVTT=0.8V)
If only TEJAS and CEDAR MILL are supported the FSBSEL resistor can be removed.
PROJECT : NT2
Quanta Computer Inc.
PRESCOTT(CPU-A)
Size Custom
Document Number
Rev 3A
Date: Tuesday, February 15, 2005
Sheet 2 of 38

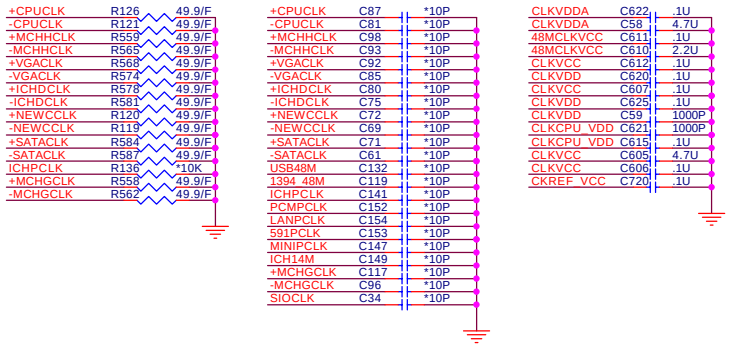


PROJECT : NT2
Quanta Computer Inc.

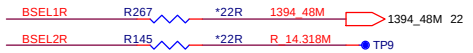
Size	Document Number	Rev
Custom	PRESCOTT(POWER/GND)	1A

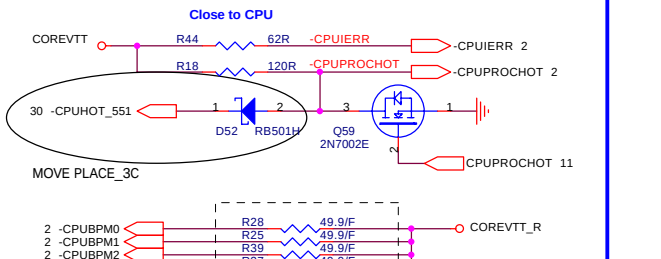
Date: Tuesday, February 15, 2005 Sheet 3 of 38





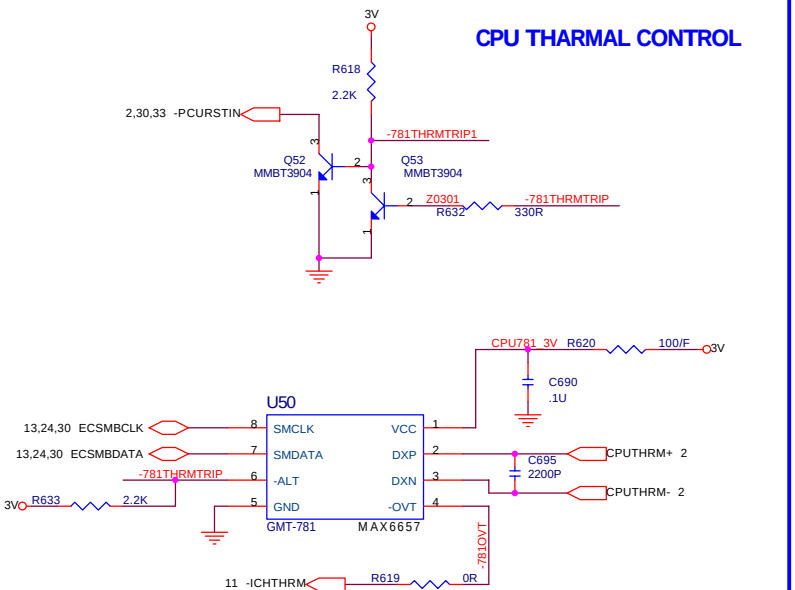
FS2	FS1	FS0	CPU
0	1	0	200MHZ HOST CLOCK

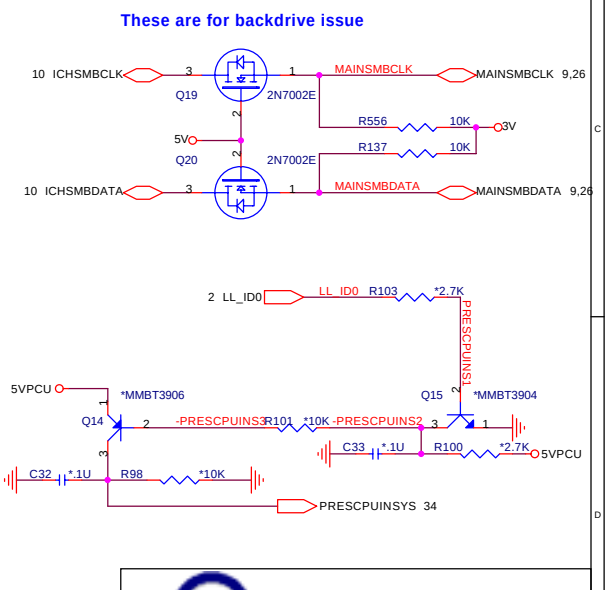




BOM C2 NOTE:

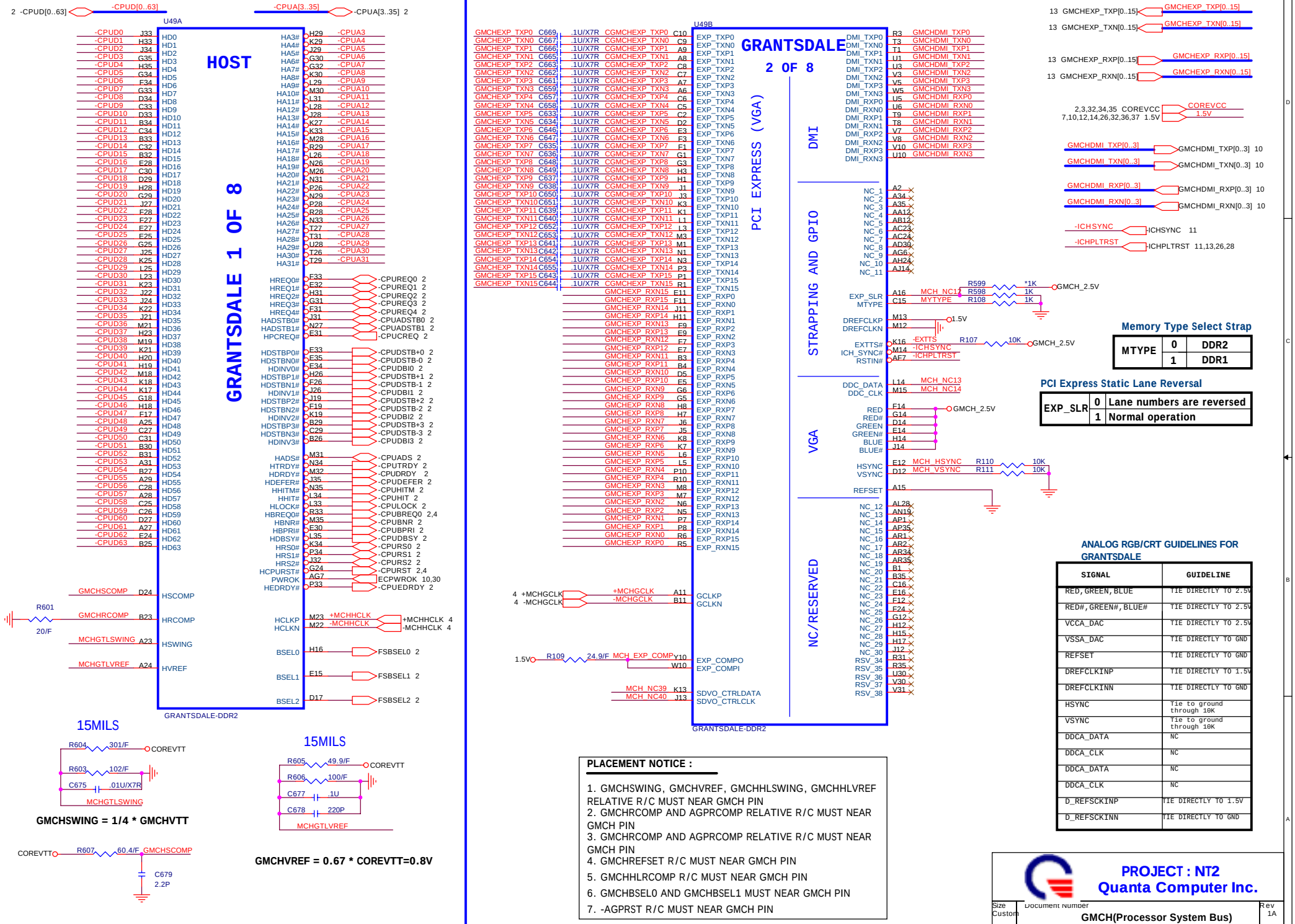
ADD D52 BCCH501HZ01





PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	CLOCK GENERATOR	3B
Date: Tuesday, January 25, 2005	Sheet 4 of 38	



Memory Type Select Strap

MTYPE		
	0	DDR2
	1	DDR1

PCI Express Static Lane Reversal

EXP_SLR		
	0	Lane numbers are reversed
	1	Normal operation

ANALOG RGB/CRT GUIDELINES FOR GRANTSDALE

SIGNAL	GUIDELINE
RED,GREEN,BLUE	TIE DIRECTLY TO 2.5V
RED#,GREEN#,BLUE#	TIE DIRECTLY TO 2.5V
VCCA_DAC	TIE DIRECTLY TO 2.5V
VSSA_DAC	TIE DIRECTLY TO GND
REFSET	TIE DIRECTLY TO GND
DREFCLKINP	TIE DIRECTLY TO 1.5V
DREFCLKINN	TIE DIRECTLY TO GND
HSYNC	Tie to ground through 10K
VSYNC	Tie to ground through 10K
DDCA_DATA	NC
DDCA_CLK	NC
DDCA_DATA	NC
DDCA_CLK	NC
D_REFSCKINP	TIE DIRECTLY TO 1.5V
D_REFSCKINN	TIE DIRECTLY TO GND

PLACEMENT NOTICE :

1. GMCHSWING, GMCHVREF, GMCHHLSWING, GMCHHLVREF RELATIVE R/C MUST NEAR GMCH PIN
2. GMCHRCOMP AND AGPRCOMP RELATIVE R/C MUST NEAR GMCH PIN
3. GMCHRCOMP AND AGPRCOMP RELATIVE R/C MUST NEAR GMCH PIN
4. GMCHREFSET R/C MUST NEAR GMCH PIN
5. GMCHHLRCOMP R/C MUST NEAR GMCH PIN
6. GMCHBSEL0 AND GMCHBSEL1 MUST NEAR GMCH PIN
7. -AGPRST R/C MUST NEAR GMCH PIN

PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	GMCH(Processor System Bus)	1A
Date: Tuesday, January 25, 2005	Sheet 5 of 38	

U49C

GRANTSDALE
3 OF 8

DDR
CHANNEL A

GRANTSDALE-DDR2

U49D

GRANTSDALE
4 OF 8

DDR
CHANNEL B

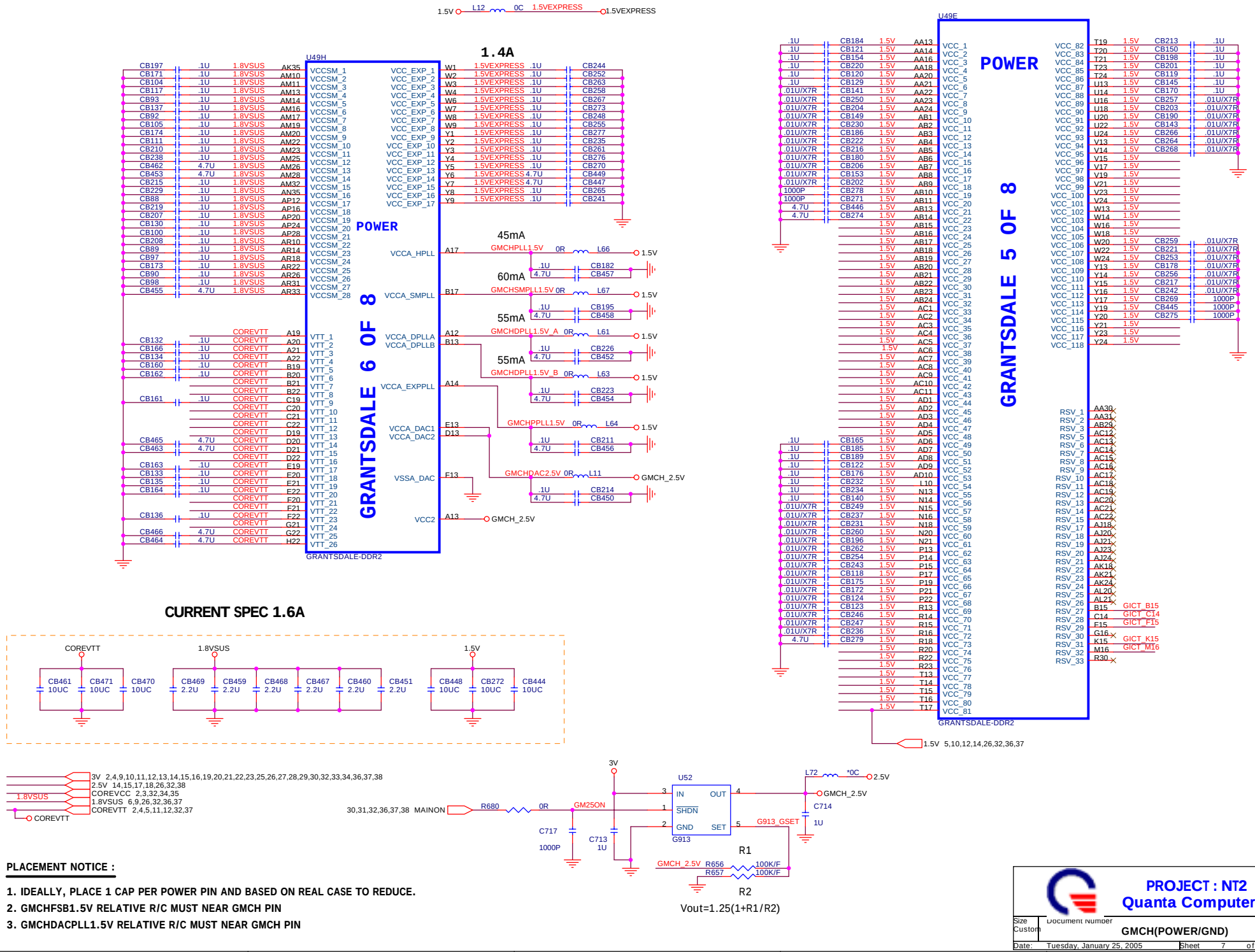
GRANTSDALE-DDR2

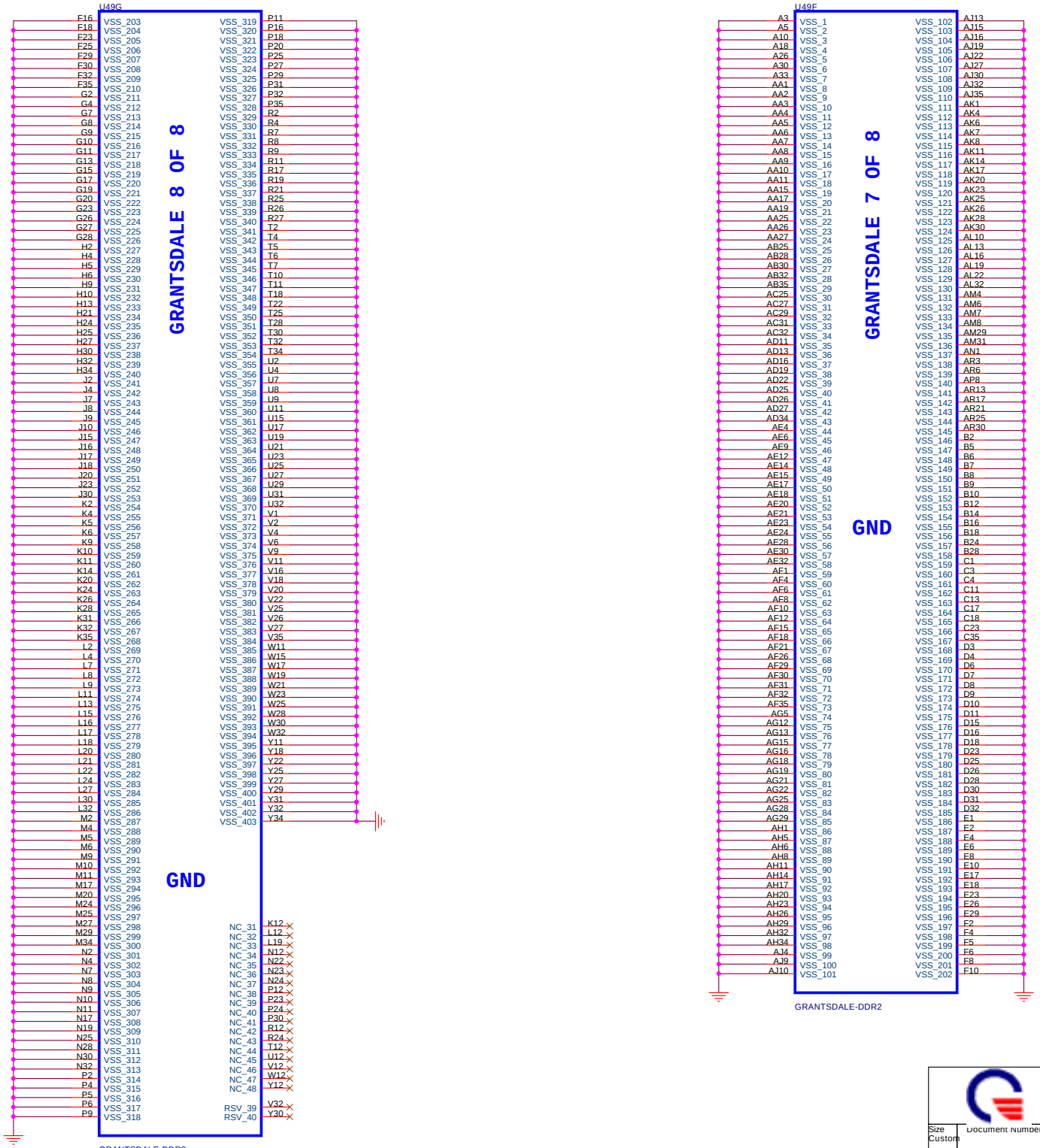
1. MEMVREFA AND MEMVREFB RELATIVE R/C MUST NEAT GMCH PIN

PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	GMCH DDR2 CHANNEL A	1A

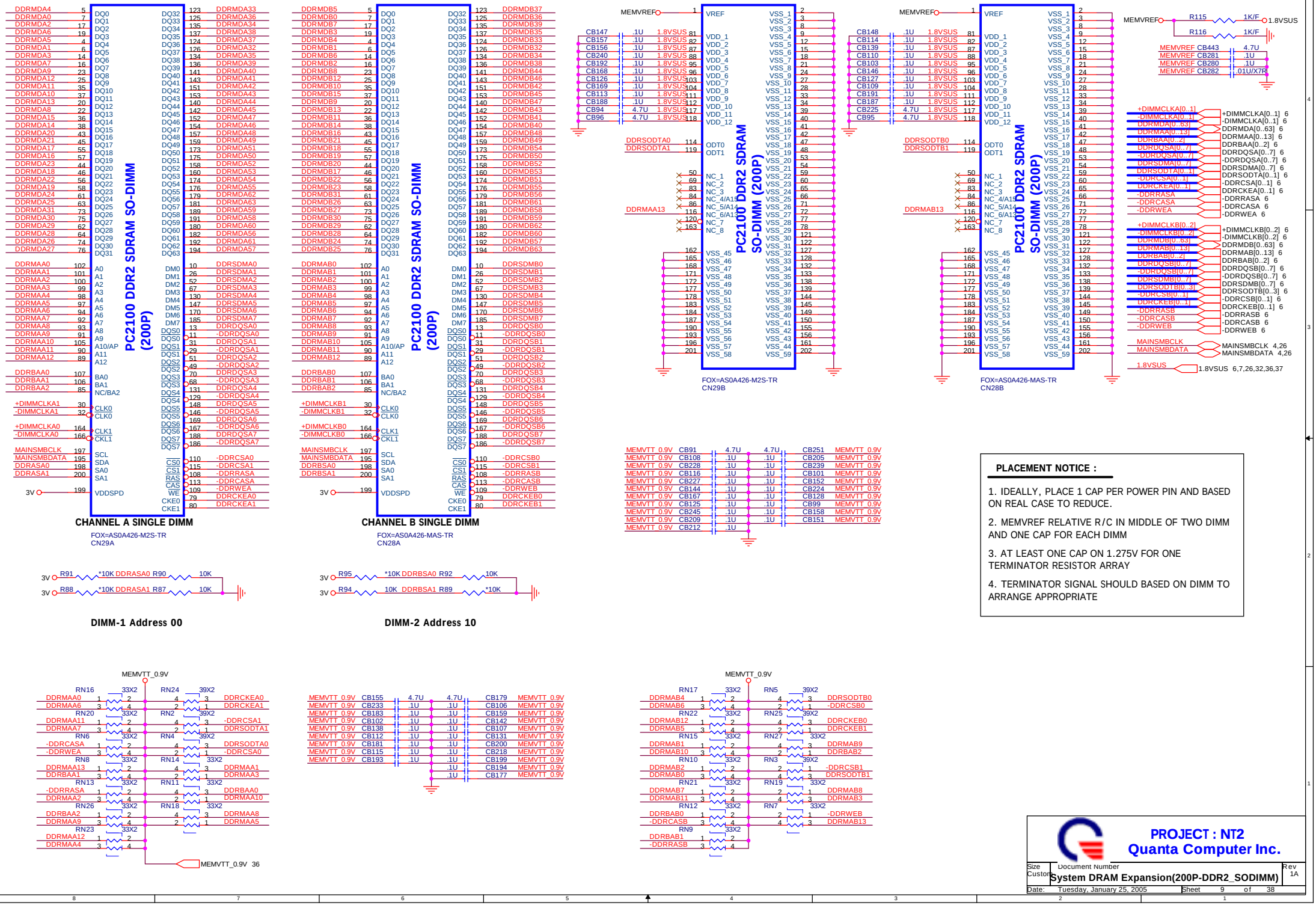
Date: Tuesday, January 25, 2005 Sheet 6 of 38

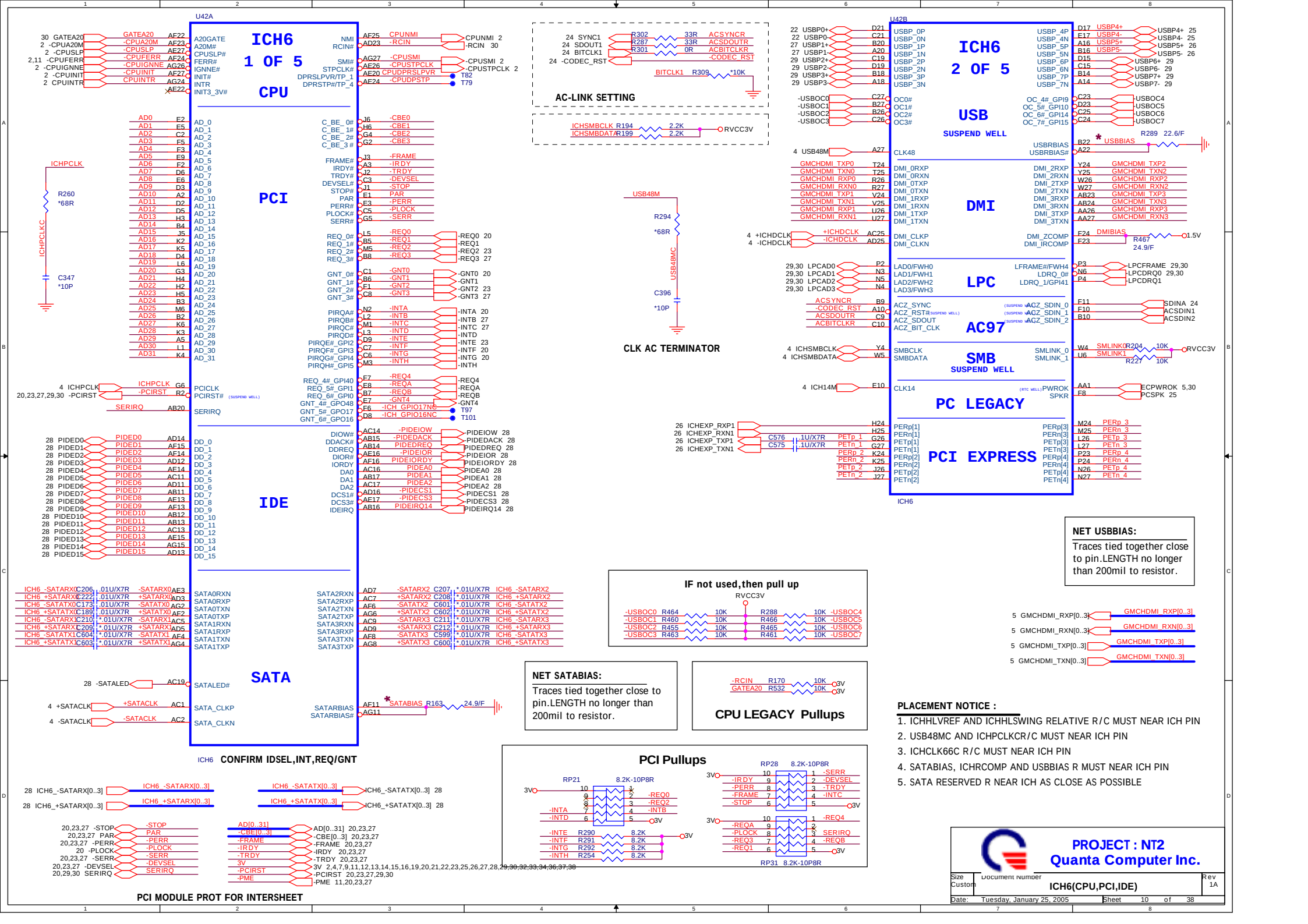

1.4A
U49H
POWER
GRANTSDALE 6 OF 8
GRANTSDALE-DDR2
45mA
60mA
55mA
55mA
U49E
POWER
GRANTSDALE 5 OF 8
GRANTSDALE-DDR2
CURRENT SPEC 1.6A
COREVTT
1.8VSUS
1.5V
PLACEMENT NOTICE :
1. IDEALLY, PLACE 1 CAP PER POWER PIN AND BASED ON REAL CASE TO REDUCE.
2. GMCHFSB1.5V RELATIVE R/C MUST NEAR GMCH PIN
3. GMCHDACPLL1.5V RELATIVE R/C MUST NEAR GMCH PIN
Vout=1.25(1+R1/R2)
PROJECT : NT2
Quanta Computer Inc.
GMCH(POWER/GND)
Size Custom
Rev 2A
Date: Tuesday, January 25, 2005
Sheet 7 of 38



PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	GMCH(POWER/GND)-2	1A
Date: Tuesday, January 25, 2005	Sheet 8 of 38	


CHANNEL A SINGLE DIMM
FOX=AS0A426-M2S-TR
CN29A
CHANNEL B SINGLE DIMM
FOX=AS0A426-MAS-TR
CN28A
PC2100 DDR2 SDRAM SO-DIMM (200P)
PC2100 DDR2 SDRAM SO-DIMM (200P)
FOX=AS0A426-M2S-TR
CN29B
FOX=AS0A426-MAS-TR
CN28B
DIMM-1 Address 00
DIMM-2 Address 10
MEMVTT_0.9V
MEMVREF
PLACEMENT NOTICE :
1. IDEALLY, PLACE 1 CAP PER POWER PIN AND BASED ON REAL CASE TO REDUCE.
2. MEMVREF RELATIVE R/C IN MIDDLE OF TWO DIMM AND ONE CAP FOR EACH DIMM
3. AT LEAST ONE CAP ON 1.275V FOR ONE TERMINATOR RESISTOR ARRAY
4. TERMINATOR SIGNAL SHOULD BASED ON DIMM TO ARRANGE APPROPRIATE
PROJECT : NT2
Quanta Computer Inc.
System DRAM Expansion(200P-DDR2_SODIMM)
Size: Custom
Document Number
Rev: 1A
Date: Tuesday, January 25, 2005
Sheet 9 of 38

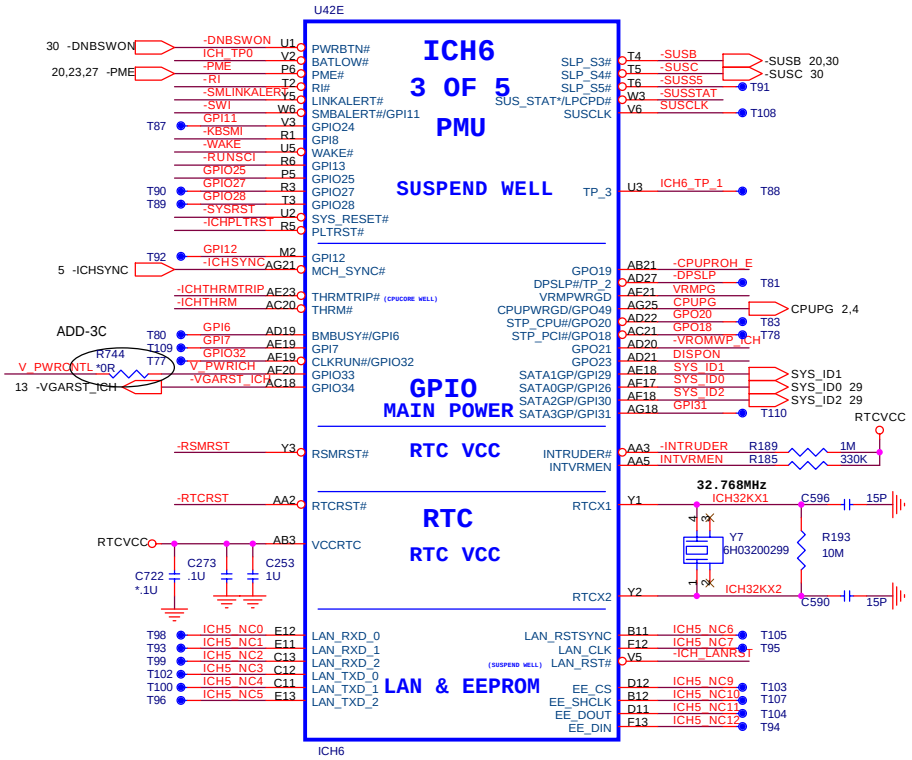

ICH6
1 OF 5
CPU
PCI
IDE
SATA
ICH6
2 OF 5
USB
SUSPEND WELL
DMI
LPC
AC97
SMB
SUSPEND WELL
PC LEGACY
PCI EXPRESS
ICH6
AC-LINK SETTING
CLK AC TERMINATOR
ICH6 CONFIRM IDSEL,INT,REQ/GNT
PCI MODULE PROT FOR INTERSHEET
IF not used,then pull up
CPU LEGACY Pullups
PCI Pullups
NET USBBIAS:
Traces tied together close to pin.LENGTH no longer than 200mil to resistor.
NET SATABIAS:
Traces tied together close to pin.LENGTH no longer than 200mil to resistor.
PLACEMENT NOTICE :
1. ICHHLVREF AND ICHHLSWING RELATIVE R/C MUST NEAR ICH PIN
2. USB48MC AND ICHPCLKCR/C MUST NEAR ICH PIN
3. ICHCLK66C R/C MUST NEAR ICH PIN
4. SATABIAS, ICHRCOMP AND USBBIAS R MUST NEAR ICH PIN
5. SATA RESERVED R NEAR ICH AS CLOSE AS POSSIBLE
PROJECT : NT2
Quanta Computer Inc.
ICH6(CPU,PCI,IDE)
Size: Custom
Rev: 1A
Date: Tuesday, January 25, 2005
Sheet 10 of 38

GPIO PIN DEFINE

GPI6		PULL UP
GPI7		PULL UP
GPI8	-KBSMI	PULL UP
GPI11	-SWI	PULL UP
GPI12		PULL UP
GPI13	-RUNSCI	PULL UP
GPI26	SYS_ID0	PULL UP
GPI29	SYS_ID1	PULL UP
GPI30		PULL UP
GPI31		PULL UP
GPO18		SET OUTPUT
GPO19		SET OUTPUT
GPO20		SET OUTPUT
GPO21		SET OUTPUT
GPO23	DISPON	SET OUTPUT
GPO24		SET OUTPUT
GPO49	CPUPG	SET OUTPUT
GPO25		SET OUTPUT
GPO27		SET OUTPUT
GPO28		SET OUTPUT
GPO32		SET OUTPUT
GPO33		SET OUTPUT
GPO34		SET OUTPUT

Functional Straps

GNT[6]#/ GPO[16]	**Top-Block Swap Override**
	Pull-Low : "top-block swap" mode
LINKALERT#	**Reserved**
	Requires an external pull-up resistor.
SPKR	**No Reboot**
	Pull-up : "No Reboot" mode
INTVRMEN	**Integrated VccSus1.5 VRM enable/disable**
	Pull-up : Enable integrated VccSus1.5V VRM
GPIO[25]	**Integrated Vcc2.5 VRM enable/disable**
	Pull-Low : Enable inegrated Vcc2.5 VRM
EE_CS	**Reserved**
	iternal pull-down & should not be pull-high
GNT[5]#/ GPO[17]	**Boot BIOS Desination Selection**
	This functionality for debug/testing only
EE_DOUT	**Reserved**
	iternal pull-up & should not be pull-low
ACZ_SDOUT	**XOR chain Entrance / PCI Express port config bit1**
	Pull-low : allows entrance to XOR Chain testing
ACZ_SYNC	**PCI Express Port Config bit 0**
	This signal has a weak internal pull-down
TP[1]	iternal pull-down & should not be pull-high
STATLED#	iternal pull-up & should not be pull-low
REQ[4:1]	**XOR Chain Selection / See Chapter 8**
TP[3]	**XOR Chain Entrance / See Chapter 8** This signal should not be Pull-low unless using XOR Chain testing



DESIGN CHECK LIST :

1. CLASSIFY THE POWER PLANE FOR PMU AND GPIO PIN
2. CLASSIFY GPI AND GPO PIN
3. COMMON PIN FOR PMU INPUT: -PME, BATLOW, -RI, -WAKESCI, RUNSCI, KBSMI AND -DNBSWON
4. USUALLY USED GPIO PIN : DISPON, CRTSENSE, SPKOFF
5. USUALLY USED CLK CONTRL PIN : -CPUSTP, -PCISTP, -SUSA AND -SUSSTAT
6. AGP PMU PIN : -AGPBUSY AND -STPAGP
7. CHECK -PCIRST BUFFERAND PWROK SIGNAL
8. CHECK -RSMRST CIRCUI

PLACEMENT NOTICE :

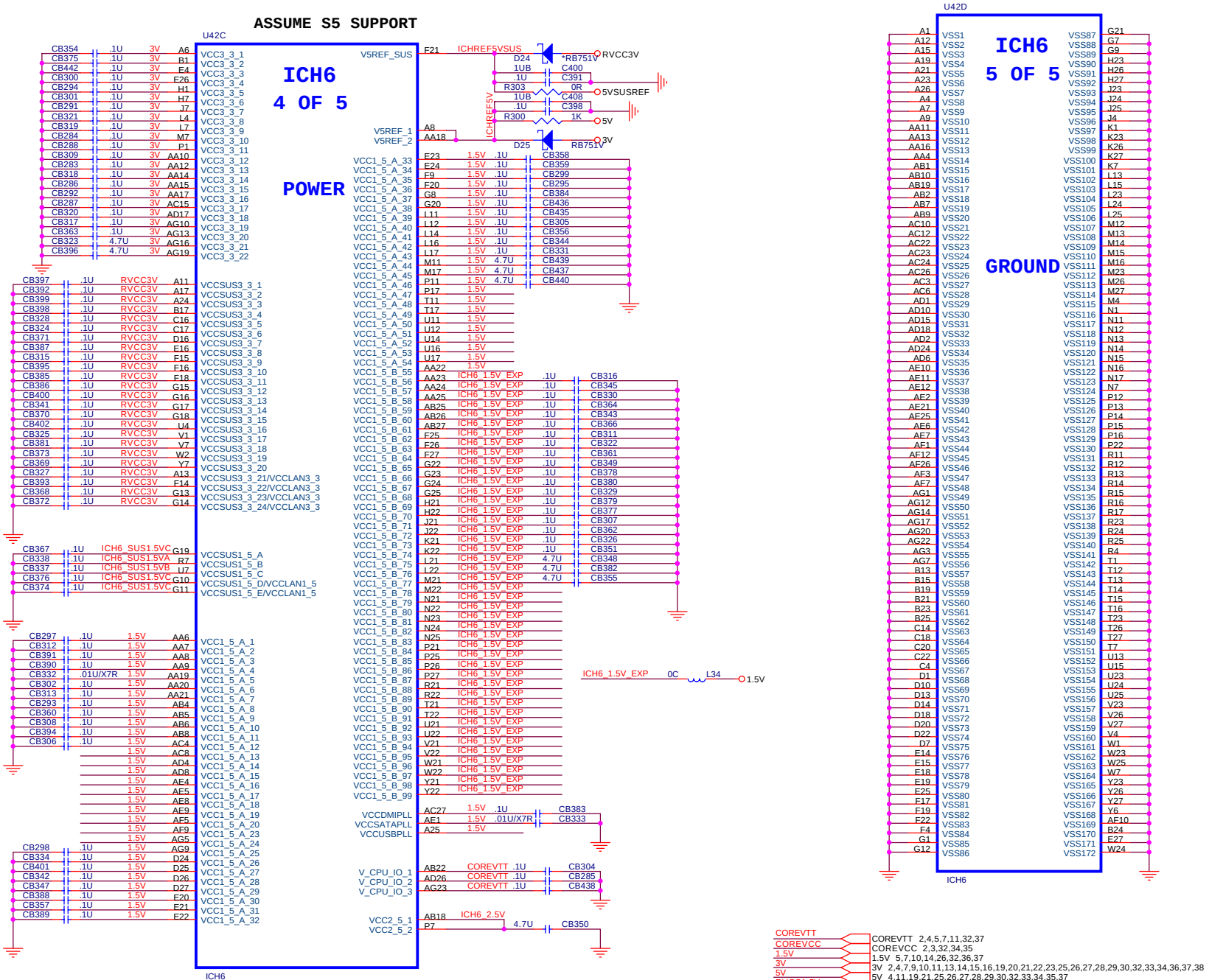
1. ONE BYPASS CAP FOR EACH ICH PIN IF POSSIBLE
2. RTC XTAL MUST NEAR ICH
3. PUT RTC BAT CIRCUIT AS A GROUP
4. REF5VSUS AND REF5V R/C/D NEAR ICH PIN

PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	ICH6(GPIO/MISC)	3C

Date: Wednesday, January 26, 2005 Sheet 11 of 38

ASSUME S5 SUPPORT



COREVTT
COREVCC
1.5V
3V
5V
RVCC1.5V
3VSUS
5VSUS
RVCC3V

COREVTT 2,4,5,7,11,32,37
COREVCC 2,3,32,34,35
1.5V 5,7,10,14,26,32,36,37
3V 2,4,7,9,10,11,13,14,15,16,19,20,21,22,23,25,26,27,28,29,30,32,33,34,36,37,38
5V 4,11,19,21,25,26,27,28,29,30,32,33,34,35,37
RVCC1.5V
3VSUS 2,11,22,25,27,32,33
5VSUS 27,29,30,32,33,37,38
RVCC3V 4,10,11,26,30,32,33

DEFINE AS S5 SUPPORT INITIALLY.

PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	ICH6(POWER/GND)	2A
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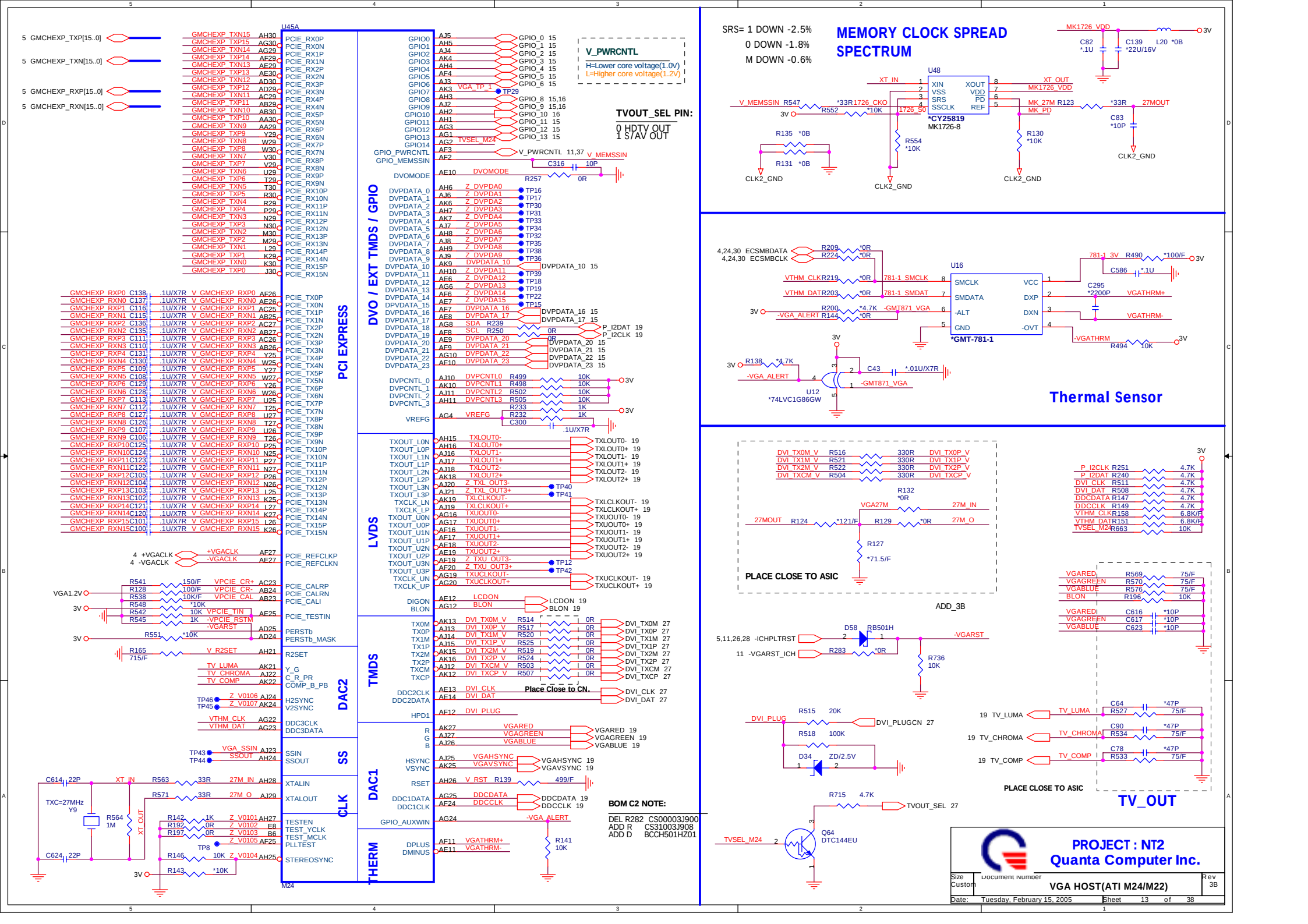
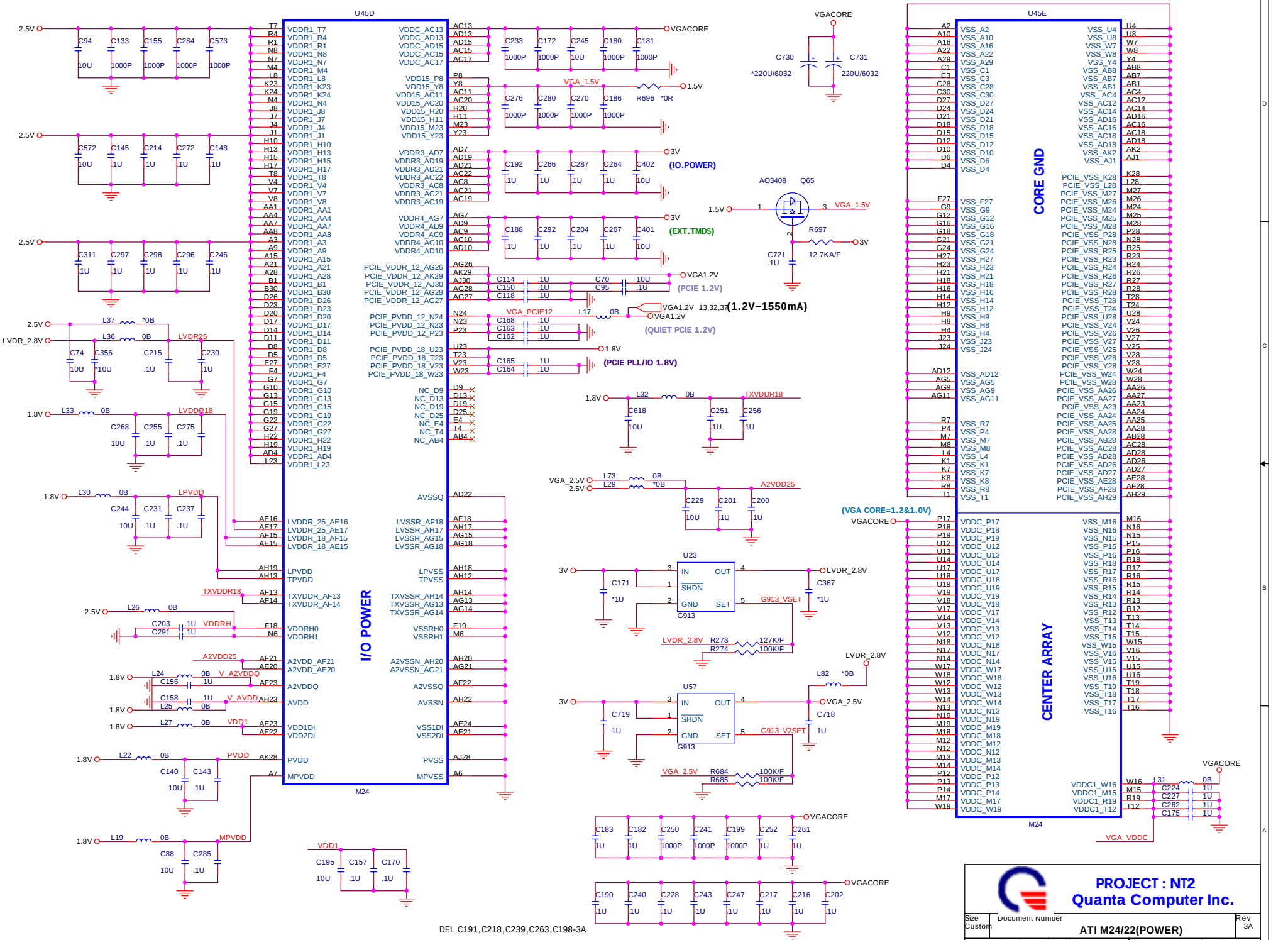
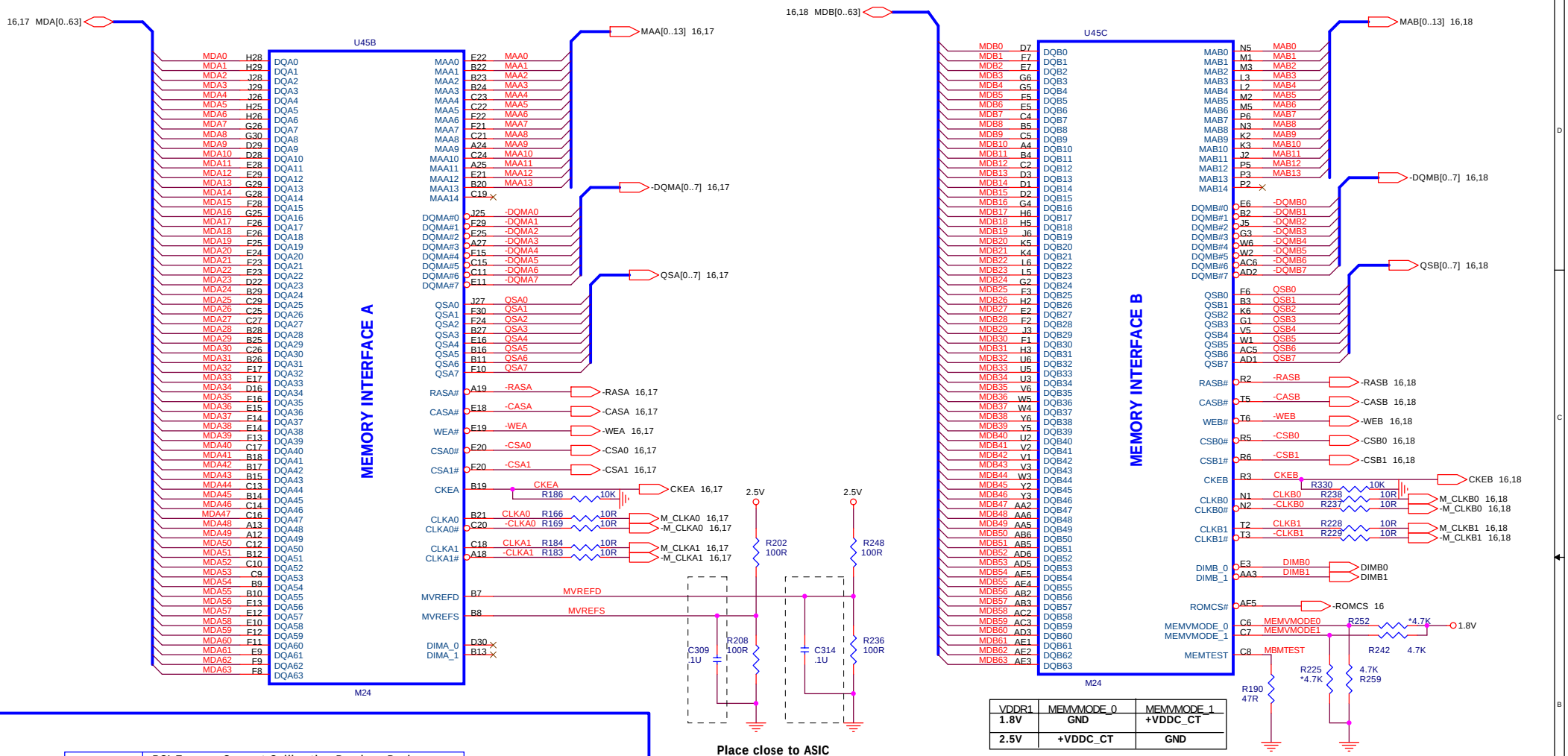

