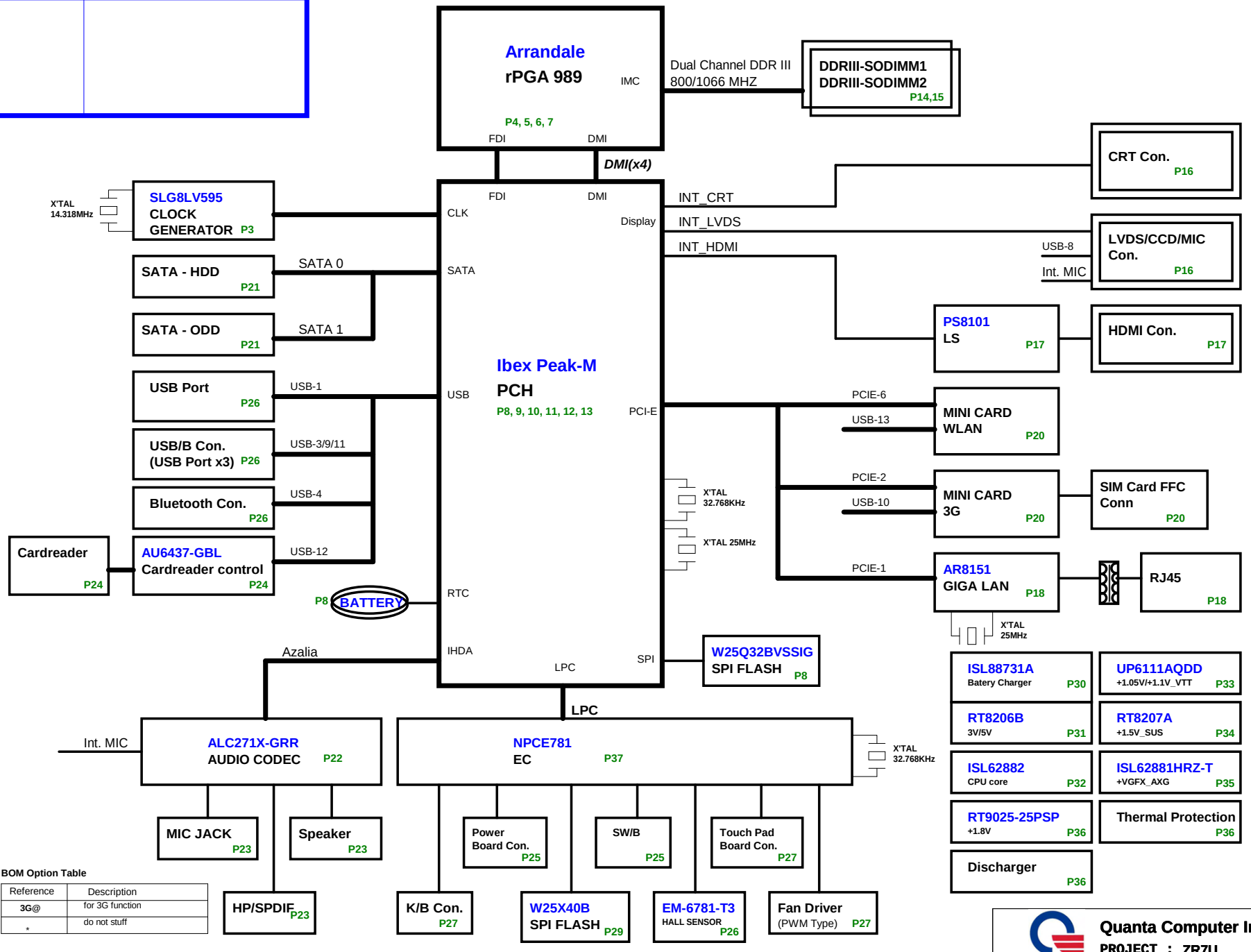
VER : 1A

BOM P/N	Description

ZR7U SYSTEM BLOCK DIAGRAM



BOM Option Table

Reference	Description
3G@	for 3G function
*	do not stuff

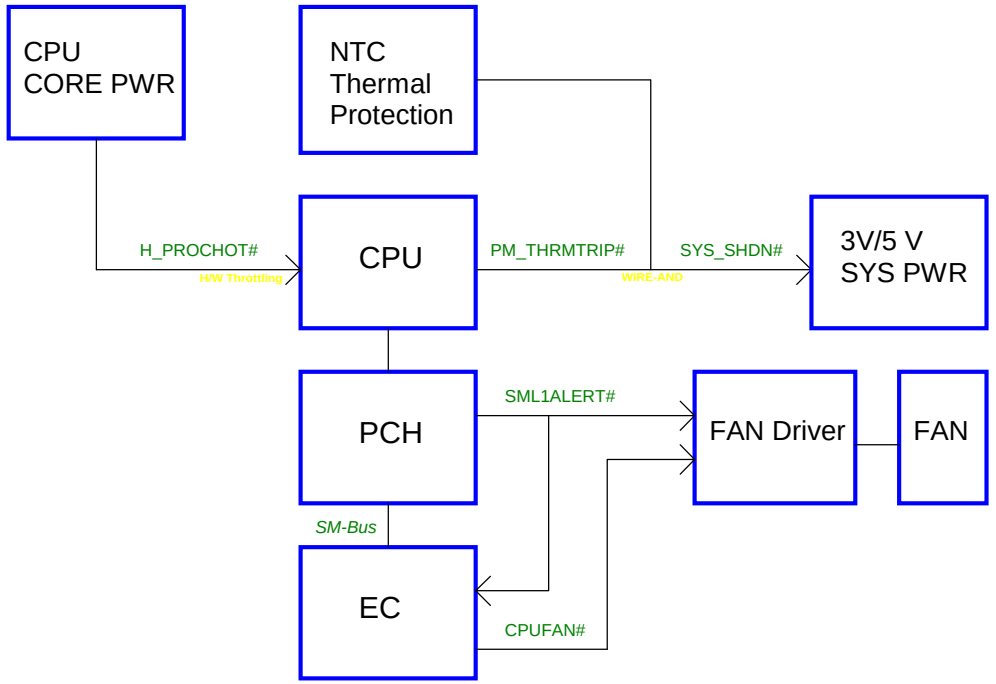
Quanta Computer Inc.
PROJECT : ZR7U

Size	Document Number	Rev
	Block Diagram	1A

Date: Tuesday, April 20, 2010 Sheet 1 of 38

Power States

POWER PLANE	VOLTAGE	DESCRIPTION	CONTROL SIGNAL	ACTIVE IN
VIN	+10V~+19V	MAIN POWER	ALWAYS	ALWAYS
+VCCRTC	+3V~+3.3V	RTC POWER	ALWAYS	ALWAYS
+3VPCU	+3.3V	EC POWER	ALWAYS	ALWAYS
+5VPCU	+5V	CHARGE POWER	ALWAYS	ALWAYS
+15V	+15V	CHARGE PUMP POWER	ALWAYS	ALWAYS
+3V_S5	+3.3V	LAN/BT/CIR POWER	S5_ON	S0-S5
+5V_S5	+5V	USB POWER	S5_ON	S0-S5
+5V	+5V	HDD/ODD/Codec/TP/CRT/HDMI POWER	MAINON	S0
+3V	+3.3V	PCH/GPU/Peripheral component POWER	MAINON	S0
+1.5VSUS	+1.5V	CPU/SODIMM CORE POWER	SUSON	S0-S3
+0.75V_DDR_VTT	+0.75V	SODIMM Termination POWER	MAINON	S0
+VGFX_AXG	variation	Internal GPU POWER	GFX_ON	S0
+1.8V	+1.8V	CPU/PCH/Braidwood POWER	MAINON	S0
+1.5V	+1.5V	MINI CARD/NEW CARD POWER	MAINON	S0
+1.05V	+1.05V	PCH CORE POWER	MAINON	S0
+VCC_CORE	variation	CPU CORE POWER	VRON	S0
LCDVCC	+3.3V	LCD POWER	LVDS_VDDEN	S0



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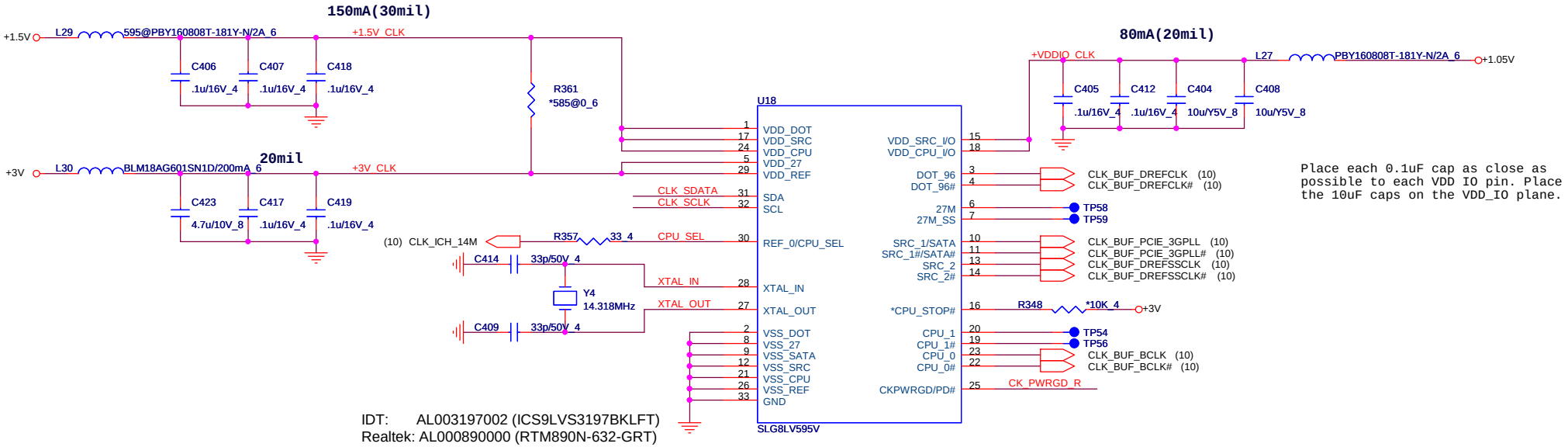
PROJECT : ZR7U

Size	Document Number	Rev
	PWR Status & GPU PWR CRL & THRM	1A

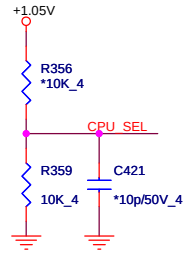
Date: Tuesday, April 20, 2010 Sheet 2 of 38



Place each 0.1uF cap as close as possible to each VDD IO pin. Place the 10uF caps on the VDD_IO plane.

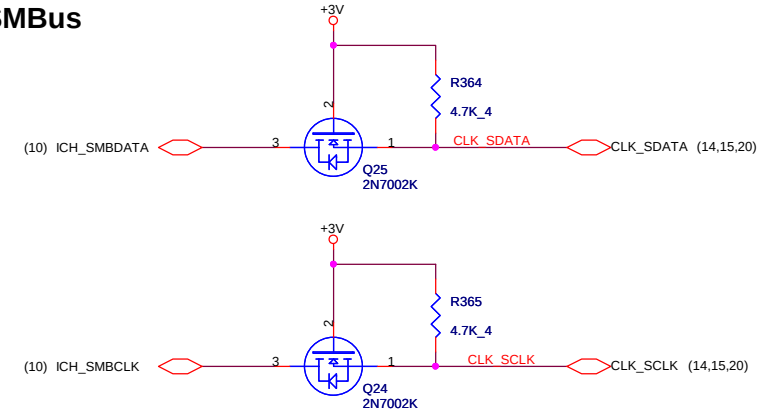
IDT: AL003197002 (ICS9LVS3197BKLFT)
Realtek: AL000890000 (RTM890N-632-GRT)
Silego: AL000595000 (SLG8LV595VTR)

CPU_CLK select

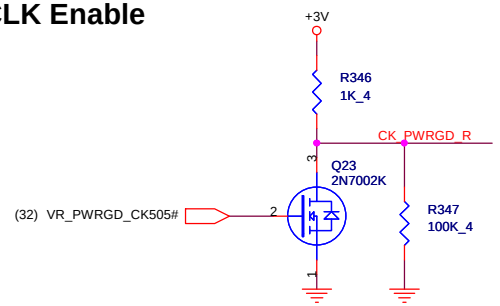


	0	1
CPU_SEL	CPU0/1=133MHz (default)	CPU0/1=100MHz

SMBus



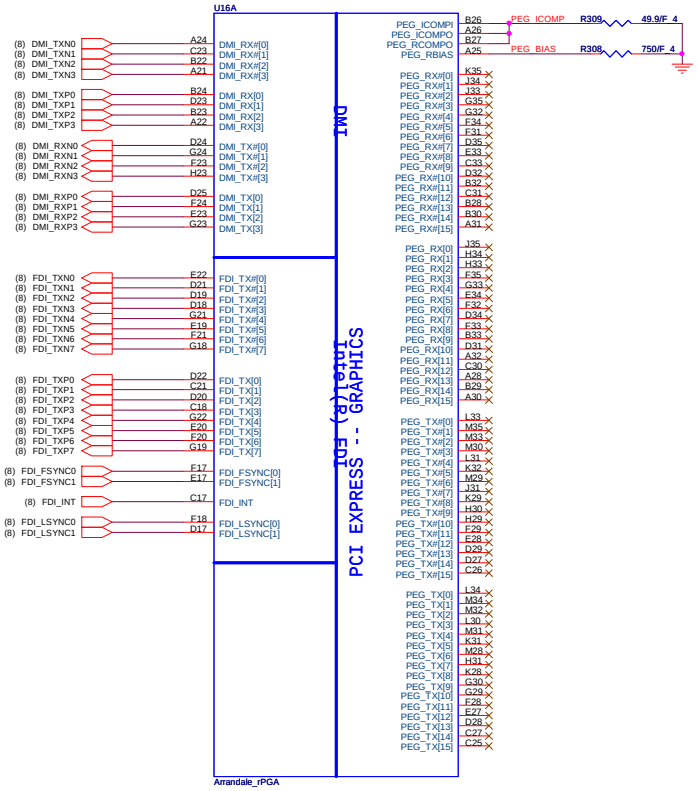
CLK Enable



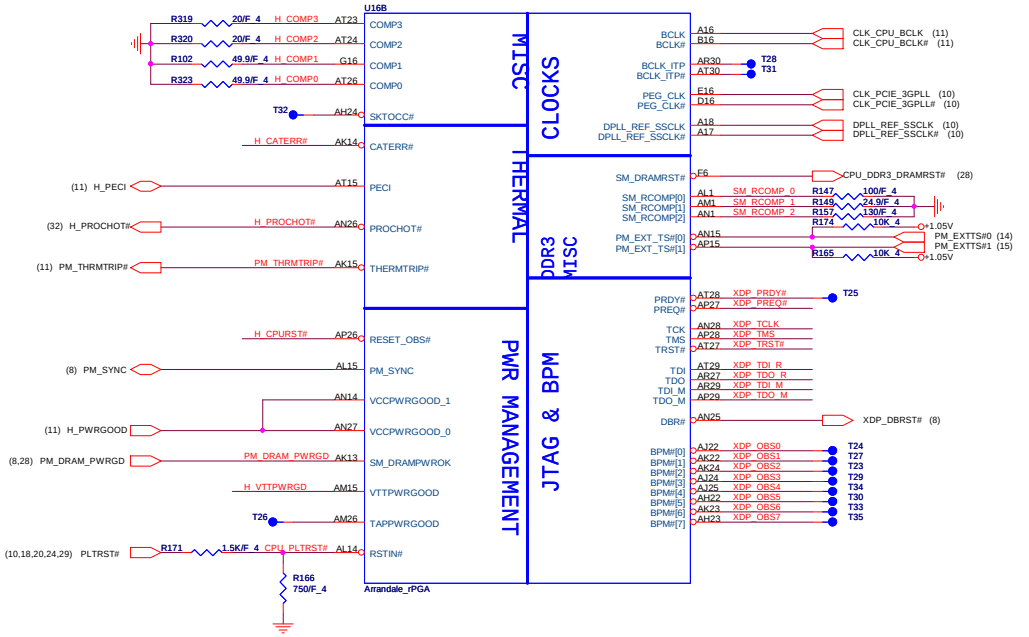
Quanta Computer Inc.
PROJECT : ZR7U

Size	Document Number	Rev
	Clock Generator	1A
Date: Tuesday, April 20, 2010	Sheet 3 of 38	

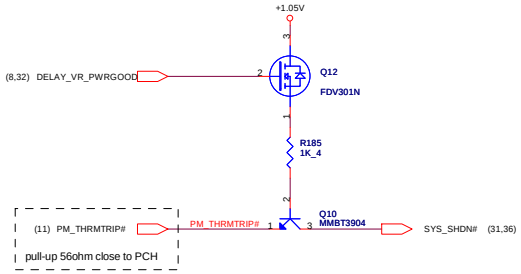
AUBURNDALE/CLARKSFIELD PROCESSOR (DMI,PEG,FDI)



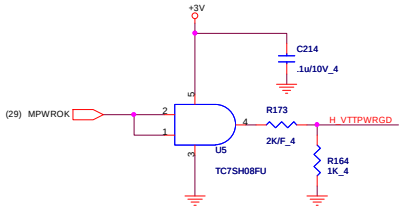
AUBURNDALE/CLARKSFIELD PROCESSOR (CLK,MISC,JTAG)



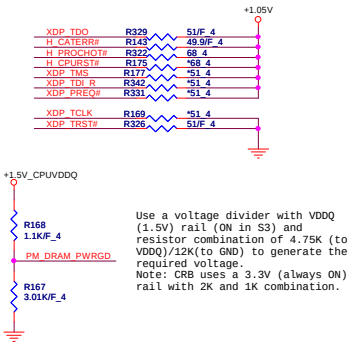
Thermaltrip protect



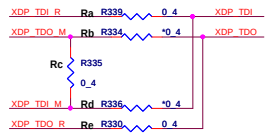
VTT PWR_Good



Processor pull-up



JTAG MAPPING

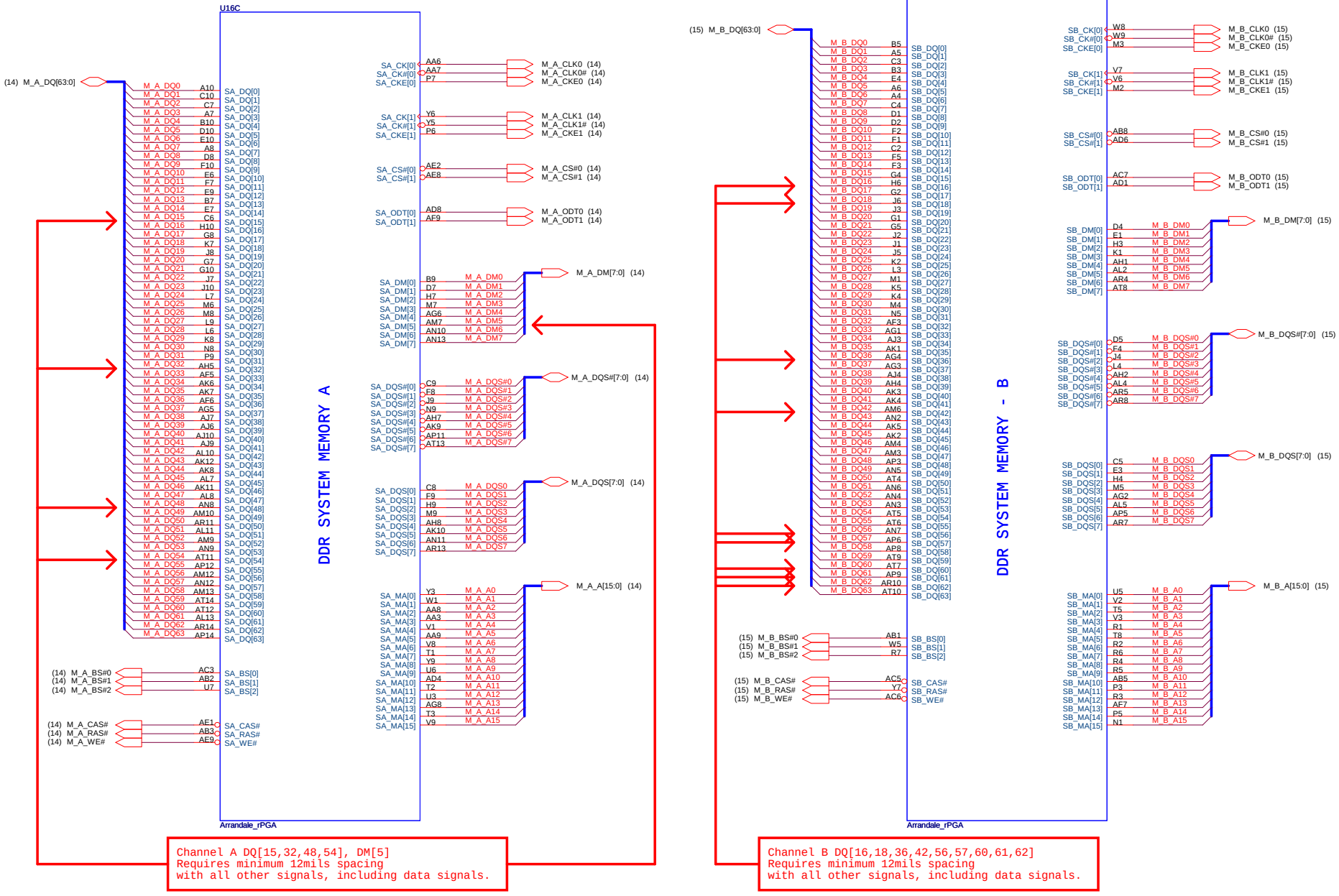


Scan Chain (Default)	STUFF -> Ra, Rc, Re NO STUFF -> Rb, Rd
CPU Only	STUFF -> Ra, Rb NO STUFF -> Rc, Rd, Re
GMCH Only	STUFF -> Rd, Re NO STUFF -> Ra, Rb, Rc

Quanta Computer Inc.
PROJECT : ZR7U

Size	Document Number	Rev
	AUBURNDA 1/4	1A
Date: Tuesday, April 20, 2010	Sheet 4 of 38	

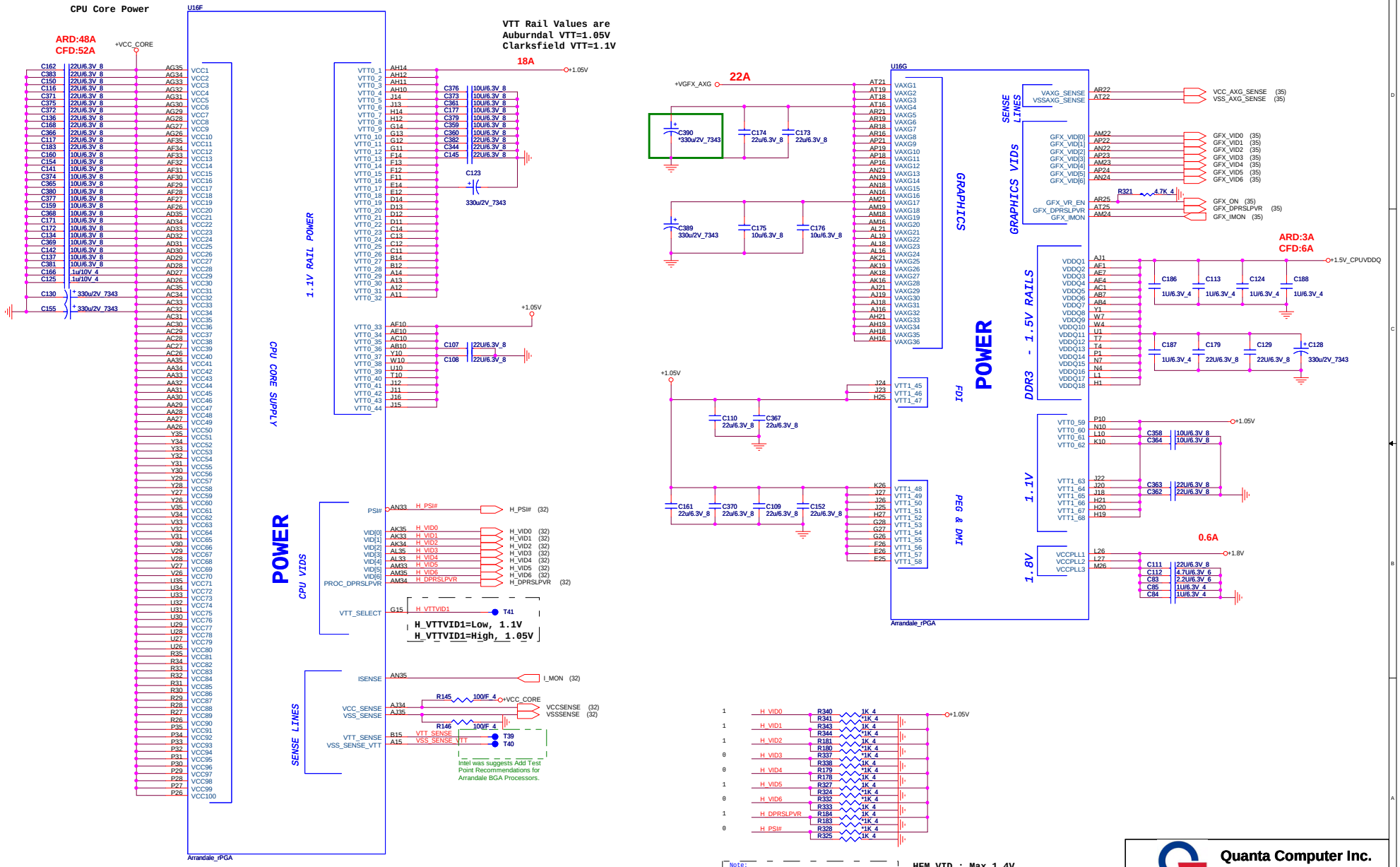
AUBURNDALE/CLARKSFIELD PROCESSOR (DDR3)



