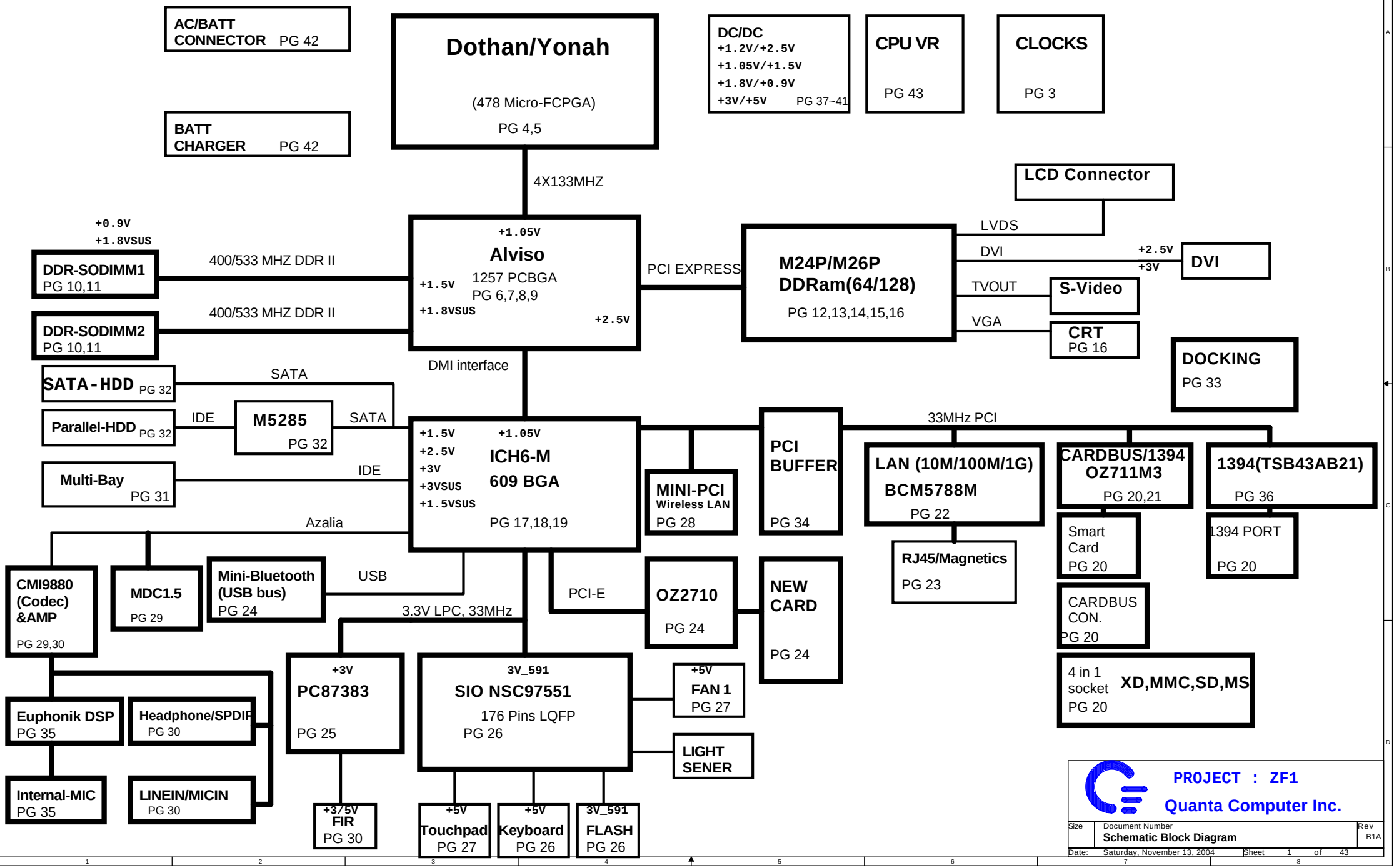
ZF1



PROJECT : ZF1

Quanta Computer Inc.

Size	Document Number	Rev
	Schematic Block Diagram	B1A
Date: Saturday, November 13, 2004	Sheet 1 of 43	

Check again

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

Change History

5/28
1.System_DVI DET function move in EZ port , So,Del Q47,R557
2.Addition AND gate for DOCKING Power Good AND DockingIN Singal combine Circuit
3.Addition Power led circuit for system
4.Change D34 AND D35 + -
5.Addition LID Switch and LID connector
6.Addition RC Delay for PCIE1.2V
7.Change EC Three GPIO port same to ZL2
5/31
1.Change C145 PCB Footprint to 3528
2.Combine USB and bluetooth connector to 19pin connector 87212-1900
3.Change PCBFootprint 88216-1200 to 88213-1200
4.Change USB connector bypass C to 0805 10u
5.Adujst 80pin connector 3 singal
6/1
1.Update power all circuit for GND name
2.Addition OR to PRST
3.Change IDE RST

6/2
1.Change ICH-6 USB Port
2.Del CDR,CDL,CDGND Singal and DEL prevent CDR,CDL,CDGND noise circuit.
6/4
1.U49,U50, Form 3VRUN change to +3V AND CHANGE MINPCI connector to PCI BUS,And addition PCI_SWRST # AND PCI_SWRST1#
2.Change BT_POWER NAME
3.Change VOIP AGND

6/7
1.Change VOIP AGND TO AGND2 for Layout

External PCI Devices

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

EC SM Bus1 address

Device
Smart Battery
THERMAL SENSOR
LIGHT SENER
VOIP FLASH ROM

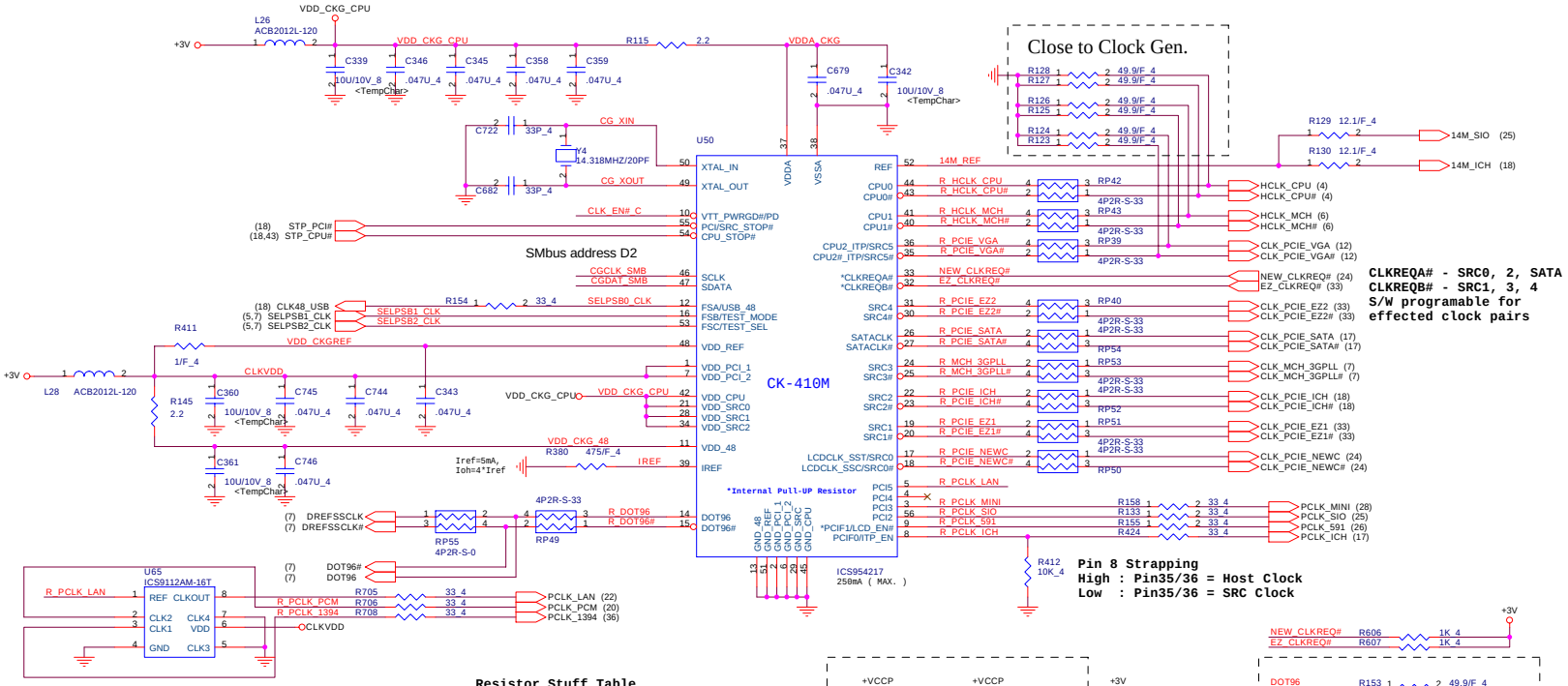
ICH6-M SM Bus address

Device	
SODIMM	**1010 000X b**
Clock Gen	**1101 001x b**

PROJECT : ZF1
Quanta Computer Inc.

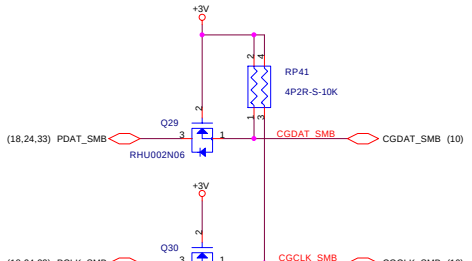
Size	Document Number	Rev
		A1A

Date: Saturday, November 13, 2004 Sheet 2 of 43



Resistor Stuff Table

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



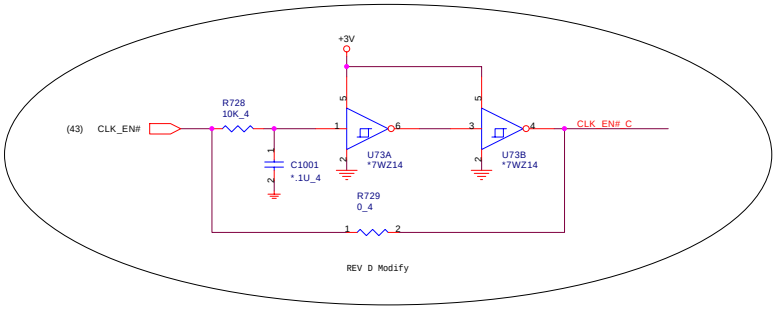
Clock Gen. Frequency Selection Table

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

DOTHAN BSEL Output Value

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

These are for backdrive issue

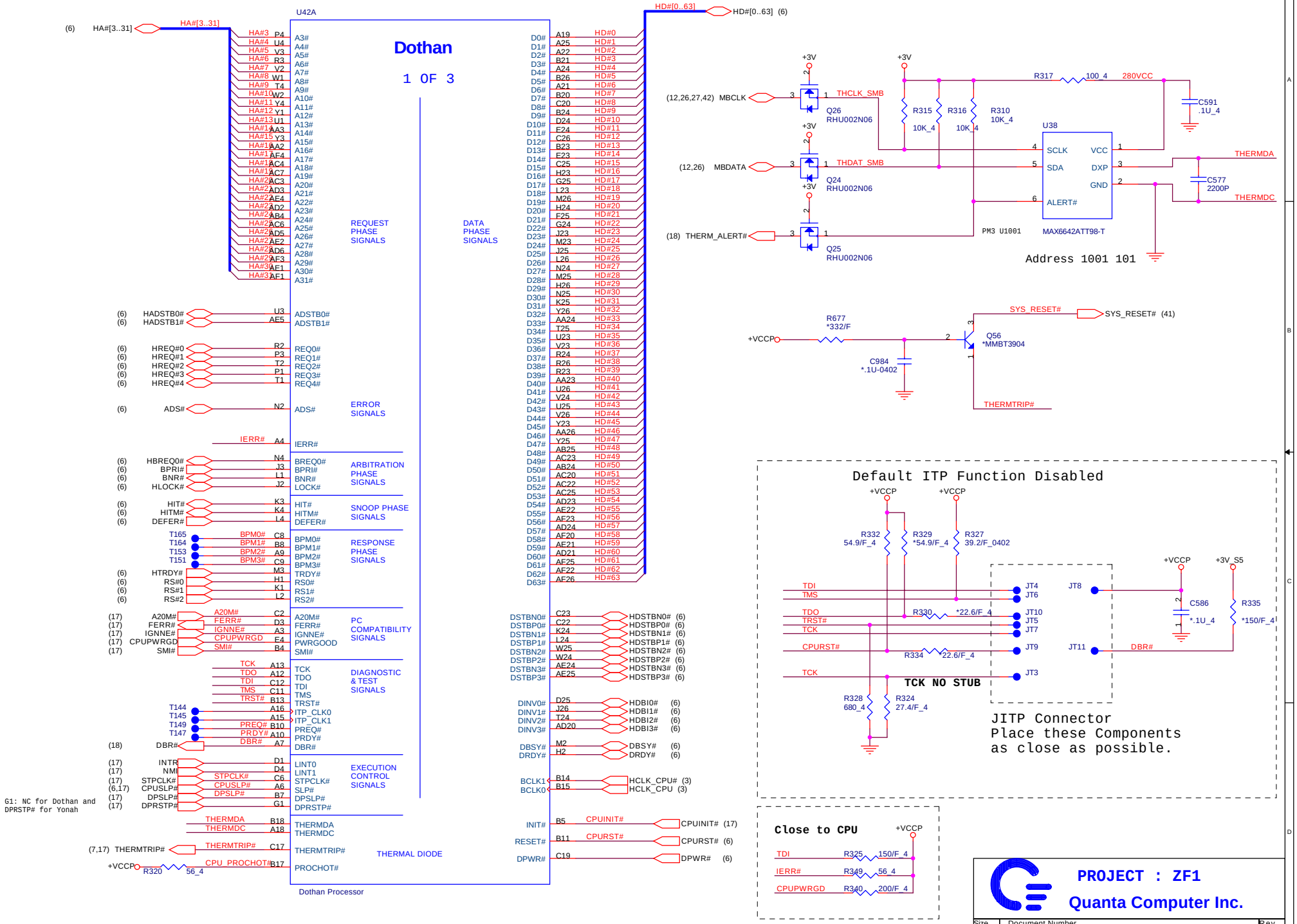


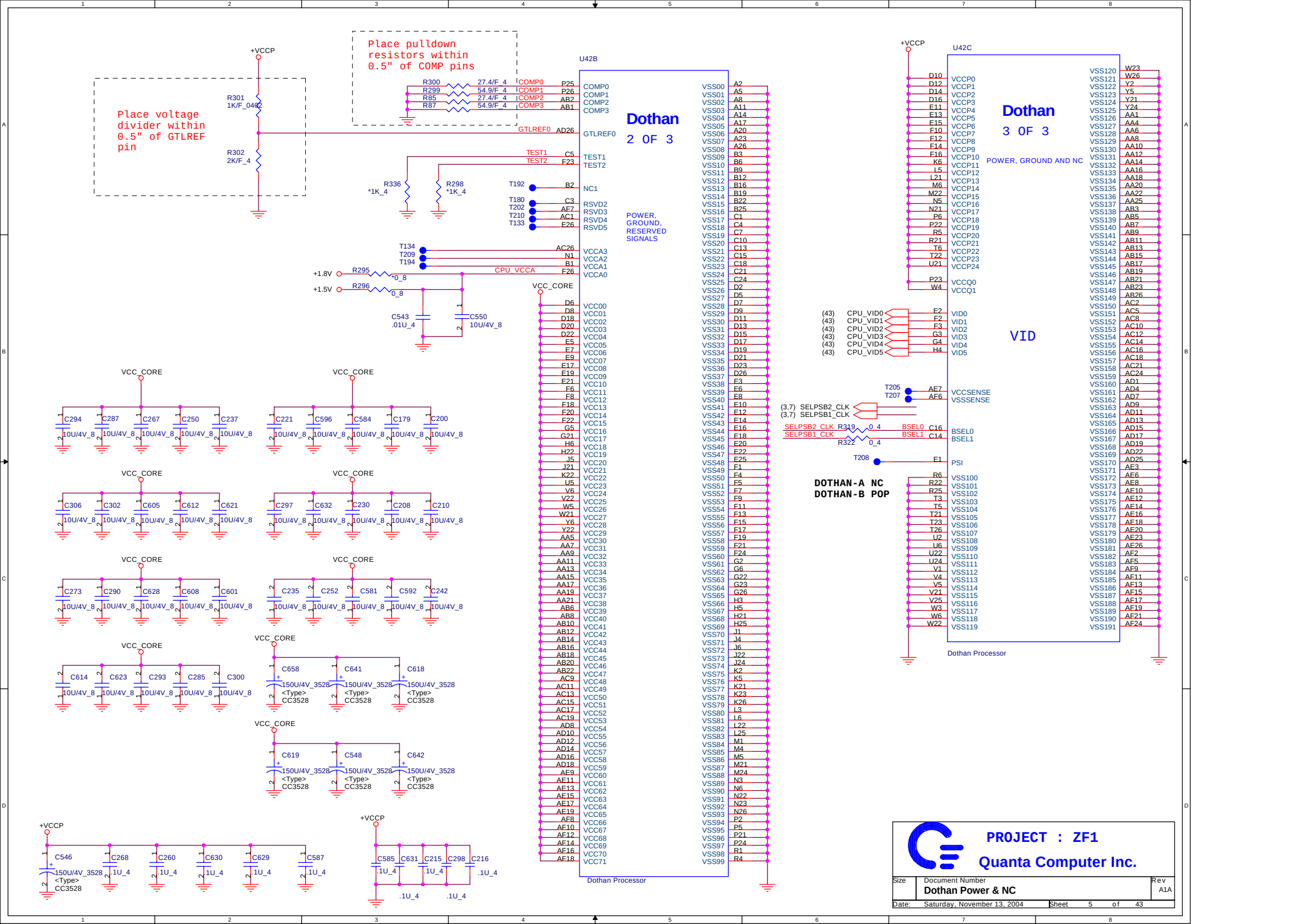
PROJECT : ZF1

Quanta Computer Inc.

Size	Document Number	Rev
	Clock Gen.	A1A

Date: Saturday, November 13, 2004 Sheet 3 of 43


U42A
Dothan
1 OF 3
HA#[3..31]
HD#[0..63]
REQUEST PHASE SIGNALS
DATA PHASE SIGNALS
ERROR SIGNALS
ARBITRATION PHASE SIGNALS
SNOOP PHASE SIGNALS
RESPONSE PHASE SIGNALS
PC COMPATIBILITY SIGNALS
DIAGNOSTIC & TEST SIGNALS
EXECUTION CONTROL SIGNALS
THERMAL DIODE
Dothan Processor
G1: NC for Dothan and DPRSTP# for Yonah
MBCLK
MBDATA
THERM_ALERT#
THCLK_SMB
THDAT_SMB
Q26 RHU002N06
Q24 RHU002N06
Q25 RHU002N06
U38
MAX6642ATT98-T
Address 1001 101
THERMDA
THERMDC
C591 .1U_4
C577 2200P
SYS_RESET#
Q56 *MMBT3904
R677 *332/F
C984 *.1U-0402
THERMTRIP#
Default ITP Function Disabled
TCK NO STUB
JITP Connector
Place these Components
as close as possible.
Close to CPU
PROJECT : ZF1
Quanta Computer Inc.
Dothan Host
Saturday, November 13, 2004



PROJECT : ZF1

Quanta Computer Inc.

Size	Document Number	Rev
	Dothan Power & NC	A1A
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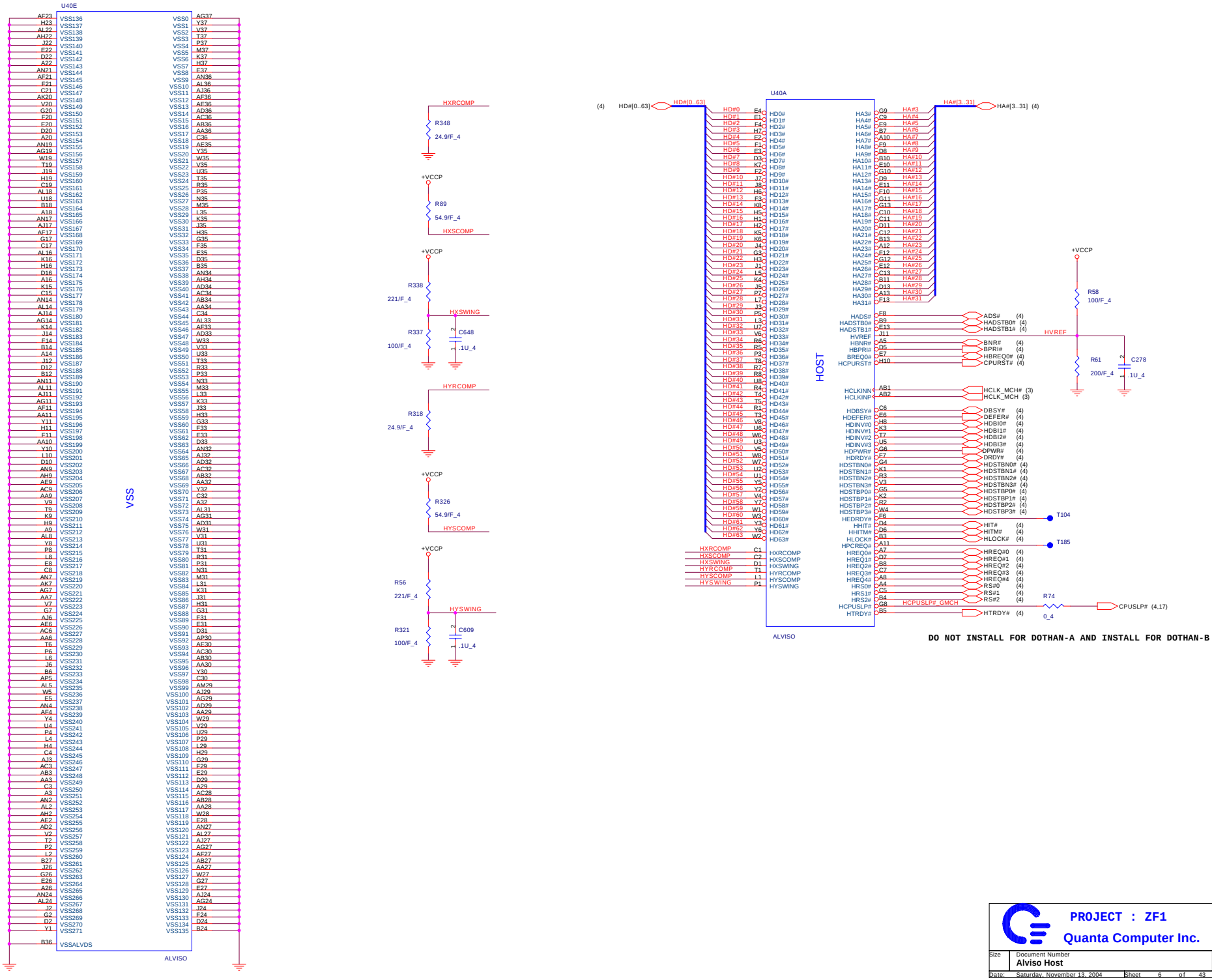
U40E
VSS
VSSALVDS
ALVISO
U40A
HOST
ALVISO
HXRCOMP
R348
24.9/F_4
+VCCP
R89
54.9/F_4
HXSCOMP
R338
221/F_4
HXSWING
R337
100/F_4
C648
.1U_4
HYRCOMP
R318
24.9/F_4
R326
54.9/F_4
HYSCOMP
R56
221/F_4
R321
100/F_4
C609
.1U_4
HD#[0..63]
HA#[3..31]
R58
100/F_4
R61
200/F_4
C278
.1U_4
HVREF
R74
0_4
T104
T185
HCPUSLP#_GMCH
CPUSLP# (4,17)
DO NOT INSTALL FOR DOTHAN-A AND INSTALL FOR DOTHAN-B
PROJECT : ZF1
Quanta Computer Inc.
Size
Document Number
Alviso Host
Rev
A1A
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CFG[0:2]=100 FOR FSB 533
CFG[0:2]=101 FOR FSB 400