U45A
PCI EXPRESS
DVO / EXT TMDS / GPIO
LVDS
TMDS
DAC2
SS
CLK
DAC1
THERM
M24
V_PWRCNTL
H=Lower core voltage(1.0V)
L=Higher core voltage(1.2V)
TVOUT_SEL PIN:
0 HDTV OUT
1 S/AV OUT
BOM C2 NOTE:
DEL R282 CS00003J900
ADD R CS31003J908
ADD D BCCH501HZ01
SRS= 1 DOWN -2.5%
0 DOWN -1.8%
M DOWN -0.6%
MEMORY CLOCK SPREAD SPECTRUM
U48
*CY25819
MK1726-8
U16
*GMT-781-1
Thermal Sensor
U12
*74LVC1G86GW
PLACE CLOSE TO ASIC
ADD_3B
PLACE CLOSE TO ASIC
TV_OUT
Place Close to CN.
PROJECT : NT2
Quanta Computer Inc.
VGA HOST(ATI M24/M22)
Size Custom
Rev 3B
Date: Tuesday, February 15, 2005
Sheet 13 of 38


U45D
I/O POWER
M24
U45E
CORE GND
CENTER ARRAY
M24
U23
U57
G913
G913
(IO.POWER)
(EXT.TMDS)
(PCIE 1.2V)
(1.2V~1550mA)
(QUIET PCIE 1.2V)
(PCIE PLL/IO 1.8V)
(VGA CORE=1.2&1.0V)
AO3408 Q65
PROJECT : NT2
Quanta Computer Inc.
ATI M24/22(POWER)
Thursday, April 07, 2005
DEL C191,C218,C239,C263,C198-3A

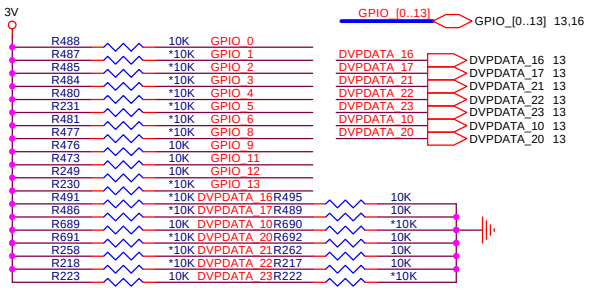


VDDR1	MEMVMODE_0	MEMVMODE_1
1.8V	GND	+VDDC_CT
2.5V	+VDDC_CT	GND

STRAPS PIN

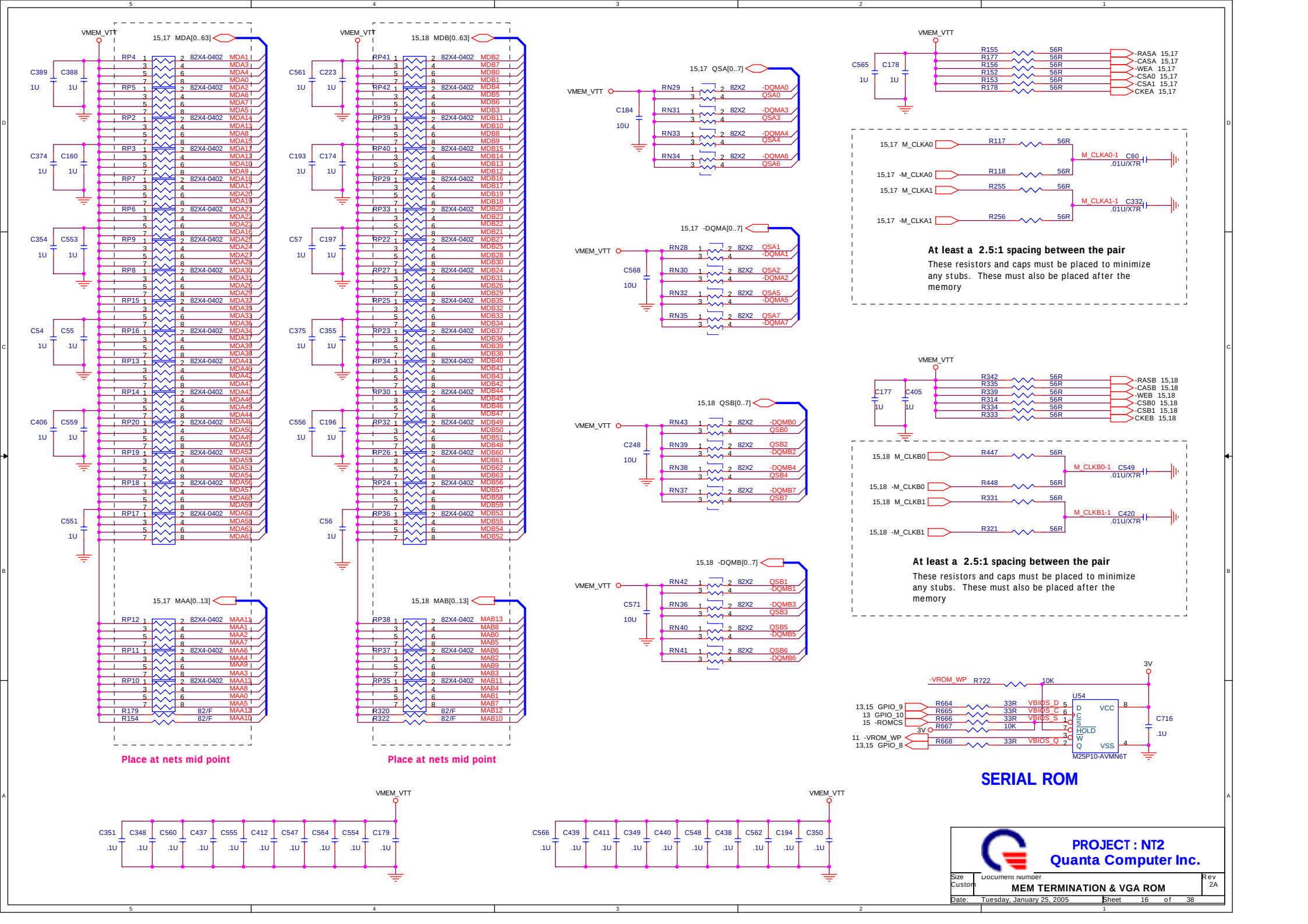
GPIO_0	PCI-Express Current Calibration Bandgap Backup
	0: use reference voltage from Bandgap
	1: use reference voltage from resistor divider
GPIO_1	PCI-Express PLL Calibration force enable
	0: Disable PLL force calibration
	1: Enable PLL force calibration
GPIO_(3,2)	**00: PCI Express 1.0 mode**
	01: RESERVED
	10: PCI Express 1.0 mode
	11: RESERVED
GPIO_4	Pin strap called Reversed_Lanes
	0: Non-reversed
	1:Reversed PCIe layouts
GPIO_5	Bypass PCI-Express PLL
GPIO_6	PCI-Express transmitter current compensation
	0: Normal
	1: Inject extra current for output buffer switching

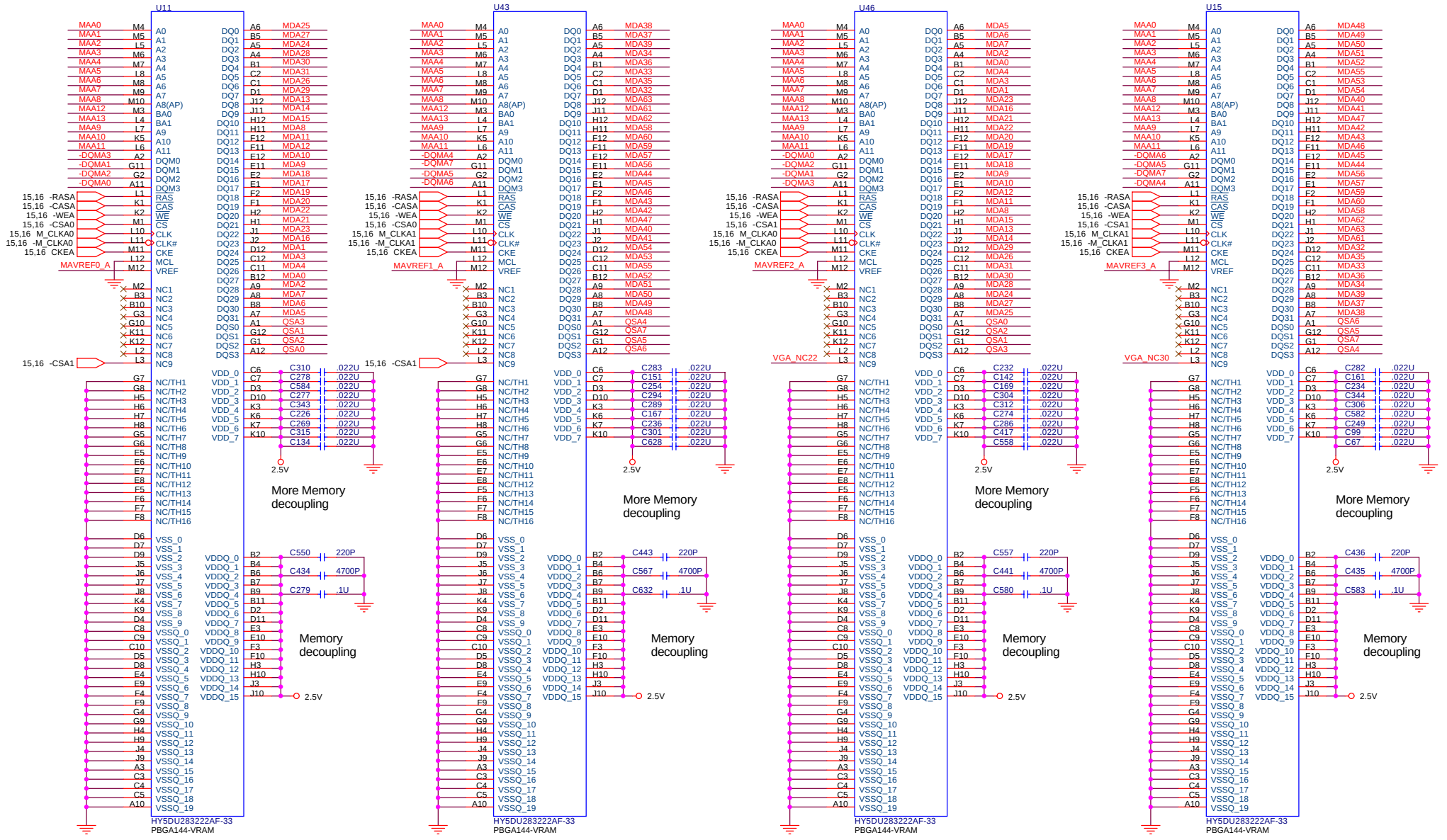
GPIO_8	Strap to set the debug muxes to bting out DEBUG signals even if registers are inaccessible
GPIO(9,13:11) INT P/D	ROMIDCFG 0x0x: No ROM, CHG_ID=0 0x1x: No Rom, CHG_ID=1 **1011 - Serial M25P10 ROM (ST), chip IDis from ROM** 1100 - Serial M25P05 ROM (ST), chip IDis from ROM
DVPDATA_10, 20,21~23	DATA23 Vendor / DATA22 Voltage / DATA21 CS / DATA20 MEM SIZE / DATA10 MEM TYPE X X X X 0 4MX32 X X X X 1 8MX32 X X X 0 X 128M(M22), 256M(M24) X X X 1 X 64M(M22),128M(M24) X X 0 X X CS x1 X X 1 X X CS x2 X 0 X X X 1.8V X 1 X X X 2.5V 0 X X X X Hynix 1 X X X X Samsung M24-256M 10001 M24-128M 01010 M22-64M 01010
MEM TYPE	

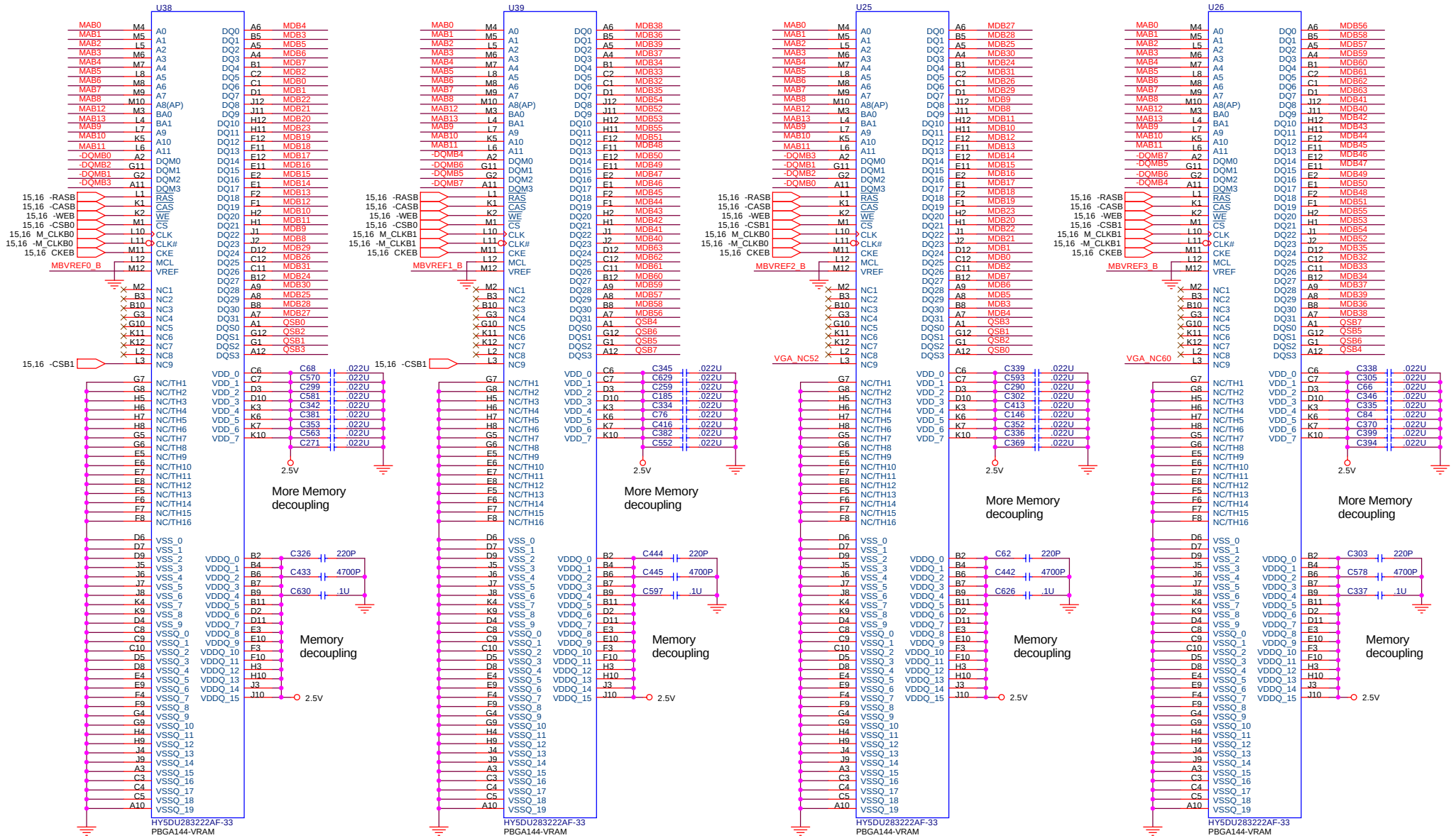


PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	ATI M24/22 MEM/STRAPS PIN	3A
Date: Tuesday, January 25, 2005	Sheet 15 of 38	


VMEM_VTT
15,17 MDA[0..63]
15,18 MDB[0..63]
15,17 MAA[0..13]
15,18 MAB[0..13]
82X4-0402
82/F
Place at nets mid point
Place at nets mid point
15,17 QSA[0..7]
15,17 -DQMA[0..7]
15,18 QSB[0..7]
15,18 -DQMB[0..7]
82X2
At least a 2.5:1 spacing between the pair
These resistors and caps must be placed to minimize any stubs. These must also be placed after the memory
At least a 2.5:1 spacing between the pair
These resistors and caps must be placed to minimize any stubs. These must also be placed after the memory
SERIAL ROM
M25P10-AVMN6T
PROJECT : NT2
Quanta Computer Inc.
MEM TERMINATION & VGA ROM
Size Custom
Document Number
Rev 2A
Date: Tuesday, January 25, 2005
Sheet 16 of 38


U11
U43
U46
U15
HY5DU283222AF-33
PBGA144-VRAM
More Memory decoupling
Memory decoupling
2.5V
MAVREF0_A
MAVREF1_A
MAVREF2_A
MAVREF3_A
VGA_NC22
VGA_NC30
15,16 -CSA1
Place close to memory
VGA DDR MEMORY A
@64/128MBytes DDR 128Mbit 1MX32X4 uBGA
MAA[0..13] 15,16
MDA[0..63] 15,16
-DQMA[0..7] 15,16
QSA[0..7] 15,16
PROJECT : NT2
Quanta Computer Inc.
VGA DDR VRAM-A CANNEL
Size Custom
Document Number
Rev 1A
Date: Tuesday, January 25, 2005
Sheet 17 of 38

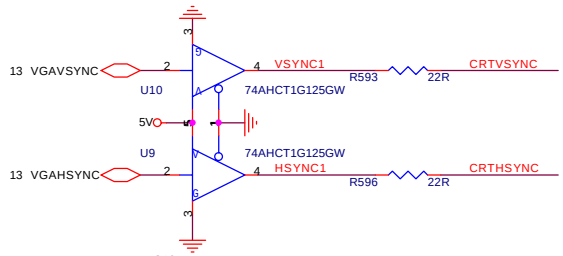


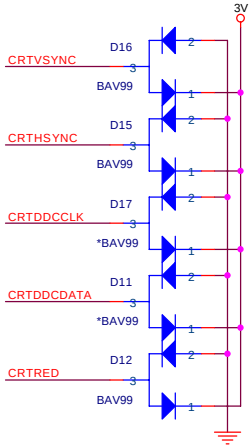
VGA DDR MEMORY B

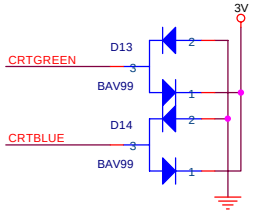
@64/128MBytes DDR 128Mbit 1MX32X4 uBGA

PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	VGA DDR VRAM-B CANNEL	1A
Date: Tuesday, January 25, 2005	Sheet 18 of 38	