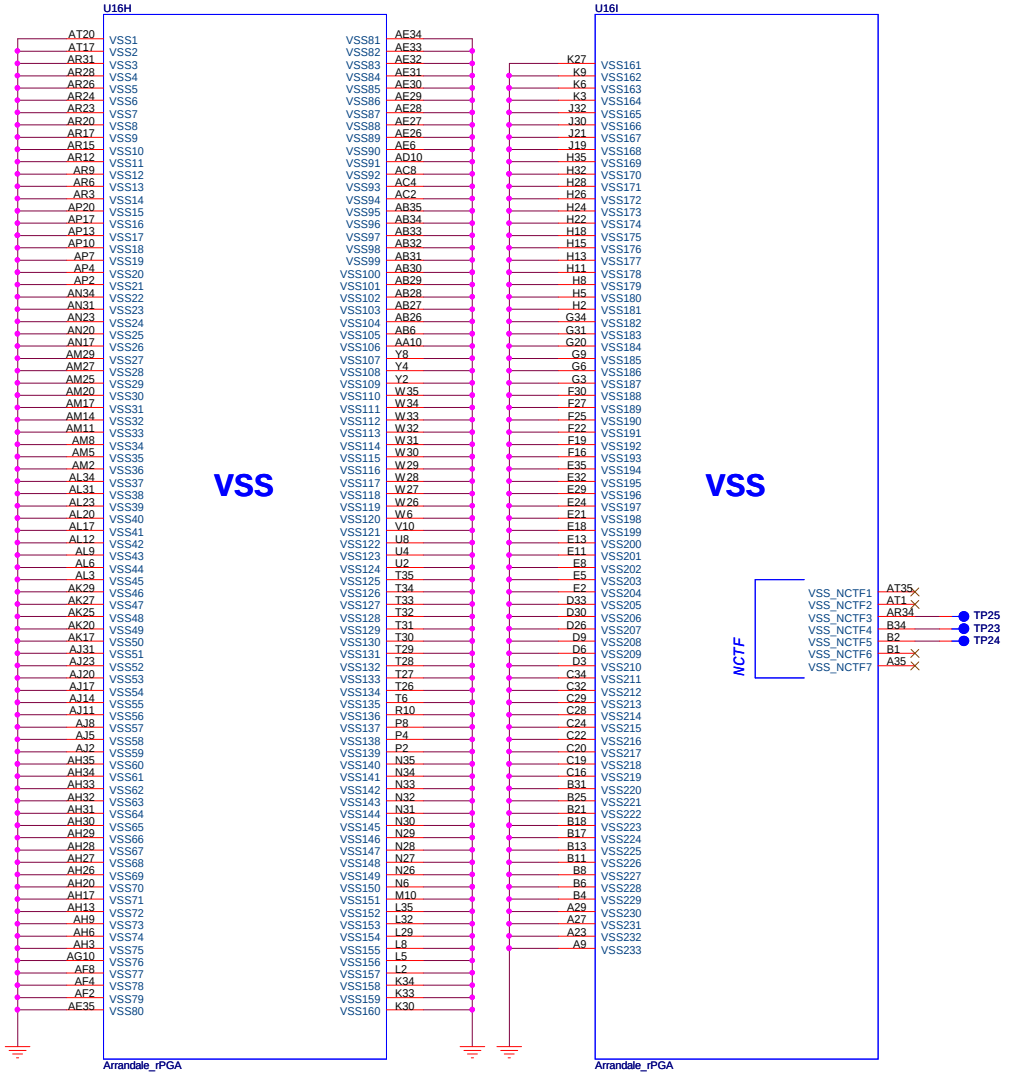
Quanta Computer Inc.

PROJECT : ZR7U

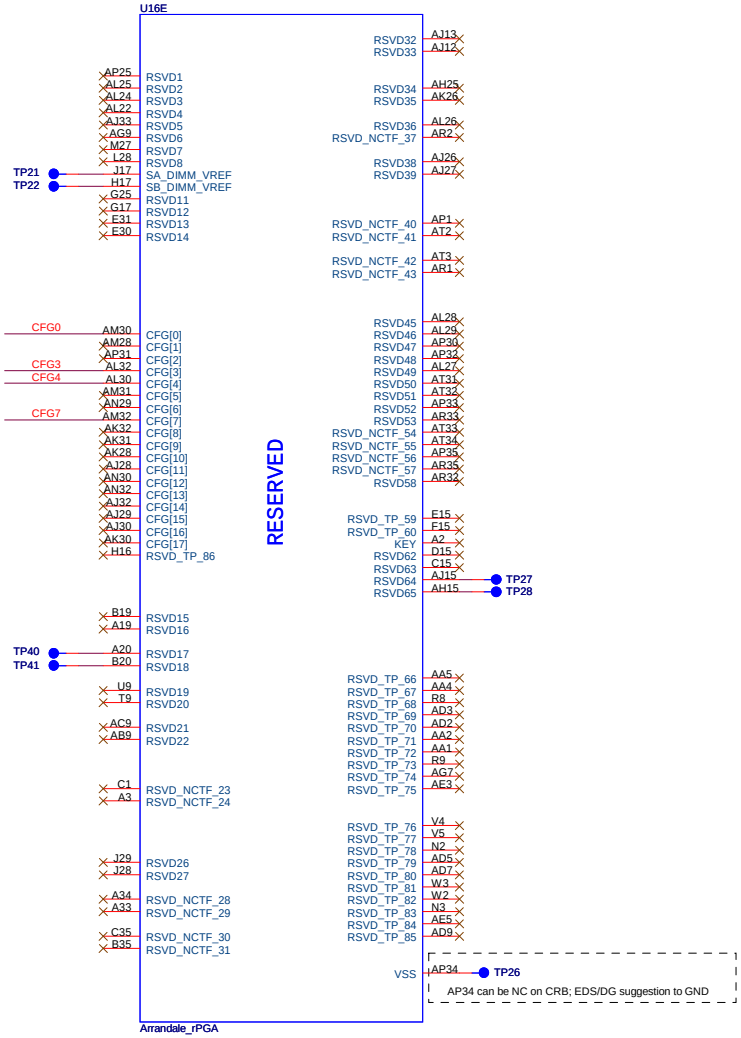
Size	Document Number	Rev
	AUBURNDA 2/4	1A
Date: Tuesday, April 20, 2010	Sheet 5 of 38	


CPU Core Power
ARD:48A
CFD:52A
+VCC_CORE
U16F
VTT Rail Values are
Auburndal VTT=1.05V
Clarksfield VTT=1.1V
18A
1.1V RAIL POWER
CPU CORE SUPPLY
POWER
CPU VIDS
SENSE LINES
H_PSI#
H_VID0
H_VID1
H_VID2
H_VID3
H_VID4
H_VID5
H_VID6
H_DPRSLPVR
VTT_SELECT
H_VTTVID1
H_VTTVID1=Low, 1.1V
H_VTTVID1=High, 1.05V
ISENSE
I_MON
VCC_SENSE
VSS_SENSE
VTT_SENSE
VSS_SENSE_VTT
Intel was suggests Add Test Point Recommendations for Arrandale BGA Processors.
Arrandale_rPGA
22A
+VGFX_AXG
U16G
GRAPHICS
POWER
PDT
PEG & DMI
SENSE LINES
GRAPHICS VIDs
DDR3 - 1.5V RAILS
1.1V
1.8V
ARD:3A
CFD:6A
+1.5V_CPUVDDQ
0.6A
+1.8V
Note:
For Validating IMVP VR R6451 should be STUFF and R2N1 NO_STUFF
HFM_VID : Max 1.4V
LFM_VID : Min 0.65V
AUBURNDALE/CLARKSFIELD PROCESSOR (POWER)
Quanta Computer Inc.
PROJECT : ZR7U
Document Number
AUBURNDA 3/4 (PWR)
Rev 1A
Date: Tuesday, April 20, 2010
Sheet 6 of 38

AUBURNDALE/CLARKSFIELD PROCESSOR (GND)



AUBURNDALE/CLARKSFIELD PROCESSOR(RESERVED, CFG)



Processor Strapping

	1	0	DEFAULT	
CFG0 (PCI-Epress Configuration Select)	Single PEG	Bifurcation enabled	No use	CFG0 R172 *3.01K/F_4
CFG3 (PCI-Epress Static Lane Reversal)	Normal Operation	Lane Numbers Reversed	No use	CFG3 R156 *3.01K/F_4
CFG4 (Embended Display Port Presence)	Disabled; No Physical Display Port attached to Embedded Diplay Port	Enabled; An external Display port device is connected to the Embedded Display port	No use	CFG4 R148 *3.01K/F_4
T				CFG7 R158 *3.01K/F_4

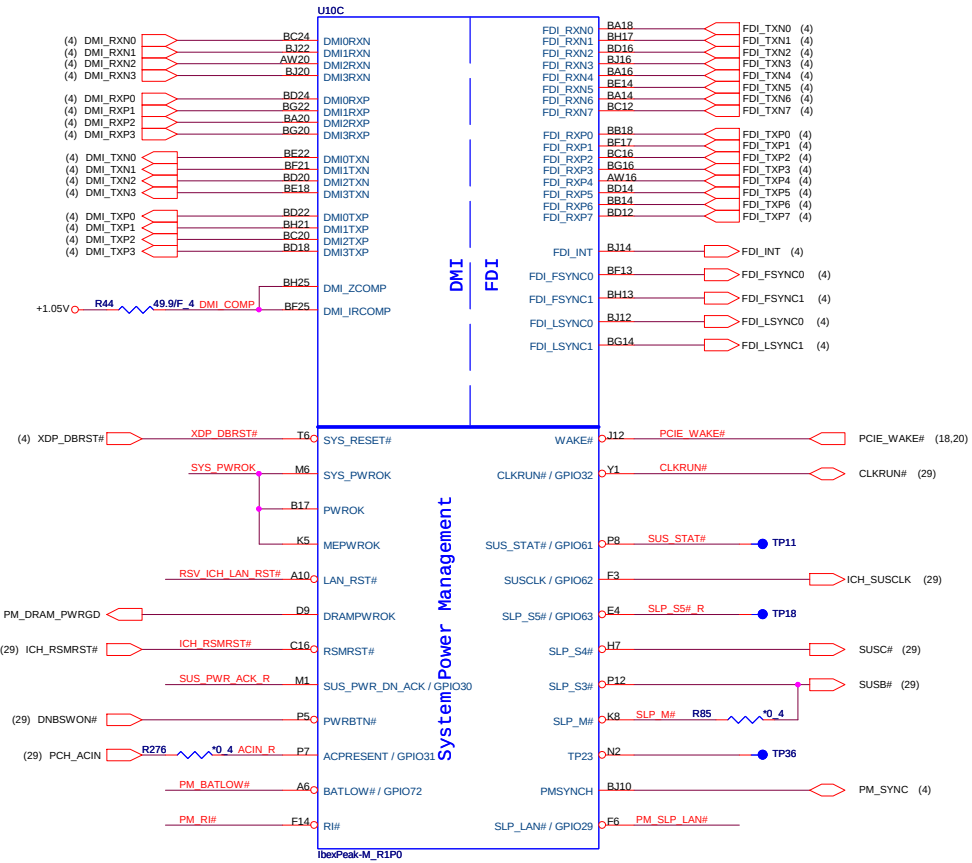
Quanta Computer Inc.
PROJECT : ZR7U

Size	Document Number	Rev
	AUBURNDA 4/4	1A

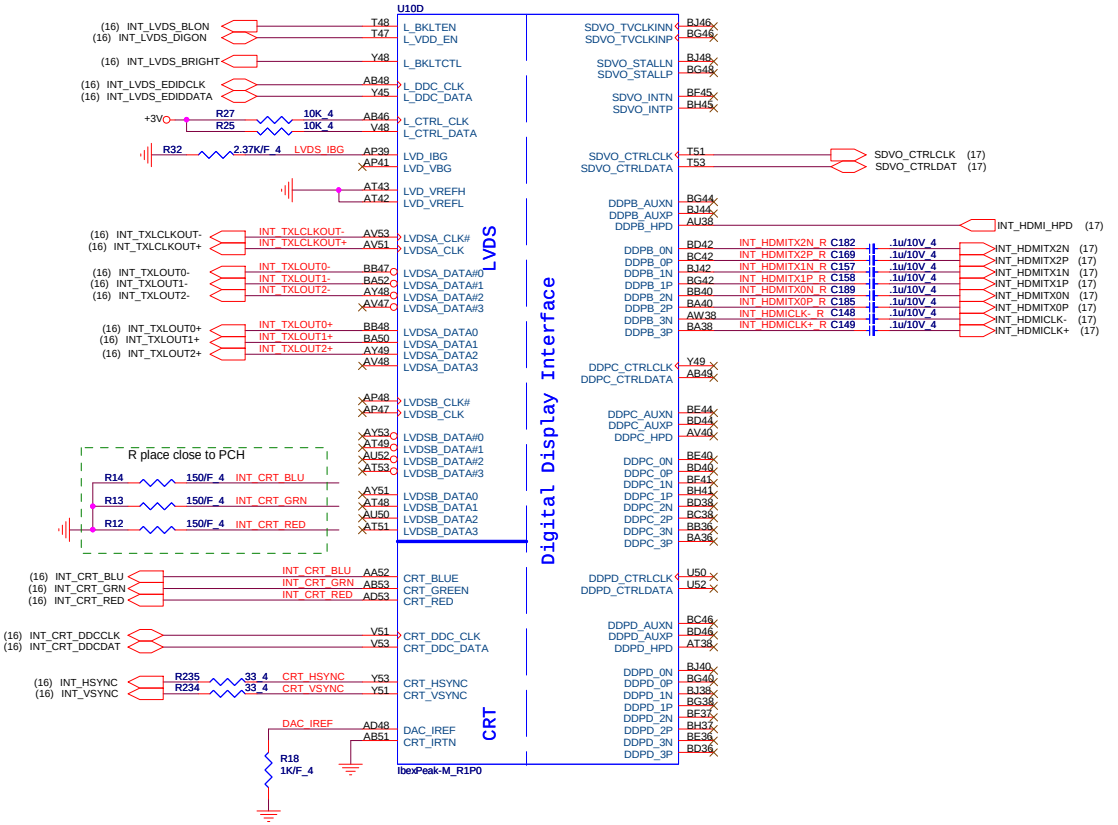
Date: Tuesday, April 20, 2010 Sheet 7 of 38

PCH1(CLG)

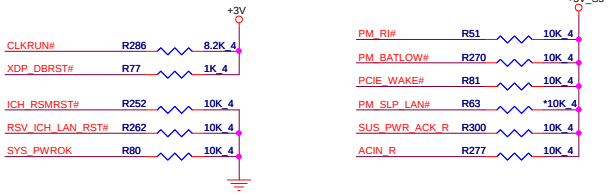
IBEX PEAK-M (DMI,FDI,GPIO)



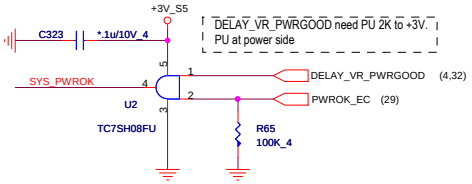
IBEX PEAK-M (LVDS,DDI)



PCH Pull-high/low(CLG)



System PWR_OK(CLG)



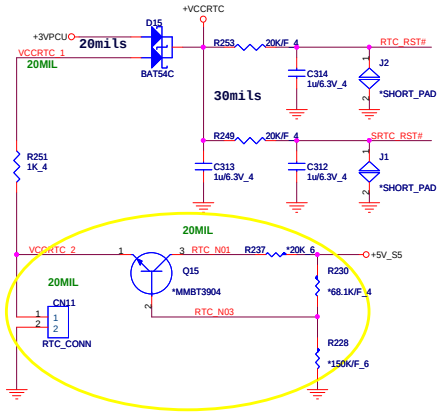
Quanta Computer Inc.

PROJECT : ZR7U

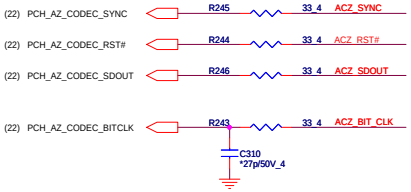
Size	Document Number	Rev
	IBEX PEAK-M 1/6	1A

Date: Tuesday, April 20, 2010 Sheet 8 of 38

RTC Circuitry(RTC)

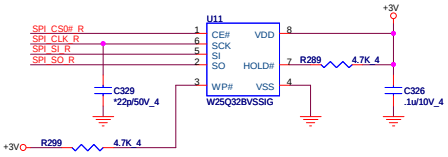


HDA Bus(CLG)

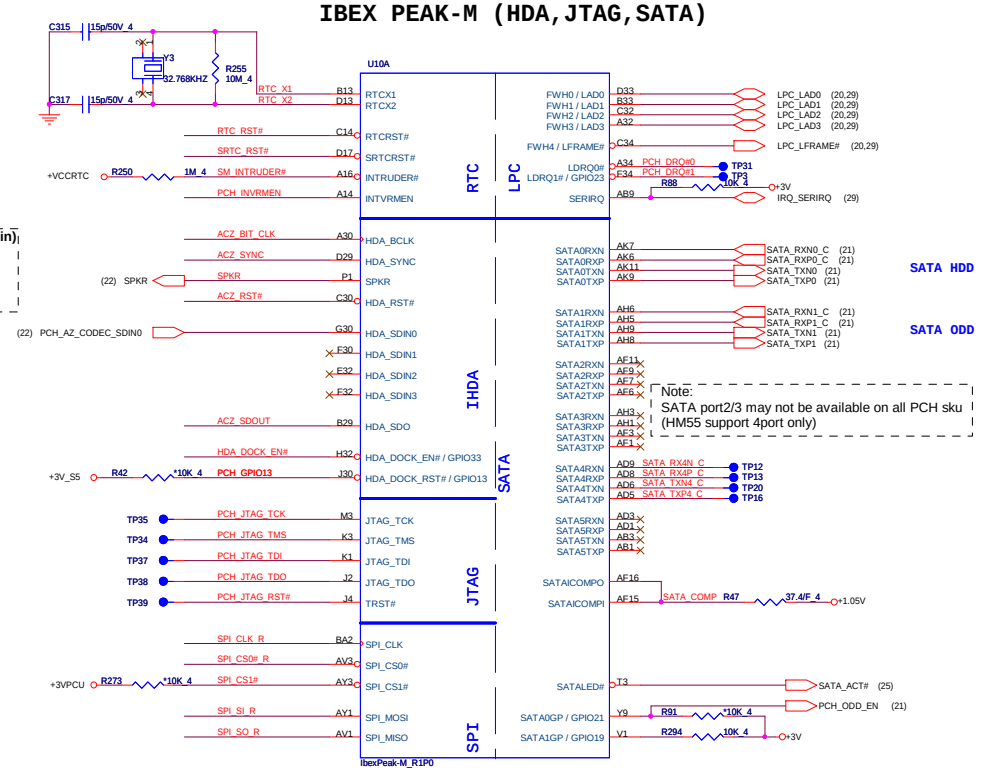


Place all series terms close to PCH except for SDIN input lines,which should be close to source.Placement of R should equal distance to the T split trace point. Basically, keep the same distance from T for all series termination resistors.

PCH SPI(CLG)



PCH2(CLG)



PCH Strap Table

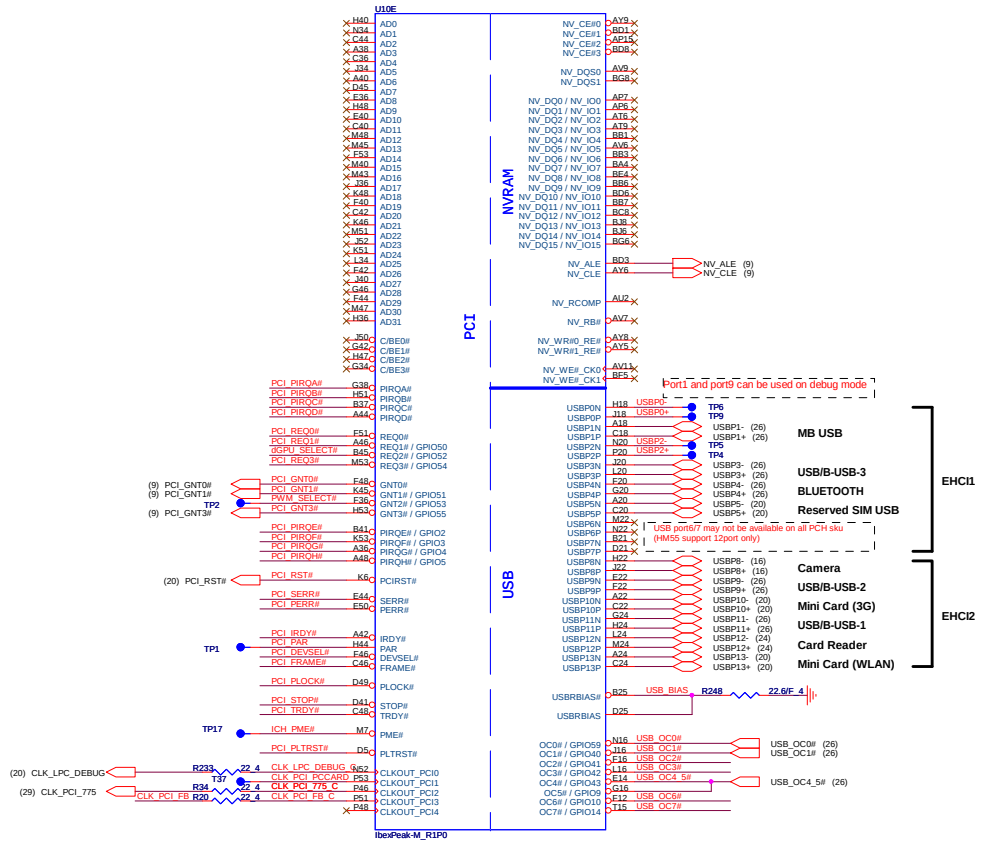
Pin Name	Strap description	Sampled	Configuration	ZR7U note
SPKR	No reboot mode setting	PWROK	0 = Default (weak pull-down 20K) 1 = Setting to No-Reboot mode	+3V R282 *10K_4 SPKR
INIT3_3V	Reserved	PWROK	1 = Default (weak pull-up 20K) Should not be pull-down	No use
GNT3# / GPIO55	Top-Block Swap Override	PWROK	0 = "top-block swap" mode 1 = Default (weak pull-up 20K)	R231 *10K_4 PCI_GNT3# (10)
INTVRMEN	Integrated 1.05V VRM enable	ALWAYS	Should be always pull-up	+VCCRTC R254 330K_4 PCH_INVRMEN
GNT1# / GPIO51	Boot BIOS Selection 1 [bit-1]	PWROK	GNT1# / GNT0# / Boot Location: 1 / 1 / **SPI** 1 / 0 / PCI 0 / 0 / LPC	+3V R22 1K_4 R6 1K_4 R21 *1K_4 R10 *1K_4 PCI_GNT0# (10) PCI_GNT1# (10)
GNT0#	Boot BIOS Selection 0 [bit-0]	PWROK		
GNT2# / GPIO53	ESI strap (Server only)	PWROK	Should not be pull-down (weak pull-up 20K)	No use
NV_ALE	Intel Anti-Theft HDD protection	PWROK	0 = Disable (Internal pull-down 32ohm)	+1.8V R265 *1K_4 NV_ALE NV_ALE (10)
NV_CLE	DMI Termination voltage	PWROK	weak pull-down 32ohm Set to Vcc when LOW	+1.8V R261 *1K_4 NV_CLE NV_CLE (10)
HDA_DOCK_EN#/GPIO33	Flash Descriptor Security	PWROK	0 = Override 1 = Default (weak pull-up 20K)	+3V R36 *1K_4 R37 *10K_4 HDA_DOCK_EN#
SPI_MOSI	iTPM function Disable	MEPWROK	0 = Default (weak pull-down 20K) 1 = Enable	+3V R301 *1K_4 SPI_SI_R
HDA_SDO	Reserved	RSMRST#	Should not be pull-up (weak pull-down 20K)	
GPIO8	Reserved	RSMRST#	Should not be pull-down (weak pull-up 20K)	+3V_S5 R274 10K_4 RSV_GPIO8 (11)
GPIO27	On-die PLL Voltage Regulator	RSMRST#	0 = Disable 1 = Enable (weak pull-up 20K)	On-die PLL voltage enable
HDA_SYNC	On-die PLL PWR supply select	RSMRST#	0 = 1.8V supply (weak pull-down 20K) 1 = 1.5V supply	use default (0=1.8V supply)
GPIO15	Reserved	RSMRST#	0 = TLS no Confidentiality (weak pull-down 20K) 1 = TLS Confidentiality	+3V_S5 R92 1K_4 CR_WAKE# (11)