U40C

DMI
DDR MUXING
CFG/RSVD
PM
LCK
NC

U40F

MISC
TV
VGA
LVDS
PCI-EXPRESS GRAPHICS

FOR DDR533
Low=DMIx2
High=DMIx4

FOR CPU533

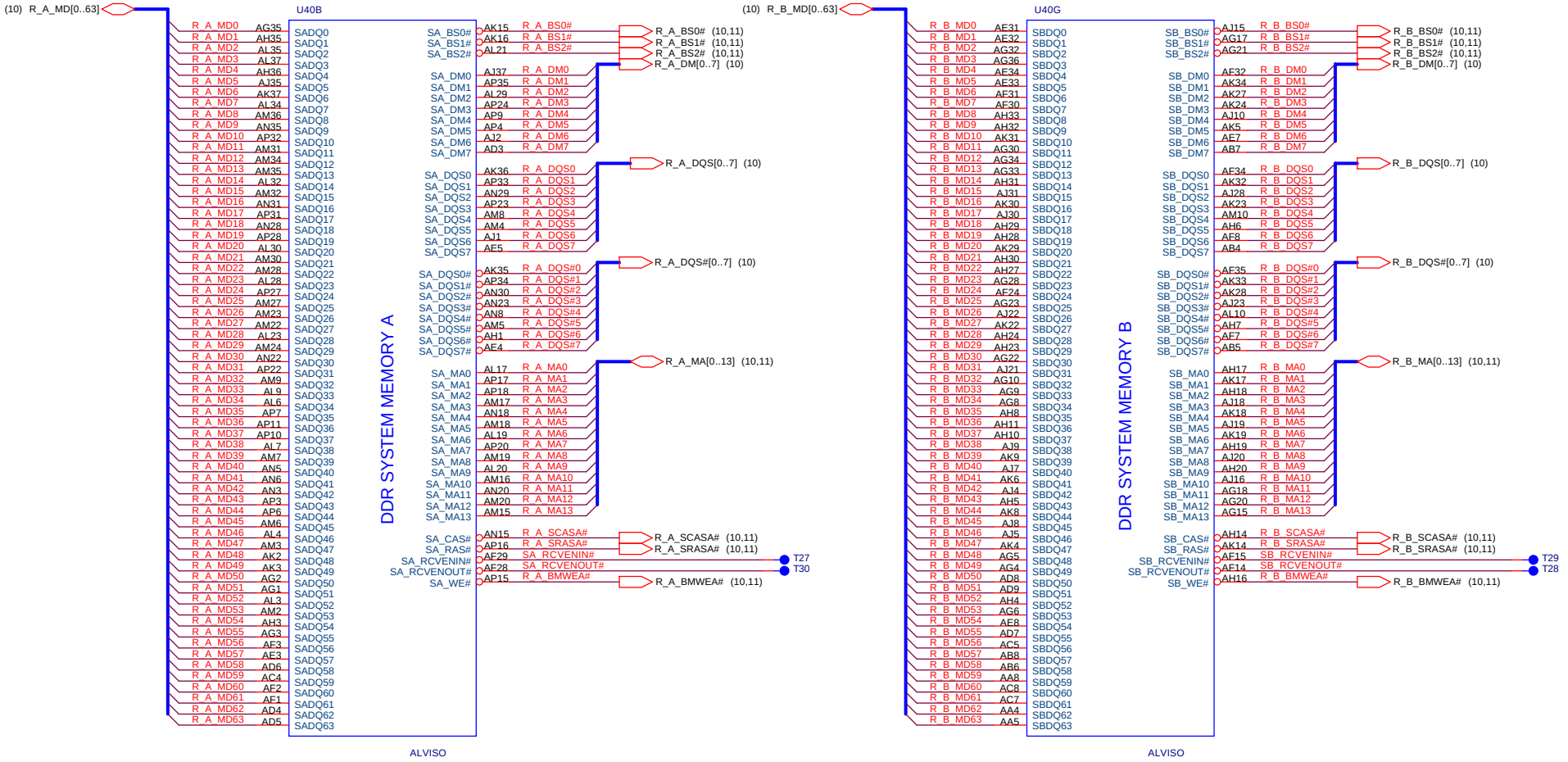
Route as short as possible.

It's point to point, 55ohm trace, keep as short as possible.

Place Close to MCH

PROJECT : ZF1
Quanta Computer Inc.

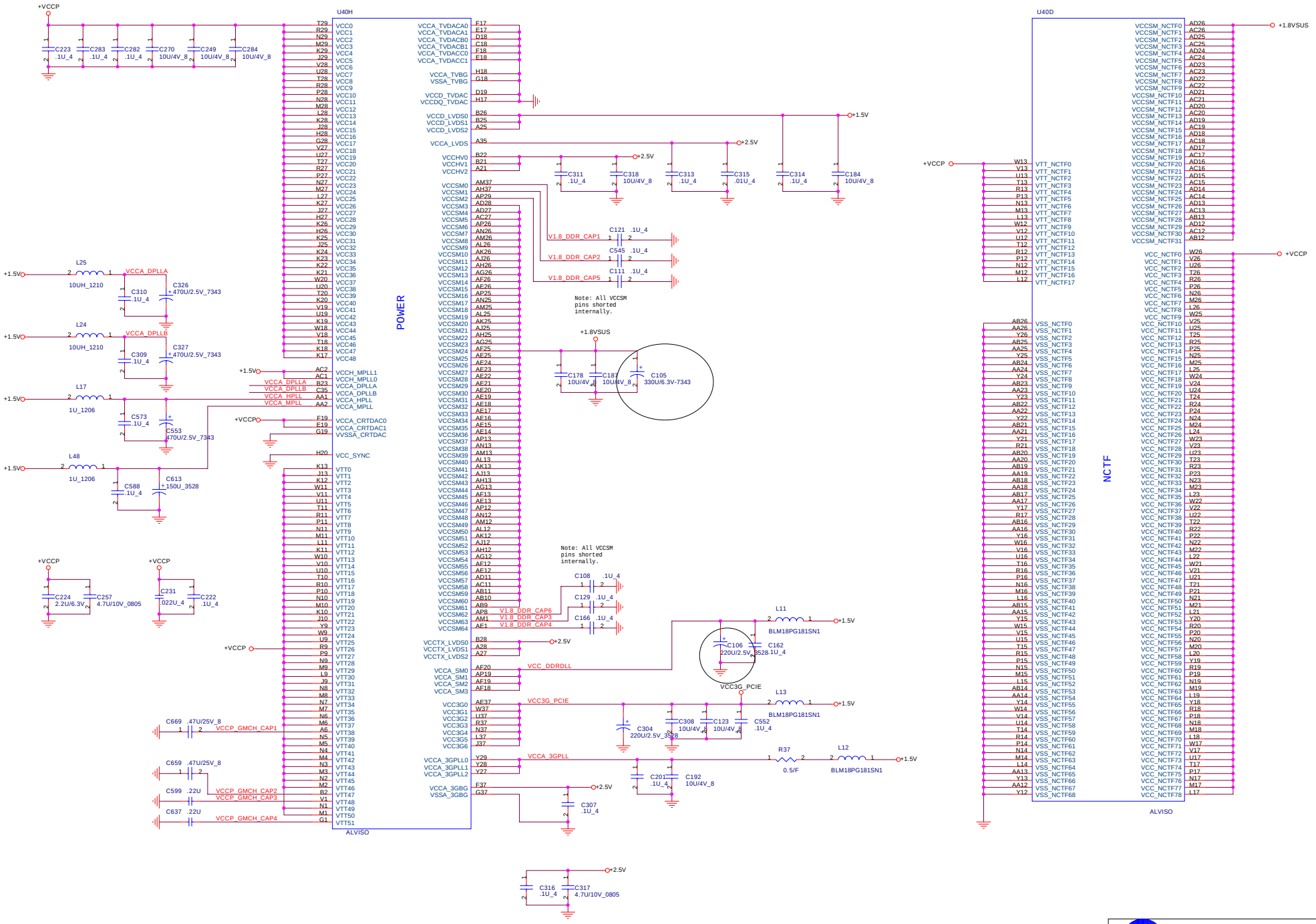
Size	Document Number	Rev
	Alviso DMI & PCIE	A1A
Date: Saturday, November 13, 2004	Sheet 7 of 43	



PROJECT : ZF1

Quanta Computer Inc.

Size	Document Number	Rev
	Alviso DDR	A1A
Date: Saturday, November 13, 2004	Sheet 8 of 43	


U40H
POWER
ALVISO
U40D
NCTF
ALVISO
+VCCP
+1.5V
+2.5V
+1.8VSUS
Note: All VCCSM pins shorted internally.
Note: All VCCSM pins shorted internally.
VCC_DDRDLL
VCC3G_PCIE
VCCA_3GPLL
V1.8_DDR_CAP1
V1.8_DDR_CAP2
V1.8_DDR_CAP5
V1.8_DDR_CAP6
V1.8_DDR_CAP3
V1.8_DDR_CAP4
VCCP_GMCH_CAP1
VCCP_GMCH_CAP2
VCCP_GMCH_CAP3
VCCP_GMCH_CAP4
VCCA_DPLLA
VCCA_DPLLB
VCCA_HPLL
VCCA_MPLL
L25
L24
L17
L48
L11
L13
L12
R37
10UH_1210
1U_1206
BLM18PG181SN1
0.5/F
PROJECT : ZF1
Quanta Computer Inc.
Document Number
Alviso Power
Rev
A1A
Date: Saturday, November 13, 2004
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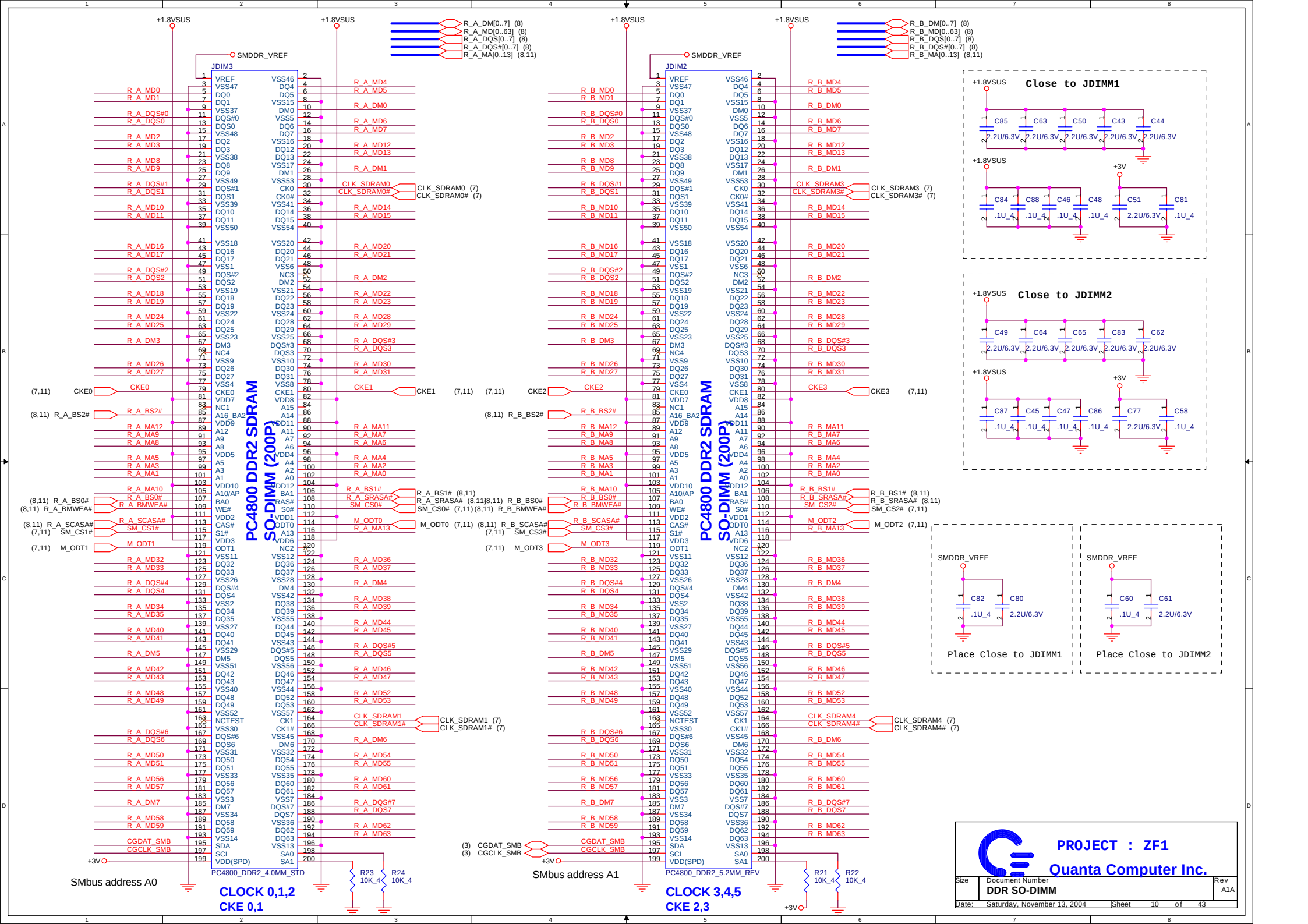
JDIM3
JDIM2
PC4800 DDR2 SDRAM SO-DIMM (200P)
PC4800_DDR2_4.0MM_STD
PC4800_DDR2_5.2MM_REV
SMDDR_VREF
+1.8VSUS
+3V
R_A_DM[0..7] (8)
R_A_MD[0..63] (8)
R_A_DQS[0..7] (8)
R_A_DQS#[0..7] (8)
R_A_MA[0..13] (8,11)
R_B_DM[0..7] (8)
R_B_MD[0..63] (8)
R_B_DQS[0..7] (8)
R_B_DQS#[0..7] (8)
R_B_MA[0..13] (8,11)
CLK_SDRAM0 (7)
CLK_SDRAM0# (7)
CLK_SDRAM1 (7)
CLK_SDRAM1# (7)
CLK_SDRAM3 (7)
CLK_SDRAM3# (7)
CLK_SDRAM4 (7)
CLK_SDRAM4# (7)
CKE0
CKE1
CKE2
CKE3
M_ODT0 (7,11)
M_ODT1 (7,11)
M_ODT2 (7,11)
M_ODT3 (7,11)
R_A_BS0# (8,11)
R_A_BS1# (8,11)
R_A_BS2# (8,11)
R_A_BMWEA# (8,11)
R_A_SRASA# (8,11)
R_A_SCASA# (8,11)
SM_CS0# (7,11)
SM_CS1# (7,11)
R_B_BS0# (8,11)
R_B_BS1# (8,11)
R_B_BS2# (8,11)
R_B_BMWEA# (8,11)
R_B_SRASA# (8,11)
R_B_SCASA# (8,11)
SM_CS2# (7,11)
SM_CS3# (7,11)
CGDAT_SMB (3)
CGCLK_SMB (3)
R23 10K_4
R24 10K_4
R21 10K_4
R22 10K_4
SMbus address A0
SMbus address A1
CLOCK 0,1,2
CKE 0,1
CLOCK 3,4,5
CKE 2,3
Close to JDIMM1
Close to JDIMM2
C85 C63 C50 C43 C44 2.2U/6.3V
C84 C88 C46 C48 C51 C81 .1U_4 2.2U/6.3V
C49 C64 C65 C83 C62 2.2U/6.3V
C87 C45 C47 C86 C77 C58 .1U_4 2.2U/6.3V
C82 C80 .1U_4 2.2U/6.3V
C60 C61 .1U_4 2.2U/6.3V
Place Close to JDIMM1
Place Close to JDIMM2
PROJECT : ZF1
Quanta Computer Inc.
Size
Document Number
DDR SO-DIMM
Rev
A1A
Date: Saturday, November 13, 2004
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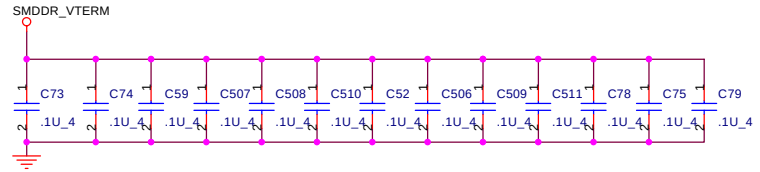
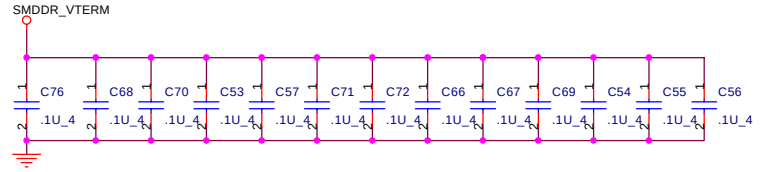


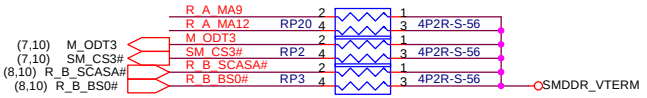
Layout note: Place one cap close to every 2 pullup resistors terminated to SMDDR_VTERM

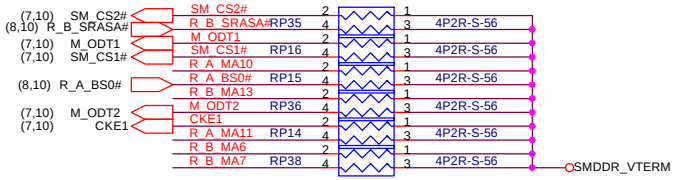


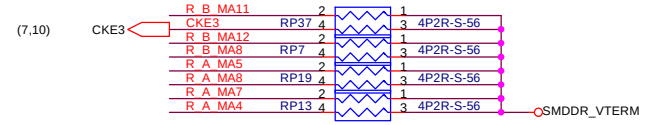
Layout note: Place one cap close to every 2 pullup resistors terminated to SMDDR_VTERM

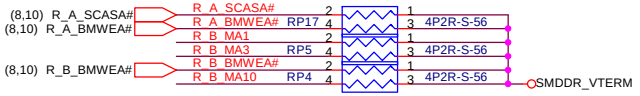
R_A_MA[0..13] (8,10)

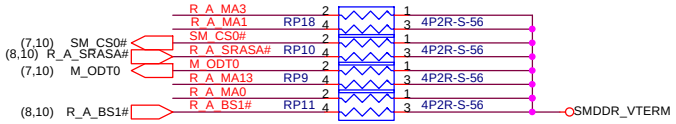
R_B_MA[0..13] (8,10)