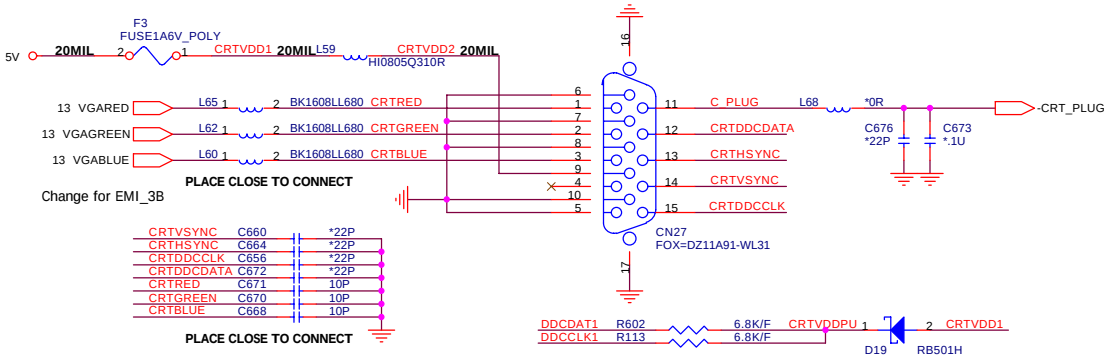


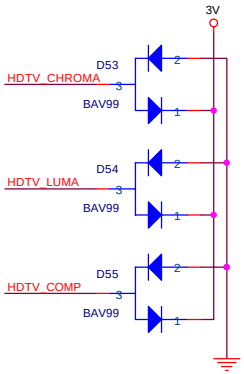


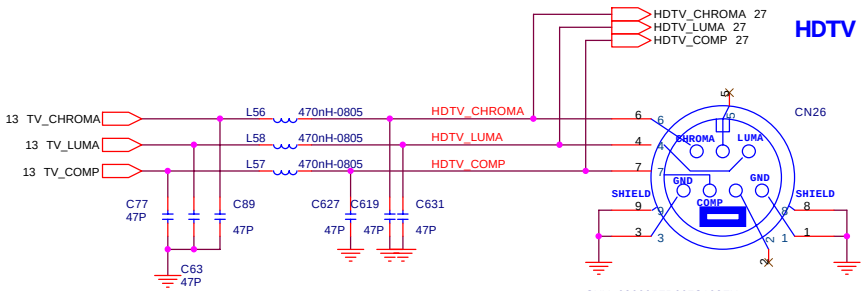


PLACE CLOSE TO CONNECT

CRT PORT

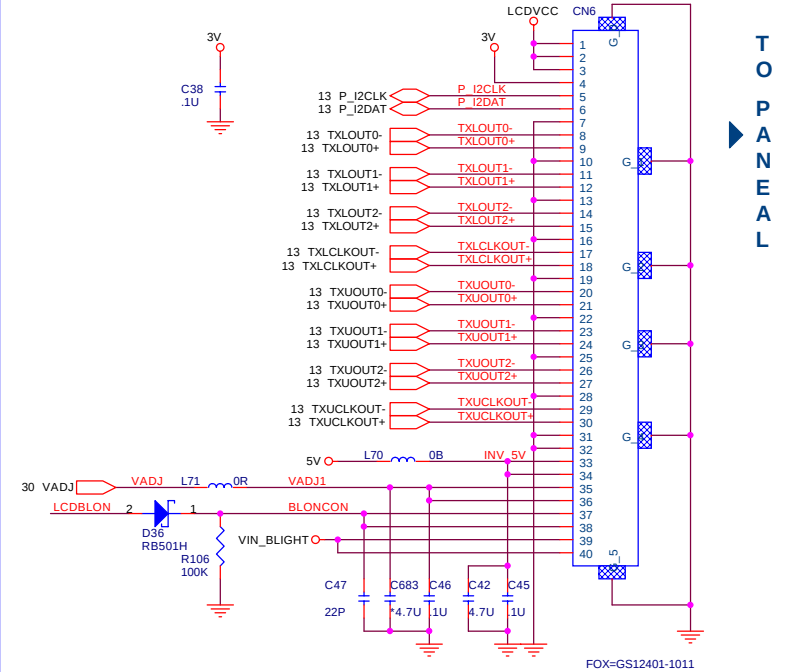




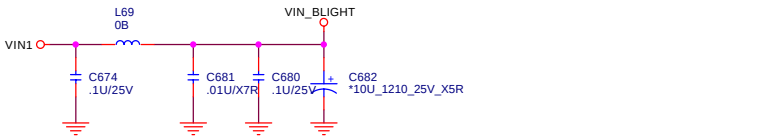


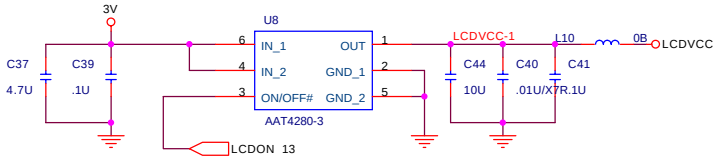
HDTV

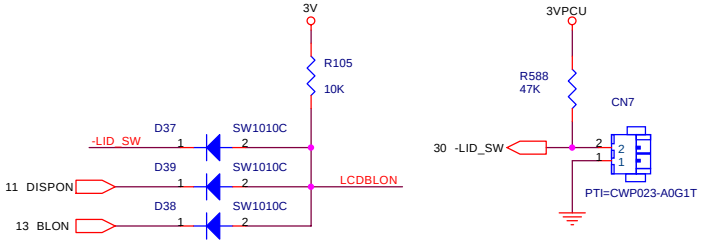
TV_OUT



TO PANEAL



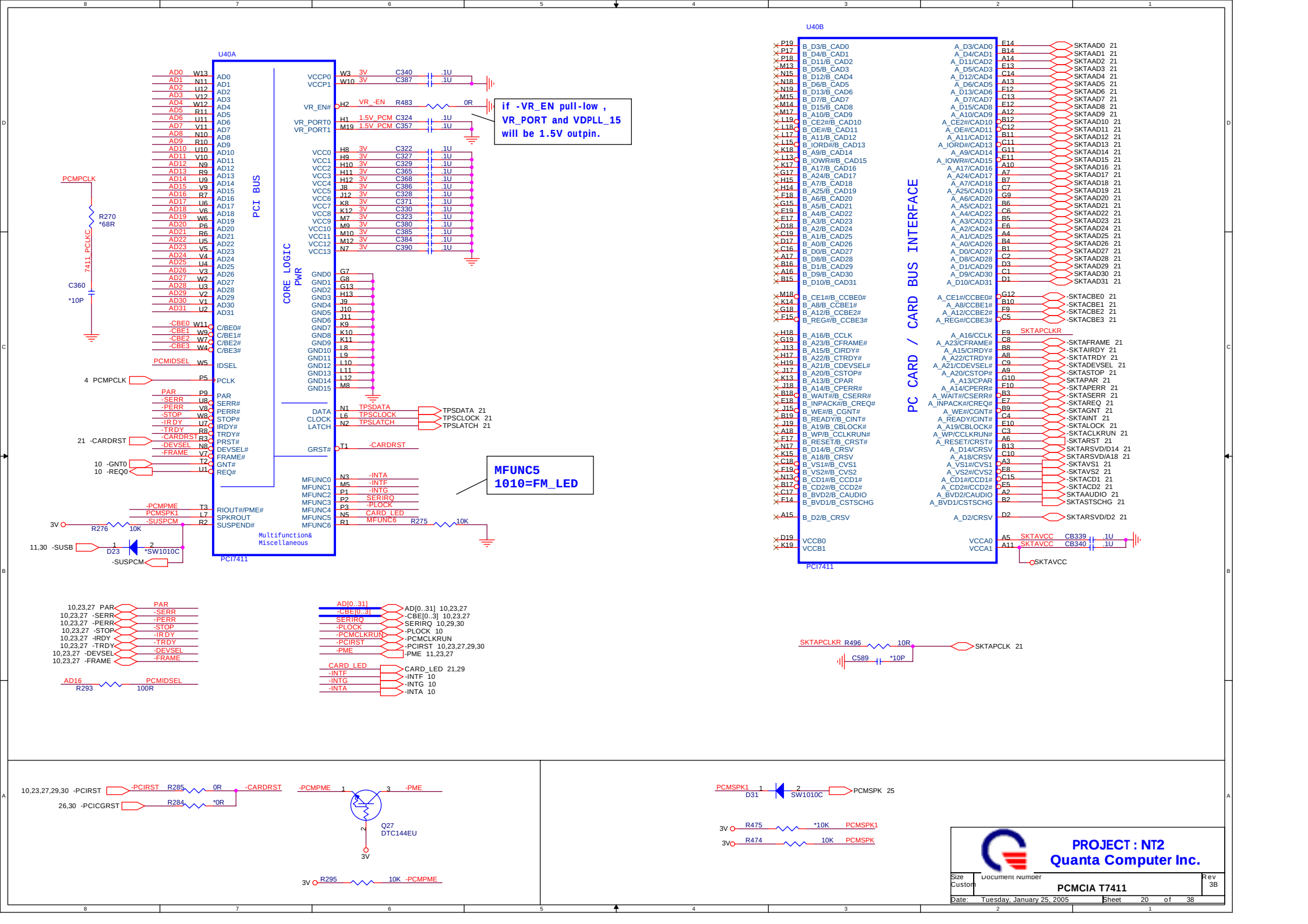


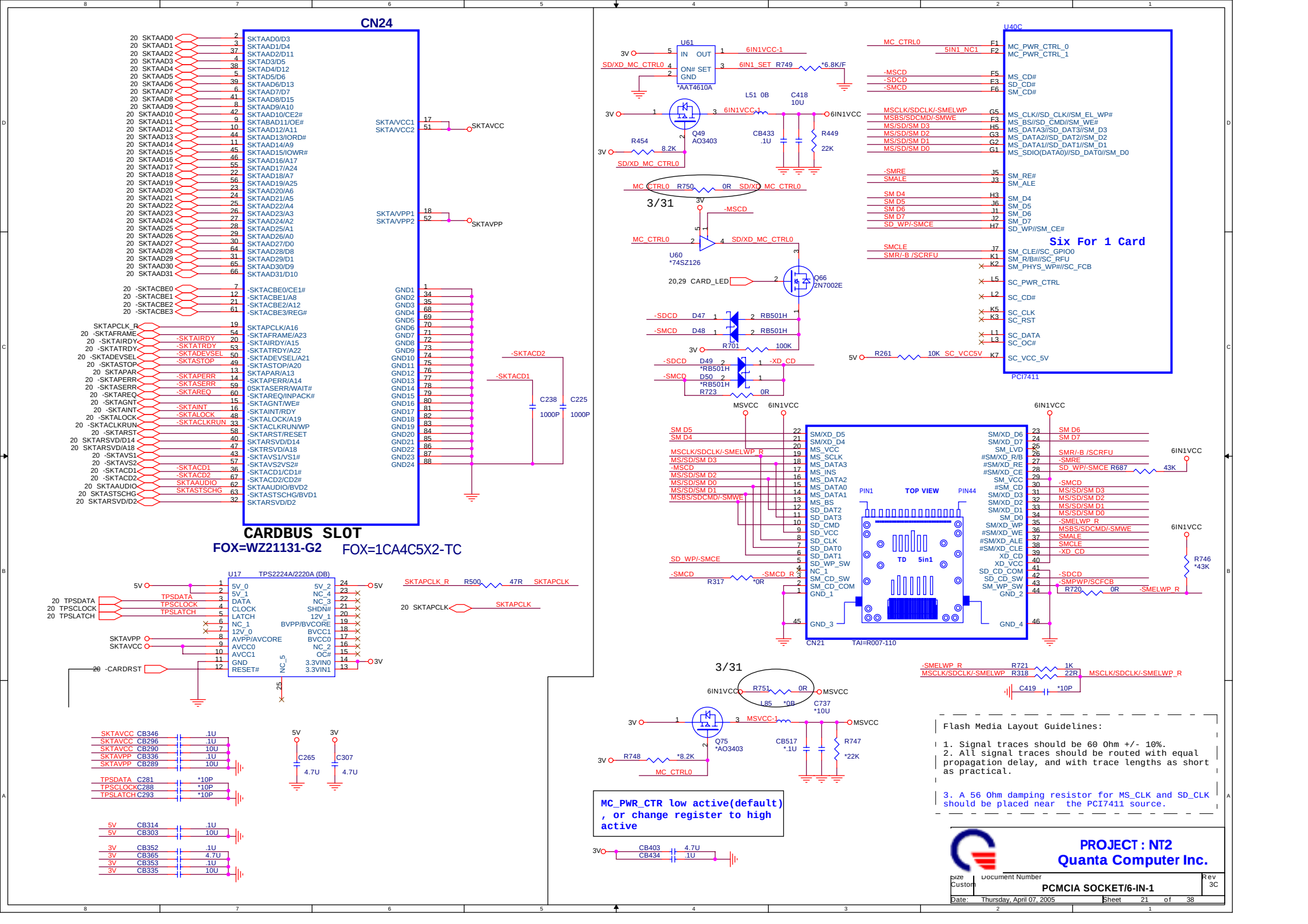


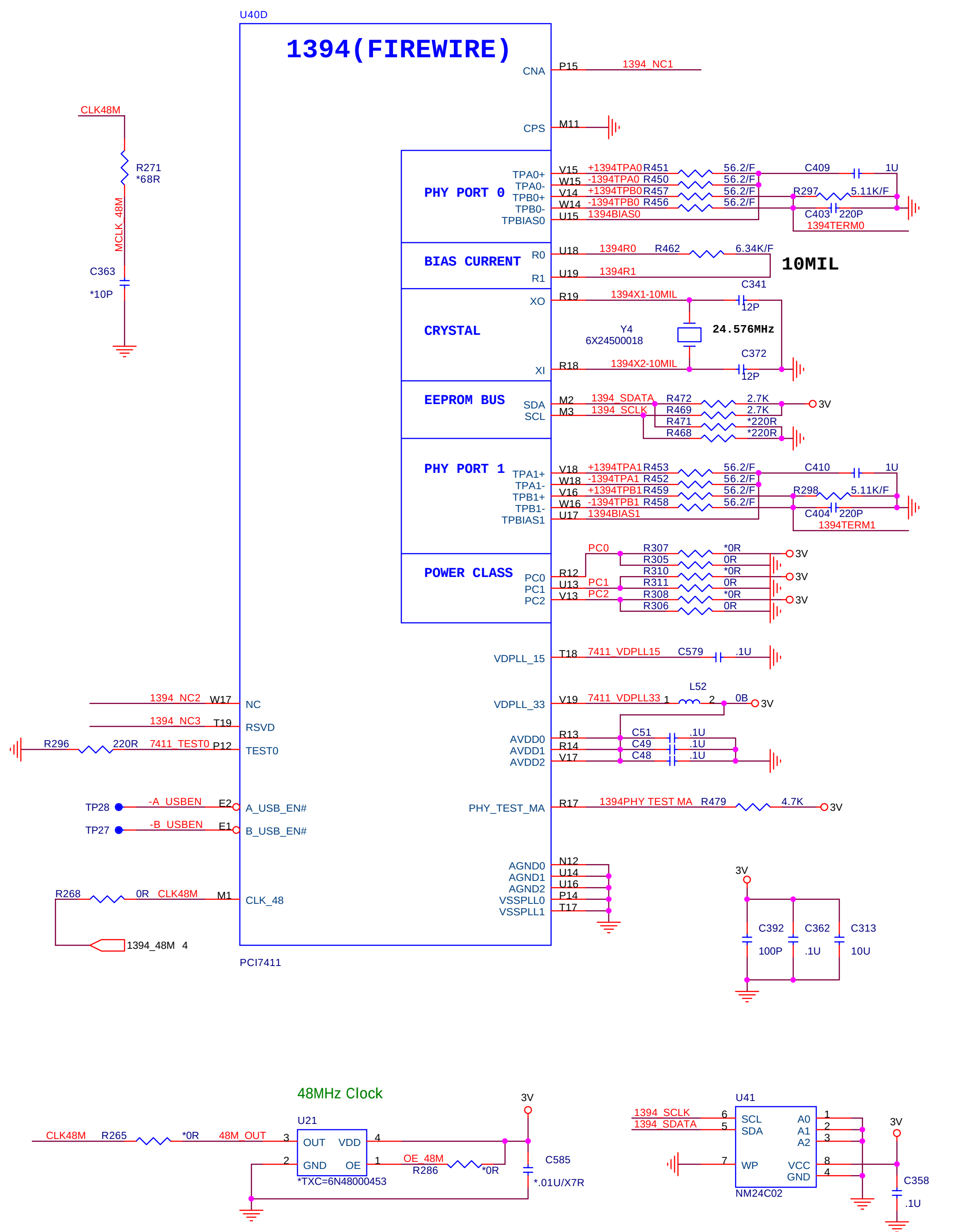
BACKLIGHT CONTROL

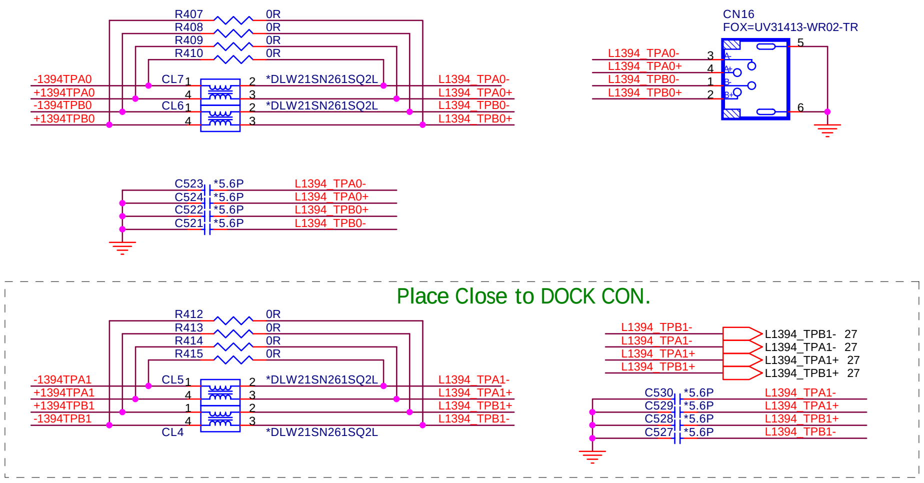
PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	SVIDEO/CRT/PANLE/HDTV	3B
Date: Wednesday, January 26, 2005	Sheet 19 of 38	


U40A
PCI BUS
CORE LOGIC
PWR
PCI7411
Multifunction&
Miscellaneous
if -VR_EN pull-low ,
VR_PORT and VDPLL_15
will be 1.5V outpin.
MFUNC5
1010=FM_LED
U40B
PC CARD / CARD BUS INTERFACE
PCI7411
PCMPCLK
R270
*68R
7411 PCLKC
C360
*10P
4 PCMPCLK
21 -CARDRST
10 -GNT0
10 -REQ0
3V
R276
10K
11,30 -SUSB
D23
*SW1010C
-SUSPCM
-PCMPME
PCMSPK1
-SUSPCM
TPSDATA 21
TPSCLOCK 21
TPSLATCH 21
-CARDRST
-INTA
-INTF
-INTG
SERIRQ
-PLOCK
-PCMCLKRUN
-PCIRST
CARD_LED
R275
10K
SKTAPCLKR
SKTAVCC
CB339
CB340
1U
SKTAVCC
SKTAPCLKR
R496
10R
SKTAPCLK 21
C589
*10P
10,23,27 PAR
10,23,27 -SERR
10,23,27 -PERR
10,23,27 -STOP
10,23,27 -IRDY
10,23,27 -TRDY
10,23,27 -DEVSEL
10,23,27 -FRAME
AD16
R293
PCMIDSEL
100R
AD[0..31]
-CBE[0..3]
SERIRQ
-PLOCK
-PCMCLKRUN
-PCIRST
-PME
AD[0..31] 10,23,27
-CBE[0..3] 10,23,27
SERIRQ 10,29,30
-PLOCK 10
-PCMCLKRUN
-PCIRST 10,23,27,29,30
-PME 11,23,27
CARD_LED 21,29
-INTF 10
-INTG 10
-INTA 10
10,23,27,29,30 -PCIRST
26,30 -PCICGRST
R285
0R
R284
*0R
-CARDRST
-PCMPME
-PME
Q27
DTC144EU
3V
R295
10K
-PCMPME
PCMSPK1
D31
SW1010C
PCMSPK 25
R475
*10K
PCMSPK1
R474
10K
PCMSPK
PROJECT : NT2
Quanta Computer Inc.
Size
Custom
Document Number
PCMCIA T7411
Rev
3B
Date: Tuesday, January 25, 2005
Sheet 20 of 38

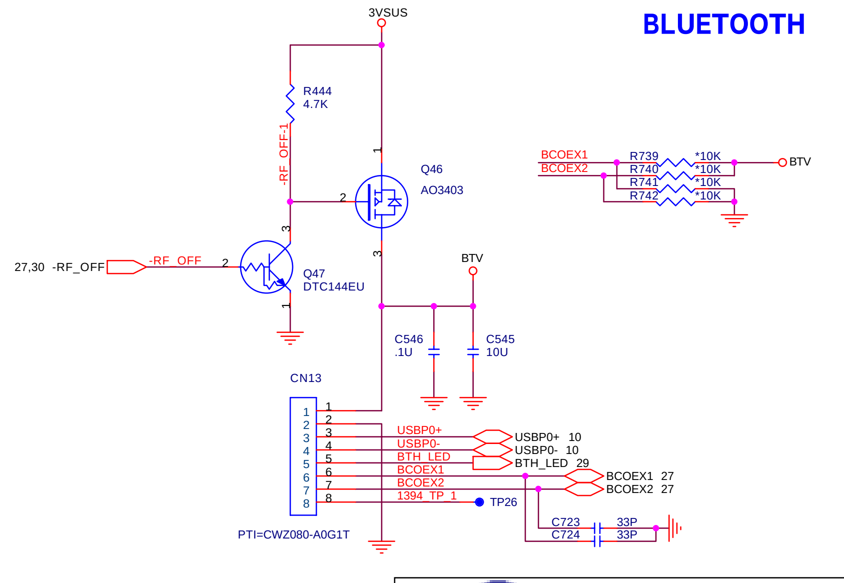

CN24
CARDBUS SLOT
FOX=WZ21131-G2
FOX=1CA4C5X2-TC
U40C
Six For 1 Card
PCI7411
U61
*AAT4610A
Q49
AO3403
U60
*74SZ126
Q66
2N7002E
3/31
CN21
TAI=R007-110
TOP VIEW
TD 5in1
U17
TPS2224A/2220A (DB)
Q75
*AO3403
MC_PWR_CTR low active(default), or change register to high active
Flash Media Layout Guidelines:
1. Signal traces should be 60 Ohm +/- 10%.
2. All signal traces should be routed with equal propagation delay, and with trace lengths as short as practical.
3. A 56 Ohm damping resistor for MS_CLK and SD_CLK should be placed near the PCI7411 source.
PROJECT : NT2
Quanta Computer Inc.
PCMCIA SOCKET/6-IN-1
Thursday, April 07, 2005





NOTE:

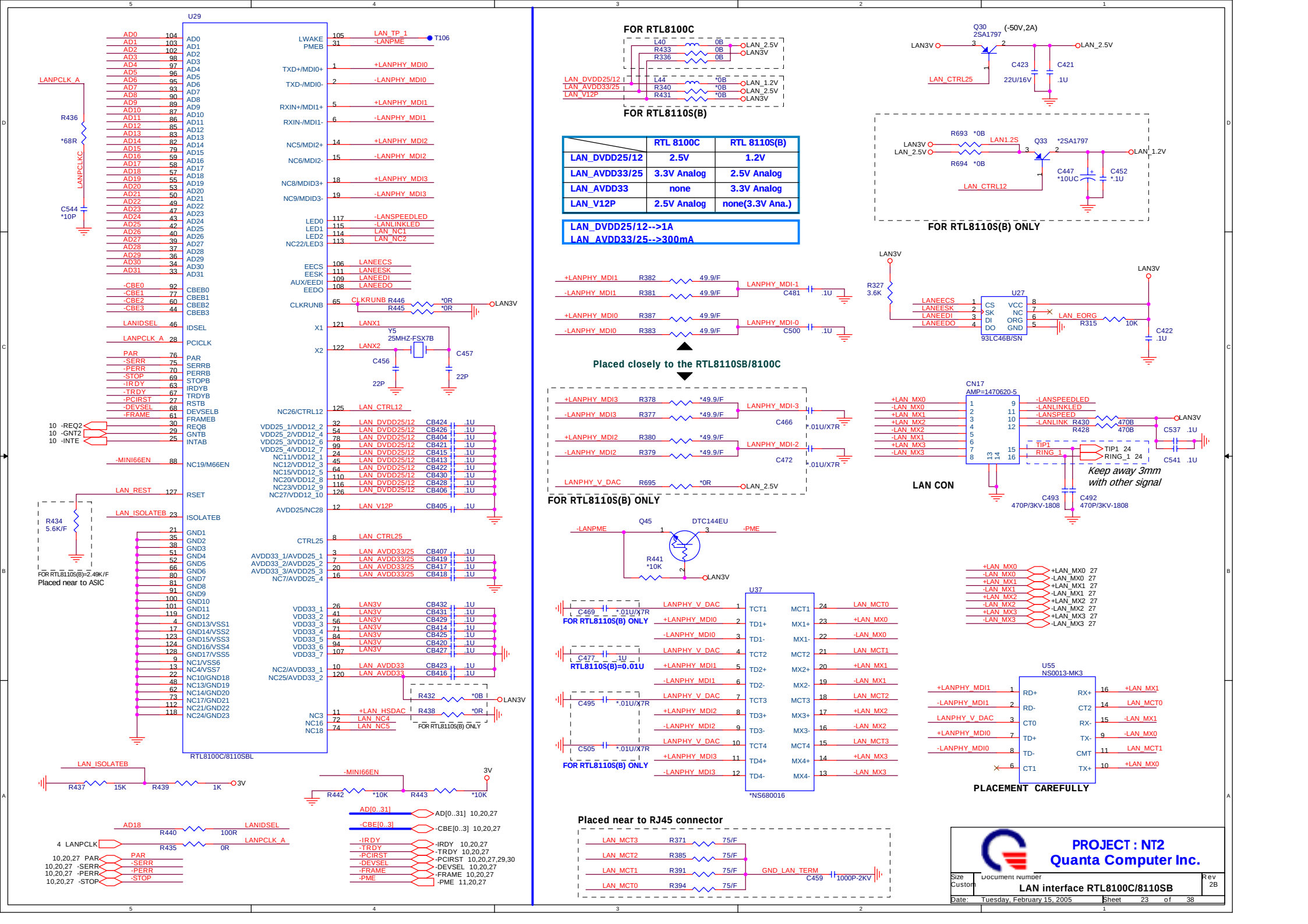
- All 1394 signals must be routed on top side only
- 110 ohm +- 5% differential pairs must be used
- Differential pairs must be 5 mills wide and 10 mills apart
- Parallelism must be maintained throughout differential pairs
- Minimum rise time @ 500 ps
- Fbw @ 700 MHz
- Lambda/2 = 3 inches
- Differentail pair must be routed with equal lengths no longer than 3 inches
- Stubs must be keep as short as possbile
- All components must be place as close to device as possible