Quanta Computer Inc.
PROJECT : ZR7U

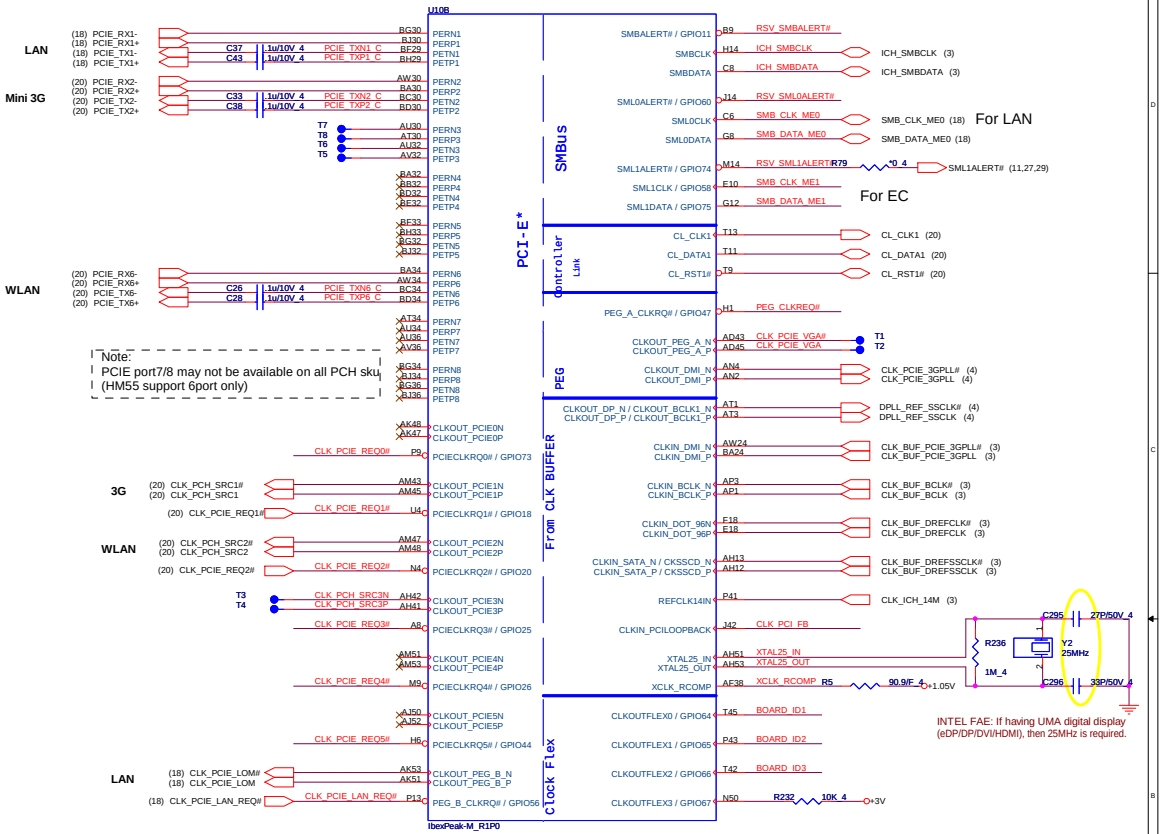
Size	Document Number	Rev
	IBEX PEAK-M 2/6	1A
Date: Tuesday, April 20, 2010	Sheet 9 of 38	

PCH3(CLG)

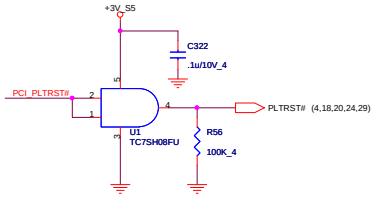
IBEX PEAK-M (PCI,USB,NVRAM)



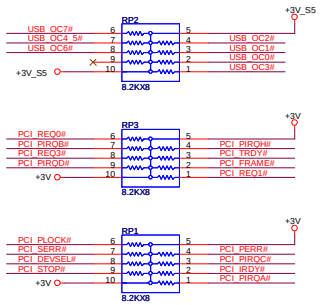
IBEX PEAK-M (PCI-E,SMBUS,CLK)



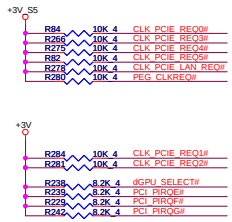
PLTRST#(CLG)



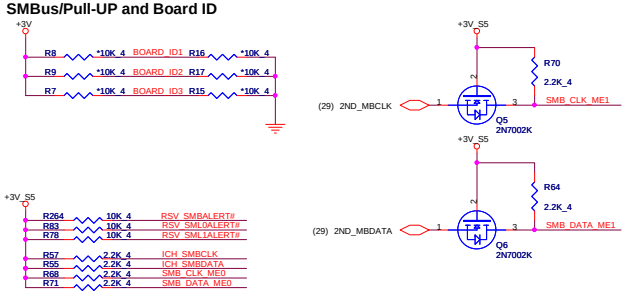
PCI/USBOC# Pull-up(CLG)



CLK_REQ/Strap Pin(CLG)



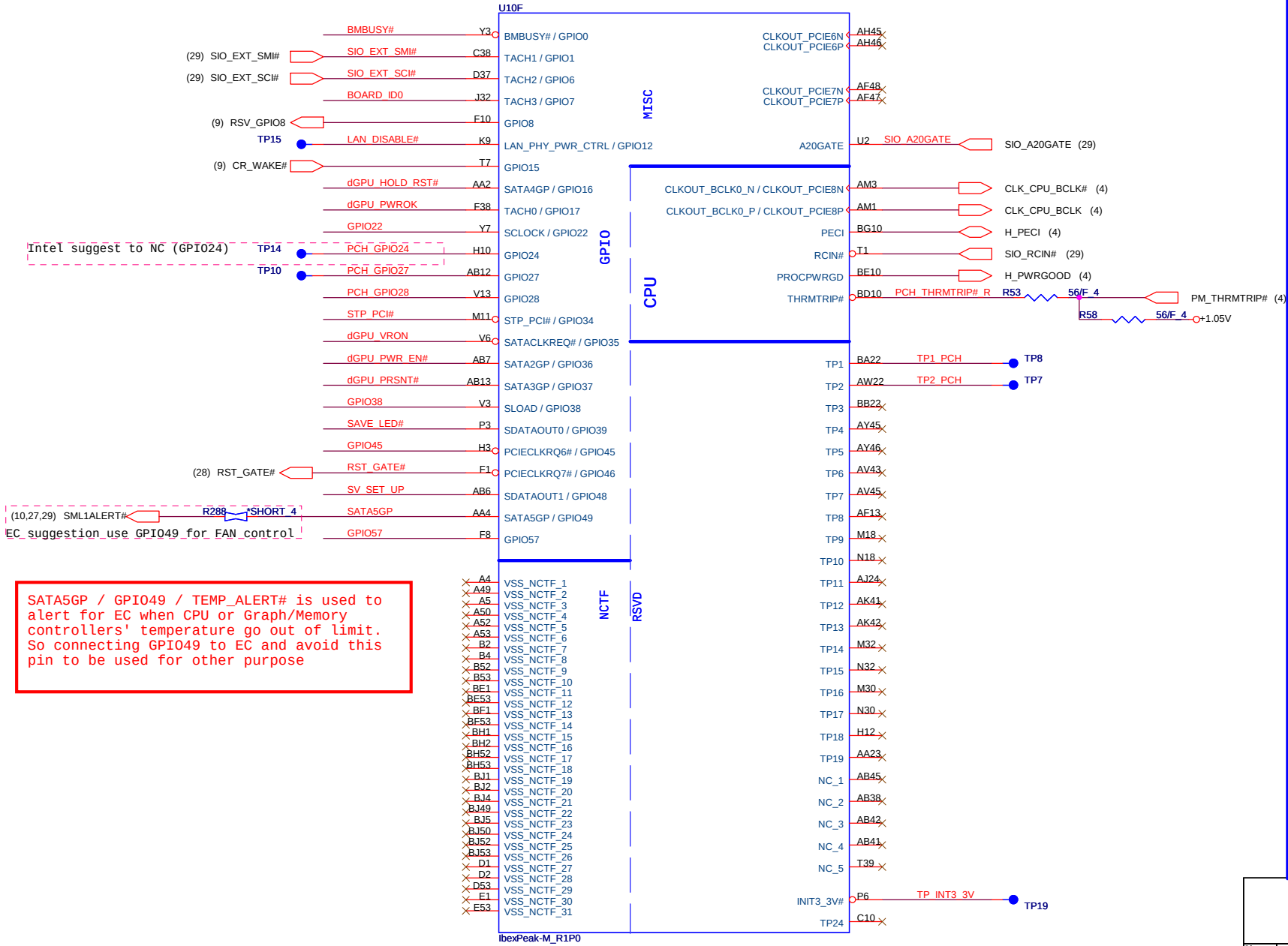
SMBus/Pull-UP and Board ID



INTEL FAE: If having UMA digital display (eDP/DP/DVI/HDMI), then 25MHz is required.

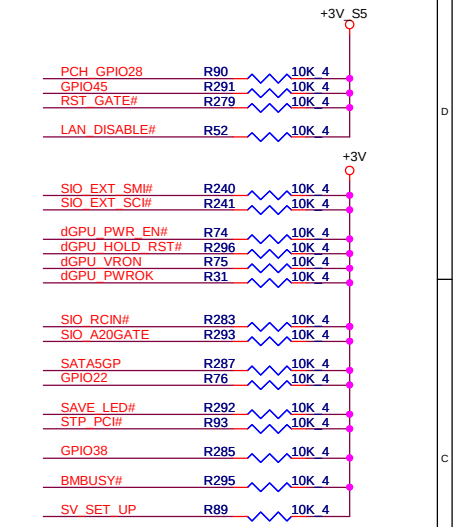
Quanta Computer Inc.		
PROJECT : ZR7U		
Size	Document Number: IBEX PEAK-M 3/6	Rev: 1A
Date: Tuesday, April 20, 2010	Sheet 10 of 38	

IBEX PEAK-M (GPIO,VSS_NCTF,RSVD)



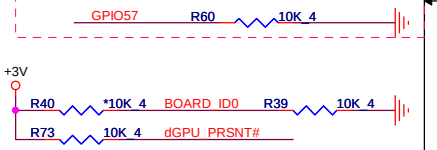
SATA5GP / GPIO49 / TEMP_ALERT# is used to alert for EC when CPU or Graph/Memory controllers' temperature go out of limit. So connecting GPIO49 to EC and avoid this pin to be used for other purpose

GPIO Pull-up/Pull-down(CLG)



SV_SET_UP	1-X High = Strong (Default)

GPIO57 stuff PD and not stuff PU for Intel suggestion



BOARD_ID0	High = JV41/JM41 Low = JM51
RSV_GPIO8	High = Disable Low = Enable

Quanta Computer Inc.

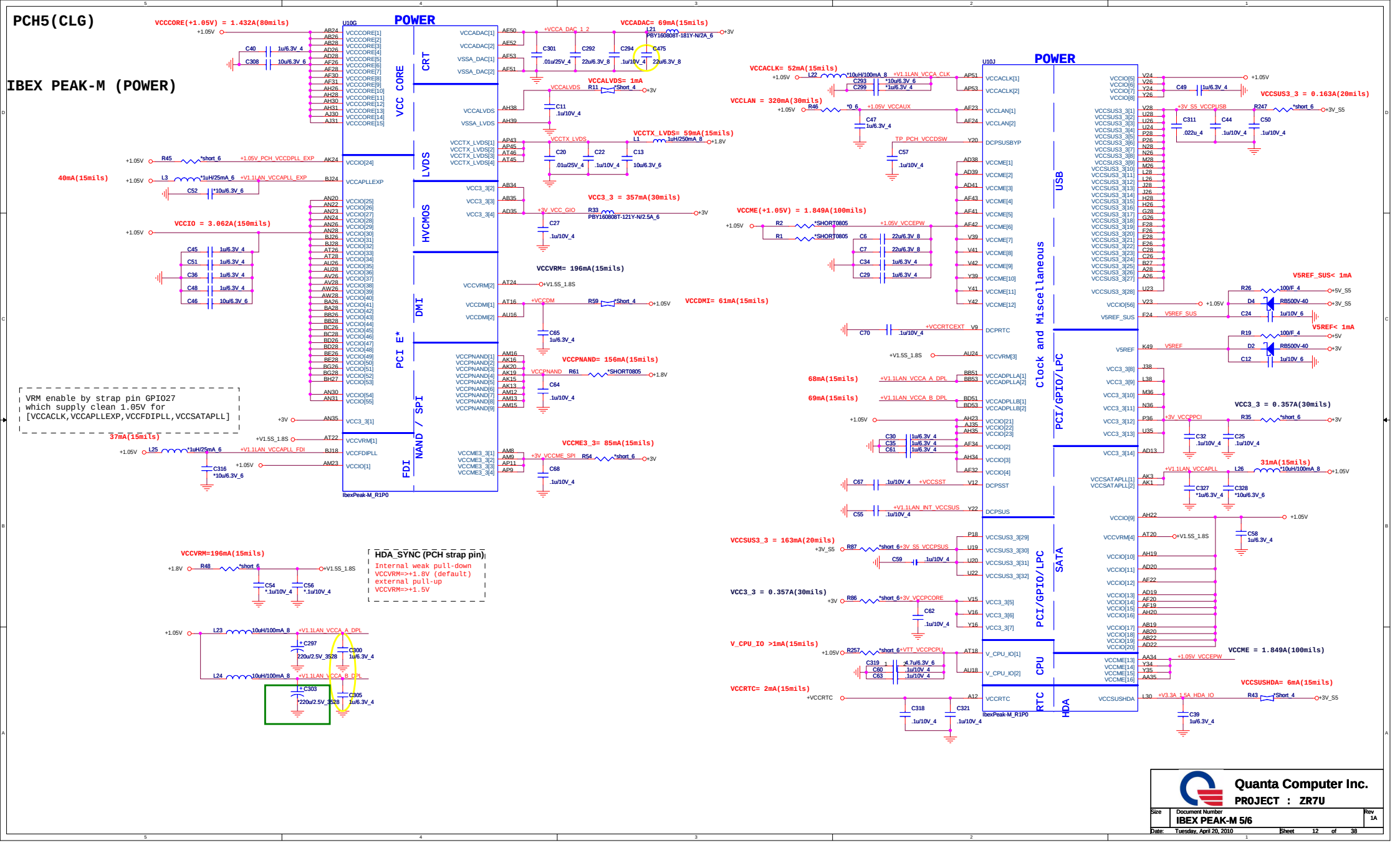
PROJECT : ZR7U

Size	Document Number	Rev
	IBEX PEAK-M 4/6	1A

Date: Tuesday, April 20, 2010 Sheet 11 of 38

PCH5(CLG)

IBEX PEAK-M (POWER)



Quanta Computer Inc.

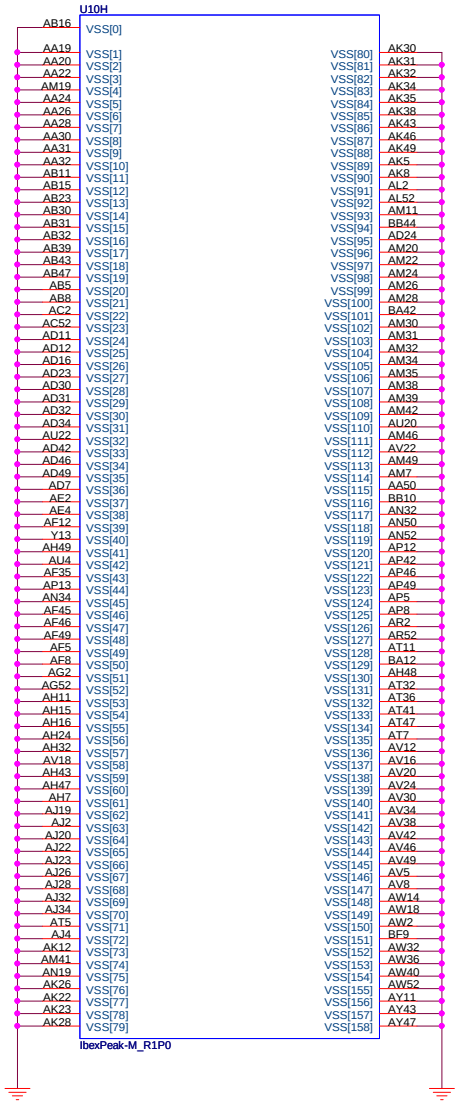
PROJECT : ZR7U

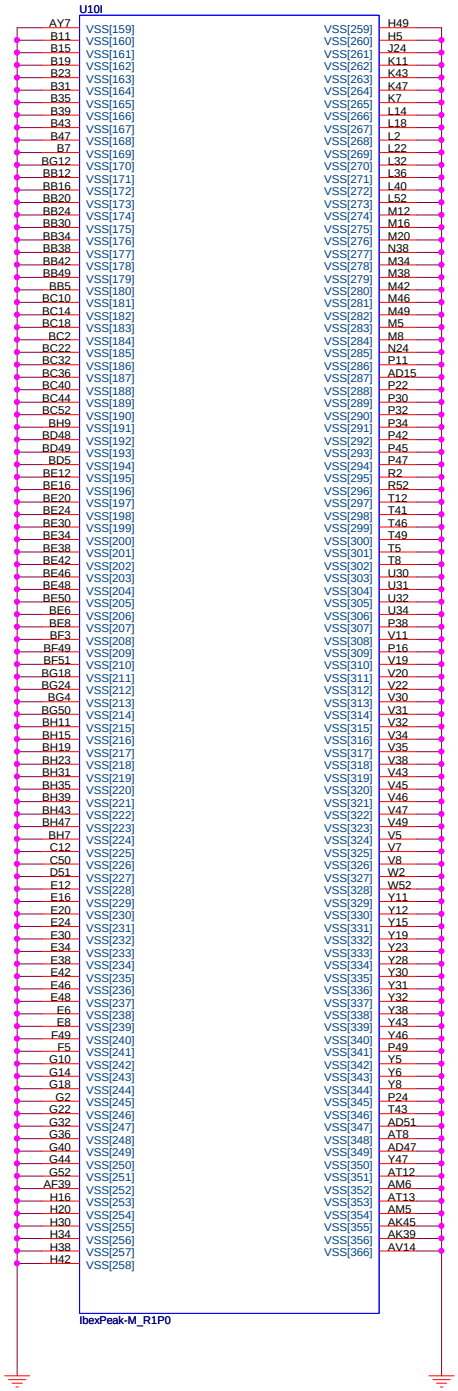
Size	Document Number	Rev
	IBEX PEAK-M 5/6	1A

Date: Tuesday, April 20, 2010 Sheet 12 of 38

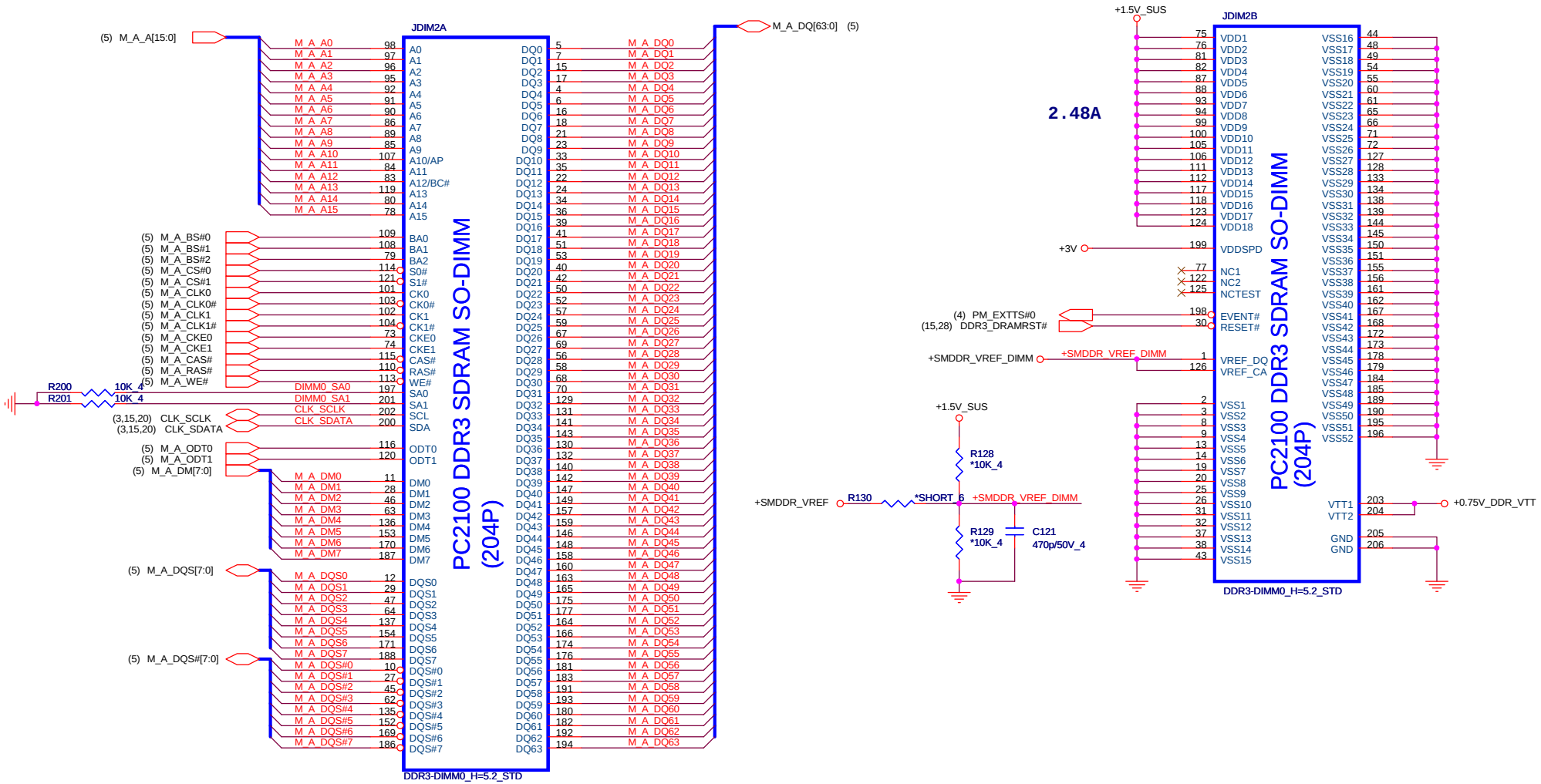
PCH6(CLG)

IBEX PEAK-M (GND)

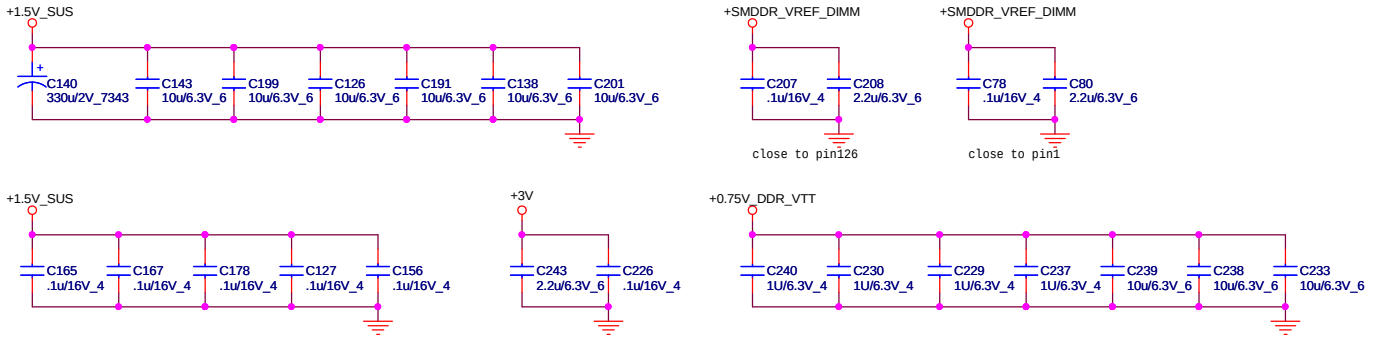




Quanta Computer Inc.		
PROJECT : ZR7U		
Size	Document Number: IBEX PEAK-M 6/6	Rev: 1A
Date: Tuesday, April 20, 2010	Sheet 13 of 38	



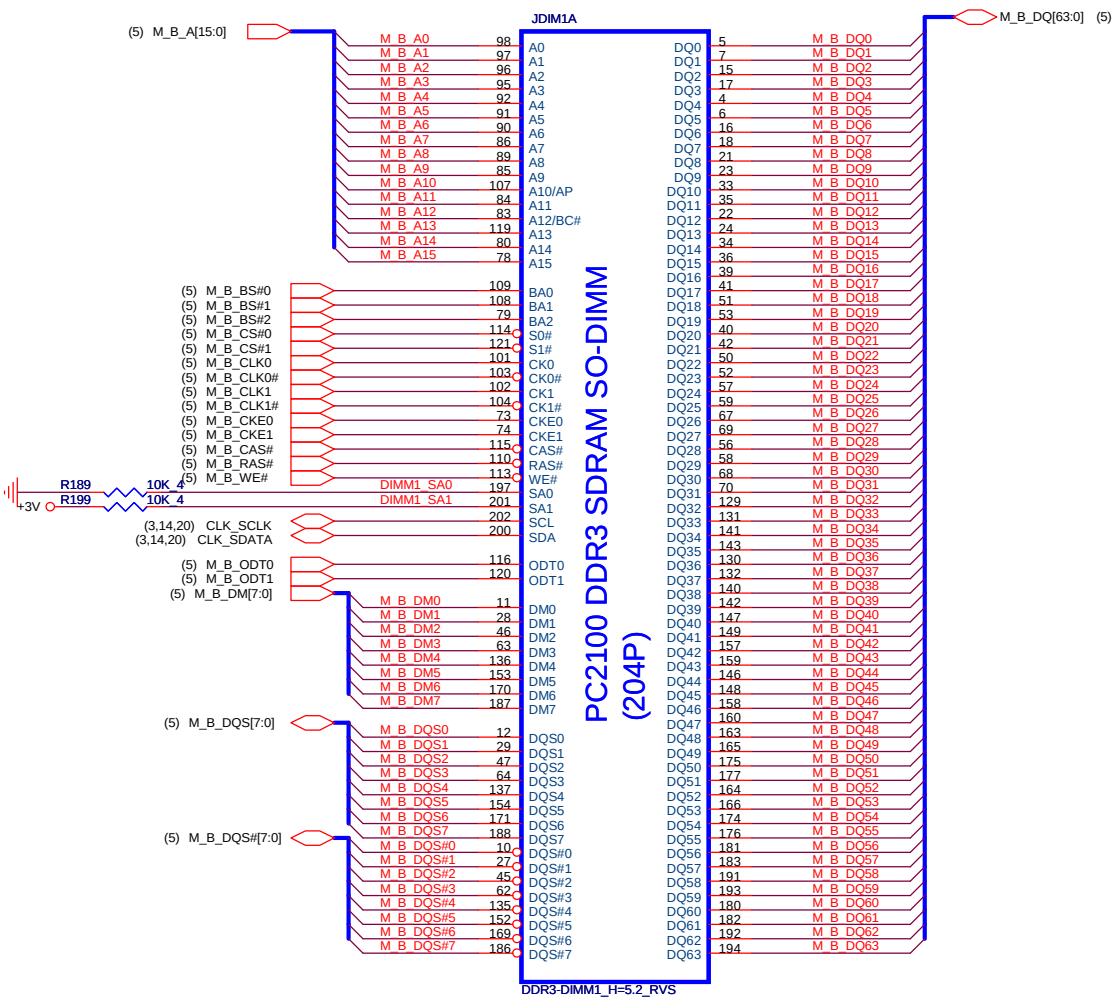
DIMM decoupling CAP (near So-Dimm0)

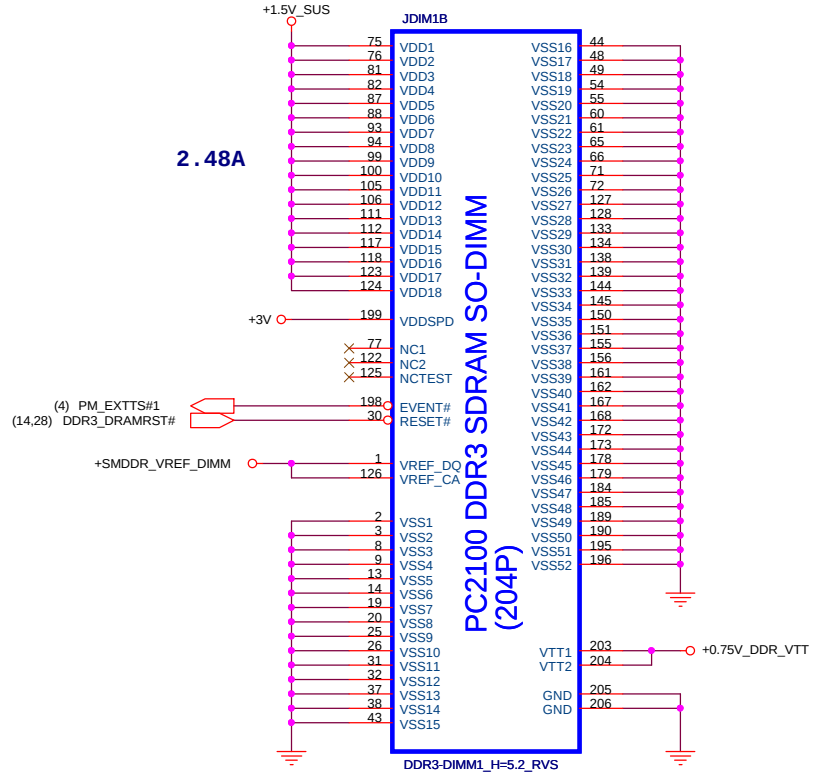


Quanta Computer Inc.