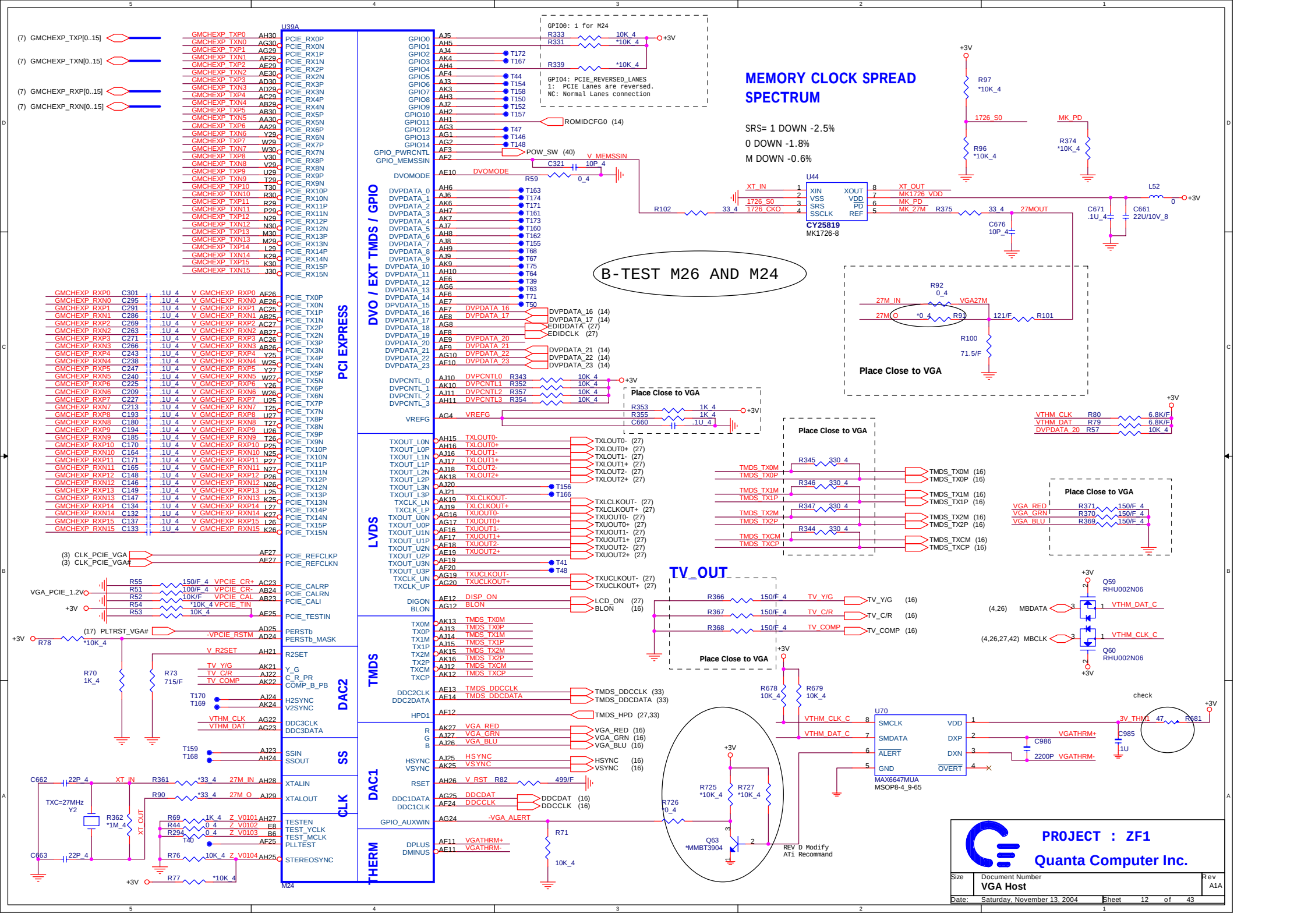


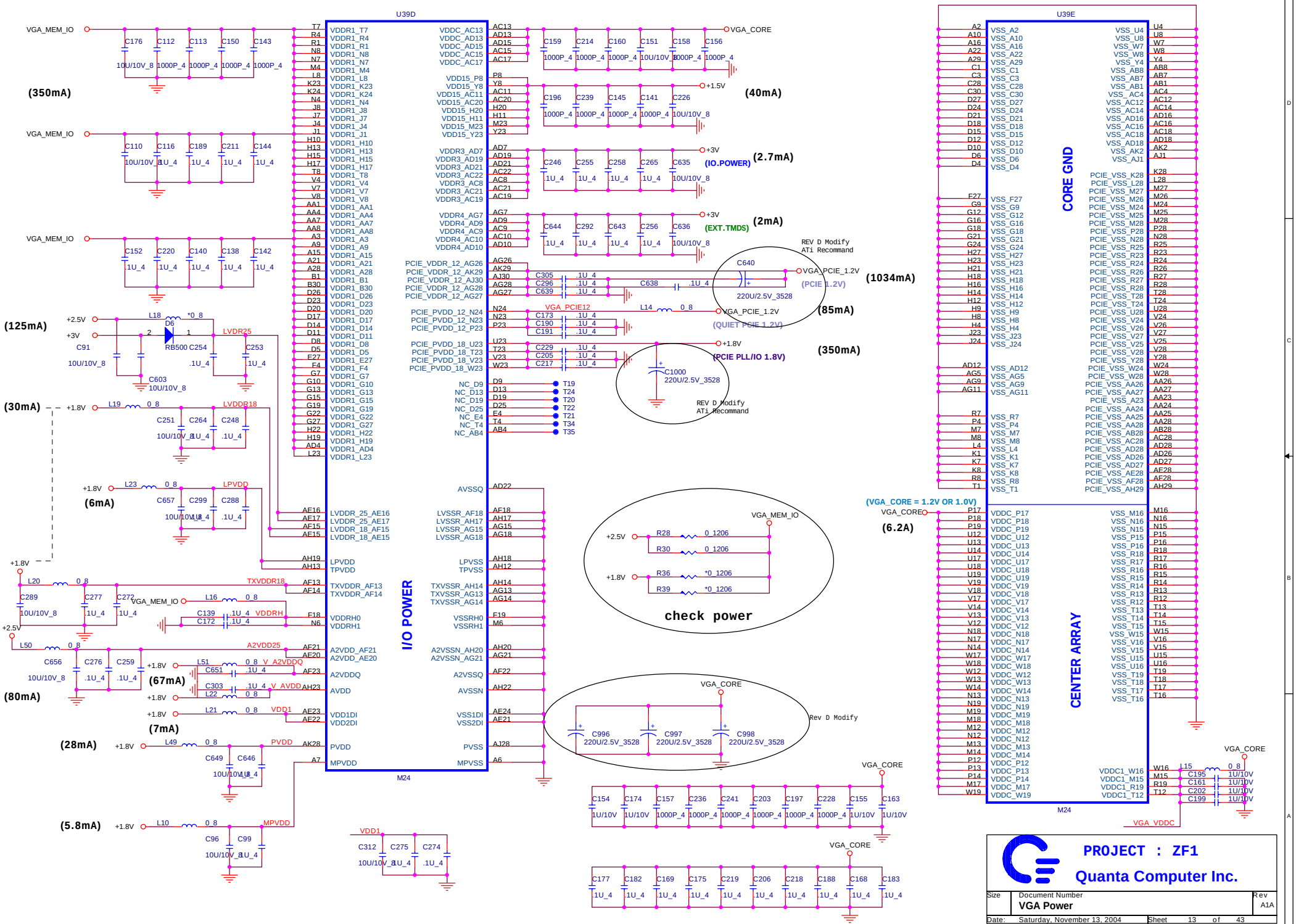


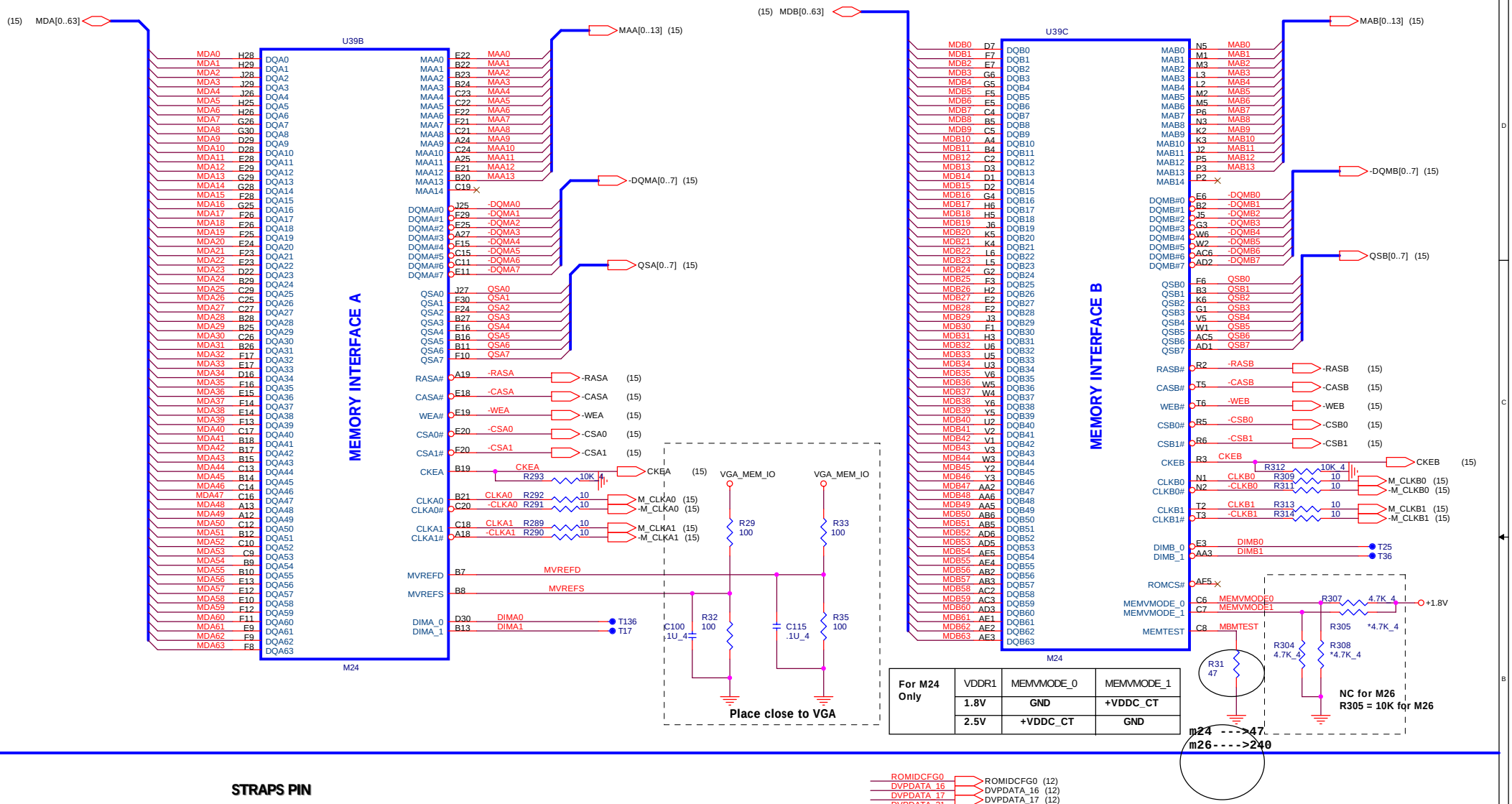
PROJECT : ZF1

Quanta Computer Inc.

Size	Document Number	Rev
	DDR Res. ARRAY	A1A
Date: Saturday, November 13, 2004	Sheet 11 of 43	


MEMORY CLOCK SPREAD SPECTRUM
SRS= 1 DOWN -2.5%
0 DOWN -1.8%
M DOWN -0.6%
B-TEST M26 AND M24
TV_OUT
PROJECT : ZF1
Quanta Computer Inc.
VGA Host
Saturday, November 13, 2004
REV D Modify
ATi Recommand
Place Close to VGA
PCI EXPRESS
DVO / EXT TMDS / GPIO
LVDS
TMDS
DAC2
SS
CLK
DAC1
THERM

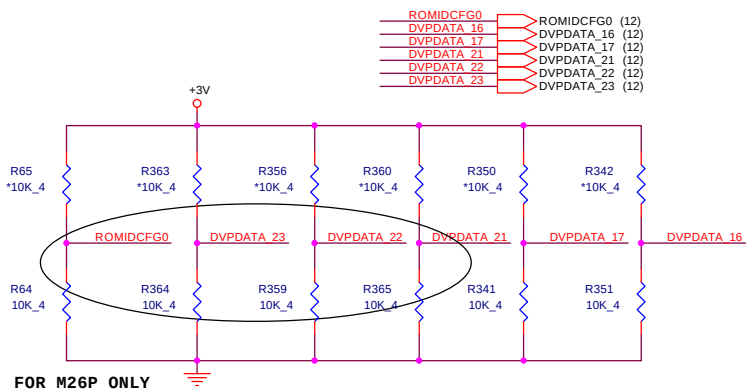

U39D
U39E
I/O POWER
CORE GND
CENTER ARRAY
M24
VGA_MEM_IO
VGA_CORE
VGA_PCIE_1.2V
(PCIE 1.2V)
(IO.POWER)
(EXT.TMDS)
(PCIE PLL/IO 1.8V)
(QUIET PCIE 1.2V)
(VGA_CORE = 1.2V OR 1.0V)
(6.2A)
(350mA)
(40mA)
(2.7mA)
(2mA)
(1034mA)
(85mA)
(350mA)
(125mA)
(30mA)
(6mA)
(67mA)
(80mA)
(7mA)
(28mA)
(5.8mA)
check power
REV D Modify
ATi Recommand
Rev D Modify
PROJECT : ZF1
Quanta Computer Inc.
VGA Power
Document Number
Rev
A1A
Size
Date: Saturday, November 13, 2004
Sheet 13 of 43



For M24 Only	VDDR1	MEMVMODE_0	MEMVMODE_1
	1.8V	GND	+VDDC_CT
	2.5V	+VDDC_CT	GND

STRAPS PIN

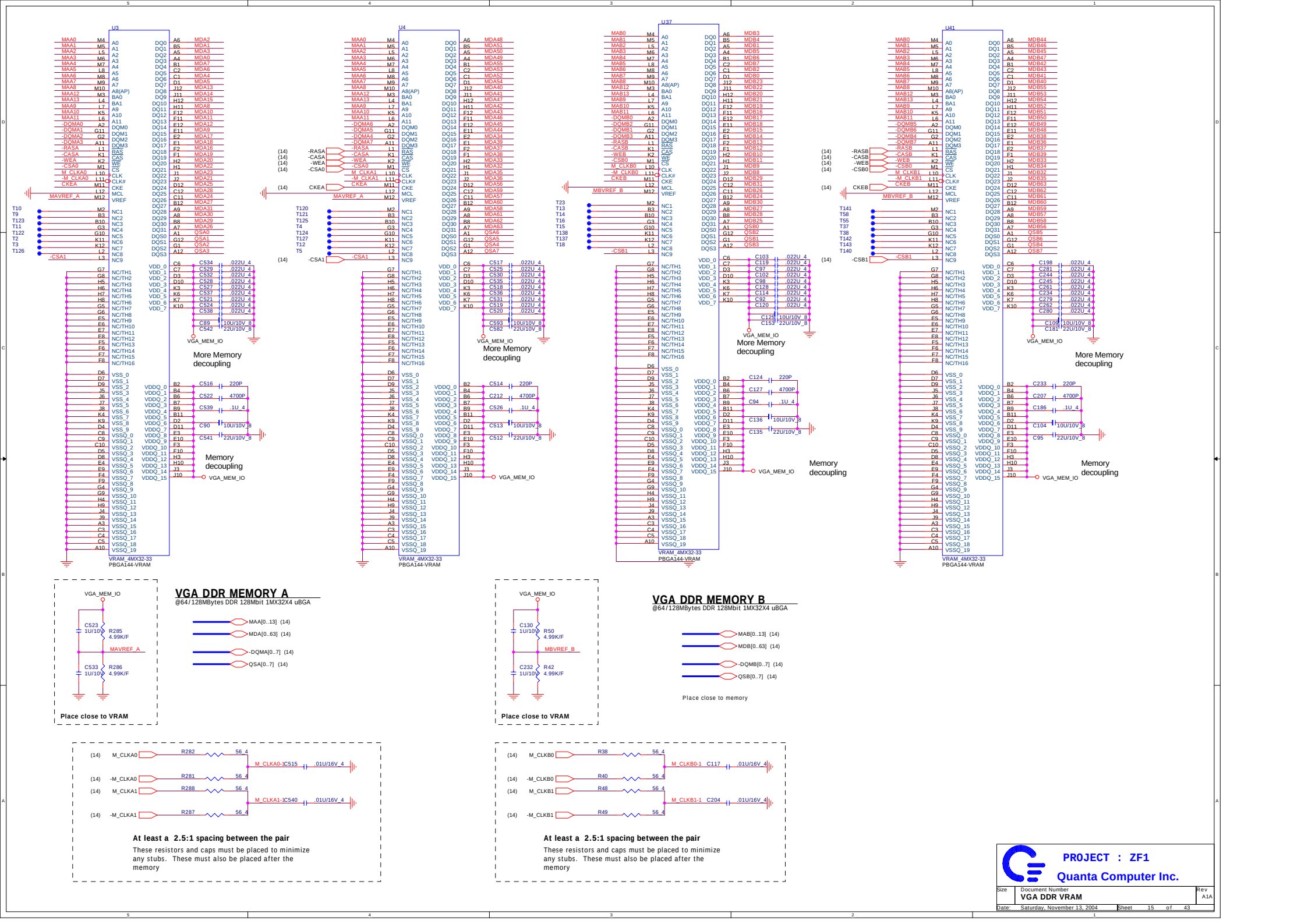
GPIO(9,13:11) INT P/D	ROMIDCFG
	0x0x: No ROM, CHG_ID=0
	0x1x: No Rom, CHG_ID=1
	1000: Parallel ROM, Chip ID'S from ROM
	1000: Parallel ROM, Chip ID'S from ROM
DVPDATA_21~23 MEM TYPE	DVPDATA_21: 0=4Mx32 1=8Mx32
	DVPDATA_22: 0=128M 1=64M
	DVPDATA_23: 0=Hynix 1=Samsung



FOR M26P ONLY
0: 128M
1: 256M

PROJECT : ZF1
Quanta Computer Inc.

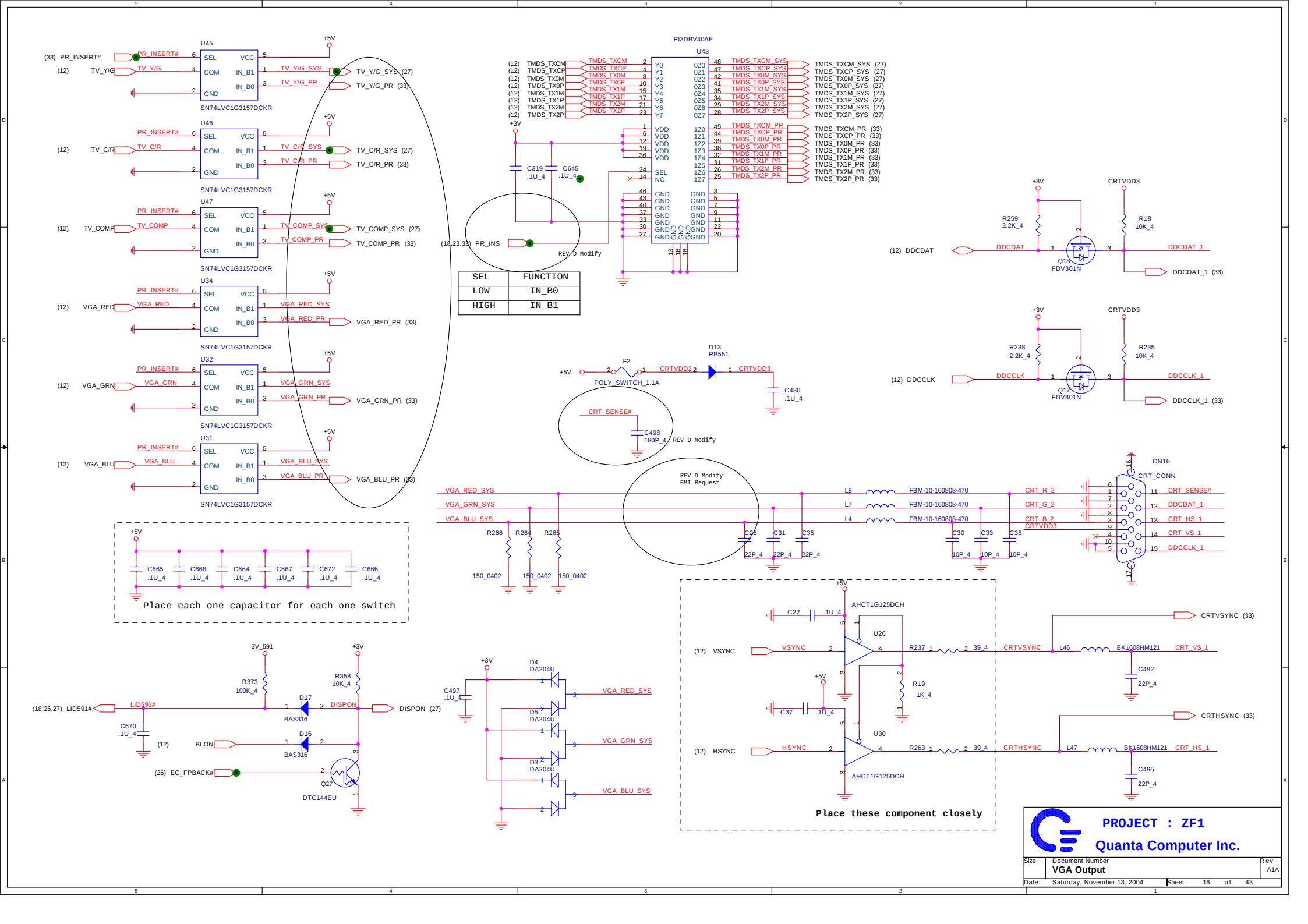
Size	Document Number	Rev
	VGA MEM & Strapping	A1A
Date: Saturday, November 13, 2004	Sheet 14 of 43	