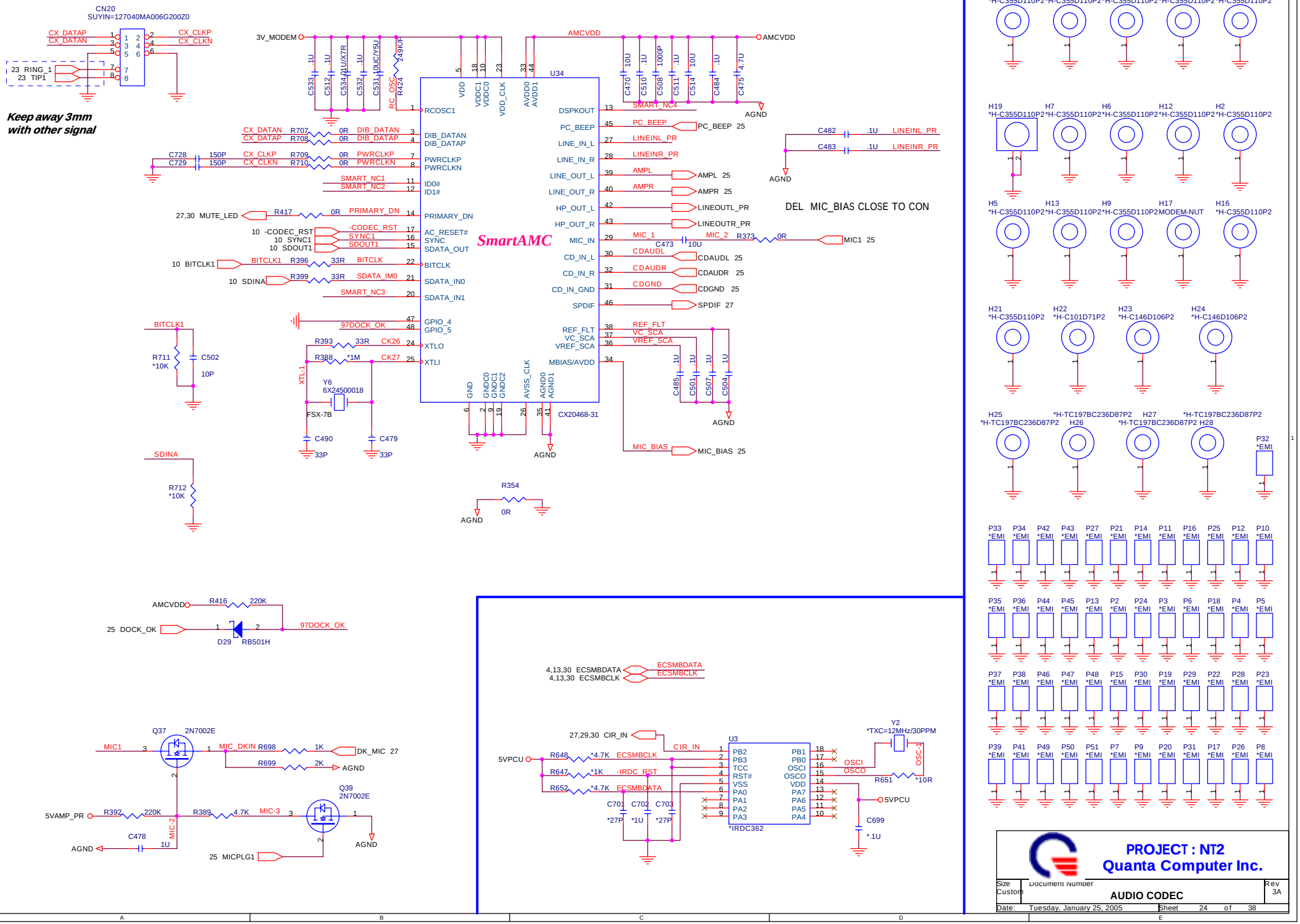


PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	1394 CONTROL/BLUETOOTH	3A

Date: Tuesday, January 25, 2005 Sheet 22 of 38


U29
RTL8100C/8110SBL
LANPCLK_A
R436
*68R
LANPCLKC
C544
*10P
AD0 104
AD1 103
AD2 102
AD3 98
AD4 97
AD5 96
AD6 95
AD7 93
AD8 90
AD9 89
AD10 87
AD11 86
AD12 85
AD13 83
AD14 82
AD15 79
AD16 59
AD17 58
AD18 57
AD19 55
AD20 53
AD21 50
AD22 49
AD23 47
AD24 43
AD25 42
AD26 40
AD27 39
AD28 37
AD29 36
AD30 34
AD31 33
-CBE0 92
-CBE1 77
-CBE2 60
-CBE3 44
LANIDSEL 46
LANPCLK_A 28
PAR 76
-SERR 75
-PERR 70
-STOP 69
-IRDY 63
-TRDY 67
-PCIRST 27
-DEVSEL 68
-FRAME 61
10 -REQ2
10 -GNT2
10 -INTE
-MINI66EN 88
LAN_REST 127
LAN_ISOLATEB 23
R434
5.6K/F
FOR RTL8110S(B)=2.49K/F
Placed near to ASIC
LWAKE 105
PMEB 31
LAN_TP_1
-LANPME
T106
TXD+/MDI0+ 1
+LANPHY_MDI0
TXD-/MDI0- 2
-LANPHY_MDI0
RXIN+/MDI1+ 5
+LANPHY_MDI1
RXIN-/MDI1- 6
-LANPHY_MDI1
NC5/MDI2+ 14
+LANPHY_MDI2
NC6/MDI2- 15
-LANPHY_MDI2
NC8/MDID3+ 18
+LANPHY_MDI3
NC9/MDID3- 19
-LANPHY_MDI3
LED0 117
LED1 115
LED2 114
NC22/LED3 113
-LANSPEEDLED
-LANLINKLED
LAN_NC1
LAN_NC2
EECS 106
EESK 111
AUX/EEDI 109
EEDO 108
LANEECS
LANEESK
LANEEDI
LANEEDO
CLKRUNB 65
CLKRUNB R446 *0R
R445 *0R
LAN3V
X1 121
X2 122
LANX1
LANX2
Y5
25MHZ-FSX7B
C456
22P
C457
22P
NC26/CTRL12 125
LAN_CTRL12
VDD25_1/VDD12_2 32
VDD25_2/VDD12_4 78
VDD25_3/VDD12_6 99
VDD25_4/VDD12_7 24
NC11/VDD12_1 45
NC12/VDD12_3 64
NC15/VDD12_5 110
NC20/VDD12_8 116
NC23/VDD12_9 126
NC27/VDD12_10
AVDD25/NC28 12
LAN_V12P
LAN_DVDD25/12
CB424 .1U
CB426 .1U
CB404 .1U
CB421 .1U
CB415 .1U
CB413 .1U
CB422 .1U
CB430 .1U
CB428 .1U
CB406 .1U
CB405 .1U
CTRL25 8
LAN_CTRL25
AVDD33_1/AVDD25_1 3
AVDD33_2/AVDD25_2 7
AVDD33_3/AVDD25_3 20
NC7/AVDD25_4 16
LAN_AVDD33/25
CB407 .1U
CB419 .1U
CB417 .1U
CB418 .1U
VDD33_1 26
VDD33_2 41
VDD33_3 56
VDD33_4 71
VDD33_5 84
VDD33_6 94
VDD33_7 107
LAN3V
CB432 .1U
CB431 .1U
CB429 .1U
CB414 .1U
CB425 .1U
CB420 .1U
CB427 .1U
NC2/AVDD33_1 10
NC25/AVDD33_2 120
LAN_AVDD33
CB423 .1U
CB416 .1U
R432 *0B
R438 *0R
FOR RTL8110S(B) ONLY
+LAN_HSDAC 11
NC3 72
NC16 74
NC18
LAN_NC4
LAN_NC5
GND1 21
GND2 35
GND3 38
GND4 51
GND5 52
GND6 66
GND7 80
GND8 81
GND9 91
GND10 100
GND11 101
GND12 119
GND13/VSS1 4
GND14/VSS2 17
GND15/VSS3 123
GND16/VSS4 124
GND17/VSS5 128
NC1/VSS6 9
NC4/VSS7 13
NC10/GND18 22
NC13/GND19 48
NC14/GND20 62
NC17/GND21 73
NC21/GND22 112
NC24/GND23 118
LAN_ISOLATEB
R437 15K
R439 1K
3V
-MINI66EN
R442 *10K
R443 *10K
3V
AD18
R440 100R
LANIDSEL
4 LANPCLK
R435 0R
LANPCLK_A
10,20,27 PAR
10,20,27 -SERR
10,20,27 -PERR
10,20,27 -STOP
AD[0..31]
AD[0..31] 10,20,27
-CBE[0..3]
-CBE[0..3] 10,20,27
-IRDY
-TRDY
-PCIRST
-DEVSEL
-FRAME
-PME
-IRDY 10,20,27
-TRDY 10,20,27
-PCIRST 10,20,27,29,30
-DEVSEL 10,20,27
-FRAME 10,20,27
-PME 11,20,27
FOR RTL8100C
L40 0B
R433 0B
R336 0B
LAN_DVDD25/12
LAN_AVDD33/25
LAN_V12P
L44 *0B
R340 *0B
R431 *0B
LAN_2.5V
LAN3V
LAN_1.2V
FOR RTL8110S(B)
RTL 8100C
RTL 8110S(B)
LAN_DVDD25/12 2.5V 1.2V
LAN_AVDD33/25 3.3V Analog 2.5V Analog
LAN_AVDD33 none 3.3V Analog
LAN_V12P 2.5V Analog none(3.3V Ana.)
LAN_DVDD25/12-->1A
LAN_AVDD33/25-->300mA
Q30
2SA1797
(-50V,2A)
LAN3V
LAN_2.5V
C423 22U/16V
C421 .1U
LAN_CTRL25
FOR RTL8110S(B) ONLY
R693 *0B
R694 *0B
LAN1.2S
Q33 *2SA1797
LAN_1.2V
C447 *10UC
C452 *.1U
LAN_CTRL12
+LANPHY_MDI1 R382 49.9/F
-LANPHY_MDI1 R381 49.9/F
LANPHY_MDI-1
C481 .1U
+LANPHY_MDI0 R387 49.9/F
-LANPHY_MDI0 R383 49.9/F
LANPHY_MDI-0
C500 .1U
Placed closely to the RTL8110SB/8100C
+LANPHY_MDI3 R378 *49.9/F
-LANPHY_MDI3 R377 *49.9/F
LANPHY_MDI-3
C466 *.01U/X7R
+LANPHY_MDI2 R380 *49.9/F
-LANPHY_MDI2 R379 *49.9/F
LANPHY_MDI-2
C472 *.01U/X7R
LANPHY_V_DAC R695 *0R
LAN_2.5V
FOR RTL8110S(B) ONLY
R327 3.6K
LAN3V
U27
93LC46B/SN
CS SK DI DO VCC NC ORG GND
LANEECS
LANEESK
LANEEDI
LANEEDO
LAN_EORG
R315 10K
C422 .1U
CN17
AMP=1470620-5
+LAN_MX0
-LAN_MX0
+LAN_MX1
-LAN_MX1
+LAN_MX2
-LAN_MX2
+LAN_MX3
-LAN_MX3
-LANSPEEDLED
-LANLINKLED
-LANSPEED
-LANLINK
R430 470B
R428 470B
C537 .1U
C541 .1U
TIP1
RING_1
TIP1 24
RING_1 24
Keep away 3mm
with other signal
C493 470P/3KV-1808
C492 470P/3KV-1808
LAN CON
Q45
DTC144EU
-LANPME
-PME
R441 *10K
LAN3V
U37
*NS680016
C469 *.01U/X7R
FOR RTL8110S(B) ONLY
C477 .1U
RTL8110S(B)=0.01U
C495 *.01U/X7R
C505 *.01U/X7R
FOR RTL8110S(B) ONLY
LANPHY_V_DAC
+LANPHY_MDI0
-LANPHY_MDI0
+LANPHY_MDI1
-LANPHY_MDI1
+LANPHY_MDI2
-LANPHY_MDI2
+LANPHY_MDI3
-LANPHY_MDI3
TCT1 TD1+ TD1- TCT2 TD2+ TD2- TCT3 TD3+ TD3- TCT4 TD4+ TD4-
MCT1 MX1+ MX1- MCT2 MX2+ MX2- MCT3 MX3+ MX3- MCT4 MX4+ MX4-
LAN_MCT0 +LAN_MX0 -LAN_MX0 LAN_MCT1 +LAN_MX1 -LAN_MX1 LAN_MCT2 +LAN_MX2 -LAN_MX2 LAN_MCT3 +LAN_MX3 -LAN_MX3
+LAN_MX0 27
-LAN_MX0 27
+LAN_MX1 27
-LAN_MX1 27
+LAN_MX2 27
-LAN_MX2 27
+LAN_MX3 27
-LAN_MX3 27
U55
NS0013-MK3
RD+ RD- CT0 TD+ TD- CT1 RX+ CT2 RX- TX- CMT TX+
PLACEMENT CAREFULLY
Placed near to RJ45 connector
LAN_MCT3 R371 75/F
LAN_MCT2 R385 75/F
LAN_MCT1 R391 75/F
LAN_MCT0 R394 75/F
GND_LAN_TERM
C459 1000P-2KV
PROJECT : NT2
Quanta Computer Inc.
Size Custom
Document Number
LAN interface RTL8100C/8110SB
Rev 2B
Date: Tuesday, February 15, 2005
Sheet 23 of 38


CN20
SUYIN=127040MA006G200Z0
CX_DATAP
CX_DATAN
CX_CLKP
CX_CLKN
23 RING_1
23 TIP1
Keep away 3mm with other signal
3V_MODEM
AMCVDD
AMCVDD
AGND
U34
SmartAMC
CX20468-31
RCOSC1
DIB_DATAN
DIB_DATAP
PWRCLKP
PWRCLKN
ID0#
ID1#
PRIMARY_DN
AC_RESET#
SYNC
SDATA_OUT
BITCLK
SDATA_IN0
SDATA_IN1
GPIO_4
GPIO_5
XTLO
XTLI
DSPKOUT
PC_BEEP
LINE_IN_L
LINE_IN_R
LINE_OUT_L
LINE_OUT_R
HP_OUT_L
HP_OUT_R
MIC_IN
CD_IN_L
CD_IN_R
CD_IN_GND
SPDIF
REF_FLT
VC_SCA
VREF_SCA
MBIAS/AVDD
SMART_NC4
AMPL
AMPR
LINEOUTL_PR
LINEOUTR_PR
MIC_1
MIC_2
CDAUDL
CDAUDR
CDGND
SPDIF 27
MIC_BIAS
MIC_BIAS 25
PC_BEEP 25
AMPL 25
AMPR 25
CDAUDL 25
CDAUDR 25
CDGND 25
MIC1 25
C482 .1U LINEINL_PR
C483 .1U LINEINR_PR
DEL MIC_BIAS CLOSE TO CON
27,30 MUTE_LED
10 -CODEC_RST
10 SYNC1
10 SDOUT1
10 BITCLK1
10 SDINA
97DOCK_OK
Y6
6X24500018
FSX-7B
C490 33P
C479 33P
R711 *10K
C502 10P
R712 *10K
R354 0R
SMART_NC1
SMART_NC2
SMART_NC3
R417 0R PRIMARY_DN
-CODEC_RST
SYNC1
SDOUT1
BITCLK1
SDATA_IM0
C728 150P
C729 150P
R707 0R DIB_DATAN
R708 0R DIB_DATAP
R709 0R PWRCLKP
R710 0R PWRCLKN
R393 33R CK26
R388 *1M CK27
R396 33R BITCLK
R399 33R SDATA_IM0
C533 .1U
C512 .1U
C534 .01U/X7R
C532 .1U
C531 100C/75U
R424 249K/F
C470 10U
C510 .1U
C508 1000P
C511 .1U
C514 10U
C484 .1U
C475 4.7U
C485 .1U
C501 .1U
C507 .1U
C504 .1U
C473 10U
R373 0R
MIC_BIAS
R416 220K
25 DOCK_OK
D29 RB501H
97DOCK_OK
4,13,30 ECSMBDATA
4,13,30 ECSMBCLK
ECSMBDATA
ECSMBCLK
27,29,30 CIR_IN
5VPCU
R648 *4.7K ECSMBCLK
R647 *1K -IRDC_RST
R652 *4.7K ECSMBDATA
C701 *27P
C702 *1U
C703 *27P
U3
*IRDC362
Y2
*TXC=12MHz/30PPM
OSCI
OSCO
R651 *10R
C699 *.1U
5VPCU
Q37 2N7002E
Q39 2N7002E
MIC1
MIC_DKIN
R698 1K
DK_MIC 27
R699 2K
AGND
5VAMP_PR
R392 220K
R389 4.7K
MIC-3
MIC-2
C478 1U
25 MICPLG1
H20 *H-C355D110P2
H8 *H-C355D110P2
H18 *H-C355D110P2
H15 *H-C355D110P2
H14 *H-C355D110P2
H19 *H-C355D110P2
H7 *H-C355D110P2
H6 *H-C355D110P2
H12 *H-C355D110P2
H2 *H-C355D110P2
H5 *H-C355D110P2
H13 *H-C355D110P2
H9 *H-C355D110P2
H17 MODEM-NUT
H16 *H-C355D110P2
H21 *H-C355D110P2
H22 *H-C101D71P2
H23 *H-C146D106P2
H24 *H-C146D106P2
H25 *H-TC197BC236D87P2
H26 *H-TC197BC236D87P2
H27 *H-TC197BC236D87P2
H28 *H-TC197BC236D87P2
P32 *EMI
P33 *EMI
P34 *EMI
P42 *EMI
P43 *EMI
P27 *EMI
P21 *EMI
P14 *EMI
P11 *EMI
P16 *EMI
P25 *EMI
P12 *EMI
P10 *EMI
P35 *EMI
P36 *EMI
P44 *EMI
P45 *EMI
P13 *EMI
P2 *EMI
P24 *EMI
P3 *EMI
P6 *EMI
P18 *EMI
P4 *EMI
P5 *EMI
P37 *EMI
P38 *EMI
P46 *EMI
P47 *EMI
P48 *EMI
P15 *EMI
P30 *EMI
P19 *EMI
P29 *EMI
P22 *EMI
P28 *EMI
P23 *EMI
P39 *EMI
P41 *EMI
P49 *EMI
P50 *EMI
P51 *EMI
P7 *EMI
P9 *EMI
P20 *EMI
P31 *EMI
P17 *EMI
P26 *EMI
P8 *EMI
PROJECT : NT2
Quanta Computer Inc.
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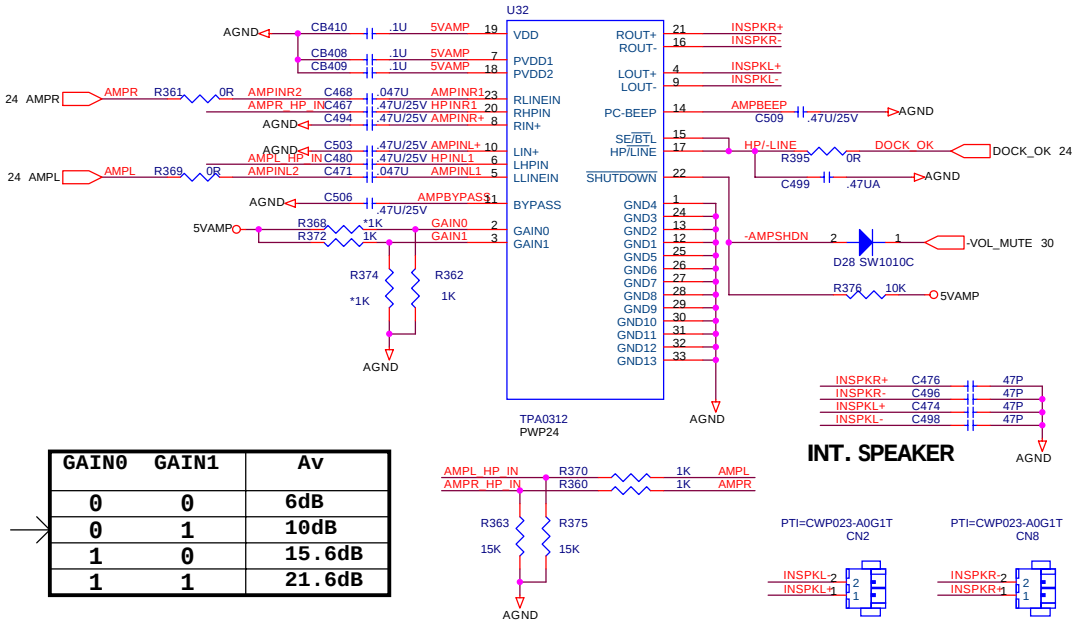
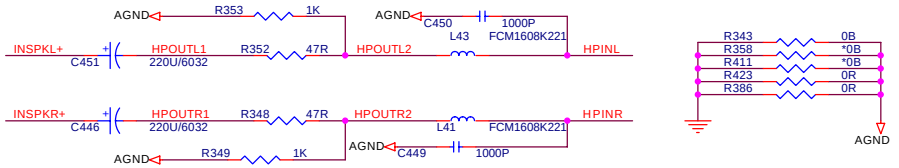
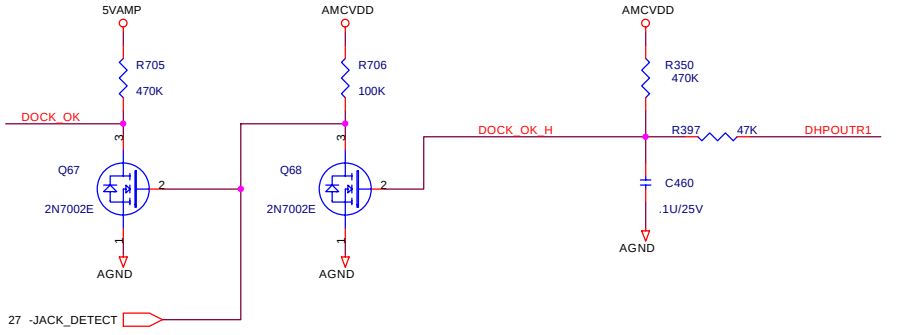
AUDIO AMPLIFIER



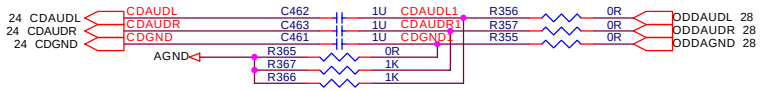
GAIN0	GAIN1	Av
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB

INT. SPEAKER

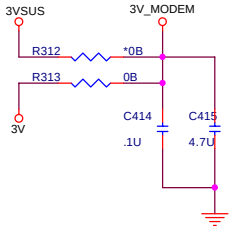


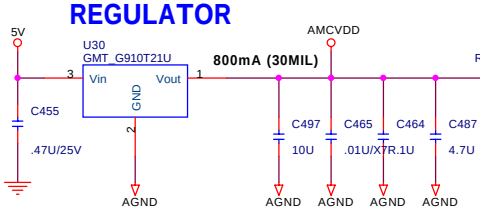


CD/PHONE INPUT & MONOOUT

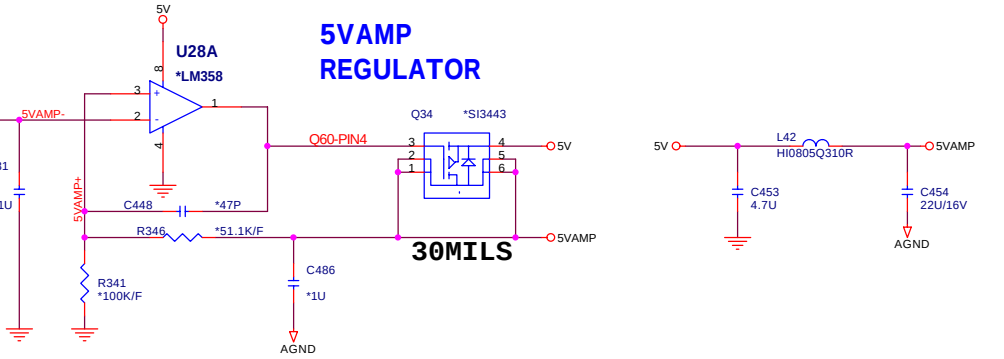


3VAUD REGULATOR

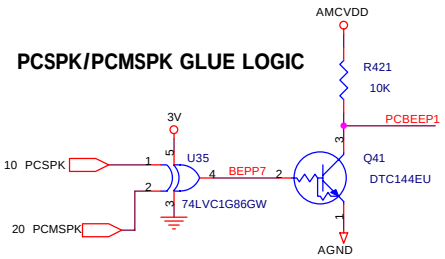


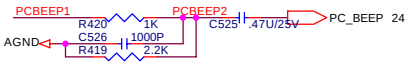


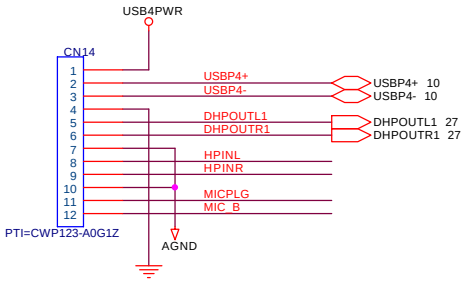
5VAMP REGULATOR



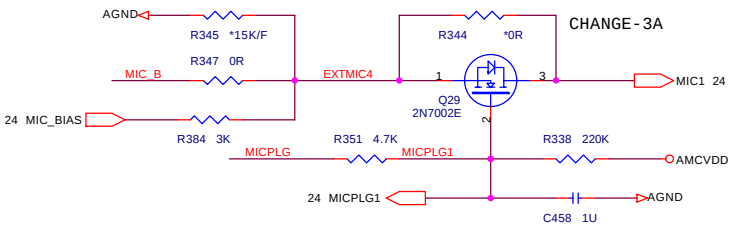
PCSPK/PCMSPK GLUE LOGIC







EXT MIC



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Quanta Computer Inc.