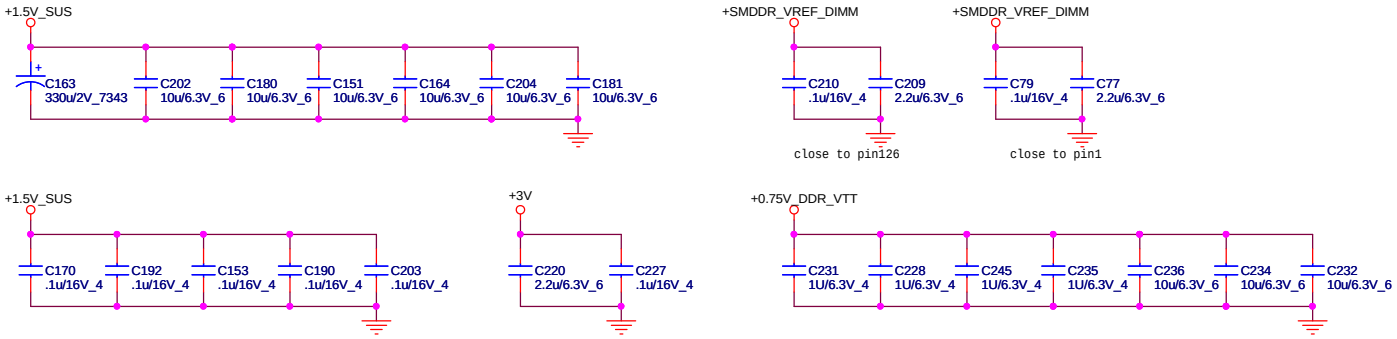
PROJECT : ZR7U

Size	Document Number	Rev
	DDRIII SO-DIMM-0	1A
Date: Tuesday, April 20, 2010	Sheet 14 of 38	





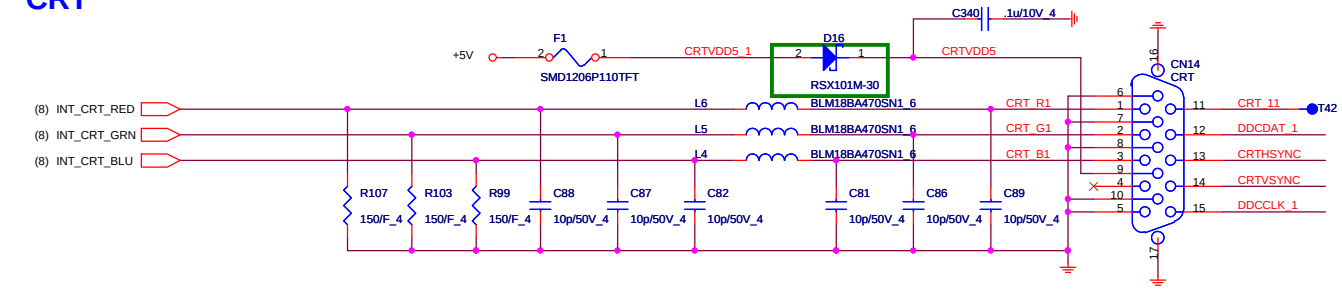
DIMM decoupling CAP (near So-Dimm1)



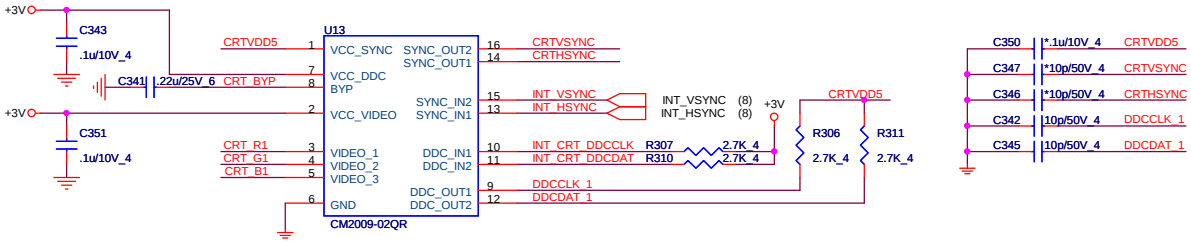
Quanta Computer Inc.
PROJECT : ZR7U

Size	Document Number	Rev
	DDRIII SO-DIMM-1	1A
Date: Tuesday, April 20, 2010	Sheet 15 of 38	

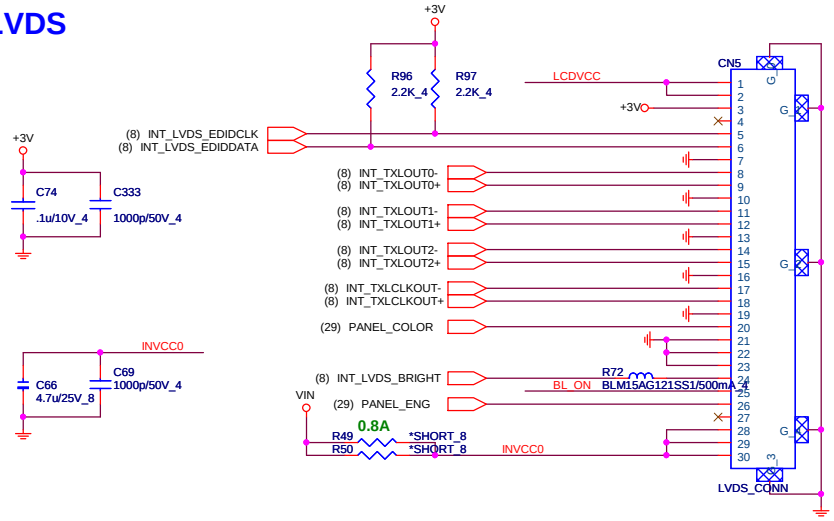
CRT



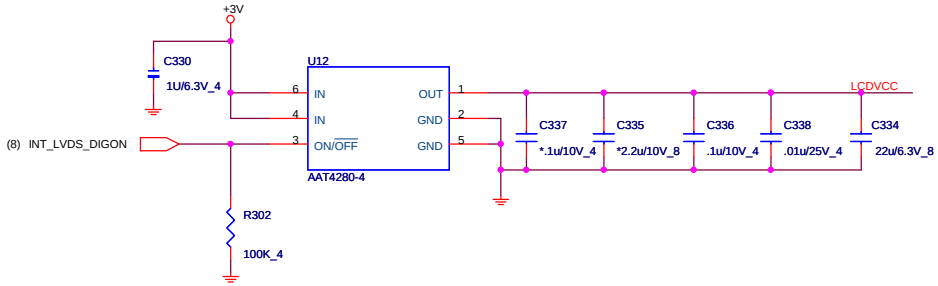
(8) INT_CRT_DDCDAT → INT_CRT_DDCDAT
(8) INT_CRT_DDCCLK → INT_CRT_DDCCLK



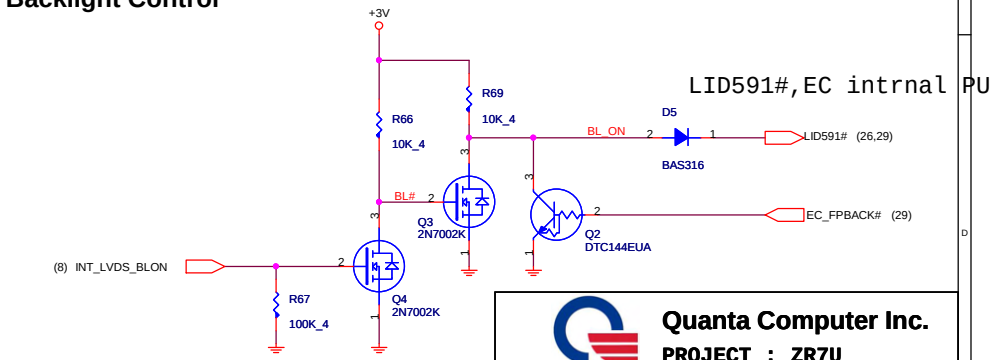
LVDS



LCD Power

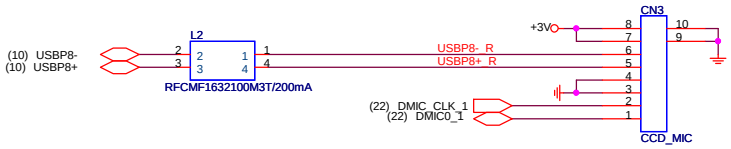


Backlight Control



LID591#,EC intrnal PU

CCD and MIC

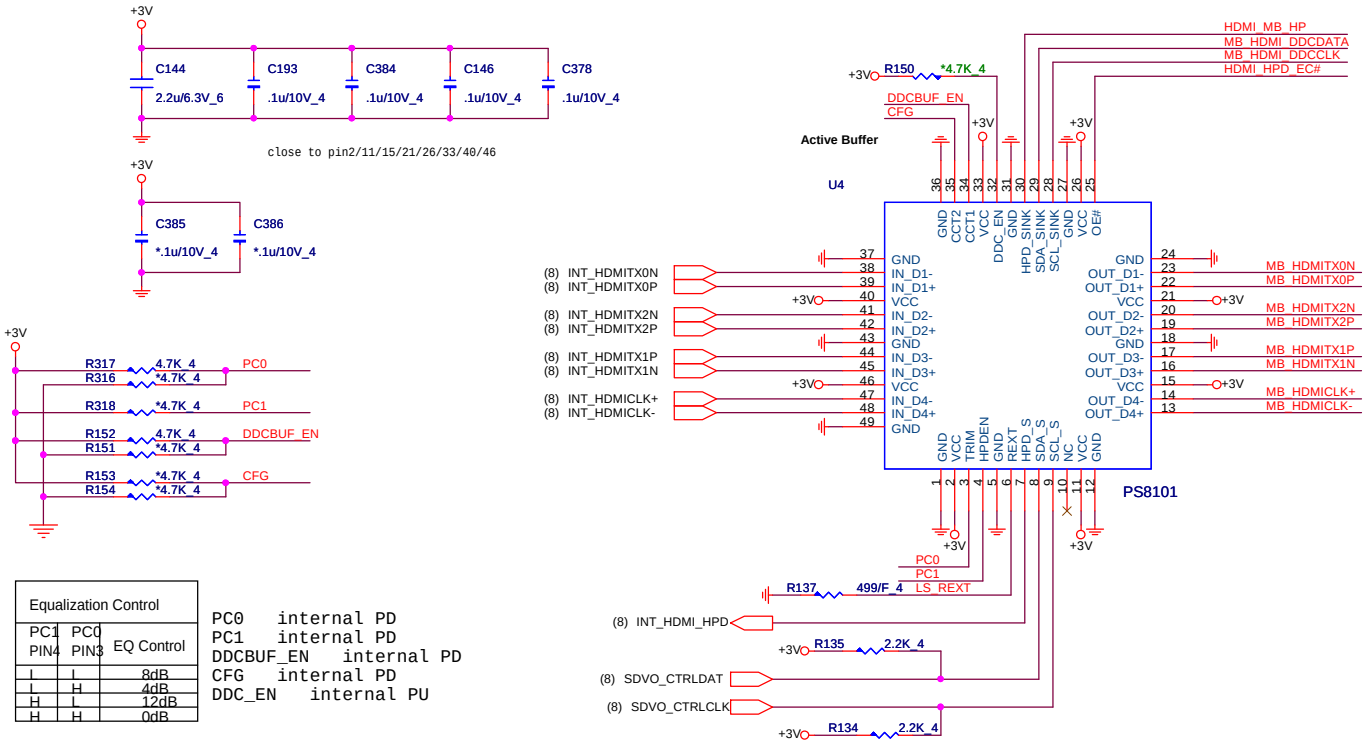


Quanta Computer Inc.
PROJECT : ZR7U

Size	Document Number	Rev
	CRT/LVDS/CAMERA/LID	1A

Date: Thursday, April 22, 2010 Sheet 16 of 38

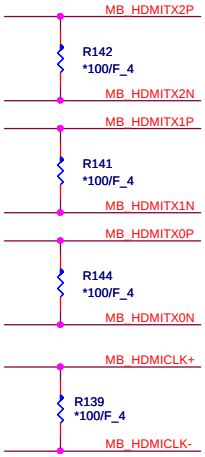
HDMI LEVEL SHIFTER



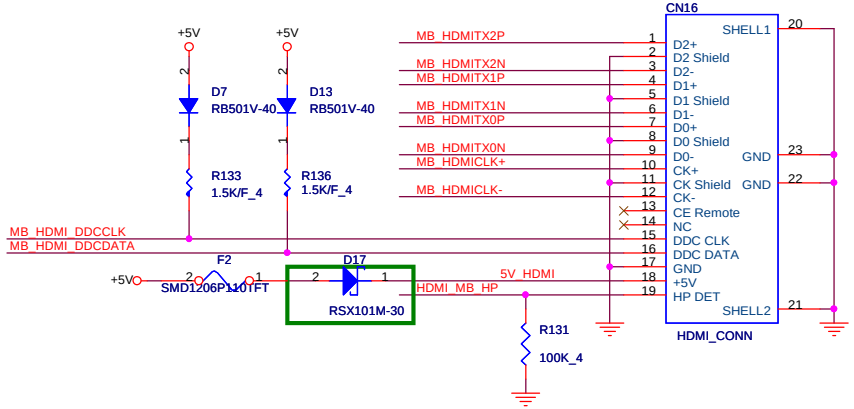
Equalization Control		
PC1 PIN4	PC0 PIN3	EQ Control
L	L	8dB
L	H	4dB
H	L	12dB
H	H	0dB

PC0 internal PD
PC1 internal PD
DDCBUF_EN internal PD
CFG internal PD
DDC_EN internal PU

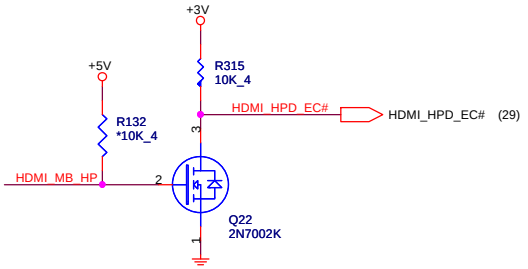
EMI



HDMI connector

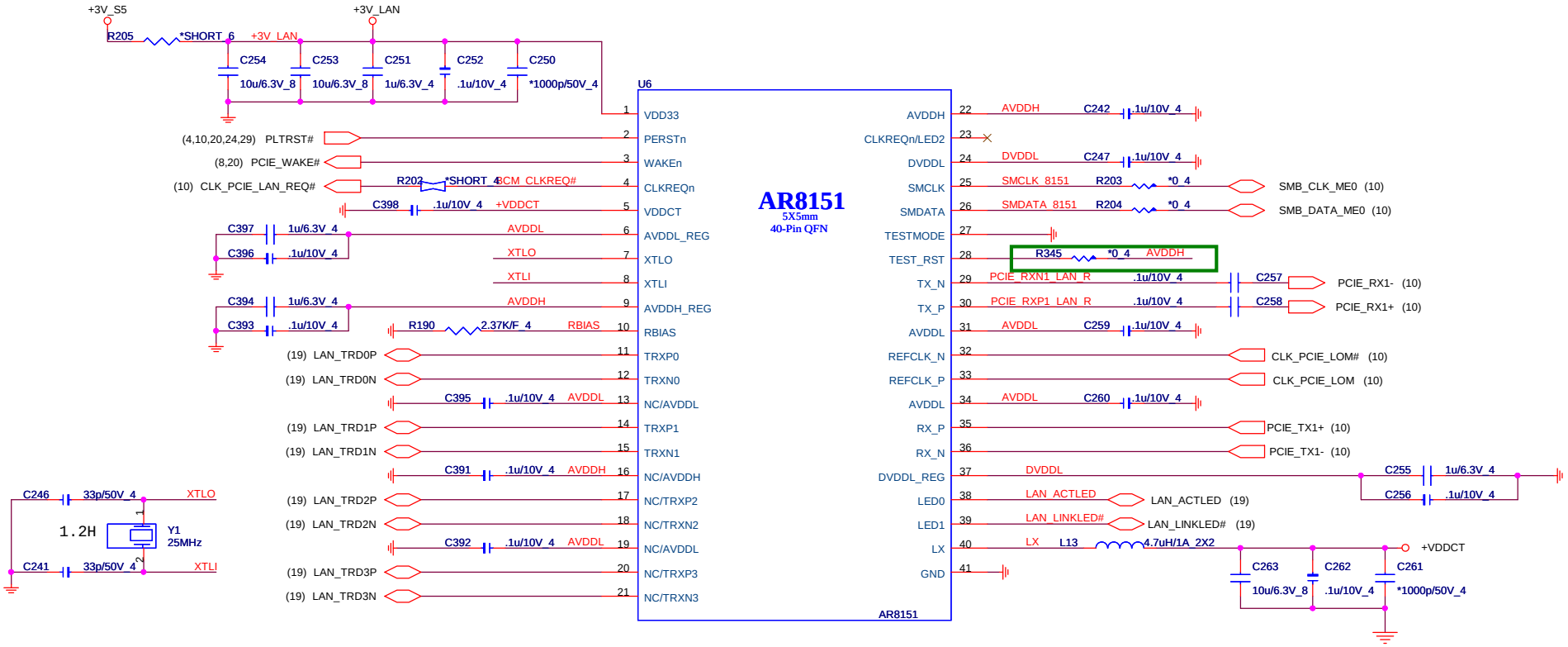


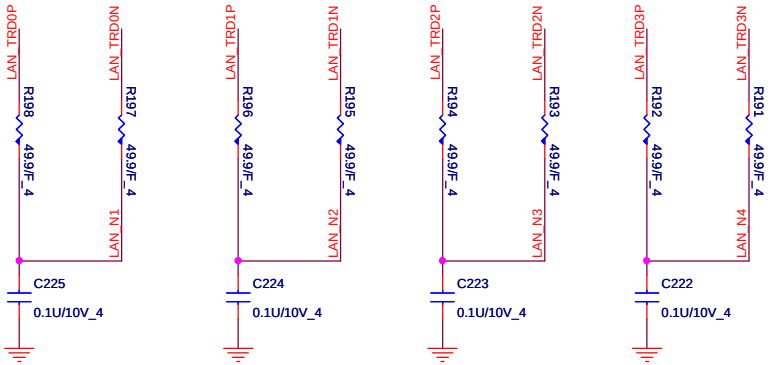
HP-detect & OE# control



Quanta Computer Inc.		
PROJECT : ZR7U		
Size	Document Number: HDMI (PS8101)	Rev 1A
Date: Tuesday, April 20, 2010	Sheet 17 of 38	

Giga-LAN AR8151



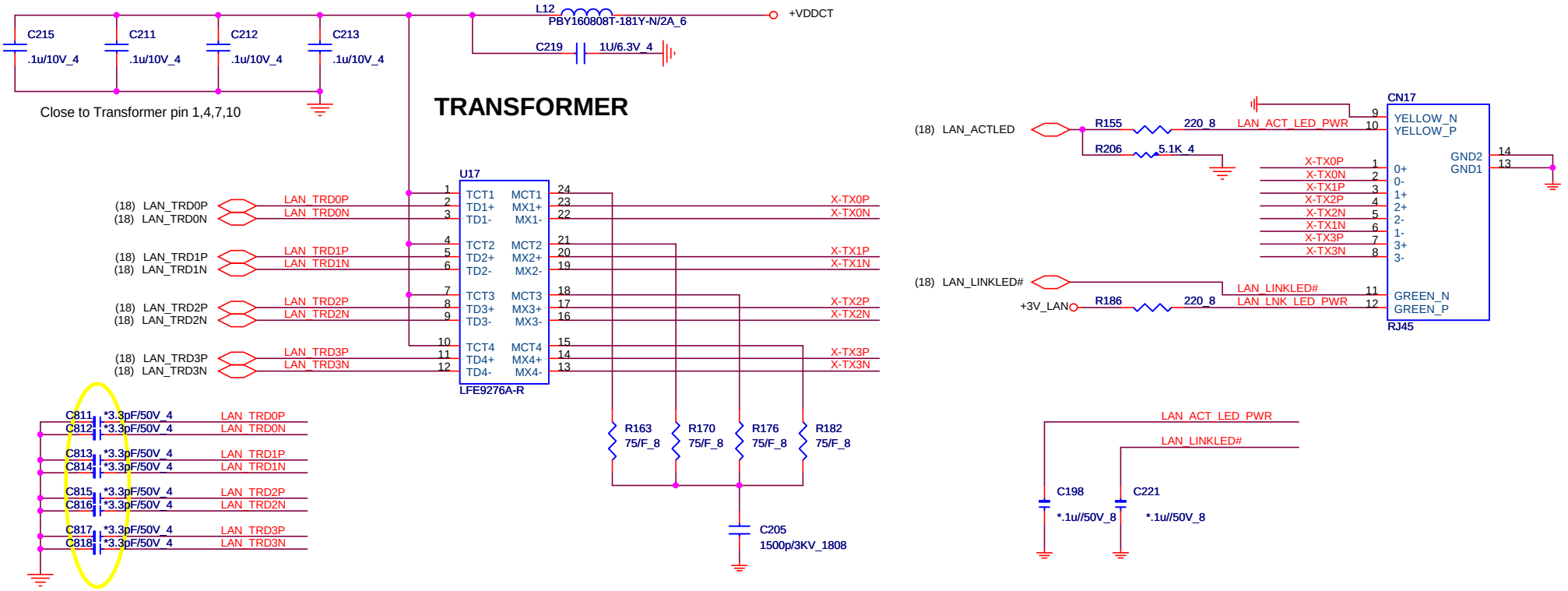


Quanta Computer Inc.