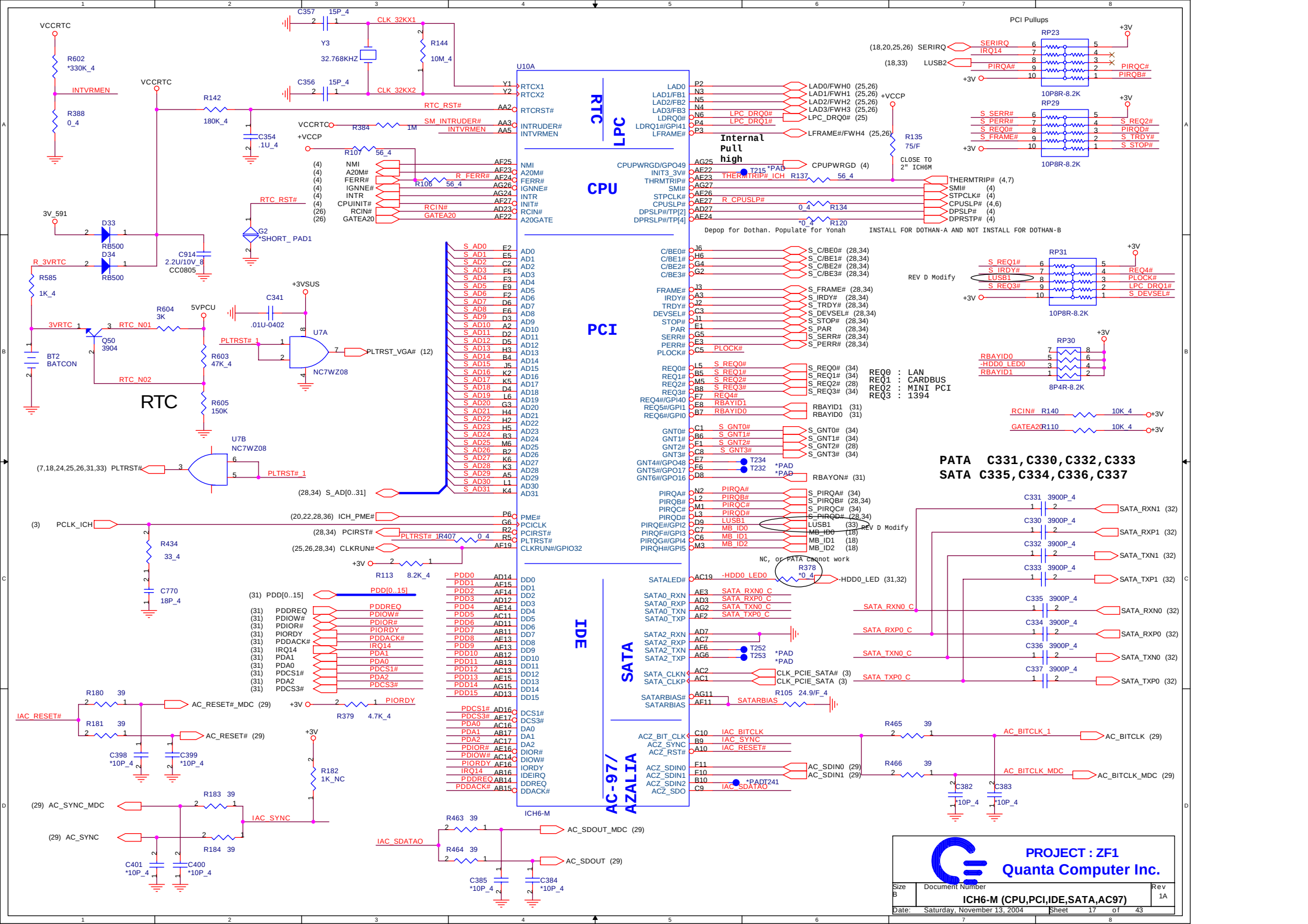


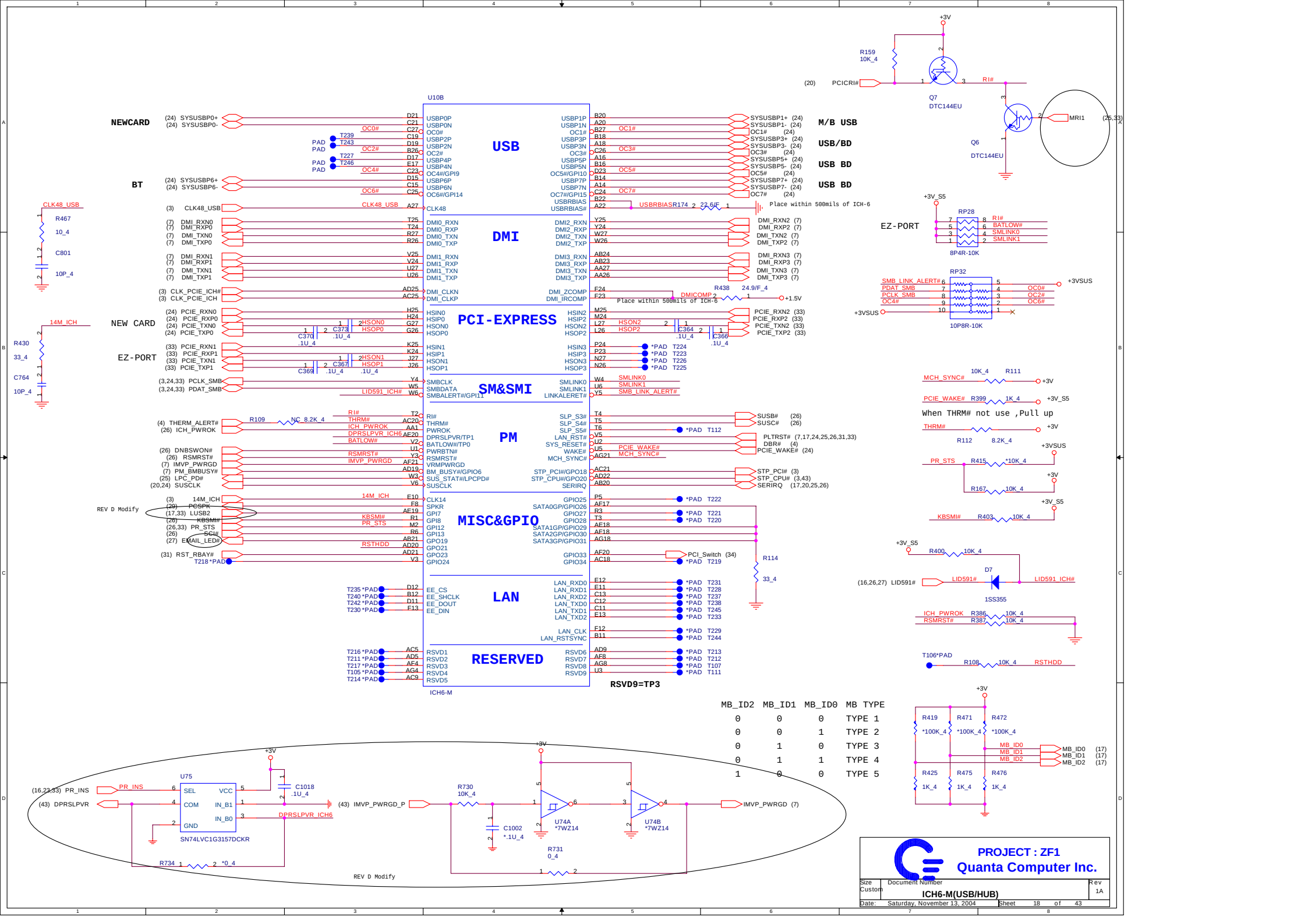
PROJECT : ZF1

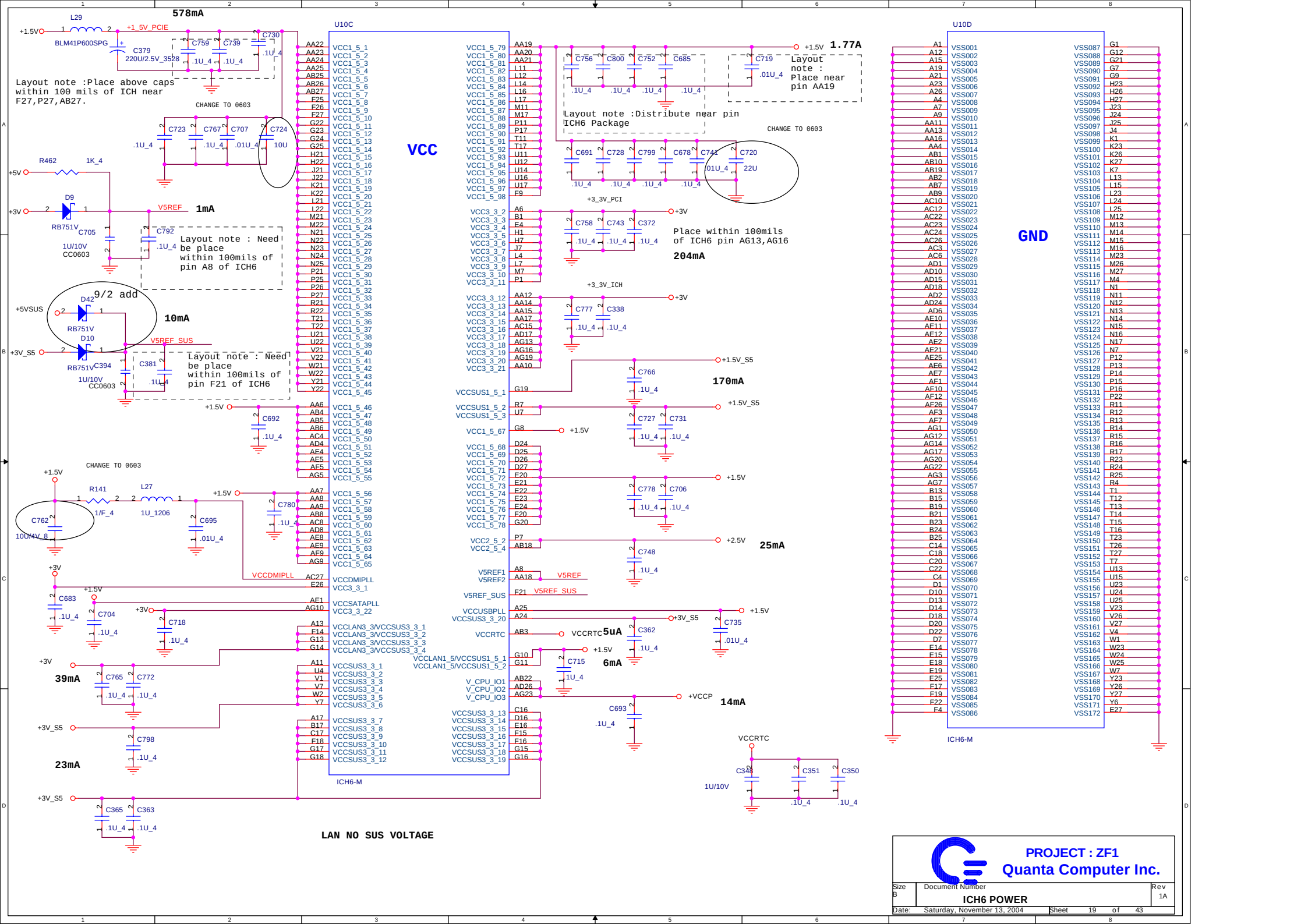
Quanta Computer Inc.

Size	Document Number	Rev
	VGA DDR VRAM	A1A
Date: Saturday, November 13, 2004	Sheet 15 of 43	


U45
SN74LVC1G3157DCKR
(33) PR_INSERT#
(12) TV_Y/G
TV_Y/G_SYS (27)
TV_Y/G_PR (33)
U46
(12) TV_C/R
TV_C/R_SYS (27)
TV_C/R_PR (33)
U47
(12) TV_COMP
TV_COMP_SYS (27)
TV_COMP_PR (33)
U34
(12) VGA_RED
VGA_RED_SYS
VGA_RED_PR (33)
U32
(12) VGA_GRN
VGA_GRN_SYS
VGA_GRN_PR (33)
U31
(12) VGA_BLU
VGA_BLU_SYS
VGA_BLU_PR (33)
+5V
SEL VCC COM IN_B1 IN_B0 GND
Place each one capacitor for each one switch
C665 .1U_4
C668 .1U_4
C664 .1U_4
C667 .1U_4
C672 .1U_4
C666 .1U_4
PI3DBV40AE
U43
(12) TMDS_TXCM
(12) TMDS_TXCP
(12) TMDS_TX0M
(12) TMDS_TX0P
(12) TMDS_TX1M
(12) TMDS_TX1P
(12) TMDS_TX2M
(12) TMDS_TX2P
TMDS_TXCM_SYS (27)
TMDS_TXCP_SYS (27)
TMDS_TX0M_SYS (27)
TMDS_TX0P_SYS (27)
TMDS_TX1M_SYS (27)
TMDS_TX1P_SYS (27)
TMDS_TX2M_SYS (27)
TMDS_TX2P_SYS (27)
TMDS_TXCM_PR (33)
TMDS_TXCP_PR (33)
TMDS_TX0M_PR (33)
TMDS_TX0P_PR (33)
TMDS_TX1M_PR (33)
TMDS_TX1P_PR (33)
TMDS_TX2M_PR (33)
TMDS_TX2P_PR (33)
+3V
C319 .1U_4
C645 .1U_4
(18,23,33) PR_INS
REV D Modify
SEL FUNCTION
LOW IN_B0
HIGH IN_B1
+3V
CRTVDD3
R259 2.2K_4
R18 10K_4
(12) DDCDAT
DDCDAT
DDCDAT_1
DDCDAT_1 (33)
Q18 FDV301N
R238 2.2K_4
R235 10K_4
(12) DDCCLK
DDCCLK
DDCCLK_1
DDCCLK_1 (33)
Q17 FDV301N
D13 RB551
F2 POLY_SWITCH_1.1A
C480 .1U_4
CRT_SENSE#
C498 180P_4
REV D Modify
REV D Modify
EMI Request
VGA_RED_SYS
VGA_GRN_SYS
VGA_BLU_SYS
R266 150_0402
R264 150_0402
R265 150_0402
L8 FBM-10-160808-470
L7 FBM-10-160808-470
L4 FBM-10-160808-470
CRT_R_2
CRT_G_2
CRT_B_2
C25 22P_4
C31 22P_4
C35 22P_4
C30 10P_4
C33 10P_4
C38 10P_4
CN16
CRT_CONN
CRT_SENSE#
DDCDAT_1
CRT_HS_1
CRT_VS_1
DDCCLK_1
3V_591
R373 100K_4
R358 10K_4
(18,26,27) LID591#
LID591#
D17 BAS316
DISPON
DISPON (27)
C670 .1U_4
(12) BLON
D16 BAS316
(26) EC_FPBACK#
Q27 DTC144EU
C497 .1U_4
D4 DA204U
D5 DA204U
D3 DA204U
VGA_RED_SYS
VGA_GRN_SYS
VGA_BLU_SYS
AHCT1G125DCH
U26
U30
C22 .1U_4
C37 .1U_4
(12) VSYNC
(12) HSYNC
VSYNC
HSYNC
R237 39_4
R263 39_4
R19 1K_4
CRTVSYNC
CRTHSYNC
L46 BK1608HM121
L47 BK1608HM121
CRT_VS_1
CRT_HS_1
C492 22P_4
C495 22P_4
CRTVSYNC (33)
CRTHSYNC (33)
Place these component closely
PROJECT : ZF1
Quanta Computer Inc.
Size
Document Number
VGA Output
Rev
A1A
Date: Saturday, November 13, 2004
Sheet 16 of 43


U10A
RTC
LPC
CPU
PCI
IDE
SATA
AC-97/ AZALIA
ICH6-M
RTC
Internal Pull high
PCI Pullups
PATA C331,C330,C332,C333
SATA C335,C334,C336,C337
REQ0 : LAN
REQ1 : CARDBUS
REQ2 : MINI PCI
REQ3 : 1394
Depop for Dothan. Populate for Yonah
INSTALL FOR DOTHAN-A AND NOT INSTALL FOR DOTHAN-B
REV D Modify
NC, or PATA cannot work
PROJECT : ZF1
Quanta Computer Inc.
ICH6-M (CPU,PCI,IDE,SATA,AC97)
Saturday, November 13, 2004
Sheet 17 of 43


U10B
USB
DMI
PCI-EXPRESS
SM&SMI
PM
MISC&GPIO
LAN
RESERVED
ICH6-M
NEWCARD
BT
NEW CARD
EZ-PORT
M/B USB
USB/BD
USB BD
USB BD
EZ-PORT
When THRM# not use ,Pull up
REV D Modify
REV D Modify
RSVD9=TP3
MB_ID2 MB_ID1 MB_ID0 MB TYPE
0 0 0 TYPE 1
0 0 1 TYPE 2
0 1 0 TYPE 3
0 1 1 TYPE 4
1 0 0 TYPE 5
SN74LVC1G3157DCKR
1SS355
8P4R-10K
10P8R-10K
PROJECT : ZF1
Quanta Computer Inc.
ICH6-M(USB/HUB)
Size Custom
Document Number
Rev 1A
Date: Saturday, November 13, 2004
Sheet 18 of 43


578mA
L29
+1.5V
BLM41P600SPG
+1_5V_PCIE
C379
220U/2.5V_3528
C759
C739
C730
.1U_4
Layout note :Place above caps within 100 mils of ICH near F27,P27,AB27.
CHANGE TO 0603
C723
C767
C707
C724
10U
R462
1K_4
+5V
D9
+3V
V5REF
1mA
RB751V
C705
1U/10V
CC0603
C792
Layout note : Need be place within 100mils of pin A8 of ICH6
9/2 add
D42
+5VSUS
10mA
RB751V
D10
+3V_S5
V5REF_SUS
RB751V
C394
C381
1U/10V
CC0603
Layout note : Need be place within 100mils of pin F21 of ICH6
+1.5V
C692
CHANGE TO 0603
R141
L27
1/F_4
1U_1206
C762
10U/4V_8
C695
.01U_4
C780
VCCDMIPLL
+3V
C683
C704
C718
39mA
C765
C772
+3V_S5
C798
23mA
C365
C363
LAN NO SUS VOLTAGE
U10C
VCC
ICH6-M
VCC1_5_1
VCC1_5_2
VCC1_5_3
VCC1_5_4
VCC1_5_5
VCC1_5_6
VCC1_5_7
VCC1_5_8
VCC1_5_9
VCC1_5_10
VCC1_5_11
VCC1_5_12
VCC1_5_13
VCC1_5_14
VCC1_5_15
VCC1_5_16
VCC1_5_17
VCC1_5_18
VCC1_5_19
VCC1_5_20
VCC1_5_21
VCC1_5_22
VCC1_5_23
VCC1_5_24
VCC1_5_25
VCC1_5_26
VCC1_5_27
VCC1_5_28
VCC1_5_29
VCC1_5_30
VCC1_5_31
VCC1_5_32
VCC1_5_33
VCC1_5_34
VCC1_5_35
VCC1_5_36
VCC1_5_37
VCC1_5_38
VCC1_5_39
VCC1_5_40
VCC1_5_41
VCC1_5_42
VCC1_5_43
VCC1_5_44
VCC1_5_45
VCC1_5_46
VCC1_5_47
VCC1_5_48
VCC1_5_49
VCC1_5_50
VCC1_5_51
VCC1_5_52
VCC1_5_53
VCC1_5_54
VCC1_5_55
VCC1_5_56
VCC1_5_57
VCC1_5_58
VCC1_5_59
VCC1_5_60
VCC1_5_61
VCC1_5_62
VCC1_5_63
VCC1_5_64
VCC1_5_65
VCCDMIPLL
VCC3_3_1
VCCSATAPLL
VCC3_3_22
VCCLAN3_3/VCCSUS3_3_1
VCCLAN3_3/VCCSUS3_3_2
VCCLAN3_3/VCCSUS3_3_3
VCCLAN3_3/VCCSUS3_3_4
VCCSUS3_3_1
VCCSUS3_3_2
VCCSUS3_3_3
VCCSUS3_3_4
VCCSUS3_3_5
VCCSUS3_3_6
VCCSUS3_3_7
VCCSUS3_3_8
VCCSUS3_3_9
VCCSUS3_3_10
VCCSUS3_3_11
VCCSUS3_3_12
VCC1_5_79
VCC1_5_80
VCC1_5_81
VCC1_5_82
VCC1_5_83
VCC1_5_84
VCC1_5_85
VCC1_5_86
VCC1_5_87
VCC1_5_88
VCC1_5_89
VCC1_5_90
VCC1_5_91
VCC1_5_92
VCC1_5_93
VCC1_5_94
VCC1_5_95
VCC1_5_96
VCC1_5_97
VCC1_5_98
VCC3_3_2
VCC3_3_3
VCC3_3_4
VCC3_3_5
VCC3_3_6
VCC3_3_7
VCC3_3_8
VCC3_3_9
VCC3_3_10
VCC3_3_11
VCC3_3_12
VCC3_3_13
VCC3_3_14
VCC3_3_15
VCC3_3_16
VCC3_3_17
VCC3_3_18
VCC3_3_19
VCC3_3_20
VCC3_3_21
VCCSUS1_5_1
VCCSUS1_5_2
VCCSUS1_5_3
VCC1_5_67
VCC1_5_68
VCC1_5_69
VCC1_5_70
VCC1_5_71
VCC1_5_72
VCC1_5_73
VCC1_5_74
VCC1_5_75
VCC1_5_76
VCC1_5_77
VCC1_5_78
VCC2_5_2
VCC2_5_4
V5REF1
V5REF2
V5REF_SUS
VCCUSBPLL
VCCSUS3_3_20
VCCRTC
VCCLAN1_5/VCCSUS1_5_1
VCCLAN1_5/VCCSUS1_5_2
V_CPU_IO1
V_CPU_IO2
V_CPU_IO3
VCCSUS3_3_13
VCCSUS3_3_14
VCCSUS3_3_15
VCCSUS3_3_16
VCCSUS3_3_17
VCCSUS3_3_18
VCCSUS3_3_19
1.77A
C756
C800
C752
C685
C719
.01U_4
Layout note : Place near pin AA19
Layout note :Distribute near pin ICH6 Package
CHANGE TO 0603
C691
C728
C799
C678
C741
C720
01U_4
22U
+3_3V_PCI
C758
C743
C372
Place within 100mils of ICH6 pin AG13,AG16
204mA
+3_3V_ICH
C777
C338
170mA
C766
C727
C731
C778
C706
25mA
C748
V5REF_SUS
5uA
C362
C735
6mA
C715
14mA
C693
VCCRTC
C348
C351
C350
1U/10V
U10D
GND
ICH6-M
PROJECT : ZF1
Quanta Computer Inc.
Size
B
Document Number
ICH6 POWER
Rev
1A
Date:
Saturday, November 13, 2004
Sheet
19
of
43

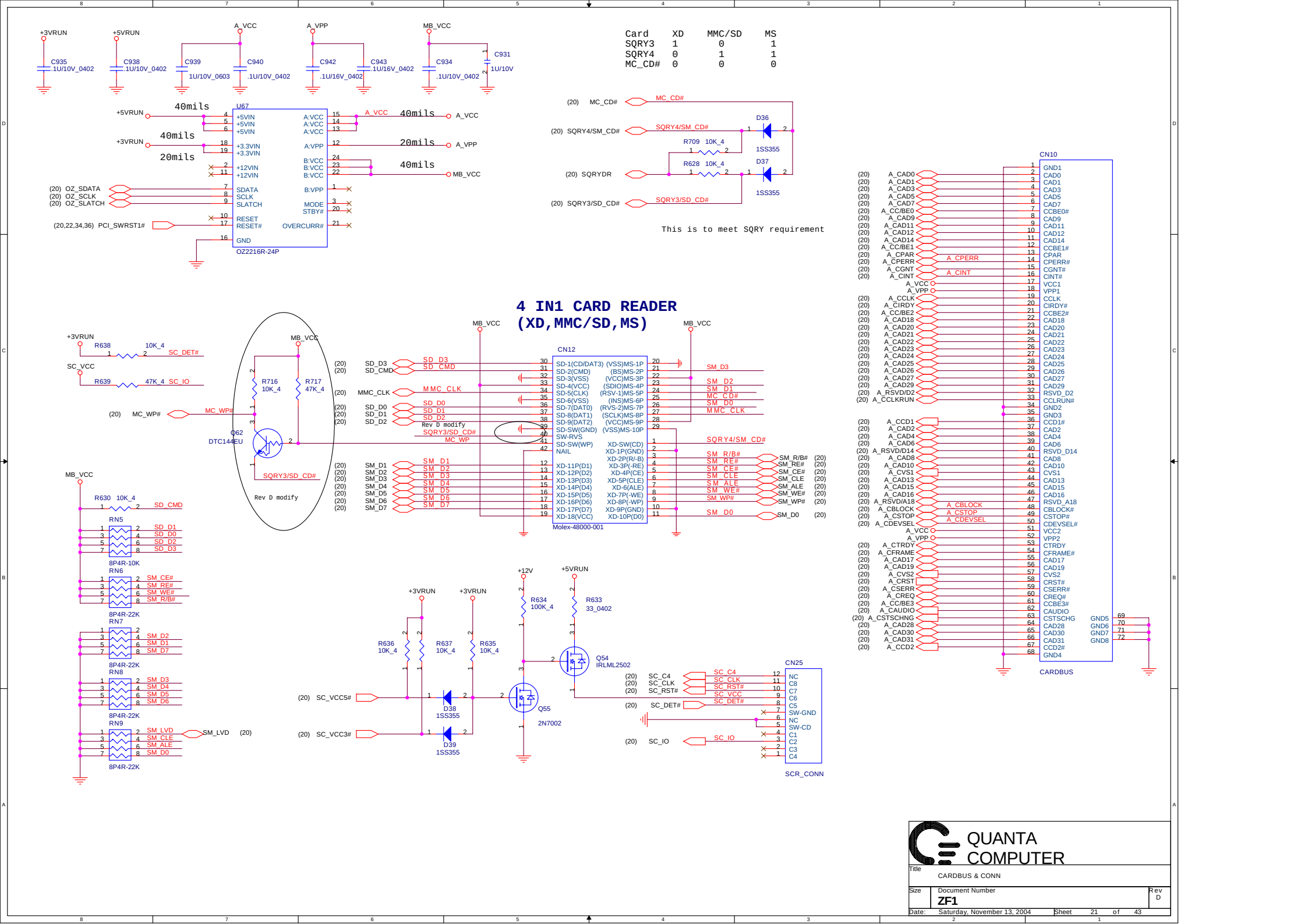
O_2 MICRO CORP.
CARDBUS CONTROLLER
OZ711M3 (224CSP)

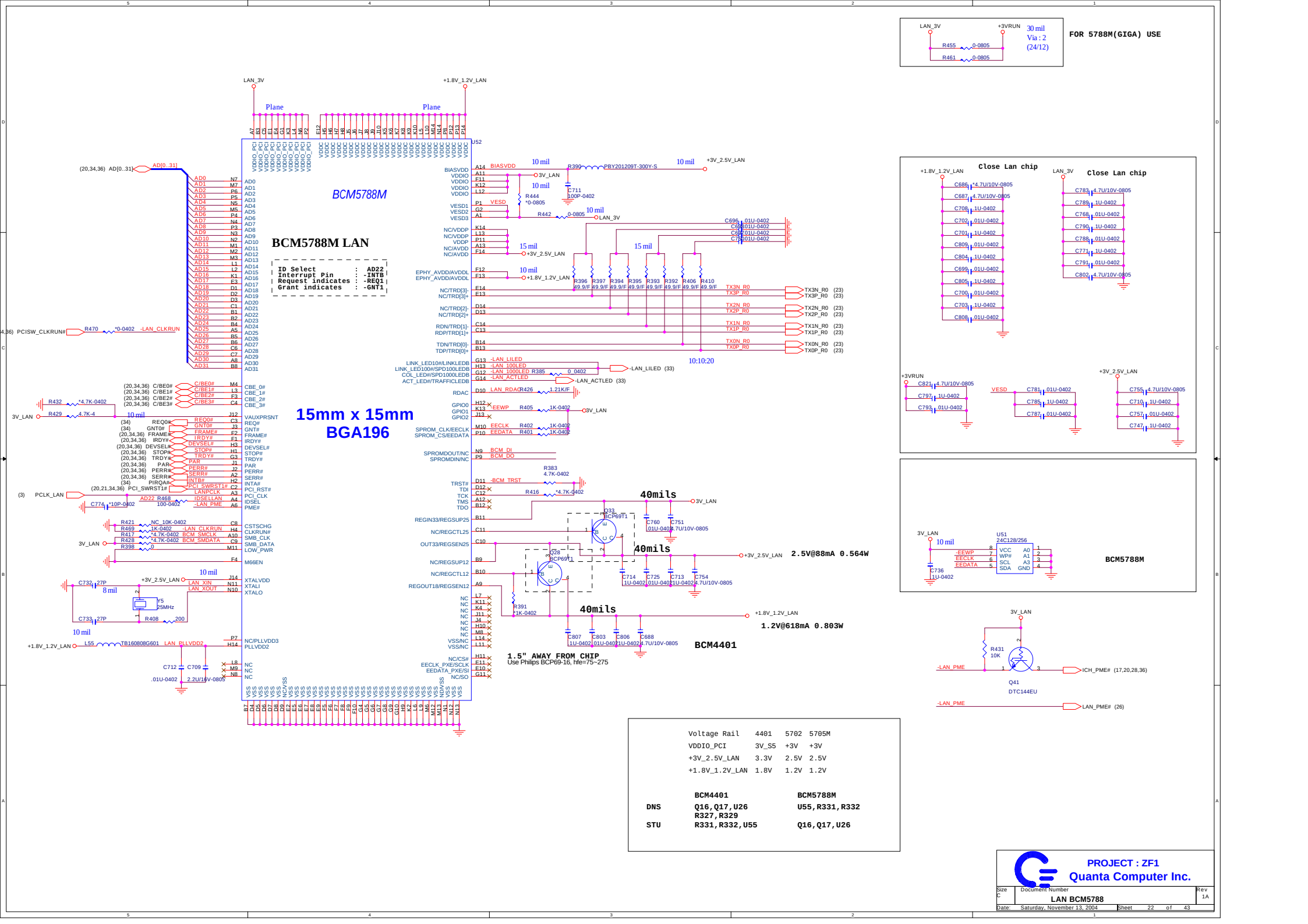
STRAP FOR SERIAL POWER SW

This is to meet SQRY requirement

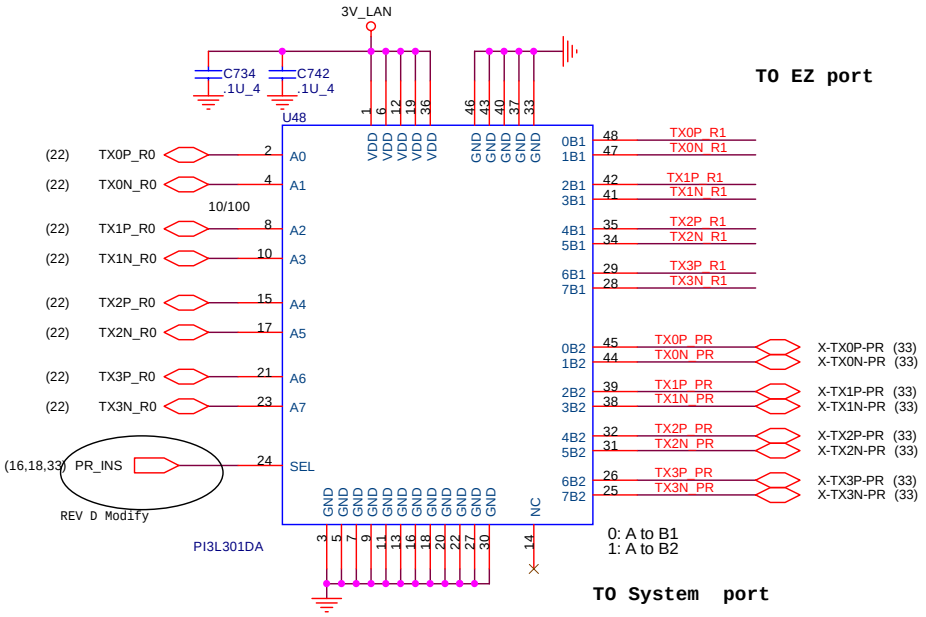
U66
OZ711M3CSP

PROJECT : ZF1		
Quanta Computer Inc.		
Size	Document Number: OZ711M3	Rev: A1A
Date: Saturday, November 13, 2004	Sheet 20 of 43	