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Custom	AUDIO AMP, HEADPHONE&SPEAKER	3B
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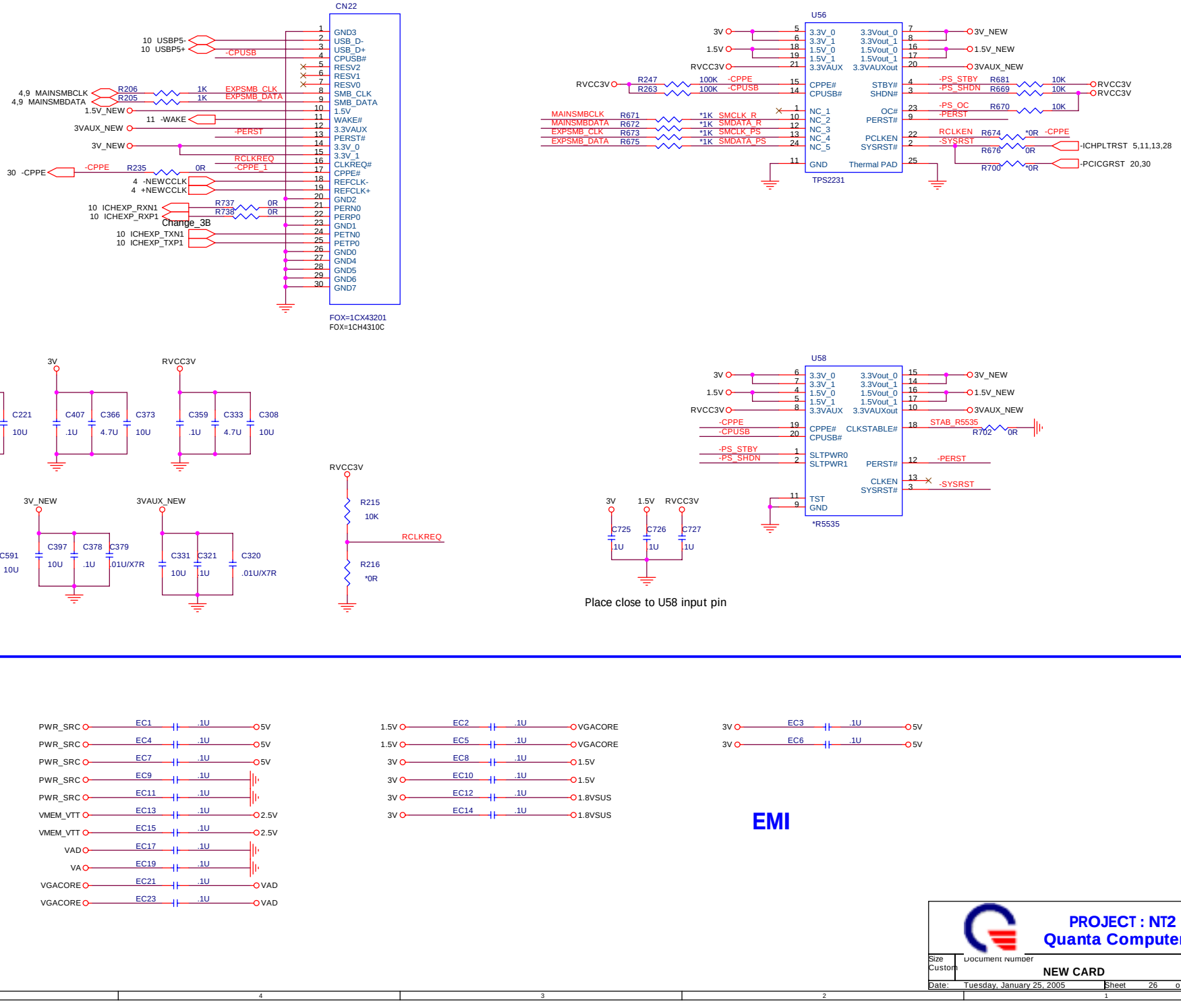
CN22
GND3
USB_D-
USB_D+
CPUSB#
RESV2
RESV1
RESV0
SMB_CLK
SMB_DATA
1.5V
WAKE#
3.3VAUX
PERST#
3.3V_0
3.3V_1
CLKREQ#
CPPE#
REFCLK-
REFCLK+
GND2
PERN0
PERP0
GND1
PETN0
PETP0
GND0
GND4
GND5
GND6
GND7
10 USBP5-
10 USBP5+
-CPUSB
4,9 MAINSMBCLK
4,9 MAINSMBDATA
R206
R205
1K
1K
EXPSMB_CLK
EXPSMB_DATA
1.5V_NEW
11 -WAKE
3VAUX_NEW
-PERST
3V_NEW
RCLKREQ
30 -CPPE
-CPPE
R235
0R
-CPPE_1
4 -NEWCCLK
4 +NEWCCLK
10 ICHEXP_RXN1
10 ICHEXP_RXP1
R737
R738
0R
0R
Change_3B
10 ICHEXP_TXN1
10 ICHEXP_TXP1
FOX=1CX43201
FOX=1CH4310C
U56
3V
1.5V
RVCC3V
3.3V_0
3.3V_1
1.5V_0
1.5V_1
3.3VAUX
3.3Vout_0
3.3Vout_1
1.5Vout_0
1.5Vout_1
3.3VAUXout
3V_NEW
1.5V_NEW
3VAUX_NEW
R247
R263
100K
100K
-CPPE
-CPUSB
CPPE#
CPUSB#
STBY#
SHDN#
-PS_STBY
-PS_SHDN
R681
R669
10K
10K
RVCC3V
RVCC3V
MAINSMBCLK
MAINSMBDATA
EXPSMB_CLK
EXPSMB_DATA
R671
R672
R673
R675
*1K SMCLK_R
*1K SMDATA_R
*1K SMCLK_PS
*1K SMDATA_PS
NC_1
NC_2
NC_3
NC_4
NC_5
OC#
PERST#
PCLKEN
SYSRST#
-PS_OC
-PERST
R670
10K
RCLKEN
-SYSRST
R674
*0R
-CPPE
R676
0R
-ICHPLTRST 5,11,13,28
R700
*0R
-PCICGRST 20,30
GND
Thermal PAD
TPS2231
1.5V
3V
RVCC3V
C205
C220
C221
.1U
4.7U
10U
C407
C366
C373
C359
C333
C308
1.5V_NEW
3V_NEW
3VAUX_NEW
C595
C591
C594
.01U/X7R
C397
C378
C379
C331
C321
C320
RVCC3V
R215
10K
RCLKREQ
R216
*0R
U58
3V
1.5V
RVCC3V
3.3V_0
3.3V_1
1.5V_0
1.5V_1
3.3VAUX
3.3Vout_0
3.3Vout_1
1.5Vout_0
1.5Vout_1
3.3VAUXout
3V_NEW
1.5V_NEW
3VAUX_NEW
-CPPE
-CPUSB
CPPE#
CPUSB#
CLKSTABLE#
STAB_R5535
R702
0R
-PS_STBY
-PS_SHDN
SLTPWR0
SLTPWR1
PERST#
-PERST
CLKEN
SYSRST#
-SYSRST
TST
GND
*R5535
3V
1.5V
RVCC3V
C725
C726
C727
Place close to U58 input pin
PWR_SRC
EC1
EC4
EC7
EC9
EC11
VMEM_VTT
EC13
EC15
VAD
EC17
VA
EC19
VGACORE
EC21
EC23
.1U
5V
2.5V
VAD
EC2
EC5
EC8
EC10
EC12
EC14
1.5V
VGACORE
3V
1.8VSUS
EC3
EC6
EMI
PROJECT : NT2
Quanta Computer Inc.
Size
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NEW CARD
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3B
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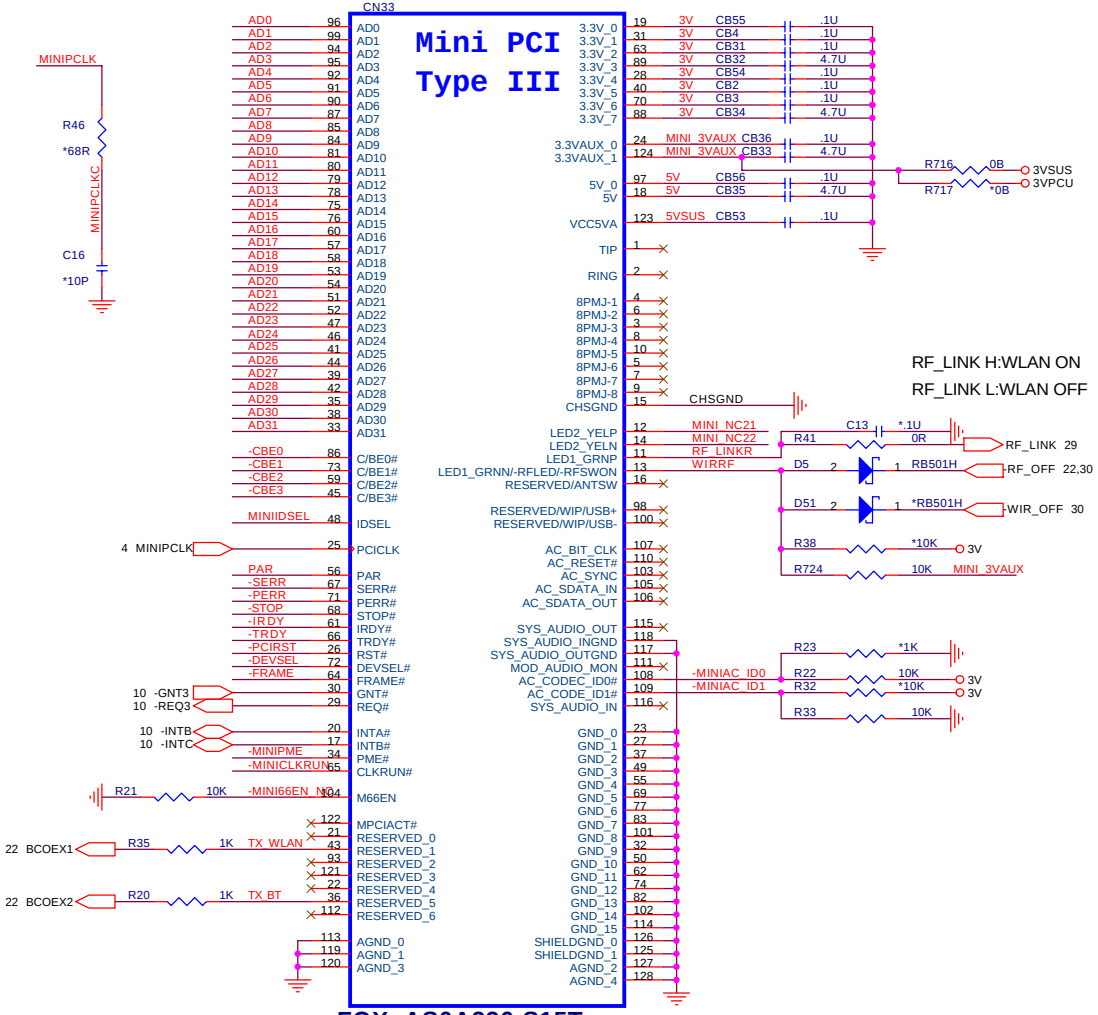
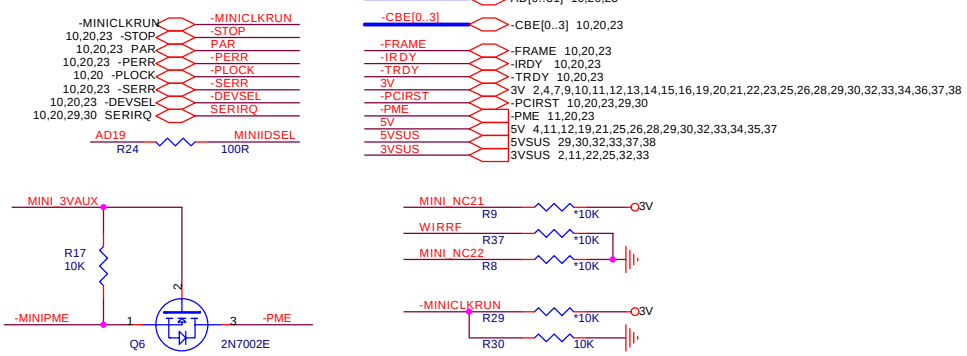
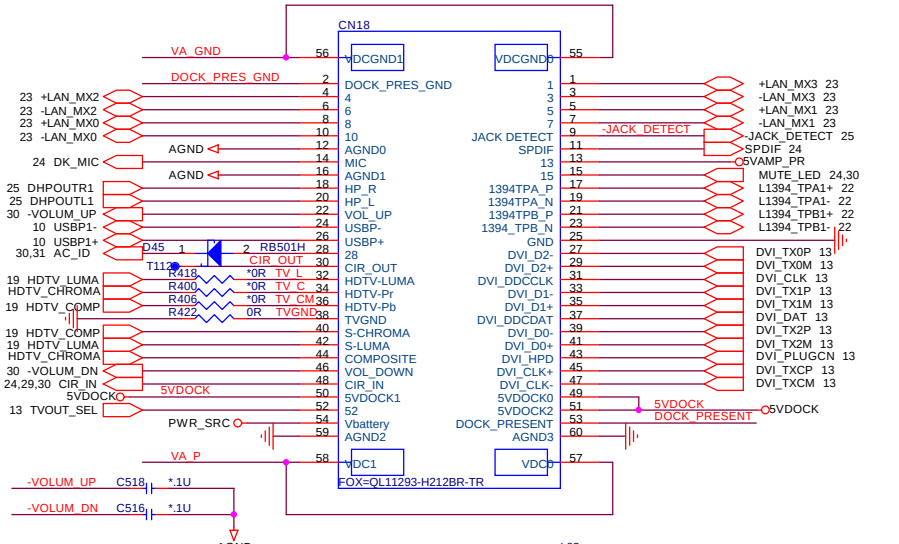
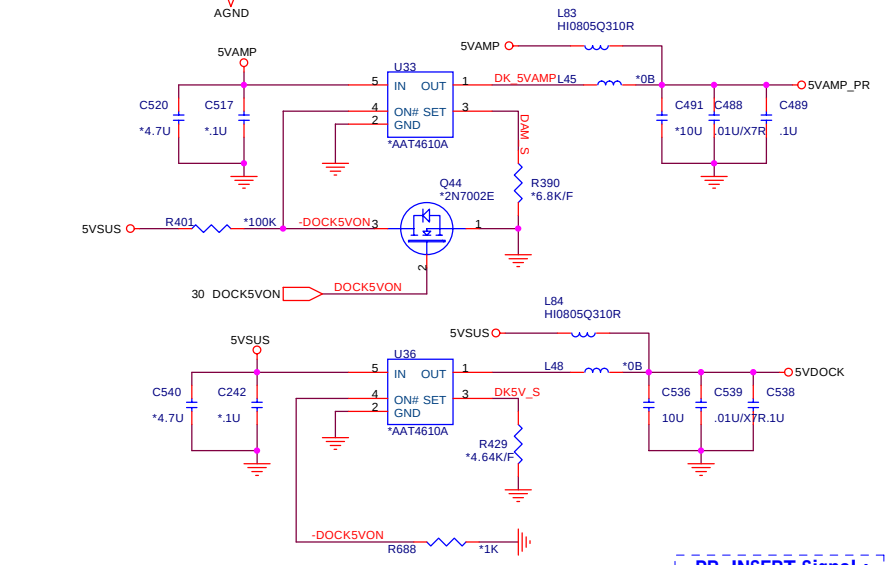
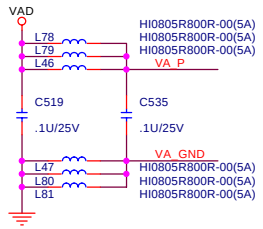
(Don't support AC-LINK)

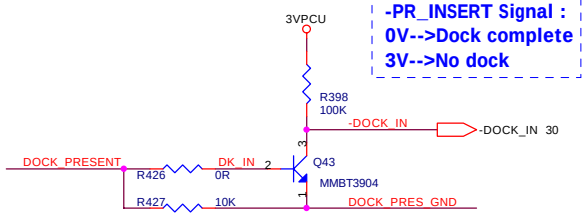












-PR_INSERT Signal :
0V-->Dock complete
3V-->No dock

PROJECT : NT2
Quanta Computer Inc.

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Custom	MINI PCI & DOKING	3B
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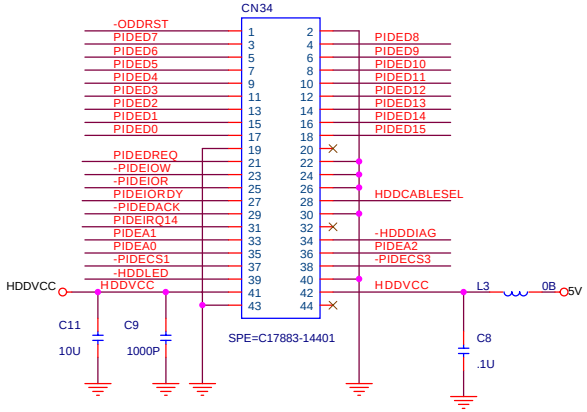
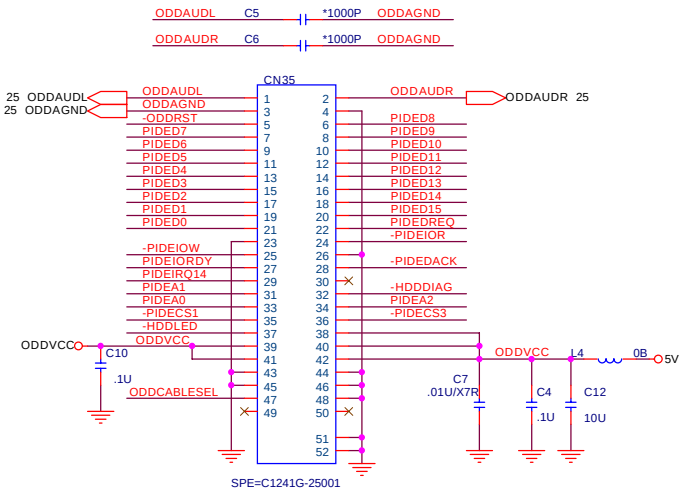
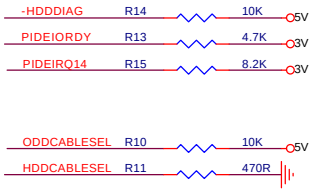
HDD CONNECTOR

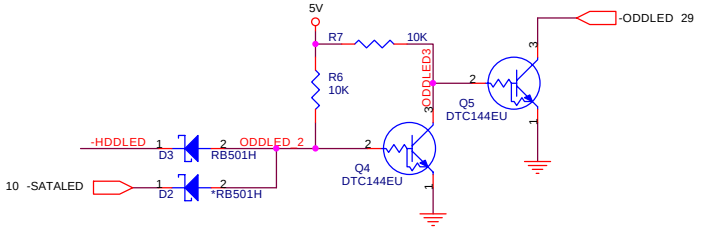


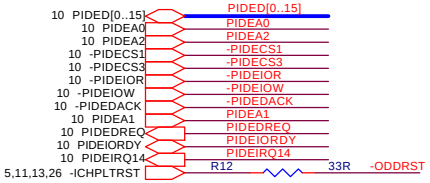
ODD CONNECTOR





CABLESEL: H=SLAVE L=MASTER

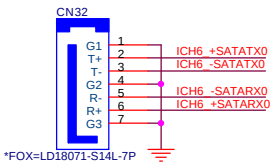


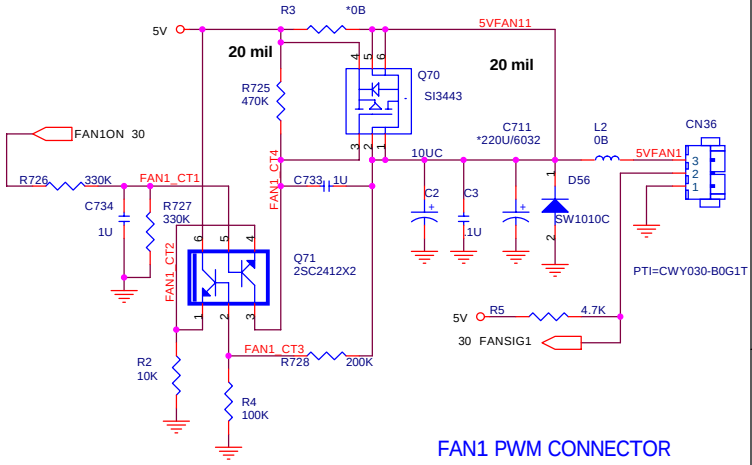


PLACEMENT NOTICE :

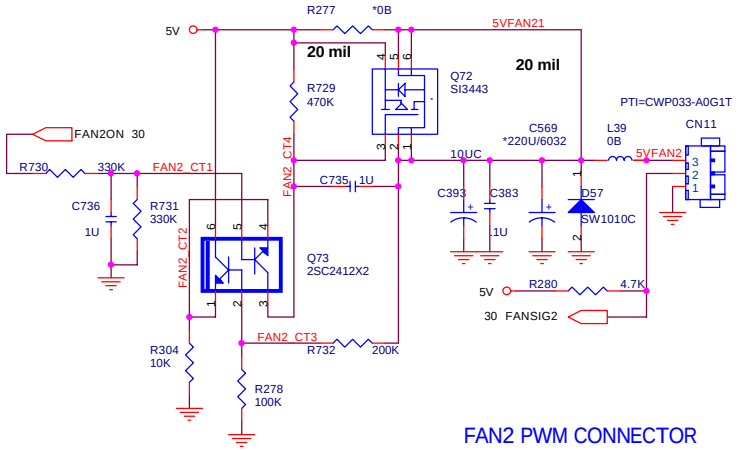
1. PUT THE BYPASS CAP AND INDUCTOR NEAR THE HDD AND ODD CONNECTOR
2. ALL DAMPING RESISTORS SHOULD NEAR ODD AND HDD CONNECOTR RESPECTIVELY
3. ALL PULLUP AND PULLDN SHOULD NEAR THE CONNECTOR
4. ALL IDE TRACE SHOULD KEEP 5:15 ID POSSIBLE AND 5:10 IS MINIMUM REQUIREMENT

SATA HDD CONNECTOR

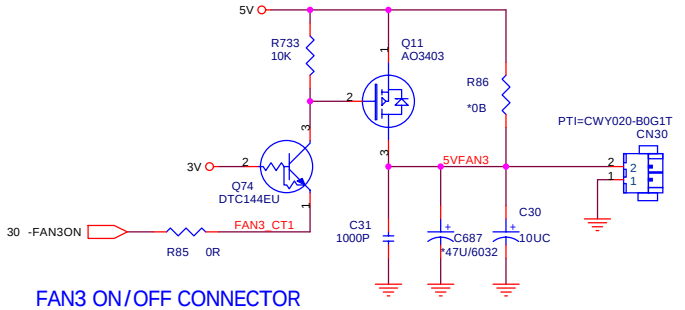




FAN1 PWM CONNECTOR



FAN2 PWM CONNECTOR



FAN3 ON/OFF CONNECTOR

PROJECT : NT2
Quanta Computer Inc.

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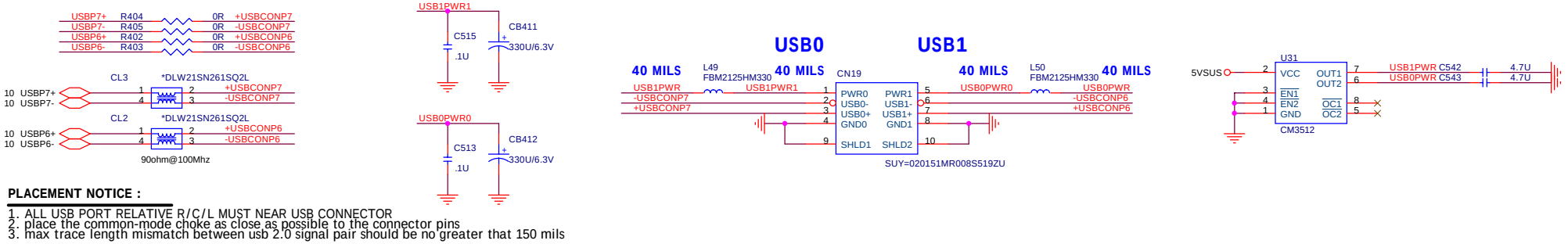
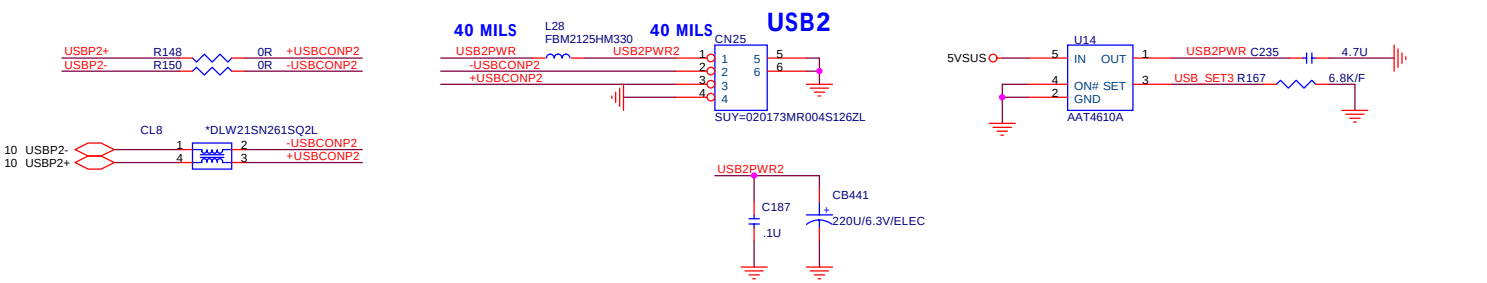
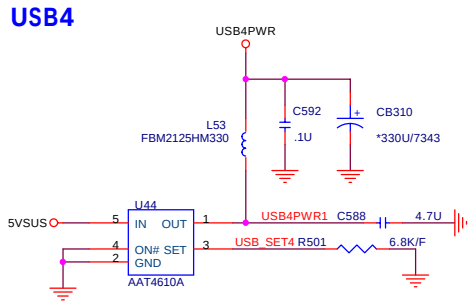
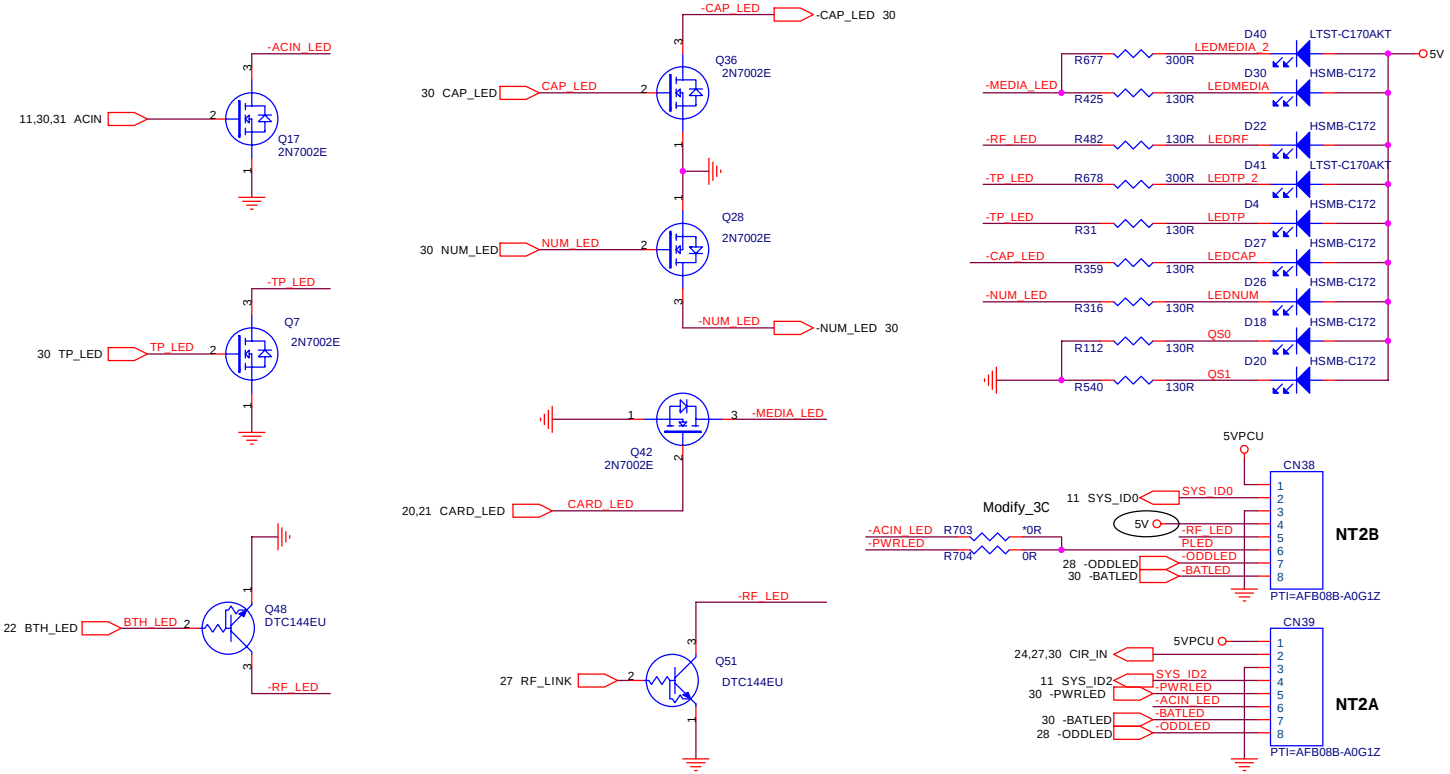


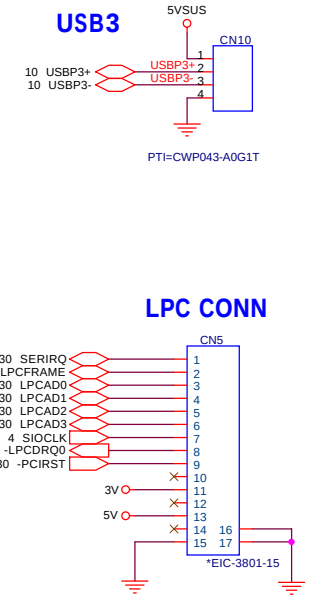
PLACEMENT NOTICE :

1. ALL USB PORT RELATIVE R/C/L MUST NEAR USB CONNECTOR
2. place the common-mode choke as close as possible to the connector pins
3. max trace length mismatch between usb 2.0 signal pair should be no greater that 150 mils









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Quanta Computer Inc.