PROJECT : ZR7U

Size	Document Number	Rev
	GLAN BCM57780	1A

Date: Thursday, April 22, 2010 Sheet 18 of 38



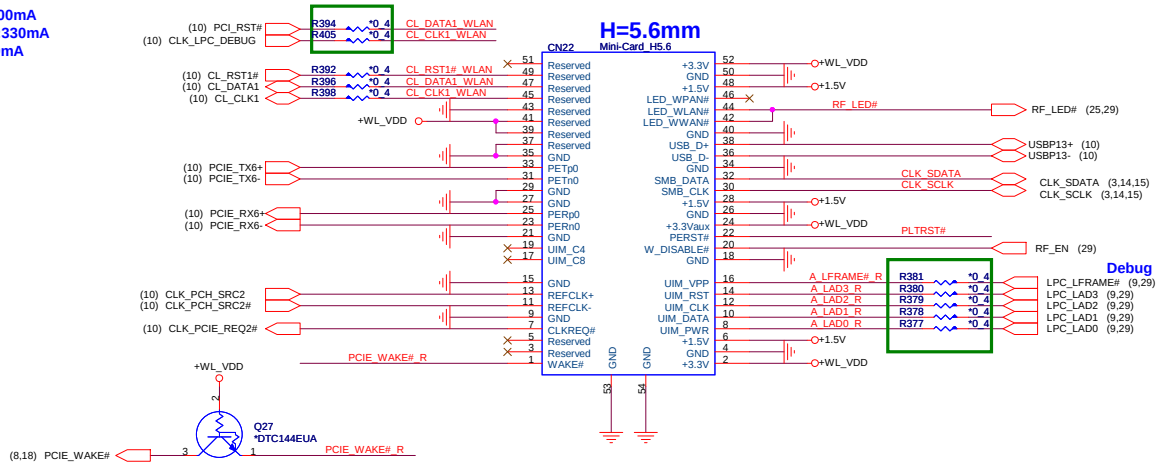
Delta LFE9276C-R (DB0ZR1LAN00)
FCE NS892407 (DB0LL1LAN00)
Bothhand GST5009B (DB0Z06LAN00)

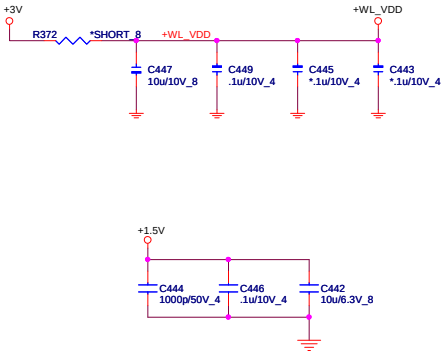
Quanta Computer Inc.
PROJECT : ZR7U

Size	Document Number	Rev
	LAN Transformer and RJ45	1A
Date: Tuesday, April 20, 2010	Sheet 19 of 38	

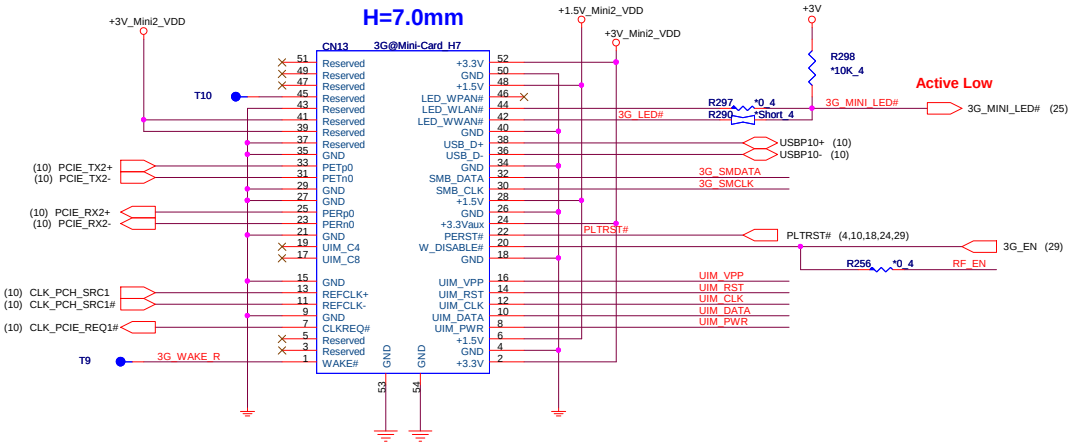
MINI-CARD WLAN(MPC)

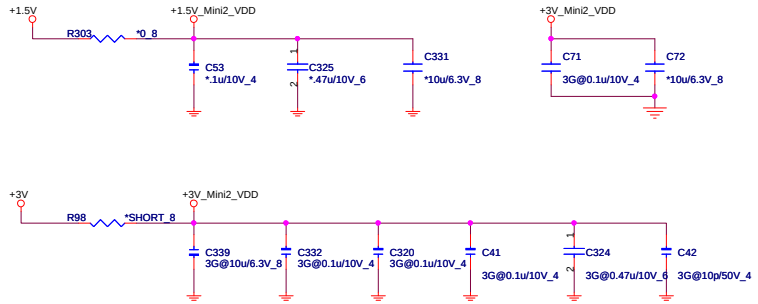
+3.3V: 1000mA
+3.3Vaux:330mA
+1.5V:500mA



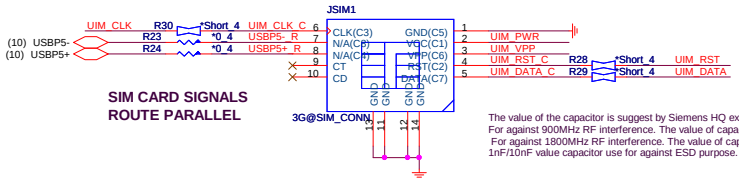


MINI-CARD 3G(MNC)



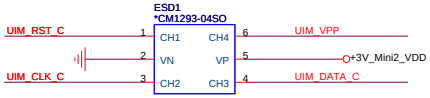


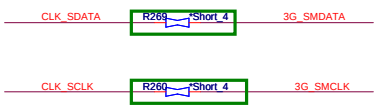
SIM CARD(RFM)

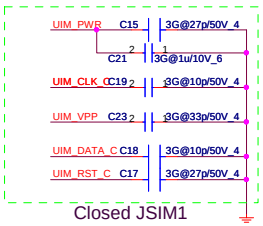


SIM CARD SIGNALS
ROUTE PARALLEL

The value of the capacitor is suggest by Siemens HQ expert.
For against 900MHz RF interference. The value of capacitor is 27pF.
For against 1800MHz RF interference. The value of capacitor is 10pF.
1nF/10nF value capacitor use for against ESD purpose.



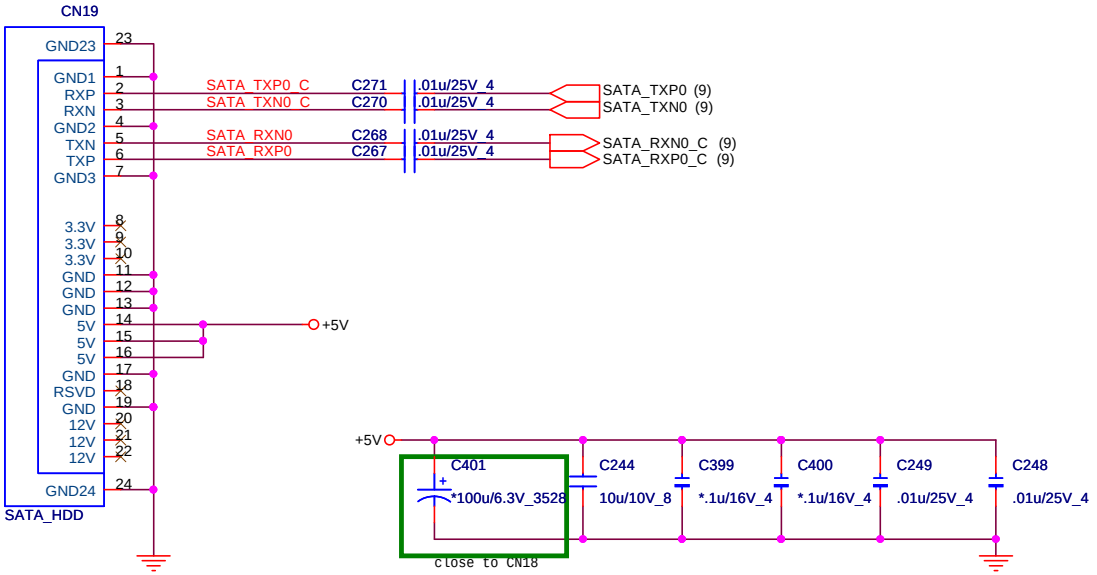




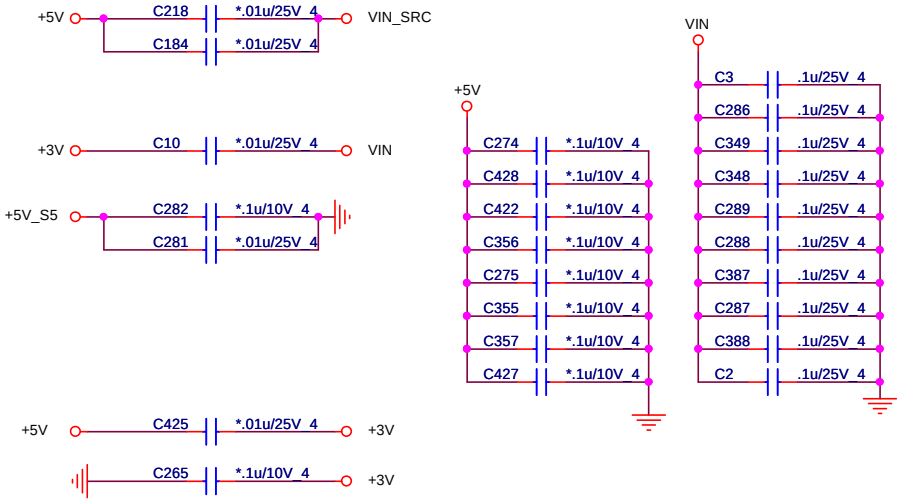
Closed JSIM1

Quanta Computer Inc.		
PROJECT : ZR7U		
Size	Document Number: MINI PCI-E card/TV	Rev: 1A
Date: Tuesday, April 20, 2010	Sheet 20 of 38	

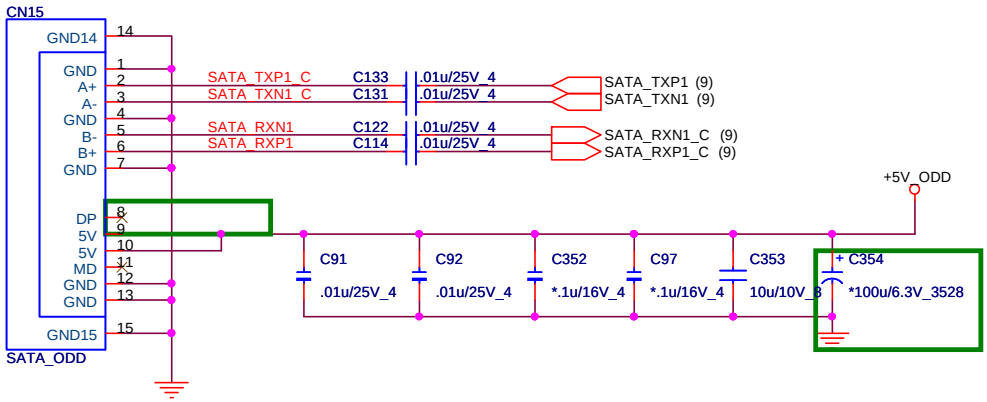
MAIN SATA HDD



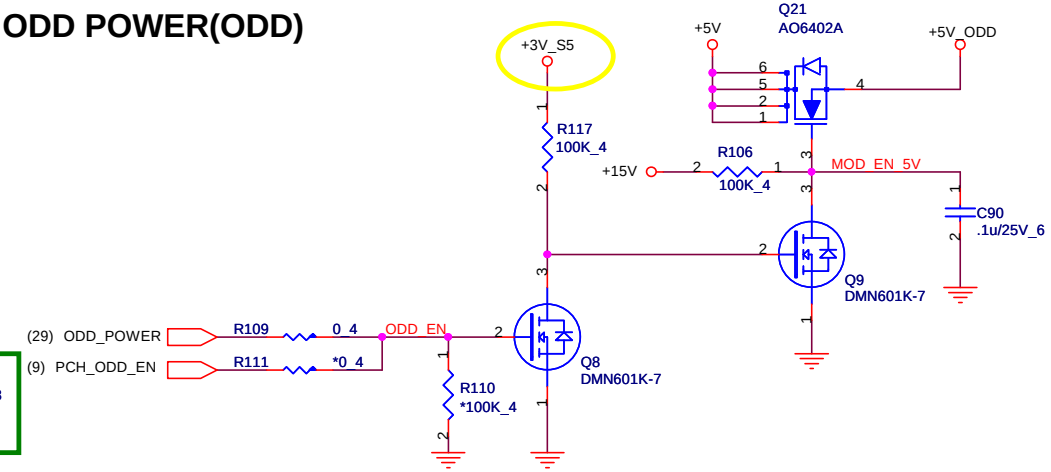
EE RETURN-PATH CAPACITORS



ODD (SATA)

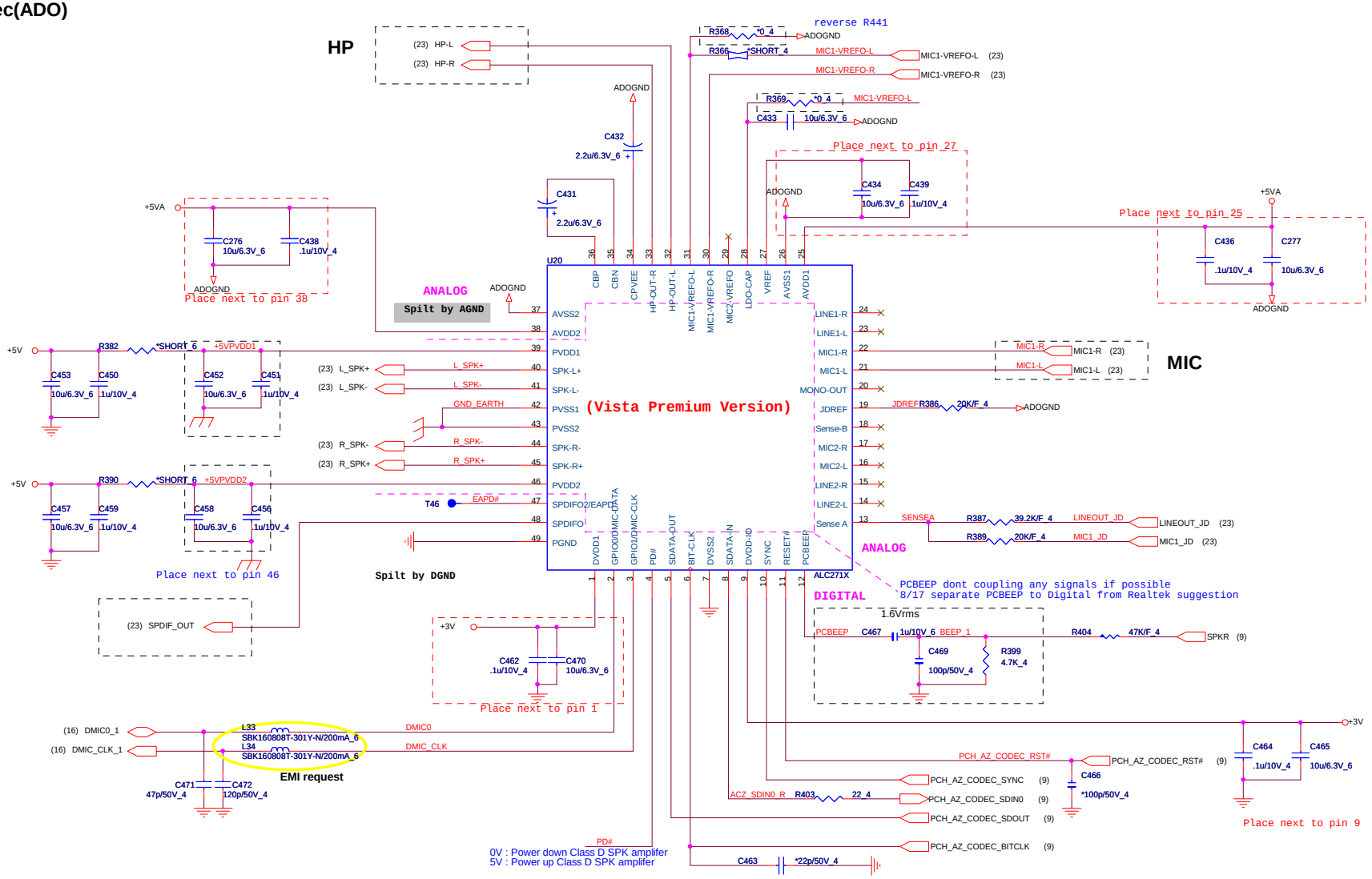


ODD POWER(ODD)

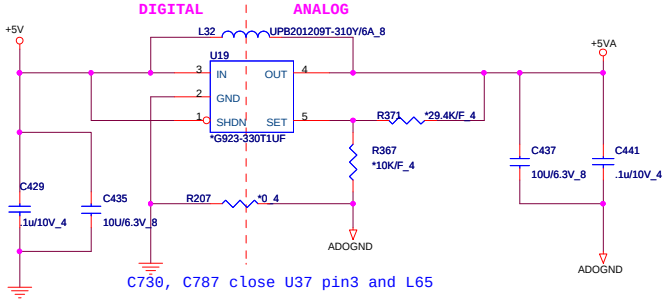


Quanta Computer Inc.		
PROJECT : ZR7U		
Size	Document Number: SATA-HDD/ODD/USB-ESATA	Rev: 1A
Date: Tuesday, April 20, 2010	Sheet 21 of 38	

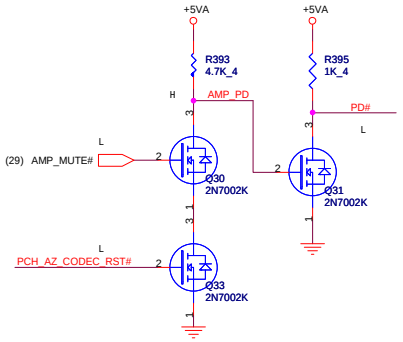
Codec(ADO)



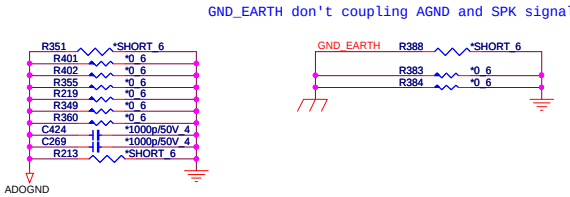
Power (ADO)



Mute(ADO)



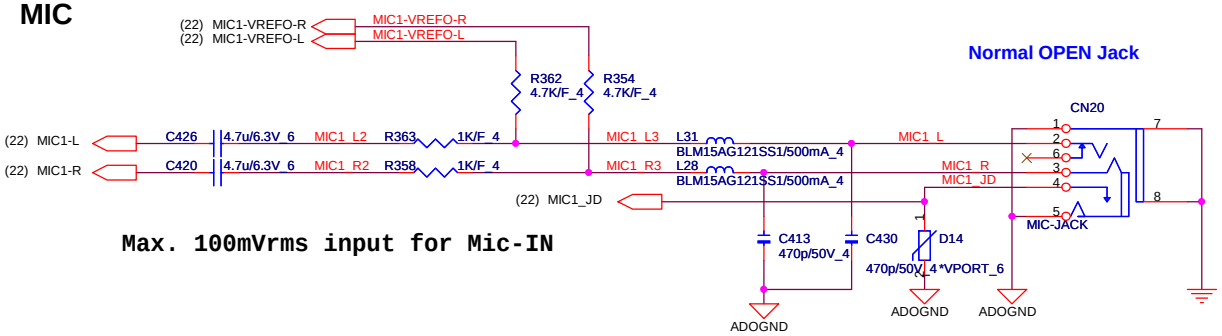
Split-GND



Quanta Computer Inc.
PROJECT : ZR7U

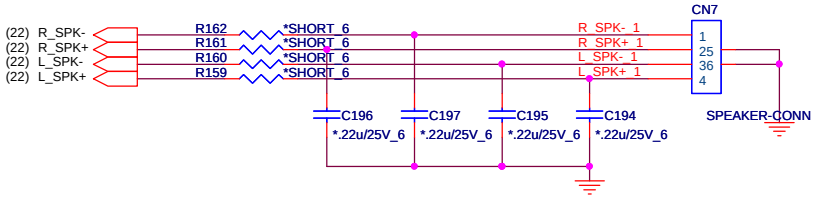
Size	Document Number	Rev
	REALTEK ALC663&888/MDC	1A
Date: Thursday, April 22, 2010	Sheet 22 of 38	

MIC

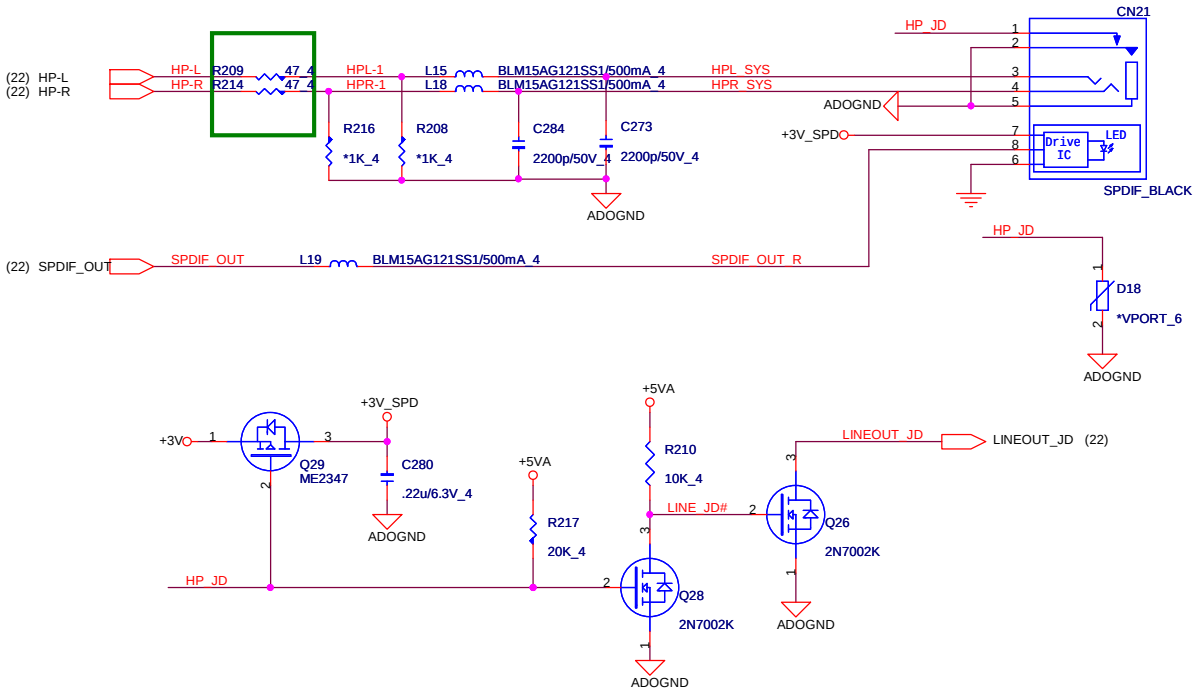


Max. 100mVrms input for Mic-IN

Internal Speaker



HP/SPDIF



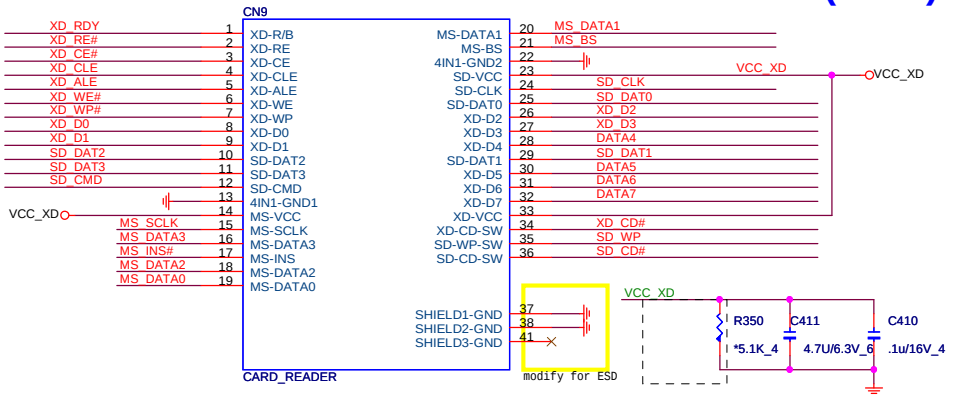
Quanta Computer Inc.