4 IN1 CARD READER
(XD,MMC/SD,MS)
Card XD MMC/SD MS
SQRY3 1 0 1
SQRY4 0 1 1
MC_CD# 0 0 0
This is to meet SQRY requirement
U67
OZ2216R-24P
CN10
CARDBUS
CN12
Molex-48000-001
CN25
SCR_CONN
Q62
DTC144EU
Q54
IRLML2502
Q55
2N7002
D36
D37
D38
D39
1SS355
Rev D modify
QUANTA COMPUTER
Title
CARDBUS & CONN
Size
Document Number
ZF1
Rev
D
Date: Saturday, November 13, 2004
Sheet 21 of 43


BCM5788M LAN
ID Select : AD22
Interrupt Pin : -INTB
Request indicates : -REQ1
Grant indicates : -GNT1
BCM5788M
15mm x 15mm
BGA196
BCM4401
1.5" AWAY FROM CHIP
Use Philips BCP69-16, hfe=75~275
2.5V@88mA 0.564W
1.2V@618mA 0.803W
FOR 5788M(GIGA) USE
Close Lan chip
Close Lan chip
BCM5788M
Voltage Rail 4401 5702 5705M
VDDIO_PCI 3V_S5 +3V +3V
+3V_2.5V_LAN 3.3V 2.5V 2.5V
+1.8V_1.2V_LAN 1.8V 1.2V 1.2V
DNS BCM4401 Q16,Q17,U26 R327,R329
STU BCM5788M U55,R331,R332
R331,R332,U55 Q16,Q17,U26
PROJECT : ZF1
Quanta Computer Inc.
LAN BCM5788
Rev 1A
Date: Saturday, November 13, 2004
Sheet 22 of 43

Lan Switch

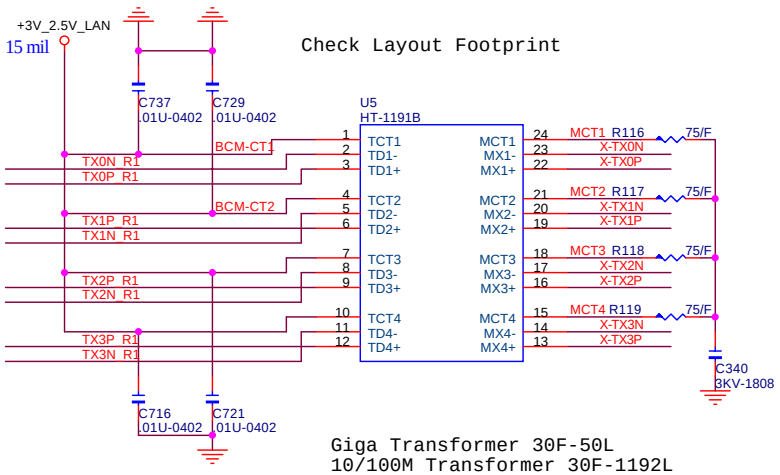


TO EZ port

TO System port

10/100/1000 M TRANSFOMER

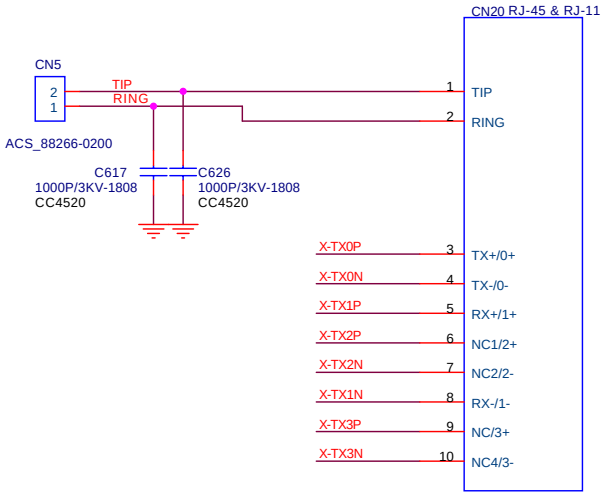
Check Layout Footprint



Giga Transformer 30F-50L
10/100M Transformer 30F-1192L

LAN and RJ11 Jack

Check Layout Footprint

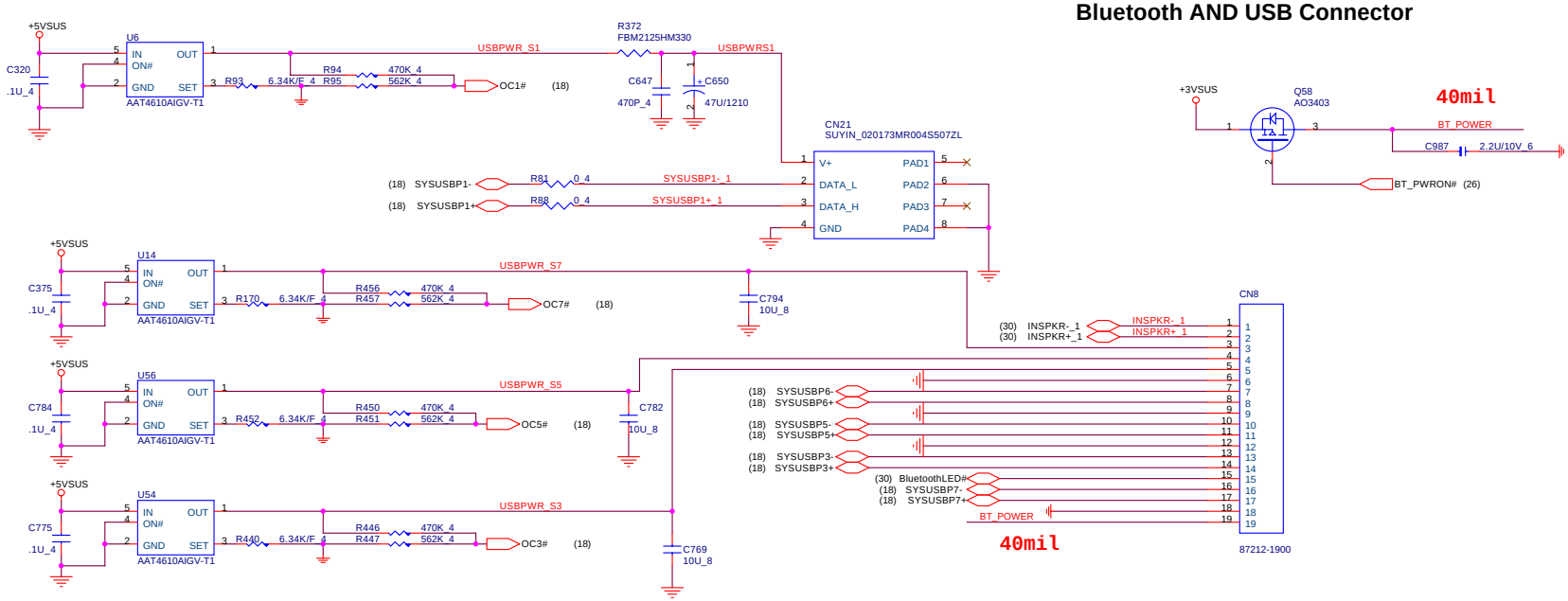


PROJECT : ZF1
Quanta Computer Inc.

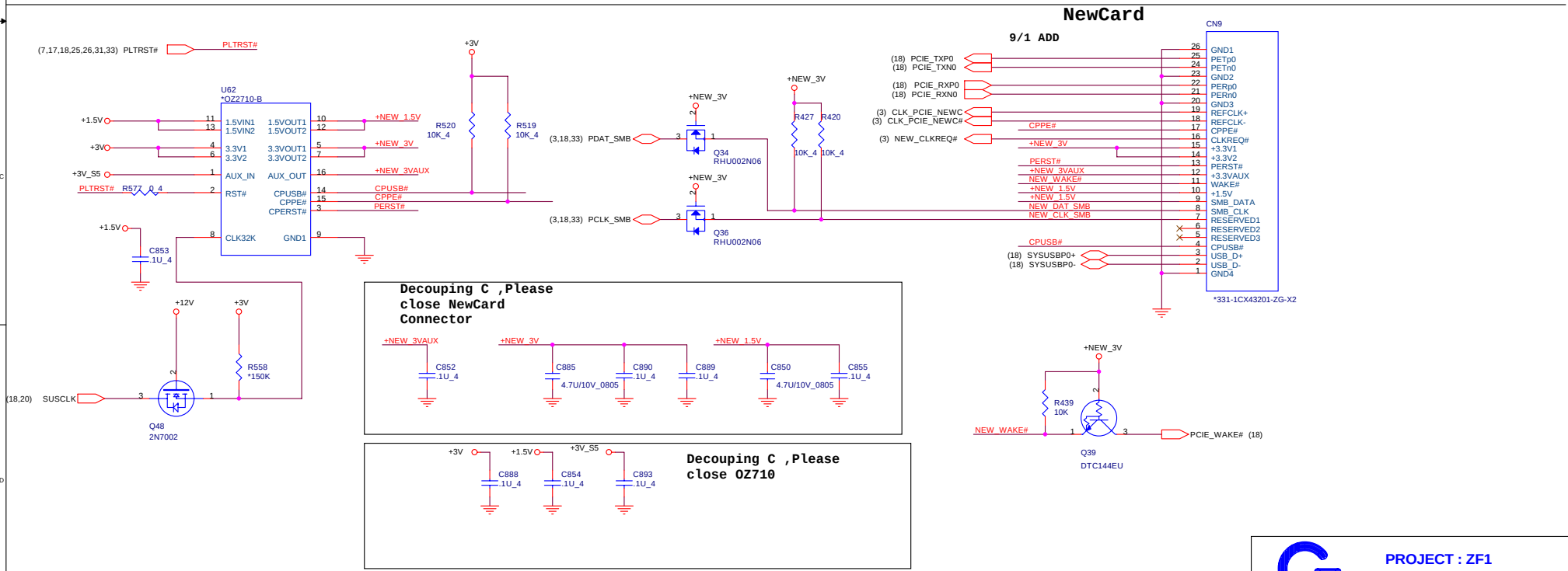
Size	Document Number	Rev
	LAN JACK	A1A
Date: Saturday, November 13, 2004	Sheet 23 of 43	

USB Connector and USB board

Bluetooth AND USB Connector



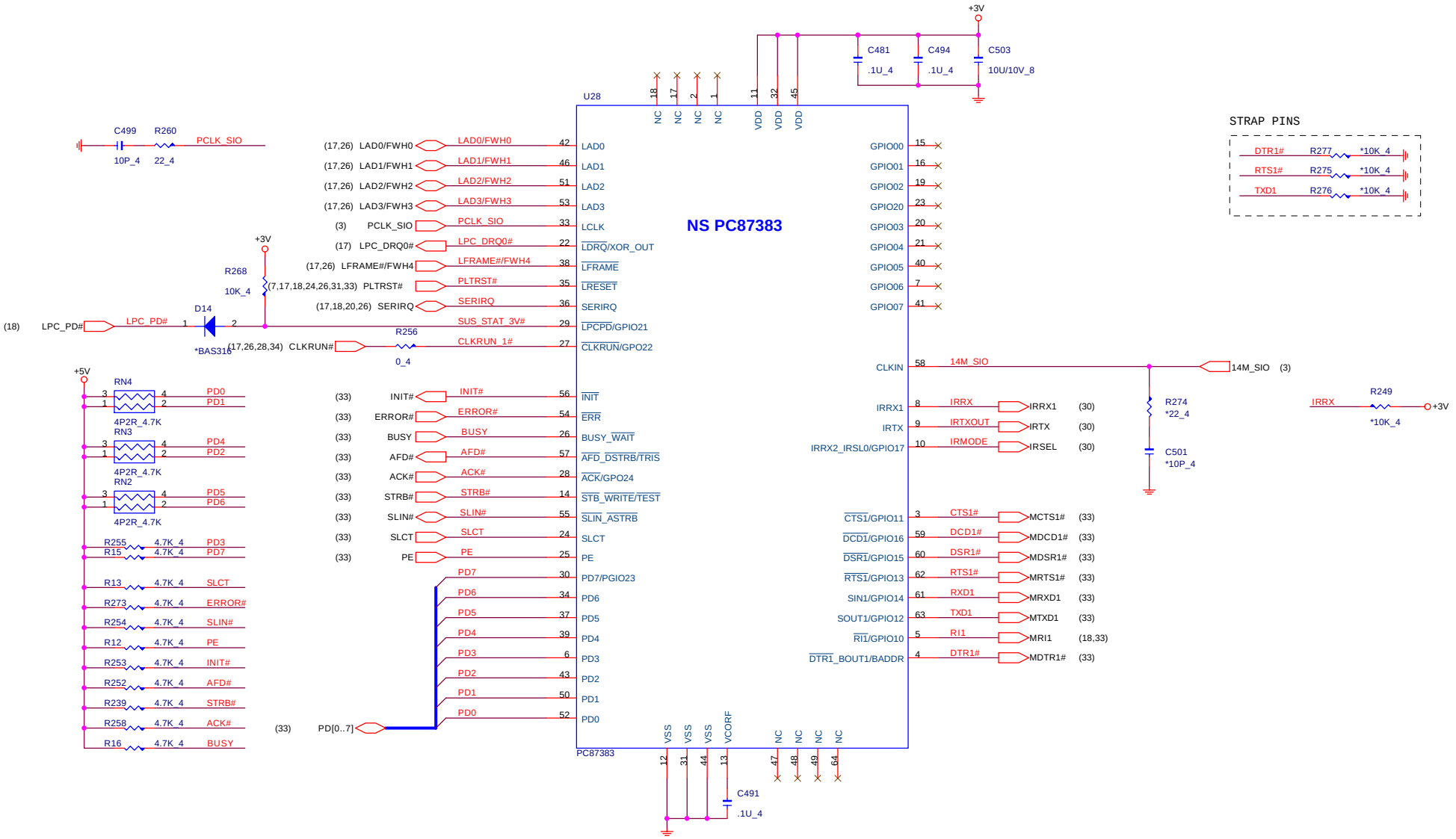
NewCard



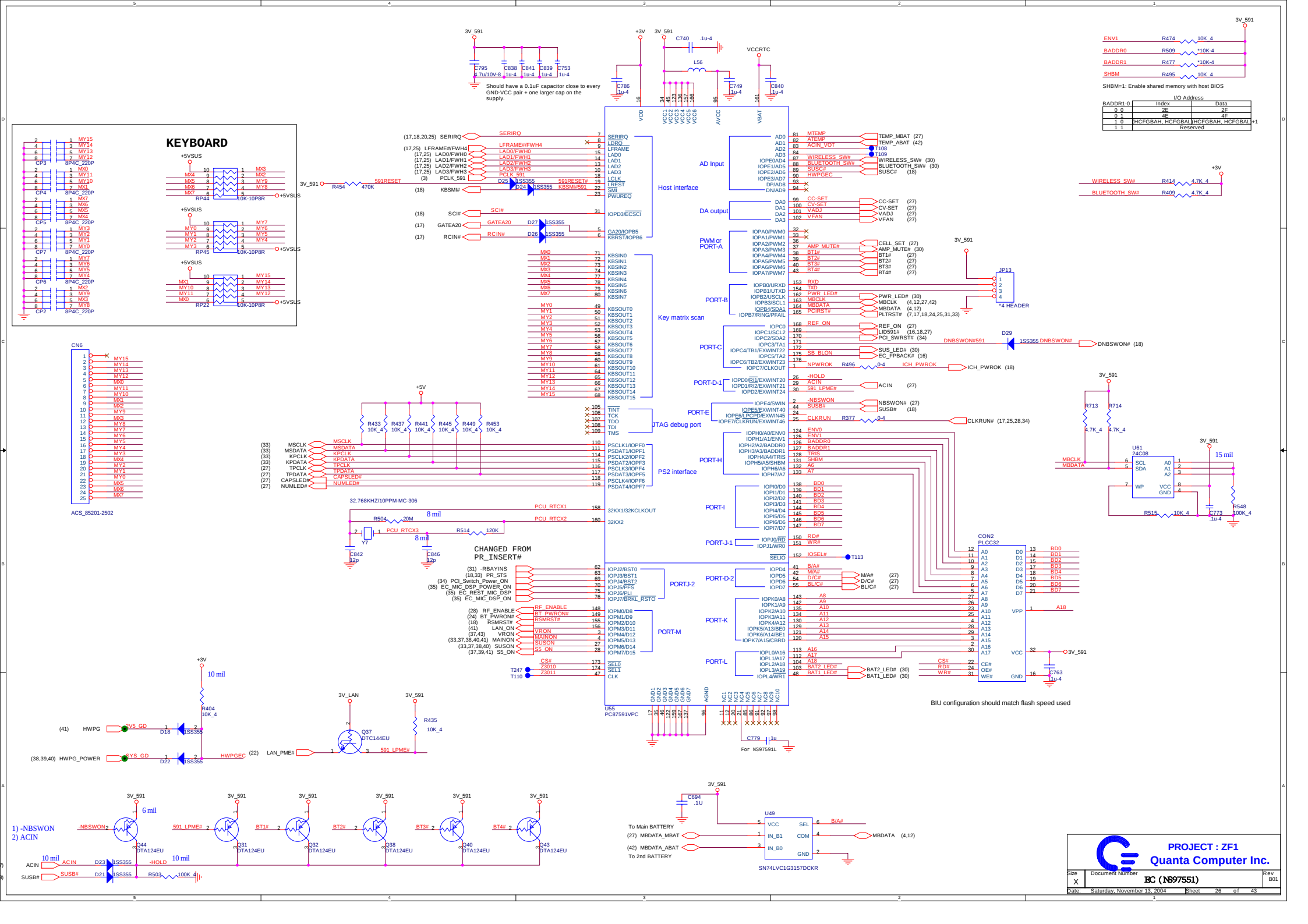
PROJECT : ZF1

Quanta Computer Inc.

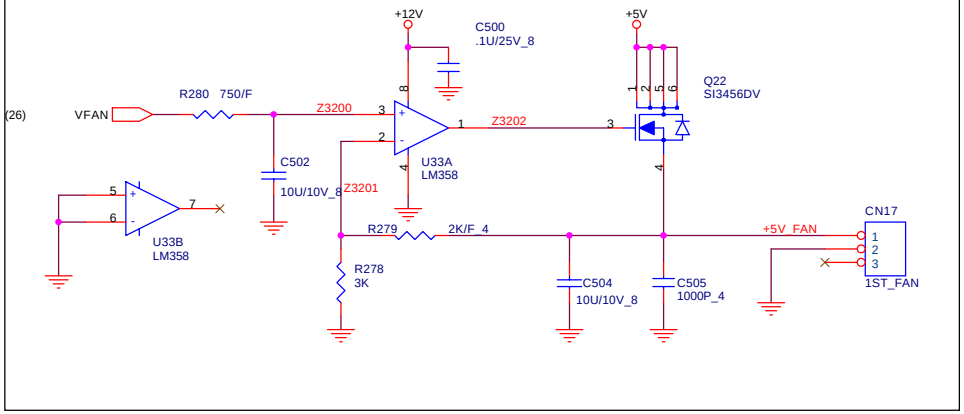
Size	Document Number	Rev
Custom	USB PORTS/NEW CARD	1A
Date: Saturday, November 13, 2004	Sheet 24 of 43	



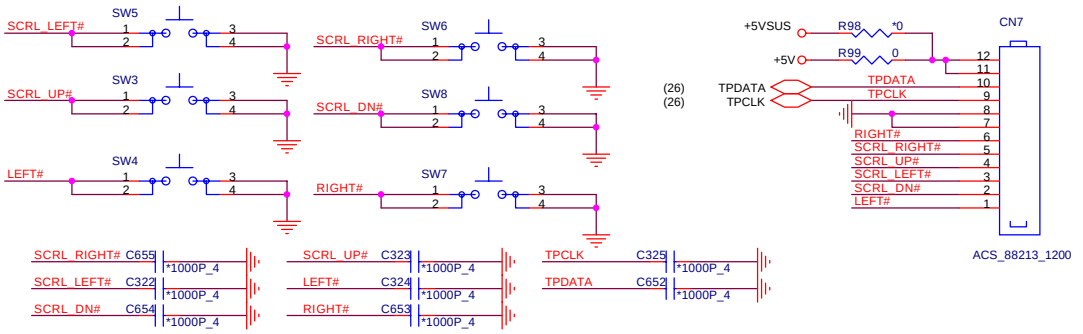
PROJECT : ZF1		
Quanta Computer Inc.		
Size A3	Document Number PC87383 SUPER I/O	Rev 1A
Date: Saturday, November 13, 2004	Sheet 25 of 43	


KEYBOARD
Should have a 0.1uF capacitor close to every GND-VCC pair + one larger cap on the supply.
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
PS2 interface
PORT-H
PORT-I
PORT-J-1
PORTJ-2
PORT-D-2
PORT-K
PORT-M
PORT-L
U55
PC87591VPC
CHANGED FROM PR_INSERT#
BIU configuration should match flash speed used
ENV1
BADDR0
BADDR1
SHBM
SHBM=1: Enable shared memory with host BIOS
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
WIRELESS_SW#
BLUETOOTH_SW#
JP13
*4 HEADER
U61
24C08
CON2
PLCC32
U49
SN74LVC1G3157DCKR
To Main BATTERY
To 2nd BATTERY
1) -NBSWON
2) ACIN
PROJECT : ZF1
Quanta Computer Inc.
EC (NS97551)
Size X
Document Number
Rev B01
Date: Saturday, November 13, 2004
Sheet 26 of 43