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Custom	USB PORT/LED	3C
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KBC-NS87591L

PIN	NS PC87591		ENE KB3910	
11	NC		TEST_TP	High: Clock Test Mode. Low: 32KHz clock in normal running. (Recommend)
12	NC		DPLL_TP	High: Test mode, set KSO [0:15] and KSO16 to become internal output. Low : Normal operation. (Recommend)
105	TINT#		ISP_TP	High: Normal operation. (Recommend) Low: Enable ISP mode.
124	ENV0	Internal pull-down to GND. Set the Enviroment to OBD which is used for debugging the PC87591 firmware while it is mounted on its final production board.	A0	
125	ENV1	External pull-up to 3VPCU by 10k. Set the Enviroment to OBD which is used for debugging the PC87591 firmware while it is mounted on its final production board.	XIOP_TP	High: Enable the internal pull-up resistor on XIOCS [F:0] pins. Low: Disable the internal pull-up resistor on XIOCS [F:0] pins.
126	BADDR0	Internal pull-down to GND. To set Super I/O configuration Base Address.	A2	
127	BADDR1	Internal pull-down to GND. To set Super I/O configuration Base Address.	A3	
128	TRIS	Internal pull-down to GND. Normal operation.	DMRP_TP	High: Disable Memory Remapping Process. (Recommend) Low : Enable Memory Remapping Process.
131	SHBM	External pull-up to 3VPCU by 10k. Enable shared memory with host BIOS.	EMWB_TP	High: Enable Memory while Boot. (Recommand for shared BIOS application) Low: Disable Memory while Boot.

-LDRQ(pin 8) internal is no use

CHANGE FOOTPRINT-2B

Reserve for 97551

Should have a 0.1uF capacitor close to every GND-VCC pair + one larger cap on the supply.

U5

Host interface

AD Input

DA output

PWM or PORT-A

PORT-B

Key matrix scan

PORT-C

PORT-D-1

PORT-E

JTAG debug port

PORT-H

PS2 interface

PORT-I

PORT-J-1

PORTJ-2

PORT-D-2

PORT-K

PORT-M

PORT-L

PC97551VPC

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

Pin 24 if no pull-high, will can't reboot.

EEPROM

U4 *24C08

BIOS ROM

U7 *39LF080

U6 SST39VF040

ROM CHIP P/N:AKE34ZAPK01

KEYBOARD PULL-UP

RP44 10KX8

RP43 10KX8

CN9 PTI=AF1263-A2G1Z

RESERVE: POWER BUTTON

SW5 *MSK=TC91-AA1G-A160T

J1 *SHORT PAD

Q13 2N7002E

Q76 MMBT3904

Q40 DTC144EU

3/31

TOUCH PAD

SW3 MSK=TC91-AA1G-A160T

RIGHT

SW4 MSK=TC91-AA1G-A160T

LEFT

SW2 MSK=TC91-AA1G-A160T

RF

SW8 MSK=TC91-AA1G-A160T

QS1

SW7 MSK=TC91-AA1G-A160T

QS0

SW6 MSK=TC91-AA1G-A160T

TOUCH PAD

12 MIL

Q10 AO3403

CN3

PTI=AF712L-A2G1T

CN4 PTI=AF712L-A2G1T

ADD-3C

RN45 10KX4

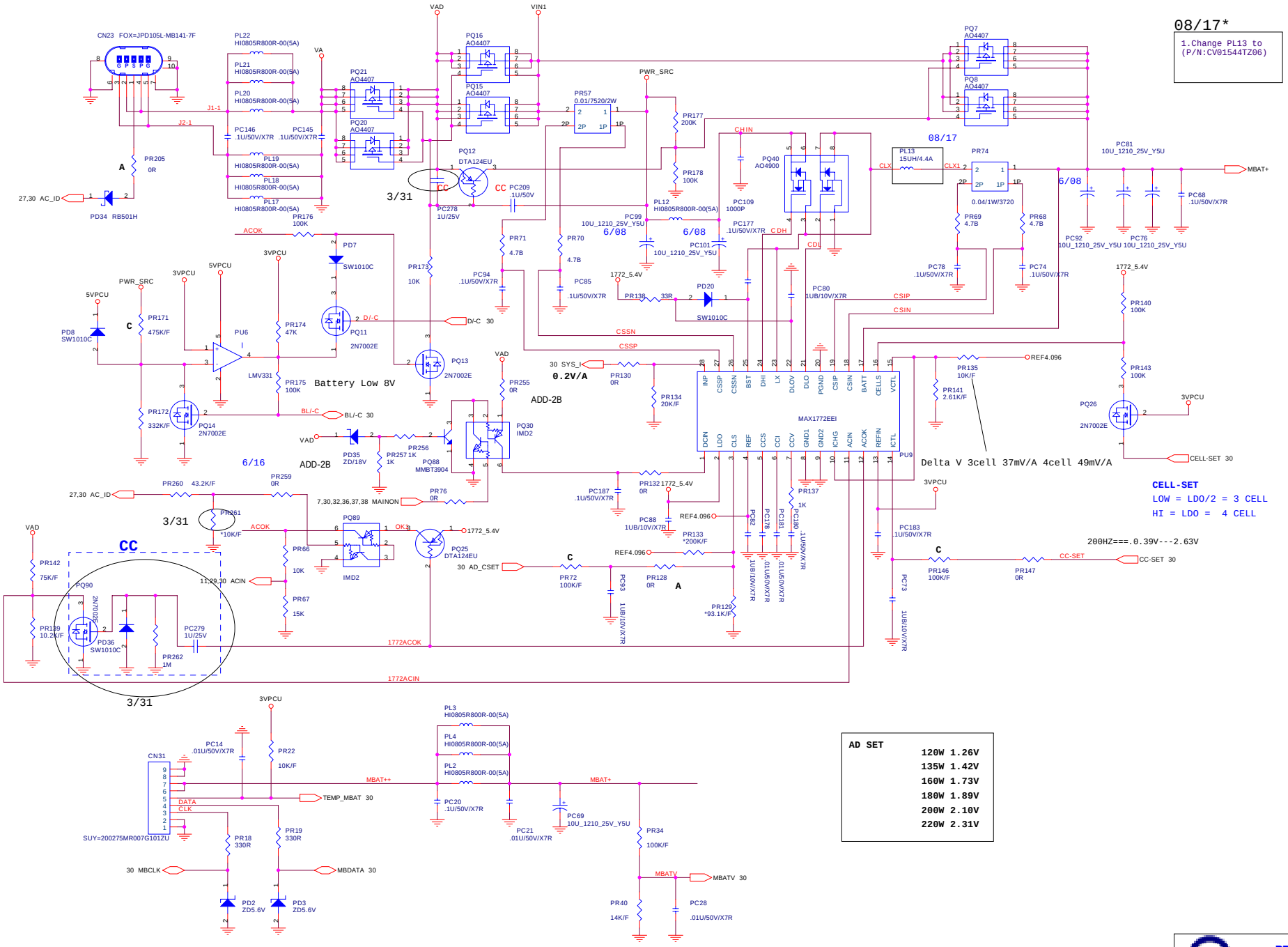
RN44 10KX4

I/O Address

BADDR1-0	Index	Data
0 0	2E	2F
0 1	4E	4F
1 0	(HCFGBAH, HCFGBAL)	(HCFGBAH, HCFGBAL)+1
1 1	Reserved	

VOLUME DOWN / MX5-MY15
VOLUME UP / MX4-MY15
TOUCH PAD / MX1-MY15
MUTE / MX0-MY15

BATTERY CHARGER



PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
C	BATTERY CHARGER 1772	3C

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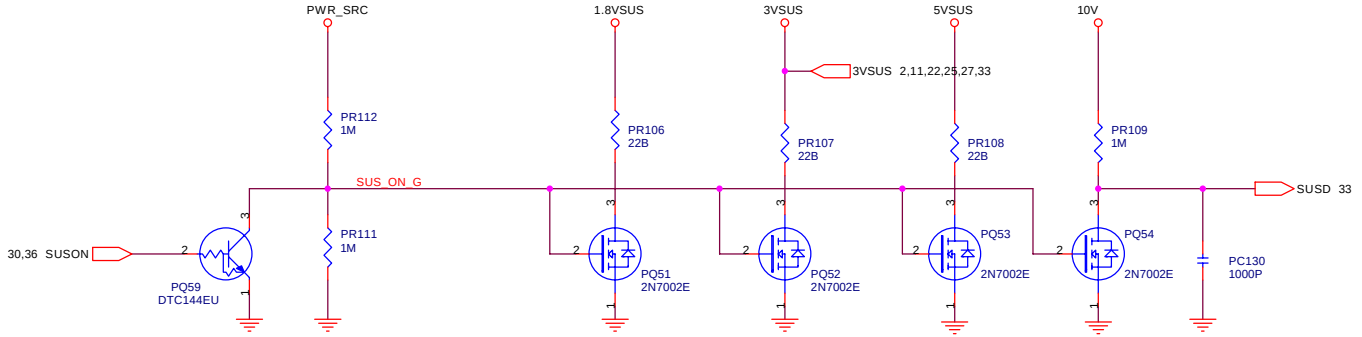
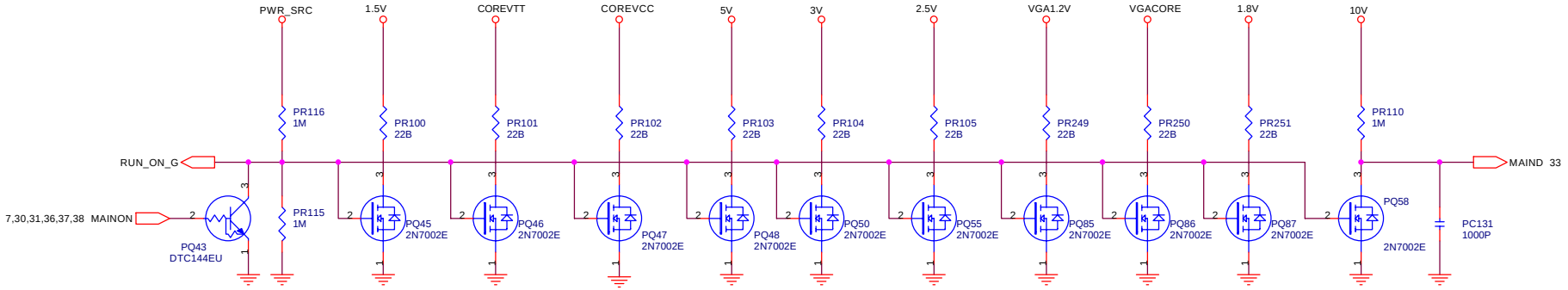
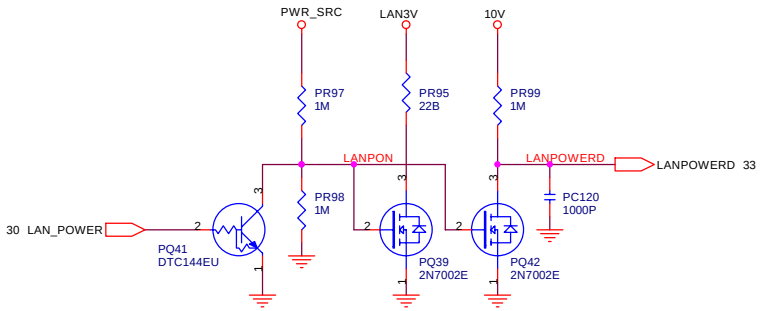
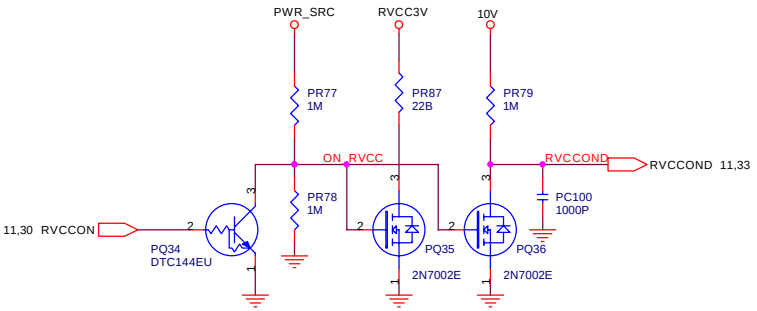


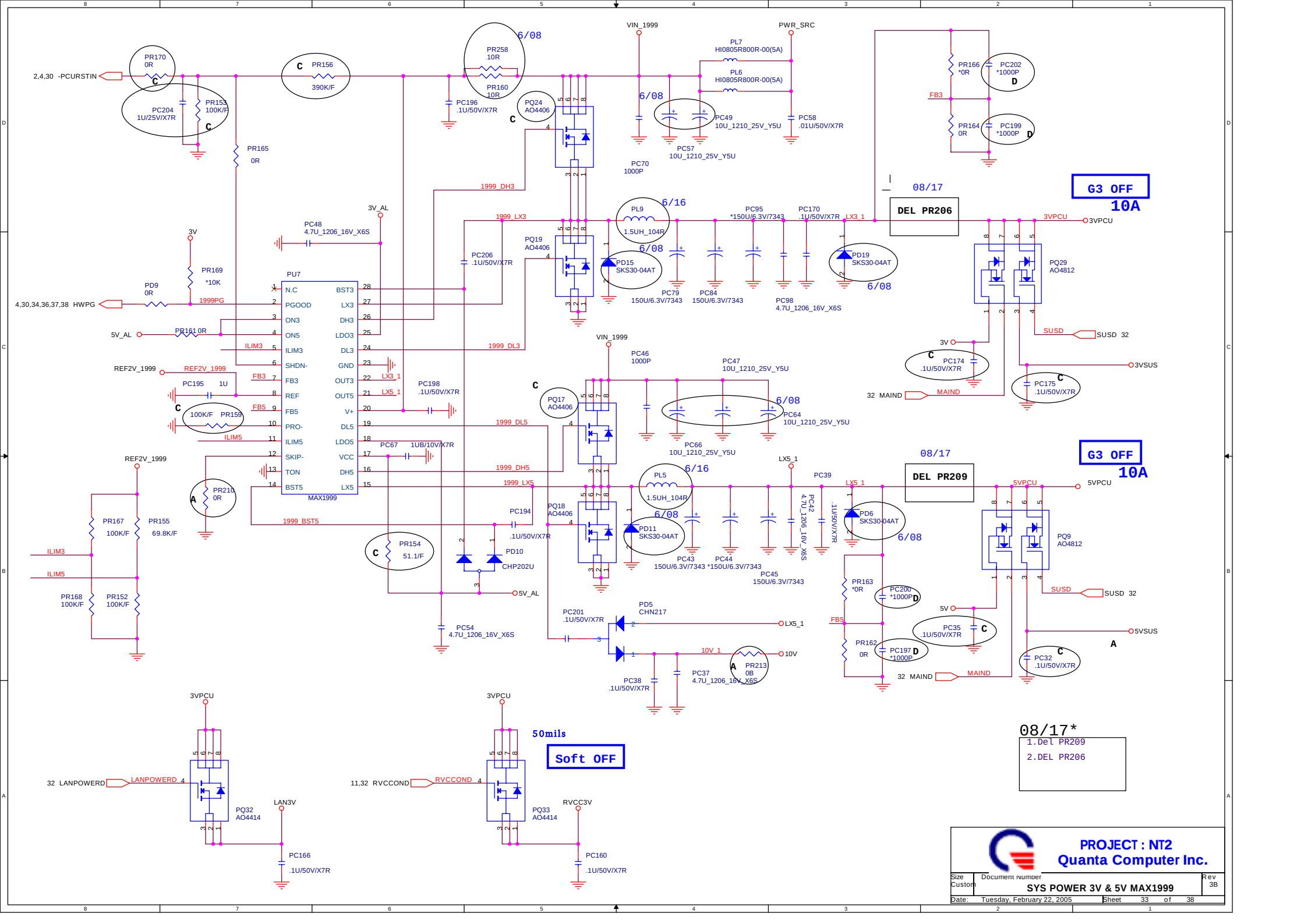


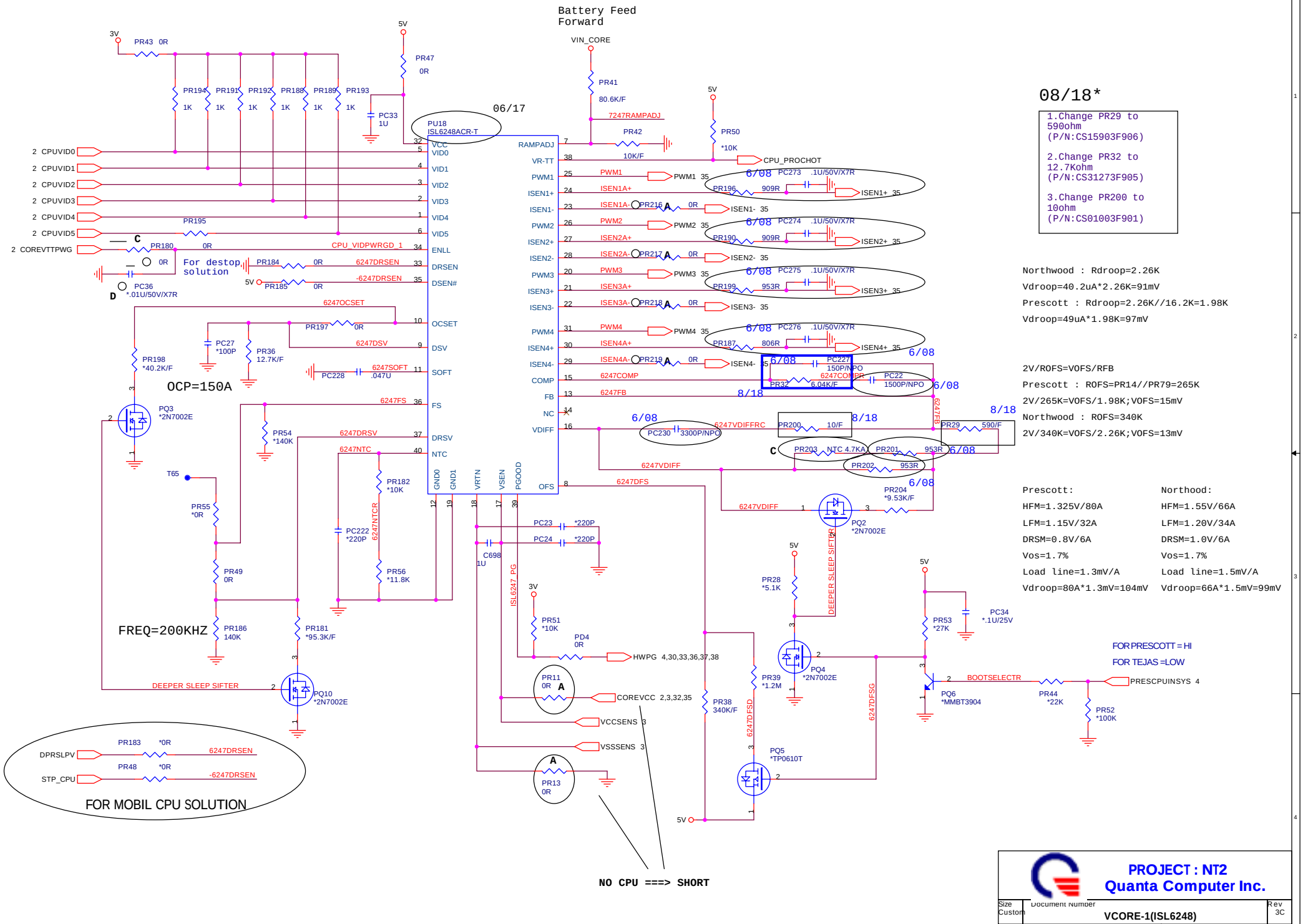


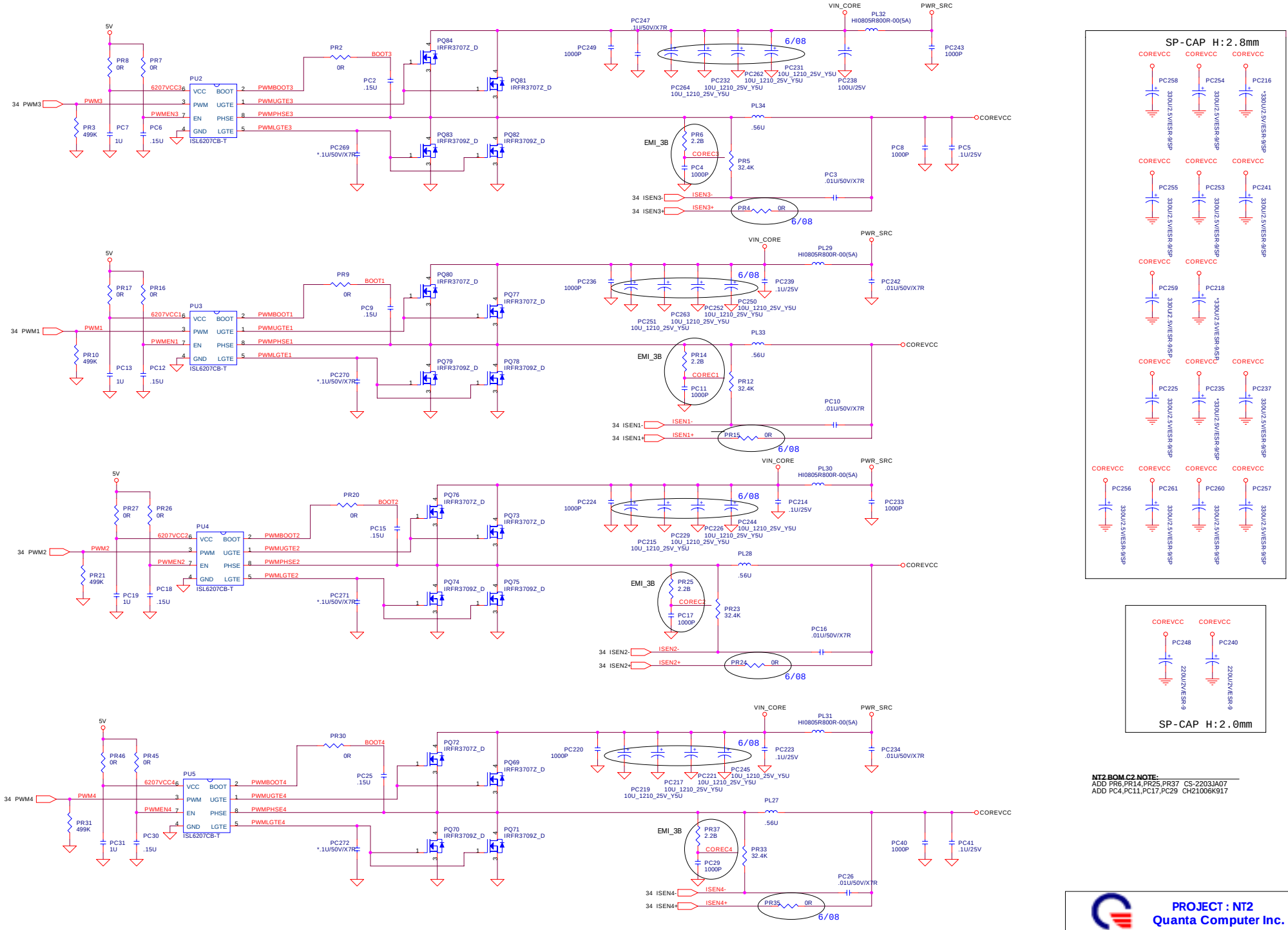


PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DISCHARGE CIRCUIT	2A
Date: Thursday, April 07, 2005	Sheet 32 of 38	