PROJECT : ZR7U

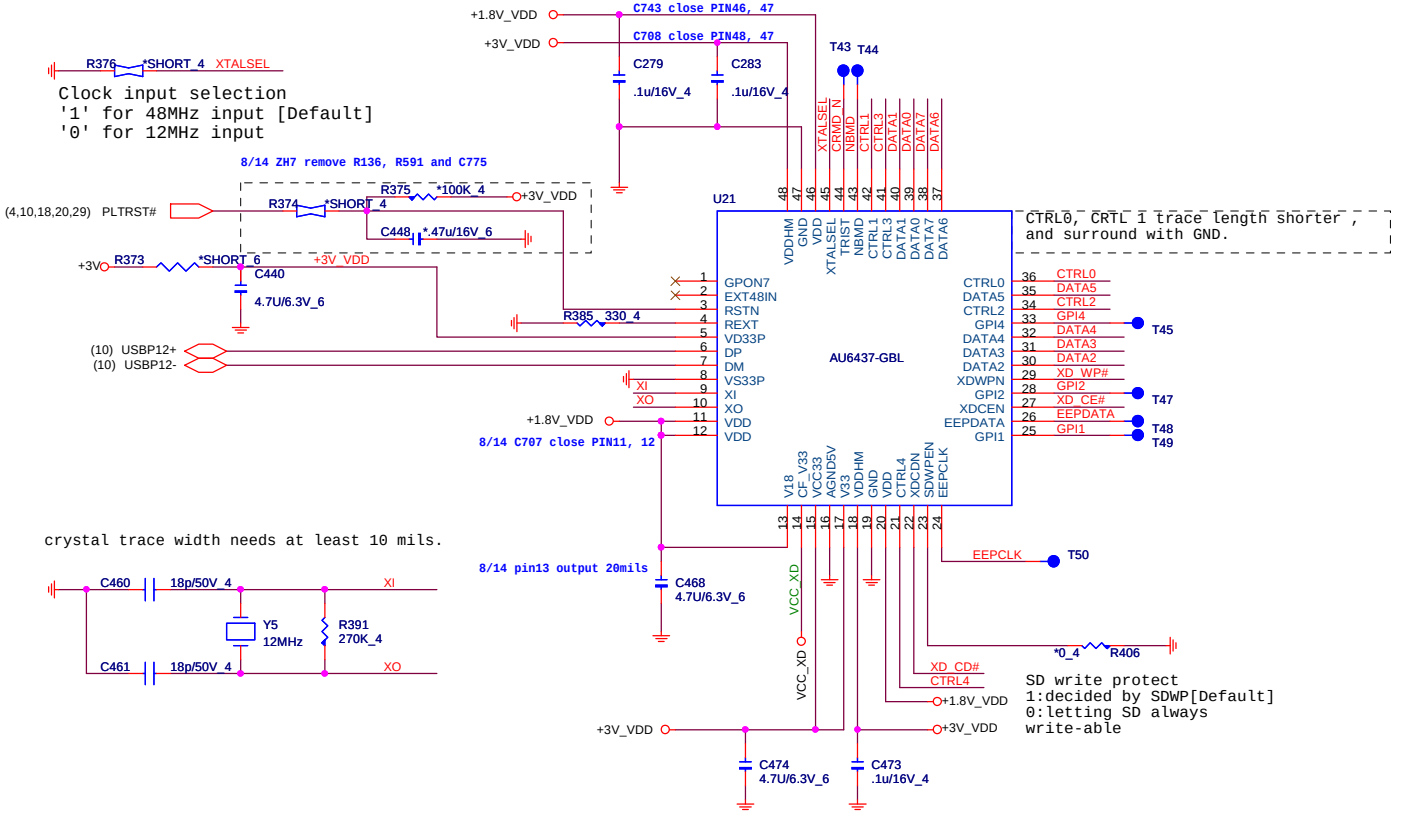
Size	Document Number	Rev
	AMP /AUDIO JACK CONN	1A
Date: Tuesday, April 20, 2010	Sheet 23 of 38	

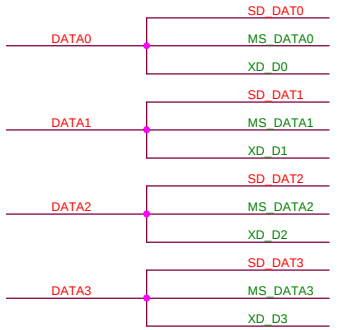
CARD READER Controller

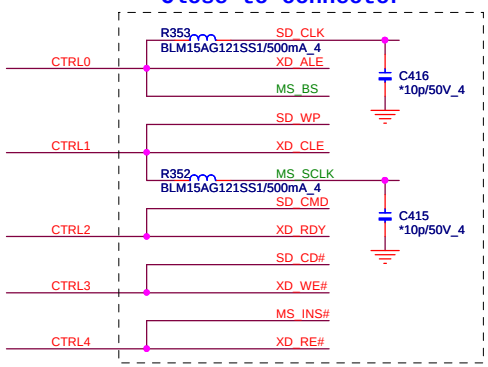
4 IN 1 CARD READER (MMC)



Close to CN14 pin 14 & pin23
4.7u CAP close to pin23

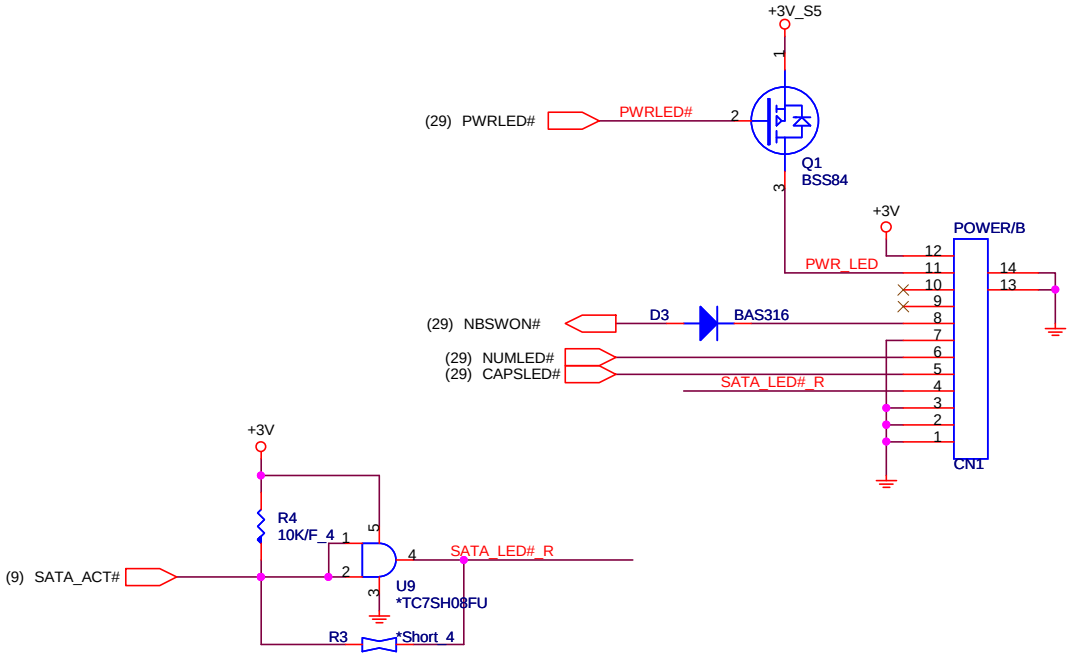




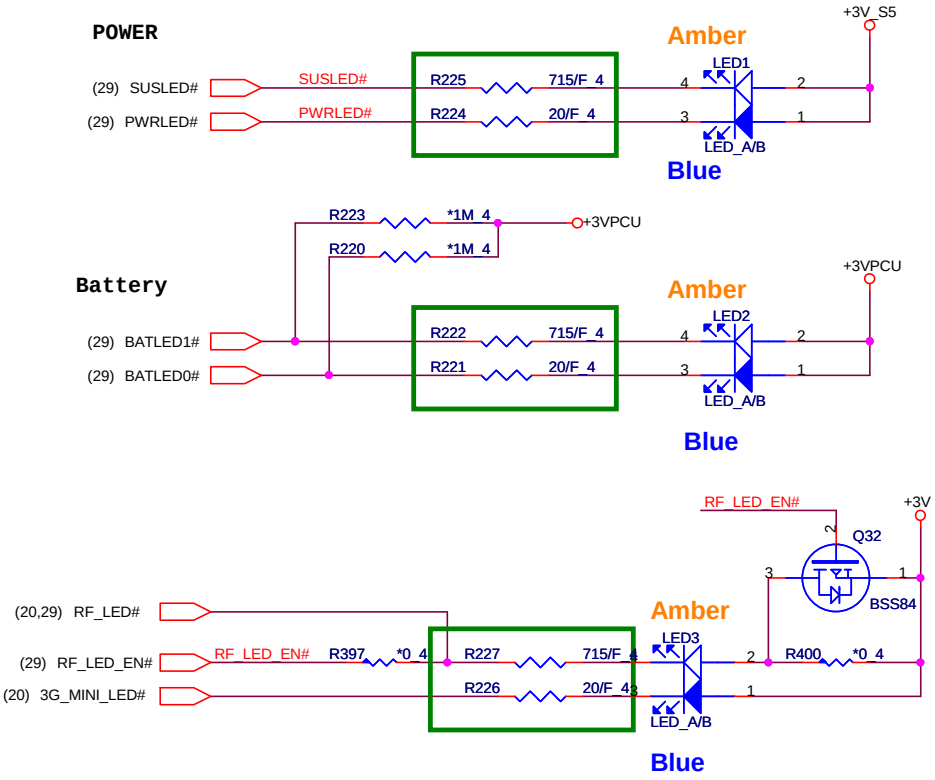


Quanta Computer Inc.		
PROJECT : ZR7U		
Size	Document Number	Rev
	AU6433 CardReader	1A
Date: Tuesday, April 20, 2010	Sheet 24 of 38	

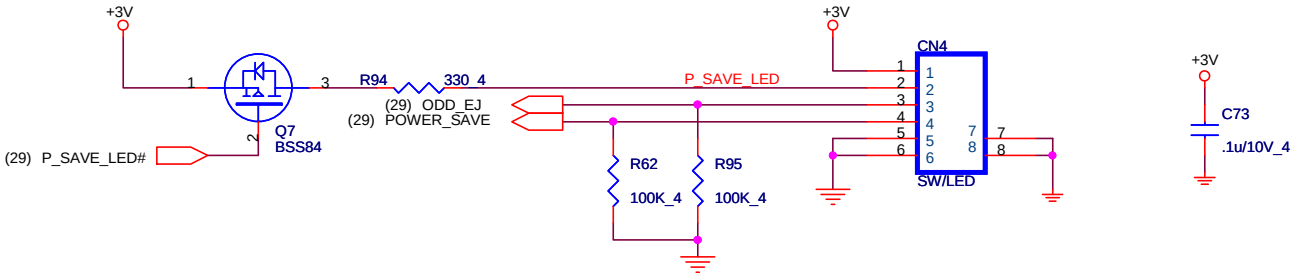
POWER BOARD CONN(UIF)



LED



SW /B



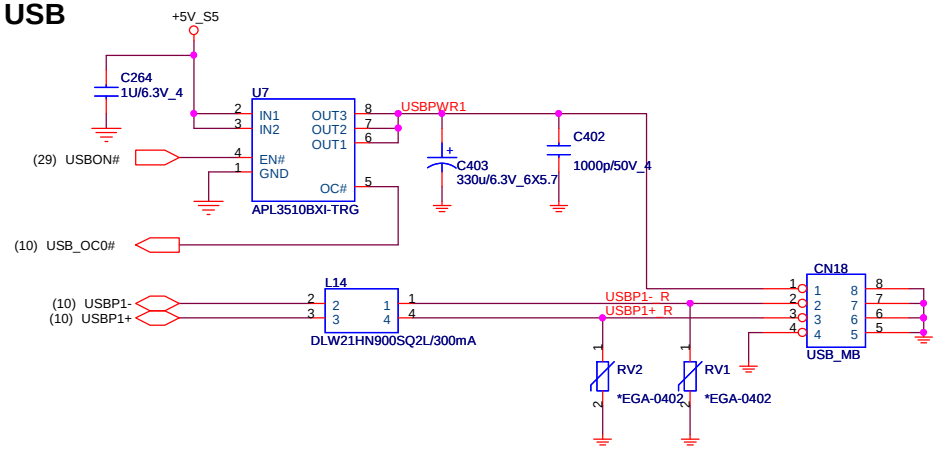
Quanta Computer Inc.

PROJECT : ZR7U

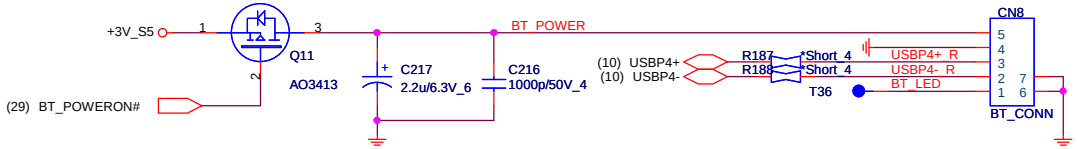
Size	Document Number	Rev
	POWER/MMB/LAUNCH/LED	1A

Date: Wednesday, April 21, 2010 Sheet 25 of 38

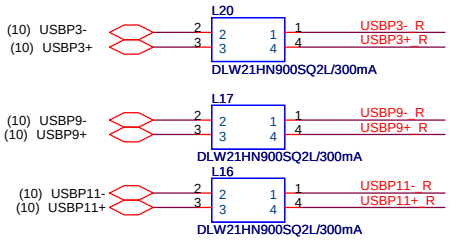
USB

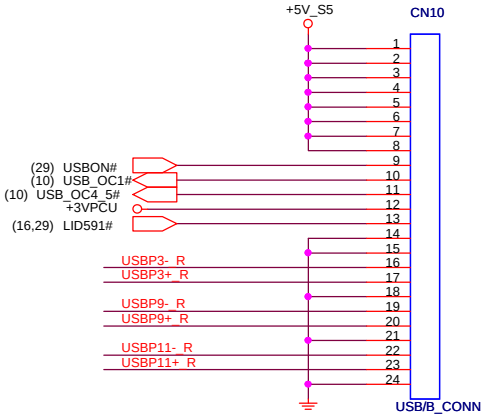


BLUETOOTH CONNECTOR



USB/B





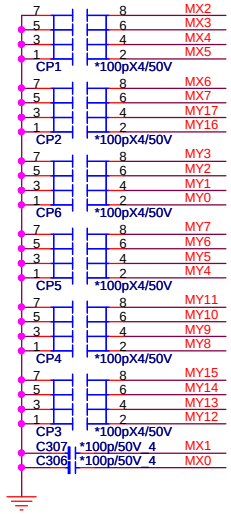
Quanta Computer Inc.

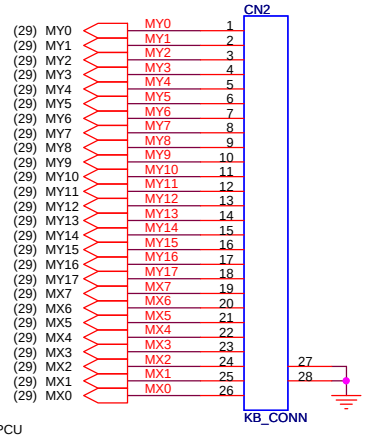
PROJECT : ZR7U

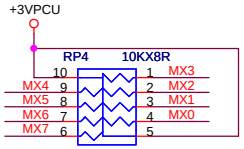
Size	Document Number	Rev
	USB/ BT	1A

Date: Tuesday, April 20, 2010 Sheet 26 of 38

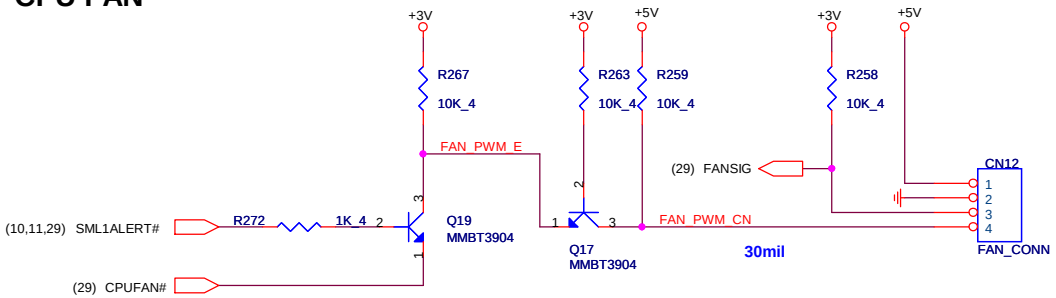
K/B



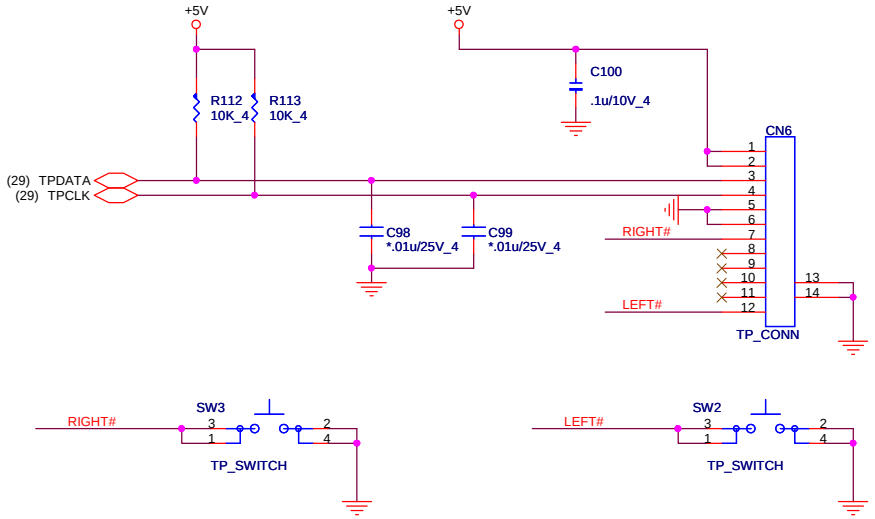




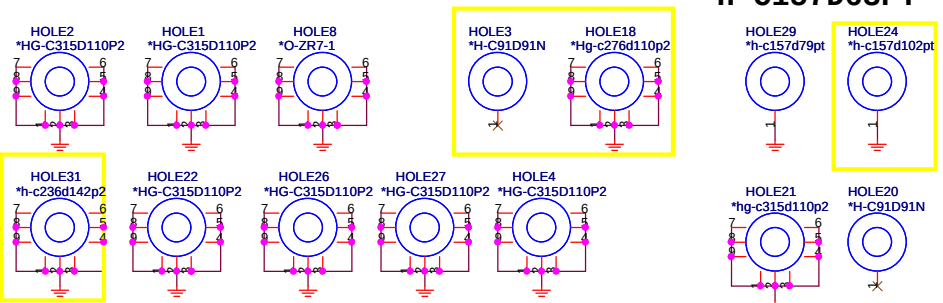
CPU FAN



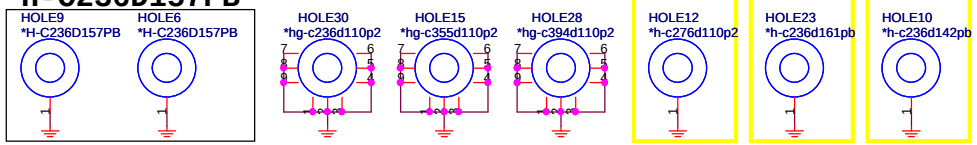
TOUCHPAD & Switch CONN.



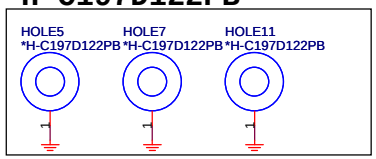
H-C157D63PT



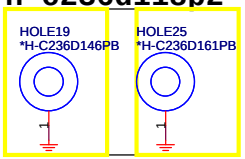
H-C236D157PB



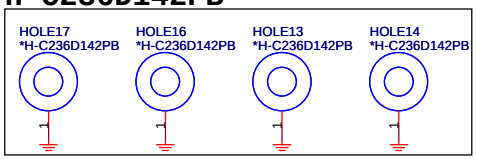
H-C197D122PB



h-c236d118p2

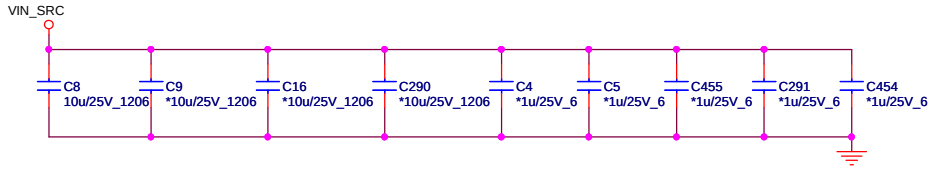


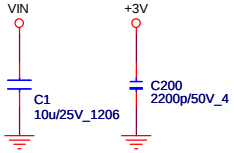
H-C236D142PB



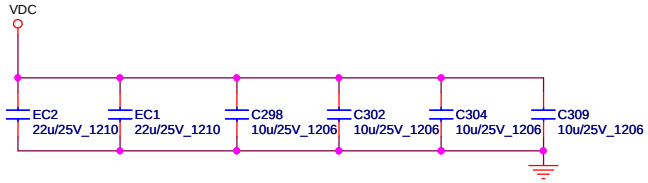
Quanta Computer Inc.		
PROJECT : ZR7U		
Size	Document Number	Rev
	KB/FAN/TP+FP	1A
Date: Tuesday, April 20, 2010	Sheet 27 of 38	

EMI decoupling

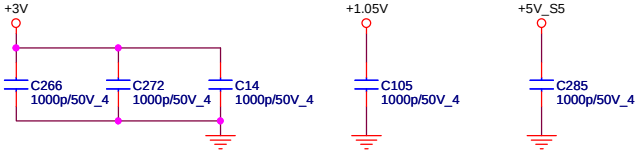


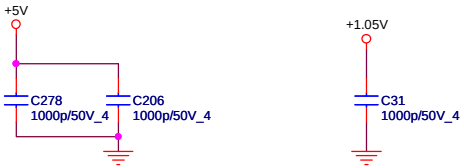


EMI ISN solution

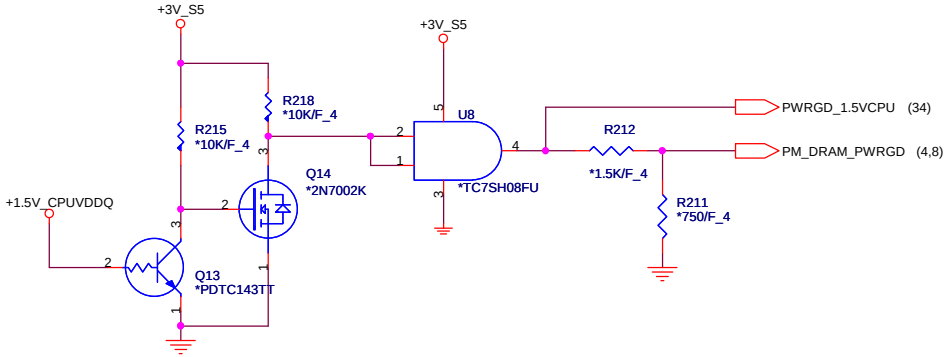


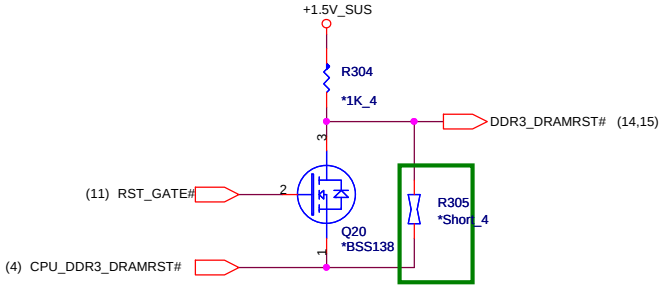
EMI decoupling

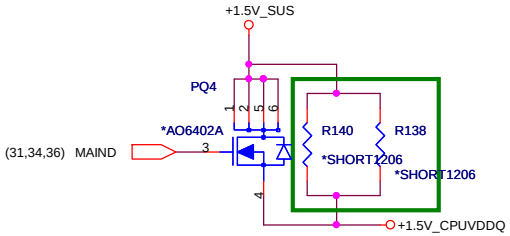


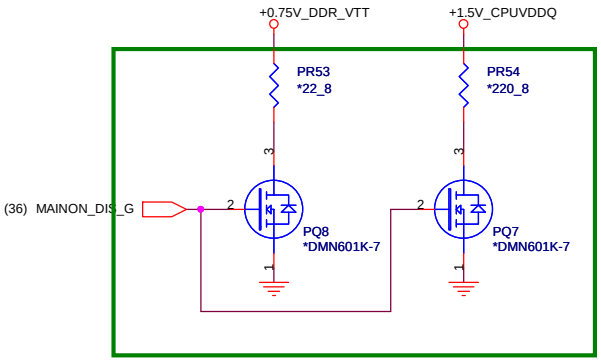


Intel S3 leakage circuit







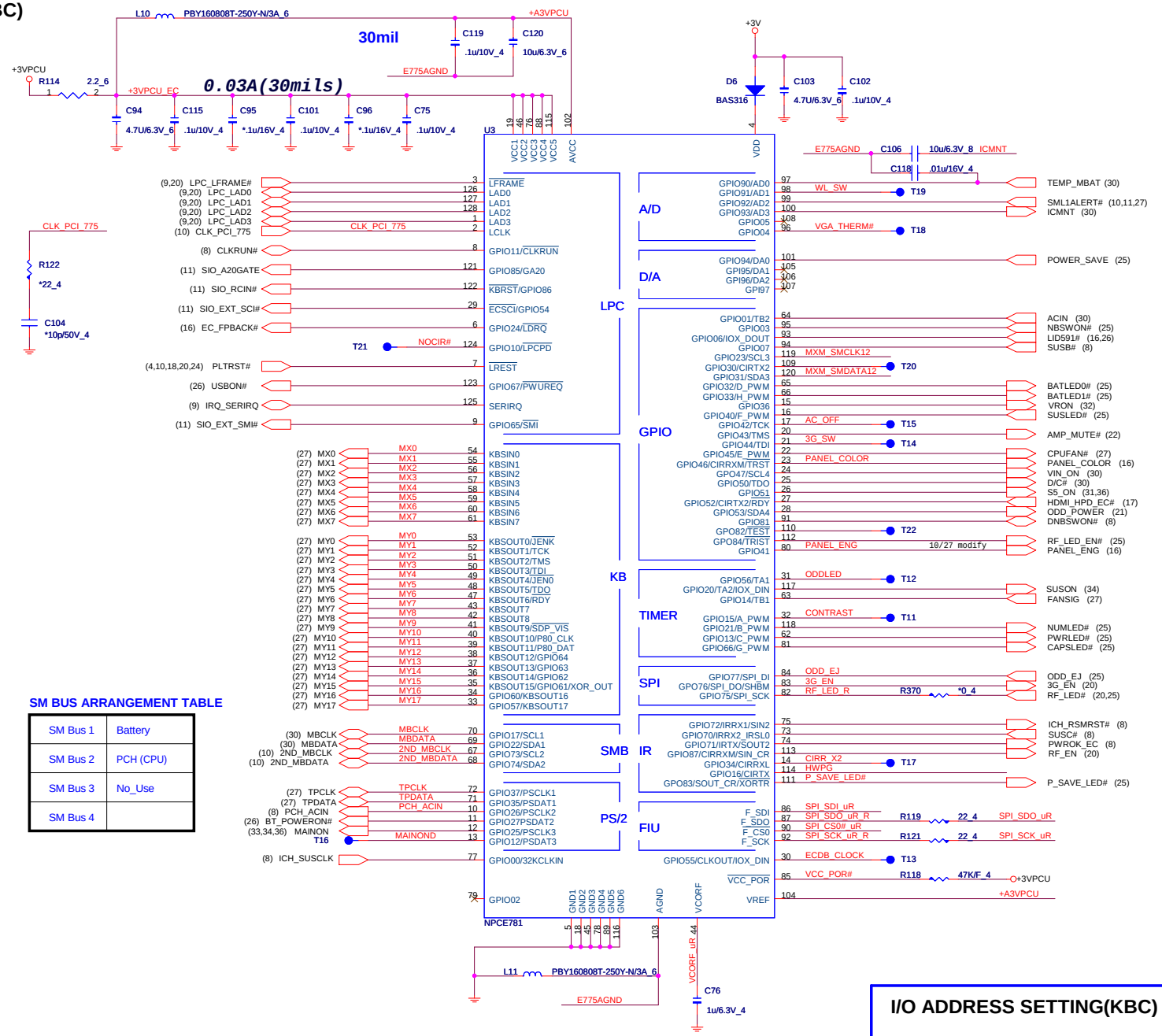


Quanta Computer Inc.