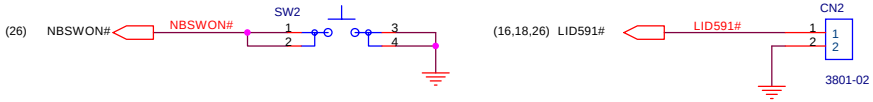
1st FAN OUT CONNECTOR



TouchPad Switch and T/P Module Connector

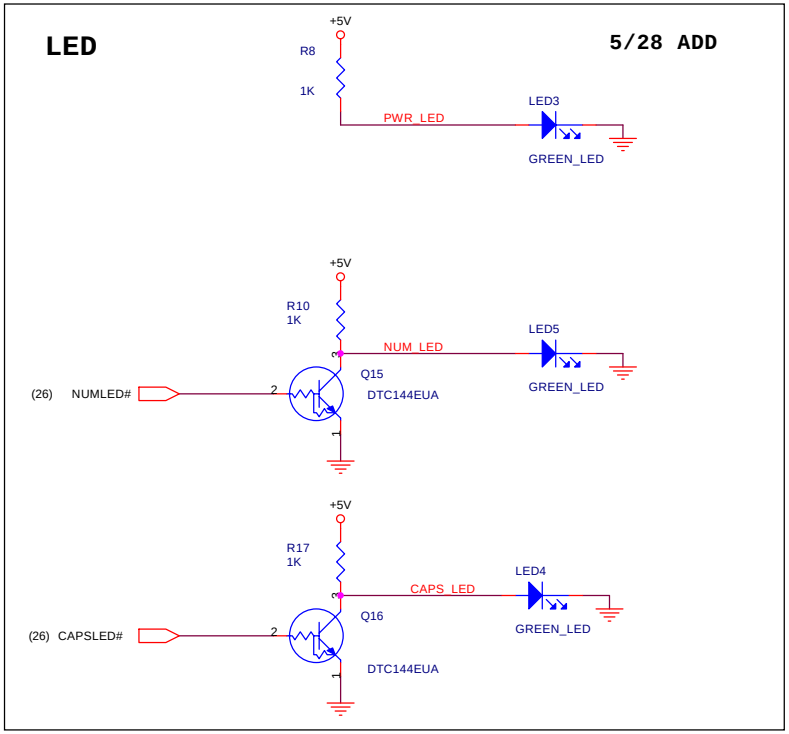


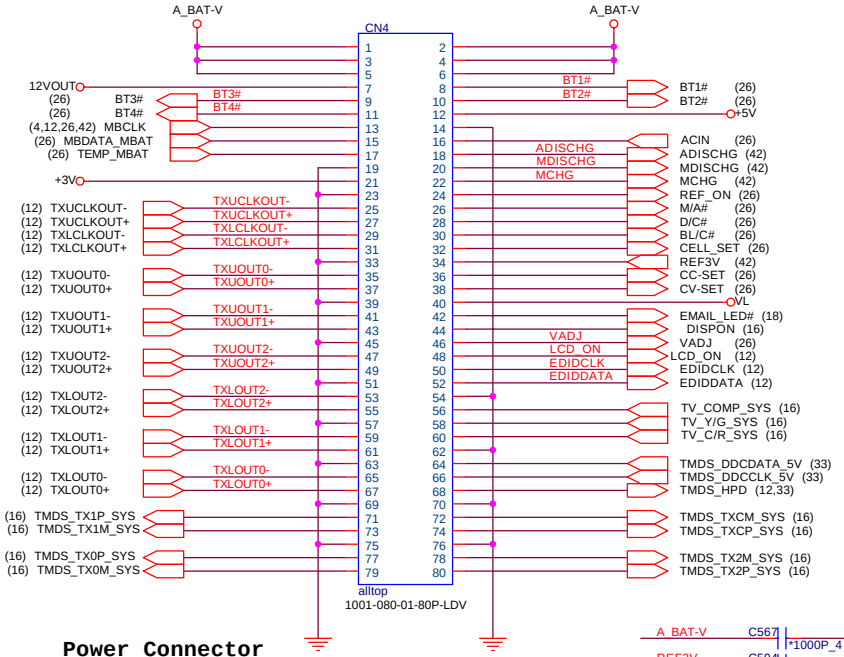
Power Switch



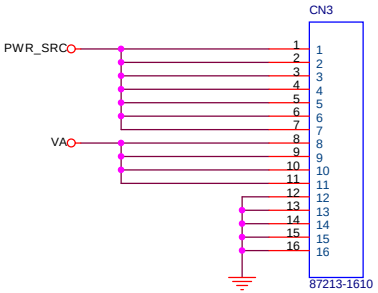
LED

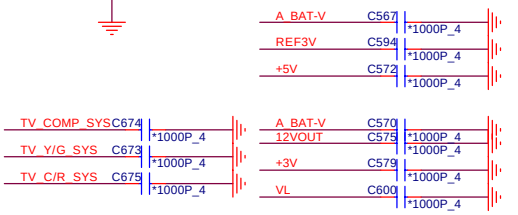
5/28 ADD





Power Connector

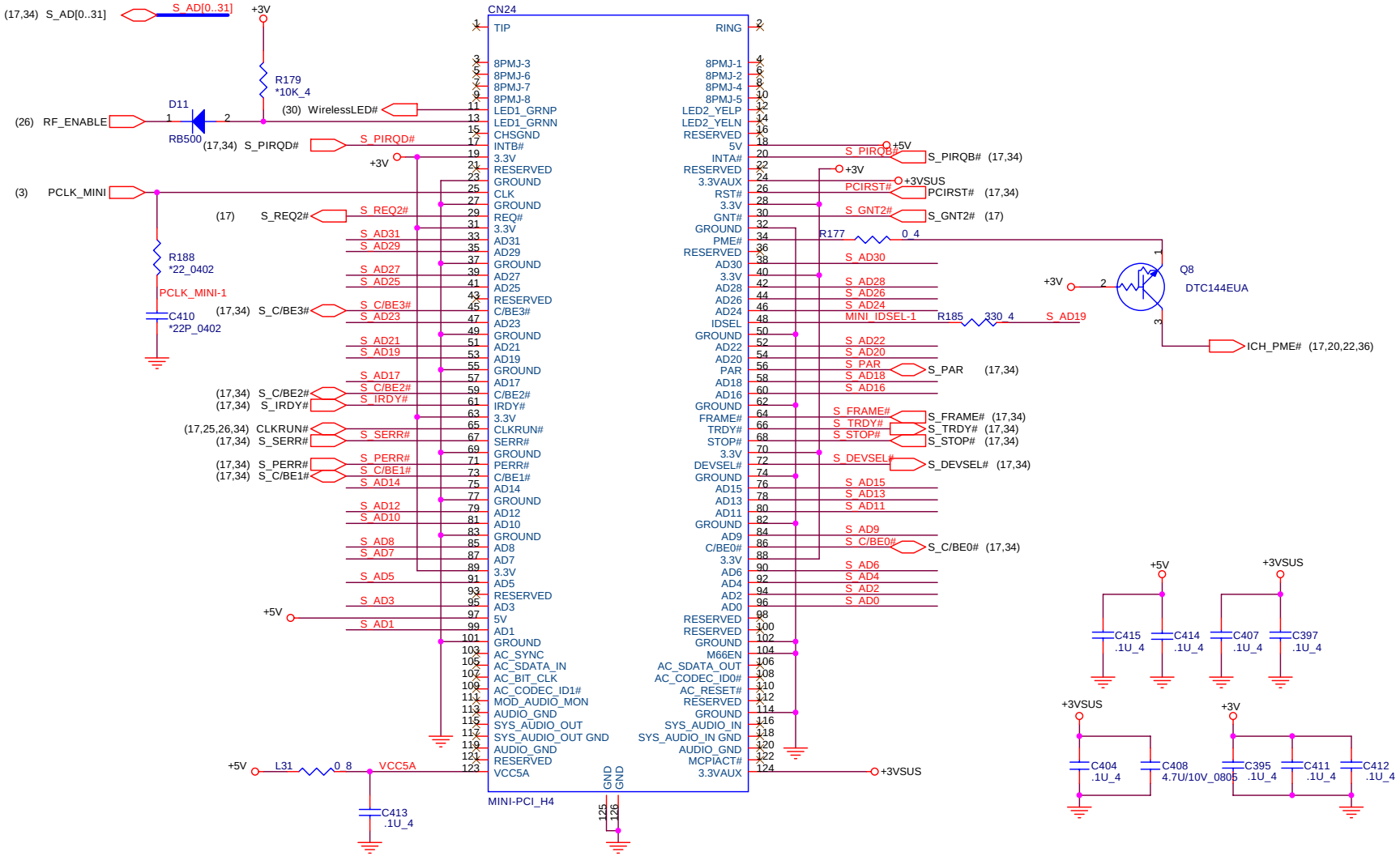




PROJECT : ZF1
Quanta Computer Inc.

Size	Document Number	Rev
A3	LIGHT SENSOR ,TP ,FAN CON	1A

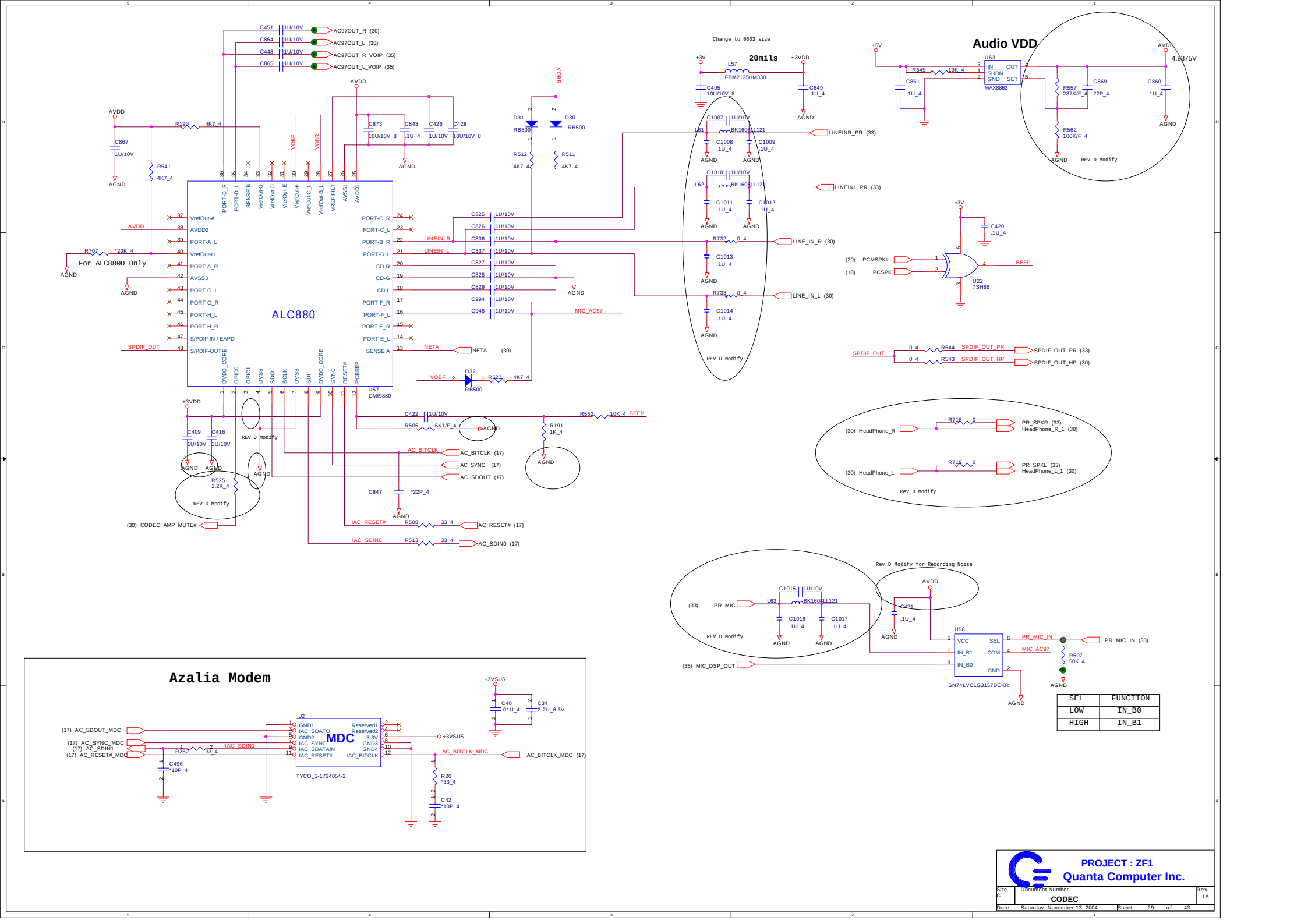
Date: Saturday, November 13, 2004 Sheet 27 of 43



PROJECT : ZF1

Quanta Computer Inc.

Size	Document Number	Rev
B	MININ PCI	1A
Date: Saturday, November 13, 2004	Sheet 28 of 43	


ALC880
For ALC880D Only
REV D Modify
Change to 0603 size
20mils
Audio VDD
4.8375V
MAX8863
U63
U22
7SH86
U57
CMI9880
U58
SN74LVC1G3157DCKR
Rev D Modify for Recording Noise
Azalia Modem
MDC
TYCO_1-1734054-2
J2
PR_SPKR (33)
PR_SPKL (33)
PR_MIC_IN (33)
LINEINR_PR (33)
LINEINL_PR (33)
LINE_IN_R (30)
LINE_IN_L (30)
SPDIF_OUT_PR (33)
SPDIF_OUT_HP (30)
AC_BITCLK_MDC (17)
AC_RESET# (17)
AC_SDIN0 (17)
CODEC_AMP_MUTE# (30)
MIC_DSP_OUT (35)
NETA (30)
BEEP
SEL | FUNCTION
LOW | IN_B0
HIGH | IN_B1
PROJECT : ZF1
Quanta Computer Inc.
Document Number
CODEC
Rev 1A
Date: Saturday, November 13, 2004
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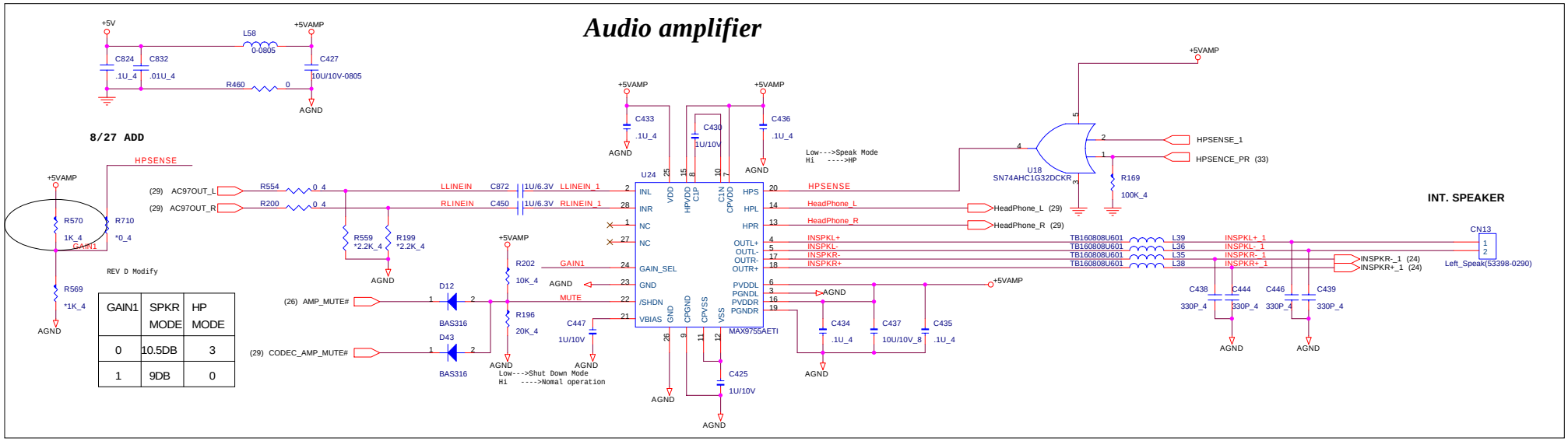
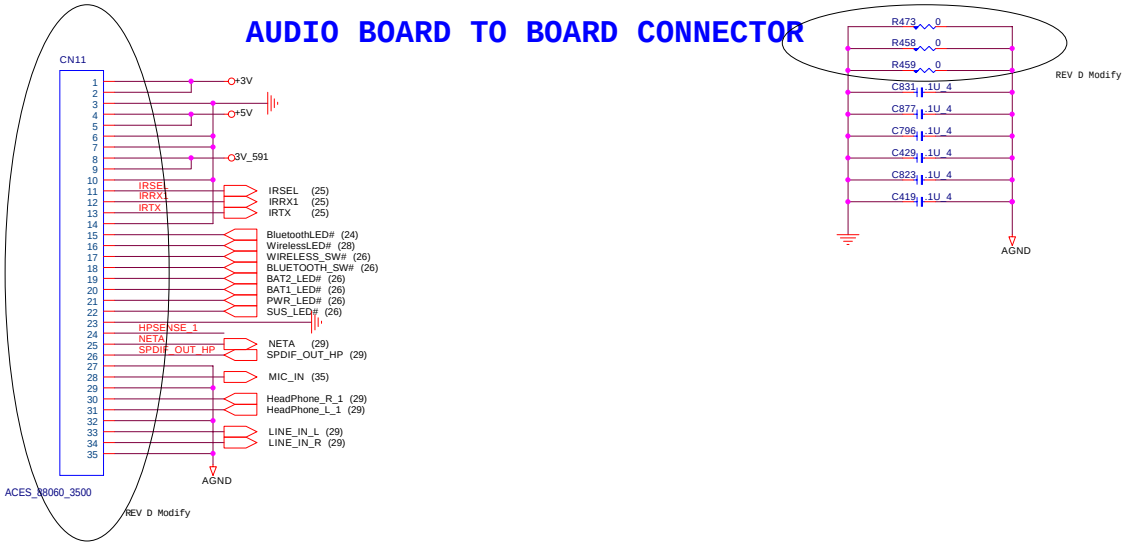
Audio amplifier



AUDIO BOARD TO BOARD CONNECTOR



Project	PROJECT : ZF1
Company	Quanta Computer Inc.
Size	Custom
Document Number	AUDIO AMP & JACK
Rev	1A
Date	Saturday, November 13, 2004
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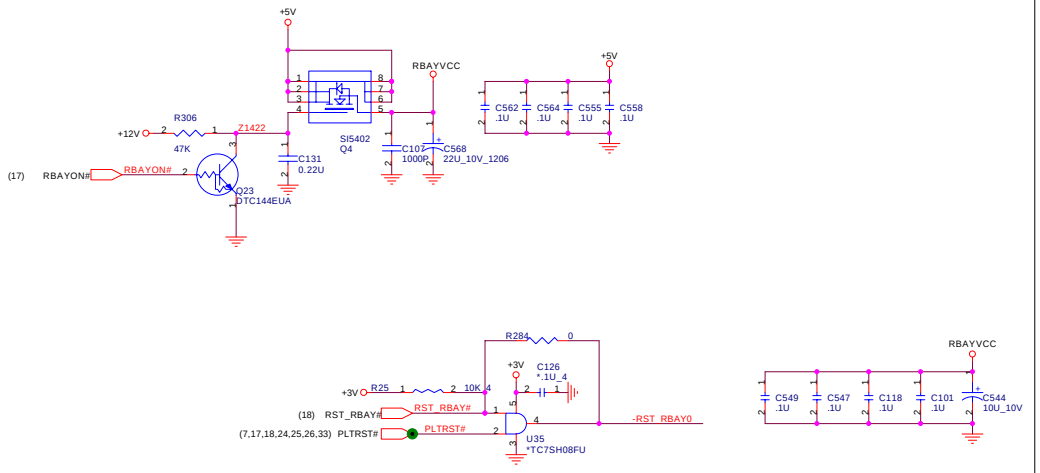
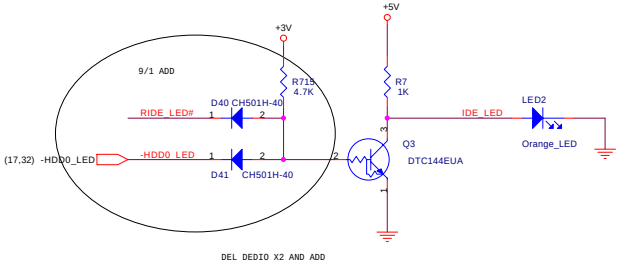
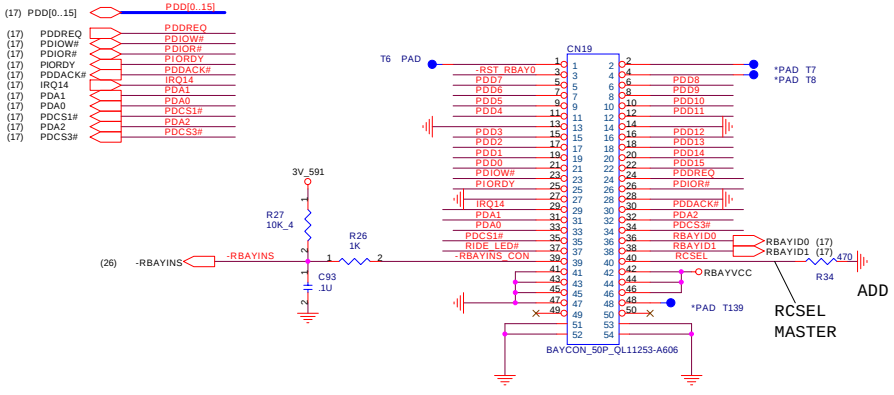
SWAP BAY POWER CONTROL& RESET



IDE LED CONTROL LOGIC



Multi-Bay Connector

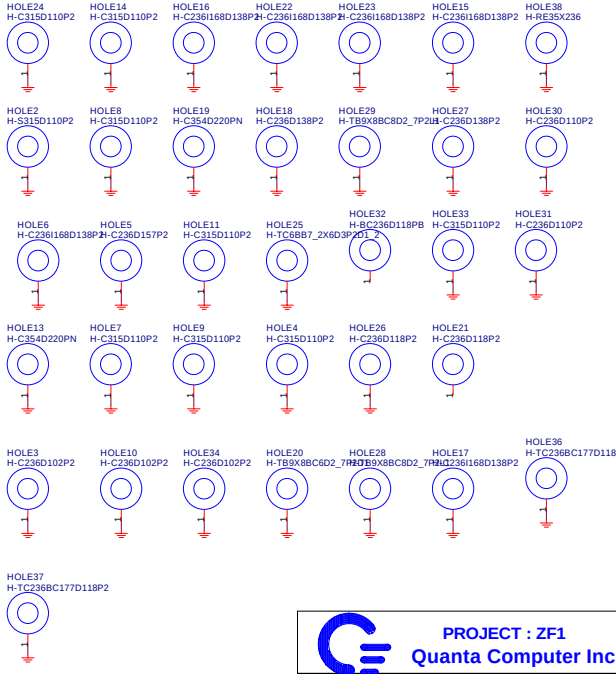


PDD7 R283 1 2 *4.7K_4

BAY ID STATUS

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

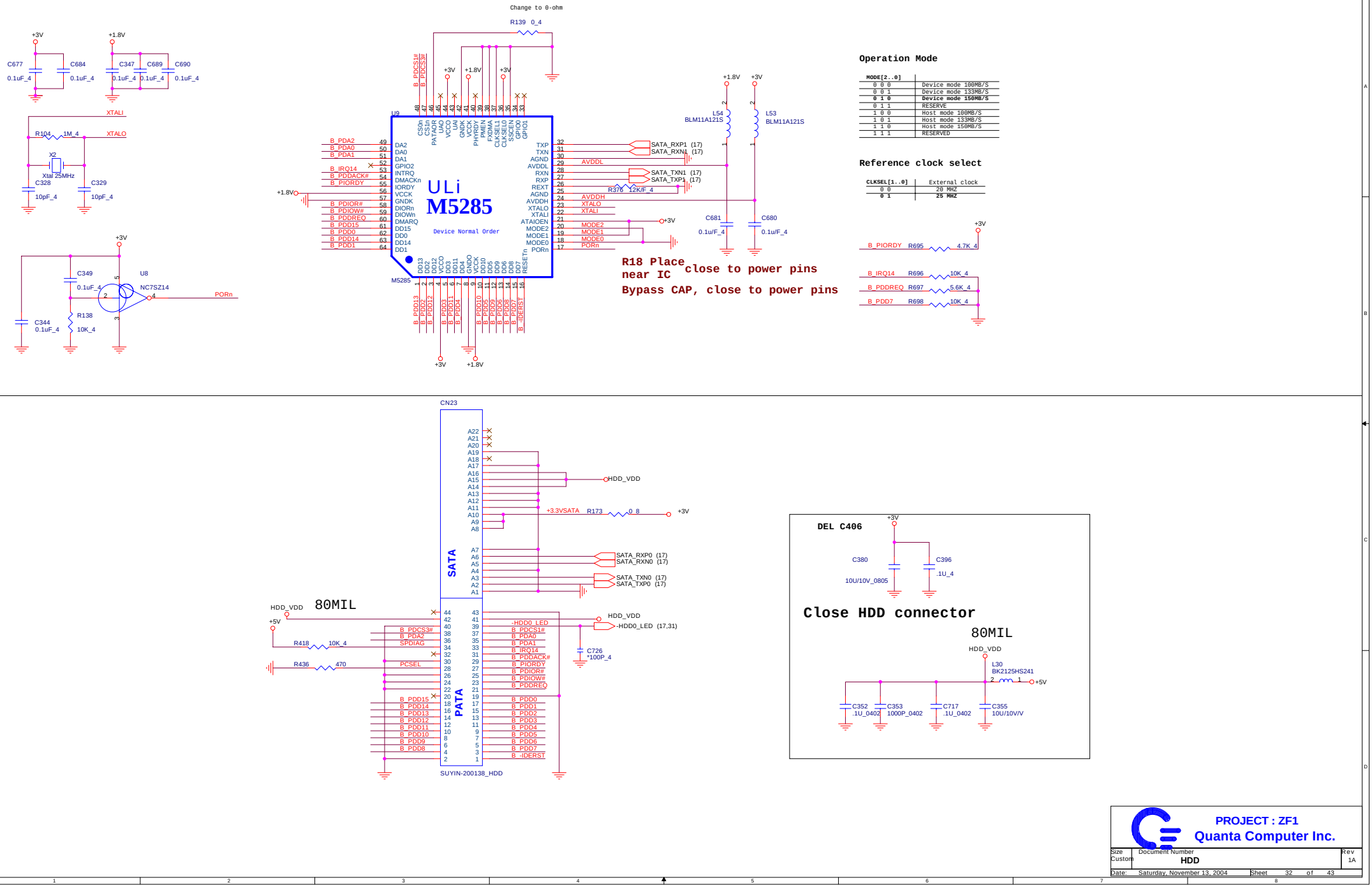
RBAYVCC
C551 10U_8
C561 .1U_4
C559 .1U_4
C556 .1U_4



PROJECT : ZF1
Quanta Computer Inc.