2,4,30 -PCURSTIN
PR170 0R
PC204 1U/25V/X7R
PR153 100K/F
PR165 0R
PR156 390K/F
PR258 10R
PR160 10R
6/08
PC196 .1U/50V/X7R
VIN_1999
PWR_SRC
PL7 HI0805R800R-00(5A)
PL6 HI0805R800R-00(5A)
PC49 10U_1210_25V_Y5U
PC58 .01U/50V/X7R
PC57 10U_1210_25V_Y5U
PC70 1000P
PQ24 AO4406
1999_DH3
1999_LX3
PR166 *0R
PC202 *1000P
FB3
PR164 0R
PC199 *1000P
08/17
DEL PR206
G3 OFF
10A
3V_AL
PC48 4.7U_1206_16V_X6S
3V
PR169 *10K
PD9 0R
4,30,34,36,37,38 HWPG
1999PG
PU7
N.C
PGOOD
ON3
ON5
ILIM3
SHDN-
FB3
REF
FB5
PRO-
ILIM5
SKIP-
TON
BST5
BST3
LX3
DH3
LDO3
DL3
GND
OUT3
OUT5
V+
DL5
LDO5
VCC
DH5
LX5
MAX1999
PC206 .1U/50V/X7R
PQ19 AO4406
PL9 1.5UH_104R
PD15 SKS30-04AT
PC79 150U/6.3V/7343
PC84 150U/6.3V/7343
PC95 *150U/6.3V/7343
PC170 .1U/50V/X7R
LX3_1
PC98 4.7U_1206_16V_X6S
PD19 SKS30-04AT
3VPCU
PQ29 AO4812
SUSD
SUSD 32
3V
PC174 .1U/50V/X7R
3VSUS
PC175 .1U/50V/X7R
32 MAIND
MAIND
5V_AL
PR161 0R
ILIM3
1999_DL3
REF2V_1999
PC195 1U
PC198 .1U/50V/X7R
100K/F PR159
FB5
ILIM5
1999_DL5
PC67 1UB/10V/X7R
1999_DH5
1999_LX5
1999_BST5
PR210 0R
PC194 .1U/50V/X7R
PR154 51.1/F
PD10 CHP202U
PC54 4.7U_1206_16V_X6S
PC46 1000P
PC47 10U_1210_25V_Y5U
PQ17 AO4406
PC64 10U_1210_25V_Y5U
PC66 10U_1210_25V_Y5U
PL5 1.5UH_104R
PD11 SKS30-04AT
PC43 150U/6.3V/7343
PC44 *150U/6.3V/7343
PC45 150U/6.3V/7343
PQ18 AO4406
PC42 4.7U_1206_16V_X6S
PC39 .1U/50V/X7R
LX5_1
08/17
DEL PR209
G3 OFF
10A
5VPCU
PD6 SKS30-04AT
PQ9 AO4812
SUSD
SUSD 32
5V
PC35 .1U/50V/X7R
5VSUS
PC32 .1U/50V/X7R
32 MAIND
MAIND
PR163 *0R
PC200 *1000P
FB5
PR162 0R
PC197 *1000P
PR167 100K/F
PR155 69.8K/F
PR168 100K/F
PR152 100K/F
ILIM3
ILIM5
PC201 .1U/50V/X7R
PD5 CHN217
10V_1
10V
PR213 0B
PC38 .1U/50V/X7R
PC37 4.7U_1206_16V_X6S
3VPCU
LANPOWERD
32 LANPOWERD
PQ32 AO4414
LAN3V
PC166 .1U/50V/X7R
RVCCOND
11,32 RVCCOND
PQ33 AO4414
RVCC3V
PC160 .1U/50V/X7R
50mils
Soft OFF
08/17*
1.Del PR209
2.DEL PR206
PROJECT : NT2
Quanta Computer Inc.
Size Custom
Document Number
SYS POWER 3V & 5V MAX1999
Rev 3B
Date: Tuesday, February 22, 2005
Sheet 33 of 38


Battery Feed Forward
VIN_CORE
PU18
ISL6248ACR-T
06/17
08/18*
1.Change PR29 to 590ohm (P/N:CS15903F906)
2.Change PR32 to 12.7Kohm (P/N:CS31273F905)
3.Change PR200 to 10ohm (P/N:CS01003F901)
Northwood : Rdroop=2.26K
Vdroop=40.2uA*2.26K=91mV
Prescott : Rdroop=2.26K//16.2K=1.98K
Vdroop=49uA*1.98K=97mV
2V/ROFS=VOFS/RFB
Prescott : ROFS=PR14//PR79=265K
2V/265K=VOFS/1.98K;VOFS=15mV
Northwood : ROFS=340K
2V/340K=VOFS/2.26K;VOFS=13mV
Prescott:
HFM=1.325V/80A
LFM=1.15V/32A
DRSM=0.8V/6A
Vos=1.7%
Load line=1.3mV/A
Vdroop=80A*1.3mV=104mV
Northood:
HFM=1.55V/66A
LFM=1.20V/34A
DRSM=1.0V/6A
Vos=1.7%
Load line=1.5mV/A
Vdroop=66A*1.5mV=99mV
OCP=150A
FREQ=200KHZ
For destop solution
FOR MOBIL CPU SOLUTION
FOR PRESCOTT = HI
FOR TEJAS =LOW
NO CPU ===> SHORT
PROJECT : NT2
Quanta Computer Inc.
VCORE-1(ISL6248)
Tuesday, January 25, 2005


5V
PR8 0R
PR7 0R
PU2
6207VCC2
PWM3
PWMEN3
VCC
BOOT
PWM
UGTE
EN
PHSE
GND
LGTE
ISL6207CB-T
PWMBOOT3
PWMUGTE3
PWMPHSE3
PWMLGTE3
PR2 0R
BOOT3
PC2 .15U
PQ84 IRFR3707Z_D
PQ81 IRFR3707Z_D
PQ83 IRFR3709Z_D
PQ82 IRFR3709Z_D
PC269 *.1U/50V/X7R
PR3 499K
PC7 1U
PC6 .15U
34 PWM3
VIN_CORE
PWR_SRC
PL32 HI0805R800R-00(5A)
PC247 .1U/50V/X7R
PC249 1000P
PC232 10U_1210_25V_Y5U
PC262 10U_1210_25V_Y5U
PC231 10U_1210_25V_Y5U
PC264 10U_1210_25V_Y5U
PC238 100U/25V
PC243 1000P
6/08
PL34 .56U
COREVCC
EMI_3B
PR6 2.2B
COREC3
PC4 1000P
PR5 32.4K
PC3 .01U/50V/X7R
34 ISEN3-
34 ISEN3+
ISEN3-
ISEN3+
PR4 0R
PC8 1000P
PC5 .1U/25V
PR17 0R
PR16 0R
PU3
6207VCC1
PWM1
PWMEN1
PWMBOOT1
PWMUGTE1
PWMPHSE1
PWMLGTE1
PR9 0R
BOOT1
PC9 .15U
PQ80 IRFR3707Z_D
PQ77 IRFR3707Z_D
PQ79 IRFR3709Z_D
PQ78 IRFR3709Z_D
PC270 *.1U/50V/X7R
PR10 499K
PC13 1U
PC12 .15U
34 PWM1
PL29 HI0805R800R-00(5A)
PC236 1000P
PC263 10U_1210_25V_Y5U
PC252 10U_1210_25V_Y5U
PC250 10U_1210_25V_Y5U
PC251 10U_1210_25V_Y5U
PC239 .1U/25V
PC242 .01U/50V/X7R
PL33 .56U
PR14 2.2B
COREC1
PC11 1000P
PR12 32.4K
PC10 .01U/50V/X7R
34 ISEN1-
34 ISEN1+
ISEN1-
ISEN1+
PR15 0R
PR27 0R
PR26 0R
PU4
6207VCC3
PWM2
PWMEN2
PWMBOOT2
PWMUGTE2
PWMPHSE2
PWMLGTE2
PR20 0R
BOOT2
PC15 .15U
PQ76 IRFR3707Z_D
PQ73 IRFR3707Z_D
PQ74 IRFR3709Z_D
PQ75 IRFR3709Z_D
PC271 *.1U/50V/X7R
PR21 499K
PC19 1U
PC18 .15U
34 PWM2
PL30 HI0805R800R-00(5A)
PC224 1000P
PC215 10U_1210_25V_Y5U
PC229 10U_1210_25V_Y5U
PC226 10U_1210_25V_Y5U
PC244 10U_1210_25V_Y5U
PC214 .1U/25V
PC233 1000P
PL28 .56U
PR25 2.2B
COREC2
PC17 1000P
PR23 32.4K
PC16 .01U/50V/X7R
34 ISEN2-
34 ISEN2+
ISEN2-
ISEN2+
PR24 0R
PR46 0R
PR45 0R
PU5
6207VCC4
PWM4
PWMEN4
PWMBOOT4
PWMUGTE4
PWMPHSE4
PWMLGTE4
PR30 0R
BOOT4
PC25 .15U
PQ72 IRFR3707Z_D
PQ69 IRFR3707Z_D
PQ70 IRFR3709Z_D
PQ71 IRFR3709Z_D
PC272 *.1U/50V/X7R
PR31 499K
PC31 1U
PC30 .15U
34 PWM4
PL31 HI0805R800R-00(5A)
PC220 1000P
PC219 10U_1210_25V_Y5U
PC217 10U_1210_25V_Y5U
PC221 10U_1210_25V_Y5U
PC245 10U_1210_25V_Y5U
PC223 .1U/25V
PC234 .01U/50V/X7R
PL27 .56U
PR37 2.2B
COREC4
PC29 1000P
PR33 32.4K
PC26 .01U/50V/X7R
34 ISEN4-
34 ISEN4+
ISEN4-
ISEN4+
PR35 0R
PC40 1000P
PC41 .1U/25V
SP-CAP H:2.8mm
COREVCC
PC258 330U/2.5V/ESR-9/SP
PC254 330U/2.5V/ESR-9/SP
PC216 *330U/2.5V/ESR-9/SP
PC255 330U/2.5V/ESR-9/SP
PC253 330U/2.5V/ESR-9/SP
PC241 330U/2.5V/ESR-9/SP
PC259 330U/2.5V/ESR-9/SP
PC218 *330U/2.5V/ESR-9/SP
PC225 330U/2.5V/ESR-9/SP
PC235 *330U/2.5V/ESR-9/SP
PC237 330U/2.5V/ESR-9/SP
PC256 330U/2.5V/ESR-9/SP
PC261 330U/2.5V/ESR-9/SP
PC260 330U/2.5V/ESR-9/SP
PC257 330U/2.5V/ESR-9/SP
SP-CAP H:2.0mm
PC248 220U/2V/ESR-9
PC240 220U/2V/ESR-9
NT2 BOM C2 NOTE:
ADD PR6,PR14,PR25,PR37 CS-2203JA07
ADD PC4,PC11,PC17,PC29 CH21006K917
PROJECT : NT2
Quanta Computer Inc.
Size C
Document Number
COREVCC (Power train)
Rev 2A
Date: Tuesday, January 25, 2005
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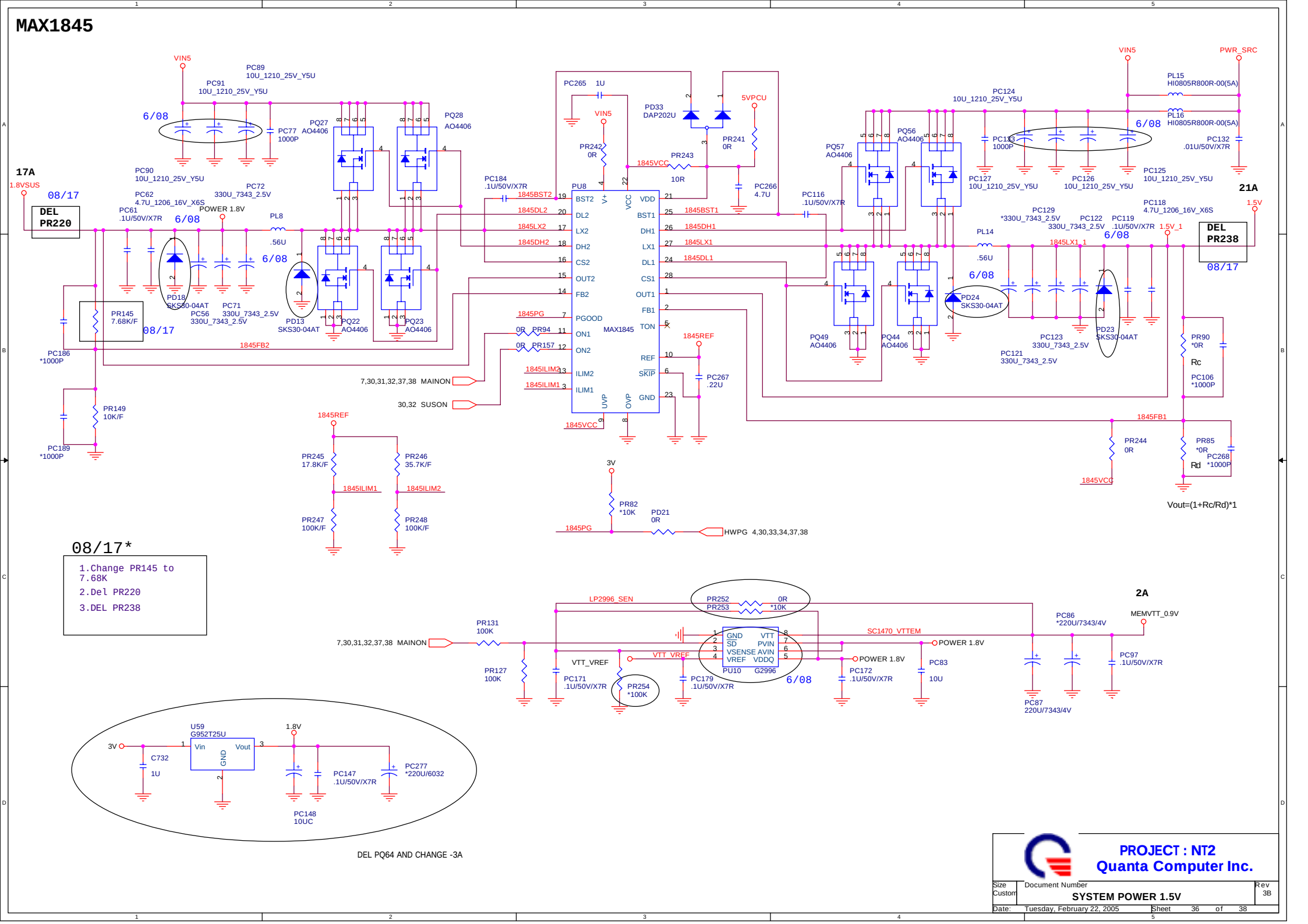
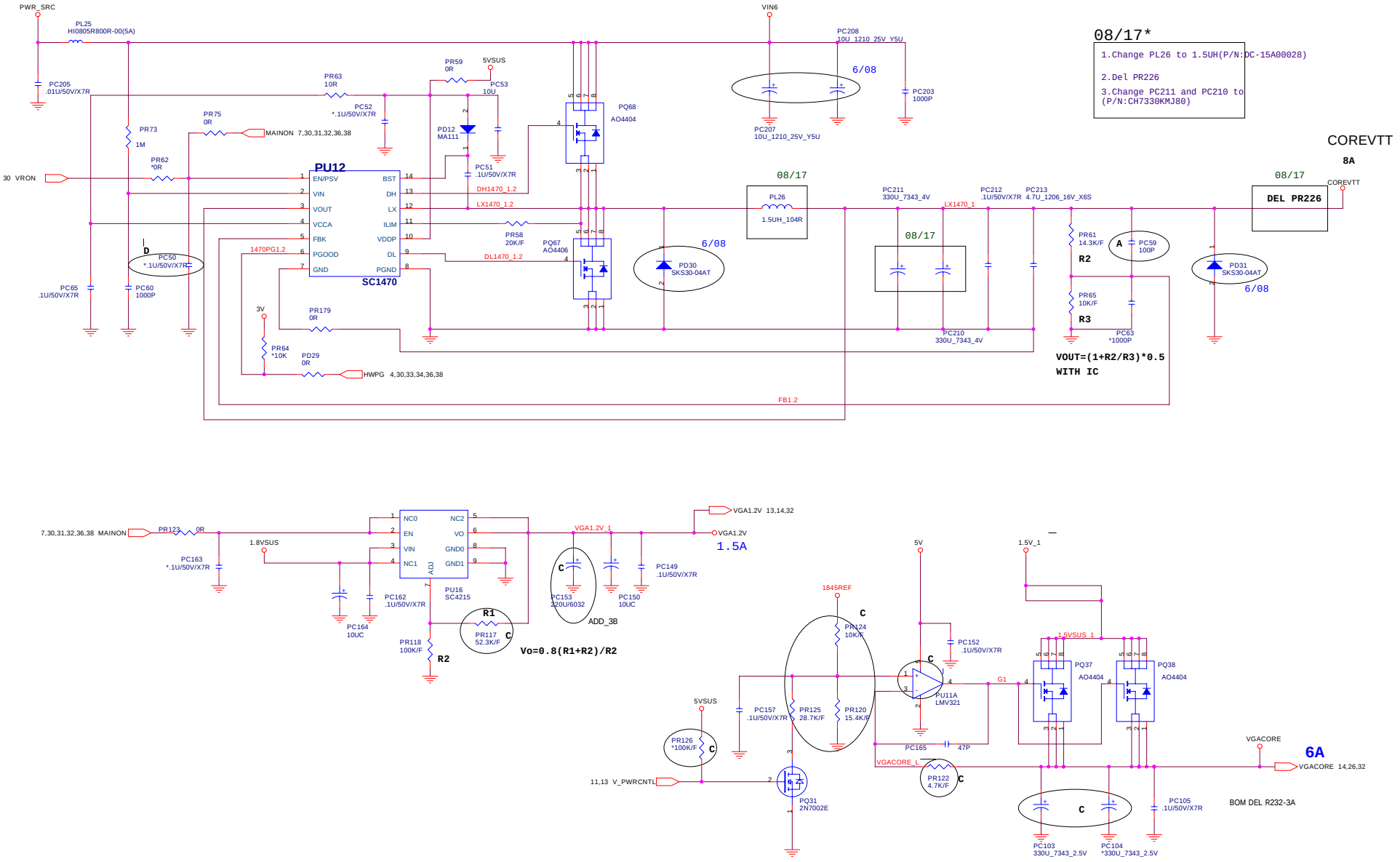
MAX1845


VIN5
PC89 10U_1210_25V_Y5U
PC91 10U_1210_25V_Y5U
6/08
PC77 1000P
PQ27 AO4406
PQ28 AO4406
PC90 10U_1210_25V_Y5U
PC72 330U_7343_2.5V
17A
1.8VSUS
08/17
DEL PR220
PC62 4.7U_1206_16V_X6S
PC61 .1U/50V/X7R
POWER 1.8V
PL8 .56U
PD18 SKS30-04AT
PC56 330U_7343_2.5V
PC71 330U_7343_2.5V
PD13 SKS30-04AT
PQ22 AO4406
PQ23 AO4406
PR145 7.68K/F
PC186 *1000P
PR149 10K/F
PC189 *1000P
1845FB2
PC265 1U
PD33 DAP202U
5VPCU
PR242 0R
PR241 0R
PR243 10R
1845VCC
PC266 4.7U
PC184 .1U/50V/X7R
PU8
1845BST2
1845DL2
1845LX2
1845DH2
CS2
OUT2
FB2
PGOOD
ON1
ON2
ILIM2
ILIM1
BST2
DL2
LX2
DH2
V+
VCC
VDD
BST1
DH1
LX1
DL1
CS1
OUT1
FB1
TON
REF
SKIP
GND
UVP
OVP
MAX1845
1845BST1
1845DH1
1845LX1
1845DL1
1845PG
0R PR94
0R PR157
1845ILIM2
1845ILIM1
1845REF
PC267 .22U
7,30,31,32,37,38 MAINON
30,32 SUSON
PR245 17.8K/F
PR246 35.7K/F
PR247 100K/F
PR248 100K/F
3V
PR82 *10K
PD21 0R
HWPG 4,30,33,34,37,38
PC116 .1U/50V/X7R
PQ56 AO4406
PQ57 AO4406
PC124 10U_1210_25V_Y5U
PC113 1000P
PC127 10U_1210_25V_Y5U
PC126 10U_1210_25V_Y5U
PC125 10U_1210_25V_Y5U
PC132 .01U/50V/X7R
PL15 HI0805R800R-00(5A)
PL16 HI0805R800R-00(5A)
PWR_SRC
21A
1.5V
PC118 4.7U_1206_16V_X6S
PC129 *330U_7343_2.5V
PC122 330U_7343_2.5V
PC119 .1U/50V/X7R
1.5V_1
1845LX1_1
DEL PR238
08/17
PL14 .56U
PD24 SKS30-04AT
PC123 330U_7343_2.5V
PD23 SKS30-04AT
PC121 330U_7343_2.5V
PQ49 AO4406
PQ44 AO4406
PR90 *0R
Rc
PC106 *1000P
1845FB1
PR244 0R
PR85 *0R
PC268 *1000P
Rd
1845VCC
Vout=(1+Rc/Rd)*1
08/17*
1.Change PR145 to 7.68K
2.Del PR220
3.DEL PR238
2A
LP2996_SEN
PR252 0R
PR253 *10K
PR131 100K
7,30,31,32,37,38 MAINON
PR127 100K
VTT_VREF
PC171 .1U/50V/X7R
PR254 *100K
PC179 .1U/50V/X7R
PU10 G2996
GND VTT
SD PVIN
VSENSE AVIN
VREF VDDQ
SC1470_VTTEM
POWER 1.8V
PC172 .1U/50V/X7R
PC83 10U
PC86 *220U/7343/4V
MEMVTT_0.9V
PC97 .1U/50V/X7R
PC87 220U/7343/4V
U59 G952T25U
3V
C732 1U
Vin
Vout
GND
1.8V
PC147 .1U/50V/X7R
PC277 *220U/6032
PC148 10UC
DEL PQ64 AND CHANGE -3A
PROJECT : NT2
Quanta Computer Inc.
Size Custom
Document Number
SYSTEM POWER 1.5V
Rev 3B
Date: Tuesday, February 22, 2005
Sheet 36 of 38



M24 VGACORECTL	
LO	1.2V
HI	1.0V

M22 VGACORECTL	
LO	1.15V
HI	1.0V

BOM C2 NOTE:

ADD PC153 CH72201M7T2 220u TAN

PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
C	VGA POWER / SC1470 1.2VSUS	3B

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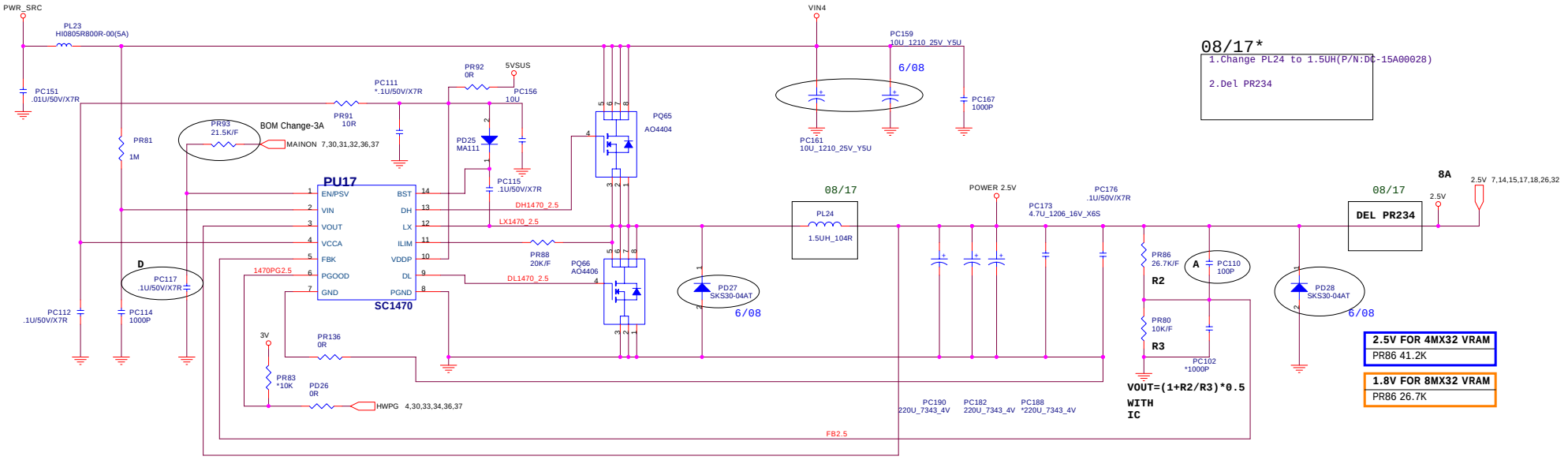

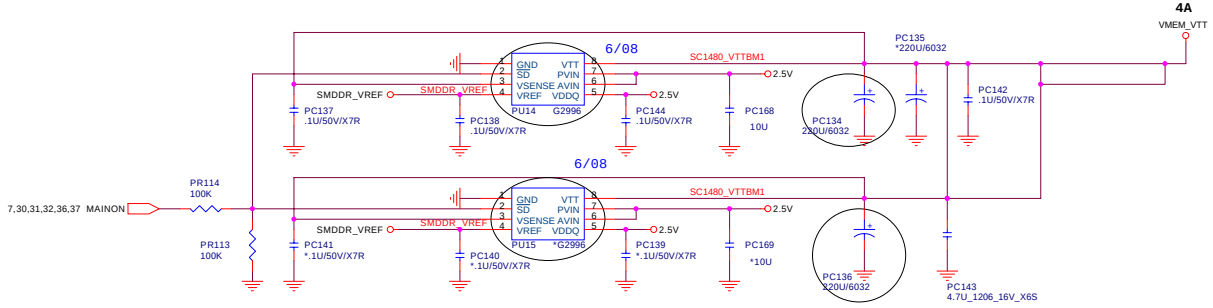

BOM C2 NOTE:

DEL PC134,PC136 CH7222KMJ82
ADD PC134,PC136 CH72201M7T2

PROJECT : NT2
Quanta Computer Inc.

Size	Document Number	Rev
C	SYSTEM POWER 2.5V & MEM_VTT	3B
Date: Tuesday, January 25, 2005	Sheet 38 of 38	