PROJECT : ZR7U

Size	Document Number	Rev
	S3 power saving	1A
Date: Tuesday, April 20, 2010	Sheet 28 of 38	

EC(KBC)



SM BUS ARRANGEMENT TABLE

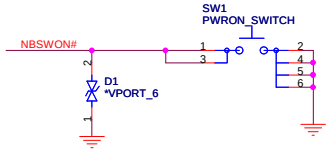
SM Bus 1	Battery
SM Bus 2	PCH (CPU)
SM Bus 3	No_Use
SM Bus 4	

I/O ADDRESS SETTING(KBC)

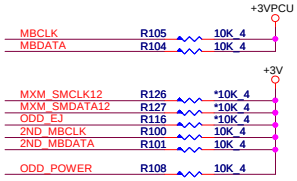
SHBM=0: Enable shared memory with host BIOS

Non-sharing ROM

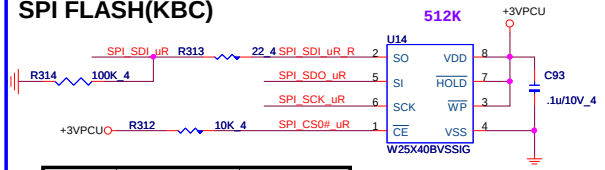
POWER-ON Switch(KBC)



SM BUS PU(KBC)

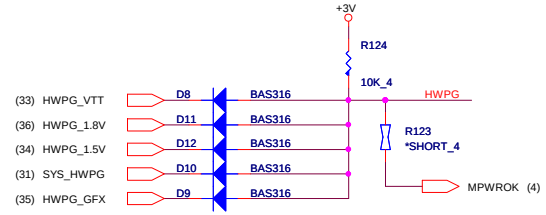


SPI FLASH(KBC)



Vendor	Vendor P/N	Quanta P/N
Winbond	W25X40BVSSIG	AKE37FN0N01
EON	EN25F40-100HIP	AKE37ZN0Q00
AMIC	A25L040	AKE37ZN0800

HWPG(KBC)

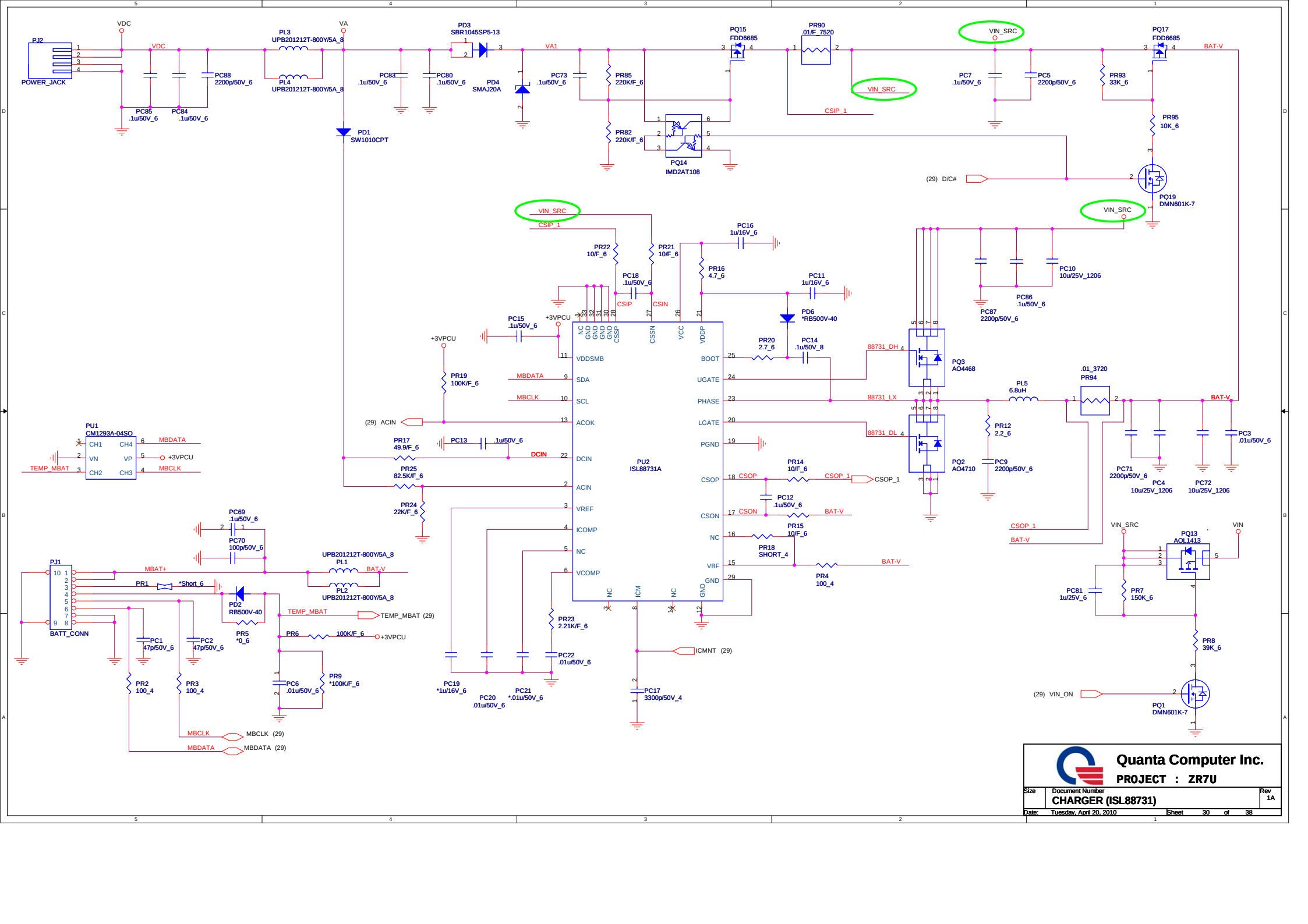


Quanta Computer Inc.

PROJECT : ZR7U

Size	Document Number	Rev
	WPCE781 & FLASH	1A

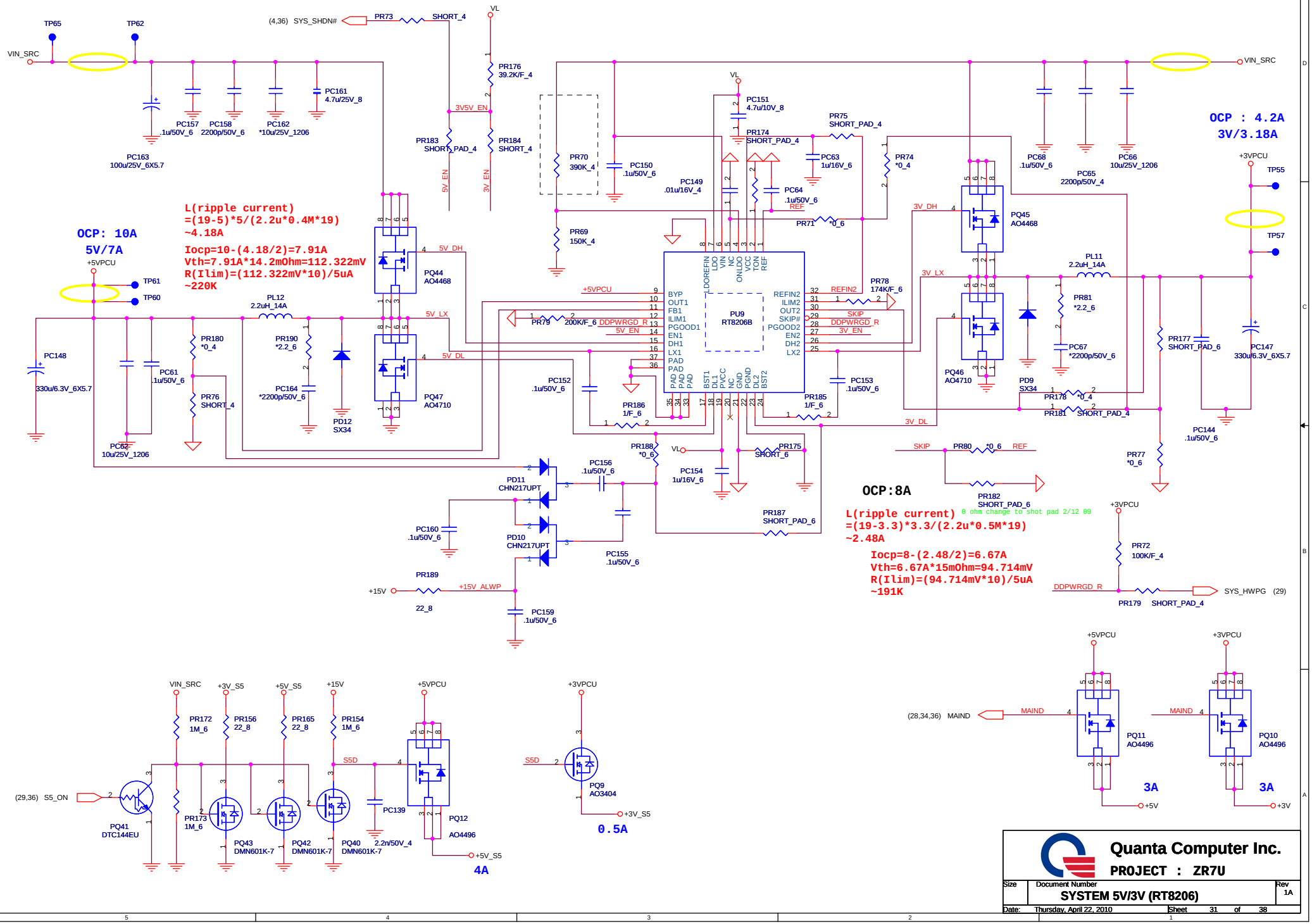
Date: Tuesday, April 20, 2010 Sheet 29 of 38

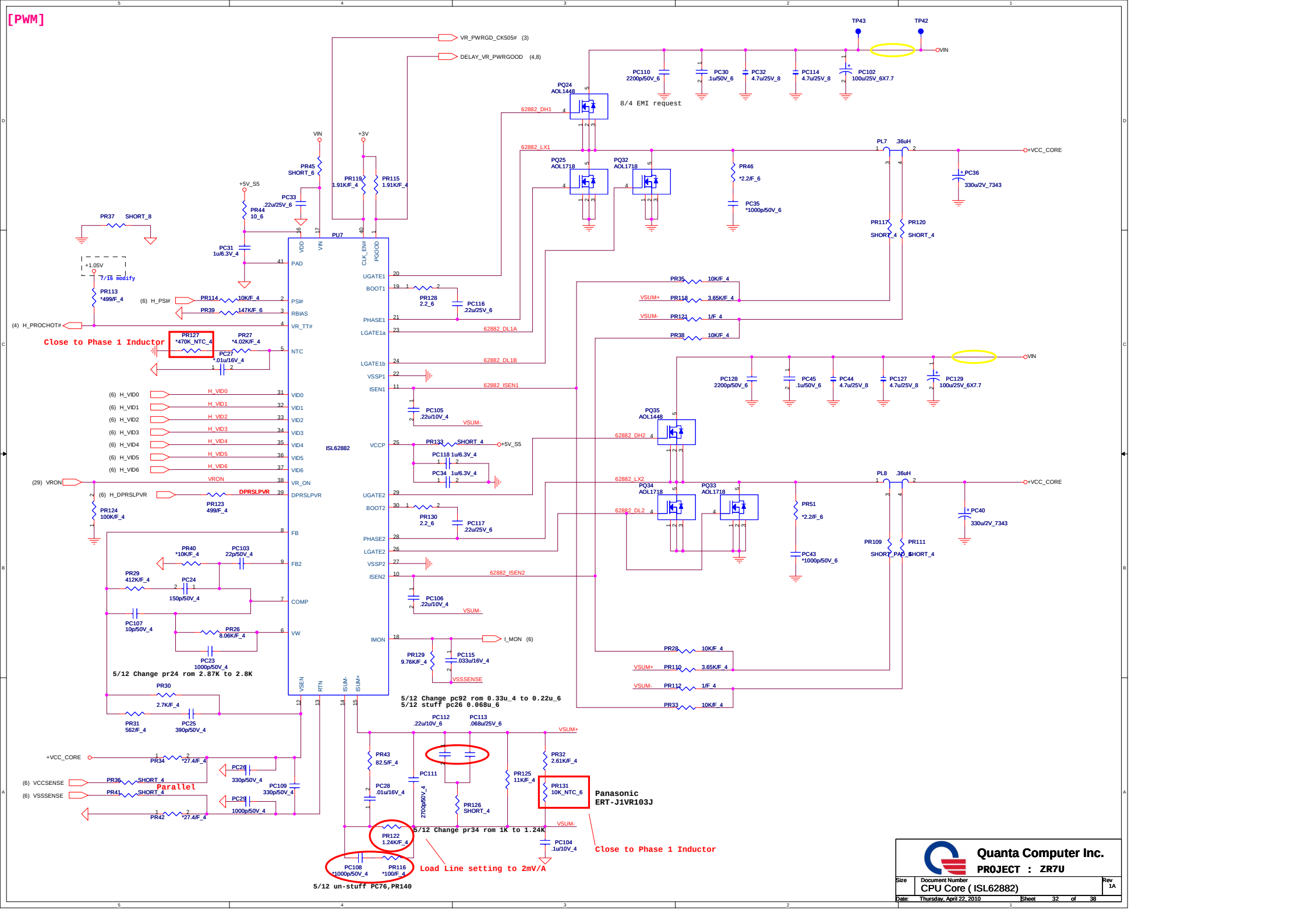


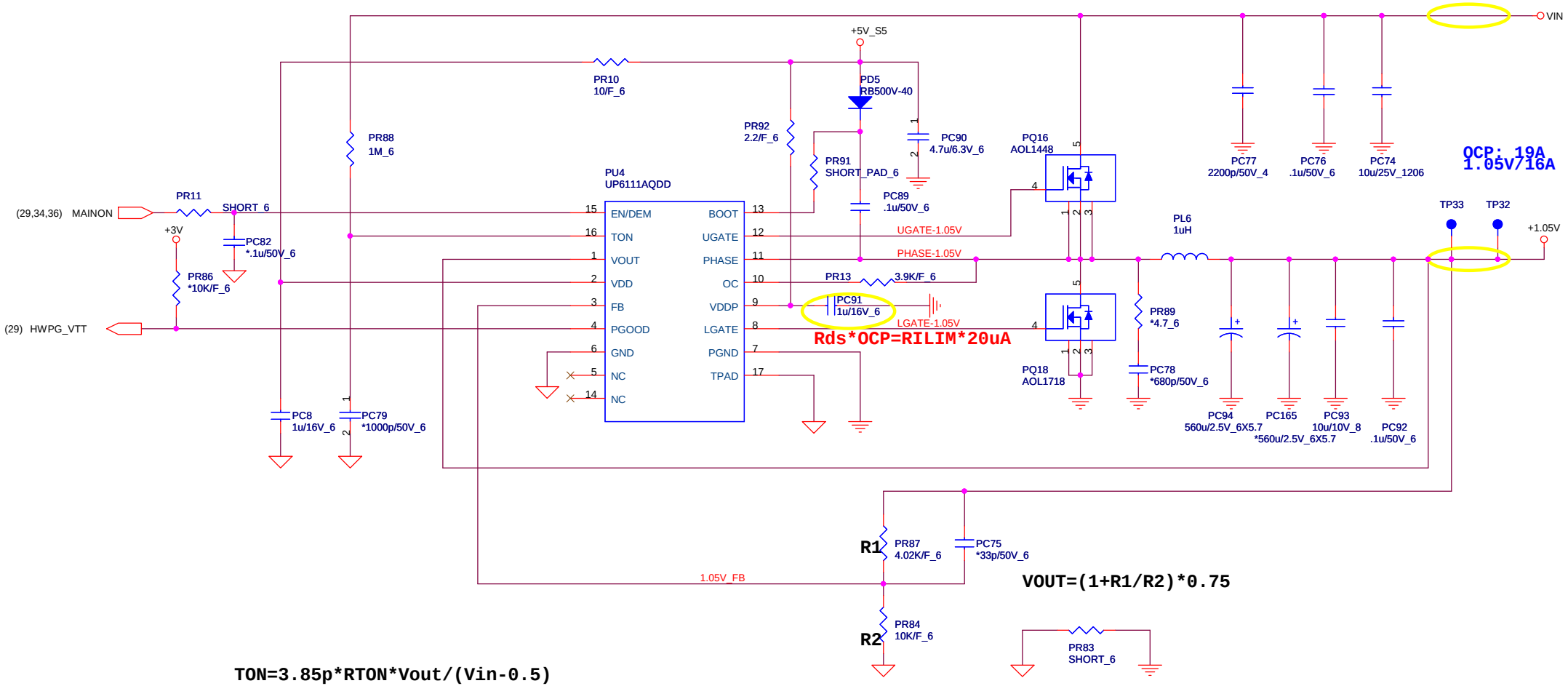
Quanta Computer Inc.

PROJECT : ZR7U

Size	Document Number	Rev
	CHARGER (ISL88731)	1A
Date: Tuesday, April 20, 2010	Sheet 30 of 38	


OCP : 4.2A
3V/3.18A
L(ripple current)
=(19-5)*5/(2.2u*0.4M*19)
~4.18A
Iocp=10-(4.18/2)=7.91A
Vth=7.91A*14.2mOhm=112.322mV
R(Ilim)=(112.322mV*10)/5uA
~220K
OCP: 10A
5V/7A
OCP:8A
L(ripple current)
=(19-3.3)*3.3/(2.2u*0.5M*19)
~2.48A
Iocp=8-(2.48/2)=6.67A
Vth=6.67A*15mOhm=94.714mV
R(Ilim)=(94.714mV*10)/5uA
~191K
0 ohm change to shot pad 2/12 09
0.5A
4A
3A
3A
PU9
RT8206B
Quanta Computer Inc.
PROJECT : ZR7U
SYSTEM 5V/3V (RT8206)
Thursday, April 22, 2010


[PWM]
VR_PWRGD_CK505# (3)
DELAY_VR_PWRGOOD (4,8)
TP43
TP42
VIN
PC110 2200p/50V_6
PC30 .1u/50V_6
PC32 4.7u/25V_8
PC114 4.7u/25V_8
PC102 100u/25V_6X7.7
PQ24 AOL1448
8/4 EMI request
62882_DH1
62882_LX1
PQ25 AOL1718
PQ32 AOL1718
PR46 *2.2/F_6
PC35 *1000p/50V_6
PL7 .36uH
+VCC_CORE
PC36 330u/2V_7343
PR117 SHORT_4
PR120 SHORT_4
PR45 SHORT_6
PR119 1.91K/F_4
PR115 1.91K/F_4
+5V_S5
PC33 22u/25V_6
PR44 10_6
PR37 SHORT_8
PC31 1u/6.3V_4
+1.05V
7/16 modify
PR113 *499/F_4
(6) H_PSI#
PR114 10K/F_4
PR39 147K/F_6
(4) H_PROCHOT#
Close to Phase 1 Inductor
PR127 *470K_NTC_4
PR27 *4.02K/F_4
PC27 *.01u/16V_4
PU7
ISL62882
VDD
VIN
CLK_EN#
PGOOD
PAD
PSI#
RBIAS
VR_TT#
NTC
UGATE1
BOOT1
PHASE1
LGATE1a
LGATE1b
VSSP1
ISEN1
PR128 2.2_6
PC116 .22u/25V_6
62882_DL1A
62882_DL1B
62882_ISEN1
PC105 .22u/10V_4
VSUM-
VCCP
PR133 SHORT_4
+5V_S5
PC118 1u/6.3V_4
PC34 1u/6.3V_4
(6) H_VID0
(6) H_VID1
(6) H_VID2
(6) H_VID3
(6) H_VID4
(6) H_VID5
(6) H_VID6
H_VID0
H_VID1
H_VID2
H_VID3
H_VID4
H_VID5
H_VID6
VID0
VID1
VID2
VID3
VID4
VID5
VID6
(29) VRON
VRON
VR_ON
(6) H_DPRSLPVR
DPRSLPVR
DPRSLPVR
PR123 499/F_4
PR124 100K/F_4
FB
FB2
COMP
VW
PR40 *10K/F_4
PC103 22p/50V_4
PR29 412K/F_4
PC24 150p/50V_4
PC107 10p/50V_4
PR26 8.06K/F_4
PC23 1000p/50V_4
5/12 Change pr24 rom 2.87K to 2.8K
PR30 2.7K/F_4
PR31 562/F_4
PC25 390p/50V_4
UGATE2
BOOT2
PHASE2
LGATE2
VSSP2
ISEN2
PR130 2.2_6
PC117 .22u/25V_6
62882_ISEN2
PC106 .22u/10V_4
IMON
I_MON (6)
PR129 9.76K/F_4
PC115 .033u/16V_4
VSSSENSE
5/12 Change pc92 rom 0.33u_4 to 0.22u_6
5/12 stuff pc26 0.068u_6
VSEN
RTN
ISUM-
ISUM+
PC112 .22u/10V_6
PC113 .068u/25V_6
VSUM+
PR43 82.5/F_4
PC111
PC28 .01u/16V_4
2700p/50V_4
PR125 11K/F_4
PR32 2.61K/F_4
PR131 10K_NTC_6
Panasonic
ERT-J1VR103J
PR126 SHORT_4
5/12 Change pr34 rom 1K to 1.24K
PR122 1.24K/F_4
PC104 .1u/10V_4
Close to Phase 1 Inductor
PC108 *1000p/50V_4
PR116 *100/F_4
Load Line setting to 2mV/A
5/12 un-stuff PC76,PR140
+VCC_CORE
PR34 *27.4/F_4
PC26 330p/50V_4
PC109 330p/50V_4
(6) VCCSENSE
PR36 SHORT_4
(6) VSSSENSE
PR41 SHORT_4
Parallel
PC29 1000p/50V_4
PR42 *27.4/F_4
PR35 10K/F_4
VSUM+
PR118 3.65K/F_4
VSUM-
PR121 1/F_4
PR38 10K/F_4
PC128 2200p/50V_6
PC45 .1u/50V_6
PC44 4.7u/25V_8
PC127 4.7u/25V_8
PC129 100u/25V_6X7.7
PQ35 AOL1448
62882_DH2
62882_LX2
62882_DL2
PQ34 AOL1718
PQ33 AOL1718
PR51 *2.2/F_6
PC43 *1000p/50V_6
PL8 .36uH
PC40 330u/2V_7343
PR109 SHORT_4
PR111 SHORT_4
PR28 10K/F_4
PR110 3.65K/F_4
PR112 1/F_4
PR33 10K/F_4
Quanta Computer Inc.
PROJECT : ZR7U
Size
Document Number
CPU Core (ISL62882)
Rev 1A
Date: Thursday, April 22, 2010
Sheet 32 of 38



TON=3.85p*RTON*Vout/(Vin-0.5)

Frequency=Vout/(Vin*TON)

TON=3.85p*1M*1/(Vin-0.5)