Size	Document Number	Rev
C	Multi-Bay	1A

Date: Monday, November 15, 2004 Sheet 31 of 43



Project	PROJECT : ZF1
Company	Quanta Computer Inc.
Size	Custom
Document Number	HDD
Rev	1A
Date	Saturday, November 13, 2004
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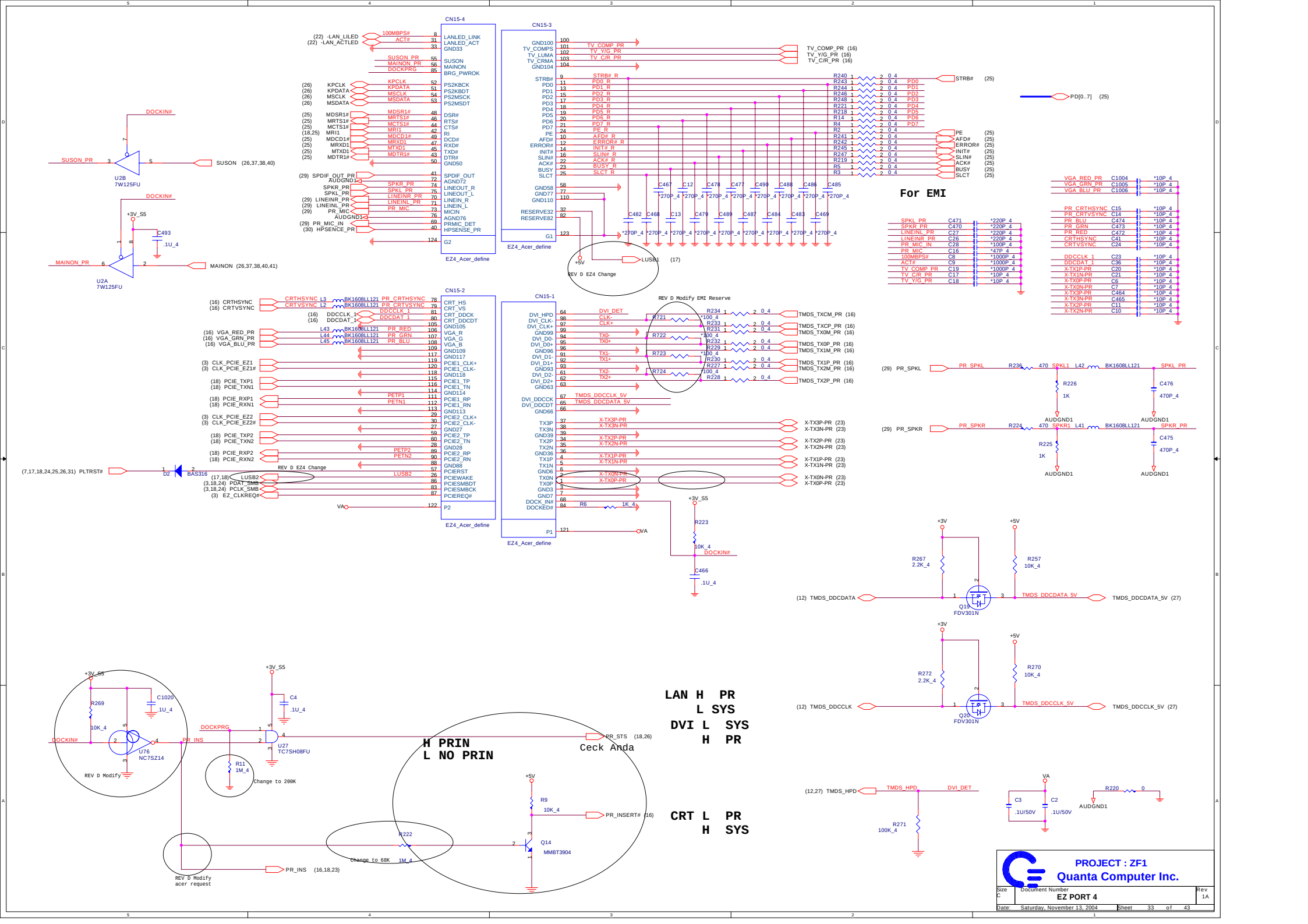
CN15-4
CN15-3
CN15-2
CN15-1
EZ4_Acer_define
For EMI
REV D Modify EMI Reserve
REV D EZ4 Change
REV D Modify
acer request
Change to 200K
Change to 68K
Ceck Anda
H PRIN
L NO PRIN
LAN H PR
L SYS
DVI L SYS
H PR
CRT L PR
H SYS
PROJECT : ZF1
Quanta Computer Inc.
EZ PORT 4
Document Number
Rev
1A
Size
C
Date: Saturday, November 13, 2004
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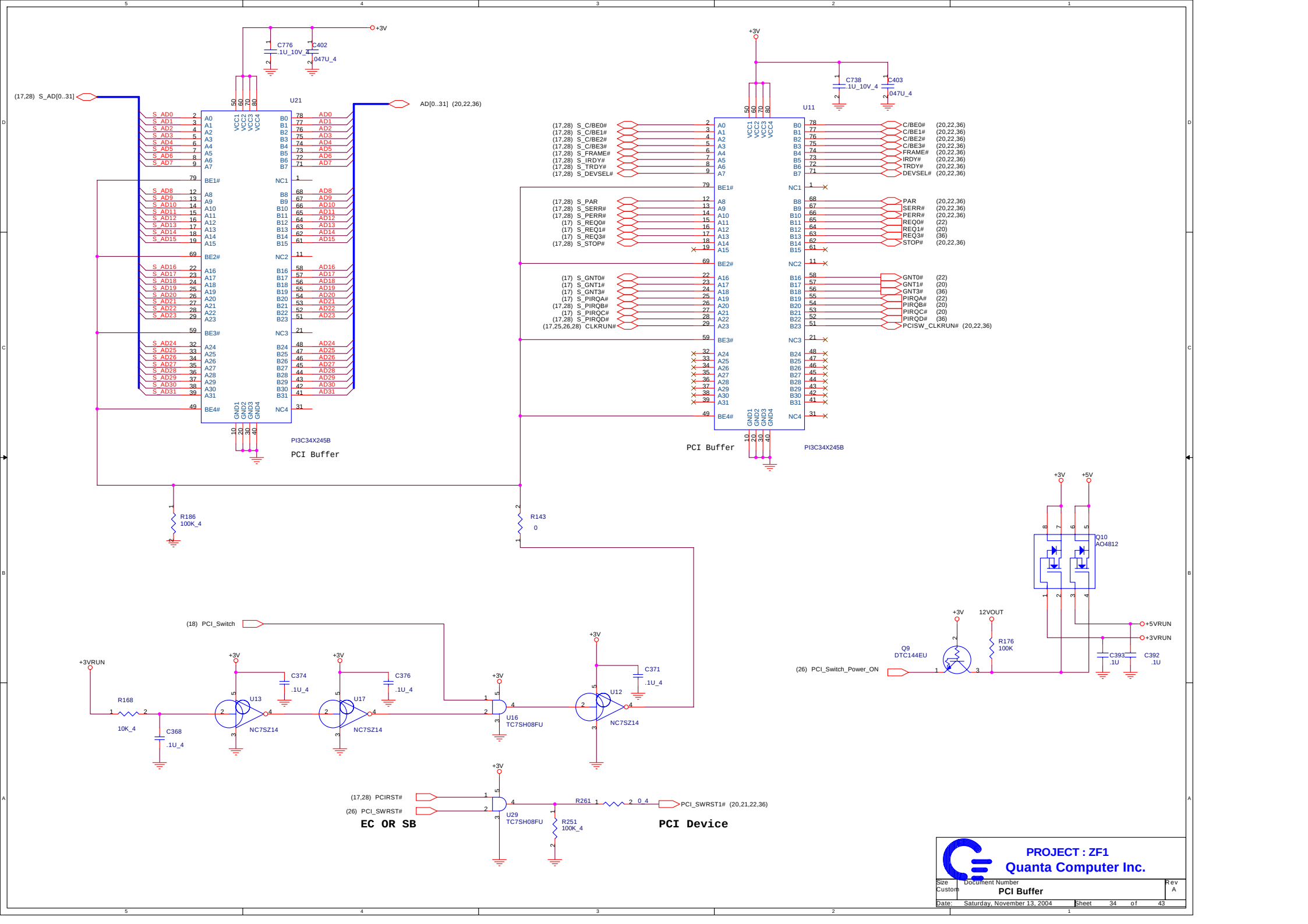
(17,28) S_AD[0..31]
U21
PI3C34X245B
PCI Buffer
AD[0..31] (20,22,36)
U11
PI3C34X245B
PCI Buffer
(17,28) S_C/BE0#
(17,28) S_C/BE1#
(17,28) S_C/BE2#
(17,28) S_C/BE3#
(17,28) S_FRAME#
(17,28) S_IRDY#
(17,28) S_TRDY#
(17,28) S_DEVSEL#
(17,28) S_PAR
(17,28) S_SERR#
(17,28) S_PERR#
(17) S_REQ0#
(17) S_REQ1#
(17) S_REQ3#
(17,28) S_STOP#
(17) S_GNT0#
(17) S_GNT1#
(17) S_GNT3#
(17) S_PIRQA#
(17,28) S_PIRQB#
(17) S_PIRQC#
(17,28) S_PIRQD#
(17,25,26,28) CLKRUN#
C/BE0# (20,22,36)
C/BE1# (20,22,36)
C/BE2# (20,22,36)
C/BE3# (20,22,36)
FRAME# (20,22,36)
IRDY# (20,22,36)
TRDY# (20,22,36)
DEVSEL# (20,22,36)
PAR (20,22,36)
SERR# (20,22,36)
PERR# (20,22,36)
REQ0# (22)
REQ1# (20)
REQ3# (36)
STOP# (20,22,36)
GNT0# (22)
GNT1# (20)
GNT3# (36)
PIRQA# (22)
PIRQB# (20)
PIRQC# (20)
PIRQD# (36)
PCISW_CLKRUN# (20,22,36)
R186 100K_4
R143 0
Q10 AO4812
Q9 DTC144EU
R176 100K
(26) PCI_Switch_Power_ON
+5VRUN
+3VRUN
12VOUT
(18) PCI_Switch
+3VRUN
R168 10K_4
C368 .1U_4
U13 NC7SZ14
U17 NC7SZ14
U16 TC7SH08FU
U12 NC7SZ14
(17,28) PCIRST#
(26) PCI_SWRST#
U29 TC7SH08FU
R251 100K_4
R261 0_4
PCI_SWRST1# (20,21,22,36)
EC OR SB
PCI Device
PROJECT : ZF1
Quanta Computer Inc.
PCI Buffer
Size Custom
Rev A
Date: Saturday, November 13, 2004
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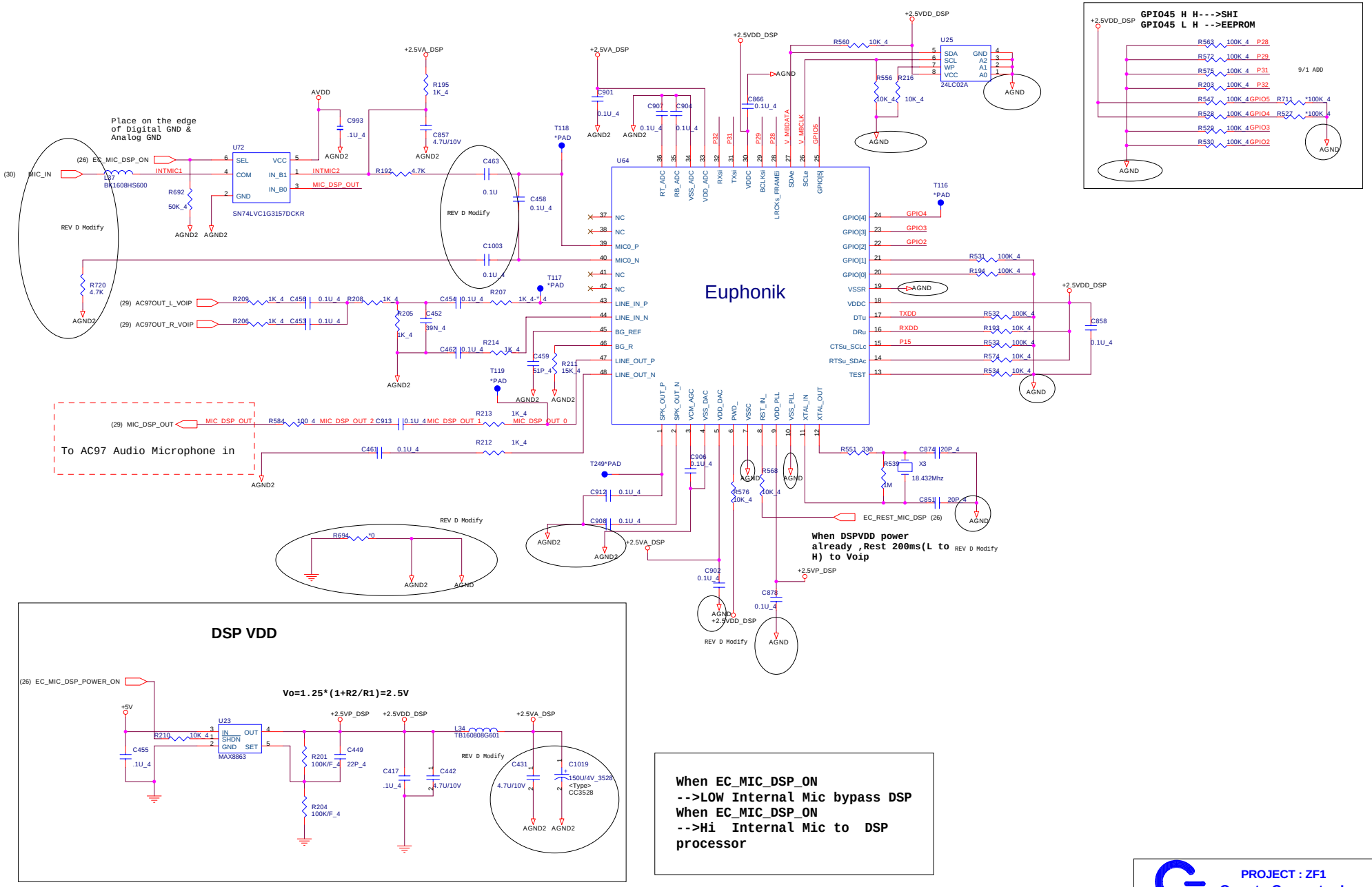
Euphonik
Place on the edge of Digital GND & Analog GND
To AC97 Audio Microphone in
When DSPVDD power already ,Rest 200ms(L to H) to Voip
REV D Modify
GPIO45 H H--->SHI
GPIO45 L H -->EEPROM
9/1 ADD
DSP VDD
Vo=1.25*(1+R2/R1)=2.5V
When EC_MIC_DSP_ON
-->LOW Internal Mic bypass DSP
When EC_MIC_DSP_ON
-->Hi Internal Mic to DSP processor
PROJECT : ZF1
Quanta Computer Inc.
Document Number
Euphonik
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IEEE-1394

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

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

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

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

U68 TSB43AB21PDT

PCI INTERFACE

PHY PORT 0 | BIAS CURRENT | CRYSTAL | FILTER | EEPROM BUS | PHY PORT 1 | POWER CLASS

For ATE

1394 EEPROM U69 NM24C02-WMN6T

Q61 DTC144EU

PLW3216S900SQ2B1 CN22 CONN-1394

Title	TSB43AB21[1394]
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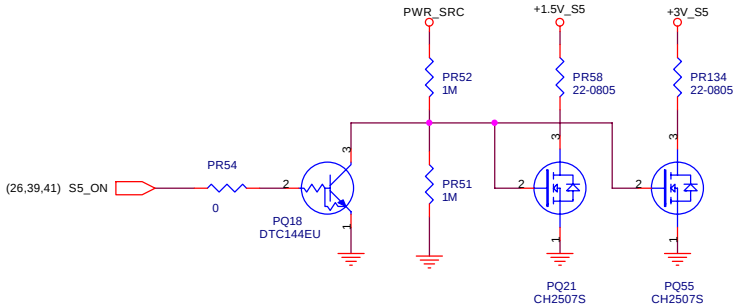
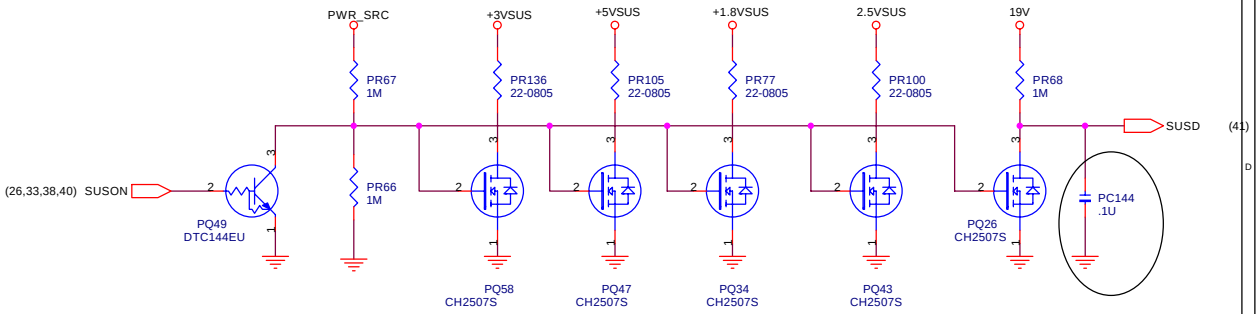
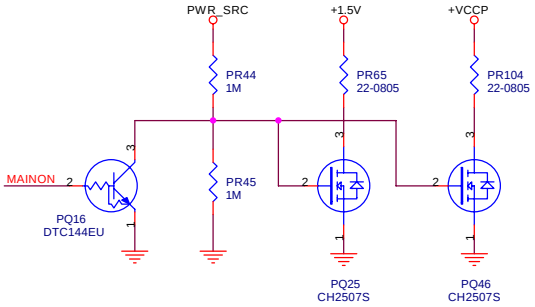
QUANTA COMPUTER

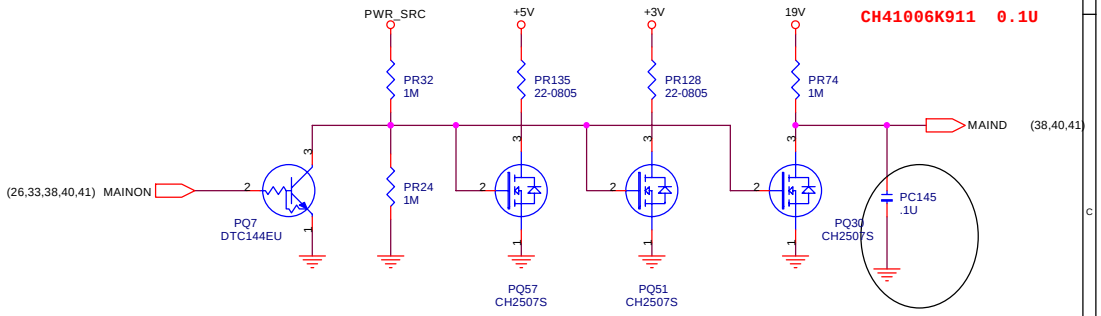


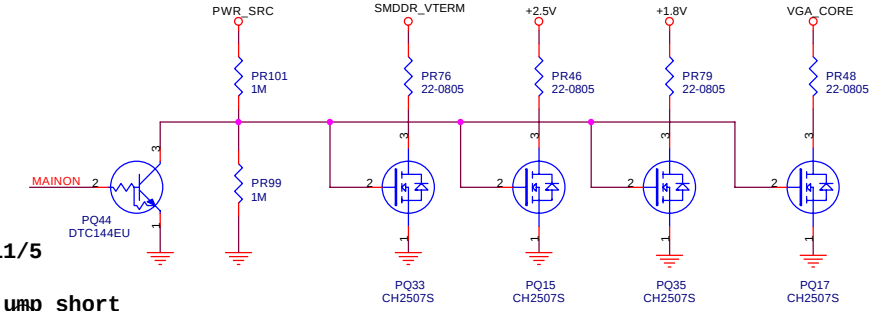


0714 PC144 , PC145 ADD

CH41006K911 0.1U







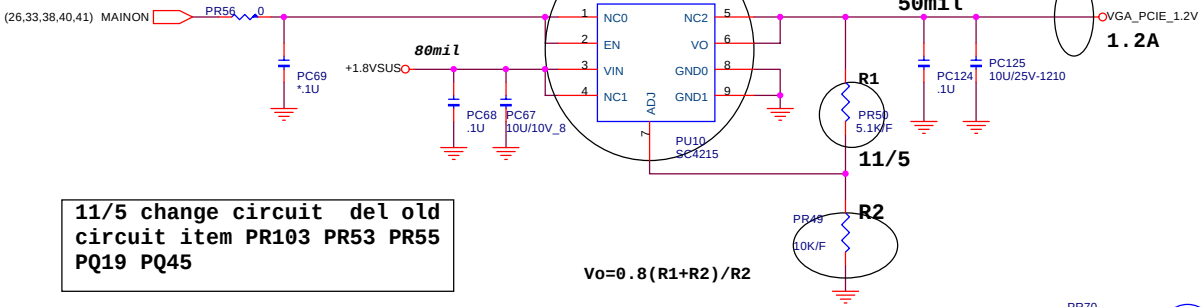
11/5

11/5

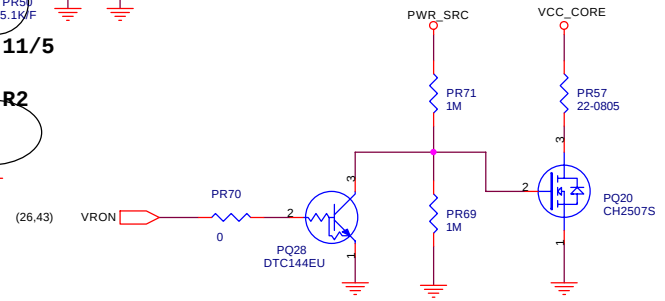
del jump short

50mil

1.2A



11/5 change circuit del old circuit item PR103 PR53 PR55 PQ19 PQ45



PROJECT : ZF1

Quanta Computer Inc.

Size	Document Number	Rev
Custom	DISCHARGE CIRCUIT	A
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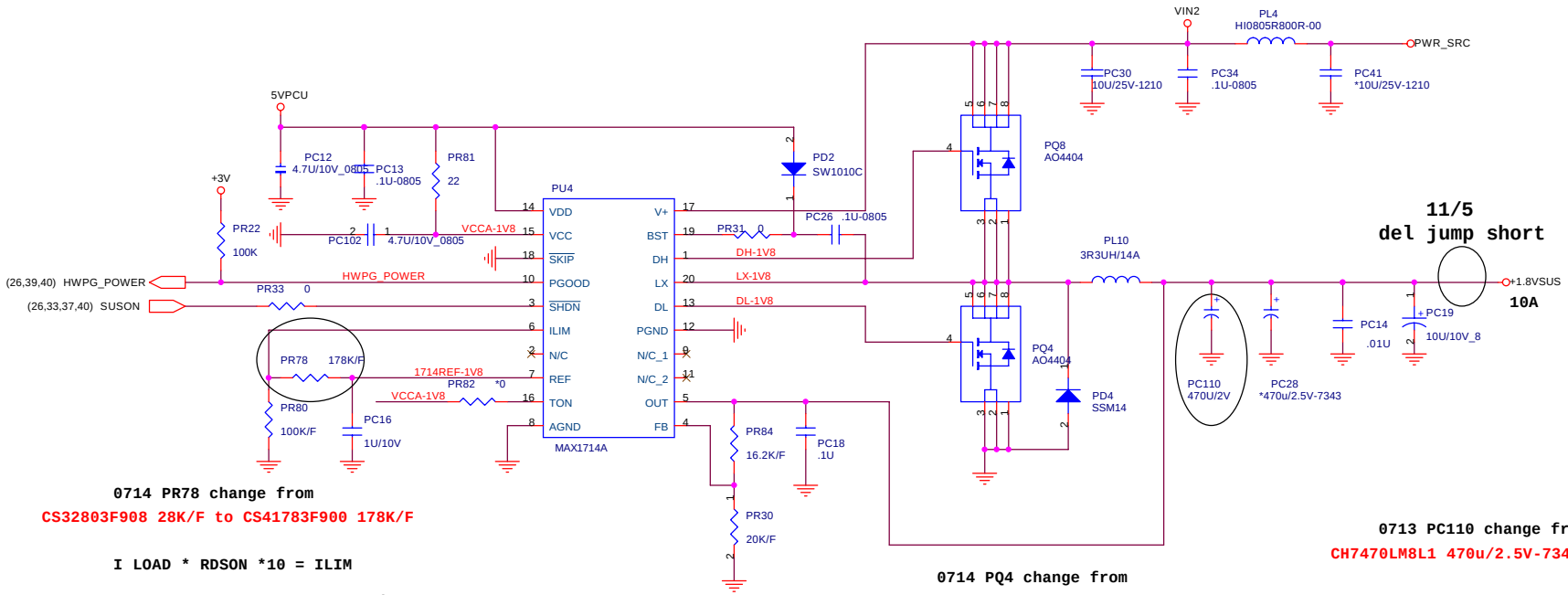


11/5
del jump short

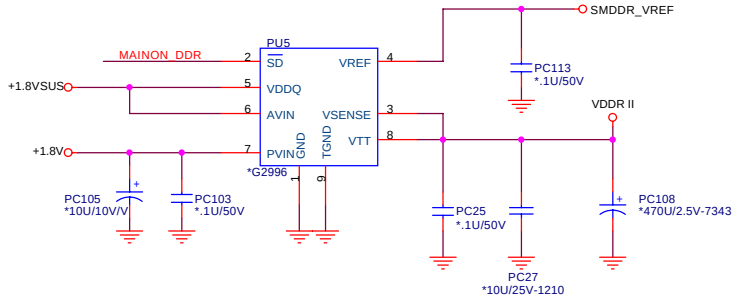
0714 PR78 change from
CS32803F908 28K/F to CS41783F900 178K/F

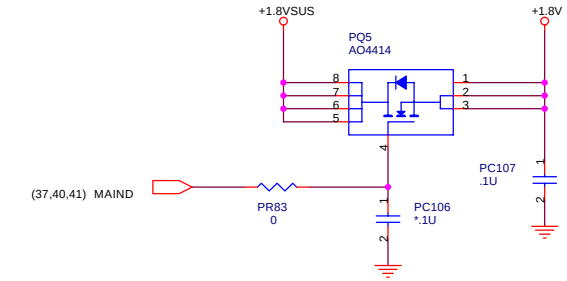
I LOAD * RDSON *10 = ILIM

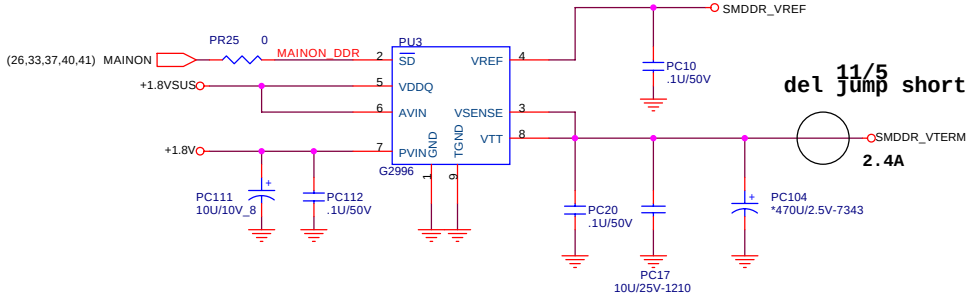
FDD6688 RDSON 4.5V = 0.006 ohm
12 * 0.006 *10 = 0.72V (ILIM)

0714 PQ4 change from
BAM47040005 AO4704 to BAM66880Z01 FDD6688
0714 PD4 change from
NC to BC000014Z01 SSM14

0713 PC110 change from
CH7470LM8L1 470u/2.5V-7343 to CH747RY8800 470u/2V-7343







11/5
del jump short

PROJECT : ZF1
Quanta Computer Inc.

Size	Document Number	Rev
	2.5VSUS, +2.5V, & 1.25DDR	2A
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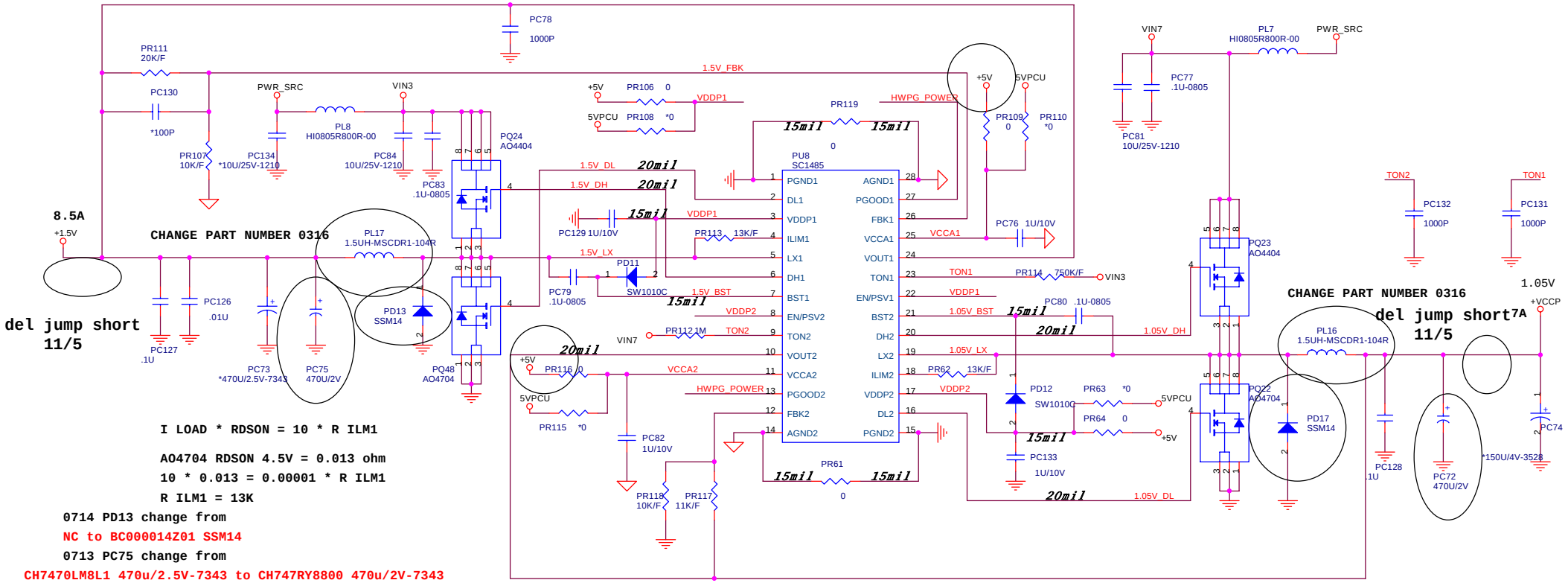


I LOAD * RDSON = 10 * R ILM1

AO4704 RDSON 4.5V = 0.013 ohm
10 * 0.013 = 0.00001 * R ILM1
R ILM1 = 13K

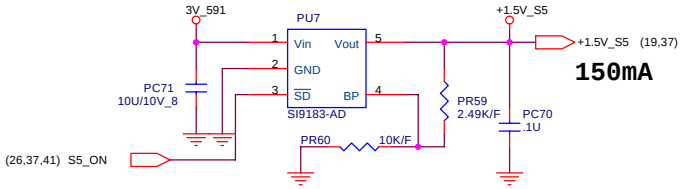
0714 PD13 change from
NC to BC000014Z01 SSM14
0713 PC75 change from
CH7470LM8L1 470u/2.5V-7343 to CH747RY8800 470u/2V-7343

(26,38,40) HWPG_POWER HWPG_POWER

I LOAD * RDSON = 10 * R ILM

AO4704 RDSON 4.5V = 0.013 ohm
10 * 0.013 = 0.00001 * R ILM
R ILM1 = 13K

0714 PD817change from
NC to BC000014Z01 SSM14
0713 PC72 change from
CH7470LM8L1 470u/2.5V-7343 to CH747RY8800 470u/2V-7343



PROJECT : ZF1

Quanta Computer Inc.

Size	Document Number	Rev
	2.5VSUS, +2.5V, & 1.25DDR	2A
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0714 PR37 change from
CS21823F902 1.82K/F to CS27683F909 7.68K/F
0714 PL13 change from
CV-15A0MZ05 1R5 to CV-33E0MZ01 3R3
0714 PQ11 change from
BAM44040012 AO4404 to BAM60300Z11 FDD6030L
0714 PQ37 change from
BAM47040005 AO4704 to BAM66880Z01 FDD6688

L / RL(DCR) = Cqe * Rqe

3R3 DCR = 0.0043
3.3u / 0.0043 = 0.1u * Rqe
Rqe = 7.68K

L / RL(DCR) = Cqe * Rqe

3R8 DCR = 0.0130
3.8u / 0.0130 = 0.1u * Rqe
Rqe = 2.94K

del jump short
11/5

del jump short
11/5

1.2V/1.0V
VGA_CORE
12A

2.5VSUS
4A

0714 PC118 change from
NC to CH747RY8800 470u/2.5V-7343

0713 PC57 change from
CH7470LM8L1 470u/2.5V-7343 to CH747RY8800 470u/2V-7343

0714 PD8 change from
NC to BC000014Z01 SSM14

I LOAD * DCR *10 = ILIM

3R3 DCR = 0.0043
16 * 0.0043 *10 = 0.688V (ILIM1)
1R5 DCR = 0.0081
6 * 0.0130 *10 = 0.78V (ILIM2)

Low: 1.2V
High: 1.0V

0714 PR137 ADD
CS01003F902 10
0714 PC146 ADD
CH41006K911 0.1U

0714 PR93 change from
CS34993F908 49.9K/F to CS35233F908 52.3K/F

PROJECT : ZF1
Quanta Computer Inc.

Size	Document Number	Rev
Custom	VGA POWER	1A
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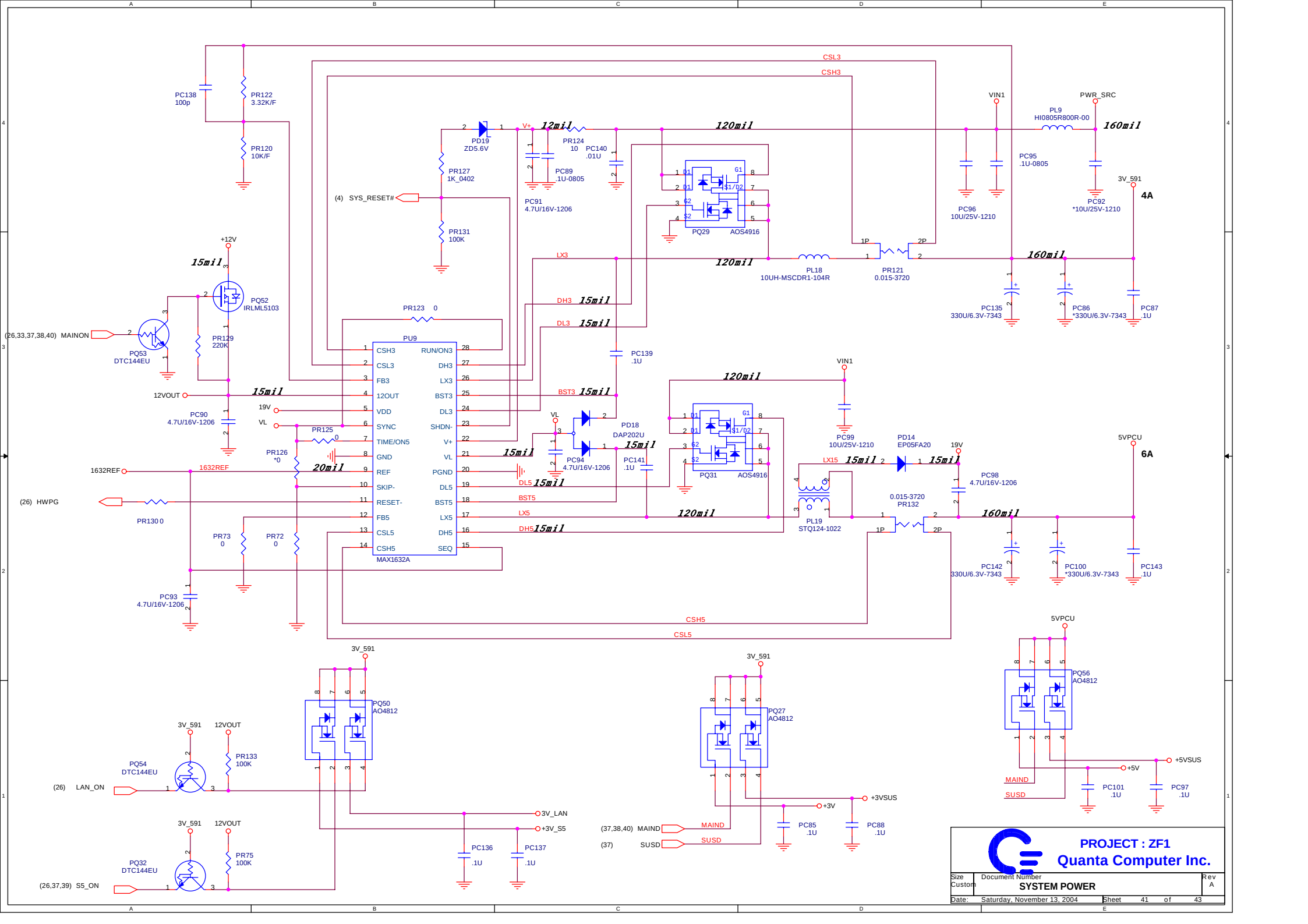
PC138 100p
PR122 3.32K/F
PR120 10K/F
CSL3
CSH3
VIN1
PWR_SRC
PL9 HI0805R800R-00
160mil
PD19 ZD5.6V
V+
12mil
PR124 10
PC140 .01U
PC89 .1U-0805
120mil
PC95 .1U-0805
PC96 10U/25V-1210
PC92 *10U/25V-1210
3V_591
4A
PR127 1K_0402
(4) SYS_RESET#
PC91 4.7U/16V-1206
PR131 100K
PQ29 AOS4916
LX3
PL18 10UH-MSCDR1-104R
PR121 0.015-3720
PC135 330U/6.3V-7343
PC86 *330U/6.3V-7343
PC87 .1U
+12V
15mil
PQ52 IRLML5103
(26,33,37,38,40) MAINON
PQ53 DTC144EU
PR129 220K
PR123 0
PU9
DH3
DL3
PC139 .1U
12VOUT
19V
VL
PC90 4.7U/16V-1206
PR125 0
PR126 *0
20mil
BST3
PD18 DAP202U
PC94 4.7U/16V-1206
PC141 .1U
PQ31 AOS4916
PC99 10U/25V-1210
PD14 EP05FA20
5VPCU
6A
LX15
PC98 4.7U/16V-1206
0.015-3720
PR132
PL19 STQ124-1022
PC142 330U/6.3V-7343
PC100 *330U/6.3V-7343
PC143 .1U
1632REF
(26) HWPG
PR130 0
PR73 0
PR72 0
PC93 4.7U/16V-1206
CSH5
CSL5
CSH3
CSL3
LX3
DH3
DL3
BST3
LX5
DH5
DL5
BST5
CSH5
CSL5
SEQ
MAX1632A
3V_591
PQ50 AO4812
PQ27 AO4812
PQ56 AO4812
PQ54 DTC144EU
PR133 100K
(26) LAN_ON
PQ32 DTC144EU
PR75 100K
(26,37,39) S5_ON
3V_LAN
+3V_S5
PC136 .1U
PC137 .1U
(37,38,40) MAIND
(37) SUSD
+3V
+3VSUS
PC85 .1U
PC88 .1U
+5V
+5VSUS
PC101 .1U
PC97 .1U
PROJECT : ZF1
Quanta Computer Inc.
Size Custom
Document Number
SYSTEM POWER
Rev A
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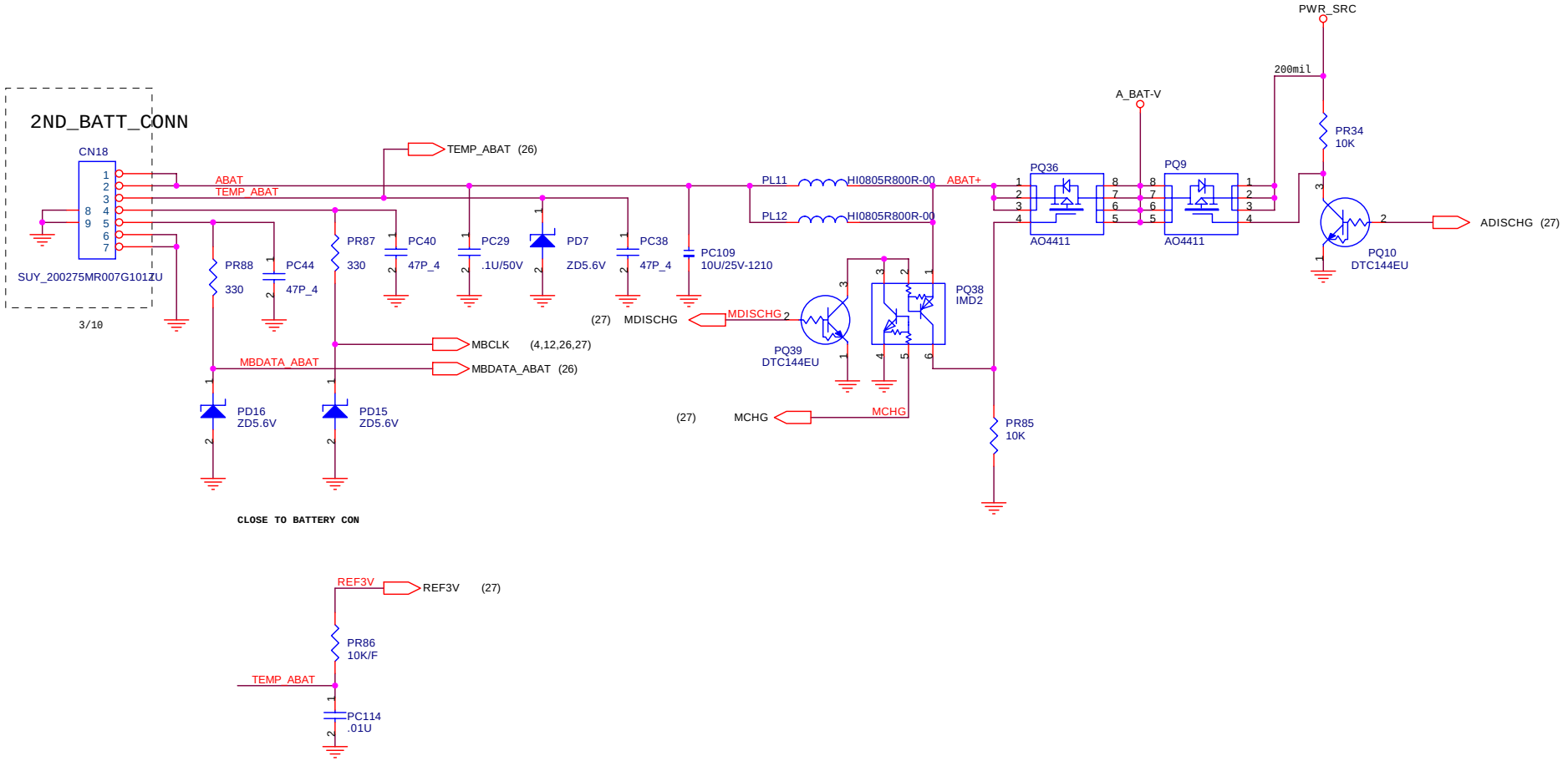

PROJECT : ZL1

Quanta Computer Inc.

Size	Document Number	Rev
	BATTERY SELECT	A1A
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0714 PR19 change from
CS34223F901 42.2K/F to CS38253F909 82.5K/F

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

BG waveforms improved. may delete from future revision.

0714 PR27 change from
CS-33304JA09 3.3 to CS00004JA07 0

CHANGE CHOCK 0316

Set up for constant-ripple mode. Was constantfrequency mode

0714 PR26 change from
CS17503F907 750/F to CS14753F905 475/F

0714 PR29 , PR21 change from
CS21543F901 1.54K/F to CS17153F905 715/F

0714 PC6 change from
CH16806J903 680p to CH12706J909 270p

0714 PC3 change from
CH31006K919 0.01u to CH31506K917 0.015u

0714 PR13 change from
CS32213F901 22.1K/F to CS33653F906 36.5K/F

0714 PR20 change from
CS32003F909 20K/F to CS33323F901 33.2K/F

0714 PR23 change from
CS33323F901 33.2K/F to CS35493F902 54.9K/F

0714 PR11 change from
NC to CS42493F906 249K/F

0713 PC122 , PC66 change from
CH7470LM8L1 470u/2.5V-7343 to CH747RY8800 470u/2V-7343

20 mil Trace list for layout

Added filter for PBOOT

100 mil Trace list for layout

DH_VCORE
LX_VCORE
DL_VCORE
DH_VCORE2
LX_VCORE2
DL_VCORE2

10 mil Trace list for layout

SC1476
pin 4 pin
5 pin 7
pin 25
pin 30

Change to NOR GATE

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

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Quanta Computer Inc.

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Custom	CPU POWER	1A
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