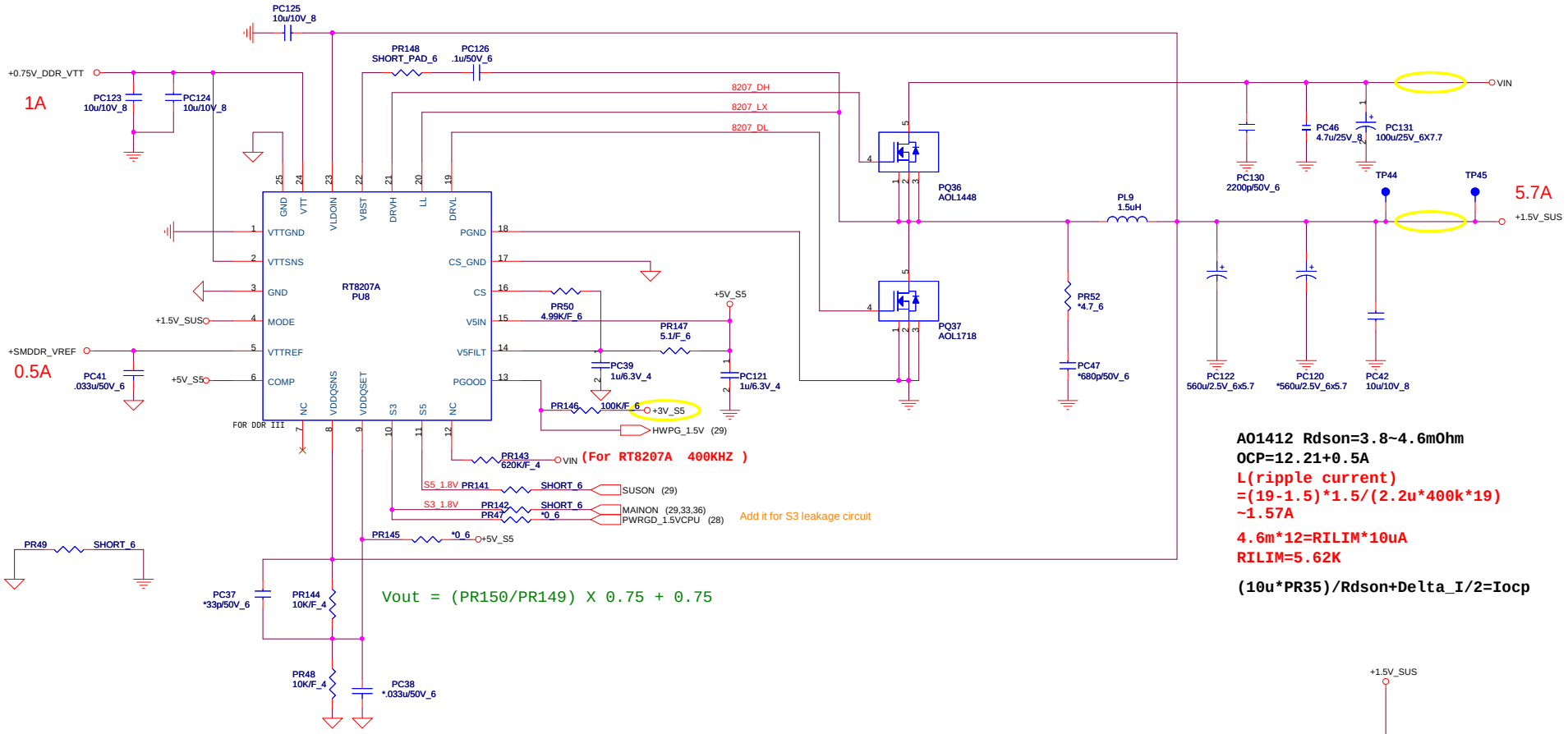
Frequency=1/(0.0036767)=272K

AO4710 Rdson=11.7~14.2mOhm

L(ripple current)
=(19-1.05)*1.05/(1u*272k*19)
~3.646A

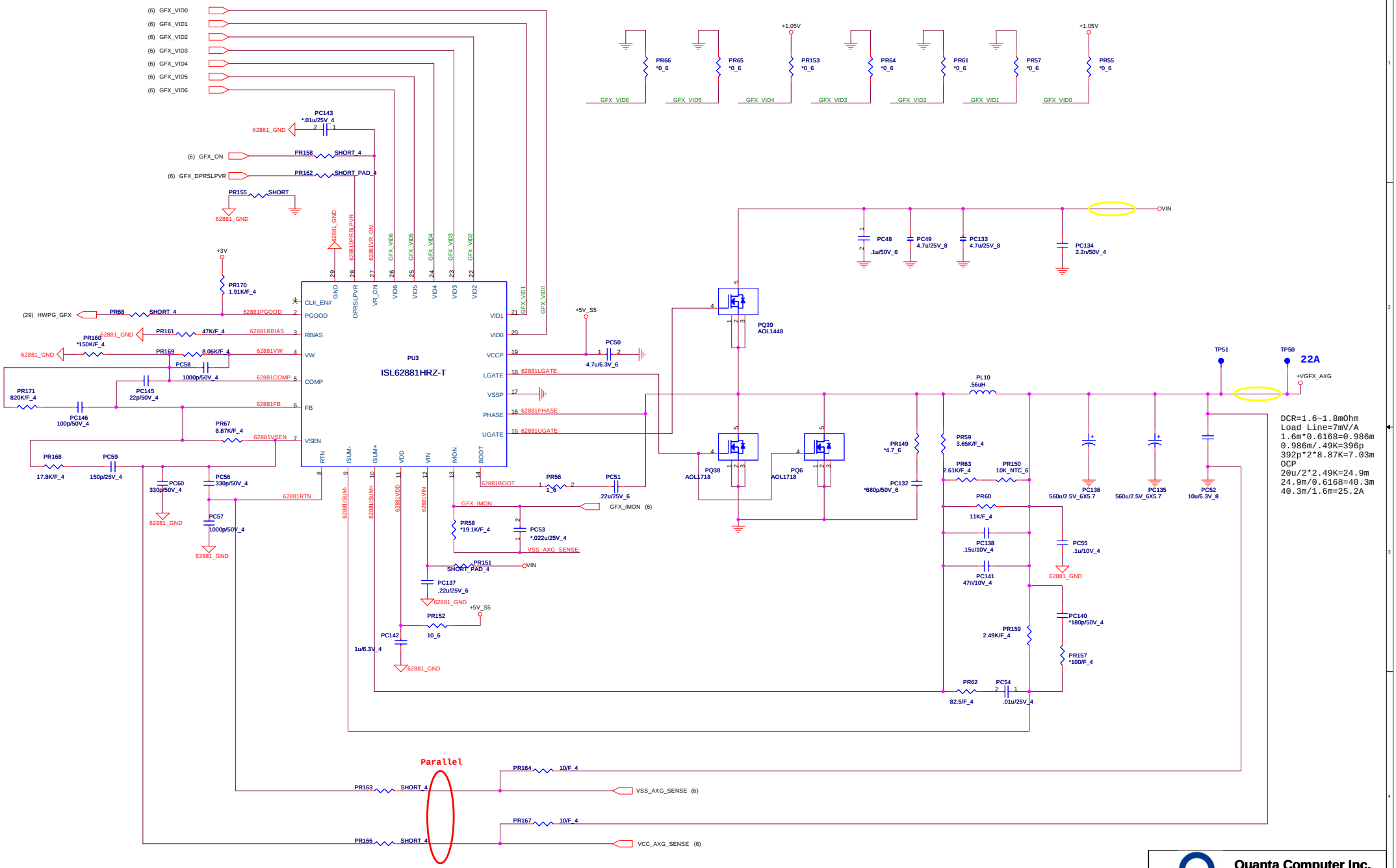
14.2m*10=RILIM*20uA
RILIM=7.1K--- 7.15K

Quanta Computer Inc.		
PROJECT : ZR7U		
Size	Document Number: VCCP 1.05V(UP6111A)	Rev: 1A
Date: Thursday, April 22, 2010	Sheet 33 of 38	



Quanta Computer Inc.		
PROJECT : ZR7U		
Size	Document Number: DDR III 1.5V(TPS51116)	Rev 1A
Date: Thursday, April 22, 2010	Sheet 34 of 38	

Int_VGA [PWM]

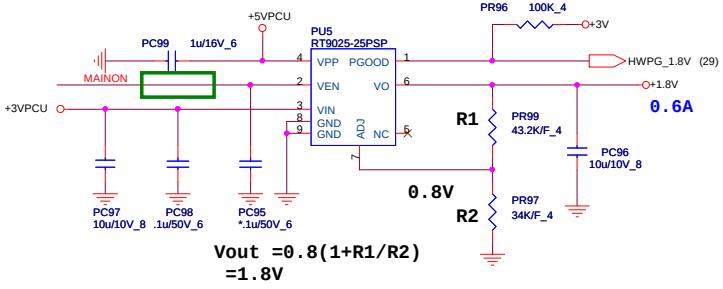


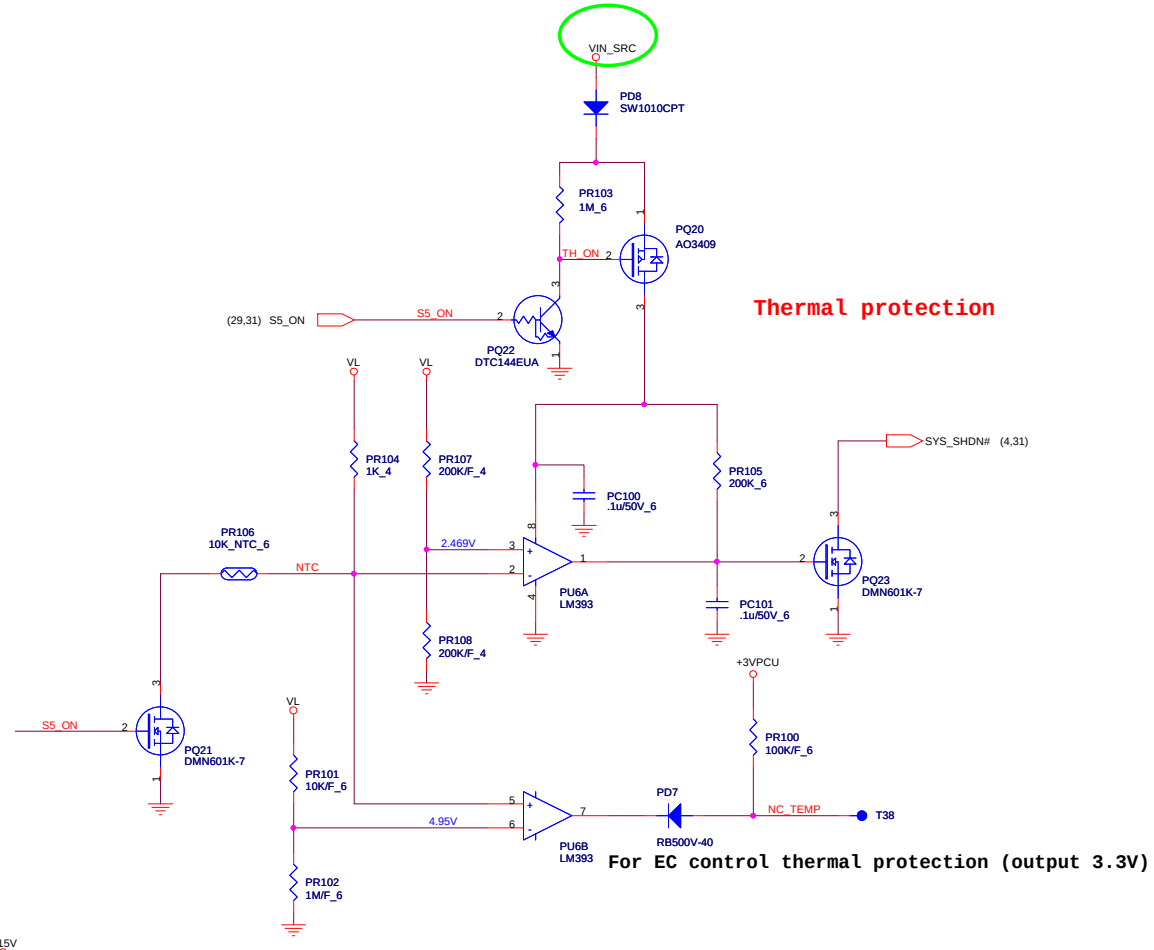
1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

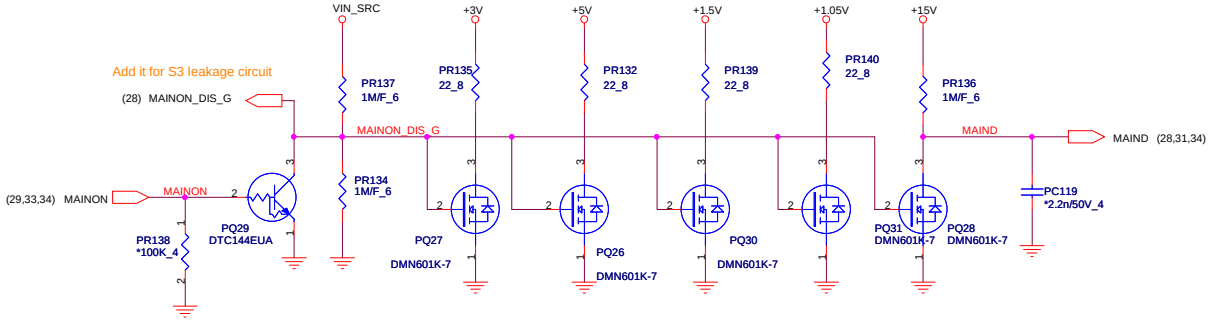
Quanta Computer Inc.
PROJECT : ZR7U

Size	Document Number	Rev
	+VGFX_AXG (ISL62881)	1A

Date: Tuesday, April 20, 2010 Sheet 35 of 38





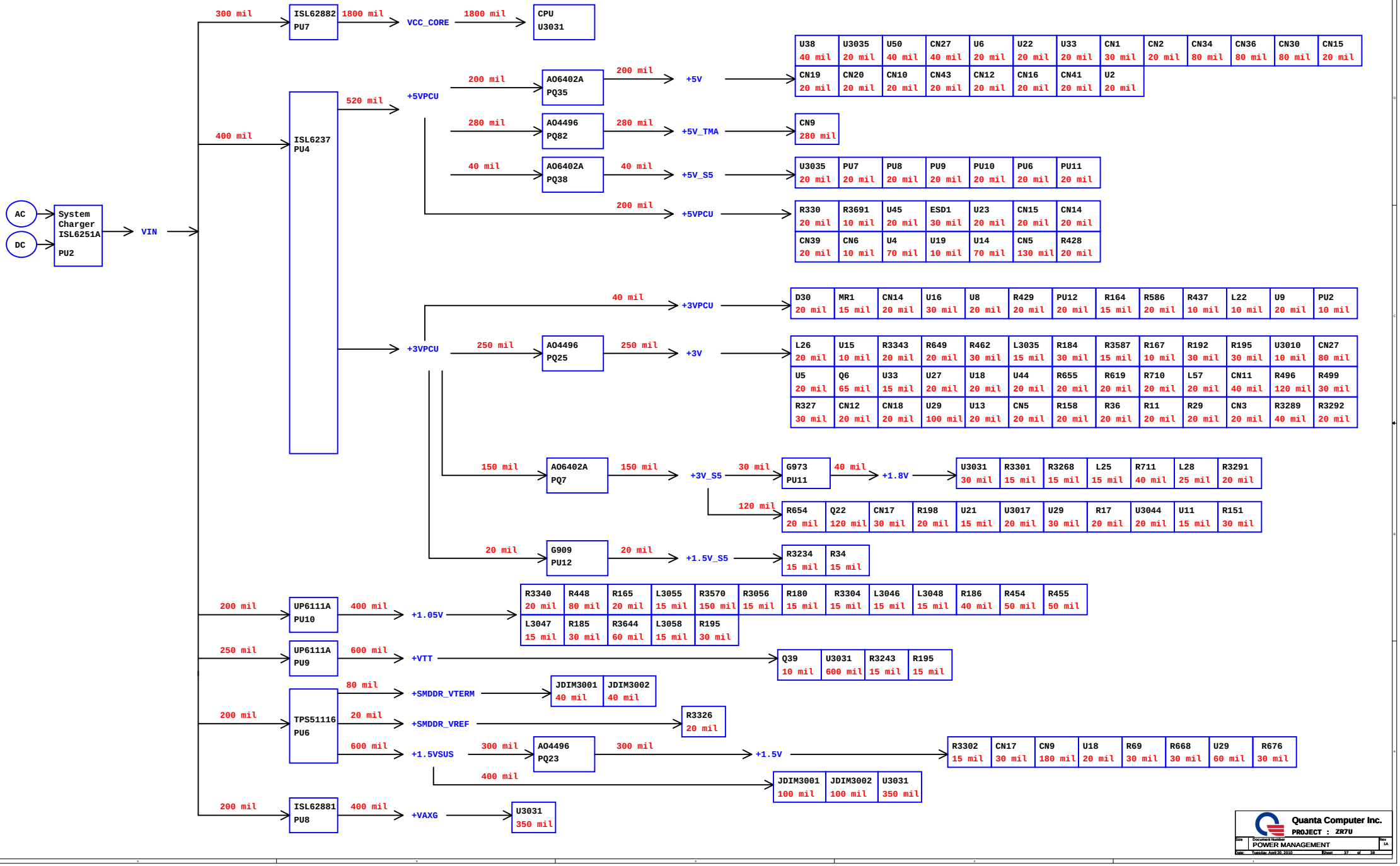


Quanta Computer Inc.

PROJECT : ZR7U

Size	Document Number	Rev
	Discharge/1.8V/Thermal protection	1A

Date: Tuesday, April 20, 2010 Sheet 36 of 38


AC
DC
System Charger ISL6251A PU2
VIN
300 mil
ISL62882 PU7
1800 mil
VCC_CORE
1800 mil
CPU U3031
400 mil
ISL6237 PU4
520 mil
+5VPCU
200 mil
AO6402A PQ35
200 mil
+5V
U38 40 mil | U3035 20 mil | U50 40 mil | CN27 40 mil | U6 20 mil | U22 20 mil | U33 20 mil | CN1 30 mil | CN2 20 mil | CN34 80 mil | CN36 80 mil | CN30 80 mil | CN15 20 mil
CN19 20 mil | CN20 20 mil | CN10 20 mil | CN43 20 mil | CN12 20 mil | CN16 20 mil | CN41 20 mil | U2 20 mil
280 mil
AO4496 PQ82
280 mil
+5V_TMA
CN9 280 mil
40 mil
AO6402A PQ38
40 mil
+5V_S5
U3035 20 mil | PU7 20 mil | PU8 20 mil | PU9 20 mil | PU10 20 mil | PU6 20 mil | PU11 20 mil
200 mil
+5VPCU
R330 20 mil | R3691 10 mil | U45 20 mil | ESD1 30 mil | U23 20 mil | CN15 20 mil | CN14 20 mil
CN39 20 mil | CN6 10 mil | U4 70 mil | U19 10 mil | U14 70 mil | CN5 130 mil | R428 20 mil
40 mil
+3VPCU
D30 20 mil | MR1 15 mil | CN14 20 mil | U16 30 mil | U8 20 mil | R429 20 mil | PU12 20 mil | R164 15 mil | R586 20 mil | R437 10 mil | L22 10 mil | U9 20 mil | PU2 10 mil
+3VPCU
250 mil
AO4496 PQ25
250 mil
+3V
L26 20 mil | U15 10 mil | R3343 20 mil | R649 20 mil | R462 30 mil | L3035 15 mil | R184 30 mil | R3587 15 mil | R167 10 mil | R192 30 mil | R195 30 mil | U3010 10 mil | CN27 80 mil
U5 20 mil | Q6 65 mil | U33 15 mil | U27 20 mil | U18 20 mil | U44 20 mil | R655 20 mil | R619 20 mil | R710 20 mil | L57 20 mil | CN11 40 mil | R496 120 mil | R499 30 mil
R327 30 mil | CN12 20 mil | CN18 20 mil | U29 100 mil | U13 20 mil | CN5 20 mil | R158 20 mil | R36 20 mil | R11 20 mil | R29 20 mil | CN3 20 mil | R3289 40 mil | R3292 20 mil
150 mil
AO6402A PQ7
150 mil
+3V_S5
30 mil
G973 PU11
40 mil
+1.8V
U3031 30 mil | R3301 15 mil | R3268 15 mil | L25 15 mil | R711 40 mil | L28 25 mil | R3291 20 mil
120 mil
R654 20 mil | Q22 120 mil | CN17 30 mil | R198 20 mil | U21 15 mil | U3017 20 mil | U29 30 mil | R17 20 mil | U3044 20 mil | U11 15 mil | R151 30 mil
20 mil
G909 PU12
20 mil
+1.5V_S5
R3234 15 mil | R34 15 mil
200 mil
UP6111A PU10
400 mil
+1.05V
R3340 20 mil | R448 80 mil | R165 20 mil | L3055 15 mil | R3570 150 mil | R3056 15 mil | R180 15 mil | R3304 15 mil | L3046 15 mil | L3048 15 mil | R186 40 mil | R454 50 mil | R455 50 mil
L3047 15 mil | R185 30 mil | R3644 60 mil | L3058 15 mil | R195 30 mil
250 mil
UP6111A PU9
600 mil
+VTT
Q39 10 mil | U3031 600 mil | R3243 15 mil | R195 15 mil
200 mil
TPS51116 PU6
80 mil
+SMDDR_VTERM
JDIM3001 40 mil | JDIM3002 40 mil
20 mil
+SMDDR_VREF
R3326 20 mil
600 mil
+1.5VSUS
300 mil
AO4496 PQ23
300 mil
+1.5V
R3302 15 mil | CN17 30 mil | CN9 180 mil | U18 20 mil | R69 30 mil | R668 30 mil | U29 60 mil | R676 30 mil
400 mil
JDIM3001 100 mil | JDIM3002 100 mil | U3031 350 mil
200 mil
ISL62881 PU8
400 mil
+VAXG
U3031 350 mil
Quanta Computer Inc.
PROJECT : ZR7U
Size
Document Number
POWER MANAGEMENT
Rev 1A
Date: Tuesday, April 20, 2010
Sheet 37 of 38

Model	REV	CHANGE LIST
ZR7U MB	1A	2/11 1. Del trace VREF_DQ_DIMM0/VREF_DQ_DIMM1, and R131,R127,R116,R129 2. Add two test point (TP35/TP36) 3. Remove D16, and connect to EC directly by Anda confirmed 2/12 1. Add Q44/Q45/R600 for AMP_PWR_DOWN function 2/22 1. Change C630/C516 to VIN_SRC 2. Change R489, R488 P/N to 5% 3. Change PL18 footprint by power engineer 4. Del R190,R217,R218 and Add JP1007 5. Change R7643, R7646 P/N to 4.7K 5% 6. Remove 0ohm and short PAD R482,R7575, R7576,R7562, R7565 2/23 1. Del C791,C794,T77,T79 for layout requirement 2. Swap USB_OC0#,USB_OC2# ,USB_OC6#,USB_OC4_5#for layout requirement 3. Change C763,C767 for cost down 4. Change Y7000 P/N and footprint for cost down 2/25 1. Stuff R166 for vender commend 2. Del R171,R203 for layout requirement 3. Add C781,C782,C785,C786,C787,C788,C791,C794 for EMI decoupling cap 3/02 1. Correct Function Code 2. Change C656,C702,C7798 P/N and Footprint 3/04 1. Change PC218,PC61,PC164,PC74,PC176,PC76,PC180,PC79,PC182 P/N and Footprint for Power design change 2. Layout reference rename
		3/22 1. Del TP63,TP64,TP46,TP47,TP29,TP48,TP49,TP53,TP30,TP52, JP1,JP2,JP3,JP4,JP5JP6,JP7,JP8,JP9,JP10,JP11,JP12,JP13 for remove current test components_All 2. PR146, R117 link to +_3V_S5 for power sequence_P34 3. Unstuff SW1 on board power switch_P29 4. Change 0ohm to short pad R45,R48,R54,R247,R35,R87,R86,R257,R1,R2,R61,43, R11,R59,R290.R30,R28,R29,R98,R3,R187,R188_All 5. Change netname +1.1V_VTT to +1.05V_All 6. Unstuff R237,R230,R228,Q15 and change CN11 for change RTC Battery type_P9 3/24 1. Reserve PC165 for +1.05V ripple_P33 2. PQ16 AOL1718 change to AOL1448_P33 3. PR78 182K/F change to 174K/F_P31 4. Add C475 for Monitor test_P12 5. Del U15 128k EEPROM_P29 3/25 1. Reserve C811,C812,C813,C814,C815,C816,C817,C818 for EMI 1G Hz_P19 2. Del R38, R41_P16
		4/1 1. Change C295,C296 value to 27pF and 33pF for X'tal vender commend_P10 2. Add C300,C305 for HDMI signal quality_P12 3. Add C471,C472 to 47pF and 220pF for EMI solution _P22 4. Del C390,C354,C401,C303,C140 for cost down _All
		4/19 1. Change D16,D17 P/Nand fotprint for 5V power_P16,17 2. Remove R120 for don't need it _P21 3. Unstuff PQ7,PQ8,PR53,PR54 for leakage in S3 _P28 4. Remove 0 ohm: * Remove PR98_P36 * Short R260,R269_P20 * Remove R377/R378/R379/R380/R381/R394/R405_P20 * Short L7,L8,L9 * Short R125 5. Change R209,R214 for Audio test_P23
		4/20 1. Remove Q16/Q18/R268/R271 for no used_P20 2. Change R221,R222,R224,R225,R226,R227 value to fine turn the brightness_P25 3. Change C472 to 120pF for Audio requirement_P22

MODEL	ZR7 FROM	ZR7 To

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PROJECT : ZR7U
Change list
Size | Document Number | Rev 1A
Date: Thursday, April 22, 2010 | Sheet 38 of 38